



FORM #0229
Rev. 07/09

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
WATER USE PERMIT NO. RE-ISSUE 13-00017-W
NON-ASSIGNABLE**

Date Issued: July 16, 2012

Expiration Date: December 16, 2030

Authorizing: THE INCREASED USE OF GROUND WATER FROM THE UPPER FLORIDAN AQUIFER AND BISCAYNE AQUIFER FOR PUBLIC WATER SUPPLY FOR COUNTY WIDE SYSTEM SERVING 2,787,451 PERSONS IN THE YEAR 2030 WITH AN AVERAGE PER CAPITA USE RATE OF 147 GALLONS PER DAY AND A MAXIMUM MONTHLY TO AVERAGE MONTHLY PUMPING RATIO 1.06 WITH AN ANNUAL ALLOCATION OF 149,906.00 MILLION GALLONS.

Located In: Miami-Dade County, S-/T53S/R39E (SEE ATTACHED FOR ADDITIONAL SECTIONS, TOWNSHIPS S-/T53S/R40E AND RANGES)

Issued To: MIAMI-DADE WATER AND SEWER DEPARTMENT
(MIAMI-DADE CONSOLIDATED PWS)
P O BOX 330316.
MIAMI, FL 33233-0316

This is to notify you of the District's agency action concerning Permit Application No. 110511-6, dated May 3, 2011. This action is taken pursuant to the provisions of Chapter 373, Part II, Florida Statutes (F.S.), Rule 40E-1.603 and Chapter 40E-2, Florida Administrative Code (F.A.C.). Based on the information provided, District rules have been adhered to and a Water Use Permit is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.57 and Section 120.569, or request a judicial review pursuant Section 120.68, Florida Statutes.
2. The attached 52 Limiting Conditions.
3. The attached 37 exhibits.

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

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

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

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

CERTIFICATION OF SERVICE

I HEREBY CERTIFY that the Staff Report, Conditions and Notice of Rights have been mailed to the Permittee (and the persons listed on the attached staff report distribution list) no later than 5:00 p.m. on this 17th day of July, 2012, in accordance with Section 120.60(3), Florida Statutes, and a copy has been filed and acknowledged with the Deputy District Clerk.

By Elizabeth Veguilla
DEPUTY CLERK
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Attachments

LIMITING CONDITIONS

1. This permit shall expire on December 16, 2030.
2. Application for a permit modification may be made at any time.
3. Water use classification:

Public water supply
Aquifer storage and Recovery

4. Source classification is:

Ground Water from:
Biscayne Aquifer
Upper Floridan Aquifer

5. Annual allocation shall not exceed 149906 MG.

Maximum monthly allocation shall not exceed 13117 MG.

The following limitations to the average annual withdrawals from specific sources are applicable through December 31, 2021:

Biscayne aquifer: 127,568 MG
Floridan aquifer: 17,031 MG

The following limitations to the average annual withdrawals from specific sources are applicable from January 1, 2022 through December 31, 2026:

Biscayne aquifer: 135,233 MG
Floridan aquifer: 17,031 MG
Reuse offset: 7,665 MG (21 MGD SWWF recharge)

The following limitations to the average annual withdrawals from specific sources are applicable from January 1, 2027 through December 31, 2030:

Biscayne aquifer: 141,073 MG
Floridan aquifer: 17,009 MG
Reuse offset: 13,505 MG (37 MGD SWWF recharge)

The allocations are further constrained by the wellfield operational plan described in Limiting Condition 27. Reuse offsets are required for withdrawals above 109.4 MGD at the SWWF. The offset reuse volumes do not include other reuse projects outlined in Limiting Condition 39, which are in addition to the wellfield recharge project.

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

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

violations of the permit which occurred prior to the transfer of the permit.

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

This Permit is issued to:

Miami-Dade Water and Sewer Department
3071 Sw 38th Ave
Miami, FL 33146
Attn: Utility Director

7. Withdrawal Facilities:

Ground Water - Proposed:

- 3 - 24" X 72' X 1400 GPM Wells Cased To 45 Feet
- 1 - 24" X 50' X 1400 GPM Well Cased To 45 Feet
- 7 - 24" X 1200' X 2430 GPM Wells Cased To 1100 Feet
- 1 - 24" X 50' X 2800 GPM Well Cased To 45 Feet
- 7 - 17" X 1490' X 1400 GPM Wells Cased To 1080 Feet

Ground Water - Existing:

- 20 - 14" X 115' X 2500 GPM Wells Cased To 80 Feet
- 4 - 24" X 100' X 4900 GPM Wells Cased To 35 Feet
- 2 - 24" X 100' X 7500 GPM Wells Cased To 50 Feet
- 1 - 24" X 70' X 3470 GPM Well Cased To 35 Feet
- 1 - 18" X 65' X 1500 GPM Well Cased To 50 Feet
- 1 - 12" X 35' X 800 GPM Well Cased To 30 Feet
- 1 - 18" X 55' X 1500 GPM Well Cased To 42 Feet
- 6 - 42" X 107' X 7000 GPM Wells Cased To 66 Feet
- 1 - 18" X 55' X 1500 GPM Well Cased To 45 Feet
- 1 - 42" X 68' X 8500 GPM Well Cased To 60 Feet
- 2 - 24" X 70' X 6945 GPM Wells Cased To 35 Feet
- 1 - 16" X 50' X 1600 GPM Well Cased To 40 Feet
- 4 - 24" X 108' X 8300 GPM Wells Cased To 50 Feet
- 2 - 12" X 40' X 1600 GPM Wells Cased To 35 Feet
- 1 - 16" X 100' X 7500 GPM Well Cased To 40 Feet
- 3 - 48" X 88' X 7500 GPM Wells Cased To 33 Feet
- 6 - 17" X 1490' X 1400 GPM Wells Cased To 1080 Feet
- 1 - 48" X 80' X 10416.67 GPM Well Cased To 46 Feet
- 1 - 30" X 1200' X 3500 GPM Well Cased To 760 Feet
- 1 - 30" X 1250' X 3500 GPM Well Cased To 845 Feet
- 1 - 30" X 1210' X 3500 GPM Well Cased To 835 Feet
- 4 - 24" X 104' X 6940 GPM Wells Cased To 54 Feet
- 6 - 20" X 100' X 4900 GPM Wells Cased To 40 Feet
- 1 - 18" X 50' X 500 GPM Well Cased To 40 Feet
- 1 - 12" X 40' X 800 GPM Well Cased To 35 Feet
- 1 - 18" X 66' X 1500 GPM Well Cased To 53 Feet
- 1 - 42" X 107' X 7000 GPM Well Cased To 69 Feet
- 1 - 42" X 68' X 10000 GPM Well Cased To 60 Feet
- 1 - 42" X 68' X 8500 GPM Well Cased To 54 Feet

- 7 - 16" X 100' X 4170 GPM Wells Cased To 40 Feet
- 1 - 42" X 68' X 10000 GPM Well Cased To 54 Feet
- 1 - 14" X 115' X 3800 GPM Well Cased To 80 Feet
- 1 - 30" X 1300' X 3500 GPM Well Cased To 850 Feet
- 1 - 17" X 1490' X 1400 GPM Well Cased To 1150 Feet
- 1 - 6" X 30' X 400 GPM Well Cased To 25 Feet
- 1 - 30" X 1200' X 3500 GPM Well Cased To 765 Feet
- 4 - 40" X 100' X 10420 GPM Wells Cased To 57 Feet
- 1 - 30" X 115' X 4170 GPM Well Cased To 80 Feet
- 1 - 30" X 115' X 2500 GPM Well Cased To 80 Feet
- 1 - 12" X 35' X 1200 GPM Well Cased To 30 Feet
- 10 - 48" X 80' X 10420 GPM Wells Cased To 46 Feet

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

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

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

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

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

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

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

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

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

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

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

- (3) Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,
- (4) Harmful movement of contaminants in violation of state water quality standards, or
- (5) Harm to the natural system including damage to habitat for rare or endangered species.

11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.
12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.
13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.
15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: SFWMD, Regulatory Support Division, MSC 9611, P.O. Box 24680, West Palm Beach, FL 33416-4680.
16. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.
17. Prior to the use of any proposed water withdrawal facility authorized under this permit, unless otherwise specified, the Permittee shall equip each facility with a District-approved operating water use accounting system and submit a report of calibration to the District, pursuant to Section 4.1, Basis of Review for Water Use Permit Applications.

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

18. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.
The permittee shall report injection/withdrawals from the ASR wells in the following manner:

Biscayne aquifer water injected
Biscayne aquifer water recovered
Floridan aquifer withdrawal
19. The Permittee shall provide annual status reports to the District that summarize the ASR cycle testing activities. The first report shall be submitted by:
March 15, 2013
20. The Permittee shall notify the District within 30 days of any change in service area boundary. If the Permittee will not

serve a new demand within the service area for which the annual allocation was calculated, the annual allocation may then be subject to modification and reduction.

21. The Permittee shall submit to the District an updated Well Description Table (Table A) within one month of completion of the proposed wells identifying the actual total and cased depths, pump manufacturer and model numbers, pump types, intake depths and type of meters.
22. Permittee shall secure a well construction permit prior to construction, repair, or abandonment of all wells, as described in Chapters 40E-3 and 40E-30, Florida Administrative Code.
23. Every ten years from the date of permit issuance, the permittee shall submit a water use compliance report for review and approval by District Staff, which addresses the following:
 1. The results of a water conservation audit that documents the efficiency of water use on the project site using data produced from an onsite evaluation conducted. In the event that the audit indicates additional water conservation is appropriate or the per capita use rate authorized in the permit is exceeded, the permittee shall propose and implement specific actions to reduce the water use to acceptable levels within timeframes proposed by the permittee and approved by the District.
 2. A comparison of the permitted allocation and the allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates. In the event the permit allocation is greater than the allocation provided for under District rule, the permittee shall apply for a letter modification to reduce the allocation consistent with District rules and the updated population and per capita use rates to the extent they are considered by the District to be indicative of long term trends in the population and per capita use rates over the permit duration. In the event that the permit allocation is less than allowable under District rule, the permittee shall apply for a modification of the permit to increase the allocation if the permittee intends to utilize an additional allocation, or modify its operation to comply with the existing conditions of the permit.
 3. Summary of the current and previous nine years progress reports for implementation of the Alternative Water Supply Plan and any modifications necessary to continue to meet the Plan requirements and conditions for issuance.
 4. Information demonstrating that the conditions for issuance of the permit are being complied with, pursuant to Limiting Condition # 51 and Section 373.236, F.S.
 5. Updates or amendments to the County's reuse plan.
24. In order to promote use of alternative water supplies, pumpage from Floridan aquifer wells and from those Biscayne aquifer wells whose use is offset by reclaimed water will be conducted on a priority basis, referred to as a "first on, last off" priority. Changes to wellfield operations must be approved via modification of the approved Wellfield Operation Plan by District staff prior to implementation.
25. The permittee shall operate surface water control structure known as the Mid-canal structure and bridge in accordance with the approved operational plan included in Exhibit 22. In addition, whenever this structure is opened for the purpose of raising water in the Wellfield Protection Canal down stream of the structure, the upstream structure that delivers water from the L-30 canal shall be opened in a manner to deliver equal volumes to those passed through the Mid-canal structure and bridge. The permittee shall submit operation and flow data logs regarding both structures to the District quarterly.
26. The Permittee is authorized to exercise the emergency wells at the Medley Wellfield for a total of two hours per month as needed for bacterial clearance and pump maintenance. Operation of the emergency wells at the Medley Wellfield for more than this amount shall require prior approval from SFWMD. Pumpage data shall be collected and report in accordance with Limiting Condition 18.

27. Permittee shall implement the wellfield operating plan described in District staff report prepared in support of recommendation for permit issuance.
See Exhibit 10
28. No more than 15 MGD shall be withdrawn from the West Biscayne aquifer Wellfield on any given day.
29. No more than 25,550 MGY shall be withdrawn during any 12 month consecutive period from the combined Hialeah, Preston and Miami Springs Biscayne aquifer wellfields
30. No more than 7,993 MGY shall be withdrawn during any 12 month consecutive period from the Snapper Creek Wellfield unless reclaimed water recharge is implemented in locations and amounts necessary to offset the impact of the increase to Everglades water bodies per limiting conditions 39 and 41.
31. No more than 39,931 MGY shall be withdrawn during any 12 month consecutive period from the Southwest Biscayne aquifer Wellfield unless reclaimed water recharge is implemented in locations and amounts necessary to offset the impact of the increase to Everglades water bodies per limiting conditions 39 and 41.
32. No more than 67,999 MGY shall be withdrawn during any 12 month consecutive period from the combined West, Southwest Snapper Creek and Alexander Orr Biscayne aquifer wellfields unless reclaimed water recharge is implemented in locations and amounts necessary to offset the impact of the increase to Everglades water bodies per limiting conditions 39 and 41.
33. No more than 1,095 MGY shall be withdrawn during any 12 month consecutive period from the South Miami Heights Wellfield.
34. No more than 1,752 MGY shall be withdrawn during any 12 month consecutive period from the combined Everglades Labor Camp and Newton wellfields.
35. No more than 1,571 MGY shall be withdrawn during any 12 month consecutive period from the combined Elevated Tank, Leisure City and Naranja wellfields.
36. The Permittee shall continue to submit monitoring data in accordance with the approved water level monitoring program for this project.
The existing monitoring program is described in Exhibits 30 and 32B.
37. The Permittee shall continue to submit monitoring data in accordance with the approved saline water intrusion monitoring program for this project.
See exhibits 28A and 32B for a list of monitor wells and and required sampling schedule.
The permittee shall submit annual Monitoring Program summary reports. The annual report will summarize the status of the project to update the salt front and install new monitor wells.
38. Within six months of permit issuance, an executed large user water agreement with the City of Hialeah shall be submitted to the District. In the event that the final agreement is for volumes less than those used in the formulation of the allocations in this permit, the allocations shall be reduced through a letter modification.
39. The permittee shall implement a minimum of 170 MGD of reuse projects as set forth in Projects 1-8 of Exhibit 14 on or before the deadlines provided therein. The exact volume of reclaimed water applied will depend on the treatment losses resulting from the process that are implemented. In the event any of these projects do not require or allow as much reuse as anticipated, the County shall identify and implement other reuse projects that will provide provide beneficial reuse of water by the deadlines set forth in Exhibit 14. Any changes to Exhibit 14 must be reviewed and approved by the District in consultation with the FDEP in accordance with Parts I & II of Chapter 373, Florida Statutes, and District rules governing consumptive uses of water in Chapter 40E-2, F.A.C., and FDEP rules governing the treatment and use of reclaimed water in Chapter 62-610, F.A.C.
40. The permittee will develop alternative water supplies in accordance with the schedules described in Exhibit 13.

The permittee will provide annual updates of the status of all alternative water supply projects (per the timeframes contained in Limiting Condition 50). The status report shall include work completed to date, expenditures and any anticipated changes in the timelines.

41. In the event that a milestone specified in the alternative water supply schedule and plan contained in Exhibit 13 is going to be missed, the permittee shall notify the Executive Director of the District in writing explaining the nature of the delay, actions taken to bring the project back on schedule and an assessment of the impact the delay would have on the rates of withdrawals from the Everglades water bodies and associated canals as defined in SFWMD consumptive use permitting rules. The District will evaluate the situation and take actions as appropriate which could include: a.) granting an extension of time to complete the project (if the delay is minor and doesn't affect the Everglades Waterbodies or otherwise violates permit conditions), b.) take enforcement actions including consent orders and penalties, c.) modify allocations contained in this permit from the Biscayne aquifer including capping withdrawal rates until the alternative water supply project(s) are completed (in cases where the delay would result in violations of permit conditions) or d.) working with the Department of Community Affairs to limit increase demands for water until the alternative water supply project is completed.
42. The Permittee shall provide the District with annual updates by March 15th each year describing the activities associated with the implementation of their approved reuse feasibility plan including the following information: (1) the status of distribution system construction, including location and capacity of a) existing reuse lines b) proposed reuse lines to be constructed in the next five years; (2) a summary of uncommitted supplies for the next five years; (3) the status of reuse plan implementation including status of pilot projects, plan design construction, volume of reuse available, volume of wastewater disposed of; and (4) the status/copies of any ordinances related to reuse (5) any proposed changes to the reuse plan set forth in Exhibit 14. The first annual update is due March 15, 2013.
43. Reuse Project numbers 5 and 6 in Exhibit 14 for wellfield recharge, which must be in place and operating prior to any additional withdrawals from the wellfield over the base condition water use as identified in Exhibit 10.
44. July 1, 2013, the Permittee shall submit a report for District review and approval identifying the location, treatment, timing and volume for Reuse Projects 5 & 6 on Exhibit 14 which provide groundwater recharge for the Southwest Wellfield. The report shall demonstrate that the proposed recharge sites and operations shall at a minimum prevent increased withdrawals from the C-4, C-2 and eastward groundwater seepage from Everglades National Park over the base condition water use and is otherwise a beneficial reuse of water per Chapter 62-610, F.A.C.
45. For Reuse Project number 4 of Exhibit 14 for rehydration of Biscayne Coastal Wetlands, in consultation with the District, the FDEP and Biscayne Bay National Park, upon completion of the pilot testing program, the parties shall agree on the water quality treatment required and the feasibility, as defined in Section 3.2.3.2 of the Basis of Review for Water Use, of this project on or before January 15, 2014. Extension of this deadline may be issued in writing by the District upon demonstration of good cause such as events beyond the control of the permittee or after consideration of the results/data collected, the District determines that additional testing is necessary. In determining the water quality needed, the parties will consider State and Federal water quality discharge standards, the volume and timing of water to be delivered to Biscayne Bay and the location of delivery. In the event the parties do not reach agreement on the feasibility by January 15, 2014, the Permittee shall begin development of an alternate reuse project from the South District wastewater facility and shall provide the District with a proposal for an alternate project including a conceptual design and schedule for implementation on or before December 15, 2014.
46. The permittee may request temporary authorization from the District to capture and store stormwater via withdrawals from the permitted Biscayne aquifer production wells, for storage within the Floridan aquifer system consistent with their FDEP issued Underground Injection Control permits. The District will consider the availability of stormwater that is not otherwise needed for environmental protection or enhancement and is in no way bound to authorize such requests. All such requests shall be made in writing to the Director of Water Use Regulation.
47. Permittee shall maintain an accurate flow meter at the intake of the water treatment plant for the purpose of measuring daily inflow of water.

Permittee shall maintain a calibrated flow meter(s) at the intake (raw water) and discharge (treated water) points within the Hialeah/Preston, Alexander Orr, and proposed Hialeah RO and South Miami Heights water treatment plants for the purpose of measuring treatment losses and shall submit monthly data quarterly as required pursuant to Limited Condition 18.

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

The Water Conservation Plan is contained in Exhibit 18. The permittee shall submit an annual report covering water conservation activities during the prior calendar year by March 15 of each year describing water conservation activities for the year including expenditures, projects undertaken and estimated water savings.

49. Permittee shall determine unaccounted-for distribution system losses on a quarterly basis and report the findings on an annual basis. The losses shall be determined for the entire system and for each of the water treatment plants (comparing water pumped from the wells compared to the volume into and out of the treatment plant), utilizing the most recent, approved water accounting and International Water Association / American Water Works Association (IWA/AWWA) water audit methodologies. The permittee shall verify the IWA/AWWA water audit methods to be used with the District for the subsequent year in each annual report. The annual report shall cover activities during the prior calendar year and be submitted on April 15 of each year. In addition to the unaccounted-for loss data, the report shall include the status of the activities (actions and expenditures along with the associated water savings) completed during the year to implement the approved water loss reduction plan (Exhibit 17).

In the event that the water losses, as defined by the AWWA method (Exhibit 16B), exceed 10 percent, the permittee shall include in the annual report a description of additional actions which will be implemented the following year(s) to reduce the losses to less than ten percent. If the District concludes that the progress towards achieving losses of less than 10 percent as identified in the unaccounted for losses plan is inconsistent with the plan schedule, the Permittee shall be required to revise the plan, to be approved by the District.

50. All annual reports required in these limiting conditions shall address activities that occurred during a calendar year and shall be submitted to Water Use Compliance on or before April 15th of the following year.
51. If it is determined that the conditions for permit issuance are no longer met for the 20 year permit duration, the permittee shall obtain a modification of the Permit from the District as necessary to come into compliance with the conditions for permit issuance. Such conditions for permit issuance include minimum flows and levels, water reservations, and other conditions ensuring the use does not cause water resource harm and is consistent with the objectives of the District, including implementation of the Comprehensive Everglades Restoration Plan.
52. The permittee shall operate the West Wellfield in accordance with the Memorandum of Understanding between the U.S. Department of the Interior, the Governor of the State of Florida, Miami Dade County and the District incorporated in Exhibit 35.

Permit No. 13-00017-W
Application No. 110511-6
Miami-Dade County

S-/T53S/R41E

S-/T54S/R39E

S-/T54S/R40E

S-/T54S/R41E

S-/T54S/R42E

S-/T55S/R39E

S-/T55S/R40E

S-/T56S/R38E

S-/T56S/R39E

S-/T57S/R38E

S-/T57S/R39E

S-/T57S/R40E

NOTICE OF RIGHTS

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

RIGHT TO REQUEST ADMINISTRATIVE HEARING

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

Filing Instructions

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

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

Initiation of an Administrative Hearing

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

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

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

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

Mediation

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

RIGHT TO SEEK JUDICIAL REVIEW

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

Last Date for Agency Action:
July 17, 2012

WATER USE STAFF REPORT

Application Number: 110511-6
Permit Number: 13-00017-W
Project Name: MIAMI-DADE CONSOLIDATED P W S
Water Use Permit Status: MODIFICATION/RENEWAL

Location: MIAMI-DADE COUNTY, S-/T53S/R39E
S-/T53S/R40E
S-/T53S/R41E
S-/T54S/R39E
S-/T54S/R40E
S-/T54S/R41E
S-/T54S/R42E
S-/T55S/R39E
S-/T55S/R40E
S-/T56S/R38E
S-/T56S/R39E
S-/T57S/R38E
S-/T57S/R39E
S-/T57S/R40E

Applicant's Name and Address: MIAMI-DADE WATER AND SEWER DEPARTMENT
P O BOX 330316
MIAMI, FL 33233-0316

Water Use Classification: Public Water Supply
Aquifer Storage And Recovery

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

Authorized Allocation:

Annual Allocation: 149,906 Million Gallons (MG)
Maximum Monthly Allocation: 13,117 Million Gallons (MG)

Existing Withdrawal Facilities - Ground Water

Source: Biscayne Aquifer
1 - 18" X 66' X 1500 GPM Well Cased to 53 Feet
1 - 30" X 115' X 2500 GPM Well Cased to 80 Feet
2 - 24" X 70' X 6945 GPM Wells Cased to 35 Feet
1 - 42" X 68' X 8500 GPM Well Cased to 54 Feet
1 - 30" X 115' X 4170 GPM Well Cased to 80 Feet
1 - 14" X 115' X 3800 GPM Well Cased to 80 Feet

Source: Biscayne Aquifer

- 1 - 16" X 50' X 1600 GPM Well Cased to 40 Feet
- 1 - 6" X 30' X 400 GPM Well Cased to 25 Feet
- 7 - 16" X 100' X 4170 GPM Wells Cased to 40 Feet
- 1 - 42" X 68' X 8500 GPM Well Cased to 60 Feet
- 1 - 24" X 70' X 3470 GPM Well Cased to 35 Feet
- 1 - 16" X 100' X 7500 GPM Well Cased to 40 Feet
- 6 - 42" X 107' X 7000 GPM Wells Cased to 66 Feet
- 1 - 18" X 55' X 1500 GPM Well Cased to 42 Feet
- 1 - 12" X 40' X 800 GPM Well Cased to 35 Feet
- 4 - 24" X 108' X 8300 GPM Wells Cased to 50 Feet
- 3 - 48" X 88' X 7500 GPM Wells Cased to 33 Feet
- 1 - 18" X 50' X 500 GPM Well Cased to 40 Feet
- 4 - 24" X 104' X 6940 GPM Wells Cased to 54 Feet
- 1 - 18" X 65' X 1500 GPM Well Cased to 50 Feet
- 1 - 12" X 35' X 1200 GPM Well Cased to 30 Feet
- 6 - 20" X 100' X 4900 GPM Wells Cased to 40 Feet
- 2 - 24" X 100' X 7500 GPM Wells Cased to 50 Feet
- 4 - 24" X 100' X 4900 GPM Wells Cased to 35 Feet
- 1 - 48" X 80' X 10416.67 GPM Well Cased to 46 Feet
- 10 - 48" X 80' X 10420 GPM Wells Cased to 46 Feet
- 1 - 42" X 68' X 10000 GPM Well Cased to 54 Feet
- 1 - 18" X 55' X 1500 GPM Well Cased to 45 Feet
- 1 - 42" X 107' X 7000 GPM Well Cased to 69 Feet
- 2 - 12" X 40' X 1600 GPM Wells Cased to 35 Feet
- 20 - 14" X 115' X 2500 GPM Wells Cased to 80 Feet
- 4 - 40" X 100' X 10420 GPM Wells Cased to 57 Feet
- 1 - 12" X 35' X 800 GPM Well Cased to 30 Feet
- 1 - 42" X 68' X 10000 GPM Well Cased to 60 Feet

Source: Upper Floridan Aquifer

- 1 - 30" X 1200' X 3500 GPM Well Cased to 765 Feet
- 6 - 17" X 1490' X 1400 GPM Wells Cased to 1080 Feet
- 1 - 30" X 1210' X 3500 GPM Well Cased to 835 Feet
- 1 - 30" X 1300' X 3500 GPM Well Cased to 850 Feet
- 1 - 30" X 1250' X 3500 GPM Well Cased to 845 Feet
- 1 - 30" X 1200' X 3500 GPM Well Cased to 760 Feet
- 1 - 17" X 1490' X 1400 GPM Well Cased to 1150 Feet

Proposed Withdrawal Facilities - Ground Water

Source: Biscayne Aquifer

- 1 - 24" X 50' X 1400 GPM Well Cased to 45 Feet
- 1 - 24" X 50' X 2800 GPM Well Cased to 45 Feet
- 3 - 24" X 72' X 1400 GPM Wells Cased to 45 Feet

Source: Upper Floridan Aquifer

- 1 - 24" X 1200' X 2340 GPM Well Cased to 1100 Feet
- 6 - 24" X 1200' X 2430 GPM Wells Cased to 1100 Feet
- 7 - 17" X 1490' X 1400 GPM Wells Cased to 1080 Feet

Rated Capacity

| <u>Source</u> | <u>Status Code</u> | <u>GPM</u> | <u>MGM</u> | <u>MGY</u> |
|------------------------|--------------------|----------------|-----------------|----------------|
| Biscayne Aquifer | E | 518,777 | 22,710.0 | 272,669 |
| Upper Floridan Aquifer | E | 27,300 | 1,195.1 | 14,349 |
| Biscayne Aquifer | P | 8,400 | 367.7 | 4,415 |
| Upper Floridan Aquifer | P | 26,810 | 1,173.6 | 14,091 |
| Totals: | | 581,287 | 25,446.4 | 305,524 |

PURPOSE

The purpose of this application is to renew and modify a Water Use Permit for public water supply for the Miami-Dade Water and Sewer Department (MDWASD) service area serving 2,787,451 persons in the year 2030 with an average finished water per capita use rate of 140 gallons per day (gpcd) and a maximum monthly to average monthly pumping ratio of 1.05:1. Withdrawals are from the Biscayne aquifer via 95 existing and 5 proposed withdrawal facilities and from the upper Floridan aquifer system (FAS) via 12 existing withdrawal (7 Hialeah RO wells and 5 ASR wells) facilities and 14 proposed withdrawal facilities. No changes to the finished water demand projections or existing permit expiration date are requested.

The following modifications to the existing water use permit are recommended:

Facility Changes: - Add proposed South Miami Heights (SMH) FAS well field (Exhibit 3L), consisting of 8 wells (7 production and 1 monitor) with an allocation of 23.3 million gallons per day (MGD). Increase the allocation from the Hialeah FAS well field from 19.95 to 23.3 MGD. Remove seven previously proposed Biscayne aquifer wells in the SMH wellfield (CP1, CP2, RHP5, RHP6, RHP7, RPP1, RPP2). Update locations of proposed Floridan aquifer wells at Hialeah wellfield (Exhibit 3B).

Allocation Changes: - Reduce Biscayne aquifer allocation by 22.7 MGD, from 141,824 million gallons per year (MGY) (388.56 MGD) to 133,539 MGY (365.9 MGD) due to the change in source from the Biscayne aquifer to the FAS for the proposed SMH Wellfield, and a reduction of 18.12 MGD from the SMH System (which was credited in the previous permit based on the proposed implementation of the South District WRP Groundwater Recharge project). Increase the Floridan aquifer allocation from 7,282 MGY (19.95 MGD) to 17,009 MGY (46.6 MGD) through the addition of the SMH FAS and the increase from the Hialeah FAS. Adjust the Biscayne aquifer base condition pumping rate from 347 MGD to 349.5 MGD, based on modeling which demonstrates that additional water can be derived from certain wellfields without inducing seepage from regional waterbodies, as well as accounting for a transfer of 9.1 MGD of base condition allocation from the North (Hialeah/Preston) system to the City of North Miami Beach (Exhibit 10C). All proposed Biscayne aquifer withdrawals above the base condition water use of 349.5 MGD are to be offset through the use of reclaimed water to recharge groundwater and canals in the vicinity of the wellfields and have been shown to prevent increased withdrawals from Everglades water bodies.

Shift the Biscayne aquifer base condition in the Central System by reducing the allowable pumpage at the Alexander Orr Wellfield to 40 MGD (from 62 MGD) and increasing the Biscayne aquifer pumpage at the Southwest Wellfield to 110 MGD (from 85.9 MGD).

Reuse Projects: - Remove from permit a requirement to provide up to 18.6 MGD of advanced treated reclaimed water to provide aquifer recharge upgradient of the South Miami Heights area, in the vicinity of the Zoo Miami.

These changes result in a total Biscayne aquifer allocation reduction from 388.56 MGD to 365.9 MGD.

PROJECT DESCRIPTION

The Miami-Dade Consolidated Public Water Supply (PWS) project is a currently permitted (13-00017-W) project located in eastern Miami-Dade County (Exhibit 1). The Miami-Dade Water and Sewer Department (MDWASD) is permitted to provide potable water from 15 wellfields (Exhibit 3A) to a projected population of 2,787,451 persons in the year 2030. MDWASD's service area is depicted on Exhibit 2A. Withdrawals are from the Biscayne aquifer via 95 existing and 5 proposed withdrawal facilities and from the upper Floridan aquifer via 12 existing withdrawal facilities (7 Hialeah RO wells and 5 ASR wells) and 14 proposed withdrawal facilities. See Exhibits 3B-3R and 5A-5R.

SYSTEM DESCRIPTION

The overall system is divided into North, Central and South systems with some interconnection between the systems at the treated water distribution level (Exhibits 2B and 3A).

The North system includes the Hialeah and John E. Preston Water Treatment Plants (WTPs), which are supplied by the Hialeah, Preston, Miami Springs (upper and lower) and Northwest wellfields and by the Medley wellfield on an emergency basis. A reverse osmosis (RO) treatment plant, producing 10 MGD of treated FAS water from 14 Floridan aquifer wells, is expected to begin operation in by the end of 2012 (Phase 1) in the City of Hialeah. The Hialeah FAS system will ultimately produce 17.5 MGD of treated water upon completion of Phase 3 in 2026 (Exhibit 13). See Exhibits 3B-3G for well locations for the North System.

The Central system includes the Alexander Orr, Jr. WTP, which is supplied by the Alexander Orr, Snapper Creek, Southwest and West Wellfields. There are 3 existing ASR Floridan aquifer wells at the West wellfield and 2 at the Southwest wellfield.

An additional 21 MGD (above the calculated base condition of 85.9 MGD) is expected to be withdrawn from the Southwest wellfield (SWWF) beginning in 2021, and an additional 16 MGD, for a total of 37 MGD over the calculated base condition is expected to be withdrawn beginning in 2028, for a total of 122.9 MGD (see Exhibit 8A Column 24). These additional withdrawal rates are required to be offset on a 1:1 basis by applying reclaimed water between the SWWF and regional waterbodies. Up to 37 MGD of advanced treated reclaimed water from the proposed West District Water Reclamation Plant is required to provide aquifer recharge in the vicinity of the Southwest wellfield to offset these proposed increases in withdrawals.

For this permit modification, modeling was conducted to show that the base condition allocation for the Southwest Wellfield can be increased from 85.9 MGD TO 110 MGD (an additional 24.1 MGD) by reducing the base condition allocation for the Alexander Orr Wellfield from 62 MGD to 40 MGD without inducing additional seepage from the Regional Waterbodies. This shift in allocation from Alexander Orr to the Southwest Wellfield will allow the ASR wells to be used on a regular basis storing Biscayne aquifer volumes not exceeding the Biscayne aquifer wellfield limits. See Exhibits 3H-3K for well locations for the Central System. Exhibit 10C shows components used to derive the modified Biscayne aquifer base condition for the various well fields.

The South system currently consists of 5 wellfields and associated equipment: 1) Everglades Labor Camp, 2) Leisure City, 3) Newton, 4) Elevated Tank, and 5) Naranja. A new South Miami Dade membrane-softening WTP is scheduled to provide water service to this area by 2015. Two new Biscayne aquifer well fields in South Miami Heights (SMH), at the Former Plant site and Roberta Hunter Park, will provide 3 MGD of raw water to the new membrane plant. A new 23.3 MGD FAS wellfield and RO treatment plant capable of providing 17.5 MGD of treated water will also be constructed in the SMH area. See Exhibits 3L-3R for well locations. Leisure City, Elevated Tank and Naranja WTPs and wellfields will be taken off-line upon operational status of the new South Miami-Dade membrane WTP and the

PROJECT DESCRIPTION (CONTINUED)

Everglades and Newton facilities will go to standby status.

PERMIT HISTORY

North Miami-Dade:

The South Florida Water Management District (SFWMD or District) issued the first Water Use Permit for the Hialeah-Preston Water Treatment Plants (Water Use Permit No. 13-00018) on February 7, 1975 with an annual allocation of 38.74 billion gallons per year (BGY) (106.14 MGD) from the Miami Springs, Medley, Hialeah and Preston Wellfields. This permit 13-00018-W was reissued on February 12, 1981 for a ten-year period and an annual allocation of 45.62 BGY (124.97 MGD). The first WUP for the Northwest Wellfield (WUP No. 13-00037-W) was issued on September 4, 1975 for an annual allocation of 18.15 BGY (50 MGD). The Northwest Wellfield permit 13-00037-W with an annual allocation of 60.23 BGY (165 MGD) was issued on March 12, 1987.

The Hialeah-Preston and Northwest permits were combined into one master permit No. 13-00037-W on March 14, 1991. The permit authorized a withdrawal of 60.20 BGY, an average daily withdrawal of 164.93 MGD, and a maximum daily withdrawal of 197.91 MGD. In February 1999, the permit was reissued for an annual allocation of 72,703 million gallons (MG) (72.7 BGY) and a maximum day allocation of 235.04 MGD. The permit included a maximum pumpage from the Northwest Wellfield of 155 MGD, and 70 MGD from the Hialeah, Preston, and Miami Springs Wellfields, and the remainder, but not limited to 10 MGD from the ASR wells. The permitted wellfields include 45 Biscayne aquifer production wells located in the Hialeah, Preston, Miami Springs and Northwest Wellfields. An application to modify the permit was received on January 8, 2001. The permit expiration date was February 11, 2004.

Central Miami-Dade:

The SFWMD issued the first WUP for Alexander Orr, Southwest and Snapper Creek wellfields (No. 1300017-W) on February 7, 1975 with an annual allocation of 30.66 BGY (84 MGD). On September 4, 1975, the annual allocation was increased to 34.31 BGY (94 MGD). The permit was renewed on December 13, 1979 with an annual allocation of 47.45 BGY (130 MGD) and included the allocations and service areas previously associated with WU Ps 13-00028-W, (Florida Water & Utilities), 13-00058-W (General Water Works), and 13-00067-W (South Miami Heights). On April 10, 1986, the permit was renewed with an annual allocation of 60.408 BGY (165.5 MGD), and a maximum day allocation of 198.2 MG. The permit was renewed again on November 10, 1993 with an annual allocation of 66.231 BGY (181.45 MGD) from the Alexander Orr, Southwest, Snapper Creek and West Wellfields. In May 1995, the SFWMD issued Water Use Permit No. 13-00017-W for the Alexander-Orr WTP with an annual allocation of 74,136 MG (203.11 MGD), and a maximum day allocation of 241.60 MGD, of which 23.96 MGD are allocated to ASR. The permit expiration date was May 11, 2004 and an application to renew and modify the permit was received on the expiration date.

South Miami-Dade:

Water use permit No. 13-00040-W was initially issued to Rex Utilities, Inc. on March 18, 1976 with an annual allocation of 4.15 BGY (11.4 MGD) and a maximum day of 14.8 MGD. Subsequently, MDWASD acquired the facilities that are now known as the South Miami-Dade Water Supply System. The original permit was modified and renewed on July 8, 1982 with an allocation of 3.76 BGY (10.61 MGD) and a maximum day of 15.9 MGD for the six wellfields. The permit expired on July 8, 1992 and was reissued to MDWASD on July 14, 1994 with an allocation of 3.873 BGY (10.61 MGD) and a maximum day of 15.92 MGD. On July 11, 1998, the permit was renewed again with an allocation of 3.902 BGY (10.69 MGD) and a maximum day of 13.58 MGD. On March 13, 2003, the SFWMD re-issued permit number 1300040-W

PROJECT DESCRIPTION (CONTINUED)

with an annual allocation of 3.997 BG (10.95 MGD), and a maximum daily allocation of 13.4 MGD and authorization to install four new wellfields to supply water to a new membrane softening WTP. The permit expiration date was March 13, 2008.

Consent Agreement:

On May 10, 2006, Miami-Dade County and the SFWMD entered into an Interim Consumptive Use Authorization and Agreement. The agreement authorized withdrawals of up to 349.76 MGD for a duration of 18 months, required completion of a list of tasks to respond to an outstanding Request for Additional Information necessary to issue a 20 year permit, granted 18 months to complete the tasks and required the County to develop a plan to use alternative sources to meet all future demands over 347 MGD.

Consolidated Permit:

On November 15, 2007, permit 13-00017-W was renewed and consolidated all facilities and water demands of permits 13-00017-W, 13-00037-W and 13-00040-W into one permit. It was issued with a duration of 20 years, an annual allocation of 152,741 MGY (418.47 MGD) and a maximum monthly allocation of 13,364 MGM. Along with the existing wellfields and the proposed South Dade wellfield, a new Floridan aquifer wellfield and reverse osmosis plant were proposed in Hialeah. The Biscayne aquifer base condition was established at 347 MGD, pursuant to Section 3.2.1E of the BOR, Regional Water Availability. Additional groundwater modeling conducted during the permit review showed that an additional 5.0 MGD (1.5 MGD at Snapper Creek, 1.5 MGD at Southwest, 0.5 MGD at Newton and 1.5 MGD at Everglades wellfields) would not cause a net increase in volume or cause a change in timing of surface and groundwater from Everglades water bodies. Groundwater and canal recharge projects were required to offset proposed increased Biscayne aquifer withdrawals beyond the calculated Base Condition limit of 347 MGD.

On November 1, 2010, the consolidated permit (13-00017-W) was modified (to remove proposed FAS blending wells and re-start the existing ASR wells) and renewed for a 20 year duration, with an annual allocation of 149,106 MGY (408.51 MGD) and a maximum monthly allocation of 13,047 MGM to provide potable water to a projected population of 2,787,451 persons in the year 2030.

PROJECTED WATER USE DEMANDS

There are no requested modifications to the projected demands. From the previous staff report, the permittee estimates a 2030 population of 2,787,451 persons. The initial per capita use rate (145.4 gallons per capita per day) was calculated from a three year average for 2006 - 2008 (see Exhibit 7). In accordance with Table G (Exhibit 8), the per capita use rate is projected to decline over the 20 year life of the permit as a result of water conservation measures (see column 8 of Exhibit 8A) from 145 to 140 gallons per capita day in 2030. The raw water per capita is higher due to treatment losses. The maximum monthly peaking ratio (1.05) was calculated by dividing the peak monthly rate by the average monthly rate for the three year time period of 2007 - 2009.

Staff recommends an annual allocation of 150,533 million gallons (412.42) MGD through the year 2030. Staff further recommends a maximum month allocation of 13,172 MG/MO based on a maximum month to average month ratio of 1.05. These total allocation values are slightly higher than shown in the previous permit due to the greater reliance on the FAS and the lower efficiency of treating this water with RO technology. See Exhibit 8A for projected demand tables and Exhibit 9 for a step chart of raw supply and finished demand. Pursuant to Limiting Condition 5, withdrawals from the Biscayne aquifer and upper Floridan aquifer are further limited in 10 year increments based on projected demand. The reuse offsets in Limiting Condition 5 are derived from column 6 of Exhibit 8A. Additional restrictions on individual

PROJECTED WATER USE DEMANDS (CONTINUED)

wellfield withdrawals are contained in Limiting Conditions 28 through 35.

HYDROLOGIC MODELING

Modflow

FAS - Hialeah Wellfield:

Impacts due to the operation of the proposed Hialeah RO Wellfield were evaluated prior to the issuance of the 2010 permit. The City of Hialeah's consultant (Schlumberger Water Services) ran the SFWMD East Coast Floridan Aquifer System (ECFAS) SEAWAT model developed for the SFWMD. The model has 14 layers representing the surficial aquifer System to the Boulder Zone and includes all or part of seven counties. The applicant created a local scale model in the vicinity of the Hialeah RO wellfield based on the regional model. The local model has 106 rows, 112 columns and grid spacing between 75 and 2,400 feet. The 14 model layers were maintained, however the depths of some layers were adjusted based on local field data (see Exhibit 26A). The open interval of the Hialeah RO wells is within layers 3, 4 and 5 of the model. The model was calibrated to the results of a 5 day pump test of well R01 Hialeah with three monitor wells. Hydraulic conductivity was 90 feet per day, storativity was 5.25E-07 and the ratio of horizontal to vertical hydraulic conductivity was set to 0.1 in the model.

The Hialeah wellfield includes 14 wells (including 12 primary production wells and 2 backup wells) with a total pumping capacity of 23.33 MGD. Pumpage in the model was distributed among all 14 wells. Predictive simulations were run for 30 years with pumpage rates varying from 13.33 MGD to 23.33 MGD. The maximum drawdown when pumping 13.33 MGD is predicted to be 65 feet with an increase in chloride concentration from the initial value of 1,650 milligrams per liter (mg/l) to 1,875 mg/l. The maximum drawdown when pumping at 23.33 MGD is predicted to be 107 feet with chloride concentrations increasing to 2,025 mg/l. See Exhibit 26B and 26C for drawdown maps.

FAS - South Miami Heights

MDWASD is proposing to use the Floridan aquifer as an alternative water supply source to meet the expected demands for the planned SMH wellfield. The location of the wellfield is shown on Exhibit 3L, and the well construction details are shown on Exhibit 5. MDWASD is proposing a maximum monthly withdrawal rate of 23.3 MGD raw Floridan aquifer water, which will result in 17.5 MGD of treated water, based on 75 percent treatment efficiency. The SMH FAS Wellfield consists of 8 wells with a withdrawal rate of 3.0 MGD each for a design withdrawal capacity of 24 MGD.

To assess the impacts from the proposed withdrawals from the SMH Floridan aquifer system wellfield, the City developed an uncalibrated MODFLOW model consistent with Section 1.7.5.2 A of the BOR. A report detailing the model development and results are contained in the permit file. This report describes modeling and results for an 18 MGD SMH RO Wellfield. Additional modeling was performed subsequent to this report with a withdrawal rate of 24 MGD from 8 wells for the SMH FAS Wellfield. Individual and cumulative drawdown maps shown in this staff report (Exhibits 26D and 26E) reflect the 24 MGD withdrawal rate.

The closest wellfields to SMH have existing drawdowns based on the modeled results of 44.09 feet for Florida Power and Light (FPL), and 12.18 feet for Florida Keys Aquaduct Authority (FKAA - 13-00005-W). Exhibit 26F shows existing legal users in the area and Exhibit 26E shows the cumulative drawdowns for existing legal users. SMH lies just outside the 1 foot drawdown contour of FPL and FKAA.

Results of the model run simulating SMH only with a continuous withdrawal for 90 days at 24 MGD were analyzed for the 1 foot drawdown contour. This simulation represents the cone of depression in the upper Floridan aquifer due to pumping of only the SMH wellfield. The MDWASD ASR facility at the

SWWF lies just inside the 1 foot contour, while the MDWASD WWF ASR facility, FPL and FKAAs lie outside the 1 foot drawdown contour. Drawdowns were 0.58 feet at the West wellfield (WWF) ASR, 1.28 feet for SWWF ASR, 0.54 feet at FPL, and 0.21 feet at FKAAs.

Results were analyzed for the continuous withdrawal for 90 days of SMH at 24 MGD and existing legal users at their permitted allocation. Drawdowns were observed at WWF of 0.63 feet, at SWWF 1.36 feet, at FPL 44.63 feet, and at FKAAs 12.39 feet. Exhibit 26E shows the cumulative drawdown due to pumping at SMH and existing legal users.

The WWF and SWWF ASR facilities are designed to inject freshwater for later retrieval as part of ASR operations. In order to assess possible impact to the operation of these facilities as a result of SMH withdrawals on the ASR operation, MODPATH, a particle tracking post-processing package for MODFLOW (Pollack, 1994) was run. Particles were added directly to south of the SWWF ASR well model cells. Simulation 5 was run for 30 years first in MODFLOW, and then MODPATH was run in order to assess particle movement. The MODPATH model run was analyzed to assess the impact of SMH and the existing legal users on the SWWF ASR system. After a run of 30 years, particles traveled 365 feet from their original position. Because the residence time of fresh water injected into the ASR wells will typically be around 6 months, the travel distance of the fresh water bubble should be substantially less than that calculated for 30 years and should not have a significant impact on the ability of the ASR wells to recover the fresh water bubble.

Modflow

Biscayne Aquifer:

For the 2010 permit issuance, modeling was performed to assess impacts from the existing and proposed withdrawals on the Biscayne aquifer. The applicant used the SFWMD Lower East Coast subRegional (LECsR) Modflow model, modified to meet the requirements for permit applications. The model is documented in a draft SFWMD publication dated March 2006. The model cells are 704 feet by 704 feet and the model domain extends from the St. Lucie Canal and River in Martin County south to Biscayne Bay in Miami-Dade County. Additionally, it extends from the western county boundaries of Martin, Palm Beach, Broward and Miami-Dade counties to the Atlantic Ocean. The model has daily time steps and simulates 14 years from January 1986 to September 1999.

For the 2010 permit, the model was calibrated for the time period July 1988 to March 1990. This 21 month period included 3 months of average rainfall conditions followed by 15 months of 1-in-10 year drought conditions and then 3 months of average conditions. This time period was also used for the predictive runs. The C-100, C-102, C-103, C-1, C-1 N, C-1W and L-31 canals were calibrated to flow data between water control structures. Monitor wells at each wellfield were used to check local calibration and at least three wells at each wellfield had model water levels that were within 1 foot of actual water levels for the 1-in-10 year drought period. Permitted users within the 0.1 foot cone of influence of each wellfield were included in the cumulative model runs submitted by the applicant. These 2010 predictive model scenarios are listed in Exhibit 23.

Effects of Shifting Base Condition Allocation from Alexander Orr to Southwest Wellfield:

Base Condition water use was established for each Biscayne aquifer wellfield, consistent with Section 3.2.1E of the BOR, in the permit issued in 2007. In 2010 the permit was modified allowing the withdrawal of up to 388 MGD of groundwater from the Biscayne aquifer. This quantity of water was granted based (in part) on an evaluation of the impact of MDWASD's groundwater withdrawals on Regional Waterbodies under its Base Condition Water Use and its requested allocation. As defined by

Section 3.2.1E of the BOR, Base Condition Water Use is the maximum quantity of water withdrawn during a consecutive 12-month period between 2001 and 2006. The amount of seepage from Regional Waterbodies (primarily SFWMD Canals and Everglades National Park) induced by MDWASD's groundwater pumpage under Base Conditions was evaluated with the LECsR groundwater model developed by the SFWMD. This model was also used to evaluate the impacts associated with MDWASD's projected water demands. As many of MDWASD's wells did not have flow meters, the Base Condition groundwater pumpage rates for several wellfields were estimated. Exhibit 10C shows the Base Condition groundwater pumpage rates for MDWASD's Biscayne aquifer wellfields established in 2007, as well as the Modified Base Condition resulting from subsequent modeling and a shift of base condition from this permit to the City of North Miami Beach (13-00060-W).

In compliance with Limiting Condition 17 of the 2007 permit, MDWASD began installing flow meters in all of its wells and recalibrating wells with existing flow meters. It was discovered that the actual capacity of its Alexander Orr Wellfield is on the order of 35 MGD, which is approximately 27 MGD less than that assumed for the Base Condition (62 MGD).

Limiting Condition No. 31 limited annual withdrawals from the Southwest Wellfield to 85.9 MGD. However, the capacity of the Southwest Wellfield is considerably higher (approximately 161 MGD). MDWASD requested to shift 20 mgd to 30 mgd of groundwater pumpage from the Alexander Orr Wellfield to the Southwest Wellfield to maximize its production capabilities at the Alexander Orr WTP.

The LECsR model was used by the applicant's consultant to evaluate the impacts on Regional Waterbodies resulting from the proposed shift in Base Condition allocation. A technical report documenting the modeling effort and the results is contained in the permit file. The modeling compared withdrawals from the Alexander Orr and Southwest wellfields as established in the previous permit and the proposed shift in allocation from Alexander Orr wellfield to the Southwest wellfield. Several potential scenarios were modeled. For each scenario, seepage rates from all potential Regional Waterbodies were calculated using the USGS MULTIBUD program. Regional Waterbodies used in this analysis are shown on Exhibit 25E.

According to the LECsR model simulations, MDWASD's proposed shift of pumpage from the Alexander Orr Wellfield to the Southwest Wellfield would result in approximately 1 MGD to 3 MGD of additional seepage from the upper reaches of the C-2 and C-1W Canals (MULTIBUD Zones A and D) to the Biscayne aquifer, relative to the seepage that occurs under Base Conditions. Approximately 4 MGD to 10 MGD more groundwater would discharge from the Biscayne aquifer to the lower portion of the C-2 Canal (MULTIBUD Zone B), relative to Base Conditions. In the C-1 Canal (MULTIBUD Zone E), the net additional seepage, relative to Base Conditions, is similar under all scenarios evaluated. The additional seepage that occurs in the C-100C Canal (MULTIBUD Zone L), L-31N Canal (MULTIBUD Zone M), and the C-4 Canal (MULTIBUD Zone N) is less than 0.3 MGD for all scenarios. Overall, the total simulated change in seepage, relative to Base Conditions, is a 2 MGD to 6 MGD decrease in the seepage from the canal system to the Biscayne aquifer, relative to Base Conditions. Exhibit 25F shows the difference in net seepage on a monthly basis for the modeling scenarios. The modeling results indicate the proposed pumping would not cause an increase in canal seepage to the Biscayne aquifer, and the implementation of any scenario would not cause additional indirect withdrawals from Regional Waterbodies.

IMPACT ASSESSMENTS

Water Resource Availability

IMPACT ASSESSMENTS (CONTINUED)

Biscayne Aquifer

There are two major aquifer systems in Miami-Dade County, as discussed in the United States Geological Survey (USGS) Water Resource Investigations Report 90-4108. Overlying the Floridan aquifer system in Miami-Dade County is a 550- to 800-ft thick sequence consisting of sediments that have relatively low permeability, referred to as the intermediate confining unit. Overlying the intermediate confining unit is the surficial aquifer system, the source of freshwater supplies for Miami-Dade County and for most of southeast Florida. The surficial aquifer system base is -180 to -220 feet NGVD and includes the Biscayne aquifer and the gray limestone aquifer. The base of the Biscayne aquifer is 80 -100 feet below land surface (bls) at all the Miami-Dade public water supply wellfields except the Hialeah/Preston, Miami Springs and Medley wellfields, where the aquifer base is 130-150 feet bls.

According to USGS aquifer performance tests in the area, the transmissivity of the Biscayne aquifer is approximately 500,000 feet squared per day (ft²/d) at most of the Miami-Dade wellfields. At the Northwest and West wellfields, the transmissivity is 1 million ft²/d and at Alexander Orr and Snapper Creek the transmissivity is 750,000 ft²/d.

Land surface elevations in Miami-Dade County average 5-10 feet NGVD, with coastal dune remnants reaching 15-20 feet NGVD. The approximate dry season depths to water at the wellfields are as follows:

Northwest: 6' (-1' NGVD)
Preston: 14' (-5' NGVD)
Miami Springs: 7' (-1' NGVD)
West: 3' (3' NGVD)
Southwest: 13' (-4 NGVD)
Snapper Creek: 8' (-3' NGVD)
Alexander Orr: 13.5' (-5.5' NGVD)
Naranja: 4' (2' NGVD)
Newton: 4.5' (1.5' NGVD)
Everglades: 3' (2' NGVD)
Leisure City: 4' (2' NGVD)
Elevated Tank: 6' (3' NGVD)
South Miami Heights: 6** (2** NGVD) predicted

The water levels are based on monitor well data for the north wellfields and from results of modeling data in 2030 at the Southwest, Alexander Orr and south system wellfields. In the dry season, approximately 86 feet of the Biscayne aquifer would remain saturated.

Sources of recharge to the surficial aquifer system in Miami-Dade County are: (1) infiltration of rainfall or irrigation water; (2) infiltration of surface water and groundwater imported from the water-conservation areas/Everglades National Park; (3) infiltration of urban runoff by way of drains, wells, or ponds; and (4) groundwater inflow from southwestern Broward County. Recharge by rainfall is greatest during the wet season, from June to November, and recharge by canal seepage is greatest during the dry season, from December to May. Water level data is collected from an extensive USGS monitor network (see Exhibits 29 and 30). This data indicates that groundwater flows from western Miami-Dade County towards the coast and fluctuates approximately 2 feet from wet to dry season.

The Preston, Medley and Miami Springs wellfields are adjacent to the C-6 canal upstream of the S-26 structure, which is operated to maintain a headwater elevation of 2.5 feet NGVD. The Alexander Orr

IMPACT ASSESSMENTS (CONTINUED)

and Snapper Creek wellfields are adjacent to the C-2 canal upstream of the S-22 structure, which is operated to maintain a headwater elevation of 2.9 feet NGVD. The two South Miami Heights proposed wellfields are in the vicinity of the C-1W and C-1N canals upstream of the S-21 structure, which is operated to maintain a headwater elevation of 2 feet NGVD in the dry season and 2.4 feet NGVD in the wet season. Monitor wells have been installed to observe the impact of new or increased pumpage near these regional canals. See Exhibits 33A and 33B for location maps and Exhibit 33C for a table of well information.

Based on historic data for existing wellfields and model results for proposed withdrawals, the potential for harm to occur to the water resource availability of the aquifer as a result of withdrawal of the recommended allocation is considered minimal.

Upper Floridan Aquifer

The deeper aquifer system is commonly known as the Floridan aquifer system and it is present in all of Florida and parts of adjacent states. USGS Water Resource Investigation (WRI 94-4010) is a study of the Floridan aquifer system in southeastern Florida. In Miami-Dade County, the top of the Floridan aquifer system occurs at about -950 to -1,000 feet NGVD. The Floridan aquifer system is divided into three general hydrogeologic units: (1) the upper Floridan aquifer, which contains brackish ground water, (2) the middle confining unit, which contains saline groundwater, and (3) the lower Floridan aquifer, which contains groundwater closely resembling seawater. The upper Floridan aquifer, where Miami-Dade's ASR and RO wells are completed, is generally 500 to 600 feet thick, and its transmissivity has been measured to be as high as 31,000 ft²/d. Transmissivities for the ASR wells at the SWWF were measured ranging from 9,451 to 22,873 ft²/day. Transmissivities for the ASR wells at the WWF ranged from 10,293 to 19,650 ft²/day.

Groundwater movement in the upper Floridan aquifer is generally southward to the Gulf of Mexico and the Atlantic Ocean from recharge areas in central Florida. In southern Florida, the Floridan aquifer system is a confined aquifer with potentiometric head elevations of 30 to 50 ft NGVD in Miami-Dade County. There are no current water level maps of the upper Floridan aquifer available to determine actual water levels at the permittee's facilities. Limiting Conditions 36 and 37 require water level and chloride monitoring of one standby well at each of the upper Floridan aquifer wellfields in this permit. See Exhibit 32A and 32B for a table and map of Floridan aquifer system wells monitored by MDWASD. Model results predict maximum drawdowns of 65 feet at the Hialeah RO wellfield when pumping 13.33 MGD and 107 feet when withdrawing 23.33 MGD (see Exhibit 26B and 26C). Model results for the SMH RO Wellfield predict drawdowns of 40 to 50 feet in the vicinity of the wellfield at a maximum withdrawal rate of 24 MGD for 90 days and no recharge (Exhibits 26D and 26E).

Water levels in the upper Floridan aquifer will remain approximately 970 feet above the top of the aquifer at the location of maximum drawdown.

Based on model results, the potential for harm to occur to the water resource availability of the aquifer as a result of the withdrawal of the recommended allocation is considered minimal.

Existing Legal Users

Biscayne Aquifer

An existing legal user is a water use that is authorized under an SFWMD water use permit or is existing and exempt from permit requirements (domestic uses). A map of existing public water supply permits in Miami-Dade County is shown in Exhibit 4A. Monitor data indicates that the existing withdrawals result in a maximum depth to water of 12 to 14 feet at the center of the Preston, Alexander Orr and Southwest

IMPACT ASSESSMENTS (CONTINUED)

wellfields. The other wellfields have depths to water of 3 to 7 feet.

Model results predict that approximately 0.7 feet of additional drawdown, beyond that shown in the modeling conducted for the previous permit (Exhibit 25A), could occur at the Kendall Soccer Park (13-01648-W) due to increased withdrawals at the Southwest wellfield due to the shift in pumpage (see Exhibits 25A and 25C). Water levels at the nearest five permittees are currently around 1 foot NGVD and are predicted to decline to about 0 feet NGVD with the increase at the Southwest wellfield due to the increase in pumpage scheduled to occur in 2030 (to be offset by reuse projects as described in the previous permit). Land surface is approximately 10 feet NGVD. Therefore, users with centrifugal pumps (which are capable of withdrawing water up to 20 feet below land surface) will not be impacted by the proposed withdrawals.

In addition, the model predicts up to 0.2 feet of drawdown at the center of the proposed SMH wellfields (Exhibit 25D). Drawdown at the nearest existing legal users is predicted to be less than 0.1 feet, resulting in negligible impacts to existing legal users in this area. The Newton and Everglades Labor Camp withdrawal increases result in no impacts at the closest existing legal users. All other wellfields will have no increases in withdrawals over historic use.

Based on observation of historic data and the predicted impact based on model results, the withdrawals from the Biscayne aquifer are not anticipated to result in the inability of an existing legal user to withdraw water, change the quality of the water to the extent that it can no longer be used for its authorized purpose, or prevent an existing legal user from meeting its permitted demands without exceeding the permitted allocation.

Upper Floridan Aquifer

Hialeah RO wellfield:

The existing legal users of the upper Floridan aquifer in Miami-Dade County and southern Broward County are mapped on Exhibit 4B and listed on Exhibit 4C.

The nearest permitted user to the Hialeah Floridan aquifer wells is the City of Miramar, whose closest well is approximately 3 miles from the northernmost Hialeah RO wellfield well (see Exhibit 4B for location). Model results predict the proposed withdrawals will result in an additional decline in water level of 20 feet at the nearest Miramar well, which would result in water levels at or above land surface and approximately 1,000 remaining feet of available drawdown. Solute transport model results predicted an increase in the concentration of total dissolved solids (TDS) of 135 mg/l after 20 years of pumping at a distance of 2 miles from the wellfield. The increase in TDS is considered by staff to be minimal.

South Miami Heights RO wellfield:

The nearest existing legal users to the SMH Wellfield are the FKA (Permit No. 13-0005-W) and FP&L Turkey Point Power Plant. Results of the model run simulating SMH only with a continuous withdrawal for 90 days at 24 MGD were analyzed within the 1 foot drawdown contour. This simulation represents the cone of depression in the upper Floridan aquifer due to pumping of only the SMH wellfield. The MDWASD ASR facility at the SWWF lies just inside the 1 foot drawdown contour, while the MDWASD WWF ASR facility, FPL and FKA lie outside the 1 foot drawdown contour. Exhibit 26D shows the extent of the drawdown due to pumping at SMH. Drawdown is predicted to be 0.58 feet for the WWF ASR site, 1.28 feet for SWWF ASR site, 0.54 feet for FPL, and 0.21 feet for FKA.

In addition, results were analyzed for the continuous withdrawal for 90 days of SMH at 24 mgd and existing legal users at their permitted allocation. Drawdowns were predicted of 0.63 feet at WWF, 1.36

IMPACT ASSESSMENTS (CONTINUED)

feet at SWWF, 44.63 feet at FPL, and at 12.39 feet at FKAA. Exhibit 26E shows the cumulative drawdown due to pumping at SMH and existing legal users.

The predicted impact on existing users, based on model results, is considered by staff to be minimal. Therefore, the proposed use of the upper Floridan aquifer is not anticipated to result in the inability of an existing legal user to withdraw water, change the quality of the water to the extent that it can no longer be used for its authorized purpose, or prevent an existing legal user from meeting its permitted demands without exceeding the permitted allocation.

Saline Water Intrusion Biscayne Aquifer

Inland movement of sea water in Miami-Dade County began in the 1920's and 1930's when canals were constructed that lowered groundwater levels. In the 1940's salinity control structures were installed in the canals as far seaward as possible, which prevented unimpeded inland saltwater flow. In the 1960's other structures were installed along the canals and water levels were stepped down, which lowered water levels at the final "step" before discharging to tide. This resulted in some inland movement of saltwater. Beginning in 1976, additional water was routed to the county, raising water levels along the coast and slowing or reversing inland movement of the saltwater front. In addition, withdrawals have been reduced at coastal wellfields when western wellfields became operational.

The SFWMD operates numerous salinity control structures in Miami-Dade County. The water control levels were discussed in the Water Resource Availability section above. Additional protection for the central wellfields is provided by the construction of a water control structure located on the Ludlum Canal, south of S.W. 88th Street and east of the Alexander Orr wellfield and U.S. Highway 1, completed in May, 2004 to further reduce the potential for saltwater intrusion.

Miami-Dade County has a cooperative agreement with the USGS to collect water level and chloride data from 29 wells and induction logs from 10 of the wells as part of a saline water intrusion monitor network. Since 2007, nine new saline intrusion monitor wells have been installed in the county. Chloride sampling is done monthly, quarterly or annually depending on location and induction logs are collected annually for select wells. Current monitoring facilities are listed in Exhibit 28A and are mapped on Exhibits 27A-D. An additional 19 saltwater monitor wells not funded by the MDWASD are sampled by the USGS and induction logs are collected annually for 17 of the wells (see Exhibit 28B).

Of the 48 monitor wells sampled in Miami-Dade County, 16 are east of the 1,000 mg/l isochlor line defined in 2008, to monitor saltwater movement as opposed to being early warning wells. The saline water interface in the Biscayne aquifer as delineated in 2008 can be seen on Exhibit 27A-C. All 10 wells east of the salt front from the Broward County line to the C-2 Canal have been showing an increasing trend in chloride concentration, which indicates a regional cause for the movement rather than localized well withdrawals. The applicant's nearest wellfields to the 2008 salt front are Miami Springs Lower (1.75 miles) and Hialeah (2.1 miles) in the north system and Alexander Orr (3.1 miles) in the central system. These wellfields are a significant distance from the saltwater front compared to the slow rate of movement and no increases in allocation are authorized from the north system wellfields, and pumpage limits are reduced at the Alexander Orr Wellfield with this permit modification. In addition, continued monitoring is required in this permit pursuant to Limiting Condition 37.

For the proposed South Miami Heights and Former Plant Wellfields, modeled drawdowns from the 3 MGD scenario were plotted and analyzed to determine the potential for inducing saline water intrusion. There are regional canals surrounding the wellfield that are maintained at levels to reduce the potential for saline intrusion. The model results indicate that the cone of depression does not extend to these

IMPACT ASSESSMENTS (CONTINUED)

canals (Exhibit 25D). Therefore, the proposed withdrawals will not cause further net inflow of water from the saline source toward the withdrawal points.

Pursuant to Section 3.4(2) of the BOR, the existing and proposed use will not cause saline water intrusion because the use is not expected to cause further net inflow of groundwater from the saline water source toward the withdrawal point.

Upper Floridan Aquifer

Water in the upper Floridan aquifer in southeastern Florida is brackish with chloride and dissolved-solids concentrations generally greater than 1,000 mg/L. Salinity in the upper Floridan aquifer usually increases with depth. The lower Floridan aquifer contains water with a salinity similar to that of seawater. Because of the relative lack of development of the Floridan aquifer system in southeastern Florida, the quality of groundwater in the aquifer system is considered to have remained virtually constant during the period 1940-1990. USGS WRI 94-4010 mapped the base of the brackish water zone at approximately -1,800 feet below land surface. The Floridan aquifer wells at the Hialeah and SMH Wellfields are designed to be approximately 1,200 - 1,300 feet deep. Chloride concentrations at the Hialeah RO site are currently 1,650 mg/l and modeling predicted increases to 1,875 mg/l after pumping 30 years at 13 MGD and increases to 2,025 mg/l when pumping 23 MGD. Chloride concentrations at the proposed SMH wellfield are unknown but are assumed to be similar to the Hialeah RO Wellfield. Increases in salinity will result in an increase the treatment losses and additional withdrawals may become necessary to meet finished water demands. Limiting Condition 37 requires that the applicant sample for chloride concentration at the production wells to monitor for increases in concentration which could indicate upconing and affect the RO treatment efficiencies (see Exhibits 32A and 32B).

Pursuant to Section 3.4.1 of the BOR, the proposed use from the upper Floridan aquifer may cause limited increases in salinity but not to the extent of interfering with presently existing legal users, otherwise harming the resource or rendering the resource no longer usable by the Permittee.

Wetlands

Biscayne Aquifer

Pursuant to the BOR, the applicant must demonstrate that hydrologic alterations caused by the water use will not adversely impact the values of wetland and other surface water functions so as to cause harm to abundance, diversity and habitat of fish, wildlife and listed species. The applicant performed a wetland survey at each of the twelve Biscayne aquifer wellfields in 2007. Wetlands were identified within the 0.1 foot drawdown cone at five wellfields (Snapper Creek, Southwest, Northwest, West and Elevated Tank). Most of the wetlands are Category 2 seasonally inundated wetlands which have a numeric threshold of harm of 1.0 feet of drawdown. Category 3 temporarily flooded wet prairie are found in the vicinity of the West wellfield and the Northwest wellfield. Monitor data was used to assess withdrawal impacts on water levels around existing wellfields and model results were also used where monitor data was not available at the wetlands.

Modeling predicts 4-5 acres of wet prairie habitat fall within the 0.5 feet drawdown cone at the West wellfield (Exhibit 24A), which is limited to 15 MGD. Field surveys, historic aerial imagery reviews and review of pumpage and monitor well data found no signs that the wetland functions have been adversely affected by the historic withdrawals from the West wellfield and no increases are to be authorized in this permit. An additional monitoring well (G-3898), with a continuous water level recorder, was installed in 2009 to monitor wetland water levels southwest of the wellfield.

IMPACT ASSESSMENTS (CONTINUED)

Impacts to Everglades National Park (ENP), located 1.5 miles west, are not predicted to occur as a result of withdrawals from the West Wellfield (see Exhibit 24A). A "four party" agreement involving ENP, the State of Florida, SFWMD and Miami-Dade County was developed to provide adequate assurances that withdrawals from the West Wellfield will not cause adverse impacts to the hydrologic resources of ENP (see Exhibit 35A-I). The agreement requires the County to curtail or cease pumpage at any time if ENP determines that adverse impacts due to wellfield withdrawals have occurred, as measured by a comprehensive monitoring network.

Modeling presented in the previous (2010) staff report showed that the 1-foot drawdown contour (Exhibit 29B) reaches the Boystown Pineland property to the southwest of the Southwest Wellfield, which was identified by the applicant's consultant as a wetland, based on historic soil maps. Correspondence with Miami-Dade County Permitting, Environment and Regulatory Affairs (PERA), formerly known as DERM, states that there are no wetland species on the property. However, a monitor well (G-3897) was installed at that location in 2008, as required by the previous permit. Modeling conducted to evaluate the effect of shifting base condition pumpage from the Alexander Orr Wellfield to the Southwest Wellfield show that up to an additional 0.2 feet of drawdown (beyond that shown in the modeling for the 2010 permit) could occur at the edge of these wetlands (Exhibit 25C). Although the hydrology of these wetlands is supported by the surficial aquifer system, this aquifer is highly transmissive in this region. Based upon this information, the potential for harm to occur to wetlands as a result of the recommended increased allocation from the surficial aquifer in the southwest wellfield is considered minimal.

Approximately 1,000 acres of wet prairie are within the 0.5 foot cone of influence at the Northwest wellfield (NWWF) when modeled pumpage is 89 MGD (Exhibit 24B). The 0.5 foot drawdown contour extends 2 miles to the edge of the Pennsuco wetlands and proposed Dade/Broward levee CERP project and monitor well G-3818 is located there. See Exhibit 29E for the entire NWWF monitor network. Wetland impacts at the NWWF were mitigated in 1999 up to a withdrawal rate of 155 mgd. In addition to the mitigation, MDWASD installed two monitoring wells in the Pennsuco wetlands in 2001 and a water control structure for the Northwest Wellfield Protection Canal [known as the Mid-canal structure and bridge (MCSB)] in 2003. See Exhibit 21 for a location map. This structure was required in order to prevent drainage of the Pennsuco wetlands which provided water to maintain water levels in the Wellfield Protection Canal. Pursuant to Limiting Condition 25, the MCSB structure is to be opened simultaneously with the upstream structure located on the L-30 canal in order to prevent drainage of the Pennsuco wetlands (see Exhibit 22 for operation letter).

Due to the proximity of the wetlands to the Biscayne aquifer wells, continuation of the current wetland monitoring program, pursuant to Limiting Condition 36, is required in this permit. Sampling requirements can be found in Exhibit 30 and maps on Exhibit 29A-29E.

Pursuant to Section 3.3.4, BOR, the proposed use at South Miami Heights and the increased withdrawals at Southwest are not considered harmful because modeled drawdown is less than 1.0 feet beneath the Category 2 wetlands. All other wellfields are existing with no changes in allocation or operation. Therefore, the potential for impacts to occur to wetlands as a result of withdrawal of the recommended allocation is considered minimal.

Upper Floridan Aquifer

The wetlands are separated from the upper Floridan aquifer well drawdowns by 600 feet of low permeability material. Therefore, the upper Floridan aquifer well withdrawals do not impact the wetlands.

IMPACT ASSESSMENTS (CONTINUED)

Source Of Pollution Biscayne Aquifer

Hialeah/Preston/Miami Springs area:

Groundwater from the Biscayne aquifer in the vicinity of the Hialeah/Preston/Miami Springs Wellfields is polluted with low levels of volatile organic compounds (VOCs). The wellfields were shut down in 1982 as a consequence. The U.S. Environmental Protection Agency (USEPA) primary remedial action to clean up the aquifer was to use the wellfields to remove contaminants and provide a water treatment system that uses air stripping. As a consequence, MDWASD constructed a treatment train comprised of 64, 14-foot diameter air stripping towers along with two low-lift pumping stations with nine turbine pumps and piping. Total system design capacity varies from 152 MGD to 256 MGD, depending on the level of contaminants. The USEPA paid for 41 percent of the total project costs. Use of the air stripping towers, initiated in 1992, allowed the Hialeah/Preston/Miami Springs wellfields to begin operation again. These wellfields, along with associated treatment of the groundwater by air stripping, continue to remove VOCs from the Biscayne aquifer in the vicinity.

Northwest Wellfield area:

Groundwater in the Biscayne aquifer beneath the 58th Street Landfill (58SLF) and the Resource Recovery Landfill (RRLF), which are located approximately 3 miles to the east of the Northwest wellfield (NWWF), has been contaminated by leachate generated from these landfills. Due in part to concerns about the potential migration of leachate from these landfills, MDWASD and SFWMD created the NWWF Protection Canal Modification system to create and maintain a groundwater divide between the NWWF and the landfills (Exhibits 21 and 22). Since completion of the Protection Canal in 1991, groundwater and surface water monitoring performed by Miami-Dade County PERA have indicated that a groundwater divide has been maintained between the NWWF and the contaminant plume. Restrictions on urban development set forth in the Comprehensive Development Master Plan (CDMP) also serve to keep urbanized industrial and commercial activities east of the Turnpike Extension and away from this wellfield. Furthermore, Chapter 24 of the Miami-Dade County Code (MDCC) contains a provision empowering PERA to implement emergency water conservation restrictions when such measures are needed to reduce the pumpage of that wellfield and prevent migration of groundwater contamination.

PERA's various wellfield protection elements serve to significantly reduce the risk of manmade groundwater contamination being transported to unpolluted portions of the Biscayne aquifer because of wellfield pumpage. Pertinent activities and provisions include the following:

- Surveillance and regulation of operations generating hazardous waste under the provisions of the Miami-Dade County Environmental Protection Ordinance (Chapter 24 of the MDCC)
- Assessments and cleanups of sites with groundwater contamination are enforced under the provisions of Chapter 24 MDCC, with expedited action when the site is within a wellfield protection area.
- Qualified companies are contracted with Miami-Dade County and are available when emergency cleanups are considered necessary.
- Ongoing groundwater quality monitoring is conducted using a network of monitoring wells sited for wellfield and groundwater protection (see Exhibit 30 for a table of monitor wells sampled, Exhibit 31 for sampling frequency and constituents sampled and Exhibit 29A-E for monitor locations)

The recommended allocations are consistent with County wellfield protection areas and programs. Pursuant to Section 3.5 of the BOR, the use is not expected to result in altering the rate or direction of movement of pollutants, if present, to cause significant degradation of surface or groundwater quality through the induced movement of pollutants into a water resource that is not polluted.

IMPACT ASSESSMENTS (CONTINUED)

Upper Floridan Aquifer

There are no known sources of pollution reported within the Upper Floridan aquifer. Potential pollution sources located near surface are separated from the Upper Floridan Aquifer well drawdowns by 600 feet of low permeability material. Therefore, the Upper Floridan Aquifer well withdrawals are not anticipated to impact the movement of pollutants.

Other Impacts

Biscayne Aquifer

EXISTING OFFSITE LAND USES

Land uses that are dependant upon water being on or near land surface and that existed prior to this application are protected from harm. The surrounding land uses at each of the wellfields are as follows:

North system wellfields:

Preston - residential north, east and west, industrial/commercial south
Miami Springs Upper - in residential neighborhood with schools and parks
Miami Springs Lower - on golf course with residential on all sides
Northwest - rock mining to north, south and east, undeveloped to west

Central system wellfields:

Alexander Orr - residential to east and west, commercial to south, water treatment plant to north
Snapper Creek - residential to east, west and south, commercial to north
Southwest - residential on all sides, commercial to south, rural residential/agricultural to north
West - agricultural to east, south and west, undeveloped to north

South system wellfields:

Everglades Labor Camp - residential to east and south, agricultural to north and west
Newton - residential on all sides
Former Plant - residential on all sides and commercial to south
Roberta Hunter Park - residential on all sides

All wellfields, except Southwest and the south county wellfields will remain at current withdrawal rates. No problems have been reported due to historic pumping from these facilities.

Model results predict that the drawdown at the nearest water bodies to the SWWF (Winston Lake to the west, Calusa Country Club to the south and Town and Country Center to the east), which is currently around 1.7 feet, will increase an additional 0.8 feet, for a total of about 2.5 feet of drawdown with the proposed 37 MGD increase in withdrawals scheduled to occur at the SWWF in 2030. Up to 0.6 feet of additional drawdown (3.1 feet total drawdown) could occur due to the shift in allocation from the Alexander Orr Wellfield to the SWWF. Small nurseries to the north of the wellfield may experience an additional 1 foot of drawdown (2.0 feet total) due to the increase at the Southwest wellfield. However, these are container nurseries which should not be affected by the drawdowns. See Exhibit 25A for a map of the users and the model drawdown predicted to occur due to the increase in allocation from the SWWF in 2030. Exhibit 25B shows the additional drawdown that could occur as a result of the shift in allocation from the Alexander Orr Wellfield to the SWWF.

Model results in the area of the proposed South Miami Heights wellfields predict less than 0.1 feet of drawdown at the nearest lakes to the east and west, respectively. There are no impacts on adjacent lakes from withdrawals at the Newton wells, which will increase by 0.5 MGD. Withdrawals at the

IMPACT ASSESSMENTS (CONTINUED)

Everglades Labor Camp wells increase by 1.5 mgd from 0.7 MGD, which results in drawdowns of about 0.1 feet at the edge of the adjacent farms.

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

Upper Floridan Aquifer

IMPACTS ON ASR WELLS

The WWF and SWWF ASR facilities inject fresh Biscayne aquifer water for later retrieval as part of ASR operations. The cone of influence for the Hialeah RO wellfield does not extend to the West and Southwest ASR wells, however the proposed SMH FAS wellfield cone does (Exhibit 26E). In order to assess possible impact as a result of the SMH FAS withdrawals on the ASR operation, MODPATH, a particle tracking post-processing package for MODFLOW (Pollack, 1994) was run. Particles were added directly to the south of the SWWF ASR well model cells. Simulation 5 was run for 30 years first in MODFLOW, and then MODPATH was run in order to assess particle movement. The MODPATH model run was analyzed to assess the impact of SMH and the existing legal users on the SWWF ASR system. After a run of 30 years, particles traveled 365 feet from their original position.

FACILITY OPERATION

All primary wells within each wellfield are rotated for equal use. Each wellfield or group of wellfields has limitations on annual withdrawal rates as conditioned herein. MDWASD has operational flexibility to run the wells at varying daily rates as long as the annual average limits are not exceeded. The only wellfield with daily limitations is the West wellfield, which cannot exceed 15 MGD. In addition, the Medley wells can only be operated 2 hours per month unless authorized for emergency use. Withdrawals from the Medley wells are counted towards the annual limits for the Hialeah/Preston/Miami Springs wellfield group. The maximum monthly withdrawal rate is applied to the total pumpage from all wellfields. A summary of the operation plan in 5 year increments for the Biscayne and Floridan aquifers is shown in Exhibits 10A and 10B. The operational plan for the aquifer storage and recovery wells is shown in Exhibit 10B. Injection of up to 50 MGD of Biscayne aquifer water into the ASR wells would occur from June through October. Recovery of water from the ASR wells would occur from December through April. The permittee intends to recover almost 100 percent of the volume of injected water with withdrawals that will continue until background Floridan aquifer water quality is encountered.

ADDITIONAL INFORMATION

EXISTING AND PROPOSED SERVICE AREA AND INTERCONNECTS:

MDWASD supplies treated water on a volume basis to most of the municipally owned water utilities of Miami-Dade County, with the exceptions of Florida City and North Miami Beach and a portion of the water requirements of the City of North Miami. A map showing the MDWASD Service Areas is presented as Exhibit 2B. Exhibit 11 lists the Miami-Dade wholesale customers and water delivered for the years 2008-2011. For those municipalities that distribute the MDWASD water themselves, all have a large user agreement for the duration of this permit except the City of Hialeah. The City has provided a letter of intent to sign an agreement and will be required to complete the agreement within 6 months of permit

ADDITIONAL INFORMATION (CONTINUED)

issuance, pursuant to Limiting Condition 38.

The Hialeah-Preston and Alexander Orr, Jr. WTPs are connected via their distribution systems (Exhibit 2B). There is no direct, metered interconnect between the two systems, however, it is estimated that approximately 40 MGD of finished water can be transferred between the systems. The five existing WTPs of the South Miami-Dade Service Area currently share a 48-inch interconnection with the Alexander Orr Jr. WTP. The two proposed wellfields are to be added to the South Miami-Dade Service Area. An interconnection to the Alexander Orr Jr. WTP system is planned for the future South Miami-Dade Membrane and RO Plants. There are also emergency interconnects to adjacent utilities in the cities of North Miami, North Miami Beach and Homestead (Exhibits 12A-C).

FACILITIES

Hialeah-Preston WTP: The John E. Preston WTP-Hialeah WTP has a combined DERM rated capacity of 225 MGD. The total installed capacity for Hialeah-Preston WTPs is 235 MGD. The Hialeah and John E. Preston WTPs treatment process includes primarily lime softening, disinfection, and filtration.

Hialeah Reverse Osmosis WTP: Phase 1 of the Hialeah RO Plant will be completed by December 31, 2012. Of the 10 MGD produced, 5 MGD will be routed to the MDWASD transmission line through a 36-inch line along NW 170 Street, and will enter the MDWASD transmission pipelines via connection at 179th Street and NW 87th Ave. Five MGD will be routed to the City of Hialeah transmission system, and will be routed through a 30-inch line from NW 166th Street, down south along NW 97th Ave, and will enter into the City of Hialeah system at NW 154th Street and NW 97th Ave. The design build-out of the Hialeah RO plant is for a capacity to treat 23.33 MGD of raw water to produce 17.5 MGD of finished water (Exhibit 10B).

Alexander Orr: The Alexander Orr, Jr. WTP has a DERM rated capacity of 214.74 MGD and a total installed capacity of 256 MGD. The WTP utilizes lime softening with activated sodium silicate, recarbonation, chlorination, ammoniation, and filtration.

South Miami-Dade: The existing five wellfields in the South Miami-Dade area have a treatment facility that disinfects the raw water by chlorination. The Leisure City facility has a design flow of 6.48 mgd. The DERM-rated capacity for the Newton Water Plant, the Elevated Tank facility, the Everglades Labor Camp Water Plant, and the Naranja Water Plant are 2.01 MGD, 1.44 MGD, 0.96 MGD, and 1.38 MGD respectively. The future South Miami-Dade membrane and RO WTP initial design is with a capacity to treat 26.33 MGD of raw water (23.33 MGD FAS and 3 MGD Biscayne) and produce 19.5 MGD of finished water. The proposed SMH RO treatment plant will have a design finished water capacity of 17.5 MGD (23.3 MGD raw) by December 2015.

WATER USE ACCOUNTING

Water use accounting is by flow meters. Factory and field calibrated flow meters were newly installed in 2007 in 96 supply wells and were all connected to a SCADA system which records flow at each facility and transmits the information to a central station. The meter calibration is field verified annually.

WATER CONSERVATION PLAN

The elements of the water conservation plan are documented in Exhibit 18.

As part of the Interim Consumptive Use Agreement, the applicant was required to develop a 20-year water conservation plan that included water reduction goals, actions and funding requirements to achieve

ADDITIONAL INFORMATION (CONTINUED)

the goals and milestone dates for implementation of the actions. The applicant used the new goal-based Conserve Florida program developed by the Florida Department of Environmental Protection (FDEP) in conjunction with the states five water management districts. The County's plan was developed for the region served by MDWASD as well as the 15 water utilities that receive wholesale water from MDWASD. Details of the actions, costs and timelines can be found in Exhibit 19A-E. The estimated reduction in demands over the life of the permit are shown in Exhibit 20 and the allocations have been adjusted to include the effects of the conservation program. Limiting Condition 48 requires implementation of the plan along with annual reporting of progress and 10-year audits to determine if water use adjustments are necessary.

ALTERNATIVE WATER SUPPLIES

The proposed Permit requires the implementation of approximately 205 MGD of alternative water supplies during the next 20 years. These sources include the Floridan aquifer water to be treated with reverse osmosis to produce 35 MGD of finished water, and reuse of at least 170 MGD of highly treated wastewater to reduce ocean discharges and offset Everglades impacts and for other beneficial uses.

In addition, this permit allows, under extreme wet conditions, the Permittee to request to store excess stormwater within the Floridan aquifer ASR wells. Excess stormwater is that deemed not required to achieve the restoration benefits to the Everglades Waterbodies pursuant to the Comprehensive Everglades Restoration Plan and the Acceler8 program. Available stormwater will be identified pursuant to Section 3.2.1.E.(5)(e) of the BOR.

REUSE OF RECLAIMED WATER

Staff evaluated whether the applicant's proposed use of water is consistent with the public interest and is reasonable-beneficial. In determining consistency with the public interest, Staff recognized the need to promote the availability of sufficient water for existing uses, future reasonable-beneficial public water supply uses, and natural systems.

The Applicant's withdrawal and use of water for public water supply impacts water supplies in the Greater Everglades, the Biscayne aquifer, and Biscayne Bay, through interception of seepage and surface water discharges. Once the water is distributed and used by the customer, it is treated and disposed of via deep well injection or ocean outfall. During 2011 the average daily rate of disposal for water used by MDWASD was 275 MGD (127 MGD disposed via deep well and 148 MGD disposal via ocean outfall), which nearly equals the volume of raw fresh water withdrawn from the Biscayne aquifer. By 2030, the wastewater flow is estimated to be 355 MGD.

The use of water from the Biscayne aquifer only once (especially withdrawn from sources recharged by the Everglades system) is considered inefficient under the reasonable-beneficial use test and inconsistent with the public interest, under Section 373.223, Florida Statutes. In addition, the State Water Resource Implementation Rule [Rule 62-40, Florida Administrative Code (FAC)] and District consumptive use rules require that reclaimed water be used when technically, environmentally and economically feasible.

To resolve this issue and other permit requirements, working with MDWASD, a series of alternative sources have been identified to meet the County's future needs, while increasing the use of reclaimed water. Alternative sources include the development of Floridan wells, implementation of a strong conservation program developed using the Conserve Florida Guide (a joint initiative of FDEP, the WMDs, and others), and the high level treatment and disinfection of wastewater for reuse including aquifer

ADDITIONAL INFORMATION (CONTINUED)

recharge. Design of the West District Water Reclamation Plant is ongoing, while on hold for the Central and North plants pending evaluation of reuse options for the ocean outfall legislation (see discussion below).

Additional filtration and high level disinfection requirements for wastewater treatment has been required at the South District Wastewater Treatment Plant recently imposed by the FDEP and United States Environmental Protection Agency (USEPA) and will result in a significant increase in the amount of reclaimed water that will be made available for reuse (for some applications, additional treatment may be required). Additionally, Chapter 2008-232, Laws of Florida, requires sixty percent of water previously discharged out the existing North and Central wastewater treatment plant ocean outfalls (117.5 MGD) to be beneficially reused by 2025.

Typically, reclaimed water is treated to levels sufficient for irrigation of public access areas such as golf courses and other landscaped areas pursuant to Part III of Chapter 62-610, FAC. See Exhibit 15 for a map of public access reuse lines. For some applications of reclaimed water proposed by the permittee it will be necessary to treat wastewater to levels beyond the public access irrigation level of treatment. Each level of treatment will be determined based on the requirements of the USEPA, FDEP and any applicable County requirements.

In order to meet the reasonable-beneficial use and public interest tests, the Permittee is proposing to implement at least 175 MGD of reuse projects over the life of the permit that return fresh water to the hydrologic cycle in a manner that provides for beneficial use. See Exhibit 14 for a list of the reuse projects. These projects include: 1.) use of reclaimed water as a source for the Biscayne Bay rehydration project in the Comprehensive Everglades Restoration Plan (CERP); 2.) use of reclaimed water for aquifer recharge and indirect wellfield recharge to offset impacts of any increased withdrawals from the Biscayne aquifer on the Everglades system; 3.) implementation the County's reuse feasibility plan elements that include public access reuse for irrigation and 4.) implement 60 percent reuse of the flows going out through ocean outfall by 2025. In addition, a joint participation agreement has been signed for use of up to 90 MGD of highly treated reclaimed water for cooling for the Florida Power and Light nuclear and gas powered plants at Turkey Point beginning in 2022.

Based on the above, the Permit includes detailed limiting conditions requiring completion of feasibility pilot tests and implementation of projects for the purpose of assuring that the County's use of water is reasonable-beneficial and in the public interest. If any of the identified reuse projects are determined to be infeasible, the Permittee shall timely propose and implement SFWMD approved alternatives that return freshwater to the system for meeting future reasonable-beneficial uses that are consistent with the public interest. If it is determined that lower volumes of reclaimed water are needed than those specified in Limiting Condition 5, for offsetting the impacts of the wellfields, the County shall reuse the difference for other uses that are reasonable-beneficial and consistent with the public interest as approved by the SFWMD.

In addition, Section 3.2.3.1. of the BOR requires utilities that control wastewater treatment plants that have determined the use of reclaimed water is feasible in accordance with Section 403.064, F.S., to provide the SFWMD with: a) the reuse feasibility study, b) the schedule for implementation of reuse, c) documentation of the amounts of uncommitted reclaimed water, and d) information regarding any local ordinances concerning the use of reclaimed water. This information, which is to be updated annually, is used by the District to assist in the implementation of the utility's reuse plan by directing other water users to the utility's reclaimed supplies. Per Limiting Condition 42, the Permittee shall provide annual updates regarding the County's reuse feasibility plan implementation.

Furthermore, staff recommends that Miami-Dade County continue to pursue grants, loans and other

ADDITIONAL INFORMATION (CONTINUED)

publicly funded sources of money to assist with local implementation of reclaimed water projects considered in the public interest. Such money sources may include the SFWMD's Alternative Water Supply Funding Program, other state funding appropriations and CERP federal cooperative funding. However, failure to secure funding from any or all such external sources does not relieve the County of responsibility for compliance with all permit conditions.

MINIMUM FLOW AND LEVEL (MFL)

As part of the conditions for permit issuance in Chapter 373, F.S., including SFWMD implementing rules, a consumptive use permit applicant must provide reasonable assurances regarding protection of Lower East Coast Everglades and MFL Water Bodies, including the Biscayne aquifer, Everglades National Park and the Water Conservation Areas (Everglades/MFL Waterbodies).

Biscayne Aquifer MFL and Prevention Strategy

The MFLs for the Biscayne aquifer, identifying the point at which further withdrawals would cause significant harm, are set forth in Rule 40E-8.23, F.A.C. The Biscayne aquifer is in prevention as the MFL is not expected to be exceeded over the next twenty years providing the Prevention Strategy as identified in Rule 40E-8.421(4), F.A.C. is maintained.

The Applicant has provided reasonable assurances that the proposed allocations will not cause the coastal canal stages to drop below their minimums as all increased withdrawals from the Biscayne aquifer will be offset with equal volumes of reclaimed water discharged into or adjacent to the regional canals affected by the withdrawals. As outlined above, the applicant has provided reasonable assurances that the proposed allocations are consistent with the saltwater intrusion prevention criteria in 40E-2, F.A.C. and they will be maintaining an adequate saltwater monitoring network. The permit is conditioned to require the applicant to implement alternative water supply development projects as well as providing freshwater recharge to Biscayne Bay. The applicant is also working with the USGS to conduct saltwater modeling. Based on these findings, the applicant has demonstrated that the proposed use is consistent with the prevention strategy.

Everglades MFL and Recovery Strategy

The MFLs for Everglades Waterbodies, identifying the point at which further withdrawals would cause significant harm, are set forth in Rule 40E-8.221(3), F.A.C. The Everglades MFL Waterbodies are in recovery as the MFL is not met under current system conditions. The Everglades MFL Recovery Strategy is identified in Rule 40E-8.421(1) and (2), F.A.C.

The primary component of the MFL recovery strategy is implementation of the Everglades restoration projects, including CERP. The Everglades MFL recovery strategy also includes limitations on impacts to the MFL Waterbodies due to consumptive use permit withdrawals in Section 3.9.1 of the BOR.

Section 3.9.1 of the BOR requires the permit applicant to demonstrate the impact of the proposed withdrawal will be corrected through implementation of the recovery strategy, including Everglades restoration under CERP, and that the level of impacts from the proposed allocation would not exceed those authorized under the permits under review for renewal. A pumpage value higher than 347 MGD was used in the analysis to develop the recovery strategy and the Everglades water body impacts above 343.7 MGD are being offset by the applicant. As a result, the MFL recovery plan requirements are met.

REGIONAL WATER AVAILABILITY

ADDITIONAL INFORMATION (CONTINUED)

Allocation restrictions in the Lower East Coast Service Areas 1, 2 and 3, (Section 3.2.1.E of the BOR) ensures that continuing and increasing consumptive use withdrawals in identified portions of Miami-Dade, Broward and Palm Beach Counties are consistent with Everglades restoration and MFL recovery plans, including CERP. Several technical evaluations were conducted to provide reasonable assurances pursuant to Regional Water Availability Rule requirements. These evaluations, along with staff findings and recommendations under these rules, are outlined below:

Pursuant to Section 3.2.1.E of the BOR, the requested allocation cannot cause a net increase in the volume or cause a change in timing on a monthly basis of the surface and groundwater withdrawn from the Lower East Coast Everglades Waterbodies over base condition water use withdrawals from such Waterbodies. For public water supplies, the base condition water use is that withdrawn over any consecutive twelve month period during the five years preceding April 1, 2006.

Pumpage records for the five years preceding April 1, 2006 were used to establish a base condition water use from the Biscayne aquifer, consistent with Section 3.2.1.E of the BOR. It was determined that Miami-Dade County's historic Biscayne aquifer base condition water use was 352.8 MGD. Subsequent modeling performed to maximize well field limits and an adjustment for a transfer in base condition allocation to the City of North Miami Beach results in a Modified Base Condition of 349.5 MGD (Exhibit 10C).

After evaluating withdrawals under the 2007 permit calculated base condition water use of 347 MGD (including 9.1 MGD transfer to NMB and 3.3 MGD increase for Alex Orr wellfields), MDWASD's projected demands for increased water supplies over the next 20-year period and potential sources and other actions for meeting such demands were identified. MDWASD requests a total Biscayne aquifer allocation of 365.86 MGD, an increase in allocation from the Biscayne aquifer of 16.36 MGD over the modified Base Condition of 349.5 MGD for the year 2030.

Adjustments were made for the cancellation of demands previously provided to North Miami Beach of 9.1 MGD from the Northwest Wellfield. It was demonstrated through modeling presented in the 2010 permit that an additional withdrawal of 1.5 MGD at Snapper Creek, 1.5 MGD at Southwest, 0.5 MGD at Newton and 1.5 MGD at Everglades Labor Camp wellfields would not cause a net increase in volume or cause a change in timing of surface and groundwater from Everglades water bodies, consistent with Section 3.2.1.E(2) of the BOR. Additionally, it was determined that turning off pumpage at the Elevated Tank, Leisure City and Naranja Wellfields results in a 2.5 MGD reduction in impacts to regional canals. This 2.5 MGD in retired base condition can be transferred to the new SMH Wellfield. An additional 0.5 MGD is allowed at the SMH WTP to allow for the inefficiency of nanofiltration (about 85% treatment efficiency). Modeling conducted for this permit modification demonstrated that an additional 24.1 MGD ($85.9+24.1=110$), could be withdrawn from the SWWF with a corresponding reduction in withdrawals from the Alexander Orr Wellfield of 22 MGD ($62-22=40$ MGD) without inducing additional seepage from Regional Waterbodies (net additional of 2.1 MGD).

Exhibit 10C lists how the historic base condition of 352.8 MGD is broken down by wellfield as well as the adjustments for the City of North Miami Beach and the modeling adjustments which result in an adjusted base condition of 349.5 MGD.

All proposed Biscayne aquifer withdrawals above the adjusted base condition water use of 349.5 MGD, are proposed to be offset through the use of reclaimed water to recharge groundwater and canals in the vicinity of the wellfields. The Applicant has proposed reclaimed water projects sufficient to offset a total annual Biscayne aquifer withdrawal rate of 386.5 (note: $349.5+37=386.5$) MGD in the year 2030 (See Exhibits 8A and 13).

In order to ensure that the increased withdrawals are consistent with Section 3.2.1.E of the BOR,

ADDITIONAL INFORMATION (CONTINUED)

MDWASD will provide reclaimed water recharge into or in the immediate vicinity of regional canals connected to the Everglades (C2 and C4 canals) via shallow injection wells or direct canal recharge in volumes equal to or greater than the requested increased withdrawals above the Modified Base Condition of 109.4 MGD at the SWWF. These canals are in the vicinity of the SWWF Wellfield, where the requested increase in Biscayne aquifer withdrawals above the Modified Base Condition are to occur. Limiting Condition 43 requires that the recharge occur simultaneously with the increased pumpage. In addition to the reclaimed water offsets, the County will meet the remainder of the projected increase in raw water demands (46.6 MGD) from the Floridan aquifer.

In summary, Staff determined that the AWS Plan submitted by MDWASD (Exhibit 13) and the additional modeling provides reasonable assurances that the proposed permit does not cause a net increase in the volume or change in timing on a monthly basis of surface and groundwater withdrawn from the LEC Coast Everglades over that which occurred under the base condition water use.

CERP PROJECTS

There are several CERP projects within Miami-Dade County: Biscayne Bay Coastal Wetlands, Broward County Water Preserve Area Water Conservation Area (WCA) 3A/3B Seepage Management, C-111 Spreader Canal, and Everglades National Park Seepage Management Project (see Exhibit 34).

The goal of the Biscayne Bay Coastal Wetlands project is to restore coastal wetlands and provide more natural overland freshwater discharges to Biscayne Bay. The project consists of constructing and operating a series of pumps, culverts canal improvements and ditch infilling. The northernmost flow-way will be located near the Deering Estate, the southernmost flow-way will be located in the Cutler wetlands near the C-1 Canal, while a series of culverts and pump stations will be installed between the C-102 and C-103 Canals to re-establish sheet flow to the east of the L-31E Canal. The Cutler location is immediately north of the Miami-Dade South Wastewater Treatment Plant (SDWWTP). In the FDEP Consent Order for the SDWWTP, Miami-Dade County committed to be the local sponsor for the South Miami-Dade Reuse project which will benefit the Biscayne Bay Coastal Wetlands (BBCW) Project by providing new water in the form of reuse to the project. MDWASD plans on providing approximately 89 MGD of wastewater to be reclaimed for this project.

The WCA 3A/3B Seepage Management Project objective is to reduce the rate of seepage from Water Conservation Areas 3A and 3B by increasing groundwater levels by one foot in the seepage management area using water captured from storm events. Withdrawals from the Northwest wellfield were included in the analysis of the project design and no increases from the wellfield are included in this permit renewal.

The Everglades National Park Seepage Management Project includes 4 components: L31N (L-30) Seepage Management Pilot Project, Dade-Broward Levee, Bird Drive Recharge Area and S-356 Structure Relocation. The purpose of the L31N (L30) Seepage Management Pilot Project is to investigate technologies to manage seepage along the L-30 and L-31N canals while providing adequate wet season flows to the West Wellfield and Biscayne Bay. The Dade/Broward Levee component includes building a new Dade/Broward levee and canal to reduce seepage losses to the east from WCA-3B and the Pennsuco wetlands. The Bird Drive Recharge Area's purpose is to recharge groundwater and reduce seepage from Everglades National Park by increasing water table elevations east of Krome Avenue.

The C-111 Spreader Canal Western Project's goal is to improve the quantity, timing, and distribution of water delivered to Florida Bay via Taylor Slough, and improve hydroperiods and hydropatterns within the Southern Glades and Model Lands. The future C-111 Spreader Canal Eastern Project is intended to increase sheetflow within the Southern Glades and Model Lands as a means of more naturally delivering water to Florida Bay. There are no MDWASD withdrawals in the vicinity of the C-111 Spreader Canal

ADDITIONAL INFORMATION (CONTINUED)

projects.

Based on best available information, it is reasonable to assume that negative impacts to CERP projects will not occur as a result of this renewal. Pursuant to Limiting Condition 51, if the use of water becomes inconsistent with implementation of CERP or causes harm to a CERP project, the permit shall be modified.

MONITORING PLAN

The permittee currently has a water level and water quality monitoring program sampled by the USGS and Miami-Dade PERA (fka DERM), respectively. The water level data is used to monitor impacts of withdrawals on wetlands, existing users and the regional canal system. The water quality monitoring program determines water quality within the wellfields and identifies groundwater contaminants. The USGS also collects chloride data from a series of wells along the coast to monitor for saline water intrusion. Six existing and one proposed Floridan aquifer system wells are sampled monthly for chlorides and have continuous recorders for potentiometric heads. Pursuant to Limiting Conditions 36 and 37, MDWASD submits annual Monitoring Program summary reports. The annual report summarizes hydrologic and water quality conditions ascertained from the monitoring data collected. The report includes review and analysis of the data collected and recommendations regarding the monitoring network.

PERMIT DURATION

Pursuant to Section 1.7.2.2.B.2., BOR, the Biscayne Aquifer is a source of limited availability to the extent that withdrawals result in induced seepage from the Central and Southern Florida Project. The adjusted base condition water use (349.5 MGD), reflects the demand of the population existing at the time of permit renewal and thus may be authorized for 20 years. The impacts on the source of limited availability due to the increase of 29.68 MGD (from the SWWF in the year 2030) over the adjusted base condition water use are offset through implementation of groundwater / canal recharge projects as identified herein (Exhibits 8A, 8B, 9 and 14). As a result, the permit duration for such increase may be up to 20 years.

The Floridan aquifer is not a source of limited availability and therefore the permit duration may be up to 20 years for this source, pursuant to Section 1.7.2.2.C.

Staff recommends a permit duration of 20 years as conditioned herein.

ENVIRONMENTAL RESOURCE PERMIT STATUS:

Not Applicable.

RIGHT OF WAY PERMIT STATUS:

Not Applicable

RECOMMENDATIONS

Project Name: MIAMI-DADE CONSOLIDATED P W S
Application Number: 110511-6
Permit Number: 13-00017-W

RECOMMENDATION TO EXECUTIVE DIRECTOR

Authorizing: The increased use of ground water from the Upper Floridan Aquifer and Biscayne Aquifer for Public water supply for County Wide System serving 2,787,451 persons in the year 2030 with an average per capita use rate of 147 gallons per day and a maximum monthly to average monthly pumping ratio 1.06 with an annual allocation of 149,906.00 million gallons

STAFF EVALUATION

REVIEWER

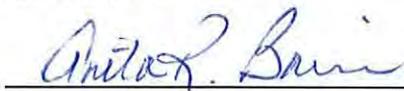


Trisha Stone, NRM

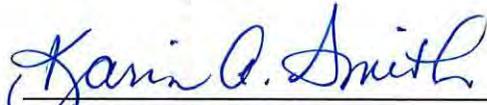


John A. Lockwood, P.G., WU

SUPERVISOR

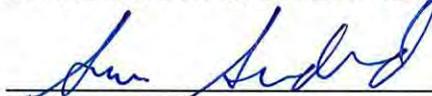


Anita R. Bain, NRM



Karin A. Smith, P.G., WU

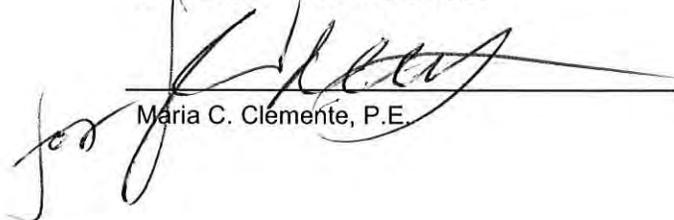
CONSULTING HYDROGEOLOGIST:



Simon Sunderland, P.G.

Date: July 11, 2012

WATER USE BUREAU CHIEF:



Maria C. Clemente, P.E.

Date: 7/13/12

Limiting Conditions

1. This permit shall expire 18.42 years from final action date.
2. Application for a permit modification may be made at any time.
3. Water use classification:

Public water supply
Aquifer storage and Recovery

4. Source classification is:

Ground Water from:
Biscayne Aquifer
Upper Floridan Aquifer

5. Annual allocation shall not exceed 149906 MG.

Maximum monthly allocation shall not exceed 13117 MG.

The following limitations to the average annual withdrawals from specific sources are applicable through December 31, 2021:

Biscayne aquifer: 127,568 MG
Floridan aquifer: 17,031 MG

The following limitations to the average annual withdrawals from specific sources are applicable from January 1, 2022 through December 31, 2026:

Biscayne aquifer: 135,233 MG
Floridan aquifer: 17,031 MG
Reuse offset: 7,665 MG (21 MGD SWWF recharge)

The following limitations to the average annual withdrawals from specific sources are applicable from January 1, 2027 through December 31, 2030:

Biscayne aquifer: 141,073 MG
Floridan aquifer: 17,009 MG
Reuse offset: 13,505 MG (37 MGD SWWF recharge)

The allocations are further constrained by the wellfield operational plan described in Limiting Condition 27. Reuse offsets are required for withdrawals above 109.4 MGD at the SWWF. The offset reuse volumes do not include other reuse projects outlined in Limiting Condition 39, which are in addition to the wellfield recharge project.

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

Pursuant to Rule 40E-1.6107 (4), until transfer is approved by the District, the permittee shall be

Limiting Conditions

liable for compliance with the permit. The permittee transferring the permit shall remain liable for all actions that are required as well as all violations of the permit which occurred prior to the transfer of the permit.

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

This Permit is issued to:

Miami-Dade Water and Sewer Department
3071 Sw 38th Ave
Miami, FL 33146
Attn: Utility Director

7. Withdrawal Facilities:

Ground Water - Proposed:

- 3 - 24" X 72' X 1400 GPM Wells Cased To 45 Feet
- 1 - 24" X 50' X 1400 GPM Well Cased To 45 Feet
- 7 - 24" X 1200' X 2430 GPM Wells Cased To 1100 Feet
- 1 - 24" X 50' X 2800 GPM Well Cased To 45 Feet
- 7 - 17" X 1490' X 1400 GPM Wells Cased To 1080 Feet

Ground Water - Existing:

- 20 - 14" X 115' X 2500 GPM Wells Cased To 80 Feet
- 4 - 24" X 100' X 4900 GPM Wells Cased To 35 Feet
- 2 - 24" X 100' X 7500 GPM Wells Cased To 50 Feet
- 1 - 24" X 70' X 3470 GPM Well Cased To 35 Feet
- 1 - 18" X 65' X 1500 GPM Well Cased To 50 Feet
- 1 - 12" X 35' X 800 GPM Well Cased To 30 Feet
- 1 - 18" X 55' X 1500 GPM Well Cased To 42 Feet
- 6 - 42" X 107' X 7000 GPM Wells Cased To 66 Feet
- 1 - 18" X 55' X 1500 GPM Well Cased To 45 Feet
- 1 - 42" X 68' X 8500 GPM Well Cased To 60 Feet
- 2 - 24" X 70' X 6945 GPM Wells Cased To 35 Feet
- 1 - 16" X 50' X 1600 GPM Well Cased To 40 Feet
- 4 - 24" X 108' X 8300 GPM Wells Cased To 50 Feet
- 2 - 12" X 40' X 1600 GPM Wells Cased To 35 Feet
- 1 - 16" X 100' X 7500 GPM Well Cased To 40 Feet
- 3 - 48" X 88' X 7500 GPM Wells Cased To 33 Feet
- 6 - 17" X 1490' X 1400 GPM Wells Cased To 1080 Feet
- 1 - 48" X 80' X 10416.67 GPM Well Cased To 46 Feet
- 1 - 30" X 1200' X 3500 GPM Well Cased To 760 Feet
- 1 - 30" X 1250' X 3500 GPM Well Cased To 845 Feet
- 1 - 30" X 1210' X 3500 GPM Well Cased To 835 Feet
- 4 - 24" X 104' X 6940 GPM Wells Cased To 54 Feet
- 6 - 20" X 100' X 4900 GPM Wells Cased To 40 Feet
- 1 - 18" X 50' X 500 GPM Well Cased To 40 Feet

Limiting Conditions

- 1 - 12" X 40' X 800 GPM Well Cased To 35 Feet
- 1 - 18" X 66' X 1500 GPM Well Cased To 53 Feet
- 1 - 42" X 107' X 7000 GPM Well Cased To 69 Feet
- 1 - 42" X 68' X 10000 GPM Well Cased To 60 Feet
- 1 - 42" X 68' X 8500 GPM Well Cased To 54 Feet
- 7 - 16" X 100' X 4170 GPM Wells Cased To 40 Feet
- 1 - 42" X 68' X 10000 GPM Well Cased To 54 Feet
- 1 - 14" X 115' X 3800 GPM Well Cased To 80 Feet
- 1 - 30" X 1300' X 3500 GPM Well Cased To 850 Feet
- 1 - 17" X 1490' X 1400 GPM Well Cased To 1150 Feet
- 1 - 6" X 30' X 400 GPM Well Cased To 25 Feet
- 1 - 30" X 1200' X 3500 GPM Well Cased To 765 Feet
- 4 - 40" X 100' X 10420 GPM Wells Cased To 57 Feet
- 1 - 30" X 115' X 4170 GPM Well Cased To 80 Feet
- 1 - 30" X 115' X 2500 GPM Well Cased To 80 Feet
- 1 - 12" X 35' X 1200 GPM Well Cased To 30 Feet
- 10 - 48" X 80' X 10420 GPM Wells Cased To 46 Feet

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

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

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

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

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

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

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

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

Limiting Conditions

use.

10. Permittee shall mitigate harm to the natural resources caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:
 - (1) Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,
 - (2) Reduction in water levels that harm the hydroperiod of wetlands,
 - (3) Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,
 - (4) Harmful movement of contaminants in violation of state water quality standards, or
 - (5) Harm to the natural system including damage to habitat for rare or endangered species.
11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.
12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.
13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.
15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: SFWMD, Regulatory Support Division, MSC 9611, P.O. Box 24680, West Palm Beach, FL 33416-4680.
16. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.
17. Prior to the use of any proposed water withdrawal facility authorized under this permit, unless otherwise specified, the Permittee shall equip each facility with a District-approved operating water use accounting system and submit a report of calibration to the District, pursuant to Section 4.1, Basis of Review for Water Use Permit Applications.

In addition, the Permittee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility (existing and proposed) authorized under this permit every five years

Limiting Conditions

from each previous calibration, continuing at five-year increments.

18. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report. The permittee shall report injection/withdrawals from the ASR wells in the following manner:

Biscayne aquifer water injected
Biscayne aquifer water recovered
Floridan aquifer withdrawal

19. The Permittee shall provide annual status reports to the District that summarize the ASR cycle testing activities. The first report shall be submitted by:
March 15, 2013
20. The Permittee shall notify the District within 30 days of any change in service area boundary. If the Permittee will not serve a new demand within the service area for which the annual allocation was calculated, the annual allocation may then be subject to modification and reduction.
21. The Permittee shall submit to the District an updated Well Description Table (Table A) within one month of completion of the proposed wells identifying the actual total and cased depths, pump manufacturer and model numbers, pump types, intake depths and type of meters.
22. Permittee shall secure a well construction permit prior to construction, repair, or abandonment of all wells, as described in Chapters 40E-3 and 40E-30, Florida Administrative Code.
23. Every ten years from the date of permit issuance, the permittee shall submit a water use compliance report for review and approval by District Staff, which addresses the following:
1. The results of a water conservation audit that documents the efficiency of water use on the project site using data produced from an onsite evaluation conducted. In the event that the audit indicates additional water conservation is appropriate or the per capita use rate authorized in the permit is exceeded, the permittee shall propose and implement specific actions to reduce the water use to acceptable levels within timeframes proposed by the permittee and approved by the District.
 2. A comparison of the permitted allocation and the allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates. In the event the permit allocation is greater than the allocation provided for under District rule, the permittee shall apply for a letter modification to reduce the allocation consistent with District rules and the updated population and per capita use rates to the extent they are considered by the District to be indicative of long term trends in the population and per capita use rates over the permit duration. In the event that the permit allocation is less than allowable under District rule, the permittee shall apply for a modification of the permit to increase the allocation if the permittee intends to utilize an additional allocation, or modify its operation to comply with the existing conditions of the permit.
 3. Summary of the current and previous nine years progress reports for implementation of the Alternative Water Supply Plan and any modifications necessary to continue to meet the Plan requirements and conditions for issuance.

Limiting Conditions

4. Information demonstrating that the conditions for issuance of the permit are being complied with, pursuant to Limiting Condition # 51 and Section 373.236, F.S.
5. Updates or amendments to the County's reuse plan.
24. In order to promote use of alternative water supplies, pumpage from Floridan aquifer wells and from those Biscayne aquifer wells whose use is offset by reclaimed water will be conducted on a priority basis, referred to as a "first on, last off" priority. Changes to wellfield operations must be approved via modification of the approved Wellfield Operation Plan by District staff prior to implementation.
25. The permittee shall operate surface water control structure known as the Mid-canal structure and bridge in accordance with the approved operational plan included in Exhibit 22. In addition, whenever this structure is opened for the purpose of raising water in the Wellfield Protection Canal down stream of the structure, the upstream structure that delivers water from the L-30 canal shall be opened in a manner to deliver equal volumes to those passed through the Mid-canal structure and bridge. The permittee shall submit operation and flow data logs regarding both structures to the District quarterly.
26. The Permittee is authorized to exercise the emergency wells at the Medley Wellfield for a total of two hours per month as needed for bacterial clearance and pump maintenance. Operation of the emergency wells at the Medley Wellfield for more than this amount shall require prior approval from SFWMD. Pumpage data shall be collected and report in accordance with Limiting Condition 18.
27. Permittee shall implement the wellfield operating plan described in District staff report prepared in support of recommendation for permit issuance.
See Exhibit 10
28. No more than 15 MGD shall be withdrawn from the West Biscayne aquifer Wellfield on any given day.
29. No more than 25,550 MGY shall be withdrawn during any 12 month consecutive period from the combined Hialeah, Preston and Miami Springs Biscayne aquifer wellfields
30. No more than 7,993 MGY shall be withdrawn during any 12 month consecutive period from the Snapper Creek Wellfield unless reclaimed water recharge is implemented in locations and amounts necessary to offset the impact of the increase to Everglades water bodies per limiting conditions 39 and 41.
31. No more than 39,931 MGY shall be withdrawn during any 12 month consecutive period from the Southwest Biscayne aquifer Wellfield unless reclaimed water recharge is implemented in locations and amounts necessary to offset the impact of the increase to Everglades water bodies per limiting conditions 39 and 41.
32. No more than 67,999 MGY shall be withdrawn during any 12 month consecutive period from the combined West, Southwest Snapper Creek and Alexander Orr Biscayne aquifer wellfields unless reclaimed water recharge is implemented in locations and amounts necessary to offset the impact of the increase to Everglades water bodies per limiting conditions 39 and 41.
33. No more than 1,095 MGY shall be withdrawn during any 12 month consecutive period from the South Miami Heights Wellfield.
34. No more than 1,752 MGY shall be withdrawn during any 12 month consecutive period from the combined Everglades Labor Camp and Newton wellfields.
35. No more than 1,571 MGY shall be withdrawn during any 12 month consecutive period from the combined Elevated Tank, Leisure City and Naranja wellfields.
36. The Permittee shall continue to submit monitoring data in accordance with the approved water level monitoring program for this project.

Limiting Conditions

The existing monitoring program is described in Exhibits 30 and 32B.

37. The Permittee shall continue to submit monitoring data in accordance with the approved saline water intrusion monitoring program for this project.
See exhibits 28A and 32B for a list of monitor wells and and required sampling schedule.
The permittee shall submit annual Monitoring Program summary reports. The annual report will summarize the status of the project to update the salt front and install new monitor wells.
38. Within six months of permit issuance, an executed large user water agreement with the City of Hialeah shall be submitted to the District. In the event that the final agreement is for volumes less than those used in the formulation of the allocations in this permit, the allocations shall be reduced through a letter modification.
39. The permittee shall implement a minimum of 170 MGD of reuse projects as set forth in Projects 1-8 of Exhibit 14 on or before the deadlines provided therein. The exact volume of reclaimed water applied will depend on the treatment losses resulting from the process that are implemented. In the event any of these projects do not require or allow as much reuse as anticipated, the County shall identify and implement other reuse projects that will provide provide beneficial reuse of water by the deadlines set forth in Exhibit 14. Any changes to Exhibit 14 must be reviewed and approved by the District in consultation with the FDEP in accordance with Parts I & II of Chapter 373, Florida Statutes, and District rules governing consumptive uses of water in Chapter 40E-2, F.A.C., and FDEP rules governing the treatment and use of reclaimed water in Chapter 62-610, F.A.C.
40. The permittee will develop alternative water supplies in accordance with the schedules described in Exhibit 13.

The permittee will provide annual updates of the status of all alternative water supply projects (per the timeframes contained in Limiting Condition 50). The status report shall include work completed to date, expenditures and any anticipated changes in the timelines.

41. In the event that a milestone specified in the alternative water supply schedule and plan contained in Exhibit 13 is going to be missed, the permittee shall notify the Executive Director of the District in writing explaining the nature of the delay, actions taken to bring the project back on schedule and an assessment of the impact the delay would have on the rates of withdrawals from the Everglades water bodies and associated canals as defined in SFWMD consumptive use permitting rules. The District will evaluate the situation and take actions as appropriate which could include: a.) granting an extension of time to complete the project (if the delay is minor and doesn't affect the Everglades Waterbodies or otherwise violates permit conditions), b.) take enforcement actions including consent orders and penalties, c.) modify allocations contained in this permit from the Biscayne aquifer including capping withdrawal rates until the alternative water supply project(s) are completed (in cases where the delay would result in violations of permit conditions) or d.) working with the Department of Community Affairs to limit increase demands for water until the alternative water supply project is completed.
42. The Permittee shall provide the District with annual updates by March 15th each year describing the activities associated with the implementation of their approved reuse feasibility plan including the following information: (1) the status of distribution system construction, including location and capacity of a) existing reuse lines b) proposed reuse lines to be constructed in the next five years; (2) a summary of uncommitted supplies for the next five years; (3) the status of reuse plan implementation including status of pilot projects, plan design construction, volume of reuse available, volume of wastewater disposed of; and (4) the status/copies of any ordinances related to reuse (5) any proposed changes to the reuse plan set forth in Exhibit 14. The first annual update is due March 15,

Limiting Conditions

2013.

43. Reuse Project numbers 5 and 6 in Exhibit 14 for wellfield recharge, which must be in place and operating prior to any additional withdrawals from the wellfield over the base condition water use as identified in Exhibit 10.
44. July 1, 2013, the Permittee shall submit a report for District review and approval identifying the location, treatment, timing and volume for Reuse Projects 5 & 6 on Exhibit 14 which provide groundwater recharge for the Southwest Wellfield. The report shall demonstrate that the proposed recharge sites and operations shall at a minimum prevent increased withdrawals from the C-4, C-2 and eastward groundwater seepage from Everglades National Park over the base condition water use and is otherwise a beneficial reuse of water per Chapter 62-610, F.A.C.
45. For Reuse Project number 4 of Exhibit 14 for rehydration of Biscayne Coastal Wetlands, in consultation with the District, the FDEP and Biscayne Bay National Park, upon completion of the pilot testing program, the parties shall agree on the water quality treatment required and the feasibility, as defined in Section 3.2.3.2 of the Basis of Review for Water Use, of this project on or before January 15, 2014. Extension of this deadline may be issued in writing by the District upon demonstration of good cause such as events beyond the control of the permittee or after consideration of the results/data collected, the District determines that additional testing is necessary. In determining the water quality needed, the parties will consider State and Federal water quality discharge standards, the volume and timing of water to be delivered to Biscayne Bay and the location of delivery. In the event the parties do not reach agreement on the feasibility by January 15, 2014, the Permittee shall begin development of an alternate reuse project from the South District wastewater facility and shall provide the District with a proposal for an alternate project including a conceptual design and schedule for implementation on or before December 15, 2014.
46. The permittee may request temporary authorization from the District to capture and store stormwater via withdrawals from the permitted Biscayne aquifer production wells, for storage within the Floridan aquifer system consistent with their FDEP issued Underground Injection Control permits. The District will consider the availability of stormwater that is not otherwise needed for environmental protection or enhancement and is in no way bound to authorize such requests. All such requests shall be made in writing to the Director of Water Use Regulation.
47. Permittee shall maintain an accurate flow meter at the intake of the water treatment plant for the purpose of measuring daily inflow of water.

Permittee shall maintain a calibrated flow meter(s) at the intake (raw water) and discharge (treated water) points within the Hialeah/Preston, Alexander Orr, and proposed Hialeah RO and South Miami Heights water treatment plants for the purpose of measuring treatment losses and shall submit monthly data quarterly as required pursuant to Limited Condition 18.

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

The Water Conservation Plan is contained in Exhibit 18. The permittee shall submit an annual report covering water conservation activities during the prior calendar year by March 15 of each year describing water conservation activities for the year including expenditures, projects undertaken and estimated water savings.

49. Permittee shall determine unaccounted-for distribution system losses on a quarterly basis and report the findings on an annual basis. The losses shall be determined for the entire system and for each of

Limiting Conditions

the water treatment plants (comparing water pumped from the wells compared to the volume into and out of the treatment plant), utilizing the most recent, approved water accounting and International Water Association / American Water Works Association (IWA/AWWA) water audit methodologies. The permittee shall verify the IWA/AWWA water audit methods to be used with the District for the subsequent year in each annual report. The annual report shall cover activities during the prior calendar year and be submitted on April 15 of each year. In addition to the unaccounted-for loss data, the report shall include the status of the activities (actions and expenditures along with the associated water savings) completed during the year to implement the approved water loss reduction plan (Exhibit 17).

In the event that the water losses, as defined by the AWWA method (Exhibit 16B), exceed 10 percent, the permittee shall include in the annual report a description of additional actions which will be implemented the following year(s) to reduce the losses to less than ten percent. If the District concludes that the progress towards achieving losses of less than 10 percent as identified in the unaccounted for losses plan is inconsistent with the plan schedule, the Permittee shall be required to revise the plan, to be approved by the District.

50. All annual reports required in these limiting conditions shall address activities that occurred during a calendar year and shall be submitted to Water Use Compliance on or before April 15th of the following year.
51. If it is determined that the conditions for permit issuance are no longer met for the 20 year permit duration, the permittee shall obtain a modification of the Permit from the District as necessary to come into compliance with the conditions for permit issuance. Such conditions for permit issuance include minimum flows and levels, water reservations, and other conditions ensuring the use does not cause water resource harm and is consistent with the objectives of the District, including implementation of the Comprehensive Everglades Restoration Plan.
52. The permittee shall operate the West Wellfield in accordance with the Memorandum of Understanding between the U.S. Department of the Interior, the Governor of the State of Florida, Miami Dade County and the District incorporated in Exhibit 35.

R 35 R 36 R 37 R 38 R 39 R 40 R 41 R 42

T 52

T 53

T 54

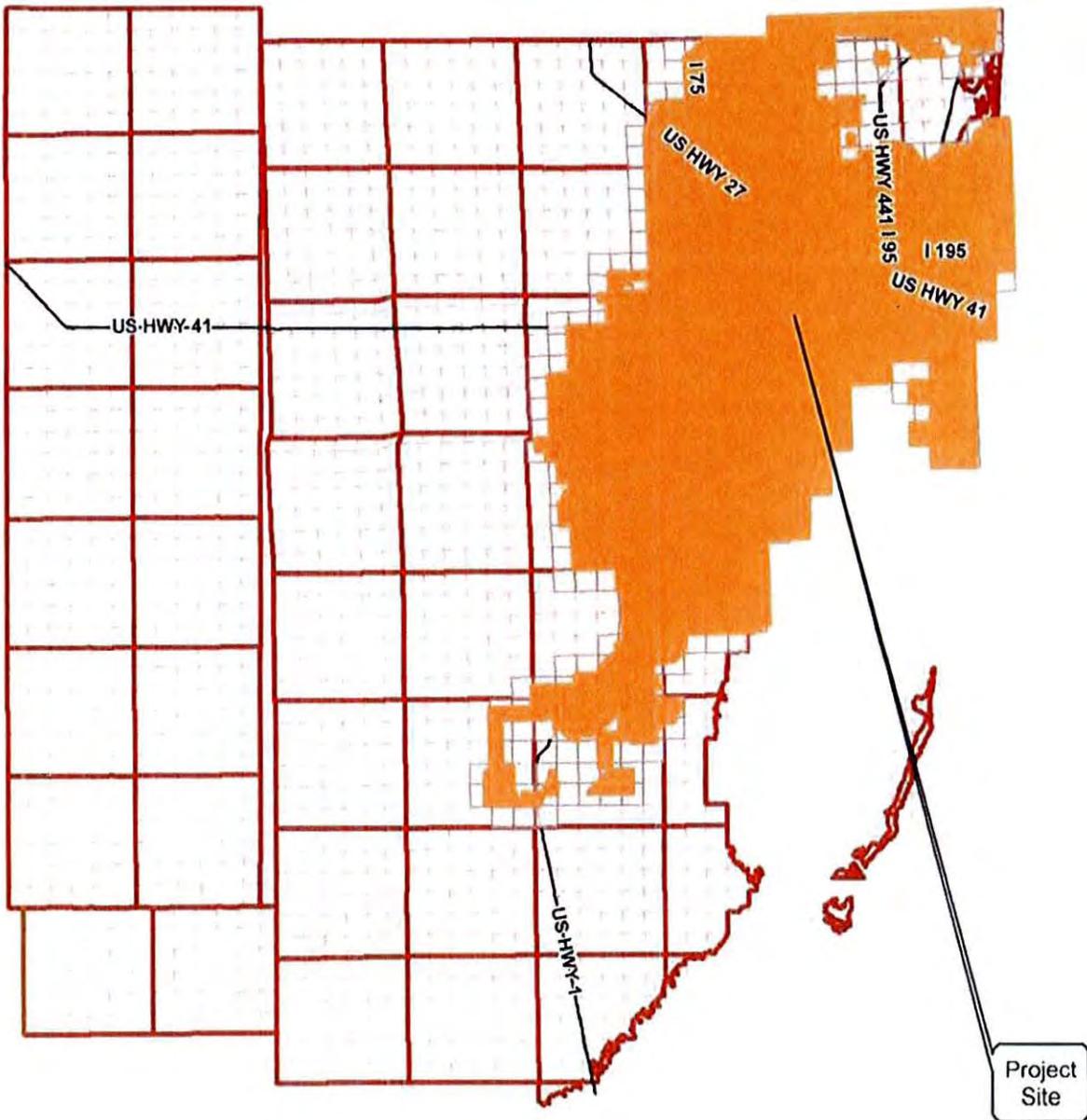
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MIAMI-DADE COUNTY, FLORIDA

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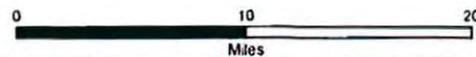
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- Application Sections

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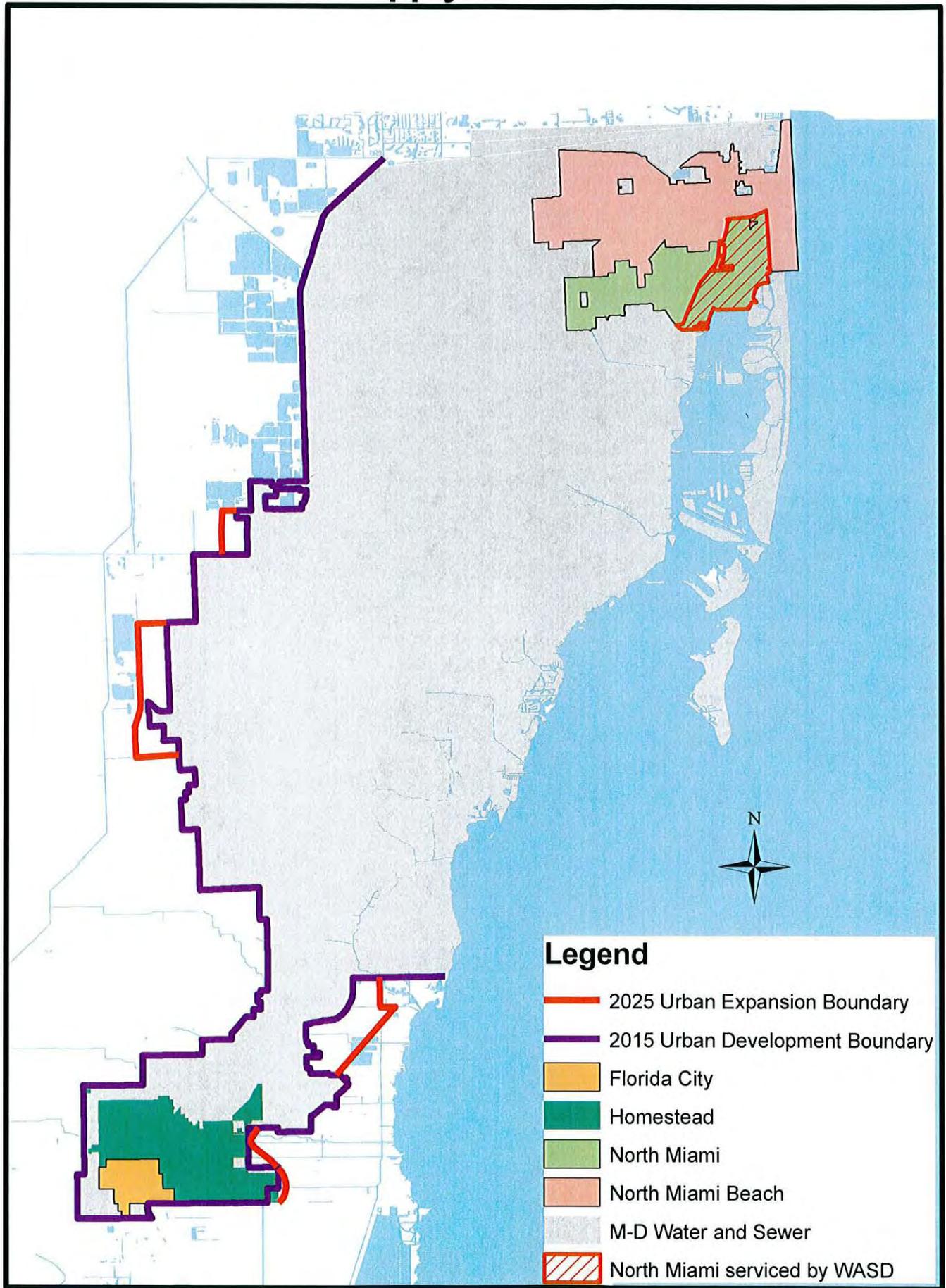
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Permit Number: 13-00017-W

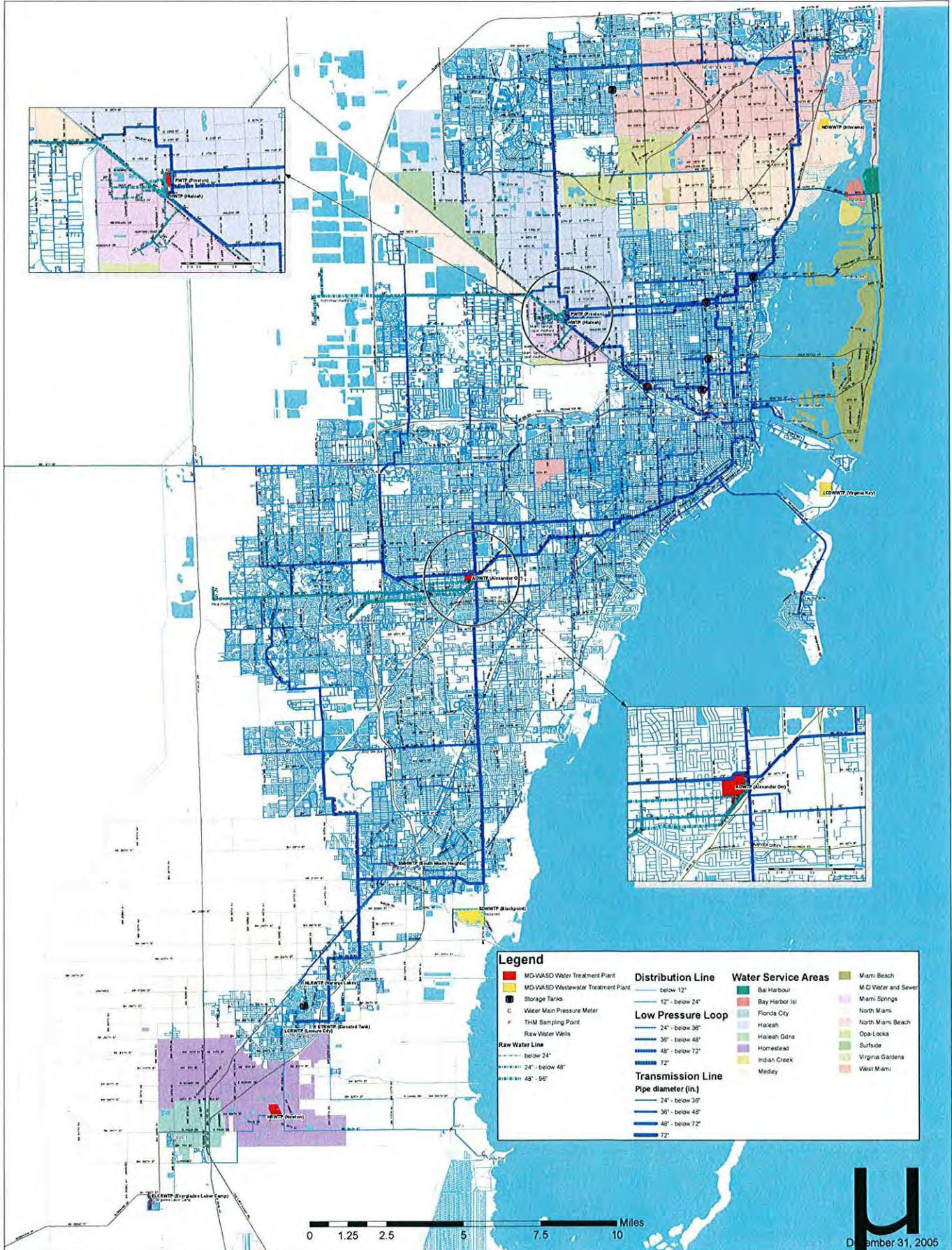
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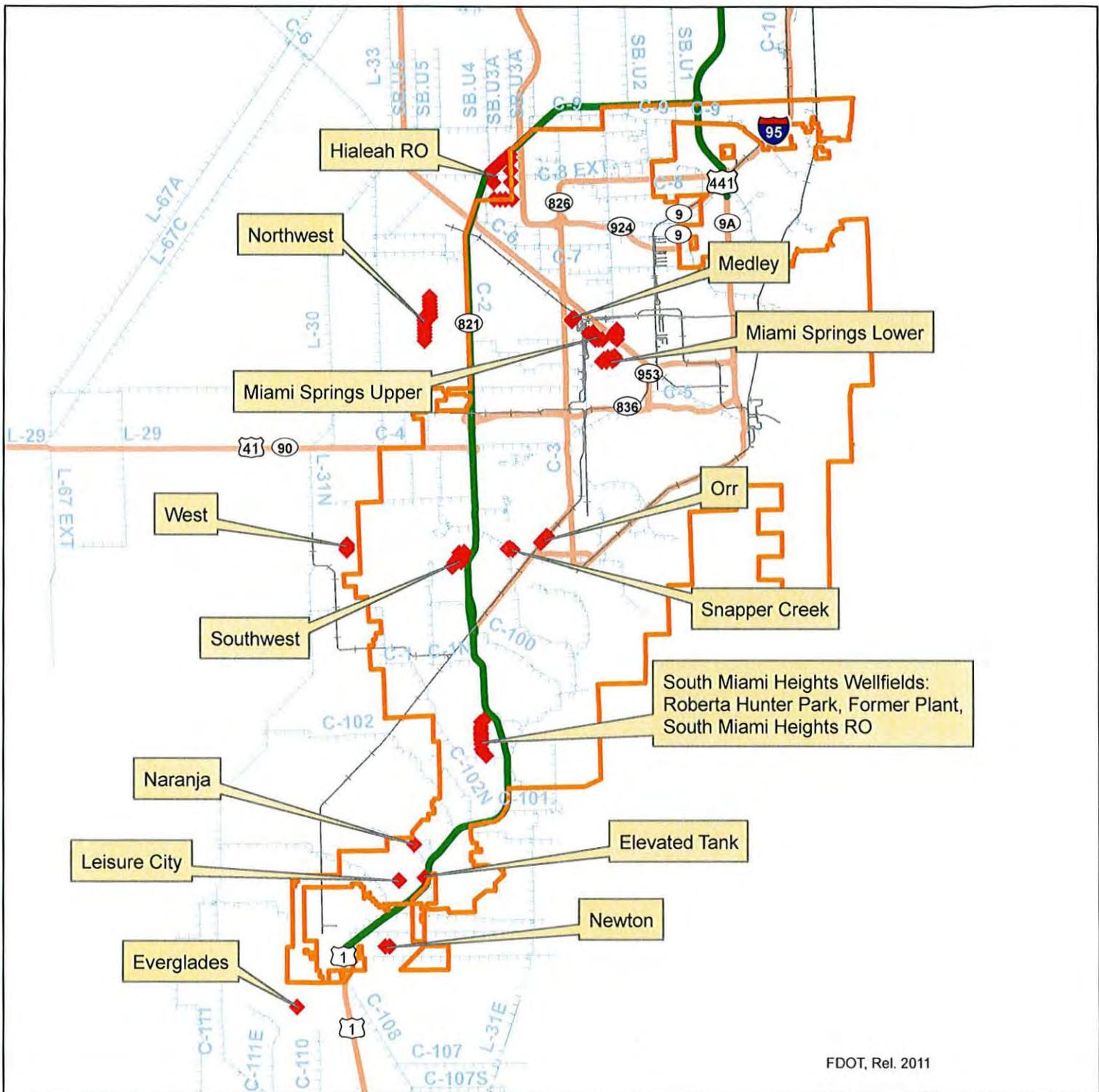


Miami-Dade County Water and Sewer Department Water Supply Service Area



Miami-Dade Water and Sewer Department Water Transmission System







MIAMI-DADE COUNTY, FLORIDA

 Application

 WELL

Application Number: 110511-6

Sec - / Twp 53 / Rge 39

Project Name: MIAMI-DADE CONSOLIDATED P W S

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Map Date: 2012-04-06

Permit Number: 13-00017-W

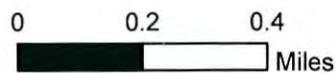
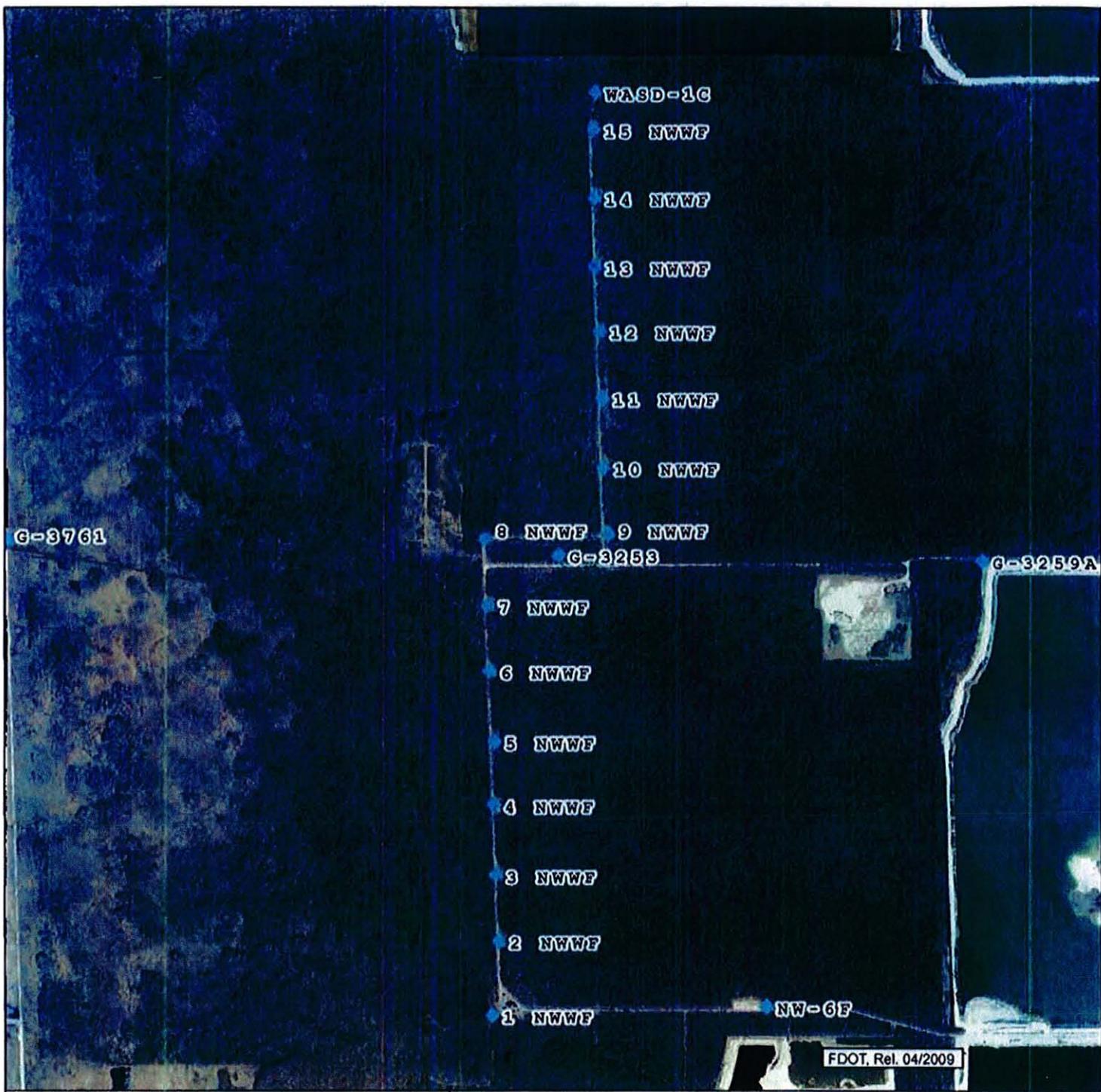


Exhibit No: 3B



MIAMI-DADE COUNTY, FLORIDA



MIAMI-DADE COUNTY, FLORIDA

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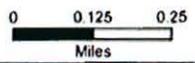
- Application
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- ◆ Wells

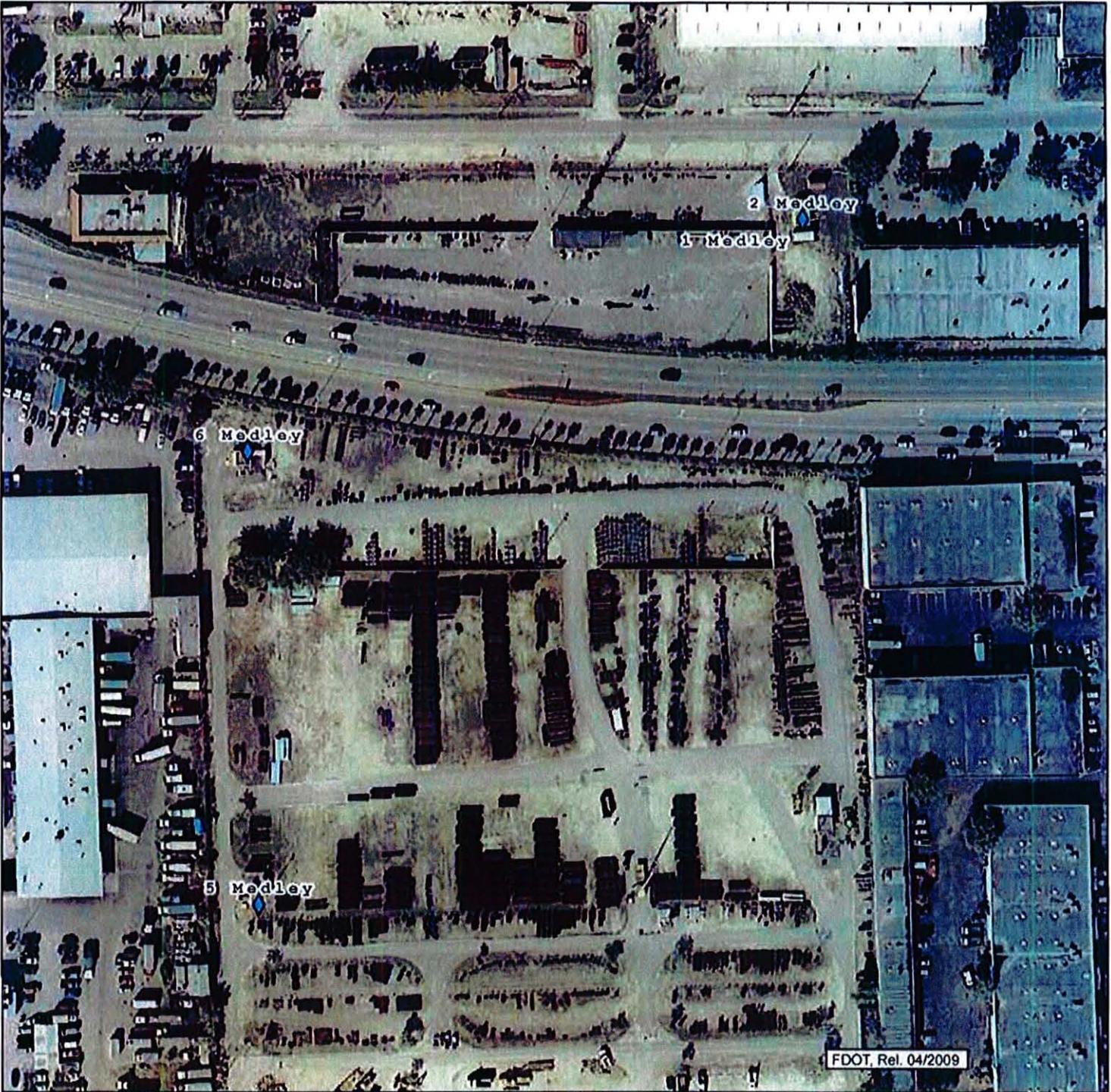

 Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S





MIAMI-DADE COUNTY, FLORIDA

Legend

- Application
- ◆ Pumps
- ◆ Wells

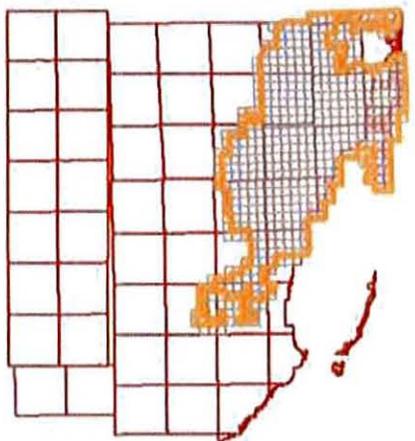

 Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S





MIAMI-DADE COUNTY, FLORIDA

Legend

- Application
- Wells
- Pumps

Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S



MIAMI-DADE COUNTY, FLORIDA



FDOT, Rel. 04/2009



MIAMI-DADE COUNTY, FLORIDA

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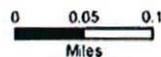
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- ◆ Pumps
- ◆ Wells


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Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S



DATE: 10/11/2010 11:02:20 AM BY: JENNY



MIAMI-DADE COUNTY, FLORIDA

Legend

- Application
- Wells
- Pumps

Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S



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MIAMI-DADE COUNTY, FLORIDA

Legend

- Application
- ◆ Wells
- ◆ Pumps

Map Date: 10/11/2010



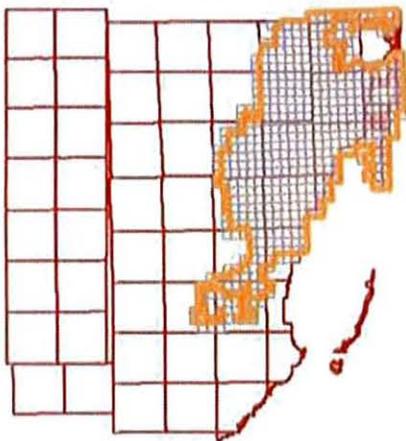
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Project Name: MIAMI-DADE CONSOLIDATED P W S



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MIAMI-DADE COUNTY, FLORIDA

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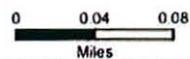
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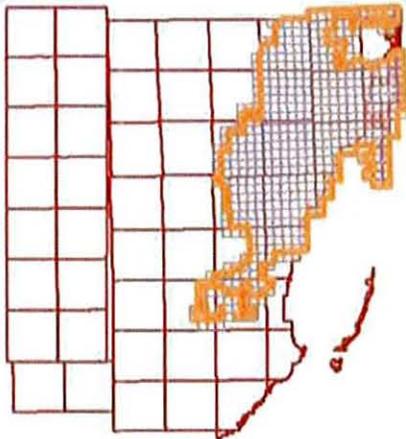
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MIAMI-DADE COUNTY, FLORIDA



FDOT, Rel. 04/2009



MIAMI-DADE COUNTY, FLORIDA

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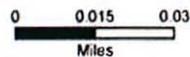
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- ◆ Pumps
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Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S



MIAMI-DADE COUNTY, FLORIDA



MIAMI-DADE COUNTY, FLORIDA

Legend

- ▭ Application
- ◆ Wells
- ◆ Pumps

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 Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S





MIAMI-DADE COUNTY, FLORIDA

 Application

 WELL

Application Number: 110511-6

Sec - / Twp 53 / Rge 39

Project Name: MIAMI-DADE CONSOLIDATED P W S



Map Date: 2012-06-13

Permit Number: 13-00017-W

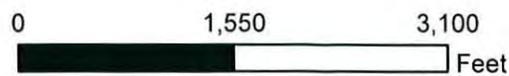
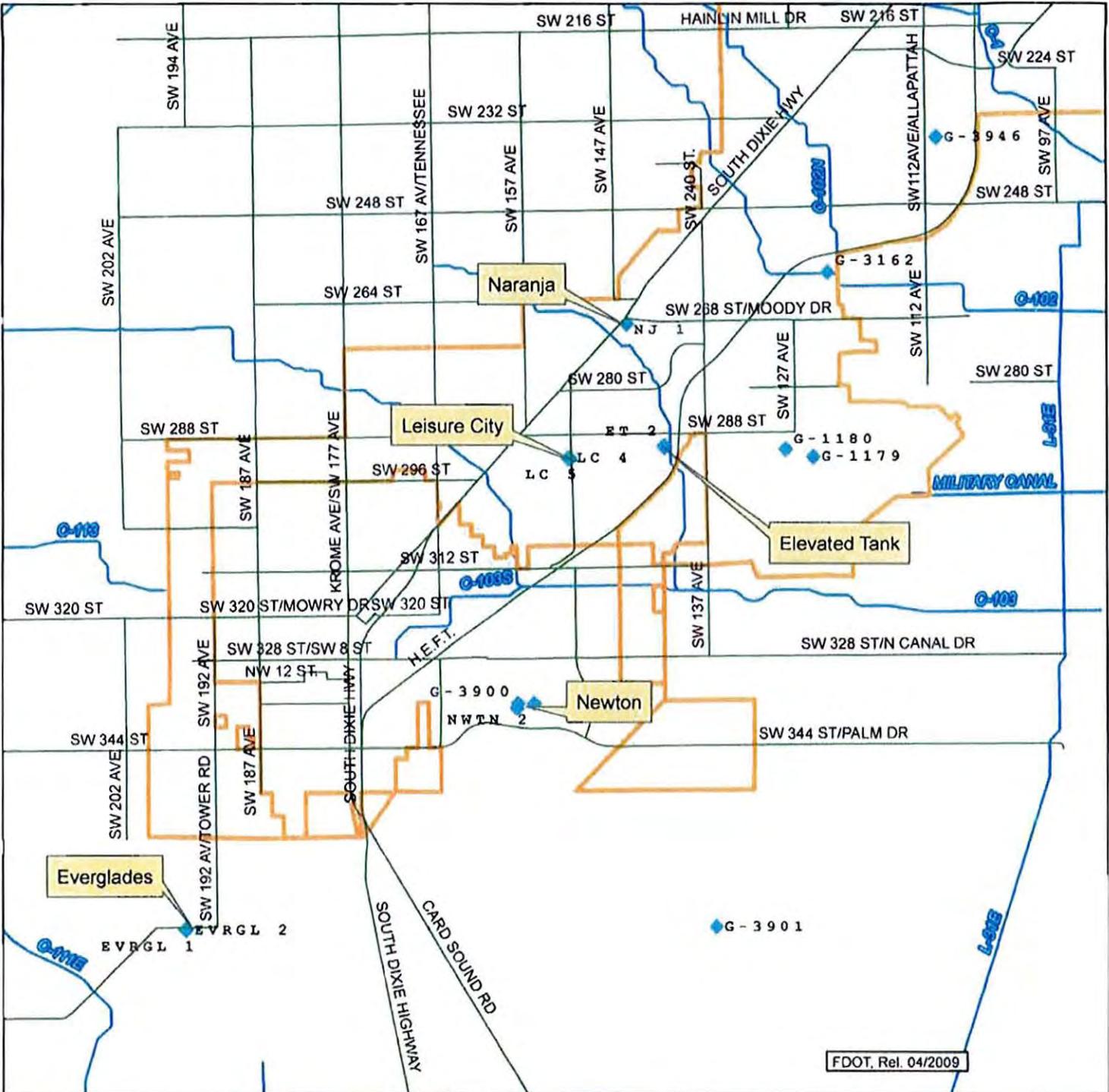
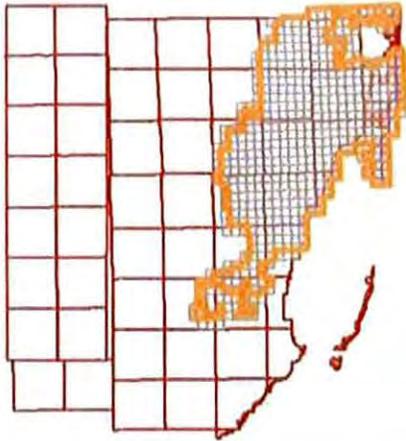


Exhibit No: 3L





FDOT, Rel. 04/2009



MIAMI-DADE COUNTY, FLORIDA

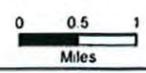
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- Application
 - ◆ Wells
 - ◆ Pumps

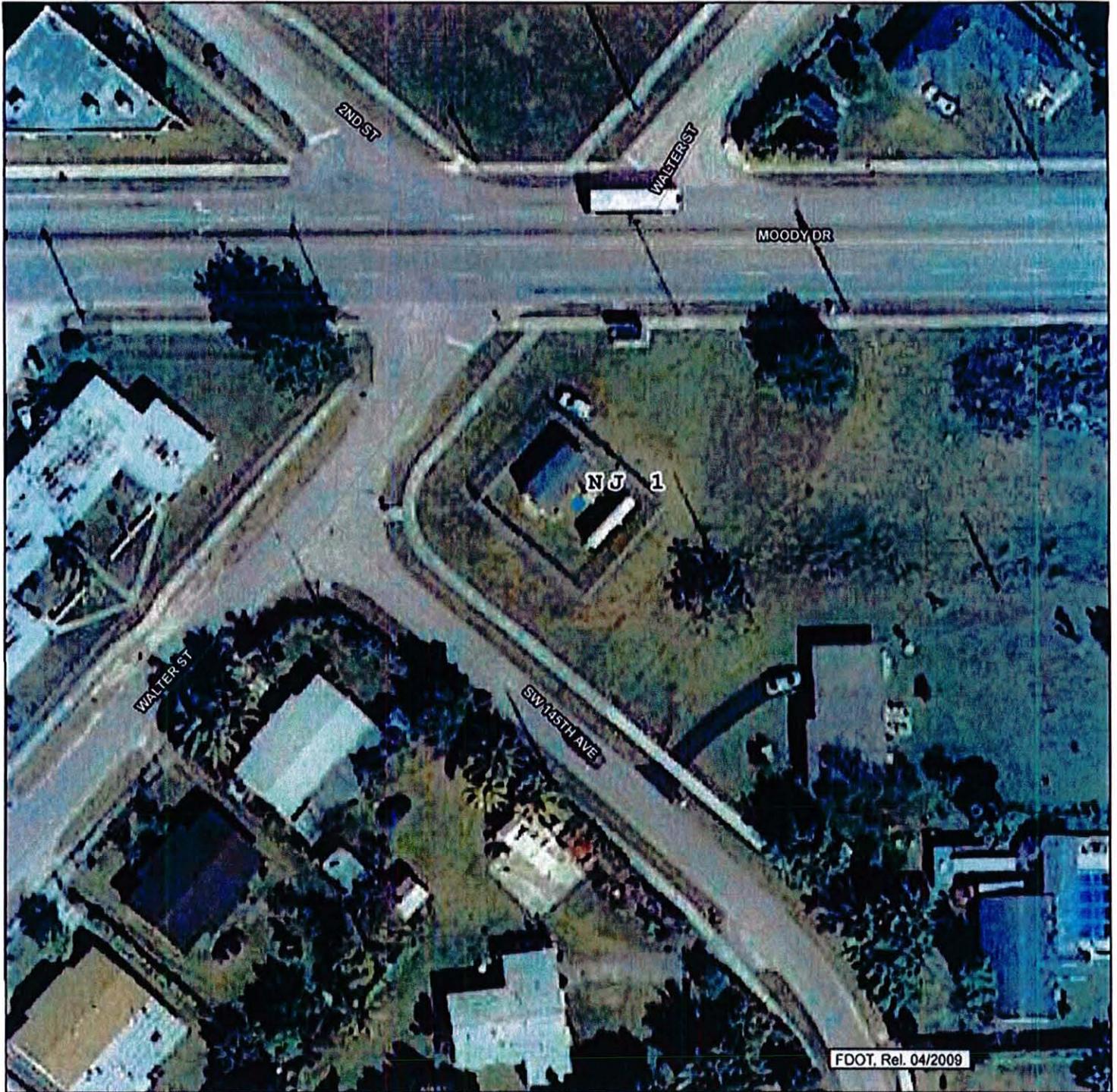

 Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S





MIAMI-DADE COUNTY, FLORIDA

Legend

- ▭ Application
- ◆ Wells
- ◆ Pumps

Map Date: 10/11/2010



Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S





MIAMI-DADE COUNTY, FLORIDA

Legend

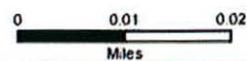
-  Application
-  Pumps
-  Wells

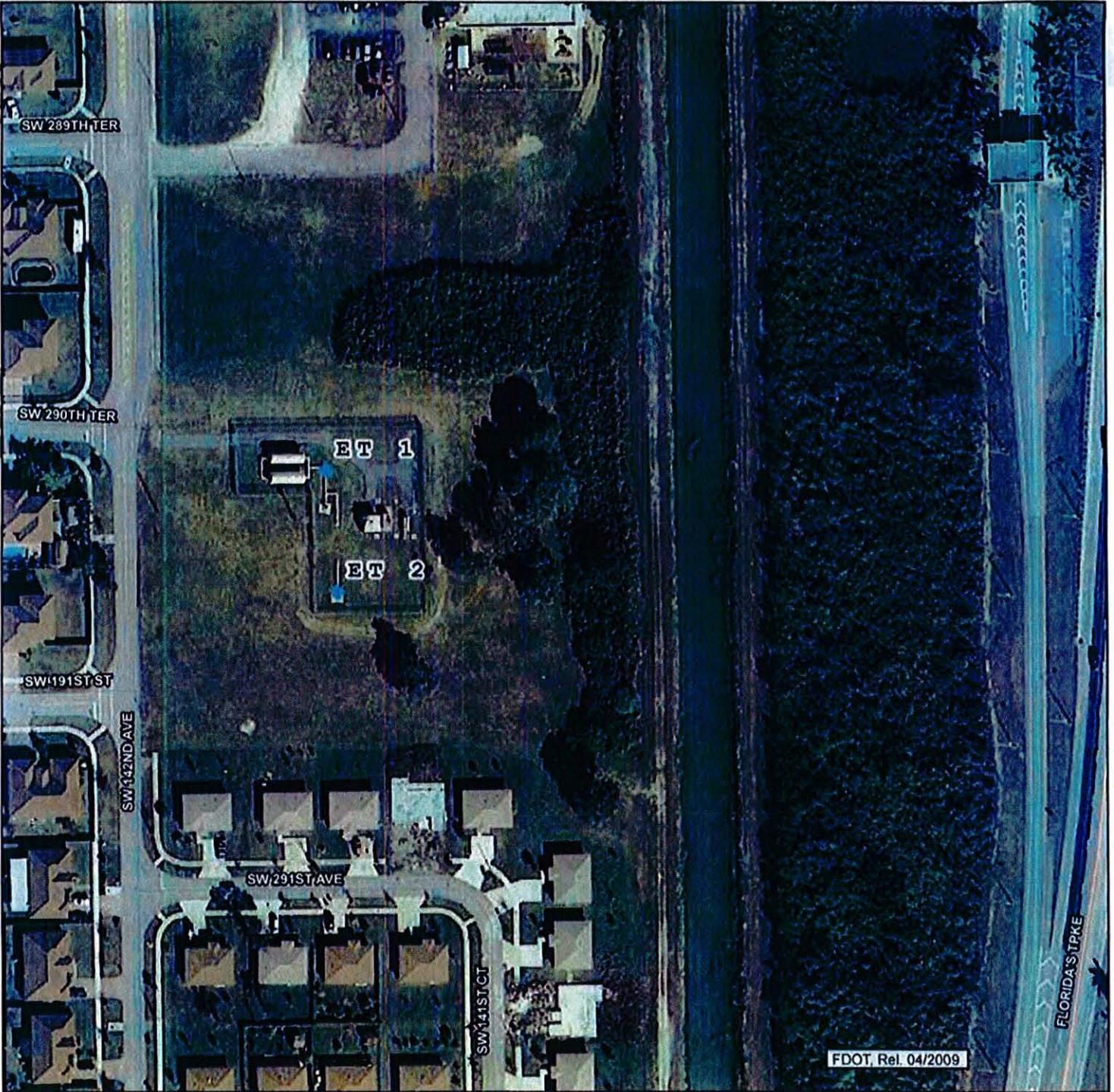

 Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S





MIAMI-DADE COUNTY, FLORIDA

Legend

- ▭ Application
- ◆ Wells
- ◆ Pumps

Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S





MIAMI-DADE COUNTY, FLORIDA

Legend

-  Application
-  Pumps
-  Wells


 Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S



091228-14 13-00017-W



MIAMI-DADE COUNTY, FLORIDA

Legend

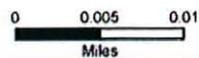
- ▭ Application
- ◆ Wells
- ◆ Pumps

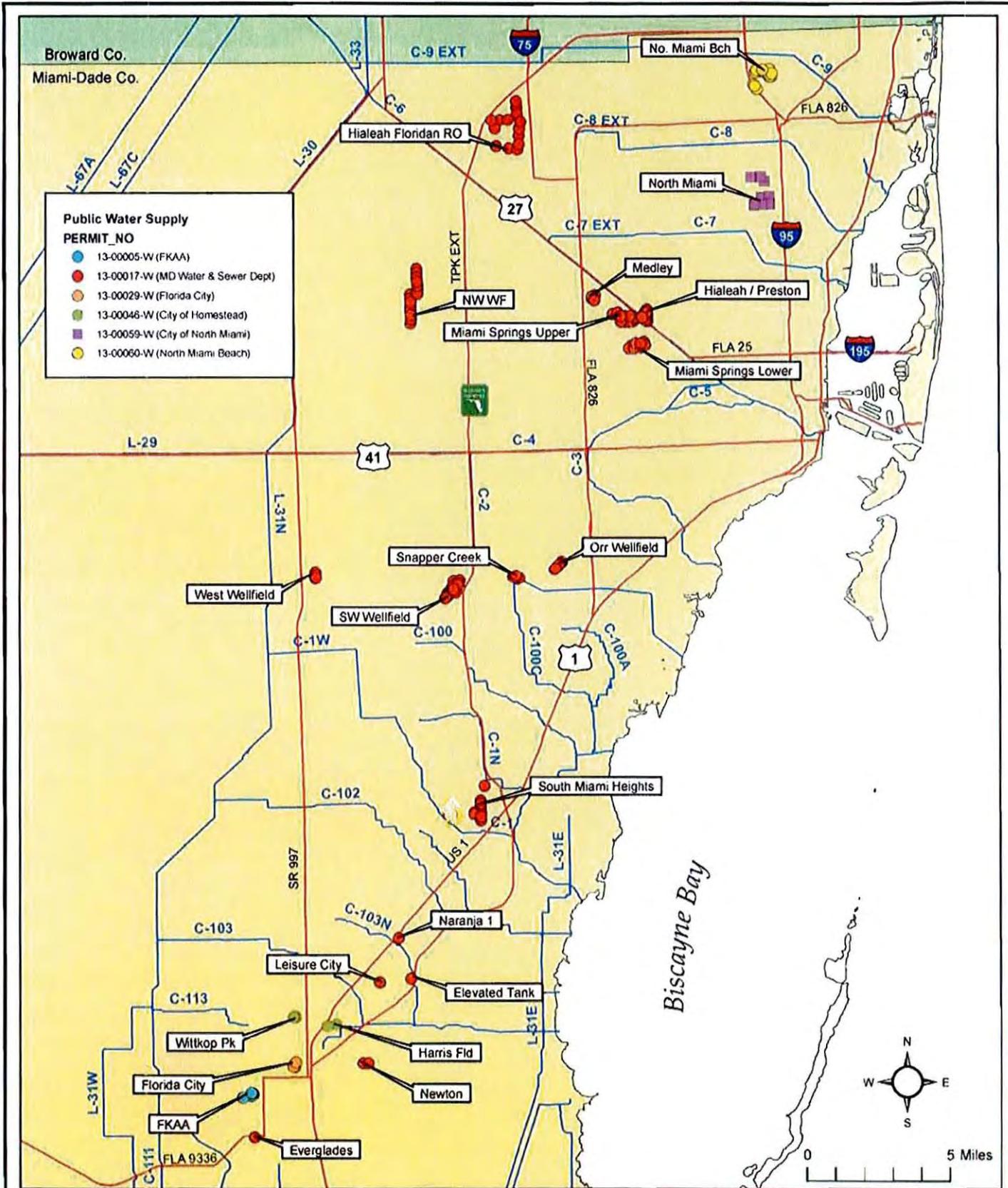
Map Date: 10/11/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S





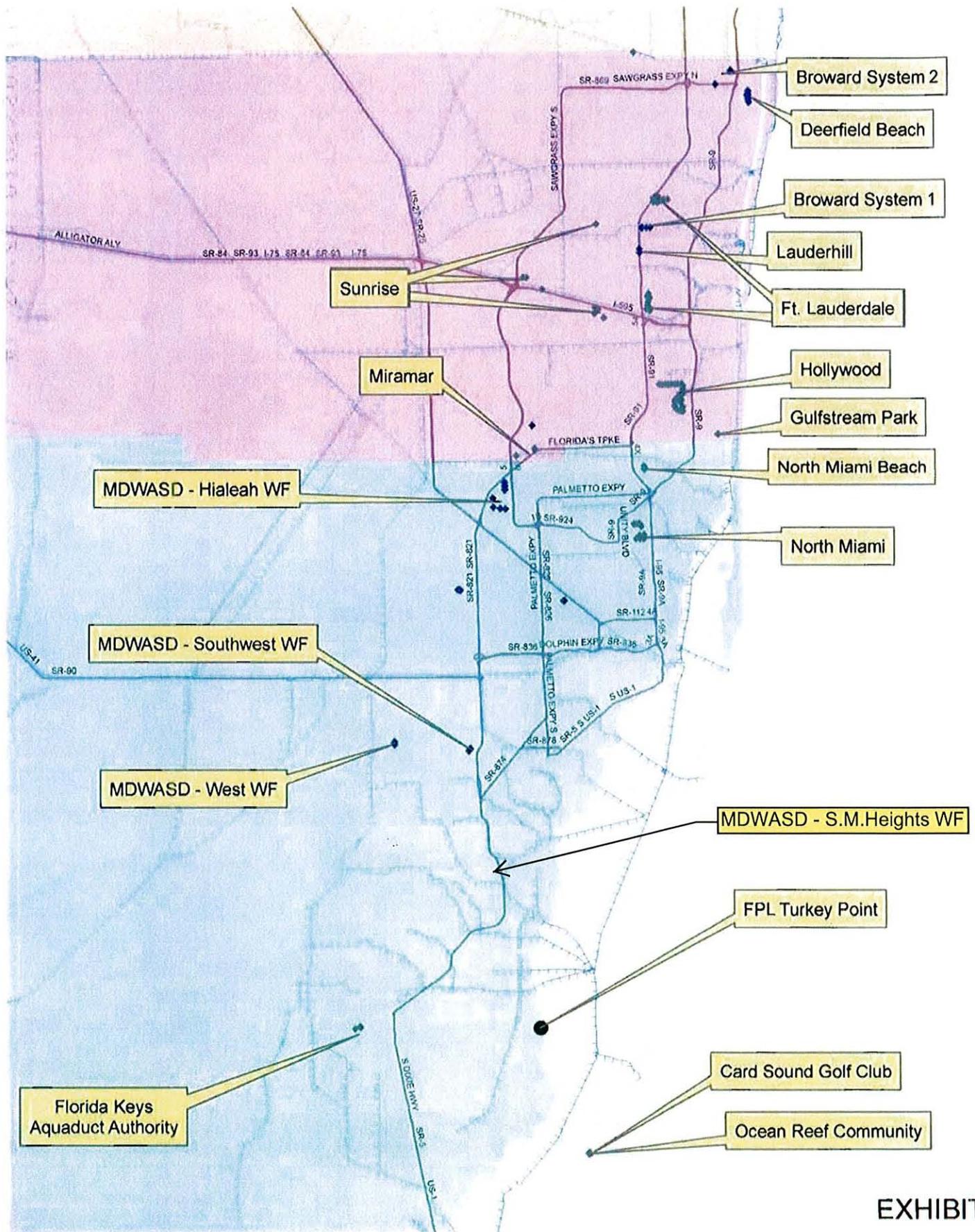
South Florida Water Management District
 Water Use Regulation
 3301 Gun Club Road, West Palm Beach,
 FL 33406
 561-686-8800 – www.sfwmd.gov

Miami-Dade County PWS Wellfields

DISCLAIMER
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Exhibit 4A

Upper Floridan Aquifer Permitted Users



SCANNED 05/12/2011 15:29 1.01

**Permitted Floridan Users
Miami-Dade, Broward, Monroe**

| PERMIT_NO | Permittee | Facility Status | Allocation (mgd) |
|--------------------|---|-------------------------|-------------------------|
| 44-00284-W | SILVER SHORES MOBILE HOME PARK | 1 existing | 0.0200 |
| 44-00002-W | OCEAN REEF COMMUNITY | 4 existing | 1.42 |
| 44-00001-W | CARD SOUND GOLF CLUB | 1 existing | 0.58 |
| 13-00005-W | FLORIDA KEYS AQUEDUCT AUTHORITY | 5 existing | 6.18 |
| 13-00017-W | MIAMI-DADE CONSOLIDATED P W S | 6 existing; 13 proposed | 19.95 |
| 13-01556-W | LA GORCE COUNTRY CLUB INC | 1 existing; 1 proposed | 0.95 |
| 13-00059-W | CITY OF NORTH MIAMI | 10 proposed | 7.97 |
| 13-00060-W | CITY OF NORTH MIAMI BEACH | 3 existing | 12.07 |
| 06-00054-W | CITY OF MIRAMAR PUBLIC WATER SUPPY | 3 proposed | 2.67 |
| 06-00954-W | GULFSTREAM PARK | 1 existing | 0.16 |
| 06-00038-W | HOLLYWOOD WATER TREATMENT PLANT | 6 existing; 17 proposed | 8.68 |
| 06-00134-W | TOWN OF DAVIE WATER PLANT SYS I, III, AND V | 1 existing; 9 proposed | 14.83 |
| 06-00120-W | CITY OF SUNRISE | 2 existing; 6 proposed | 10.98 |
| 06-00123-W | FORT LAUDERDALE PUBLIC WATER SUPPLY | 2 existing; 14 proposed | 10 |
| 06-00129-W | CITY OF LAUDERHILL | 2 proposed | 1.02 |
| 06-00146-W | BROWARD COUNTY DISTRICT 1 | 4 proposed | 4.7 |
| 06-01634-W | BROWARD COUNTY 2A / NORTH REGIONAL PWS | 1 existing; 4 proposed | 10 |
| 06-00082-W | DEERFIELD BEACH PUBLIC WATER SUPPLY | 1 existing; 1 proposed | 6.5 |
| Site Certification | FPL TURKEY POINT FLORIDAN PRODUCTION WELL | 3 existing | 14 |

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 217724 | 217725 | 217726 | 217727 | 217728 | 217730 |
|------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Name | RO1 Hialeah | RO2 Hialeah | RO3 Hialeah | RO4 Hialeah | RO5 Hialeah | RO6 Hialeah |
| Map Designator | Hialeah 1 RO | Hialeah 2 RO | Hialeah 3 RO | Hialeah 4 RO | Hialeah 5 RO | Hialeah 6 RO |
| FLUWID Number | | | | | | |
| Well Field | Hialeah RO WTP |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 17 | 17 | 17 | 17 | 17 | 17 |
| Total Depth(feet) | 1490 | 1490 | 1490 | 1490 | 1490 | 1490 |
| Cased Depth(feet) | 1150 | 1080 | 1080 | 1080 | 1080 | 1080 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 1400 | 1400 | 1400 | 1400 | 1400 | 1400 |
| Year Drilled | 2009 | 2011 | 2011 | 2011 | 2011 | 2011 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 863270 | 863450 | 864770 | 865950 | 866950 | 866990 |
| Feet North | 578595 | 574835 | 574835 | 574835 | 584875 | 583590 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Upper Floridan Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 217731 | 257400 | 257401 | 257402 | 257403 | 257404 |
|------------------------------------|--------------------------------|---|---|---|---|---|
| Name | RO7 Hialeah | RO8 Hialeah | RO9 Hialeah | RO10 Hialeah | RO11 Hialeah | RO12 Hialeah |
| Map Designator | Hialeah 7 RO | Hialeah 8 RO | Hialeah 9 RO | Hialeah 10 RO | Hialeah 11 RO | Hialeah 12 RO |
| FLUWID Number | | | | | | |
| Well Field | Hialeah RO WTP | Hialeah RO WTP | Hialeah RO WTP | Hialeah RO WTP | Hialeah RO WTP | Hialeah RO WTP |
| Existing/Proposed | E | P | P | P | P | P |
| Well Diameter(Inches) | 17 | 17 | 17 | 17 | 17 | 17 |
| Total Depth(feet) | 1490 | 1490 | 1490 | 1490 | 1490 | 1490 |
| Cased Depth(feet) | 1080 | 1080 | 1080 | 1080 | 1080 | 1080 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 1400 | 1400 | 1400 | 1400 | 1400 | 1400 |
| Year Drilled | 2011 | 2011 | 2011 | 2011 | 2011 | 2011 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 867085 | 866240 | 865035 | 867410 | 867175 | 864485 |
| Feet North | 581265 | 584315 | 583230 | 574835 | 578665 | 582690 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter |
| Use Status | Standby | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply Monitor | Public Water Supply Upper Floridan Aquifer |
| Aquifer | Upper Floridan Aquifer | | | | | |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|
| Well ID | 257405 | 257406 | 28291 | 28292 | 28293 | 28294 |
| Name | RO13 Hialeah | RO14 Hialeah | 1 NWWF | 2 NWWF | 3 NWWF | 4 NWWF |
| Map Designator | Hialeah 13 RO | Hialeah 14 RO | 1 NWWF | 2 NWWF | 3 NWWF | 4 NWWF |
| FLUWID Number | | | | | | |
| Well Field | Hialeah RO WTP | Hialeah RO WTP | Northwest | Northwest | Northwest | Northwest |
| Existing/Proposed | P | P | E | E | E | E |
| Well Diameter(Inches) | 17 | 17 | 48 | 48 | 48 | 48 |
| Total Depth(feet) | 1490 | 1490 | 80 | 80 | 80 | 80 |
| Cased Depth(feet) | 1080 | 1080 | 46 | 46 | 46 | 46 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | 0 | 0 | 0 | 0 |
| To | | | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | 40 | 40 | 40 | 40 |
| Pump Capacity(GPM) | 1400 | 1400 | 10420 | 10420 | 10420 | 10420 |
| Year Drilled | 2011 | 2011 | 1980 | 1980 | 1980 | 1980 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 863250 | 862450 | 847729 | 847805 | 847767 | 847747 |
| Feet North | 581590 | 580860 | 543166 | 543988 | 544714 | 545498 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply |
| Aquifer | Upper Floridan Aquifer | Upper Floridan Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 28295 | 28296 | 28297 | 28298 | 28299 | 28300 |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Name | 5 NWWF | 6 NWWF | 7 NWWF | 8 NWWF | 9 NWWF | 10 NWWF |
| Map Designator | 5 NWWF | 6 NWWF | 7 NWWF | 8 NWWF | 9 NWWF | 10 NWWF |
| FLUWID Number | | | | | | |
| Well Field | Northwest | Northwest | Northwest | Northwest | Northwest | Northwest |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 48 | 48 | 48 | 48 | 48 | 40 |
| Total Depth(feet) | 80 | 80 | 80 | 80 | 80 | 100 |
| Cased Depth(feet) | 46 | 46 | 46 | 46 | 46 | 57 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | 40 | 40 | 40 | 40 | 40 | 40 |
| Pump Capacity(GPM) | 10416.67 | 10420 | 10420 | 10420 | 10420 | 10420 |
| Year Drilled | 1980 | 1980 | 1980 | 1980 | 1980 | 1980 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 847757 | 847705 | 847685 | 847664 | 849022 | 848971 |
| Feet North | 546203 | 546981 | 547728 | 548464 | 548516 | 549252 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| | Biscayne Aquifer |
| Aquifer | | | | | | |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Well ID | 28301 | 28302 | 28303 | 28304 | 28305 | 217680 |
| Name | 11 NWWF | 12 NWWF | 13 NWWF | 14 NWWF | 15 NWWF | 1 Medley |
| Map Designator | 11 NWWF | 12 NWWF | 13 NWWF | 14 NWWF | 15 NWWF | Medley - 1 |
| FLUWID Number | | | | | | |
| Well Field | Northwest | Northwest | Northwest | Northwest | Northwest | Medley |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 48 | 48 | 40 | 40 | 40 | 42 |
| Total Depth(feet) | 80 | 80 | 100 | 100 | 100 | 68 |
| Cased Depth(feet) | 46 | 46 | 57 | 57 | 57 | 60 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | |
| To | 0 | 0 | 0 | 0 | 0 | |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | 40 | 40 | 40 | 40 | 40 | |
| Pump Capacity(GPM) | 10420 | 10420 | 10420 | 10420 | 10420 | 10000 |
| Year Drilled | 1980 | 1980 | 1980 | 1980 | 1980 | 1975 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 848960 | 848929 | 848877 | 848877 | 848867 | 881370 |
| Feet North | 550030 | 550777 | 551492 | 552260 | 553017 | 548300 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Standby |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|---------------------|---------------------|-----------------------------|---------------------|---------------------|
| Well ID | 217681 | 217684 | 217686 | 28261 | 28262 | 28263 |
| Name | 2 Medley | 5 Medley | 6 Medley | 1 MS Lower | 2 MS Lower | 3 MS Lower |
| Map Designator | Medley - 2 | Medley - 5 | Medley - 6 | 1 MS Lower | 2 MS Lower | 3 MS Lower |
| FLUWID Number | | | | | | |
| Well Field | Medley | Medley | Medley | Miami Springs Lower | Miami Springs Lower | Miami Springs Lower |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 42 | 42 | 42 | 14 | 14 | 14 |
| Total Depth(feet) | 68 | 68 | 68 | 115 | 115 | 115 |
| Cased Depth(feet) | 54 | 60 | 54 | 80 | 80 | 80 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | 0 | 0 | 0 |
| To | | | | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Centrifugal | Centrifugal | Centrifugal |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | 0 | 0 | |
| Pump Capacity(GPM) | 8500 | 8500 | 10000 | 3800 | 2500 | 2500 |
| Year Drilled | 1975 | 1975 | 1975 | 1924 | 1924 | 1924 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 881370 | 880830 | 880820 | 890660 | 889990 | 889800 |
| Feet North | 548300 | 547620 | 548070 | 539170 | 538745 | 539400 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter |
| Use Status | Standby | Standby | Standby | Primary | Primary | Primary |
| Water Use Type | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Monitor Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 28264 | 28265 | 28268 | 28266 | 28267 | 28269 |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Name | 4 MS Lower | 5 MS Lower | 6 MS Lower | 7 MS Lower | 8 MS Lower | 9 MS Upper |
| Map Designator | 4 MS Lower | 5 MS Lower | 6 MS Lower | 7 MS Lower | 8 MS Lower | 9 MS Upper |
| FLUWID Number | | | | | | |
| Well Field | Miami Springs Lower | Miami Springs Upper |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 14 | 14 | 30 | 14 | 14 | 14 |
| Total Depth(feet) | 115 | 115 | 115 | 115 | 115 | 115 |
| Cased Depth(feet) | 80 | 80 | 80 | 80 | 80 | 80 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Centrifugal | Centrifugal | Centrifugal | Centrifugal | Centrifugal | Centrifugal |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | 0 | 0 | 0 | 0 | 0 | |
| Pump Capacity(GPM) | 2500 | 2500 | 2500 | 2500 | 2500 | 2500 |
| Year Drilled | 1924 | 1924 | 1924 | 1924 | 1924 | 1949 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 890450 | 888955 | 888105 | 887545 | 888575 | 884630 |
| Feet North | 539785 | 539515 | 539115 | 538585 | 538565 | 544870 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Unspecified | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|-----------------------------|---------------------|---------------------|---------------------|---------------------|
| Well ID | 28280 | 28271 | 28272 | 28273 | 28274 | 28275 |
| Name | 10 MS Upper | 14 MS Upper | 15 MS Upper | 16 MS Upper | 17 MS Upper | 18 MS Upper |
| Map Designator | 10 MS Upper | 14 MS Upper | 15 MS Upper | 16 MS Upper | 17 MS Upper | 18 MS Upper |
| FLUWID Number | | | | | | |
| Well Field | Miami Springs Upper | Miami Springs Upper | Miami Springs Upper | Miami Springs Upper | Miami Springs Upper | Miami Springs Upper |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 14 | 30 | 14 | 14 | 14 | 14 |
| Total Depth(feet) | 115 | 115 | 115 | 115 | 115 | 115 |
| Cased Depth(feet) | 80 | 80 | 80 | 80 | 80 | 80 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Centrifugal | Centrifugal | Centrifugal | Centrifugal | Centrifugal | Centrifugal |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | 0 | | 0 | 0 | 0 | 0 |
| Pump Capacity(GPM) | 2500 | 4170 | 2500 | 2500 | 2500 | 2500 |
| Year Drilled | 1954 | 1936 | 1936 | 1936 | 1936 | 1945 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 888960 | 889520 | 888430 | 887776 | 888460 | 886890 |
| Feet North | 544210 | 544190 | 544440 | 544475 | 543550 | 544430 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter |
| Use Status | Primary | Primary | Standby | Standby | Primary | Standby |
| Water Use Type | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply |
| Aquifer | Biscayne Aquifer | Monitor Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Well ID | 28276 | 28277 | 28278 | 28279 | 28270 | 28281 |
| Name | 19 MS Upper | 20 MS Upper | 21 MS Upper | 22 MS Upper | 23 MS Upper | 1 Preston |
| Map Designator | 19 MS Upper | 20 MS Upper | 21 MS Upper | 22 MS Upper | 23 MS Upper | 1 Preston |
| FLUWID Number | | | | | | |
| Well Field | Miami Springs Upper | Preston |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 14 | 14 | 14 | 14 | 14 | 42 |
| Total Depth(feet) | 115 | 115 | 115 | 115 | 115 | 107 |
| Cased Depth(feet) | 80 | 80 | 80 | 80 | 80 | 66 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Centrifugal | Centrifugal | Centrifugal | Centrifugal | Centrifugal | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | 0 | 0 | 0 | 0 | 0 | 40 |
| Pump Capacity(GPM) | 2500 | 2500 | 2500 | 2500 | 2500 | 7000 |
| Year Drilled | 1945 | 1945 | 1945 | 1945 | 1949 | 1966 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 886105 | 887684 | 886890 | 886110 | 885590 | 890540 |
| Feet North | 544425 | 543499 | 543510 | 543510 | 545090 | 544500 |
| Accounting Method | Flow Meter |
| Use Status | Standby | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Well ID | 28282 | 28283 | 28284 | 28285 | 28286 | 28287 |
| Name | 2 Preston | 3 Preston | 4 Preston | 5 Preston | 6 Preston | 7 Preston |
| Map Designator | 2 Preston | 3 Preston | 4 Preston | 5 Preston | 6 Preston | 7 Preston |
| FLUWID Number | | | | | | |
| Well Field | Preston | Preston | Preston | Preston | Preston | Preston |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 42 | 42 | 42 | 42 | 42 | 42 |
| Total Depth(feet) | 107 | 107 | 107 | 107 | 107 | 107 |
| Cased Depth(feet) | 66 | 66 | 66 | 66 | 66 | 69 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | 40 | 40 | 40 | 40 | 40 | 40 |
| Pump Capacity(GPM) | 7000 | 7000 | 7000 | 7000 | 7000 | 7000 |
| Year Drilled | 1966 | 1966 | 1966 | 1966 | 1966 | 1972 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 890510 | 890430 | 891080 | 891029 | 891000 | 890100 |
| Feet North | 545010 | 544680 | 544650 | 545190 | 545680 | 544270 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|---------------------|---|---------------------|---------------------|---------------------|
| Well ID | 28288 | 28289 | 28290 | 26330 | 26331 | 26332 |
| Name | 11 Hialeah | 12 Hialeah | 13 Hialeah | 1 Orr | 2 Orr | 3 Orr |
| Map Designator | 11 Hialeah | 12 Hialeah | 13 Hialeah | ORR 1 | ORR 2 | ORR 3 |
| FLUWID Number | | | | | | |
| Well Field | Hialeah | Hialeah | Hialeah | Alexander Orr | Alexander Orr | Alexander Orr |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 14 | 14 | 14 | 16 | 16 | 16 |
| Total Depth(feet) | 115 | 115 | 115 | 100 | 100 | 100 |
| Cased Depth(feet) | 80 | 80 | 80 | 40 | 40 | 40 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Centrifugal | Centrifugal | Centrifugal | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 2500 | 2500 | 2500 | 4170 | 4170 | 4170 |
| Year Drilled | 1936 | 1936 | 1936 | 1949 | 1949 | 1949 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 891050 | 890830 | 890650 | 875100 | 875110 | 875000 |
| Feet North | 543550 | 544140 | 543790 | 499520 | 499640 | 499430 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Public Water Supply Monitor Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Well ID | 26304 | 26306 | 26309 | 26310 | 26311 | 26312 |
| Name | 4 Orr | 5 Orr | 6 Orr | 7 Orr | 8 Orr | 9 Orr |
| Map Designator | ORR 4 | ORR 5 | ORR 6 | ORR 7 | ORR 8 | ORR 9 |
| FLUWID Number | | | | | | |
| Well Field | Alexander Orr |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 16 | 16 | 16 | 16 | 16 | 24 |
| Total Depth(feet) | 100 | 100 | 100 | 100 | 100 | 100 |
| Cased Depth(feet) | 40 | 40 | 40 | 40 | 40 | 50 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 4170 | 4170 | 4170 | 4170 | 7500 | 7500 |
| Year Drilled | 1949 | 1952 | 1952 | 1952 | 1952 | 1964 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 874830 | 874670 | 874500 | 874340 | 874160 | 874000 |
| Feet North | 499250 | 499070 | 498880 | 498690 | 498510 | 498310 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 26313 | 26314 | 26315 | 26319 | 27172 | 27173 |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Name | 10 Orr | 11 SW | 12 SW | 13 SW | 14 SW | 15 SW |
| Map Designator | ORR 10 | Southwest 11 | Southwest 12 | Southwest 13 | Southwest 14 | Southwest 15 |
| FLUWID Number | | | | | | |
| Well Field | Alexander Orr | Southwest | Southwest | Southwest | Southwest | Southwest |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 24 | 20 | 20 | 20 | 20 | 20 |
| Total Depth(feet) | 100 | 100 | 100 | 100 | 100 | 100 |
| Cased Depth(feet) | 50 | 40 | 40 | 40 | 40 | 40 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 7500 | 4900 | 4900 | 4900 | 4900 | 4900 |
| Year Drilled | 1964 | 1953 | 1953 | 1953 | 1953 | 1953 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 873830 | 856559 | 856380 | 856180 | 855960 | 855740 |
| Feet North | 498110 | 496044 | 495440 | 495215 | 494980 | 494750 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Well ID | 27174 | 27175 | 27176 | 27177 | 27178 | 27179 |
| Name | 16 SW | 17 SW | 18 SW | 19 SW | 20 SW | 21 SC |
| Map Designator | Southwest 16 | Southwest 17 | Southwest 18 | Southwest 19 | Southwest 20 | SNPR CRK 21 |
| FLUWID Number | | | | | | |
| Well Field | Southwest | Southwest | Southwest | Southwest | Southwest | Snapper Creek |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 20 | 24 | 24 | 24 | 24 | 24 |
| Total Depth(feet) | 100 | 100 | 100 | 100 | 100 | 108 |
| Cased Depth(feet) | 40 | 35 | 35 | 35 | 35 | 50 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 4900 | 4900 | 4900 | 4900 | 4900 | 8300 |
| Year Drilled | 1953 | 1959 | 1959 | 1959 | 1959 | 1976 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 855470 | 855280 | 855080 | 855850 | 854640 | 867480 |
| Feet North | 494440 | 494280 | 494050 | 493810 | 493590 | 496570 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 27180 | 27181 | 27182 | 27183 | 27184 | 27185 |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Name | 22 SC | 23 SC | 24 SC | 25 SW | 26 SW | 27 SW |
| Map Designator | SNPR CRK 22 | SNPR CRK 23 | SNPR CRK 24 | Southwest 25 | Southwest 26 | Southwest 27 |
| FLUWID Number | | | | | | |
| Well Field | Snapper Creek | Snapper Creek | Snapper Creek | Southwest | Southwest | Southwest |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 24 | 24 | 24 | 24 | 24 | 24 |
| Total Depth(feet) | 108 | 108 | 108 | 104 | 104 | 104 |
| Cased Depth(feet) | 50 | 50 | 50 | 54 | 54 | 54 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 8300 | 8300 | 8300 | 6940 | 6940 | 6940 |
| Year Drilled | 1976 | 1976 | 1976 | 1982 | 1982 | 1982 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | Migrate | REVIEWER |
| Feet East | 866830 | 866640 | 866310 | 854400 | 854160 | 853920 |
| Feet North | 496920 | 496560 | 496750 | 493320 | 493060 | 492810 |
| Accounting Method | Unspecified | Unspecified | Flow Meter | Flow Meter | Flow Meter | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer |

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---|--|---|---|---|---|
| Well ID | 27186 | 27187 | 27188 | 27189 | 27192 | 27191 |
| Name | 28 SW | 29 W | 30 W | 31 W | 32 SW | 33 SW |
| Map Designator | Southwest 28 | West Wellfield 29 | West Wellfield 30 | West Wellfield 31 | SW 32 | SW 33 |
| FLUWID Number | | | | | | |
| Well Field | Southwest | West | West | West | Southwest | Southwest |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 24 | 24 | 24 | 24 | 48 | 48 |
| Total Depth(feet) | 104 | 70 | 70 | 70 | 88 | 88 |
| Cased Depth(feet) | 54 | 35 | 35 | 35 | 33 | 33 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | 0 |
| Pump Capacity(GPM) | 6940 | 6945 | 3470 | 6945 | 7500 | 7500 |
| Year Drilled | 1982 | | | | 1997 | 1997 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 853830 | 830235 | 830220 | 830210 | 855470 | 855970 |
| Feet North | 492801 | 496590 | 497150 | 497700 | 495900 | 494350 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Unspecified |
| Use Status | Primary | Primary | Primary | Standby | Standby | Standby |
| Water Use Type | Public Water Supply Biscayne Aquifer | Public Water Supply Monitor Biscayne Aquifer | Public Water Supply Biscayne Aquifer |
| Aquifer | | | | | | |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|---------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Well ID | 27190 | 27193 | 27195 | 27194 | 27196 | 27197 |
| Name | 34 SW | ASR/Blending 1W | ASR/Blending 2W | ASR/Blending 3W | ASR/Blending 4SW | ASR/Blending 5SW |
| Map Designator | Southwest 34 | ASR 1W | ASR 2W | ASR 3W | ASR 4SW | ASR-5SW |
| FLUWID Number | | | | | | |
| Well Field | Southwest | Alexander Orr WTP |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 48 | 30 | 30 | 30 | 30 | 30 |
| Total Depth(feet) | 88 | 1300 | 1250 | 1210 | 1200 | 1200 |
| Cased Depth(feet) | 33 | 850 | 845 | 835 | 765 | 760 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Unspecified | Unspecified | Unspecified | Unspecified | Unspecified |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 7500 | 3500 | 3500 | 3500 | 3500 | 3500 |
| Year Drilled | 1997 | 1996 | 1997 | 1997 | 1997 | 1998 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 854350 | 830190 | 830100 | 830160 | 855386 | 854880 |
| Feet North | 493690 | 496430 | 496700 | 497420 | 495060 | 494320 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter |
| Use Status | Standby | Primary | Primary | Primary | Standby | Standby |
| Water Use Type | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply | Public Water Supply |
| Aquifer | Biscayne Aquifer | Upper Floridan Aquifer | Upper Floridan Aquifer | Upper Floridan Aquifer | Upper Floridan Aquifer | Upper Floridan Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|-----------------------------|-----------------------------|--|--------------------------------------|-----------------------------|-----------------------------|
| Well ID | 23826 | 128172 | 128166 | 128168 | 23821 | 23822 |
| Name | ET 1 | ET 2 | EVRGL 1 | EVRGL 2 | EVRGL 3 | LC 2 |
| Map Designator | ELEVATED TANK 1 | ELEVATED TANK 2 | EVERGLADES 1 | EVERGLADES 2 | EVERGLADES 3 | LEISURE CITY 2 |
| FLUWID Number | | | | | | |
| Well Field | Elevated Tanks | Elevated Tanks | Everglades Labor Camp | Everglades Labor Camp | Everglades Labor Camp | Leisure City |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 12 | 16 | 18 | 18 | 18 | 6 |
| Total Depth(feet) | 40 | 50 | 55 | 55 | 50 | 30 |
| Cased Depth(feet) | 35 | 40 | 45 | 42 | 40 | 25 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | | | | 0 | 0 |
| To | 0 | | | | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | 37 | 37 | 38 | 38 | 38 | 22 |
| Pump Capacity(GPM) | 1600 | 1600 | 1500 | 1500 | 500 | 400 |
| Year Drilled | 1982 | 1996 | 2000 | 2001 | 2000 | 1953 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 847490 | 847500 | 818850 | 818880 | 818905 | 841830 |
| Feet North | 423470 | 423360 | 394500 | 394500 | 394500 | 422680 |
| Accounting Method | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter | Flow Meter |
| Use Status | Primary | Standby | Primary | Standby | Primary | Primary |
| Water Use Type | Public Water Supply Monitor | Public Water Supply Monitor | Public Water Supply Water Shortage Monitoring Facility | Public Water Supply Biscayne Aquifer | Public Water Supply Monitor | Public Water Supply Monitor |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | | Biscayne Aquifer | Biscayne Aquifer |

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | | | | | | |
|------------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--|-----------------------------|
| Well ID | 23823 | 23824 | 23825 | 27411 | 27407 | 27408 |
| Name | LC 3 | LC 4 | LC 5 | NJ 1 | NWTN 1 | NWTN 2 |
| Map Designator | LEISURE CITY 3 | LEISURE CITY 4 | LEISURE CITY 5 | NARANJA 1 | NEWTON 1 | NEWTON 2 |
| FLUWID Number | | | | | | |
| Well Field | Leisure City | Leisure City | Leisure City | Naranja Lakes | Newton | Newton |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 12 | 12 | 12 | 12 | 18 | 18 |
| Total Depth(feet) | 35 | 35 | 40 | 40 | 65 | 66 |
| Cased Depth(feet) | 30 | 30 | 35 | 35 | 50 | 53 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | 0 | 0 | 0 | 0 | 0 | 0 |
| To | 0 | 0 | 0 | 0 | 0 | 0 |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Turbine | Turbine | Turbine | Turbine | Turbine | Turbine |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | 27 | -27 | 27 | 32 | 45 | 43 |
| Pump Capacity(GPM) | 1200 | 800 | 1600 | 800 | 1500 | 1500 |
| Year Drilled | 1957 | 1966 | 1971 | 1975 | 2000 | 2001 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 841825 | 841770 | 841740 | 845240 | 838720 | 839675 |
| Feet North | 422746 | 422730 | 422725 | 430800 | 408020 | 408020 |
| Accounting Method | Flow Meter | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply Monitor | Public Water Supply Water Shortage Monitoring Facility | Public Water Supply Monitor |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer |

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 128173 | 128178 | 128179 | 128180 | 128181 | 261790 |
|------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|
| Name | FP 1 | RHP 1 | RHP 2 | RHP 3 | RHP 4 | SMH-F1 |
| Map Designator | Former Plant 1 | Roberta Hunter 1 | Roberta Hunter 2 | Roberta Hunter 3 | Roberta Hunter 4 | SMH-FA1 |
| FLUWID Number | | | | | | |
| Well Field | South Miami Heights |
| Existing/Proposed | P | P | P | P | P | P |
| Well Diameter(Inches) | 24 | 24 | 24 | 24 | 24 | 24 |
| Total Depth(feet) | 50 | 72 | 50 | 72 | 72 | 1200 |
| Cased Depth(feet) | 45 | 45 | 45 | 45 | 45 | 1100 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Submersible | Submersible | Submersible | Submersible | Submersible | Submersible |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 2800 | 1400 | 1400 | 1400 | 1400 | 2430 |
| Year Drilled | | | | | | 2012 |
| Planar Location | | | | | | |
| Source | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER | REVIEWER |
| Feet East | 860980 | 860208 | 860255 | 860256 | 860255 | 860300 |
| Feet North | 458580 | 456482 | 455755 | 455142 | 454065 | 455490 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Primary | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Biscayne Aquifer | Upper Floridan Aquifer |

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 261791 | 261792 | 261793 | 261794 | 261795 | 262633 |
|------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Name | SMH-F2 | SMH-F3 | SMH-F4 | SMH-F5 | SMH-F6 | SMH-F7 |
| Map Designator | SMH-FA2 | SMH-FA3 | SMH-FA4 | SMH-FA5 | SMH-FA6 | SMH-FA7 |
| FLUWID Number | | | | | | |
| Well Field | South Miami Heights |
| Existing/Proposed | P | P | P | P | P | P |
| Well Diameter(Inches) | 24 | 24 | 24 | 24 | 24 | 24 |
| Total Depth(feet) | 1200 | 1200 | 1200 | 1200 | 1200 | 1200 |
| Cased Depth(feet) | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | P | P | P | P | P | P |
| Pump Type | Submersible | Submersible | Submersible | Submersible | Submersible | Submersible |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 2430 | 0 | 2430 | 2430 | 2430 | 2430 |
| Year Drilled | 2012 | 2012 | 2012 | 2012 | 2012 | |
| Planar Location | | | | | | |
| Source | REVIEWER | | REVIEWER | REVIEWER | REVIEWER | |
| Feet East | 860315 | 860315 | 860350 | 860785 | 861435 | 860256 |
| Feet North | 454555 | 453205 | 452090 | 451310 | 450545 | 457056 |
| Accounting Method | Flow Meter |
| Use Status | Primary | Monitor | Primary | Primary | Primary | Primary |
| Water Use Type | Public Water Supply |
| Aquifer | Upper Floridan Aquifer |

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 262635 | 217858 | 217859 | 217860 | 217861 | 257879 |
|------------------------------------|------------------------|------------------|------------------|------------------|------------------|------------------|
| Name | SMH-F8 | AO-6N | AO-8C | SC-1N | SC-6N | SW-2W |
| Map Designator | SMH-FA8 | | | | | SW-2W |
| FLUWID Number | | | | | | |
| Well Field | South Miami Heights | | | | | |
| Existing/Proposed | P | E | E | E | E | E |
| Well Diameter(Inches) | 24 | | | | | |
| Total Depth(feet) | 1200 | 60 | 60 | 60 | 60 | 60 |
| Cased Depth(feet) | 1100 | 55 | 55 | 55 | 55 | 60 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | P | | | | | |
| Pump Type | Submersible | None | None | None | None | Unspecified |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 2430 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location Source | | | | | | |
| Feet East | 860256 | 871935 | 876599 | 866517 | 867733 | 852444 |
| Feet North | 458125 | 497928 | 503302 | 498298 | 494945 | 496094 |
| Accounting Method | Flow Meter | None | None | None | None | None |
| Use Status | Primary | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Public Water Supply | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Upper Floridan Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 217863 | 217869 | 217870 | 217881 | 217878 | 217877 |
|------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Name | SW-7W | WWF-21S | WWF-755 | NW-3A | NW-6F | NW-8D |
| Map Designator | | | | | | |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | | | | | |
| Total Depth(feet) | 60 | 48 | 55 | 88 | 60 | 60 |
| Cased Depth(feet) | 55 | 43 | 50 | 83 | 55 | 55 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | None | None | None | None | None | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location | | | | | | |
| Source | | | | | | |
| Feet East | 852849 | 830122 | 833267 | 841714 | 850785 | 855531 |
| Feet North | 491131 | 496604 | 496314 | 562395 | 543261 | 548212 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 217882 | 217879 | 137231 | 257889 | 257888 | 257887 |
|------------------------------------|------------------|------------------|---------------------------------------|------------------|------------------|------------------|
| Name | NW-19C | WASD-1C | F-45 | F-279 | G-354 | G-432 |
| Map Designator | | | F-45 | F-279 | G-354 | G-432 |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | | | | | |
| Total Depth(feet) | 50 | 40 | 84.9 | 117 | 90.2 | 99.5 |
| Cased Depth(feet) | 45 | 35 | | 113.5 | 89.2 | 97.5 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | None | None | None | Unspecified | Unspecified | Unspecified |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location Source | | | REVIEWER | | | |
| Feet East | 863277 | 848891 | 918017 | 923283 | 896054 | 891645 |
| Feet North | 548736 | 553433 | 544328 | 565633 | 536487 | 506889 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| | Biscayne Aquifer | Biscayne Aquifer | Water Shortage Monitoring Facility | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |
| Aquifer | | | Biscayne Aquifer | | | |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 257886 | 217851 | 257878 | 257885 | 137249 | 137251 |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Name | G-548 | G-551 | G-553 | G-571 | G-894 | G-896 |
| Map Designator | G-548 | | G-553 | G-571 | G-894 | G-896 |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | | | | 2 | 2 |
| Total Depth(feet) | 97.3 | 80 | 91 | 94.5 | 76 | 74 |
| Cased Depth(feet) | 91.4 | 71 | 79 | 94.5 | 74.5 | 60 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | Unspecified | None | Unspecified | Unspecified | None | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location | | | | | | |
| Source | | | | | DIGITIZED | DIGITIZED |
| Feet East | 894029 | 855096 | 874041 | 893396 | 924897 | 892989 |
| Feet North | 539211 | 494095 | 479217 | 537785 | 569308 | 492088 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 257884 | 257883 | 217716 | 217853 | 257882 | 137233 |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|---|
| Name | G-901 | G-939 | G-1009B | G-1074B | G-1179 | G-1180 |
| Map Designator | G-901 | G-939 | G-1009B | | G-1179 | G-1180 |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | | | | | 9 |
| Total Depth(feet) | 96 | 60 | 100 | 39 | 80 | 67 |
| Cased Depth(feet) | 94.8 | 57 | | 17 | | |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | Unspecified | Unspecified | None | None | Unspecified | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location | | | | | | |
| Source | | | REVIEWER | | | DIGITIZED |
| Feet East | 889410 | 883435 | 887960 | 824944 | 856447 | 854786 |
| Feet North | 497387 | 466158 | 491810 | 498493 | 422815 | 423247 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Water Shortage Monitoring Facility Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 137236 | 137237 | 257880 | 217854 | 137240 | 217715 |
|--------------------------------|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Name | G-1351 | G-1354 | G-1488 | G-3074 | G-3162 | G-3224 |
| Map Designator | G-1351 | G-1354 | G-1488 | | | G-3224 |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 2 | 2 | | | 2 | |
| Total Depth(feet) | 103 | 104 | 20 | 40 | 92 | 95.5 |
| Cased Depth(feet) | 100 | 91 | | 40 | 82 | 93.5 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | None | None | Unspecified | None | None | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location Source | REVIEWER | DIGITIZED | | | DIGITIZED | REVIEWER |
| Feet East | 896137 | 897679 | | 866535 | 857302.951 | 916450 |
| Feet North | 535114 | 537142 | | 496866 | 433858.484 | 560230 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor Water Shortage Monitoring Facility | Monitor Biscayne Aquifer |
| Aquifer | Biscayne Aquifer | | | | | |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 137241 | 137242 | 217872 | 217873 | 257881 | 217713 |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Name | G-3229 | G-3250 | G-3253 | G-3259A | G-3313C | G-3313E |
| Map Designator | G-3229 | G-3250 | | | G-3313C | G-3313E |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | 2 | | | | |
| Total Depth(feet) | 85 | 116 | 34.5 | 60 | 110 | 114 |
| Cased Depth(feet) | | 106 | 18 | | 107 | 32 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | None | None | None | None | Unspecified | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location | | | | | | |
| Source | DIGITIZED | DIGITIZED | | | | REVIEWER |
| Feet East | 897343 | 889597 | 848470 | 853204 | 886586 | 886590 |
| Feet North | 515333 | 544468 | 548281 | 548219 | 476178 | 476160 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 217864 | 217865 | 217866 | 217855 | 217867 | 217856 |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Name | G-3551 | G-3553 | G-3554 | G-3555 | G-3556 | G-3563 |
| Map Designator | | | | | | |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | | | | | |
| Total Depth(feet) | 18.3 | 19.9 | 20 | 19 | 19.1 | 18 |
| Cased Depth(feet) | 13.3 | 14.9 | 15 | 14 | 14.1 | 13 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | None | None | None | None | None | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location | | | | | | |
| Source | | | | | | |
| Feet East | 822180 | 829849 | 833159 | 834977 | 830406 | 872346 |
| Feet North | 496766 | 496216 | 496238 | 492107 | 498278 | 507267 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 217857 | 217874 | 217868 | 217875 | 217880 | 217944 |
|------------------------------------|------------------|------------------|------------------|------------------|------------------|---------------------|
| Name | G-3565 | G-3567 | G-3577 | G-3676 | G-3760 | G-3761 |
| Map Designator | | | | | | |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | | | | | 8 |
| Total Depth(feet) | 19 | 18.7 | 8 | 33 | 72.7 | 16.3 |
| Cased Depth(feet) | 14 | 13.7 | 0 | 23 | 70.7 | |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | None | None | None | None | None | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location Source | | | | | | |
| Feet East | 852082 | 841565 | 820631 | 845381 | 842356 | 842339 |
| Feet North | 498927 | 596563 | 497721 | 529396 | 548457 | 548452 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Biscayne Aquifer | Water Table Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 217876 | 257890 | 257891 | 257892 | 257893 | 217883 |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|---------------------|
| Name | G-3818 | G-3885 | G-3886 | G-3887 | G-3888 | G-3897 |
| Map Designator | | G-3885 | G-3886 | G-3887 | G-3888 | SWWF-1(Boystown Pin |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | | | | | 6 |
| Total Depth(feet) | 20 | 91 | 109 | 134 | 149 | 22.5 |
| Cased Depth(feet) | 15 | 86 | 101 | 130 | 143.5 | 22.5 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | None | Unspecified | Unspecified | Unspecified | Unspecified | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | 2009 |
| Planar Location | | | | | | |
| Source | | | | | | APPLICANT |
| Feet East | 836580 | 863870 | 876430 | 888022 | 903086 | 847536 |
| Feet North | 549140 | 441922 | 457549 | 481537 | 519784 | 483700 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer | Biscayne Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 217884 | 217885 | 217887 | 217886 | 257894 | 257895 |
|------------------------------------|------------------|------------------|---------------------------------------|---------------------------------------|------------------|------------------|
| Name | G-3898 | G-3899 | G-3900 | G-3901 | G-3946 | G-3947 |
| Map Designator | WWF-1SW | SMH-1 | Newton 1 | Ever 1 | G-3946 | G-3947 |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | 6 | 6 | 6 | 6 | | |
| Total Depth(feet) | 22.8 | 20.5 | 22 | 22.3 | 99 | 230 |
| Cased Depth(feet) | 22.8 | 20.5 | 22 | 22.3 | 90 | 200 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened interval | | | | | | |
| From | | | | | | |
| To | | | | | | |
| Pumped Or Flowing | | | | | | |
| Pump Type | None | None | None | None | Unspecified | Unspecified |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | 2009 | 2009 | 2009 | 2009 | | |
| Planar Location | | | | | | |
| Source | APPLICANT | APPLICANT | APPLICANT | APPLICANT | | |
| Feet East | 828900 | 861418 | 838647 | 850586 | 863870 | 915184 |
| Feet North | 495915 | 450646 | 407718 | 394645 | 441939 | 546997 |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| | Biscayne Aquifer | Biscayne Aquifer | Water Shortage Monitoring Facility | Water Shortage Monitoring Facility | Biscayne Aquifer | Biscayne Aquifer |
| Aquifer | | | Biscayne Aquifer | Biscayne Aquifer | | |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| Well ID | 257896 | 257897 | 217829 | 217830 | 217831 | 217832 |
|------------------------------------|------------------|------------------|------------------------|------------------------|------------------------|------------------------|
| Name | G-3948 | G-3949 | FA-3N NDWWTP | FA-5 SDWWTP | ASR MW-1 (WEST) | ASR MW-1 (SW) |
| Map Designator | G-3948 | G-3949 | NDWWTP FA-3N | SDWWTP FA-5 | ASR MW-1 | SWWF MW-1 |
| FLUWID Number | | | | | | |
| Well Field | | | | | | |
| Existing/Proposed | E | E | E | E | E | E |
| Well Diameter(Inches) | | | | | | |
| Total Depth(feet) | 279 | | 1510 | 1890 | 1396 | 1200 |
| Cased Depth(feet) | | | 1410 | 1790 | 1350 | 1110 |
| Facility Elev. (ft. NGVD) | | | | | | |
| Screened Interval | | | | | | |
| From | | | | 1490 | 855 | 845 |
| To | | | | 1588 | 1010 | 900 |
| Pumped Or Flowing | | | F | F | | F |
| Pump Type | Unspecified | Unspecified | None | None | None | None |
| Pump Int. Elev. Feet (NGVD) | | | | | | |
| Feet (BLS) | | | | | | |
| Pump Capacity(GPM) | 0 | 0 | 0 | 0 | 0 | 0 |
| Year Drilled | | | | | | |
| Planar Location Source | | | | | | |
| Feet East | 926769 | 930332 | | | | |
| Feet North | 577670 | 591728 | | | | |
| Accounting Method | None | None | None | None | None | None |
| Use Status | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Water Use Type | Monitor | Monitor | Monitor | Monitor | Monitor | Monitor |
| Aquifer | Biscayne Aquifer | Biscayne Aquifer | Upper Floridan Aquifer | Upper Floridan Aquifer | Upper Floridan Aquifer | Upper Floridan Aquifer |

Exhibit No: 5

TABLE - A
Description Of Wells.

Application Number: 110511-6

| | |
|------------------------------------|------------------------|
| Well ID | 217833 |
| Name | CHI SDWWTP |
| Map Designator | Central Hospital |
| FLUWID Number | |
| Well Field | |
| Existing/Proposed | E |
| Well Diameter(Inches) | |
| Total Depth(feet) | 1500 |
| Cased Depth(feet) | 1400 |
| Facility Elev. (ft. NGVD) | |
| Screened Interval | |
| From | 1000 |
| To | 1100 |
| Pumped Or Flowing | F |
| Pump Type | None |
| Pump Int. Elev. Feet (NGVD) | |
| Feet (BLS) | |
| Pump Capacity(GPM) | 0 |
| Year Drilled | |
| Planar Location | |
| Source | |
| Feet East | |
| Feet North | |
| Accounting Method | None |
| Use Status | Monitor |
| Water Use Type | Monitor |
| | Upper Floridan Aquifer |
| Aquifer | |

Exhibit No: 5

TABLE - B
Description Of Surface Water Pumps

Application Number: 110511-6

| | | |
|-----------------------------|---|---|
| Pump ID | 217932 | 217933 |
| Name | SWWF recharge | SWWF recharge 2 |
| Map Designator | C-2 recharge | Bird Drive recharge |
| Facility Group | | |
| Existing/Proposed | E | E |
| Pump Type | Unspecified | Unspecified |
| Diameter(Inches) | | |
| Pump Capacity(GPM) | 0 | 0 |
| Pump Horse Power | | |
| Two Way Pump ? | N | N |
| Elevation (ft. NGVD) | | |
| Planar Location | | |
| Source | REVIEWER | REVIEWER |
| Feet East | 859313 | 831395 |
| Feet North | 500886 | 499431 |
| Accounting Method | Flow Meter | Flow Meter |
| Use Status | Proposed But Never Constructed | Proposed But Never Constructed |
| Water Use Type | Recharge (unspecified) | Recharge (unspecified) |
| Surface Water Body | MDWASD West District Water Reclamat | MDWASD West District Water Reclamat |

Exhibit No: 6

Public Water Supply Demands

Application Number: 110511-6

Service Area: COUNTY WIDE SYSTEM

System Efficiency:

Treatment Name:

Standard PCUR:

Standard Max
Monthly Ratio:

Standard Max
Day Ratio:

Past Water Use (Table-F)

| Year | Population | PCUR | Average Use (MGD) | Max Day Use (MGD) | Ratio | Average Monthly Use(MG) | Max Monthly Use (MG) | Ratio | Basis For Demand | Basis For Ratio |
|------|------------|------|----------------------|----------------------|-------|-------------------------------|----------------------------|-------|------------------------|-----------------------|
| 2006 | 2,225,040 | 156 | 348.00 | | | 10,579.11 | 11,170.00 | 1.06 | Y | |
| 2007 | 2,235,179 | 144 | 322.15 | | | 9,793.36 | 10,648.00 | 1.09 | Y | Y |
| 2008 | 2,213,833 | 142 | 314.26 | | | 9,553.50 | 9,931.00 | 1.04 | Y | Y |
| 2009 | 2,238,700 | 140 | 312.47 | | | 9,499.09 | 9,867.90 | 1.04 | | Y |
| 2010 | 2,263,566 | 124 | 279.57 | | | 8,498.93 | 8,897.83 | 1.05 | | |
| 2011 | 2,288,432 | 123 | 281.56 | | | 8,559.42 | 8,846.78 | 1.03 | | |

Exhibit No:7

UPDATED TABLE G (6/29/2012)
 MDWASD PROJECTED RAW WATER DEMAND BY SOURCE

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | * | |
|--------------------|--|---------------------------|--|--|-------------------------------------|---|------------------------------------|---|---|-------------------------------------|------|---|--------------------------------------|--|---------------------------|---------------------------------------|-------------------------------|---|------------------------|-------------------|---|--|
| Year | PROJECTIONS (2009) FOR MDWASD SERVICE AREA | | | | | | | | | RAW WATER AADD ^(a) (MGD) | | | | | | | | | | | Non-Revenue Potential Water Loss Reduction (MGD) Credit | |
| | Population ^(k) | Finished Water Use (gpcd) | AADD Finished Water Use ^(a) (MGD) | Water Conservation ^(b) (MGD) Credit | Reuse/ Reclaimed Water (MGD) Credit | Adjusted Finished Water Demand ^(d) (MGD) | Adjusted Finished Water Use (gpcd) | CITY OF HOMESTEAD Finished Water Demand (MGD) | AADD Finished Water "SURPLUS" (Col. 19 - Col. 9 - Col. 7) | Biscayne Aquifer ^(f) | | | | | Floridan Aquifer | | | | | Total All Sources | | |
| | | | | | | | | | | South Dade ^(e) | | South Miami Heights (SMH) Membrane Softening WTP ^(f) | SW Wellfield Increase ⁽ⁱ⁾ | Hialeah-Preston/Alexander-Orr Lime Softening | ASR Losses ^(l) | Total Biscayne Aquifer ^(h) | Hialeah RO WTP ^(g) | South Miami Heights (SMH) RO WTP ^(g) | Total Floridan Aquifer | | | |
| System-Wide | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 2,263,566 | 145.4 | 329.12 | 2.11 | 0.00 | 327.01 | 144.47 | 0.50 | 0.00 | 3.72 | 2.65 | 0.00 | 0.00 | 326.69 | 3.95 | 337.01 | 0.00 | 0.00 | 0.00 | 337.01 | 1.78 | |
| 2011 | 2,288,432 | 145.4 | 332.74 | 3.41 | 0.00 | 329.33 | 143.91 | 1.00 | 0.00 | 4.08 | 3.08 | 0.00 | 0.00 | 329.15 | 2.15 | 338.46 | 0.00 | 0.00 | 0.00 | 338.46 | 3.56 | |
| 2012 | 2,321,552 | 145.4 | 337.55 | 4.71 | 0.00 | 332.84 | 143.37 | 1.50 | 0.00 | 4.25 | 3.57 | 0.00 | 0.00 | 330.50 | 4.14 | 342.46 | 0.00 | 0.00 | 0.00 | 342.46 | 5.34 | |
| 2013 | 2,347,030 | 145.4 | 341.26 | 6.01 | 0.00 | 335.25 | 142.84 | 2.00 | 0.00 | 4.30 | 3.80 | 0.00 | 0.00 | 323.49 | 0.14 | 331.73 | 13.30 | 0.00 | 13.30 | 345.03 | 7.12 | |
| 2014 | 2,372,509 | 145.4 | 344.96 | 7.01 | 0.00 | 337.95 | 142.45 | 2.50 | 0.00 | 4.30 | 4.08 | 0.00 | 0.00 | 325.96 | 0.14 | 334.48 | 13.30 | 0.00 | 13.30 | 347.78 | 8.90 | |
| 2015 | 2,401,028 | 145.4 | 349.11 | 8.01 | 0.00 | 341.10 | 142.06 | 3.00 | 0.00 | 4.30 | 4.10 | 0.00 | 0.00 | 329.15 | 0.14 | 337.69 | 13.30 | 0.00 | 13.30 | 350.99 | 10.68 | |
| 2020 | 2,529,835 | 145.4 | 367.84 | 12.01 | 0.00 | 355.83 | 140.65 | 3.00 | 0.00 | 0.00 | 4.10 | 3.00 | 0.00 | 335.41 | 0.14 | 338.55 | 13.30 | 23.27 | 36.57 | 375.12 | 14.25 | |
| 2025 | 2,658,643 | 145.4 | 386.57 | 14.41 | 0.00 | 372.16 | 139.98 | 3.00 | 0.00 | 0.00 | 4.10 | 3.00 | 21.42 | 330.64 | 0.14 | 355.20 | 13.30 | 23.27 | 36.57 | 391.77 | 14.25 | |
| 2030 | 2,787,451 | 145.4 | 405.30 | 15.19 | 0.00 | 390.11 | 139.95 | 3.00 | 0.00 | 0.00 | 4.10 | 3.00 | 37.74 | 324.98 | 0.14 | 365.86 | 23.33 | 23.27 | 46.60 | 412.46 | 14.25 | |

MDWASD PROJECTED FINISHED WATER DEMAND BY SOURCE

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|--------------------|--|---------------------------|--|--|-------------------------------------|---|------------------------------------|---|---|------------------------------------|------|---|--------------------------------------|--|---------------------------------------|-------------------------------|---|-------------------|
| Year | PROJECTIONS (2009) FOR MDWASD SERVICE AREA | | | | | | | | | ADJUSTED FINISHED WATER AADD (MGD) | | | | | | | | |
| | Population ^(k) | Finished Water Use (gpcd) | AADD Finished Water Use ^(a) (MGD) | Water Conservation ^(b) (MGD) Credit | Reuse/ Reclaimed Water (MGD) Credit | Adjusted Finished Water Demand ^(d) (MGD) | Adjusted Finished Water Use (gpcd) | CITY OF HOMESTEAD Finished Water Demand (MGD) | AADD Finished Water "SURPLUS" (Col. 19 - Col. 9 - Col. 7) | Biscayne Aquifer | | | | | Floridan Aquifer | | | Total All Sources |
| | | | | | | | | | | South Dade ^(e) | | South Miami Heights (SMH) Membrane Softening WTP ^(f) | SW Wellfield Increase ⁽ⁱ⁾ | Hialeah-Preston/Alexander-Orr Lime Softening | Total Biscayne Aquifer ^(h) | Hialeah RO WTP ^(g) | South Miami Heights (SMH) RO WTP ^(g) | |
| System-Wide | | | | | | | | | | | | | | | | | | |
| 2010 | 2,263,566 | 145.4 | 329.12 | 2.11 | 0.00 | 327.01 | 144.47 | 0.50 | 3.72 | 2.65 | 0.00 | 0.00 | 320.28 | 327.15 | 0.00 | 0.00 | 0.00 | 327.15 |
| 2011 | 2,288,432 | 145.4 | 332.74 | 3.41 | 0.00 | 329.33 | 143.91 | 1.00 | 4.08 | 3.08 | 0.00 | 0.00 | 322.70 | 330.85 | 0.00 | 0.00 | 0.00 | 330.86 |
| 2012 | 2,321,552 | 145.4 | 337.55 | 4.71 | 0.00 | 332.84 | 143.37 | 1.50 | 4.25 | 3.57 | 0.00 | 0.00 | 324.02 | 333.34 | 0.00 | 0.00 | 0.00 | 333.34 |
| 2013 | 2,347,030 | 145.4 | 341.26 | 6.01 | 0.00 | 335.25 | 142.84 | 2.00 | 4.30 | 3.80 | 0.00 | 0.00 | 317.15 | 327.25 | 10.00 | 0.00 | 10.00 | 337.25 |
| 2014 | 2,372,509 | 145.4 | 344.96 | 7.01 | 0.00 | 337.95 | 142.45 | 2.50 | 4.30 | 4.08 | 0.00 | 0.00 | 319.57 | 330.45 | 10.00 | 0.00 | 10.00 | 340.45 |
| 2015 | 2,401,028 | 145.4 | 349.11 | 8.01 | 0.00 | 341.10 | 142.06 | 3.00 | 4.30 | 4.10 | 0.00 | 0.00 | 322.70 | 334.10 | 10.00 | 0.00 | 10.00 | 344.10 |
| 2020 | 2,529,835 | 145.4 | 367.84 | 12.01 | 0.00 | 355.83 | 140.65 | 3.00 | 0.00 | 4.10 | 2.55 | 0.00 | 328.93 | 331.38 | 10.00 | 17.45 | 27.45 | 358.83 |
| 2025 | 2,658,643 | 145.4 | 386.57 | 14.41 | 0.00 | 372.16 | 139.98 | 3.00 | 0.00 | 4.10 | 2.55 | 21.00 | 324.16 | 347.71 | 10.00 | 17.45 | 27.45 | 375.16 |
| 2030 | 2,787,451 | 145.4 | 405.30 | 15.19 | 0.00 | 390.11 | 139.95 | 3.00 | 0.00 | 4.10 | 2.55 | 37.00 | 318.61 | 358.16 | 17.50 | 17.45 | 34.95 | 393.11 |

EXHIBIT 8A

UPDATED TABLE G (6/29/2012)
MDWASD PROJECTED RAW AND FINISH WATER DEMAND BY SOURCE

Footnotes

- (a) Annual Average Daily Demand (AADD) Finished Water Projections between 2009 and 2030 assume 145.4 gpcd total water system demand prior to application of credits (e.g. conservation).
- (b) WASD is undertaking the 20-year water use efficiency plan and expects reductions in per capita water consumption. Water Conservation projections were revised based on the 2010 Annual Water Conservation Plan Conserve Florida Report (March 2011). Real losses in non-revenue water (e.g. unaccounted-for-water) are assumed to remain at less than 10%. The conservation amounts experienced through 2010 (6.54 MGD) were deducted from the 20-year conservation amount in the Conserve Florida Report and the remaining conservation amounts were distributed for the balance of the 20-year period (2011-2027).
- (c) Not Used (TBD).
- (d) Adjusted after taking credit in finished water demand projections for reductions in finished water use associated with water conservation.
- (e) South Dade (Raw : Finished) Ratio = 1.0 : 1.0
- (f) Assumes withdrawals from Elevated Tank, Leisure City, Naranja, Caribbean Park, Former Plant, and Roberta Hunter Park are consolidated. Biscayne Aquifer supplied Membrane Softening (Raw : Finished) Ratio = 1.17 : 1.00 (85% Recovery).
- (g) Floridan Aquifer supplied RO WTP (Raw : Finished) Ratio = 1.33 : 1.00 (75% recovery)
- (h) The Modified Base condition raw water use (349.5 mgd) represents values agreed to by SFWMD and MDWASD and demonstrated by modeling to not cause a net increase in water from the regional canal system. Biscayne Aquifer base condition raw water use allocation of 349.5 mgd (South Dade at 7.1 mgd, North and South at 342.4 mgd) equates to 342.8 mgd of finished water annual average daily demand (AADD) assuming a 1.02 raw-to-finished water ratio for North and Central and a 1.0 raw-to-finished water ratio for South.
- (i) Future West District Water Reclamation Plant (WDWRP) for Phases 1 and 2 Canal Recharge as shown in the table below and assuming a gallon-for-gallon raw water offset. The applied (MGD) amounts represents total Biscayne Aquifer withdrawals to apply a gallon-for-gallon offset. AADD assumes Lime Softening WTP (Raw : Finished) Ratio = 1.02 : 1.00.

| Facility | Phase | Recharge Area | Applied (MGD) Offset | AADD (mgd) | Implementation Year |
|----------|-------|---------------|----------------------|------------|---------------------|
| WDWRP | 1 | Alex-Orr | 21 | 20 | 2020 |
| WDWRP | 2 | Alex-Orr | 16 | 15 | 2027 |
| | Total | | 37 | 35 | |

- (j) Becomes stand-by once SMH WTP starts up. This stand-by capacity is not used in the total raw and finished water amounts.
- (k) Population Served represent August 2008 updates to MDC DPZ Population Projections.
- (l) The values are based on initial cycle testing of the ASR well facilities and the projected seasonal operations of the ASR well facilities at full design capacities with the storing of Biscayne aquifer water during the wet weather months of June through October and the recovery of the stored Biscayne aquifer water during the dry weather months of December through April, assuming an ultimate storage loss of 1.31%.

EXHIBIT 8B

EXHIBIT 9

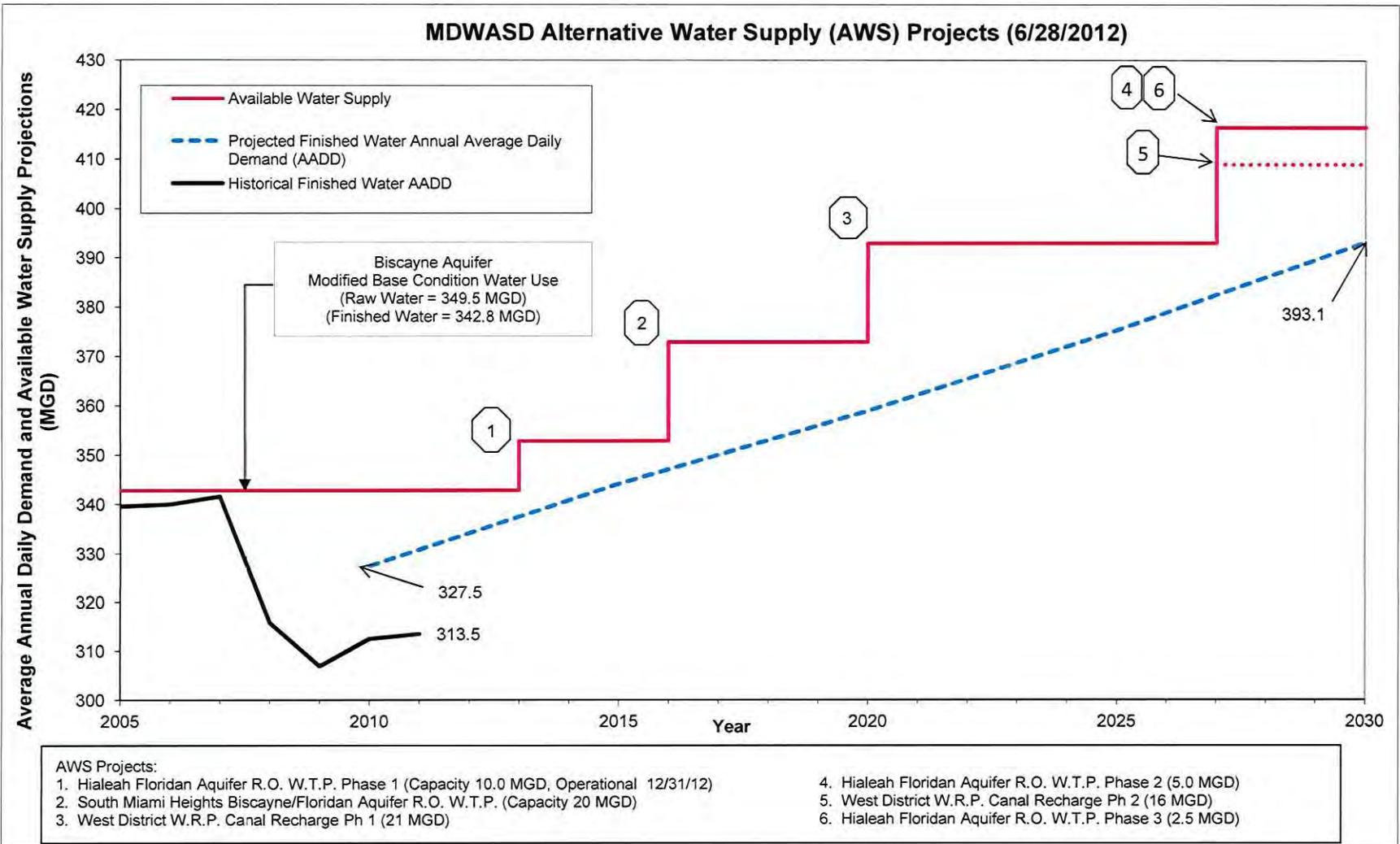


EXHIBIT 1-13 - MDWASD Biscayne Aquifer Wellfields Operation Plan Summary (7/12/2012) - Based on Annual Average Pumpage by Wellfield

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|--|--------------------------------|--------------------|---|---|--|---------------|----------------|---------------|----------------|---------------|----------------|---------------|--|
| WTP Subarea and Wellfield | Existing Wellfield Data (2011) | | Historic (b) (Pre 4/1/2006) Base Condition Annual Average Pumpage (MGD) | Revised Base Condition Annual Average Pumpage (MGD) | Individual Wellfield ANNUAL AVERAGE Pumpage Allocation | | | | | | | | Remarks |
| | Design Capacity (mgd) | Number of Wells | | | 2012-2015 ^(c) | | 2020 | | 2025 | | 2030 | | |
| | | | | | BG | (mgd) | BG | (mgd) | BG | (mgd) | BG | (mgd) | |
| Hialeah-Preston^(c) | | | | | | | | | | | | | |
| Hialeah | 12.54 | 3 | 3.1 | 70.0 | 25.550 | 70.00 | 25.550 | 70.00 | 25.550 | 70.00 | 25.550 | 70.00 | Total will <u>not</u> exceed 25,500 BGY |
| John E. Preston | 53.28 | 7 | 37.2 | | | | | | | | | | |
| Miami Springs | 79.3 | 20 | 29.7 | | | | | | | | | | |
| Medley | 48.96 | 4 | 0 | | | | | | | | | | |
| Northwest ^(a) | 149.35 | 15 | 88.7 | 96.8 | 35.332 | 96.80 | 35.332 | 96.80 | 35.332 | 96.80 | 35.332 | 96.80 | |
| Subtotal | 343.43 | 49 | 164.5 | 155.4 | 56.721 | 155.40 | 56.721 | 155.40 | 56.721 | 155.40 | 56.721 | 155.40 | |
| Alexander Orr^(d) | | | | | | | | | | | | | |
| Alexander Orr | 74.40 | 10 | 62.0 | 40.0 | 62.524 | 171.30 | 62.524 | 171.30 | 67.825 | 185.82 | 72.702 | 199.18 | Alexander Orr reduced to 40 mgd (14,600 BGY), resulting in Southwest increase to 110 mgd (40,150 BGY), Snapper Creek at 21.9 mgd, (7,994 BGY) Phase 1 Recharge = 5.0 mgd (Potential) Phase 2 & 3 Recharge = 37 MGD |
| Snapper Creek | 40.00 | 4 | 20.4 | 21.9 | | | | | | | | | |
| Southwest | 161.20 | 17 | 83.8 | 109.4 | | | | | | | | | |
| West | 32.40 | 3 | 15.0 | 15.0 | | | | | | | | | |
| Subtotal | 308.00 | 34 | 181.2 | 186.3 | 67.999 | 186.30 | 67.999 | 186.30 | 73.300 | 200.82 | 78.177 | 214.18 | |
| South Dade^(e) | | | | | | | | | | | | | |
| Elevated Tank | 4.32 | 2 | 1.3 | 1.3 | 1.570 | 4.30 | - | - | - | - | - | - | Drops out when SMH comes on line. Turning off at 4.3 mgd results in a 2.5 mgd reduction in impact to regional canals, therefore 2.5 mgd is available to transfer to SMH wellfield. |
| Leisure City | 4.18 | 4 | 2.9 | 2.9 | | | | | | | | | |
| Naranja | 1.15 | 1 | 0.1 | 0.1 | | | | | | | | | |
| Everglades Labor Camp ^(e) | 5.04 | 3 | 0.7 | 2.2 | | | | | | | | | |
| Newton ^(e) | 4.32 | 2 | 2.1 | 2.6 | 1.752 | 4.80 | 1.752 | 4.80 | 1.752 | 4.80 | 1.752 | 4.80 | Goes to standby when SMH comes online in 2016. Subject to limitation of 4.8 mgd (1,752 BGY) and system wide total not-to-exceed allocation. |
| Subtotal | 19.01 | 12 | 7.1 | 7.8 | 2.847 | 7.80 | 1.752 | 4.80 | 1.752 | 4.80 | 1.752 | 4.80 | |
| South Miami Heights^(f) | | | | | | | | | | | | | |
| Former Plant | 4 | 1 | NA | NA | - | - | 1.095 | 3.00 | 1.095 | 3.00 | 1.095 | 3.00 | Initial 2.5 mgd transfer from shut down of 4.3 mgd at South Dade plus 0.5 mgd additional |
| Roberta Hunter Park | 6 | 4 | NA | NA | | | | | | | | | |
| Subtotal | 10.00 | 5 | | | 0.000 | 0.00 | 1.095 | 3.00 | 1.095 | 3.00 | 1.095 | 3.00 | |
| Total Not-To-Exceed System Wide Pumpage | | | Annual in BGY (mgd) | | 127.567 | 349.50 | 127.567 | 349.50 | 131.123 | 359.24 | 135.944 | 372.45 | System wide allocation, not less than revised baseline allocation, not the sum of individual wellfield pumpage allocations, and may be more restrictive. |

Notes: BG = Billion Gallons; MGD = Million Gallons per Day

(a) Northwest wellfield design capacity at 110 mgd when pumps operate at low speed.

(b) These numbers are based on historical raw water values at the treatment plants for a 12-month running average during the five-year period preceding 4/1/2006 in accordance with SFWMD Water Availability Rule (April 28, 2007). Values for the individual wellfields are approximations.

(c) Base Condition Water Use of the North System, Hialeah-Preston is 164.5 mgd. The base condition impacts of 9.1 mgd for historical water deliveries by MDWASD to City of North Miami Beach were transferred to the City with re-issuance of their permit in July 2007; revising the base condition to 155.4 mgd.

(d) Base Condition Water Use of the Central System, Alexander Orr is 181.2 mgd. It was demonstrated through modeling that transferring 22.0 MGD from Alexander Orr WTP well field to the Southwest and an additional withdrawal of 1.5 MGD at Snapper Creek and 3.6 MGD at Southwest would not cause a net increase in volume or cause a change in timing of surface and groundwater from Everglades water bodies, consistent with Section 3.2.1.E(2) of the BOR; revising the base condition to 214.18 mgd.

(e) The South Dade allocation associated with Elevated Tank, Leisure City, and Naranja is transferred to SMH when the new WTP is planned to begin operation in 2016. Everglades Labor Camp and Newton wellfields are placed in stand by service after the SMHWTP begins planned operations in 2016, with operations limited to minimum amount required to maintain operational readiness and Florida Department of Health clearance. For Everglades Labor Camp and Newton the historical pumpage of 2.8 mgd was increased by 1.5 mgd at Everglades Labor Camp and 0.5 mgd at Newton to 4.8 mgd total, consistent with Section 3.2.1E(2) of the Basis of Review for Water Use Applications within the South Florida Water Management District. Turning off Elevated Tank, Leisure City, and Naranja at 4.3 mgd results in a 2.5 mgd reduction in impact to regional canals, therefore 2.5 mgd is available to transfer to SMH wellfield, plus an additional 0.5 mgd was allowed to account for the reduced treatment efficiency of the proposed membrane softening plant, pursuant to Section 3.2.1E(3)(a).

(f) These proposed facilities are for membrane softening portion of SMH Water Treatment Plant.

EXHIBIT 10A

Table 4 - MDWASD Floridan Aquifer Wellfields Operation Plan Summary (6/29/2012) Pumpage by Wellfield

| 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|-----------------------|-----------------|--|-------|-------------|-------|-------------|-------|-------------|--------|------------------|
| WTP Subarea and Wellfield | Wellfield Data | | Individual Wellfield ANNUAL Pumpage / Allocation | | | | | | | | Remarks |
| | Design Capacity (mgd) | Number of Wells | 2012 - 2015 | | 2016 - 2020 | | 2021 - 2025 | | 2026 - 2030 | | |
| | | | BG | (mgd) | BG | (mgd) | BG | (mgd) | BG | (mgd) | |
| Hialeah RO WTP ^(a) | 24.00 | 14 | 4.855 | 13.30 | 4.855 | 13.30 | 4.855 | 13.30 | 8.517 | 23.333 | See Footnote (a) |
| Hialeah - Preston WTP Blending (Project Canceled) (Blending at Alexander Orr WTP Resulted in Distribution System Water Quality Problems - Project Canceled) | | | | | | | | | | | |
| Alexander Orr WTP Blending (Use of Aquifer Storage and Recovery wells for Blending Canceled) (Full Scale Blending Cancelled. Only Minimal Incidental Blending as result of Aquifer Storage and Recovery Well Operation) | | | | | | | | | | | |
| Alexander Orr WTP (Use of Floridan Aquifer Wells for ASR) ^(b) | | | | | | | | | | | |
| Southwest Wellfield ASR | 10.00 | 2 | (1.542) | 10.08 | (1.542) | 10.08 | (1.542) | 10.08 | (1.542) | 10.08 | See Footnote (b) |
| | | | 1.522 | 10.08 | 1.522 | 10.08 | 1.522 | 10.08 | 1.522 | 10.08 | |
| West Wellfield ASR | 15.00 | 3 | (2.313) | 15.12 | (2.313) | 15.12 | (2.313) | 15.12 | (2.313) | 15.12 | |
| | | | 2.283 | 15.12 | 2.283 | 15.12 | 2.283 | 15.12 | 2.283 | 15.12 | |
| South Miami Heights WTP (Use of Floridan Aquifer Wells for RO) ^(c) | | | | | | | | | | | |
| South Miami Heights WTP ^(c) | 24.00 | 7 | 0 | 0.00 | 8.494 | 23.27 | 8.494 | 23.27 | 8.494 | 23.27 | See Footnote (c) |
| MDWASD System Total | 73.00 | 26 | | | | | | | | | |
| Total Not-To-Exceed Pumpage | Annual Average | | 4.805 | 13.30 | 13.299 | 36.57 | 13.299 | 36.57 | 16.961 | 46.60 | |

Notes

BG = Billion Gallons; MGD = Million Gallons per Day

(a) New Upper Floridan Aquifer RO WTP (Finish water supply of 10.0 mgd, Phase 1 by Dec. 31, 2012, 17.5 mgd Phase 2&3 by Dec. 31, 2027)

(b) Based on 153 days of storage (indicated as negative withdrawal) and 151 days of recovery (positive withdrawal) per ASR well a year. Excludes initial Cycle and Operational Testing of the ASR Wells and ASR Facility UV Disinfection System Testing.

(c) New Upper Floridan Aquifer RO Treatment at South Miami Heights WTP (Finish water supply of 17.45 mgd by Dec. 31, 2016)

EXHIBIT 10B

Revised 6/29/2012

| Revised Base Condition Pumping Rates (revised 6/29/2012) | | | | | | | | | |
|--|--------------------------------------|---|--------------|---|--------------|---|------------|-----------------------------------|--------------|
| Subarea | Wellfield | Wellfield Base Condition Pumpage ^(a) (Pre 4/2006) | | Base Condition Transfers ^{(b) (c) & (d)} | | Modeled Transfers (Not inducing additional Regional Water demands) | | Modified Base Condition Water Use | |
| | | BGY | (mgd) | BGY | (mgd) | BGY | (mgd) | BGY | (mgd) |
| North Hialeah-Preston ^(b) (13-00037-W) | Hialeah | 1.132 | 3.1 | -3.322 | -9.1 | | | 25.550 | 70.0 |
| | John E. Preston | 13.578 | 37.2 | | | | | | |
| | Medley | | | | | | | | |
| | Miami Springs | 10.841 | 29.7 | | | | | | |
| | Northwest | 35.332 | 96.8 | | | | | 32.376 | 88.70 |
| Permit Base Condition (13-00037-W)^(b) | | 60.042 | 164.5 | -3.322 | -9.1 | 0.000 | 0.0 | 56.720 | 155.4 |
| Central Alexander Orr ^(c) (13-00017-W) | Alexander Orr | 22.630 | 62.0 | -8.030 | -22.0 | | | 62.524 | 171.3 |
| | Snapper Creek | 7.446 | 20.4 | | | 0.547 | 1.5 | | |
| | Southwest | 30.586 | 83.8 | 8.030 | 22.0 | 1.314 | 3.6 | | |
| | West | 5.475 | 15.0 | | | | | 5.475 | 15.0 |
| Permit Base Condition (13-00017-W)^(c) | | 66.138 | 181.2 | 0.000 | 0.0 | 1.861 | 5.1 | 67.999 | 186.3 |
| South Dade (13-00040-W) | Elevated Tank ^(d) | 0.475 | 1.3 | -0.475 | -1.3 | | | 1.571 | 4.3 |
| | Leisure City ^(d) | 1.067 | 2.9 | -1.059 | -2.9 | | | | |
| | Naranja ^(d) | 0.037 | 0.1 | -0.037 | -0.1 | | | | |
| | Everglades Labor Camp ^(e) | 0.256 | 0.7 | | | 0.547 | 1.5 | 1.752 | 4.8 |
| | Newton ^(e) | 0.767 | 2.1 | | | 0.182 | 0.5 | | |
| | South Miami Heights ^(d) | | | 1.095 | 3.0 | | | 1.095 | 3.0 |
| Permit Base Condition (13-00040-W) | | 2.592 | 7.1 | -0.475 | -1.3 | 0.729 | 2.0 | 2.847 | 7.8 |
| SYSTEM-WIDE TOTAL BASE CONDITION PUMPING RATE^(f) | | 128.772 | 352.8 | -3.797 | -10.4 | 2.590 | 7.1 | 127.566 | 349.5 |

Notes:

(a) Numbers were based on 12-month running average; values for individual wellfields are approximate. The sum of individual wellfield pumpages are higher than overall permit base condition due to differences in time period when the individual wellfield base volumes were established.

(b) Base Condition Water Use of the North System, Hialeah-Preston is 164.5 mgd. The base condition impacts of 9.1 mgd for historical water deliveries by MDWASD to City of North Miami Beach were transferred to the City with re-issuance of their permit in July 2007.

(c) Base Condition Water Use of the Central System, Alexander Orr is 181.2 mgd. It was demonstrated through modeling that transferring 22.0 MGD from Alexander Orr WTP well field to the Southwest and an additional withdrawal of 1.5 MGD at Snapper Creek and 3.6 MGD at Southwest would not cause a net increase in volume or cause a change in timing of surface and groundwater from Everglades water bodies, consistent with Section 3.2.1.E(2) of the BOR.

(d) Base Condition Water Use of the South Dade System is 7.1 mgd. Turning off 4.3 mgd at Elevated Tank, Leisure City and Naranja results in a 2.5 mgd reduction in impact on regional canals; therefore 2.5 is available to transfer to SMH wellfield. Increasing from 2.5 mgd to 3.0 mgd was allowed to account for the reduced treatment efficiency of the proposed membrane softening plant, pursuant to Section 3.2.1E(3)(a).

(e) The base condition water use for Newton is 2.1 mgd and for Everglades Labor Camp is 0.7 mgd. It was demonstrated through modeling that an additional withdrawal of 0.5 MGD at Newton and 1.5 MGD at Everglades wellfields would not cause a net increase in volume or cause a change in timing of surface and groundwater from Everglades water bodies, consistent with Section 3.2.1.E(2) of the BOR.

(f) All proposed Biscayne aquifer withdrawals above the revised base condition water use are proposed to be offset through the use of reclaimed water to recharge groundwater and canals in the vicinity of the wellfields.

EXHIBIT 10C

Revised 6/29/2012

Wholesale Customer Treated Water Deliveries

| Entity | Treatment Plant | Deliveries in Millions gallons per fiscal year | | | |
|----------------------------|-----------------|---|---------|---------|---------|
| | | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
| Bal Harbor | Hialeah-Preston | 447 | 466 | 455 | 486 |
| Bay Harbor | Hialeah-Preston | 358 | 329 | 317 | 302 |
| Hialeah | Hialeah-Preston | 8081 | 8110 | 9103 | 9598 |
| Hialeah Gardens | Hialeah-Preston | 694 | 695 | 654 | 693 |
| Homestead | Alexander Orr | 0 | 0 | 0 | 0 |
| Indian Creek Village | Hialeah-Preston | 133 | 140 | 121 | 133 |
| Medley | Hialeah-Preston | 398 | 393 | 400 | 328 |
| Miami Beach | Hialeah-Preston | 6848 | 6489 | 6952 | 8410 |
| Miami Springs | Hialeah-Preston | 771 | - | - | - |
| North Bay Village | Hialeah-Preston | 343 | 365 | 395 | 387 |
| North Miami | Hialeah-Preston | 2123 | 1502 | 1175 | 1331 |
| North Miami Beach* | Hialeah-Preston | 1013 | 107 | 100 | - |
| Opa-Locka | Hialeah-Preston | 909 | 845 | 788 | 887 |
| Surfside | Hialeah-Preston | 327 | 343 | 328 | 317 |
| Virginia Gardens | Hialeah-Preston | 63 | 100 | 98 | 91 |
| West Miami | Alexander Orr | 266 | 290 | 293 | 275 |
| Water Received from Others | | 676 | 386 | 145 | 179 |

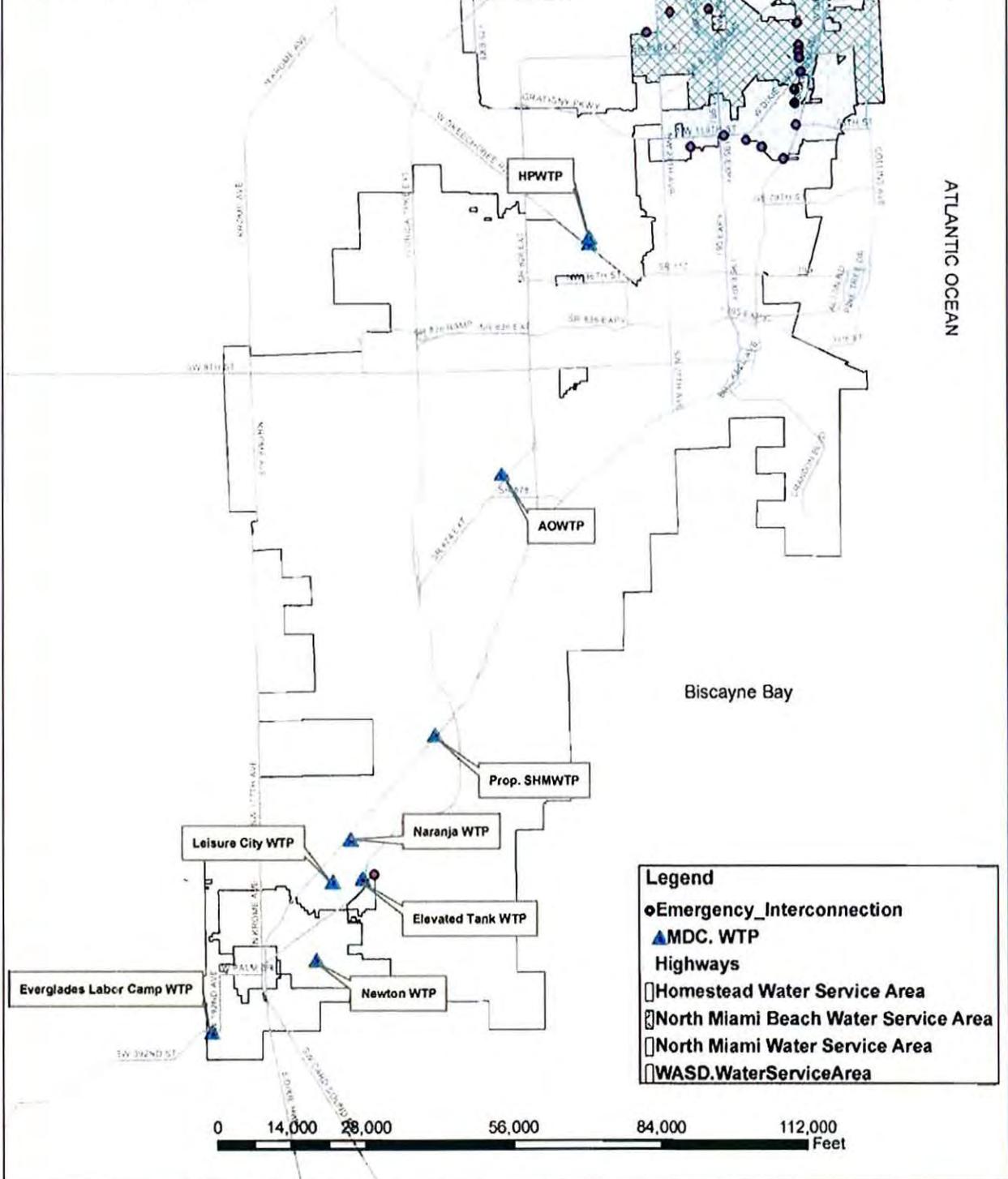
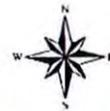
(1) Miami Springs water system was purchased by WASD and beginning fiscal year 2009, was no longer a wholesale customer.

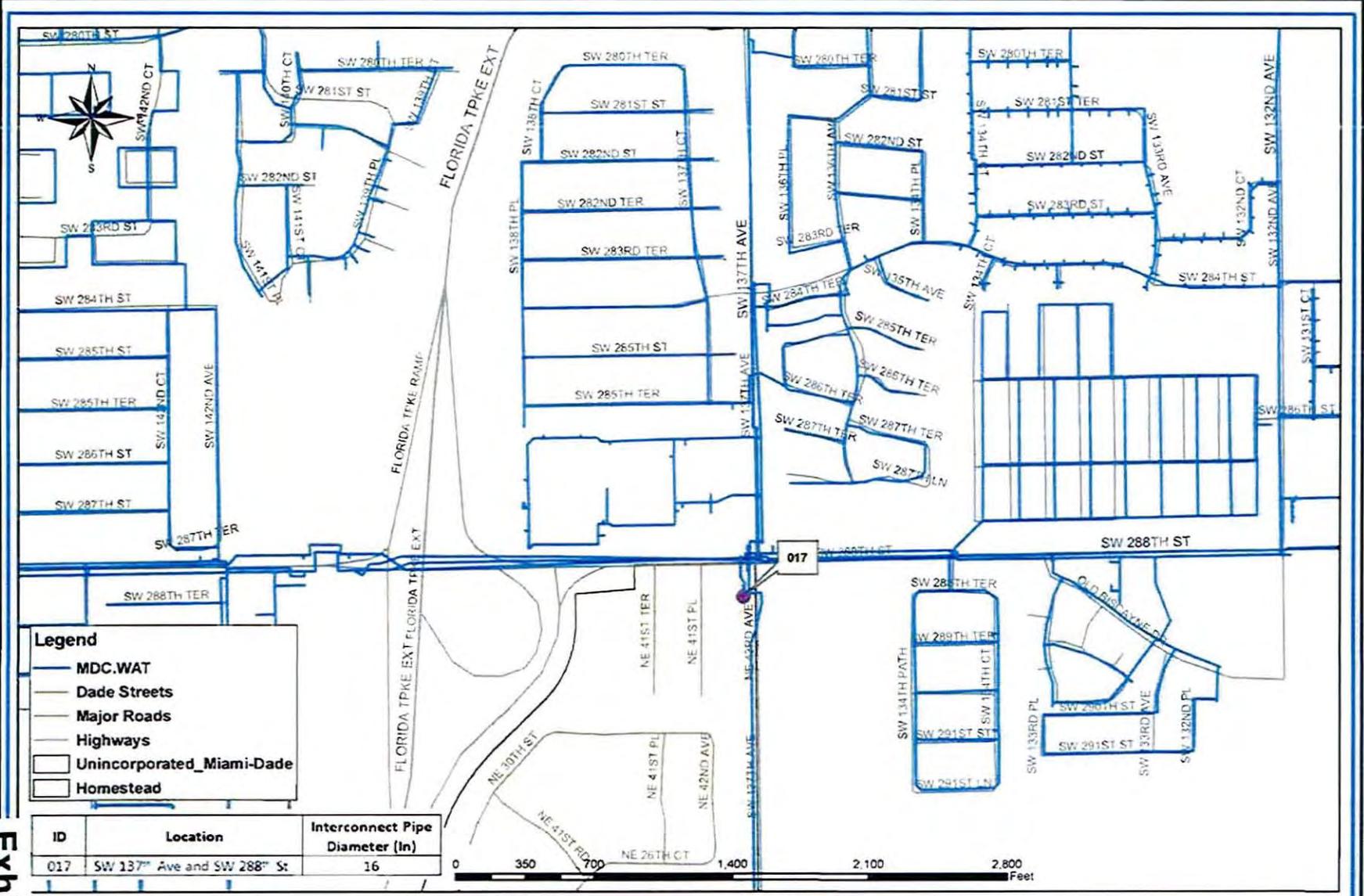
* Volumes for North Miami Beach reflect total delivered minus water passed thru for Aventura.

EXHIBIT 11

5/16/2011

Broward County
Miami-Dade County

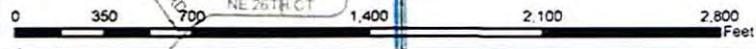




Legend

- MDC.WAT
- Dade Streets
- Major Roads
- Highways
- Unincorporated_Miami-Dade
- Homestead

| ID | Location | Interconnect Pipe Diameter (In) |
|-----|------------------------------|---------------------------------|
| 017 | SW 137th Ave and SW 288th St | 16 |



MIAMI - DADE WATER AND SEWER DEPARTMENT
City of Homestead Emergency Interconnection



Alternative Water Supply Project Development Deadlines Tied to
Increased Withdrawal Above the Base Condition Water Use

| Project / Milestone | Average daily flow | Milestone Completion Date |
|---|-------------------------------|--------------------------------------|
| Hialeah Floridan Aquifer R.O. WTP Phase 1 | (10.0 mgd) | |
| • Notice To Proceed Design / Permit | | Completed |
| • Notice To Proceed Construction | | Completed |
| • Turnover / Project Completion | | 12/31/2012 |
| | | |
| South Miami Heights WTP (R.O. portion) | (17.45 mgd) | |
| • Notice To Proceed Design / Permit | | 12/31/2012 |
| • Notice To Proceed Construction | | 12/31/2013 |
| • Turnover / Project Completion | | 12/31/2015 |
| | | |
| Hialeah Floridan Aquifer R.O. WTP Phase 2 | (5.0 mgd) | |
| • Notice To Proceed Design / Permit | | 1/15/2023 |
| • Notice To Proceed Construction | | 7/30/2024 |
| • Turnover / Project Completion | | 12/31/2026 |
| | | |
| Hialeah Floridan Aquifer R.O. WTP Phase 3 | (2.5 mgd) | |
| • Notice To Proceed Design / Permit | | 1/15/2023 |
| • Notice To Proceed Construction | | 7/30/2024 |
| • Turnover / Project Completion | | 12/31/2026 |
| | | |
| West District WRP Canal Recharge Phase 1 | (21 mgd) | |
| • Notice To Proceed Design / Permit | | 1/15/2016 |
| • Notice To Proceed Construction | | 8/30/2018 |
| • Turnover / Project Completion | | 12/31/2021 |
| | | |
| West District WRP Canal Recharge Phase 2 | (16 mgd) | |
| • Notice To Proceed Design / Permit | | 1/15/2021 |
| • Notice To Proceed Construction | | 7/30/2023 |
| • Turnover / Project Completion | | 12/31/2026 |

EXHIBIT 13

Revised 6/14/2012

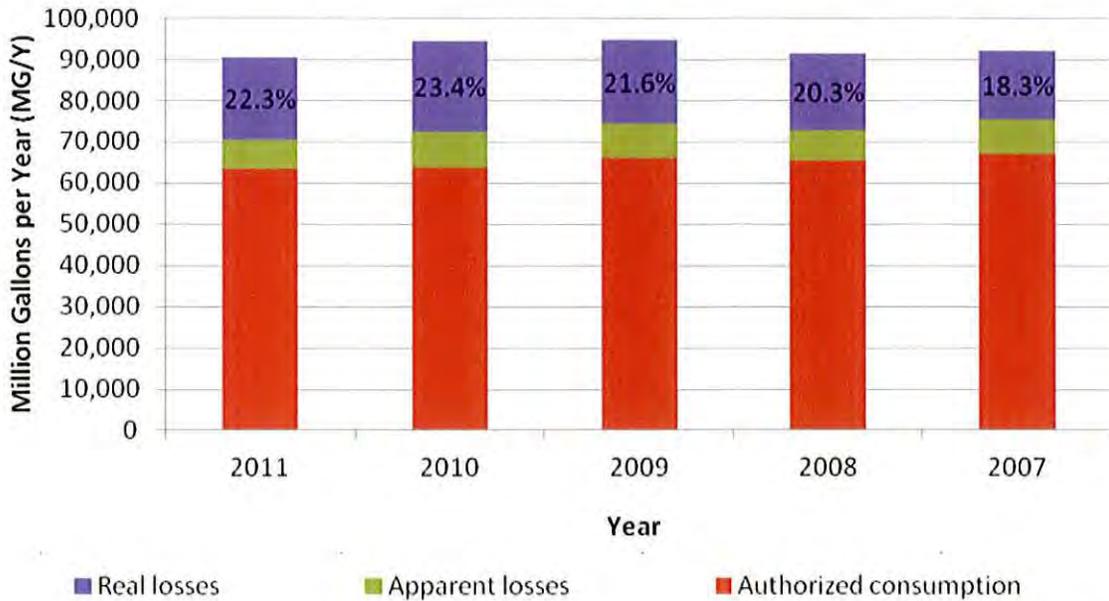
Reuse Projects and Deadlines

| Project | Reclaimed water generated from and amount to be treated | Quantity of Reclaimed Wastewater Applied | Reclaimed water used for | Implementation Deadline |
|--|---|--|---|------------------------------|
| 1. | North District WWTP (Permitted) 4.44 MGD | 4.44 MGD | 2.94 MGD Industrial & 1.5 MGD Public Access | Existing |
| 2. | Central District WWTP (Permitted) 7.88 MGD | 7.88 MGD | 7.84 MGD Industrial & 0.038 Public Access | Existing |
| 3. | South District WWTP (Permitted) 4.17 MGD | 4.17 MGD | 3.73 MGD Industrial & 0.443 Public Access | Existing |
| TOTAL EXISTING PROJECTS (PERMITTED) = 16.49 MGD | | | | |
| 4. | South District WWTP 89 MGD (requires flow diversion from Central District WWTP if project is feasible) | 75.7 MGD <i>Finished reclaimed water assuming 15% treatment loss. The applied volume may vary depending on actual treatment loss.</i> | The Biscayne Bay Coastal Wetlands rehydration pilot project was completed and it was concluded that a full scale project will not be feasible. | Dec. 31, 2025 |
| 5. | West District Water Reclamation Plant 29.5 MGD | 21 MGD | Recharge Alex Orr WTP Wellfields | Dec. 31, 2021 |
| 6. | West District Water Reclamation Plant 22.5 MGD | 16 MGD | Recharge Alex Orr WTP Wellfields | Dec. 31, 2026 |
| 7. | North District WWTP 7 MGD | 7 MGD | The scope of these projects will be determined as part of the Ocean Outfall legislation implementation plan due to the Secretary of FDEP by July 1, 2013. | Dec 31, 2025 |
| 8. | Central District WWTP 27.1+ MGD | 27.1+ MGD | | Dec 31, 2025 |
| TOTAL REQUIRED NEW PROJECTS = 175 MGD | | | | Dec. 31, 2025 |
| 9. | South District WWTP 90 MGD | 90 MGD | TPoint Units 5 & 6 cooling TP Unit 7 cooling | Dec 31, 2022 Dec 31, 2023 |
| OTHER POTENTIAL LARGE-SCALE PROJECTS = 90 MGD | | | | |
| GRAND TOTAL = 282 MGD Miami-Dade is committed to reclaiming 191-281 MGD of wastewater, contingent on FP&L receiving authorization to construct units 6 & 7 and the scope of an alternative project will be determined as part of the Ocean Outfall legislation implementation plan due to the Secretary of FDEP by July 1, 2013. | | | | Nov. 3, 2030 |

EXHIBIT 14

Revised 7/12/2012

Water supplied = Real losses + Apparent losses + Authorized Consumption



| Retail Parameters | 2011 | 2010 | 2009 | 2008 | 2007 |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Water Supplied (MG/Y) | 90,626 | 94,552 | 94,950 | 91,515 | 92,240 |
| Authorized consumption (MG/Y) | 63,424 | 63,875 | 66,181 | 65,274 | 67,062 |
| Apparent losses (MG/Y) | 7,036 | 8,502 | 8,271 | 7,623 | 8,307 |
| Real losses (MG/Y) | 20,165 | 22,144 | 20,498 | 18,618 | 16,872 |
| Water losses (apparent plus real) | 27,202 | 30,647 | 28,769 | 26,241 | 25,179 |
| Non-revenue water (MG/Y) | 27,388 | 30,971 | 29,007 | 26,513 | 25,747 |
| Performance indicators | 2011 | 2010 | 2009 | 2008 | 2007 |
| Infrastructure Leakage Index (ILI) | 8.13 | 9.2 | 10.8 | 9.8 | 8.9 |
| Real water loss percentage | 22.3% | 23.4% | 21.6% | 20.3% | 18.3% |
| Non-revenue water percentage | 30.2% | 32.8% | 30.6% | 29.0% | 27.9% |

**MIAMI-DADE WATER AND SEWER DEPARTMENT
WATER LOSS ACCOUNTING**

| ESTIMATED ACCOUNTED FOR WATER (in thousands of gallons) | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------------|-----------------|---------------------------------------|----------------------|-------------------------|------------------------|---------------------|------------------|-----------|---------------|--------------------|----------------------------|-----------|------------------------------|--|--|------------------------|---------------------------------------|--------------------------------|--------------------------|
| FISCAL YEAR BY QUARTERS | 1 WATER PRODUCED & PURCHASED | 2 WATER SOLD | NON-REVENUE ACCOUNT WATER | | | ADJUSTMENTS | | | | | | | | | | UNACCOUNTED FOR DISTRIBUTION LOSSES | | | | |
| | | | 3 TOTAL BEFORE ADJUSTMENTS (1 - 2) | 4 PERCENT (3 / 1) | 5 ANNUAL PERCENT (g) | 6 NON-CONSUME USAGE | 7 FIRE DEPT. (a) | 8 FLUSHING | | 9 FLUSHING | 10 DISTRIBUTION | | | 11 CLEANING GRAVITY MAINS | 12 UNDER-REGISTRATION OF METERS (f) | 13 WASD FACILITIES NOT INC. IN RETAIL | 14 TOTAL (SUM 5.13) | 15 TOTAL AFTER ADJUSTMENT (3 - 14) | 16 QUARTERLY PERCENT (15/1) | 17 ANNUAL PERCENT (h) |
| | | | | | | | | (d) CONTRACTS | DONATIONS | | LEAK DETECTION | REGISTRATION OF METERS (f) | | | | | | | | |
| OCT-DEC 2008 | 28,945,771 | 21,527,589 | 7,418,182 | 25.63 | 22.73 | 10,722 (e) | N/A | | 11,665 | 92,270 | 3,673,695 | 2,044 | 968,742 | 612 | 4,759,750 | 2,658,432 | 9.18 | 4.09 | | |
| JAN-MAR 2009 | 28,495,470 | 21,491,455 | 7,004,015 | 24.58 | 23.80 | 10,722 (e) | N/A | | 8,771 | 42,029 | 2,749,444 | 1,195 | 967,115 | 642 | 3,779,918 | 3,224,097 | 11.31 | 7.29 | | |
| APR-JUN 2009 | 28,601,800 | 21,714,720 | 6,887,080 | 24.08 | 24.31 | 10,722 (e) | N/A | | 6,971 | 49,424 | 2,745,667 | 1,087 | 977,162 | 729 | 3,791,762 | 3,095,318 | 10.82 | 9.39 | | |
| JUL-SEP 2009 | 28,386,997 | 21,833,660 | 6,553,337 | 23.09 | 24.35 | 10,722 (e) | N/A | | 7,238 | 49,424 | 3,126,600 | 2,922 | 982,515 | 584 | 4,180,005 | 2,373,332 | 8.36 | 9.92 | | |
| OCT-DEC 2009 | 28,742,443 | 21,449,154 | 7,293,289 | 25.37 | 24.28 | 10,722 (e) | N/A | | 7,130 | 60,456 | 3,331,051 | 1,304 | 965,212 | 589 | 4,376,464 | 2,916,825 | 10.15 | 10.16 | | |
| JAN-MAR 2010 | 27,858,874 | 20,714,393 | 7,144,481 | 25.65 | 24.54 | 10,722 (e) | N/A | | 8,270 | 56,543 | 3,124,683 | 1,008 | 932,148 | 698 | 4,134,072 | 3,010,409 | 10.81 | 10.03 | | |
| APR-JUN 2010 | 28,495,593 | 21,121,269 | 7,374,324 | 25.88 | 25.00 | 10,722 (e) | N/A | | 9,936 | 86,567 | 4,431,872 | 962 | 950,457 | 1,125 | 5,491,641 | 1,882,683 | 6.61 | 8.97 | | |
| JUL-SEP 2010 | 29,257,812 | 22,681,757 | 6,576,055 | 22.48 | 24.82 | 10,722 (e) | N/A | | 5,672 | 56,067 | 3,837,787 | 1,337 | 1,020,679 | 1,337 | 4,933,601 | 1,642,454 | 5.61 | 8.27 | | |
| OCT-DEC 2010 | 28,138,887 | 20,772,308 | 7,366,579 | 26.18 | 25.02 | (e) | N/A | | 1,975 | 57,605 | 3,216,967 | 956 | 934,754 | 1,379 | 4,213,636 | 3,152,943 | 11.20 | 8.52 | | |
| JAN-MAR 2011 | 28,008,303 | 21,396,692 | 6,611,611 | 23.61 | 24.52 | (e) | N/A | | 2,831 | 45,713 | 2,833,074 | 1,450 | 962,851 | 2,148 | 3,848,067 | 2,763,544 | 9.87 | 8.29 | | |
| APR-JUN 2011 | 28,828,508 | 21,765,705 | 7,062,803 | 24.50 | 24.18 | (e) | N/A | | 2,534 | 39,262 | 2,262,428 | 1,851 | 979,457 | 2,804 | 3,288,336 | 3,774,467 | 13.09 | 9.92 | | |
| JUL-SEP 2011 | 28,213,664 | 22,612,877 | 5,600,787 | 19.85 | 23.54 | (e) | N/A | | 1,809 | 28,825 | 2,395,438 | 1,324 | 1,017,579 | 3,390 | 3,448,365 | 2,152,422 | 7.63 | 10.46 | | |
| OCT-DEC 2011 | 28,156,898 | 21,877,682 | 6,279,216 | 22.30 | 22.57 | (e) | N/A | | 1,122 | 46,624 | 3,505,750 | 749 | 984,496 | 3,643 | 4,542,384 | 1,736,832 | 6.17 | 9.21 | | |
| JAN-MAR 2012 | 28,337,168 | 21,466,759 | 6,870,409 | 24.25 | 22.74 | (e) | N/A | | | 90,394 | 4,014,474 | 5,568 | 966,004 | 4,542 | 5,080,982 | 1,789,427 | 6.31 | 8.33 | | |

Notes: October - December 2008 Figures are provisional.

(a) Miami-Dade, City of Coral Gables and City of Miami; includes Key Biscayne

(b) Lejeune Building, Westwood Lake and Distribution

(c) Revised on 8/26/99 to include Non - Consumer Usage Reported by Collections

(d) Starting in October 1998 most of the contract work is PSIP, therefore, not much water was used for flushing

(e) Average from fiscal year (1998 - 1999) to (2000 - 2001). Eliminated in FY 2010 - 2011.

(f) A 4.5 percent under-registration is used, as conservative figure, en lieu of a 6 percent under-registration which is the 4-year mid-point of the overall average water meter accuracy of 88 percent at the 8-year replacement interval was determined in the Brown and Caldwell, Water Meter Periodic Testing (PT) Program Evaluation, November 1995, because the study did not evaluate meters less than 8 years in service. This percentage will be revised as additional evaluations are performed.

(g) Sum 4Qtrs Col 3/Sum 4Qtrs Col 1

(h) Sum 4Qtrs Col 15/Sum 4Qtrs Col 1

N/A Not available

Green Coral Gables Fire Department Only, City of Miami is unable to provide due to operating system & programing change.

Light Blue Miami-Dade Fire Rescue has not provided use.

Dark Blue Values from this column are now found in Distribution Flushing.

Yellow Values were lost while computer system was being updated.

Orange Eliminated in FY 2010 - 2011.

Exhibit 16A

| AWWA WLCC Free Water Audit Software: Water Balance | | | | Water Audit Report For: | |
|--|-------------------|------------------------|---|--|-------------------------|
| Copyright © 2010, American Water Works Association. All Rights Reserved. | | | | Report Yr: | |
| | | | | DEPARTMENT | |
| | | | | 2011 | |
| Own Sources (Adjusted for known errors) 114,488.379 | Water Exported | | | Billed Water Exported | |
| | 24,031.346 | | | Billed Metered Consumption (inc. water exported) | Revenue Water |
| | | Authorized Consumption | Billed Authorized Consumption | 63,238.368 | 63,238.368 |
| | | | 63,238.368 | Billed Unmetered Consumption | |
| | | | | 0.000 | |
| | | 63,424.447 | Unbilled Authorized Consumption | Unbilled Metered Consumption | Non-Revenue Water (NRW) |
| | | | 186.079 | 17.359 | |
| | | | | Unbilled Unmetered Consumption | |
| | | | | 168.720 | |
| | | Water Supplied | Apparent Losses | Unauthorized Consumption | 27,387.917 |
| | 90,626.285 | 7,036.458 | 282.281 | | |
| | | | Customer Metering Inaccuracies | | |
| | | | 3,927.137 | | |
| | | | Systematic Data Handling Errors | | |
| | | | 2,827.040 | | |
| Water Imported | | Water Losses | Leakage on Transmission and/or Distribution Mains | | |
| 169.252 | | 27,201.838 | Not broken down | | |
| | | | Leakage and Overflows at Utility's Storage Tanks | | |
| | | Real Losses | Not broken down | | |
| | | 20,165.380 | | | |
| | | | Leakage on Service Connections | | |
| | | | Not broken down | | |

**Table 5-2: Schedule of Real Water Loss Reduction Activities
January 2007 through December 2026**

| Activity | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|--|------|-------|------|---------|---------|---------|---------|---------|---------|---------|
| 5.3 Recommendations for Real Loss Reduction | | | | | | | | | | |
| 5.3.1 System Design (Active Review) | | | | | | | | | | |
| 5.3.2 System Management | | | | | | | | | | |
| 5.3.2.3 Asset Maintenance or Replacement | | | | | | | | | | |
| 5.3.2.4 Reduce Maintenance Response Times | | | | | | | | | | |
| 5.3.2.5 Active Leakage Control and Sounding | | Pilot | | | | | | | | |
| 5.3.2.7 Pressure Management | | | | | | | | | | |
| 5.3.2.8 Speed and Quality of Repairs | | | | | | | | | | |
| Perform Venturi Comparative Tests-WTPs | | | | | | | | | | |
| Perform Venturi Comparative Tests-wholesale customers | | | | | | | | | | |
| Conduct wholesale customer unmetered connection survey | | | | | | | | | | |
| Pilot Fixed Network AMR | | Pilot | | | | | | | | |
| Enhance GIS database | | | | | | | | | | |
| ANNUAL WATER SAVINGS (Million Gallons) | | | | 650 | 1300 | 1950 | 2600 | 3250 | 3900 | 4550 |
| ANNUAL VALUE OF WATER SAVINGS (Million \$) | | | | \$0.297 | \$0.595 | \$0.892 | \$1.189 | \$1.487 | \$1.784 | \$2.081 |

| Activity | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 5.3 Recommendations for Real Loss Reduction | | | | | | | | | | |
| 5.3.1 System Design (Active Review) | | | | | | | | | | |
| 5.3.2 System Management | | | | | | | | | | |
| 5.3.2.3 Asset Maintenance or Replacement | | | | | | | | | | |
| 5.3.2.4 Reduce Maintenance Response Times | | | | | | | | | | |
| 5.3.2.5 Active Leakage Control and Sounding | | | | | | | | | | |
| 5.3.2.7 Pressure Management | | | | | | | | | | |
| 5.3.2.8 Speed and Quality of Repairs | | | | | | | | | | |
| Achieve target real loss of 5 billion gallons per year | X | | | | | | | | | |
| Achieve target Infrastructure Leakage Index (ILI) of 3.0 | X | | | | | | | | | |
| ANNUAL WATER SAVINGS (Million Gallons) | 5200 | 5200 | 5200 | 5200 | 5200 | 5200 | 5200 | 5200 | 5200 | 5200 |
| ANNUAL VALUE OF WATER SAVINGS (Million \$) | \$2.378 | \$2.378 | \$2.378 | \$2.378 | \$2.378 | \$2.378 | \$2.378 | \$2.378 | \$2.378 | \$2.378 |

Exhibit 17A

**Table 6-2: Schedule of Apparent Water Loss Reduction Activities
January 2007 through December 2026**

| Activity | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|--|------|-------|------|-------|-------|-------|-------|------|-------|-------|
| 6.3 Recommendations for Apparent Water Loss Reduction | | | | | | | | | | |
| 6.3.1 Reducing Unmetered Supplies | | | | | | | | | | |
| 6.3.2 Improved Meter Accuracy | | | | | | | | | | |
| 6.3.3 Commercial Meter Types and Sizes | | | | | | | | | | |
| 6.3.3.2.1 Compound Meters Usage Compared to Same Size Turbine Meters | | | | | | Pilot | | | | |
| 6.3.3.3 Looking Forward (setting Economic Meter Testing Goals) | | | | | | | | | | |
| 6.3.4 Improved Calibration of Wholesale Customer Meters | | | | | | | | | | |
| 6.3.5 Wholesale Customer Unmetered Connection Analysis | | | | | | | | | | |
| Conduct field accuracy testing of commercial meters | | | | | | | | | | |
| Pilot AMR to improve data handling and reduce labor cost | | Pilot | | | | | | | | |
| Characterize residential water demand pattern | | | | | | | | | | |
| Determine economic optimum for residential meter replacement | | | | | | | | | | |
| ANNUAL WATER SAVINGS (Million Gallons) | | | | 400 | 800 | 1200 | 1600 | 2000 | 2400 | 2800 |
| ANNUAL VALUE OF WATER SAVINGS (Million \$) | | | | 0.788 | 1.576 | 2.364 | 3.152 | 3.94 | 4.728 | 5.516 |

| Activity | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|--|-------|-------|------|-------|-------|--------|--------|-------|--------|--------|
| 6.3 Recommendations for Apparent Water Loss Reduction | | | | | | | | | | |
| 6.3.1 Reducing Unmetered Supplies | | | | | | | | | | |
| 6.3.2 Improved Meter Accuracy | | | | | | | | | | |
| 6.3.3 Commercial Meter Types and Sizes | | | | | | | | | | |
| 6.3.3.2.1 Compound Meters Usage Compared to Same Size Turbine Meters | | | | | | | | | | |
| 6.3.3.3 Looking Forward (setting Economic Meter Testing Goals) | | | | | | | | | | |
| 6.3.4 Improved Calibration of Wholesale Customer Meters | | | | | | | | | | |
| 6.3.5 Wholesale Customer Unmetered Connection Analysis | | | | | | | | | | |
| Conduct field accuracy testing of commercial meters | | | | | | | | | | |
| Reduce Apparent Losses to 10 billion gallons per year | | | | | | | | | | X |
| ANNUAL WATER SAVINGS (Million Gallons) | 3200 | 3600 | 4000 | 4400 | 4800 | 5200 | 5600 | 6000 | 6400 | 6800 |
| ANNUAL VALUE OF WATER SAVINGS (Million \$) | 6.304 | 7.092 | 7.88 | 8.668 | 9.456 | 10.244 | 11.032 | 11.82 | 12.608 | 13.396 |

Exhibit 17B

WATER CONSERVATION PLAN

A. Limitation of lawn and ornamental irrigation hours. Section 32-8.2 of the Code of Miami-Dade County was amended on April 7, 2009 limiting landscape irrigation to two days a week. The ordinance also includes permanent irrigation restrictions which prohibits landscape irrigation between 9:00 am and 5:00 pm. The ordinance also encourages efficient water use by not restricting hours for low volume irrigation methods or irrigation with treated wastewater effluent.

B. Use of Florida Friendly landscaping principles. The Miami-Dade County Landscape Ordinance, Chapter 18A, was last updated May 5, 2009. Within the Ordinance, use of Florida Friendly landscaping principles is promoted through the use of drought tolerant landscape species, grouping of plant material by water requirements, the use of irrigation systems that conserve the use of potable and non-potable water supplies and restrictions of the amount of lawn areas. The ordinance is in effect for all landscaping for new construction and includes more efficient water use guidelines.

C. Requirement of ultra-low volume plumbing in new construction. Miami-Dade County Ordinance 91-15 establishing water conservation standards for plumbing fixtures installed in new construction, was adopted on February 5, 1991. Ultra-low volume (ULV) water closets, showerheads and other water conserving plumbing fixtures are mandatory on all new construction.

D. Water conservation based rate structure. Since 1990, MDWASD placed into effect a tiered schedule of water rates to encourage conservation. Additional surcharges apply during formally declared Phase I, II, III or IV water restrictions.

E. Leak Detection - MDWASD maintains an ongoing leak detection program in which crews, using acoustical detection equipment, which includes an aqua-scope with an electronic sound amplifier, working at night when extraneous noise is reduced, find leaks which are recorded and subsequently repaired. A leak Location System or correlator which uses sonar technology to locate leaks has also been in use since December 1993.

A water loss accounting table for 2007 thru 2011 (Exhibit 16A), was compiled using the current water accounting methodology used by MDWASD for determining the unaccounted for distribution system water losses. Also included in Exhibit 16B is the International Water Association (IWA) / American Water Works Association (AWWA) water audit methodology which focuses on determining an Infrastructure Leakage Index (ILI). This water audit methodology categorizes water losses into real losses and apparent losses. Real losses include leaks, breaks, overflows and service connections and these losses impact withdrawals of groundwater. Apparent losses include unauthorized consumption, meter inaccuracies and data handling errors and have a monetary impact on the utility. In 2011, the real losses were 20 BGY (55 mgd) and the apparent losses had a monetary value of \$28 million. The County has committed to a Water Loss Reduction Plan (Exhibit 17) which will cost approximately \$15 million over the next five years and \$2 million each year for the remaining 15 years with the goal of reducing real losses by 50% and apparent losses by 40%. Exhibit 15 shows results of the program from 2007-2011. Limiting Condition 49 requires annual updates on the results of the program.

F. Rain Sensor Device Ordinance - Miami-Dade County's Landscape Ordinance requires all irrigation systems equipped with automatic controls to have a rain sensor switch which turns off the system when more than 0.5 inches of rain have fallen.

G. Water Conservation Education Program - The MDWASD purchases and publishes a variety of brochures and literature, in both English and Spanish, promoting water conservation that are available to members of the public upon request. A water conservation kit is also available to customers upon request, which includes a washer to reduce water flow in showerheads, a clip that reduces the amount of water used by toilets, a low-flow faucet aerator, and dye-tracing tablets for detecting water leaks in toilets. In addition, the Department sponsors a telephone message center, the Pipeline customer newsletter, posted water conservation messages on Miami-Dade Transit Agency buses, and does a variety of presentations to school-aged children to educate them about water conservation. The MDWASD website(<http://www.miamidade.gov/wasd/>) includes a Water Conservation page.

H. Reclaimed Water - see Reuse of Reclaimed Water discussion in staff report

Table 3: Summary of total water savings (MG) across the Water Savings Horizon, and cumulative costs (\$ through 2026) by BMP type, with associated percentages.

| BMP # | Description | Water Savings Across the 20-Year WSH (Cumulative Water Savings 2007-2026) (MG) | Percent of Total Savings, by BMP Type | Cumulative Costs by BMP Type (\$ to date) | Percent of Total Costs, by BMP Type |
|--------------|--|---|--|--|--|
| 1 | Landscape/Irrigation Eval. + Rain Sensor, No Rebate, SF | 6,076 | 7.3% | \$1,773,200 | 7.0% |
| 2 | Landscape/Irrigation Eval. + Rain Sensor, No Rebate, NR | 30,405 | 36.5% | \$1,121,400 | 4.4% |
| 3 | Common-area High Efficiency Clothes Washer Rebate, MF | 184 | 0.2% | \$300,000 | 1.2% |
| 4 | High Efficiency Toilet + Showerhead & Aerators, SF-Elderly | 4,906 | 5.9% | \$5,000,000 | 19.8% |
| 5 | High Efficiency Toilet + Showerhead & Aerators, County MF | 4,298 | 5.2% | \$0 | 0.0% |
| 6 | High Efficiency Toilet Rebate, SF | 159 | 0.2% | \$75,000 | 0.3% |
| 7 | Toilet Exchange Program, SF | 3,278 | 3.9% | \$4,026,100 | 16.0% |
| 8 | Toilet Exchange Program, MF | 2,845 | 3.4% | \$4,368,000 | 17.3% |
| 9 | Showerhead Exchange, SF | 4,664 | 5.6% | \$56,096 | 0.2% |
| 10 | Showerhead Exchange, MF | 4,555 | 5.5% | \$54,656 | 0.2% |
| 11 | Retrofit Kit, SF | 1,599 | 1.9% | \$83,443 | 0.3% |
| 12 | Retrofit Kit, MF | 1,562 | 1.9% | \$81,301 | 0.3% |
| 13 | ICI, Leak detection & Repair, County NR | 2,228 | 2.7% | \$2,796,600 | 11.1% |
| 14 | ICI, Evaluate & Retrofit, County NR | 1,035 | 1.2% | \$195,200 | 0.8% |
| 15 | ICI, Evaluate & Retrofit, Commercial NR | 13,994 | 16.8% | \$5,112,000 | 20.3% |
| 16 | ICI, Hotel Program, NR | 1,487 | 1.8% | \$160,001 | 0.6% |
| | Plan Total for WSH (2007-2026) | 84,000 | 100% | \$25,203,000 | 100% |

Exhibit 19A

Water Savings Projection Report Summary

| Year | Water Savings (mgd) | | Demand (mgd) | | | Population | | Per Capita Demand (gpcd) | | |
|------|---------------------|----------|----------------------|------------|--------|------------|----------|--------------------------|---------|--------|
| | | | With Conservation | | | | | With Conservation | | |
| | Planned | Reported | Without Conservation | Planned | Actual | Forecasted | Actual | Without Conservation | Planned | Actual |
| 2007 | 1.09 | 1.212308 | 348.89 | 347.37865 | 315.8 | 2250944 | 2235179 | 155 | 154.33 | 142.92 |
| 2008 | 2.24 | 3.476908 | 345.78 | 342.732191 | 295.2 | 2230895 | 2213833 | 155 | 153.63 | 133.69 |
| 2009 | 3.53 | 4.902751 | 325.51 | 320.771322 | 305.8 | 2238700 | 2238700 | 145.4 | 143.28 | 136.61 |
| 2010 | 4.82 | 6.541536 | 329.12 | 322.429388 | 305.3 | 2263566 | 2263566* | 145.4 | 142.44 | 134.90 |
| 2011 | 6.10 | 8.466445 | 332.74 | 324.247924 | 305.7 | 2288432 | 2288432* | 145.4 | 141.69 | 133.59 |
| 2016 | 11.70 | | 352.86 | 337.652284 | -- | 2401027 | -- | 145.4 | 139.14 | -- |
| 2021 | 15.67 | | 371.58 | 352.402364 | -- | 2529835 | -- | 145.4 | 137.89 | -- |
| 2026 | 19.62 | | 390.31 | 367.177444 | -- | 2658643 | -- | 145.4 | 136.78 | -- |

*Pending Verification of Census Numbers

Table 1

Table 5: Countywide BMP Implementation Schedule, Costs, and Savings Projections

| BMP | Category | Sector | Cost/ measure* | Savings Rate (gallons per inches per day) | 2010 | | 2011 | | 2016 | | 2016 Cumulative New Water Savings Rate (GPD) | 2016 Cumulative New Water Savings Rate (GPD) | | | | | | | |
|--|---|--------|-------------------|---|-------------------------|----------------------------|------------------------------------|-------------------------------|---|-------------------------|---|---|----------------------------|------------------------------------|-------------------------------|---|-------------------------|----------------------------|------------------------------------|
| | | | | | No. of Meas. in 2010 | Cumulative No. of Meas. | 2010 Cum. Costs (\$ to date) | New Water Savings (GPD) | 2010 Cumulative Five Year Savings Rate (GPD) | No. of Meas. in 2011 | | | Cumulative No. of Meas. | 2011 Cum. Costs (\$ to date) | New Water Savings (GPD) | 2011 Cumulative Five Year Savings Rate (GPD) | No. of Meas. in 2016 | Cumulative No. of Meas. | 2016 Cum. Costs (\$ to date) |
| Water-Efficient Landscaping & Irrigation | SF | | \$260 | 225 | 560 | 1,320 | \$93,000 | \$53,200 | 63,980 | 307,560 | 368 | 1,680 | \$93,000 | \$408,800 | 83,880 | 391,460 | 79,220 | 796,680 | |
| Evolution Plus Measure Senior Rebate (without Senior Rebate) | NR County Owner (2-5 acres) | | \$5,010 | 35,000 | 20 | 80 | \$160,200 | \$640,800 | 700,000 | 2,800,000 | 20 | 100 | \$160,200 | \$801,000 | 700,000 | 3,500,000 | \$1,171,400 | 4,900,000 | |
| High-Efficiency Clothes Washers | MF with Com. area clothes washers | | \$300 | 48 | 50 | 200 | \$15,000 | \$60,000 | 2,400 | 9,600 | 50 | 250 | \$15,000 | \$75,000 | 2,400 | 12,000 | \$150,000 | 24,000 | |
| Rebate (includes showers and renters) | SF - Elderly/ County Housing | | \$250 | 64 | 1,000 | 4,000 | \$250,000 | \$1,000,000 | 64,000 | 256,000 | 1,000 | 5,000 | \$250,000 | \$1,250,000 | 64,000 | 320,000 | \$2,500,000 | 640,000 | |
| High-Efficiency Rebate (toilet only) | SF | | \$100 | 29 | 0 | 750 | \$0 | \$75,000 | 0 | 21,750 | 0 | 750 | \$0 | \$75,000 | 0 | 21,750 | \$0 | 21,750 | |
| Rebate (toilet only) | SF | | \$130 | 29 | 1,600 | 4,800 | \$211,900 | \$635,700 | 47,270 | 141,810 | 1,600 | 6,500 | \$211,900 | \$847,600 | 47,270 | 188,080 | \$1,507,100 | 425,430 | |
| Rebate (toilet only) | MF | | \$130 | 29 | 0 | 0 | \$0 | \$0 | 0 | 0 | 0 | 0 | \$0 | \$0 | 0 | 0 | \$291,200 | \$1,456,000 | 324,900 |
| Rebate (toilet only) | SF | | \$150 | 36 | 1,770 | 5,740 | \$2,832 | \$10,764 | 61,950 | 235,900 | 1,770 | 6,510 | \$2,832 | \$13,616 | 61,950 | 237,650 | \$27,776 | 607,600 | |
| Rebate (toilet only) | MF | | \$150 | 35 | 1,720 | 5,640 | \$2,752 | \$10,624 | 60,300 | 232,400 | 1,720 | 6,360 | \$2,752 | \$13,376 | 60,300 | 232,600 | \$27,752 | 588,600 | |
| Rebate (toilet only) | SF | | \$238 | 12 | 1,770 | 6,740 | \$4,213 | \$16,041 | 21,240 | 89,880 | 1,770 | 6,510 | \$4,213 | \$20,254 | 21,240 | 100,120 | \$41,317 | 208,320 | |
| Rebate (toilet only) | MF | | \$238 | 12 | 1,720 | 6,640 | \$4,094 | \$15,803 | 20,540 | 79,680 | 1,720 | 6,360 | \$4,094 | \$19,897 | 20,540 | 100,320 | \$40,385 | 203,920 | |
| Leak Detection and Repair of Uncontrolled Facilities | NR | | \$4,740 | 1,000 | 30 | 110 | \$142,200 | \$521,400 | 30,000 | 110,000 | 30 | 140 | \$142,200 | \$663,600 | 30,000 | 140,000 | \$1,374,600 | 250,000 | |
| Industrial, Commercial and Institutional Water Use Evaluation/ Implementation | NR | | \$1,600 | 1,500 | 10 | 52 | \$16,000 | \$63,200 | 15,000 | 78,000 | 10 | 62 | \$16,000 | \$99,200 | 15,000 | 92,000 | \$179,200 | 168,000 | |
| Leak Detection and Repair of Controlled Commercial Buildings | NR | | \$1,600 | 1,500 | 0 | 0 | \$0 | \$0 | 0 | 0 | 0 | 0 | \$0 | \$0 | 0 | 0 | \$340,800 | \$1,704,000 | 1,587,500 |
| Heed Program | NR | | \$697 | 1,617 | 12 | 46 | \$8,364 | \$32,000 | 19,404 | 77,616 | 12 | 60 | \$8,364 | \$40,000 | 19,404 | 97,020 | \$5,000 | 19,404 | |
| Plan Total | | | | | | | \$811,000 | \$2,446,000 | \$2,284,000 | 4,418,000 | | | \$811,000 | \$4,354,000 | \$2,284,000 | \$1,912,000 | \$11,874,000 | \$1,700,000 | |
| Subtotal for SF | | | | | | | \$463,000 | \$2,031,000 | 270,000 | 1,044,000 | | | \$463,000 | \$2,644,000 | 270,000 | 1,252,000 | \$538,000 | 2,700,000 | |
| Subtotal for MF | | | | | | | \$22,000 | \$87,800 | 24,000 | 76,000 | | | \$22,000 | \$108,000 | 24,000 | 84,000 | \$314,000 | 1,450,000 | |
| Subtotal for NR | | | | | | | \$327,000 | \$1,278,000 | 765,000 | 3,088,000 | | | \$327,000 | \$1,604,000 | 765,000 | 3,811,000 | \$4,600,000 | 7,150,000 | |

WSH = Water Savings Heizen
GPD = gallons per day
TG = thousand gallons

Table 5: Countywide BMP Implementation Schedule, Costs, and Savings Projections

| BMP | Category | Sector | Cost/measure* | Savings Rate (gallons per acre per day) | 2021 | | | | 2025 | | | | Water Savings Across the 20-Year Period (Million Gallons) (MG) | Total # of BMPs (2021-2025) | | | |
|--|----------|------------------------------|---------------|---|----------------------|-------------------------|-------------|-------------------------|------------------------------------|----------------------|-------------------------|-----------|--|-----------------------------|-------------------------|------------------------------------|--------|
| | | | | | No. of Meas. in 2021 | Cumulative No. of Meas. | 2021 Cost | New Water Savings (GPD) | 2021 Cumulative Savings Rate (GPD) | No. of Meas. in 2025 | Cumulative No. of Meas. | 2025 Cost | | | New Water Savings (GPD) | 2025 Cumulative Savings Rate (GPD) | |
| Water-Efficient Irrigation and Landscaping (as Exemptions and Rebates with Smart Rebate) | MF | MF with Common-Cloth Washers | \$300 | 23 | 340 | 512 | \$58,400 | \$1,331,200 | 79,220 | 1,192,960 | 340 | 6,800 | \$88,400 | \$1,773,200 | 79,220 | 1,589,060 | 6,800 |
| High-Efficiency Toilet (HET) Retrofit (Smart Rebate) | MF | MF with Common-Cloth Washers | \$8,010 | 35,000 | 0 | 140 | \$0 | \$1,121,400 | 0 | 4,900,000 | 0 | 140 | \$0 | \$1,121,400 | 0 | 4,900,000 | 140 |
| High-Efficiency Clothes Washer Rebate | MF | MF with Common-Cloth Washers | \$300 | 48 | 50 | 750 | \$16,000 | \$225,000 | 2,400 | 36,000 | 50 | 1,000 | \$15,000 | \$300,000 | 2,400 | 48,000 | 1,000 |
| Retrofit (includes showrecept and sensors) | SF | MF with Common-Cloth Washers | \$250 | 64 | 1,000 | 15,000 | \$250,000 | \$3,750,000 | 64,000 | 960,000 | 1,000 | 20,000 | \$250,000 | \$5,000,000 | 64,000 | 1,280,000 | 4,906 |
| High Efficiency Toilet (HET) Retrofit (Smart Rebate) | SF | MF with Common-Cloth Washers | \$100 | 29 | 0 | 750 | \$0 | \$75,000 | 0 | 21,750 | 0 | 750 | \$0 | \$75,000 | 0 | 21,750 | 750 |
| High Efficiency Toilet Exchange Program | SF | MF with Common-Cloth Washers | \$130 | 26 | 1,630 | 22,830 | \$211,800 | \$2,966,000 | 47,270 | 661,760 | 1,630 | 30,970 | \$211,800 | \$4,028,100 | 47,270 | 686,130 | 30,970 |
| High Efficiency Toilet Exchange Program | MF | MF with Common-Cloth Washers | \$130 | 29 | 2,240 | 22,400 | \$291,200 | \$2,912,000 | 64,960 | 649,600 | 2,240 | 33,600 | \$291,200 | \$4,368,000 | 64,960 | 974,400 | 33,600 |
| Showhead Exchange | SF | MF with Common-Cloth Washers | \$1.60 | 35 | 1,770 | 26,210 | \$2,832 | \$41,936 | 61,950 | \$17,250 | 1,770 | 35,060 | \$2,832 | \$56,096 | 61,950 | 1,227,100 | 4,654 |
| Showhead Exchange | MF | MF with Common-Cloth Washers | \$1.60 | 35 | 1,720 | 25,560 | \$2,752 | \$40,896 | 60,200 | 854,600 | 1,720 | 34,160 | \$2,752 | \$54,656 | 60,200 | 1,155,600 | 4,555 |
| Retrofit for Grease | SF | MF with Common-Cloth Washers | \$2.35 | 12 | 1,770 | 26,210 | \$4,213 | \$62,380 | 21,240 | \$314,320 | 1,770 | 35,060 | \$4,213 | \$83,443 | 21,240 | 420,720 | 1,598 |
| Retrofit for Grease | MF | MF with Common-Cloth Washers | \$2.35 | 12 | 1,720 | 25,560 | \$4,054 | \$60,833 | 20,640 | \$306,720 | 1,720 | 34,160 | \$4,054 | \$81,301 | 20,640 | 405,920 | 1,562 |
| Leak Detection and Repair of County-owned Facilities | NR | NR | \$4,740 | 1,000 | 30 | 440 | \$142,200 | \$2,085,000 | 30,000 | 440,000 | 30 | 500 | \$142,200 | \$2,795,600 | 30,000 | 590,000 | 2,228 |
| Industrial, Commercial, and Residential Water Use Evaluation ¹ Implementation | NR | NR | \$1,600 | 1,500 | 0 | 122 | \$0 | \$195,200 | 0 | 183,000 | 0 | 122 | \$0 | \$195,200 | 0 | 183,000 | 1,035 |
| Evaluate and Retrofit Private Commercial Buildings | NR | NR | \$1,600 | 1,500 | 213 | 2,130 | \$340,800 | \$3,408,000 | 319,500 | 3,195,000 | 213 | 3,195 | \$340,800 | \$5,112,000 | 319,500 | 4,792,500 | 13,594 |
| Hotel Program ² | NR | NR | \$667 | 1,617 | 12 | 180 | \$8,000 | \$120,001 | 19,404 | 291,050 | 12 | 240 | \$8,000 | \$160,001 | 19,404 | 368,000 | 1,467 |
| Item Total | | | | | For 2021 | | \$1,362,000 | \$18,947,000 | 791,000 | 16,663,000 | For 2025 | | \$1,362,000 | \$25,263,000 | 791,000 | 19,625,000 | 64,000 |
| Sub-total for SF | | | | | | | \$558,000 | \$6,224,000 | 274,000 | 4,593,000 | | | \$558,000 | \$11,074,000 | 274,000 | 5,437,000 | 21,000 |
| Sub-total for MF | | | | | | | \$314,000 | \$3,233,000 | 148,000 | 2,591,000 | | | \$314,000 | \$4,064,000 | 148,000 | 3,332,000 | 14,000 |
| Sub-total for NR | | | | | | | \$492,000 | \$6,693,000 | 349,000 | 8,019,000 | | | \$492,000 | \$9,386,000 | 309,000 | 10,854,000 | 50,000 |

WSU = Water Savings Horizon
 GPD = gallons per day
 T6 = thousand gallons

**Miami-Dade Water and Sewer Department (MDWASD)
20-Year Water Use Efficiency Plan
Water Use Efficiency - Best Management Practices (BMP) Planning Spreadsheet**

Prepared by: Malcolm Pirnie, Inc.
Contact: Brian Klett, (813) 242-7252
Last Modified: 4/02/2007

Purpose:

This spreadsheet is intended for water use efficiency BMP planning purposes only.
The spreadsheet assists in calculating estimated water savings rates and costs for a specified set of BMPs.
The spreadsheet includes the MDWASD Retail area as well as the 15 wholesale water customers of MDWASD.
Allocation of BMPs among MDWASD Retail Area and 15 wholesalers is calculated in a separate spreadsheet.

Spreadsheet Notes:

* Throughout Plan, costs do not include County staff labor unless otherwise noted.

¹ Cost includes labor to perform evaluation, install a moisture sensor, and provide a report. Assumes 1,400 gpd/acre & 1/6 acre per SF home.

Cost and savings for NR Park facilities assumes an average of 25 irrigated acres per facility (using potable water).

² Savings rate for common area washer is in gallons per day per washer.

³ Cost and savings include 1 toilet, 1 showerhead, and 2 aerators (1 for the bathroom; one for the kitchen), and installation costs.

⁴ Cost includes a \$100 rebate to the customer.

⁵ Cost is only for intradepartment assistance from WASD to other County departments for retrofit. Assistance may be in the form of a rebate or a credit on water bill.

⁵ Savings shown are for a hotel with 50 to 100 rooms (SWFWMD Water CHAMP)

⁷ Costs include equipment and outsourcing, unless otherwise noted costs do not include County staff time.

⁸ Miami-Dade County Housing Agency is implementing this program through 'performance contracting', with the initial program funded by HUD.

Summary of 20-Year Water Use Efficiency Plan BMP Implementation 2007-2026

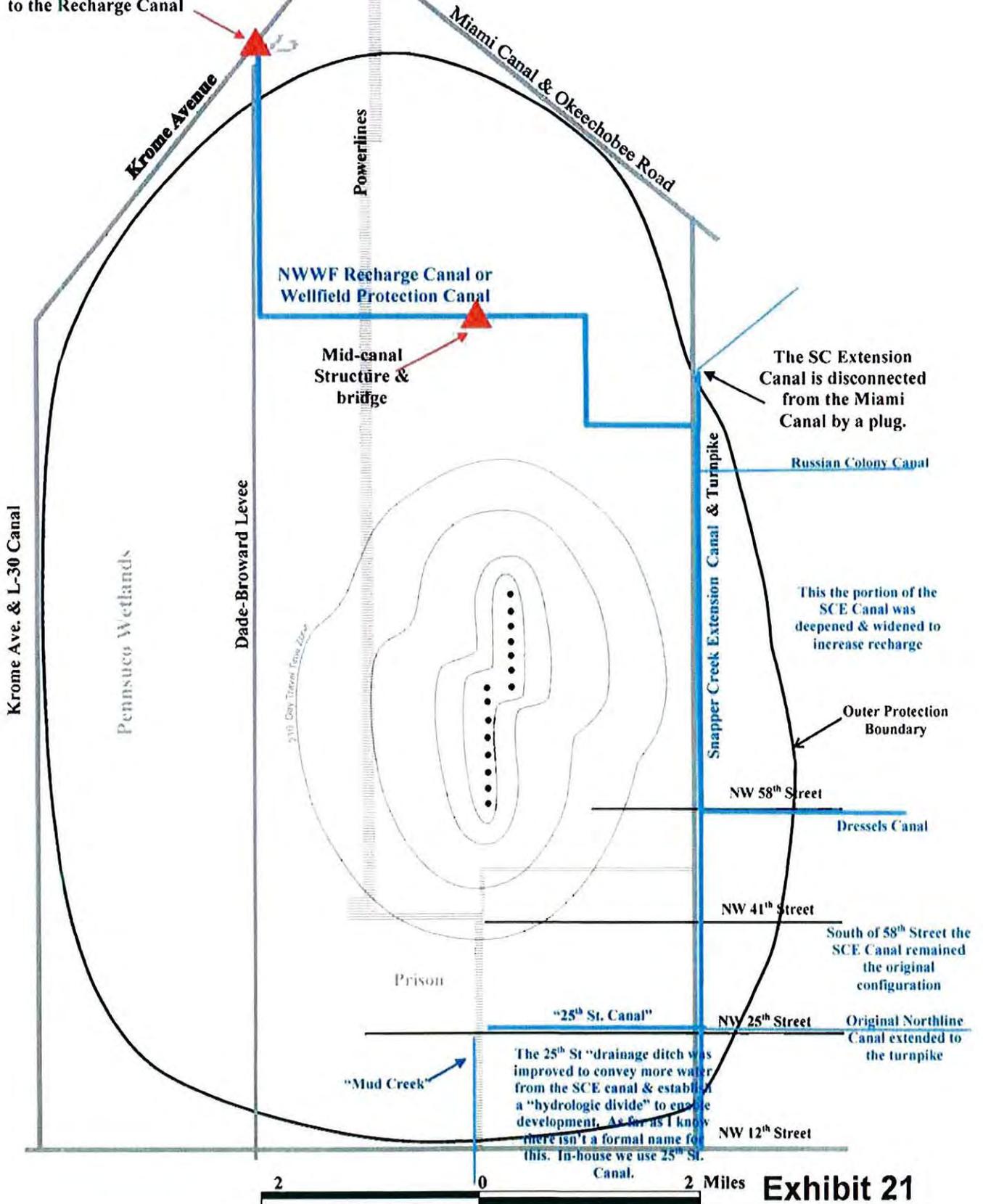
TABLE 1-A: Summary of Miami-Dade County 20-Year Water Use Efficiency Plan (2007-2026), including MDWASD retail & wholesale service areas.

| Year | 2007 | 2008 | 2009 | 2010 | 2011 | 2016 | 2021 | 2026 |
|--|-----------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| Cost (\$/Yr.) | \$753,000 | \$871,000 | \$911,000 | \$911,000 | \$911,000 | \$1,378,000 | \$1,362,000 | \$1,362,000 |
| Cumulative Cost (\$ to date) | \$753,000 | \$1,623,000 | \$2,534,000 | \$3,445,000 | \$4,356,000 | \$11,574,000 | \$18,397,000 | \$25,203,000 |
| Additional Water Savings (GPD) | 1,086,000 | 1,158,000 | 1,286,000 | 1,286,000 | 1,286,000 | 806,000 | 791,000 | 791,000 |
| Cumulative Water Savings Rate (GPD) | 1,086,000 | 2,244,000 | 3,530,000 | 4,816,000 | 6,102,000 | 11,700,000 | 15,669,000 | 19,623,000 |

TABLE 1-B: Annual cost of Water Use Efficiency Plan by sector (Single Family, Multi-Family, Non-residential) (\$/Yr.).

| Year | 2007 | 2008 | 2009 | 2010 | 2011 | 2016 | 2021 | 2026 |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-------------|-------------|-------------|
| Sub-total for SF | \$410,000 | \$547,000 | \$563,000 | \$563,000 | \$563,000 | \$558,000 | \$558,000 | \$558,000 |
| Sub-total for MF | \$22,000 | \$22,000 | \$22,000 | \$22,000 | \$22,000 | \$314,000 | \$314,000 | \$314,000 |
| Sub-total for NR | \$322,000 | \$303,000 | \$327,000 | \$327,000 | \$327,000 | \$508,000 | \$492,000 | \$492,000 |
| TOTALS | \$753,000 | \$871,000 | \$911,000 | \$911,000 | \$911,000 | \$1,378,000 | \$1,362,000 | \$1,362,000 |

Structure linking L-30 to the Recharge Canal



The SC Extension Canal is disconnected from the Miami Canal by a plug.

This portion of the SCE Canal was deepened & widened to increase recharge

Outer Protection Boundary

South of 58th Street the SCE Canal remained the original configuration

Original Northline Canal extended to the turnpike

The 25th St "drainage ditch" was improved to convey more water from the SCE canal & established a "hydrologic divide" to enable development. As far as I know there isn't a formal name for this. In-house we use 25th St. Canal.

Exhibit 21



MIAMI-DADE WATER AND SEWER DEPARTMENT
1500 Southwest 37th Street, Coral Gables, Florida 33146 • Tel: (305) 609-1700 • Fax: 609-1700



August 14, 2000

CERTIFIED: 7099 3400 0000 5273 9927
RETURN RECEIPT

Mr. Jeff Rosenfeld
Senior Supervising Hydrogeologist
Regulation Department / Water Use Division
South Florida Water Management District
PO Box 24680
West Palm Beach, FL 33416-4680

RECEIVED
AUG 17 2000
WATER USE DIVISION

RE: Miami-Dade Water and Sewer Department
Hialeah / Preston / Miami Springs / Northwest Wellfields
Water Use Permit No. 13-00037-W_____

Dear Mr. Rosenfeld:

In accordance with limiting condition no.32 of the referenced permit, the following is a description of the schedule for operation of the surface water control structure located on the Northwest wellfield (NWWF) protection canal for District approval.

As per the control authority, Department of Environmental Resources Management (DERM), structures located in the NWWF protection canal are operated according to the specific circumstances. These structures are not automated and therefore would be manually opened or closed at specific canal elevations. Normal operation for the new water control structure is to be closed to induce flow to the west and south. The control structure would remain closed if groundwater stages are high and there is no need for additional water from the L-30 canal. It would be opened if the opposite is the case. The structure would also be closed in anticipation of a hurricane event to prevent additional flow from entering the secondary system canals.

Should you have any questions, please call Ms. Bertha M. Goldenberg, P.E. at (305) 669-5711.

Sincerely,

Jorge Rodriguez
Assistant Director

BMG/dje

c: Harvey Kottke, DERM Isaac Sznol, DERM

Exhibit 22

MDWASD Biscayne Aquifer Final Modeling Scenarios

| SCENARIO | DESCRIPTION OF SCENARIO | WTP SUB-AREA / WELLFIELD PUMPAGE | | | | | | | | | | | | | | | | | | | | MDWASD TOTAL |
|----------|----------------------------|----------------------------------|------|------|------|-------|---------------|------|-------|----|-------|------------|-----|-----|------|------|----|----|-----|-----|-------|--------------|
| | | Hialeah-Preston | | | | | Alexander Orr | | | | | South Dade | | | | | | | | | | |
| | | H | JP | MS | NW | TOTAL | AO | SC | SW | W | TOTAL | ELT | LC | NJ | EVLC | NWTN | CP | FP | RHP | RPP | TOTAL | |
| G | Base Condition | 3.1 | 37.2 | 29.7 | 88.7 | 158.7 | 62 | 20.4 | 83.8 | 15 | 181.2 | 1.3 | 2.9 | 0.1 | 0.7 | 2.1 | 0 | 0 | 0 | 0 | 7.1 | 347 |
| H | Alternative South Dade | 3.1 | 37.2 | 29.7 | 88.7 | 158.7 | 62 | 20.4 | 88.8 | 15 | 186.2 | 0 | 0 | 0 | 0.7 | 2.1 | 0 | 3 | 2 | 0 | 7.8 | 352.7 |
| I | Recharge Credit Evaluation | 3.1 | 37.2 | 29.7 | 88.7 | 158.7 | 62 | 20.4 | 88.8 | 15 | 186.2 | 0 | 0 | 0 | 2.2 | 2.6 | 3 | 3 | 17 | 0 | 27.8 | 372.7 |
| J | Recharge Credit Evaluation | 3.1 | 37.2 | 29.7 | 88.7 | 158.7 | 62 | 20.4 | 88.8 | 15 | 186.2 | 0 | 0 | 0 | 2.2 | 2.6 | 3 | 3 | 17 | 0 | 27.8 | 372.7 |
| K | Wellfield Ops Plan 2027 | 3.1 | 37.2 | 29.7 | 88.7 | 158.7 | 62 | 20.4 | 125.8 | 15 | 223.2 | 0 | 0 | 0 | 2.2 | 2.6 | 3 | 3 | 17 | 0 | 27.8 | 409.7 |
| L | AO/SWWF Reallocation 2012 | 3.1 | 37.2 | 29.7 | 88.7 | 158.7 | 40 | 20.4 | 110 | 15 | 185.4 | 1.3 | 2.9 | 0.1 | 0.7 | 2.1 | 0 | 0 | 0 | 0 | 7.1 | 351.2 |
| M | SMH Biscayne base 2012 | 3.1 | 37.2 | 29.7 | 88.7 | 158.7 | 62 | 20.4 | 83.8 | 15 | 181.2 | 0 | 0 | 0 | 2.2 | 2.6 | 0 | 0 | 3 | 0 | 7.8 | 347.7 |

Abbreviations = Wellfield

- H = Hialeah
- JP = John E. Preston
- MS = Miami Springs
- NW = Northwest
- AO = Alexander Orr
- SC = Snapper Creek
- SW = Southwest
- W = West
- ELT = Elevated Tank
- EVLC = Everglades Labor Camp
- LC = Leisure City
- NJ = Naranja
- NWTN = Newton
- CP = Caribbean Park
- FP = Former Plant
- RHP = Roberta Hunter Park
- RPP = Rock Pit Park
- SMH = South Miami Heights
- CNMB = City of North Miami Beach

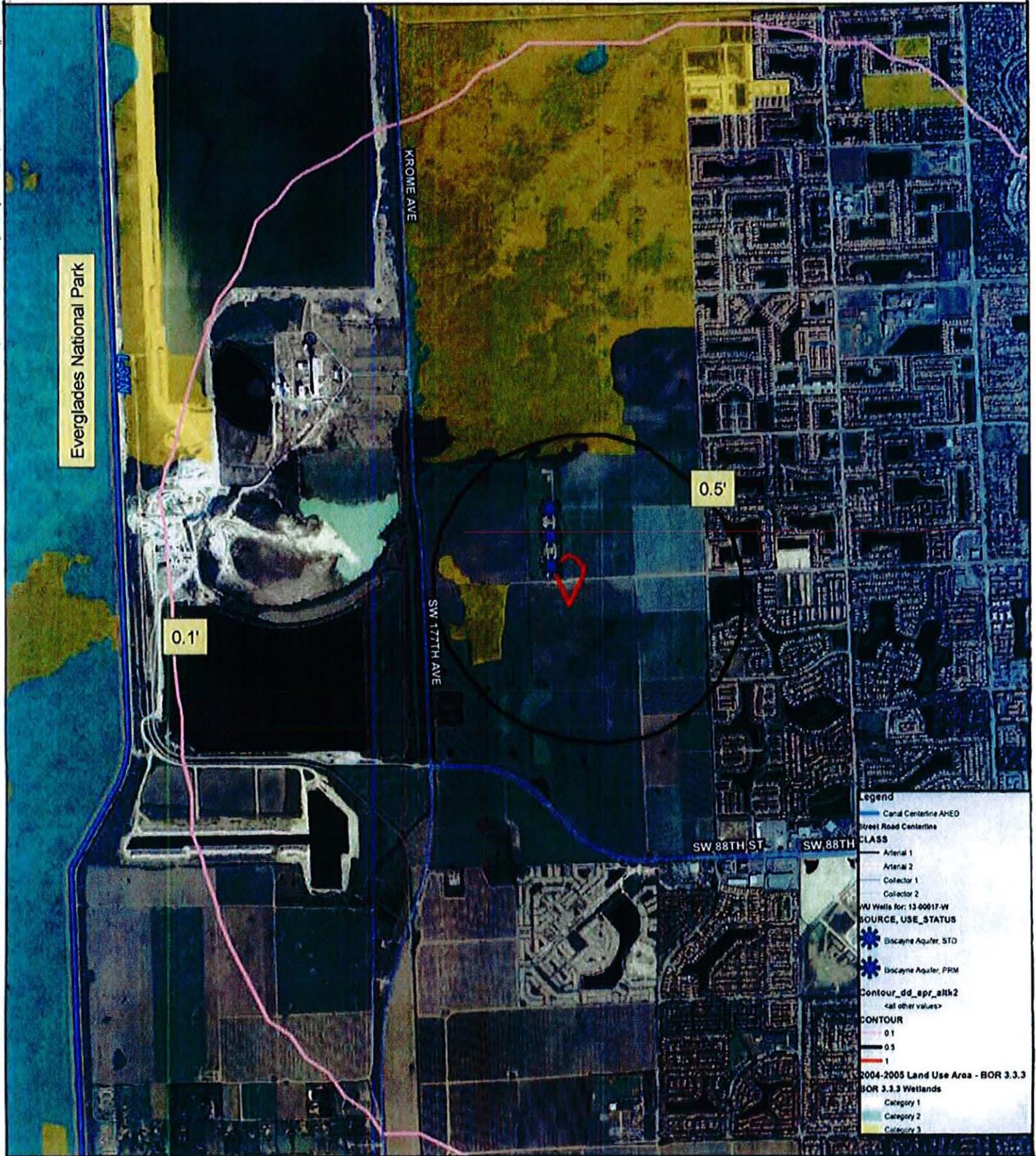
Purpose of Each Scenario

- G - Establish Base Condition Water Use (NWWF at 88.7 because of CNMB shift)
- H - Shifting 4.3 MGD from South Dade (ELT, LC, NJ) to SMH (FP & RHP)
Base condition prior to recharge at SMH and increasing from 4.3 to 5 MGD to account for new treatment at SMH WTP
- I - Base Condition (South Dade 5 mgd at SMH with increases at NWTN and ELC) plus pumps ON at SMH at 23 MGD prior to SMH recharge.
Increase SW by 5.0 MGD
- J - Pumps on at SMH (23 MGD) to determine benefits of 23 MGD Phase 1 SMH recharge offset. Increase SW by 5.0 MGD.
- K - Final 20 year permit conditions and determining how much regional impact does 37 MGD increased pumpage at Alex Orr subarea cause, to determine offset by Phases 2 and 3 canal recharge.
- L - reallocation of 22 mgd from AO wellfield to SWWF, and an additional 3.6 mgd at SWWF with no modeled impact to regional system
- M - SMH at 3 mgd (Turning off 4.3 mgd at ET, LC and NJ results in a 2.5 mgd reduction in impact on regional canals; transferred to SMH wellfield. Increasing from 2.5 mgd to 3.0 mgd for the reduced treatment efficiency of the proposed membrane treatment system)

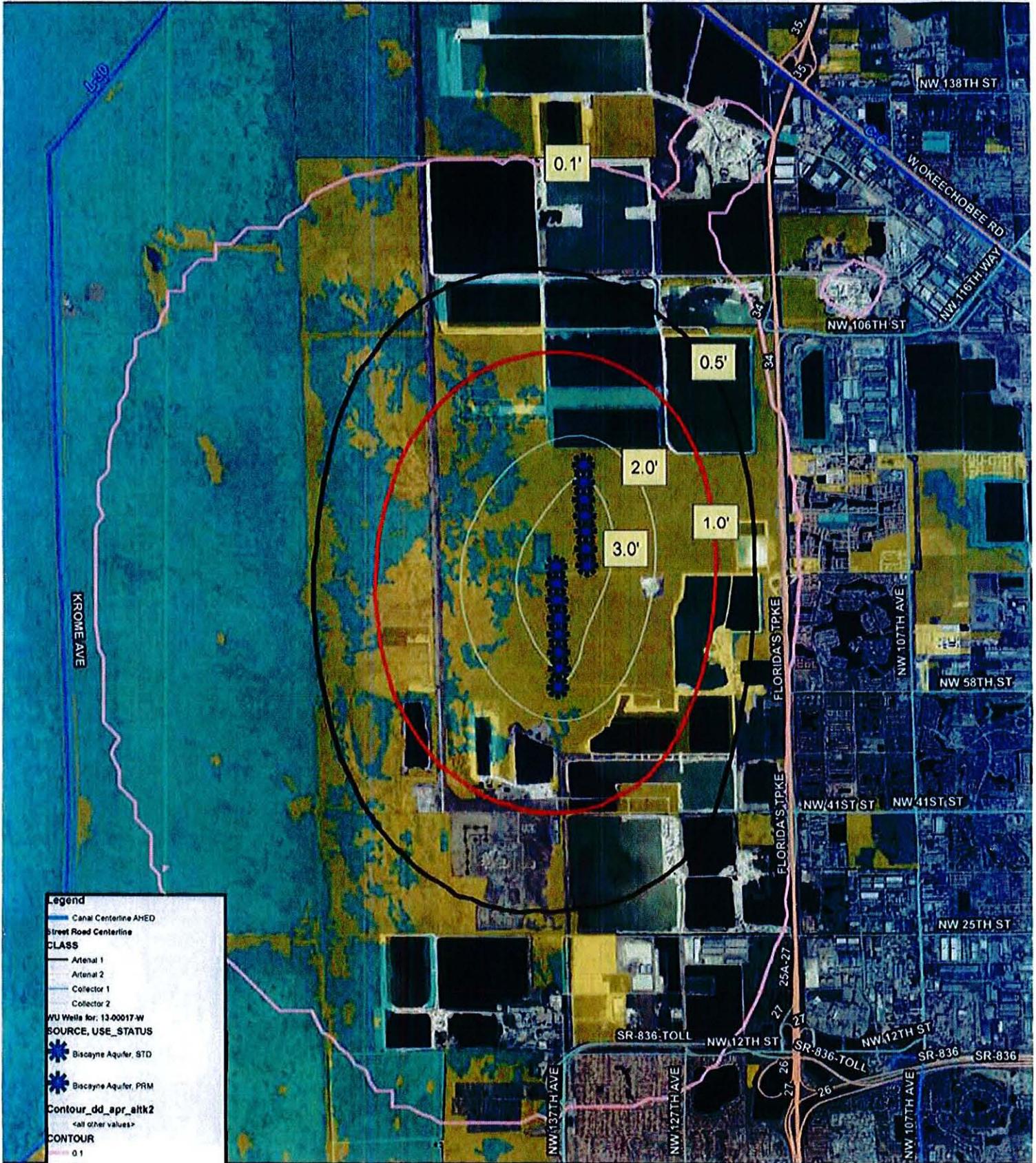
Notes

- Scenario G Base Condition adjustments lowered NW due to CNMB
- Above pumpages are annual average values.
- The simulated withdrawal for each month will vary based on historic ratios of individual months to the long-term average month withdrawal
- Each scenario listed above (G through K) consisted of two runs: MDWASD-alone and cumulative (MDWASD plus adjacent permitted users.
- An additional scenario was run that simulated no public water supply (PWS) withdrawal (used as base case for drawdown evaluation).
- MDWASD pumpage rates were as listed in the above table for each scenario (G through M).
- Drawdowns were computed as the difference in simulated heads between the no-PWS pumpage scenario and the cumulative for each scenario.
- Output consists of maps of head and drawdown, hydrographs, water budgets and vector plots.

West Wellfield Modeled Drawdown - 15 mgd

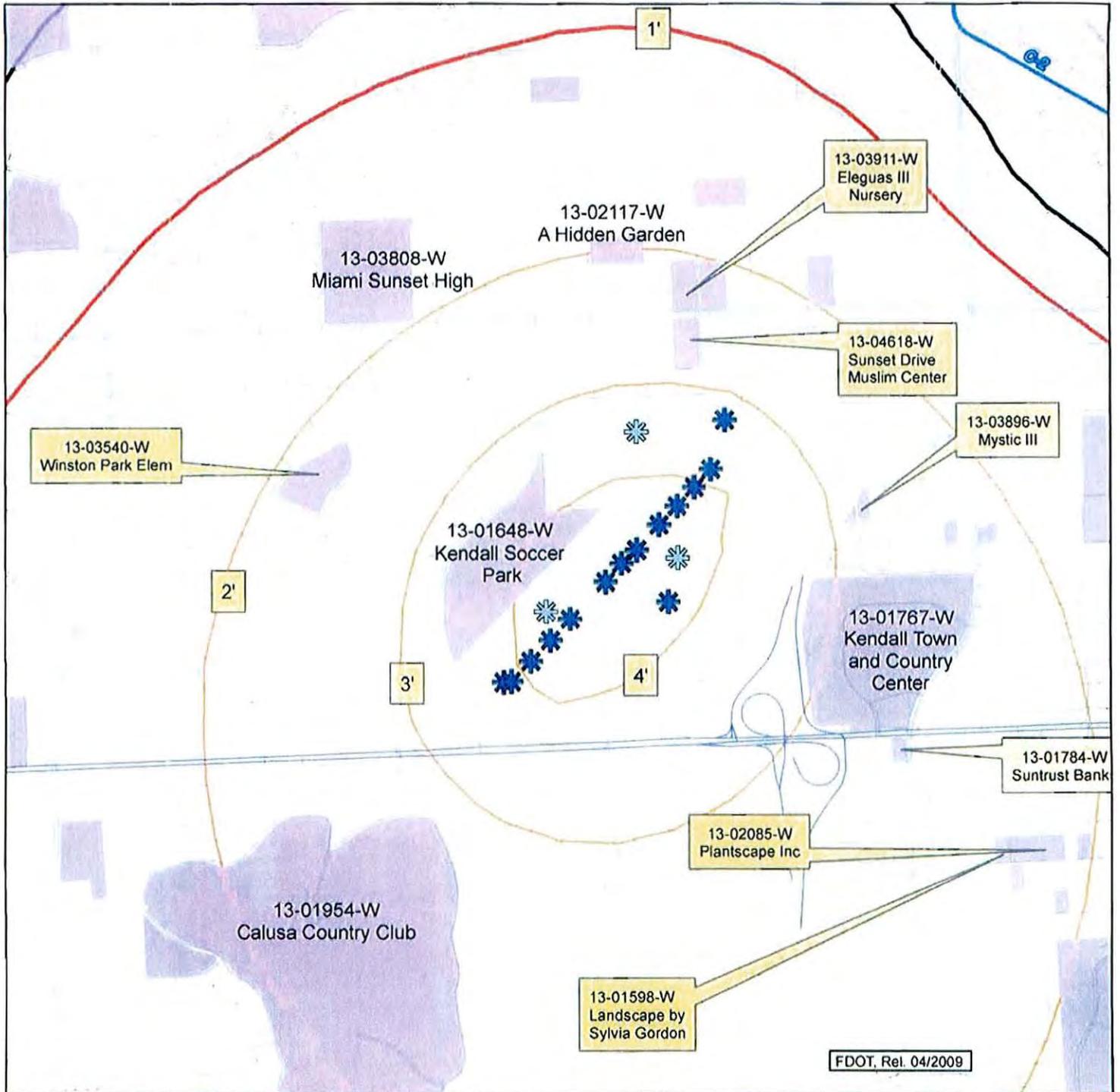


Northwest Wellfield Modeled Drawdown - 88.7 mgd



Legend

- Canal Centerline AHED
- Street Road Centerline
- CLASS**
- Arterial 1
- Arterial 2
- Collector 1
- Collector 2
- WU Wells for: 13-00017-W**
- SOURCE, USE_STATUS**
- Biscayne Aquifer, STD
- Biscayne Aquifer, PRIM
- Contour_dd_apr_atk2**
- <all other values>
- CONTOUR**
- 0.1
- 0.5
- 1
- 2004-2006 Land Use Area - BOR 3.3.3**
- BOR 3.3.3 Wetlands**
- Category 1
- Category 2
- Category 3



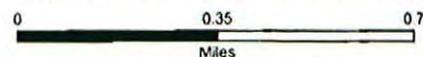
FDOT, Rel. 04/2009



Legend

- Water Use - Primary
- WU Wells for: 13-00017-W**
- SOURCE, USE_STATUS**
- Biscayne Aquifer, STD
- Biscayne Aquifer, PRM
- Contour_dd_apr_alk2**
- <all other values>
- CONTOUR**
- 0.1
- 0.5
- 1

Project Name: MIAMI-DADE CONSOLIDATED P W S



MIAMI-DADE COUNTY, FLORIDA



Map Date: 10/22/2010

Application Number: 091228-14

Permit Number: 13-00017-W

Exhibit : 25A

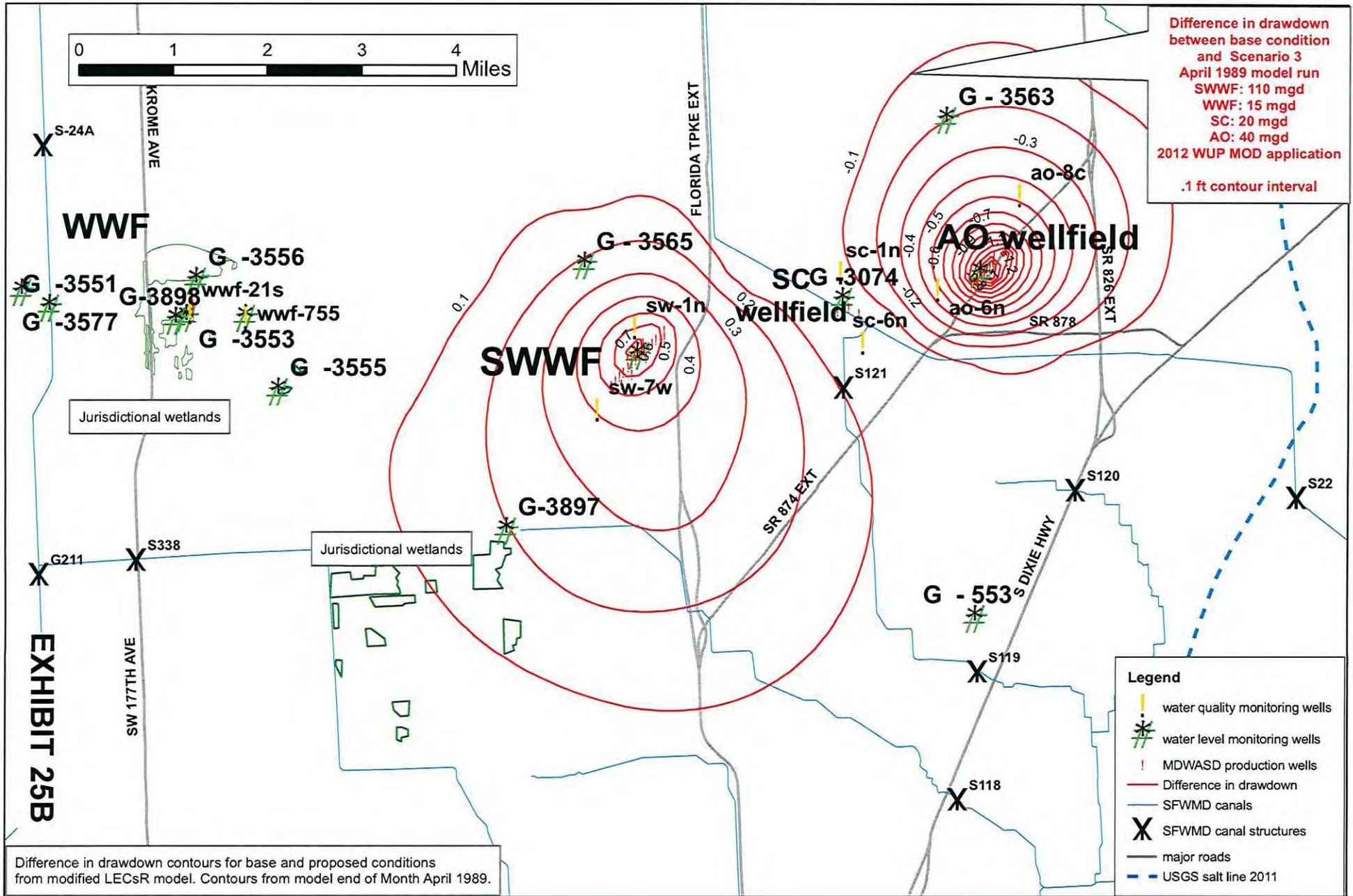


Figure 8c. Southwest, Snapper Creek and Alex Orr Wellfield Groundwater Level and Water Quality Monitoring Drawdown difference

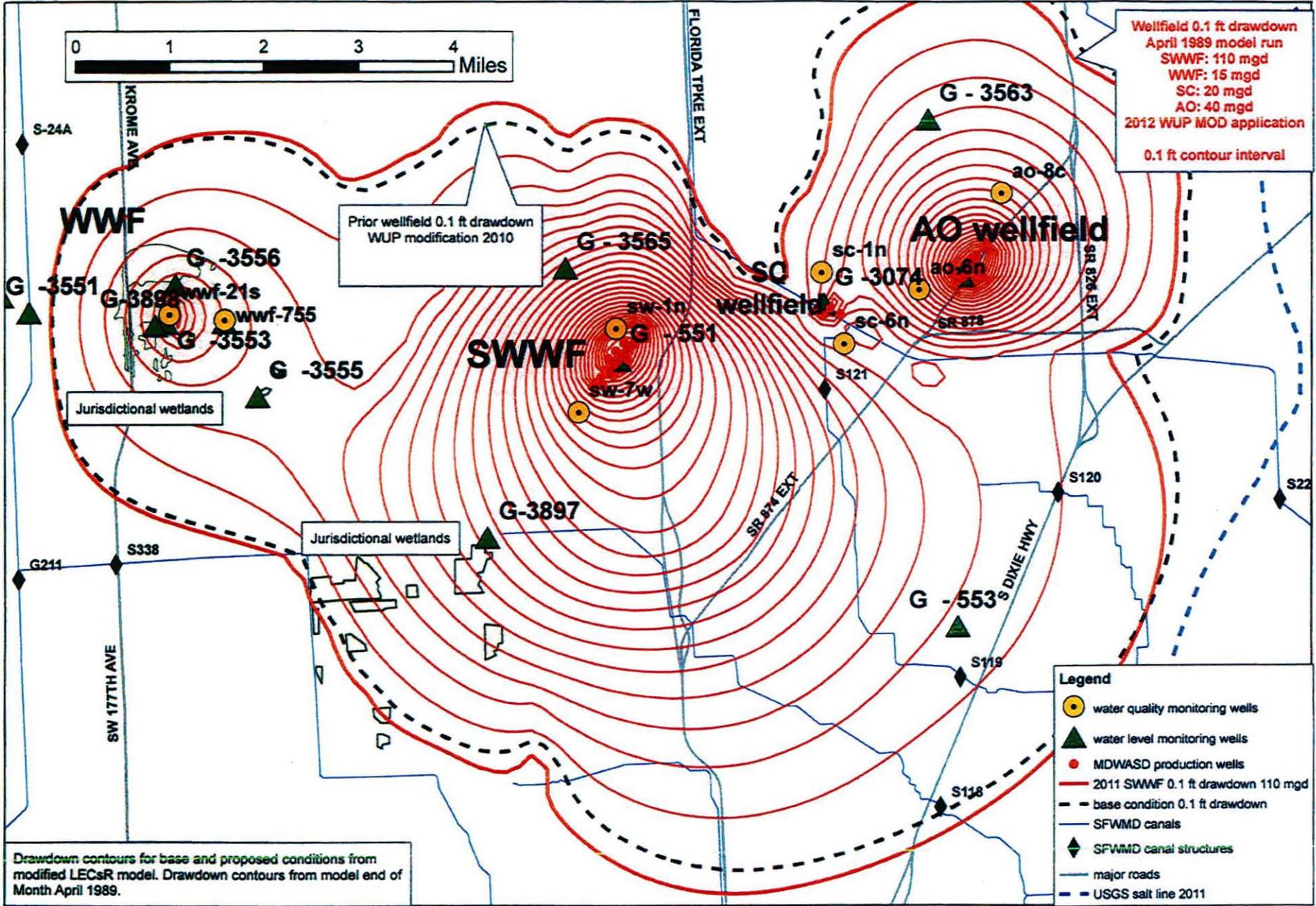


EXHIBIT 25C



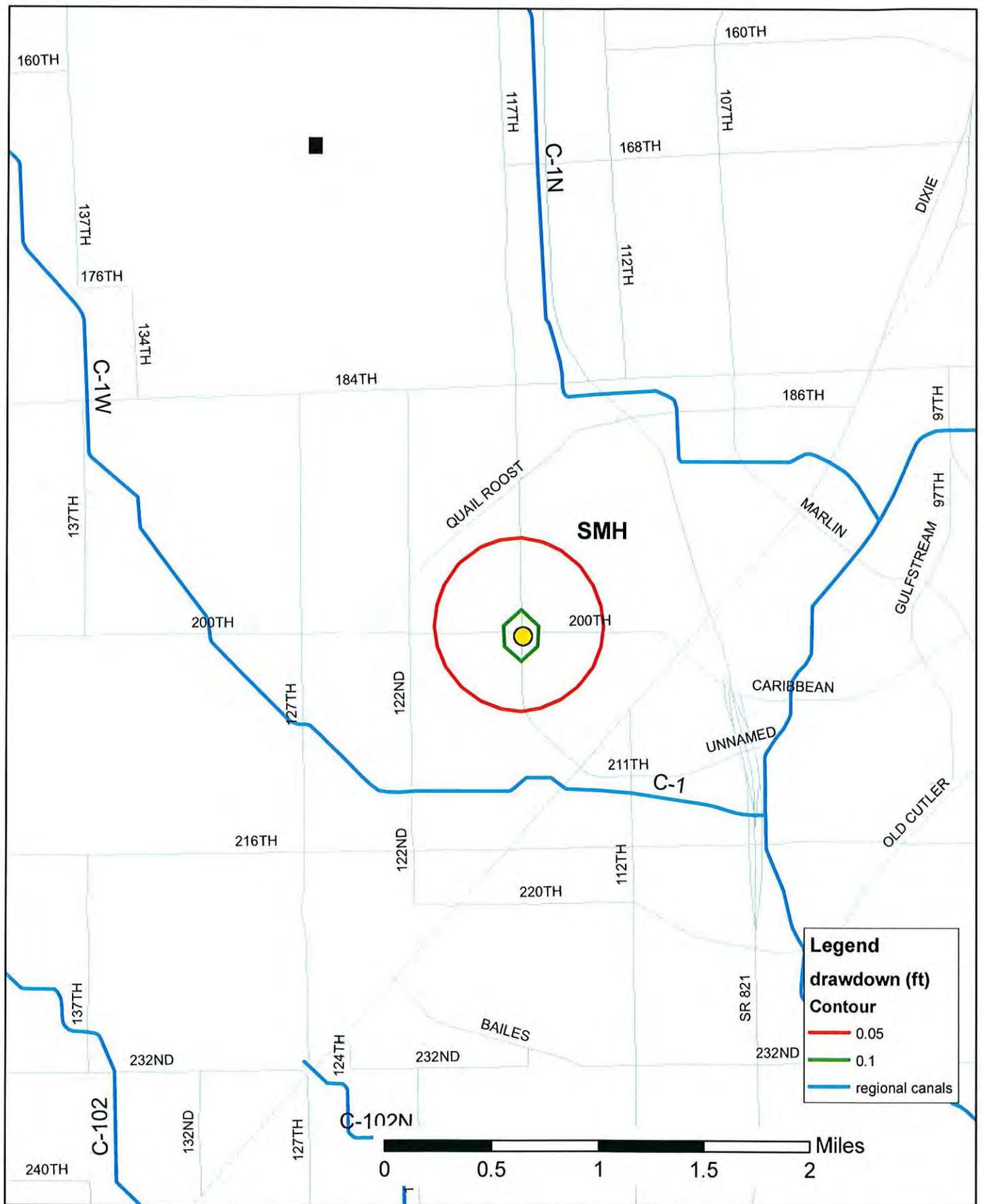
Miami-Dade County Water and Sewer Department
3071 SW 36 Ave
Miami FL 33146



110511-6-

Figure 8a. Southwest, Snapper Creek and Alex Orr Wellfield drawdown and Water Quality Monitoring

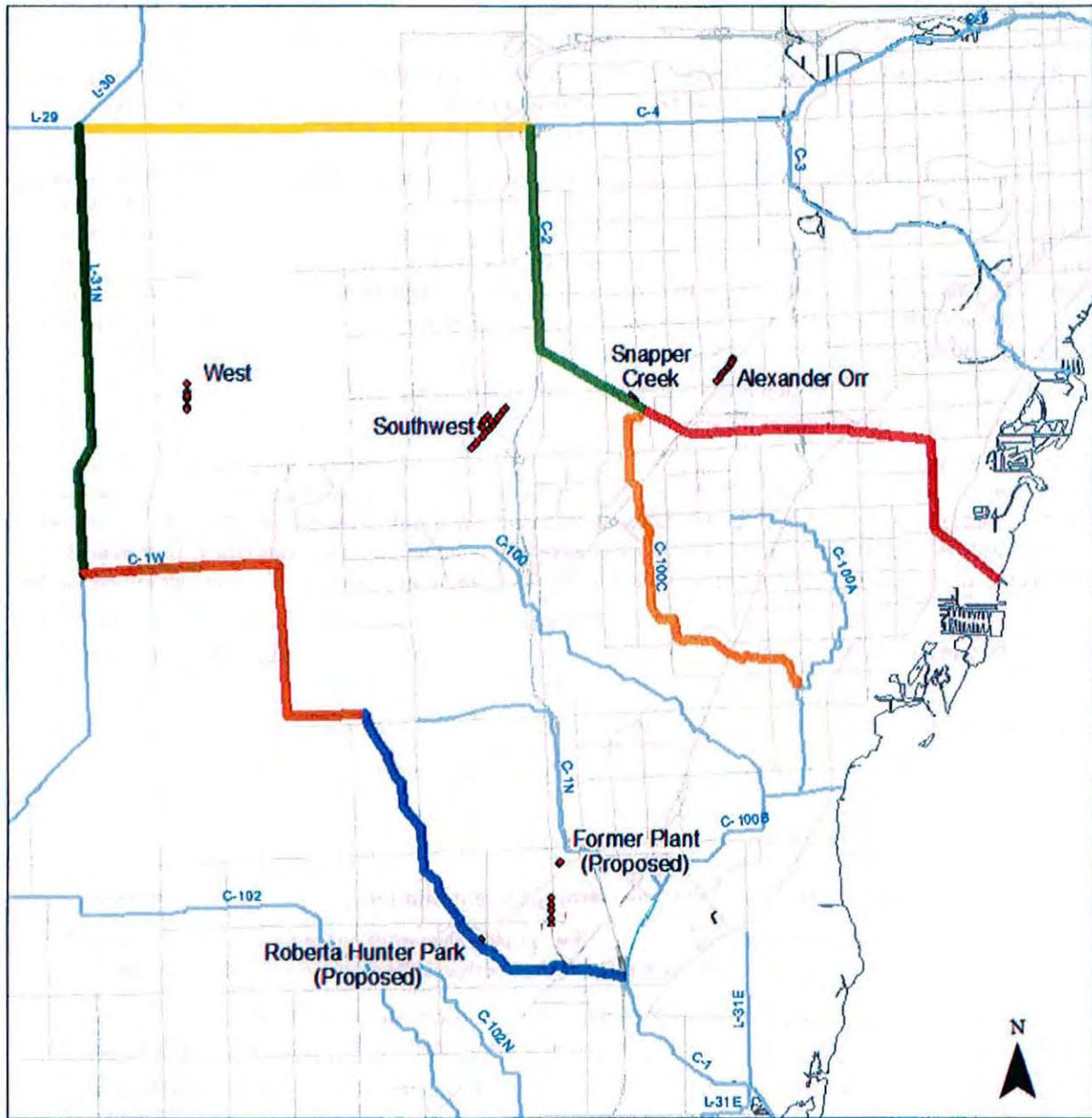
updated 2/22/12



Miami-Dade County
 Water and Sewer Department
 3071 SW 38 Ave
 Miami FL 33146

South Miami Heights
 Biscayne Aquifer pumpage at 3 mgd
 drawdown map
 EXHIBIT 25D

FIGURE 1
Locations of Wellfields and Canal Reaches



Legend

- Canal Reach A
- Canal Reach B
- Canal Reach D
- Canal Reach E
- Canal Reach L
- Canal Reach M
- Canal Reach N
- ◆ MDWASD Wellfields
- SFWMD Canals
- Major Roads

0 5 Miles

CH2MHILL.

FIGURE 6
Net Additional Canal Seepage Relative to Base Conditions, C-4 Canal

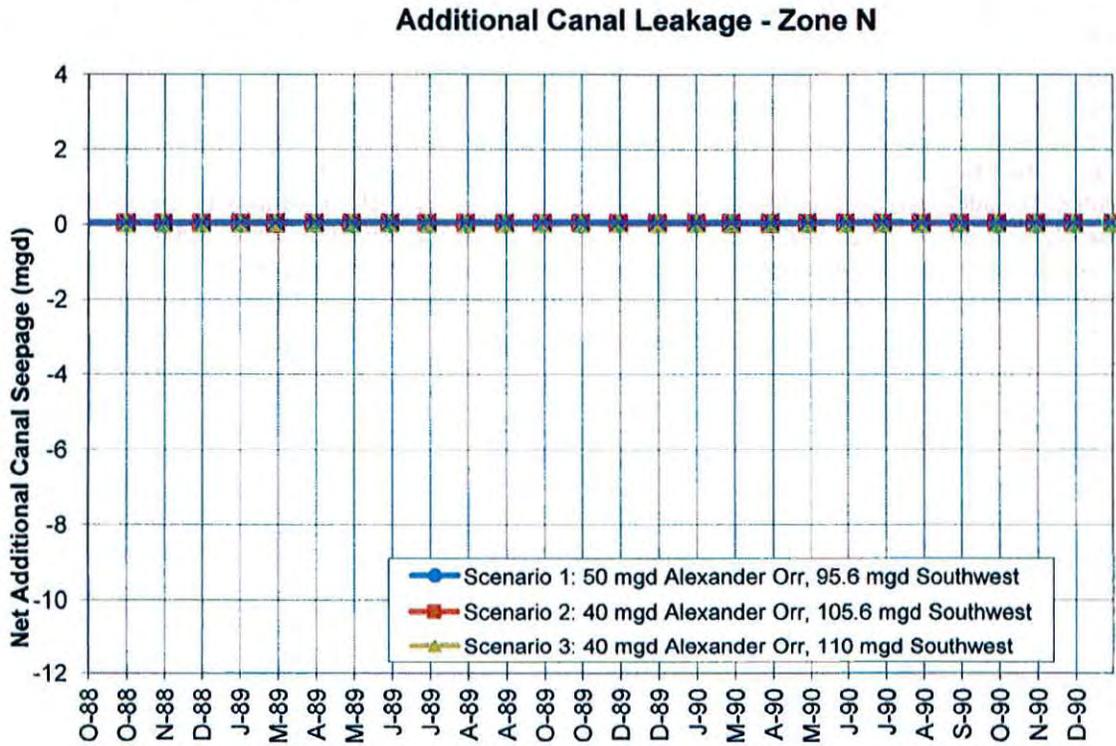
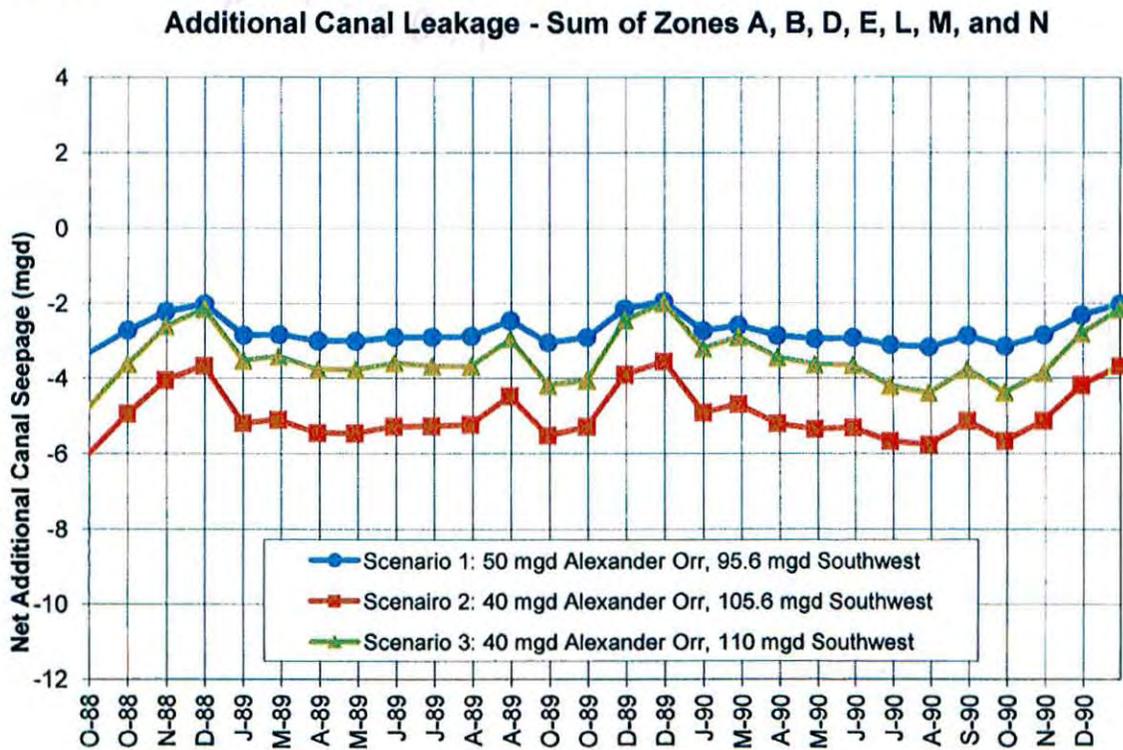


FIGURE 7
Total Net Additional Canal Seepage Relative to Base Conditions



SCANNED 02/28/2012 11:52 AM

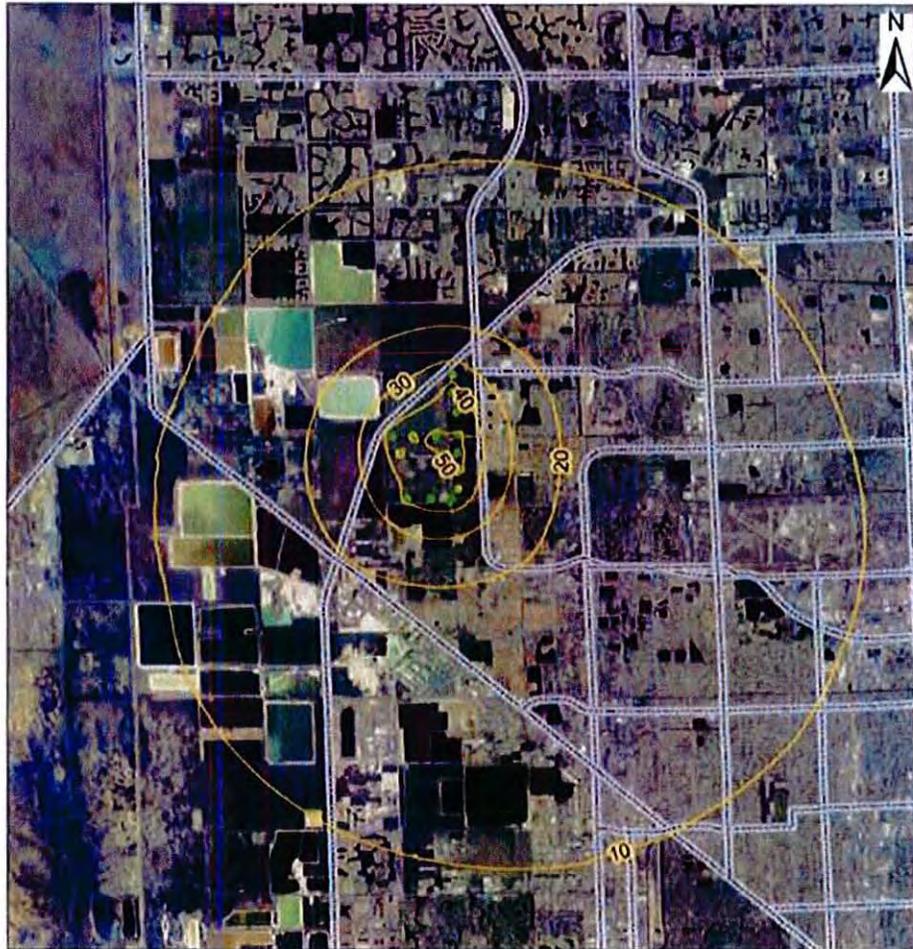
Table 5-1 ECFAS Model Structure and Hydraulic Parameters at Proposed Wellfield

| Model Layer | Top Elevation (ft, NGVD) | Bottom Elevation (ft, NGVD) | Thickness (ft) | Aquifer Boundary Conditions | H. Hydraulic conductivity (ft/day) | V. Hydraulic conductivity (ft/day) | Specific storativity (1/ft) | Effective Porosity | |
|-------------|-----------------------------|--------------------------------|-------------------|-----------------------------|---------------------------------------|---------------------------------------|--------------------------------|--------------------|------|
| 1 | 10 | -194 | 204 | SAS | constantHead | 10 | 10 | 0.00125 | 0.25 |
| 2 | -194 | -1072 | 878 | ICU | variable | 0.006 | 0.0006 | 9.00E-07 | 0.35 |
| 3 | -1072 | -1207 | 135 | UFA | variable | 90 | 9 | 5.25E-07 | 0.18 |
| 4 | -1207 | -1341 | 134 | UFA | variable | 90 | 9 | 5.25E-07 | 0.18 |
| 5 | -1341 | -1494 | 153 | MCU1 | variable | 0.01 | 0.002 | 9.00E-07 | 0.35 |
| 6 | -1494 | -1647 | 153 | MCU1 | variable | 0.01 | 0.002 | 9.00E-07 | 0.35 |
| 7 | -1647 | -1721 | 74 | APPZ | variable | 450 | 45 | 7.50E-07 | 0.18 |
| 8 | -1721 | -1795 | 74 | APPZ | variable | 450 | 45 | 7.50E-07 | 0.18 |
| 9 | -1795 | -2000 | 205 | MCU2 | variable | 0.3 | 0.0015 | 9.00E-07 | 0.35 |
| 10 | -2001 | -2207 | 206 | MCU2 | variable | 0.3 | 0.0015 | 9.00E-07 | 0.35 |
| 11 | -2207 | -2412 | 205 | MCU2 | variable | 0.3 | 0.0015 | 9.00E-07 | 0.35 |
| 12 | -2412 | -2514 | 102 | LF1 | variable | 300 | 30 | 7.50E-07 | 0.18 |
| 13 | -2514 | -2977 | 463 | LFCU1 | variable | 0.002 | 0.0002 | 9.00E-07 | 0.35 |
| 14 | -2977 | -3177 | 200 | BZ | const Head | 10000 | 10000 | 7.50E-07 | 0.18 |

Table 5-3 Revised Hydraulic Parameters at Proposed Wellfield

| Layer | Bottom elevation (ft NGVD) | Kx (Ky) (TP1_Zone) (ft/day) | Kz (TP1_Zone) (ft/day) | Kx (ky) (Patch) (ft/day) | Kz (Patch) (ft/day) | Ss (1/ft) | Effective Porosity | Initial Concentration (TDS, mg/l) |
|-------|-------------------------------|--------------------------------|---------------------------|-----------------------------|------------------------|--------------|--------------------|--------------------------------------|
| 1 | -196 | 10 | 10 | 10 | 10 | 0.00125 | 0.25 | 350 |
| 2 | -1080 | 0.006 | 0.0006 | 0.006 | 0.0006 | 9.00E-07 | 0.35 | 1520 |
| 3 | -1210 | 10 | 2 | 32 | 4 | 3.00E-06 | 0.1 | 3500 |
| 4 | -1300 | 10 | 2 | 32 | 4 | 1.00E-07 | 0.1 | 3500 |
| 5 | -1480 | 10 | 10 | 10 | 10 | 1.00E-07 | 0.1 | 3500 |
| 6 | -1550 | 0.01 | 0.01 | 0.01 | 0.01 | 1.00E-07 | 0.1 | 3900 |
| 7 | -1721 | 450 | 45 | 450 | 45 | 7.50E-07 | 0.18 | 4600 |
| 8 | -1795 | 450 | 45 | 450 | 45 | 7.50E-07 | 0.18 | 4600 |
| 9 | -2000 | 0.3 | 0.0015 | 0.3 | 0.0015 | 9.00E-07 | 0.35 | 18410 |
| 10 | -2207 | 0.3 | 0.0015 | 0.3 | 0.0015 | 9.00E-07 | 0.35 | 18410 |
| 11 | -2412 | 0.3 | 0.0015 | 0.3 | 0.0015 | 9.00E-07 | 0.35 | 18410 |
| 12 | -2514 | 300 | 30 | 300 | 30 | 7.50E-07 | 0.18 | 35000 |
| 13 | -2977 | 0.002 | 0.0002 | 0.002 | 0.0002 | 9.00E-07 | 0.35 | 35000 |
| 13 | -3177 | 10000 | 10000 | 10000 | 10000 | 7.50E-07 | 0.18 | 35000 |

Exhibit 26A



Legend

- Drawdown (ft)
- Production Well
- Roads

2 1 0 2 Miles



Figure 5-8e: Simulated drawdown (ft) in Model Layer 4 due to Pumpage of 13.33 MGD from the UFA after 30 Years

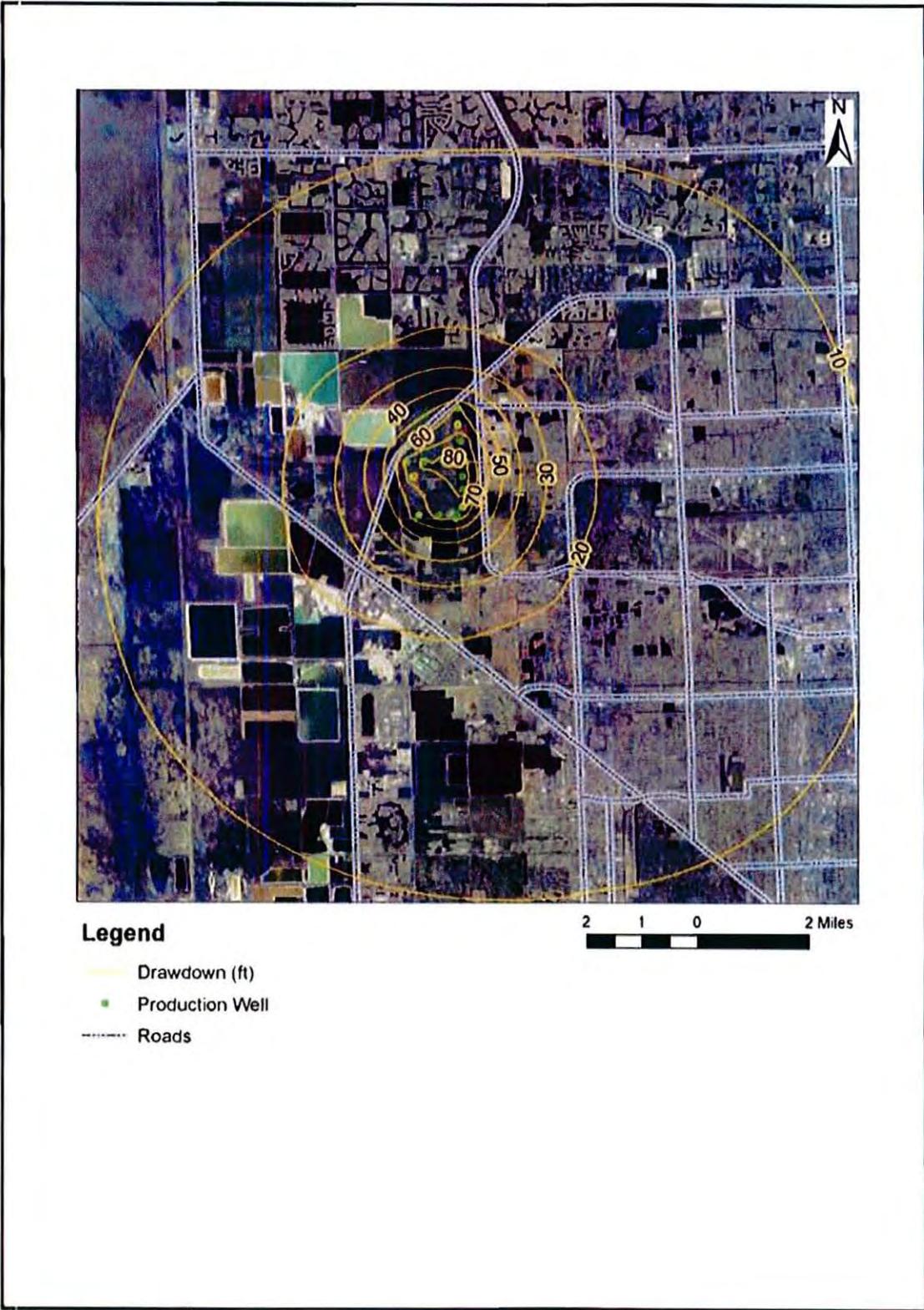
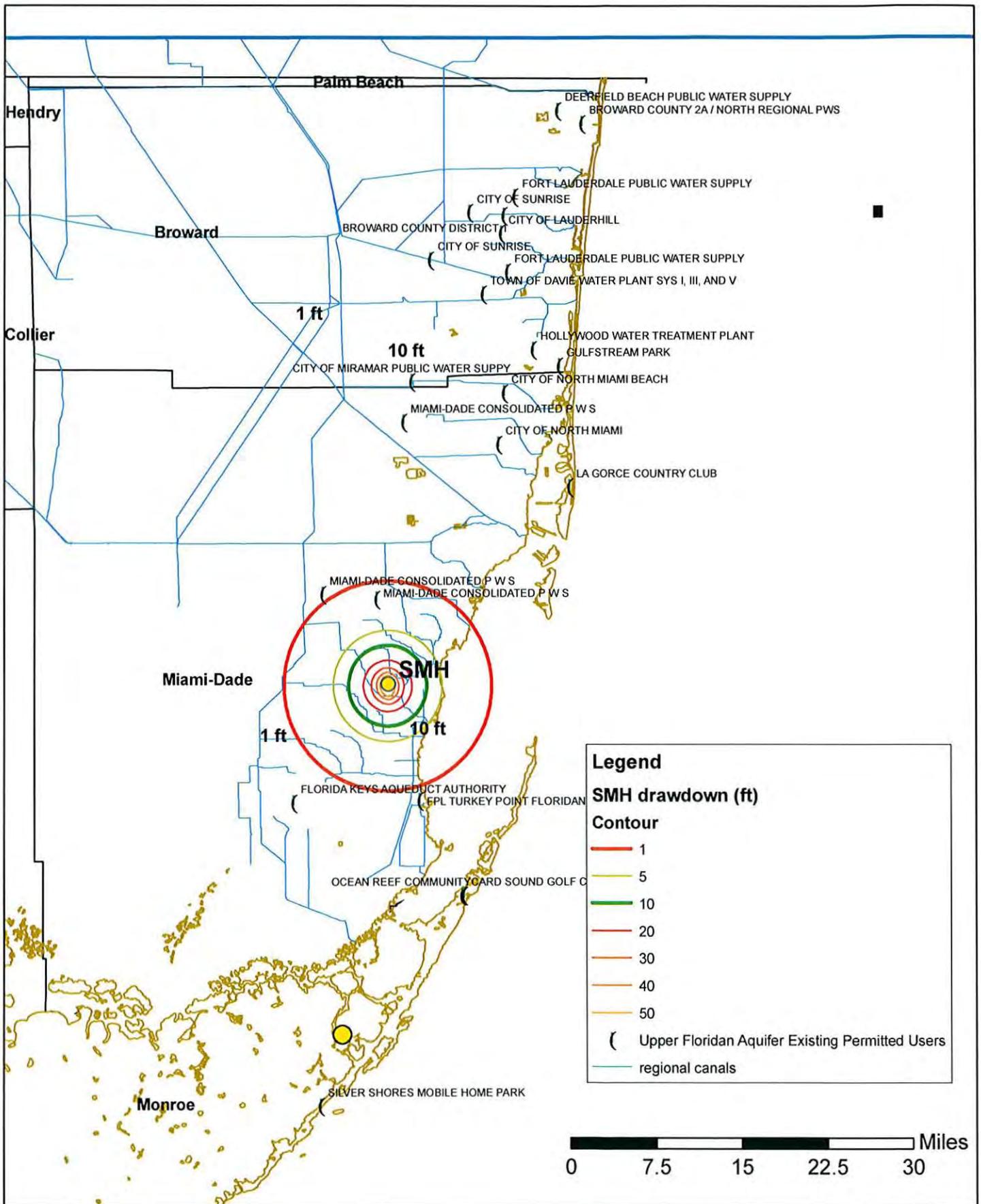


Figure 5-8b: Simulated drawdown (ft) in Model Layer 4 due to Proposed Pumping up to 23.33mgd from the UFA after 30 Years



Miami-Dade County
 Water and Sewer Department
 3071 SW 38 Ave
 Miami FL 33146

Figure 6.
South Miami Heights at 24 mgd drawdown
EXHIBIT 26D

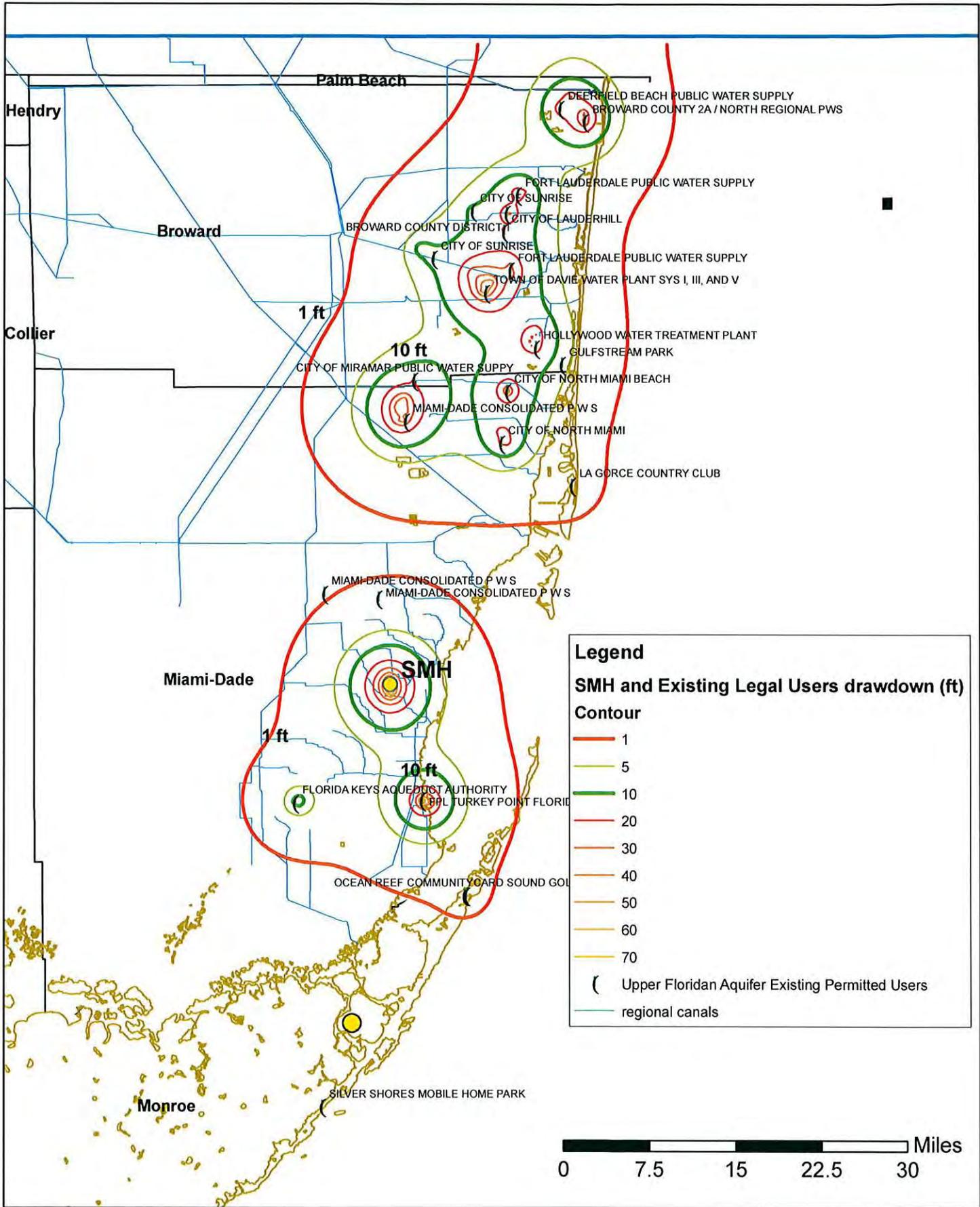


Figure 7.

SMH at 24 mgd
and Existing legal users drawdown
EXHIBIT 26E

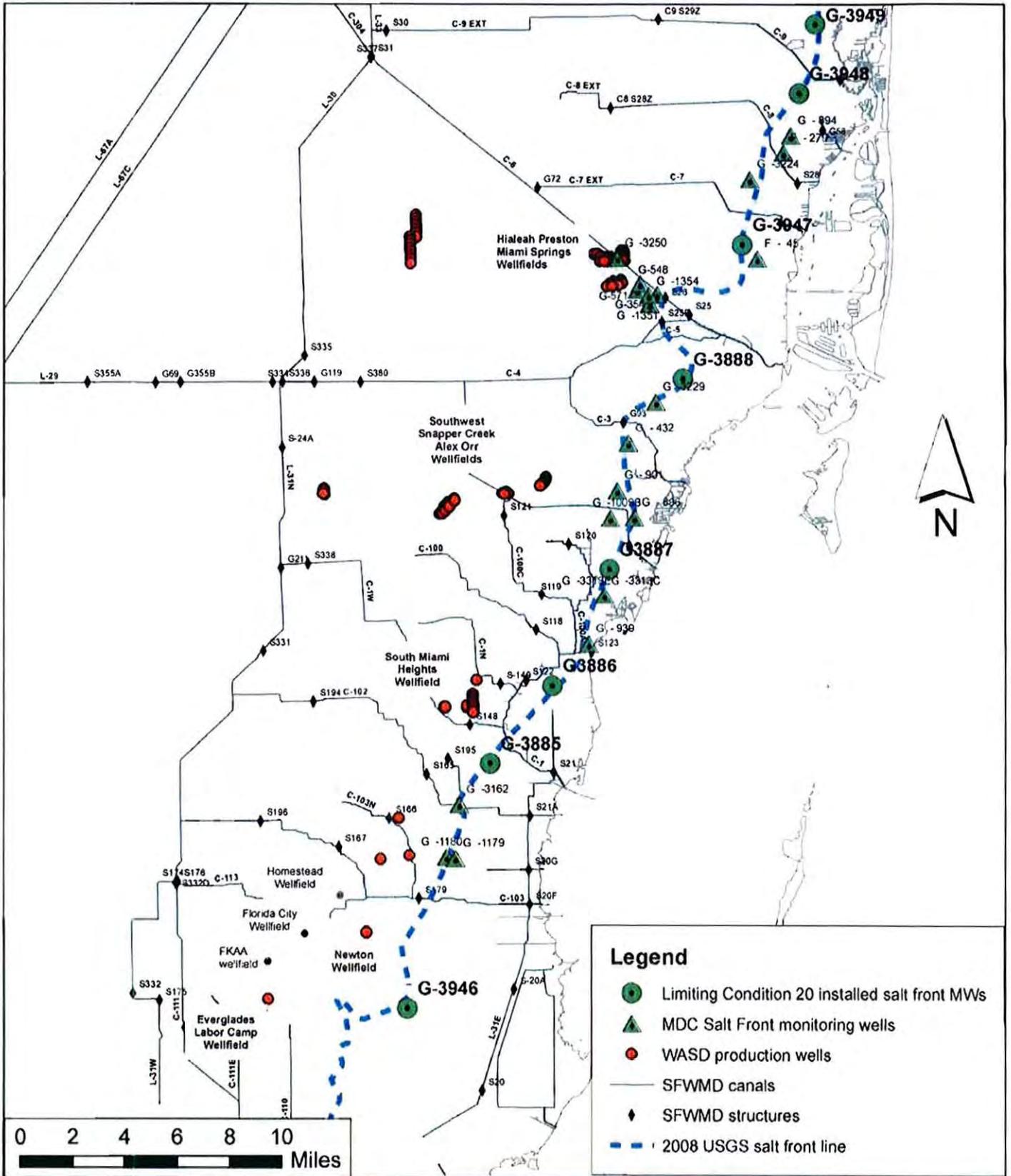


Figure 5. 2010 Miami-Dade County Salt Front Monitoring Network 9/15/10



Miami-Dade Water and Sewer Department
 3071 SW 38 Ave
 Miami FL 33146

Exhibit 27A

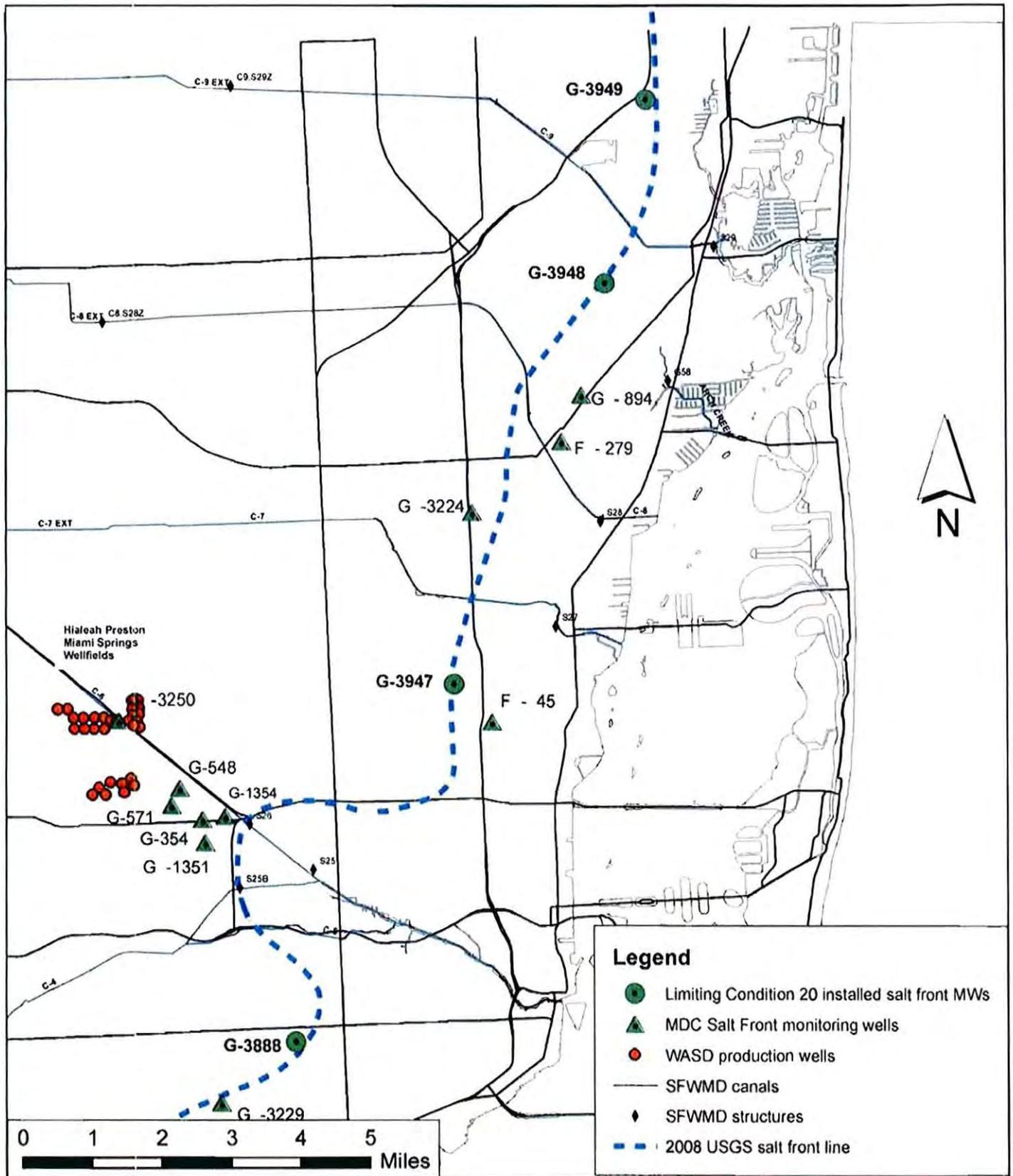


Figure 2. 2010 North Miami-Dade County Salt Front Monitoring Network 9/15/10



Miami-Dade Water and Sewer Department
 3071 SW 38 Ave
 Miami FL 33146

Exhibit 27B

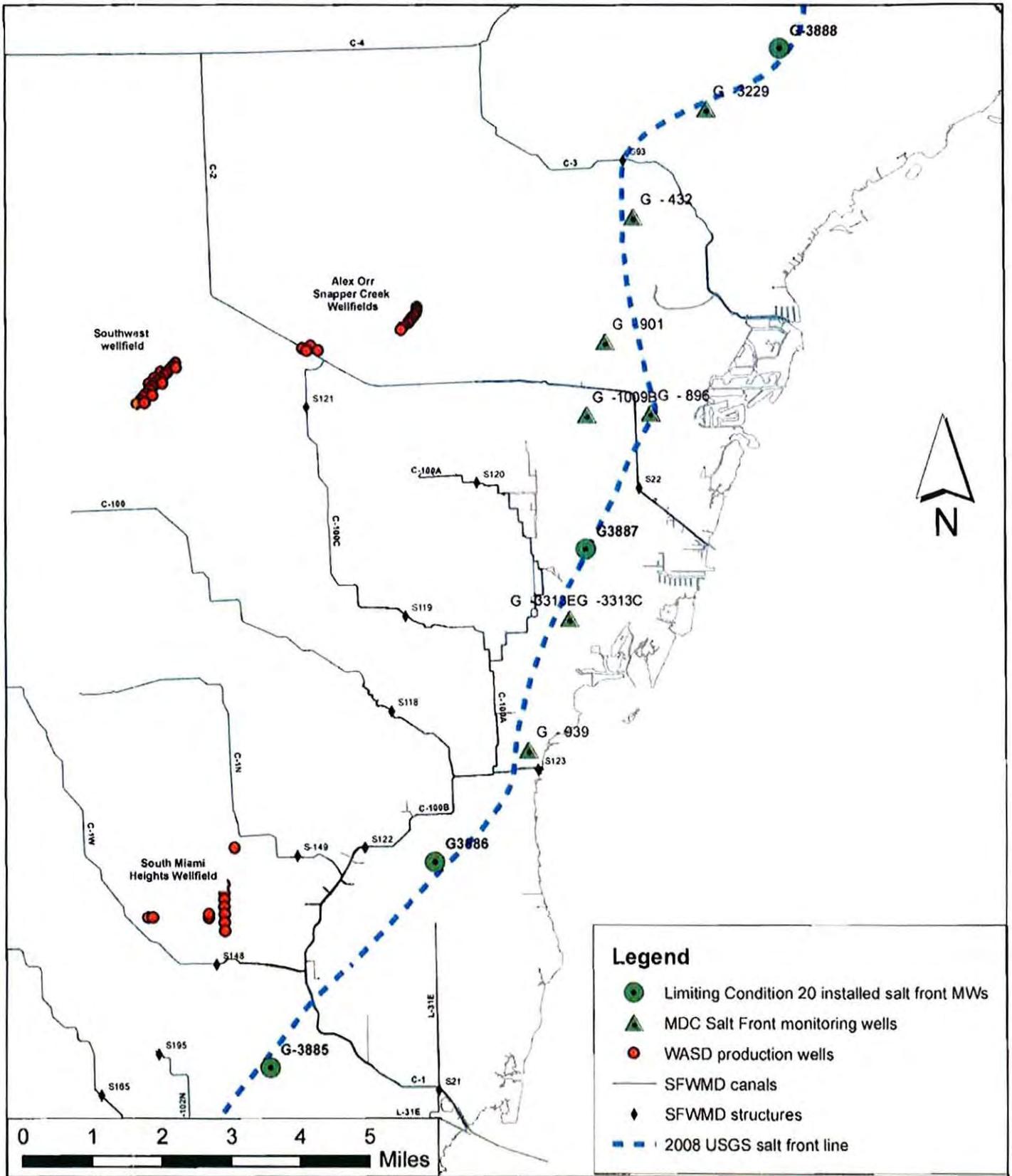


Figure 3. 2010 Central Miami-Dade County Salt Front Monitoring Network
9/15/10



Miami-Dade Water and Sewer Department
3071 SW 38 Ave
Miami FL 33146

Exhibit 27C

Table 1. Existing Miami-Dade County Salt Front Monitoring Wells
Updated 04/6/2011

| USGS ID | STATION NAME | STATUS | LATITUDE | LONGITUDE | SITE USE | WELL DEPTH (ft) ^B | CASING DEPTH (ft) ^B | Sampling Frequency for WL & Cl | Induction Log Done | 2007 Cl ⁻ Level (mg/l) | 2011 Cl ⁻ Level (mg/l) |
|-----------------|--------------|----------------|----------|------------|------------------------|------------------------------|--------------------------------|--------------------------------|--------------------|-----------------------------------|-----------------------------------|
| 253831080180206 | G -3313E | needs levels | 25 38 31 | -080 18 02 | test | 114 | 32.0 | Quarterly | Yes | 410 | NA |
| 253831080180204 | G -3313C | needs levels | 25 38 31 | -080 18 02 | observation/monitoring | 110 | 107.0 | Quarterly | No | 3800 | 4800 |
| 254946080172601 | G -3250 | needs levels | 25 49 46 | -080 17 26 | test | 116 | 106.0 | Quarterly | Yes | 68 | 150 |
| 254457080160301 | G -3229 | needs levels | 25 44 57 | -080 16 03 | observation/monitoring | 85 | ^A | Quarterly | No | 700 | 1510 |
| 255222080123001 | G -3224 | operational | 25 52 22 | -080 12 30 | observation/monitoring | 95.5 | 93.5 | Quarterly | No | 44 | 40 |
| 253202080232601 | G -3162 | obstruction | 25 31 32 | -080 23 25 | observation/monitoring | 92 | 82.0 | Quarterly | No | 1140 | 1270 |
| 254833080155801 | G -1354 | operational | 25 48 33 | -080 15 58 | observation/monitoring | 104 | 91.0 | Quarterly | No | 56 | 46 |
| 254813080161501 | G -1351 | needs levels | 25 48 13 | -080 16 15 | observation/monitoring | 103 | 100.0 | Quarterly | No | 540 | 500 |
| 252947080235301 | G -1180 | needs levels | 25 29 47 | -080 23 53 | observation/monitoring | 67 | open hole | Quarterly | No | 32 | 24 |
| 252944080233401 | G -1179 | needs levels | 25 29 44 | -080 23 34 | observation/monitoring | 80 | ^A | Quarterly | No | 2450 | 2150 |
| 254106080174601 | G -1009B | special proble | 25 41 06 | -080 17 46 | observation/monitoring | 100 | ^A | Quarterly | No | 50 | 60 |
| 253652080183701 | G - 939 | operational | 25 36 52 | -080 18 37 | withdrawal | 60.2 | 57.0 | Quarterly | No | 3150 | 3800 |
| 254201080173001 | G - 901 | operational | 25 42 01 | -080 17 30 | observation/monitoring | 96 | 94.8 | Quarterly | No | 2250 | 2350 |
| 254107080165201 | G - 896 | needs levels | 25 41 07 | -080 16 52 | observation/monitoring | 74 | 60.0 | Quarterly | No | 245 | 250 |
| 255350080105801 | G - 894 | operational | 25 53 50 | -080 10 58 | observation/monitoring | 76 | 74.5 | Quarterly | No | 24 | 22 |
| 254841080164401 | G - 571 | needs levels | 25 48 41 | -080 16 44 | observation/monitoring | 94.5 | 94.5 | Quarterly | No | 32 | 36 |
| 254855080163701 | G - 548 | operational | 25 48 55 | -080 16 37 | observation/monitoring | 97.3 | 91.4 | Quarterly | No | 44 | 31 |
| 254335080170501 | G - 432 | obstruction | 25 43 35 | -080 17 05 | observation/monitoring | 99.5 | 97.5 | Quarterly | No | 3600 | 5100 |
| 254828080161501 | G - 354 | operational | 25 48 28 | -080 16 15 | observation/monitoring | 90.2 | 89.2 | Quarterly | No | 54 | 45 |
| 255315080111501 | F - 279 | needs levels | 25 53 15 | -080 11 15 | withdrawal | 117 | 113.5 | Quarterly | No | 3300 | 3650 |
| 254943080121501 | F - 45 | obstruction | 25 49 43 | -080 12 15 | observation/monitoring | 84.9 | 83.9 | Quarterly | No | 104 | 125 |
| 253253080221201 | G -3885 | operational | 25 32 53 | -080 22 12 | observation/monitoring | 91 | 86.0 | Quarterly | Yes | NA | 38 |
| 253527080195401 | G -3886 | operational | 25 35 27 | -080 19 54 | observation/monitoring | 109 | 101.0 | Quarterly | Yes | NA | 50 |
| 253924080174601 | G -3887 | operational | 25 39 24 | -080 17 46 | observation/monitoring | 134 | 130.0 | Quarterly | Yes | NA | 2200 |
| 254542080145901 | G -3888 | operational | 25 45 42 | -080 14 59 | observation/monitoring | 149 | 143.5 | Quarterly | Yes | NA | 5000 |
| 252431080261001 | G -3946 | operational | 25 32 53 | -080 22 12 | observation/monitoring | 99 | 90.0 | Quarterly | Yes | NA | 3550 |
| 255011080124501 | G -3947 | operational | 25 50 11 | -080 12 45 | observation/monitoring | 230 | 200.0 | Quarterly | Yes | NA | 28 |
| 255515080103601 | G -3948 | operational | 25 55 14 | -080 10 36 | observation/monitoring | 279 | 273.0 | Quarterly | Yes | NA | 3950 |
| 255733080195601 | G -3949 | operational | 25 57 33 | -080 09 56 | observation/monitoring | 350 | 325.0 | Quarterly | Yes | NA | 112 |

A. Per USGS, depth of the casing is not precisely known

B. Feet Below Land Surface (b/s)

GWL: groundwater level

Cl: chloride

Table 2. Additional USGS Salt Monitoring Wells in Miami-Dade County

updated 9/21/10

| USGS ID | STATION NAME | LATITUDE | LONGITUDE | SITE USE | WELL DEPTH (ft) ^A | CASING DEPTH (ft) ^A | Induction Log Done | 2005 Chloride (mg/l) | 2010 Chloride (mg/l) |
|-----------------|--------------|------------|------------|------------------------|------------------------------|--------------------------------|--------------------|----------------------|----------------------|
| 255625080094901 | G -3705 | 25 56 25 | -080 09 49 | observation/monitoring | 135 | 125.0 | Yes | 1720 | 1500 |
| 254822080125501 | G -3704 | 25 48 22 | -080 12 55 | observation/monitoring | 112 | 107.0 | Yes | 4100 | 5300 |
| 253334080213601 | G -3702 | 25 33 34 | -080 21 36 | observation/monitoring | 83 | 78.0 | Yes | 980 | 980 |
| 253214080224601 | G -3701 | 25 32 14 | -080 22 46 | observation/monitoring | 83 | 78.0 | Yes | 30 | 465 |
| 253027080234701 | G -3700 | 25 30 27 | -080 23 47 | observation/monitoring | 82.5 | 77.5 | Yes | 30 | 26 |
| 252652080244301 | G -3699 | 25 26 52 | -080 24 43 | observation/monitoring | 88 | 83.0 | Yes | 5700 | 8800 |
| 252814080244101 | G -3698 | 25 28 13.6 | -080 24 41 | observation/monitoring | 85 | 80.0 | Yes | 34 | 26 |
| 253024080231001 | G -3615 | 25 30 24 | -080 23 10 | observation/monitoring | 80 | 75.0 | Yes | 1120 | 1640 |
| 253457080195501 | G -3612 | 25 34 57 | -080 19 55 | observation/monitoring | 62 | 56.0 | Yes | 1380 | 1220 |
| 253710080184701 | G -3611 | 25 37 10 | -080 18 47 | observation/monitoring | 100 | 95.0 | Yes | 200 | 165 |
| 254005080171601 | G -3609 | 25 40 05 | -080 17 16 | observation/monitoring | 85 | 80.0 | Yes | 940 | 1300 |
| 254108080170601 | G -3608 | 25 41 08 | -080 17 06 | observation/monitoring | 100 | 95.0 | Yes | 230 | 122 |
| 254156080172101 | G -3607 | 25 41 56 | -080 17 21 | observation/monitoring | 120 | 115.0 | Yes | 70 | 62 |
| 254341080174001 | G -3606 | 25 43 41 | -080 17 40 | observation/monitoring | 120 | 115.0 | No | 44 | 42 |
| 254629080143101 | G -3605 | 25 46 29 | -080 14 31 | observation/monitoring | 110 | 105.0 | Yes | 1460 | 1800 |
| 254722080152201 | G -3604 | 25 47 22 | -080 15 22 | observation/monitoring | 120 | 115.0 | Yes | 2800 | 5000 |
| 254908080125201 | G -3603 | 25 49 08 | -080 12 52 | observation/monitoring | 167 | 162.0 | No | 66 | 78 |
| 255116080120601 | G -3602 | 25 51 16 | -080 12 06 | observation/monitoring | 160 | 155.0 | Yes | 3100 | 3800 |
| 255358080114101 | G -3601 | 25 53 58 | -080 11 41 | observation/monitoring | 190 | 185.0 | Yes | 1100 | 1300 |

A. Feet Below Land Surface (bls)

Exhibit 28B

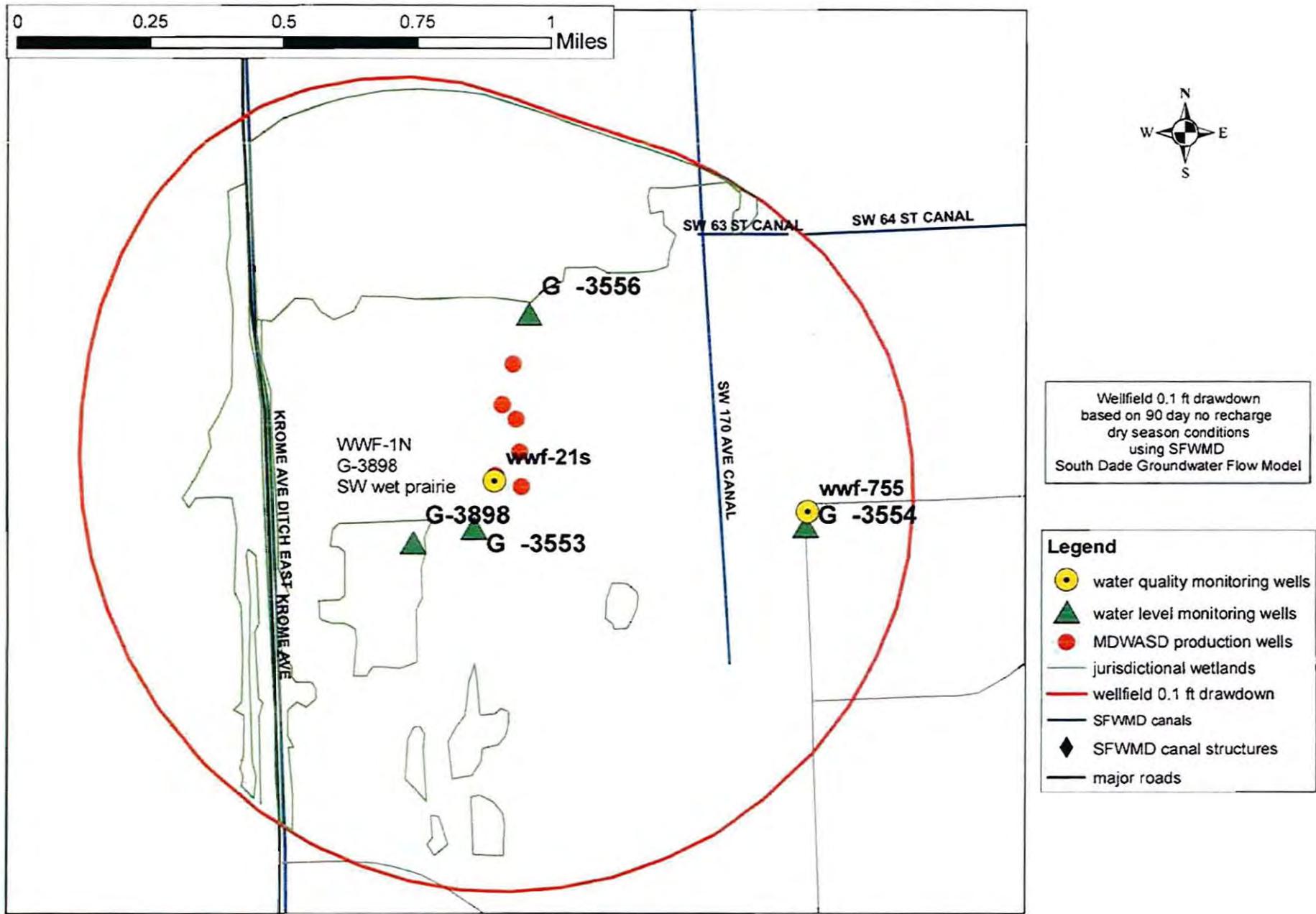
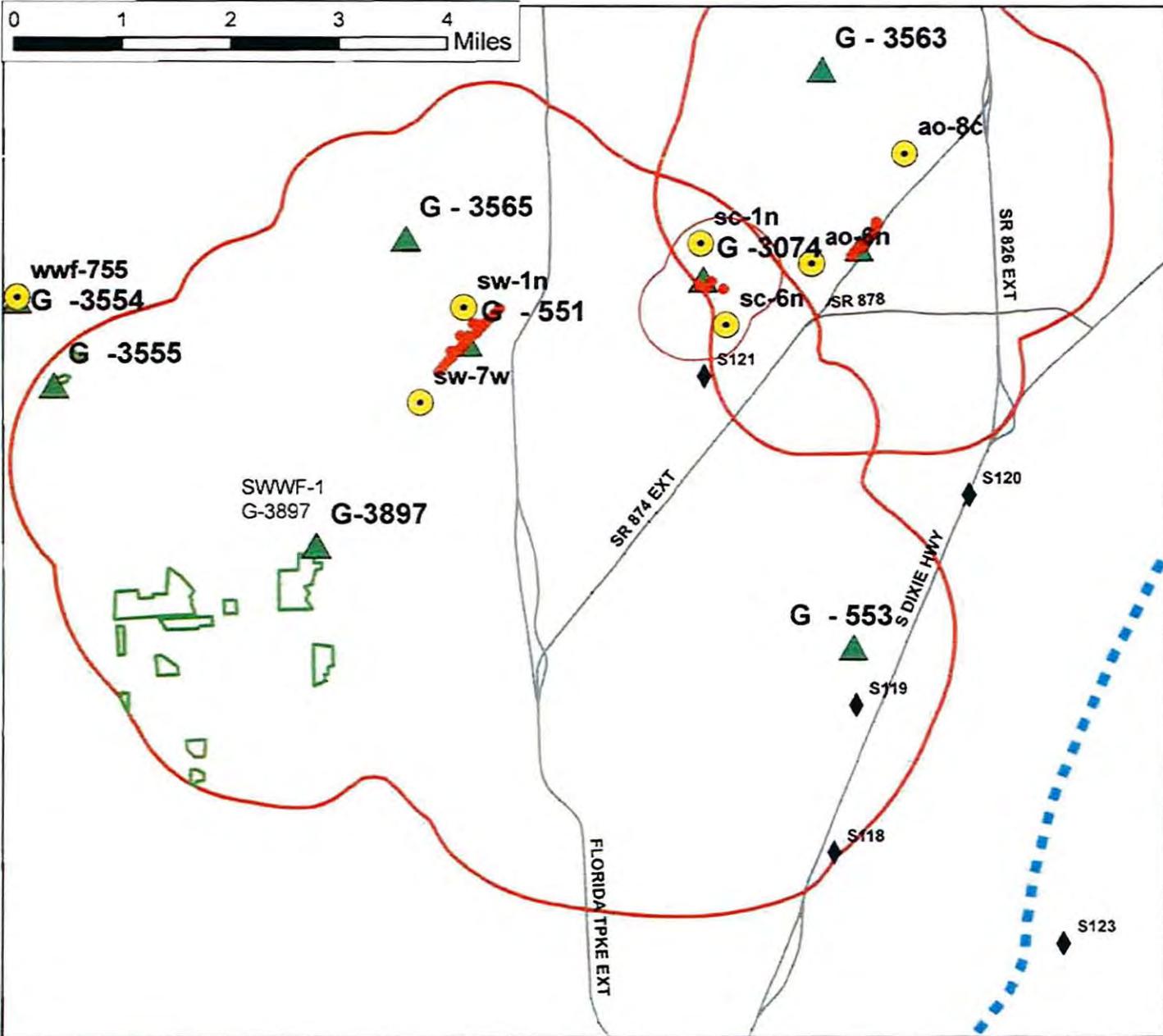
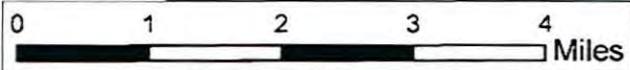


Figure 7. West Wellfield Groundwater Level and Water Quality Monitoring



Wellfield 0.1 ft drawdown based on 90 day no recharge dry season conditions using SFWMD South Dade Groundwater Flow Model

- Legend**
- water quality monitoring wells
 - ▲ water level monitoring wells
 - MDWASD production wells
 - USGS salt line 2008
 - jurisdictional wetlands
 - wellfield 0.1 ft drawdown
 - ◆ SFWMD canal structures
 - major roads

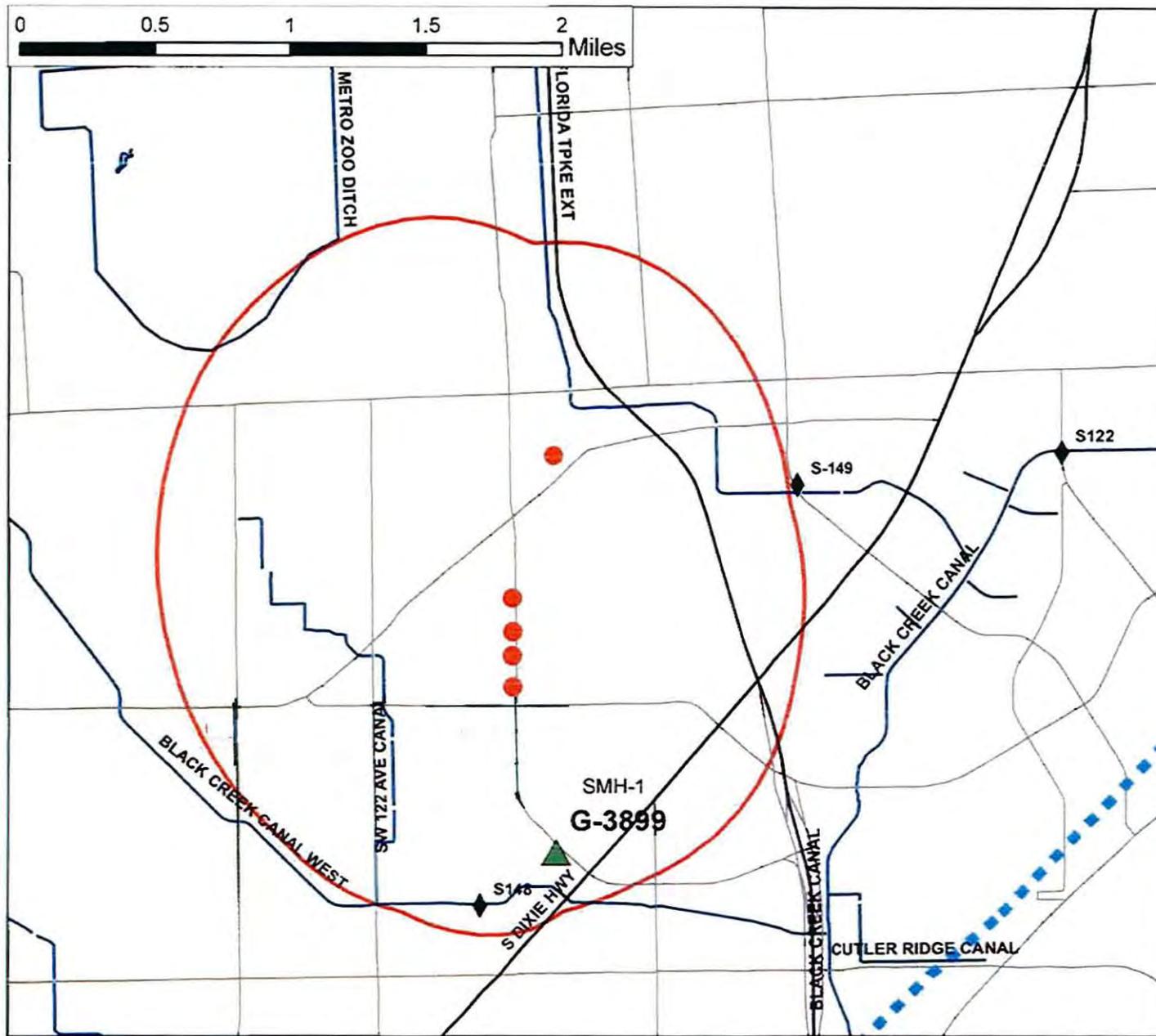
Exhibit 29B

Figure 8. Southwest, Snapper Creek and Alex Orr Wellfield Groundwater Level and Water Quality Monitoring



Miami-Dade County Water and Sewer Department
 3071 SW 38 Ave
 Miami FL 33146

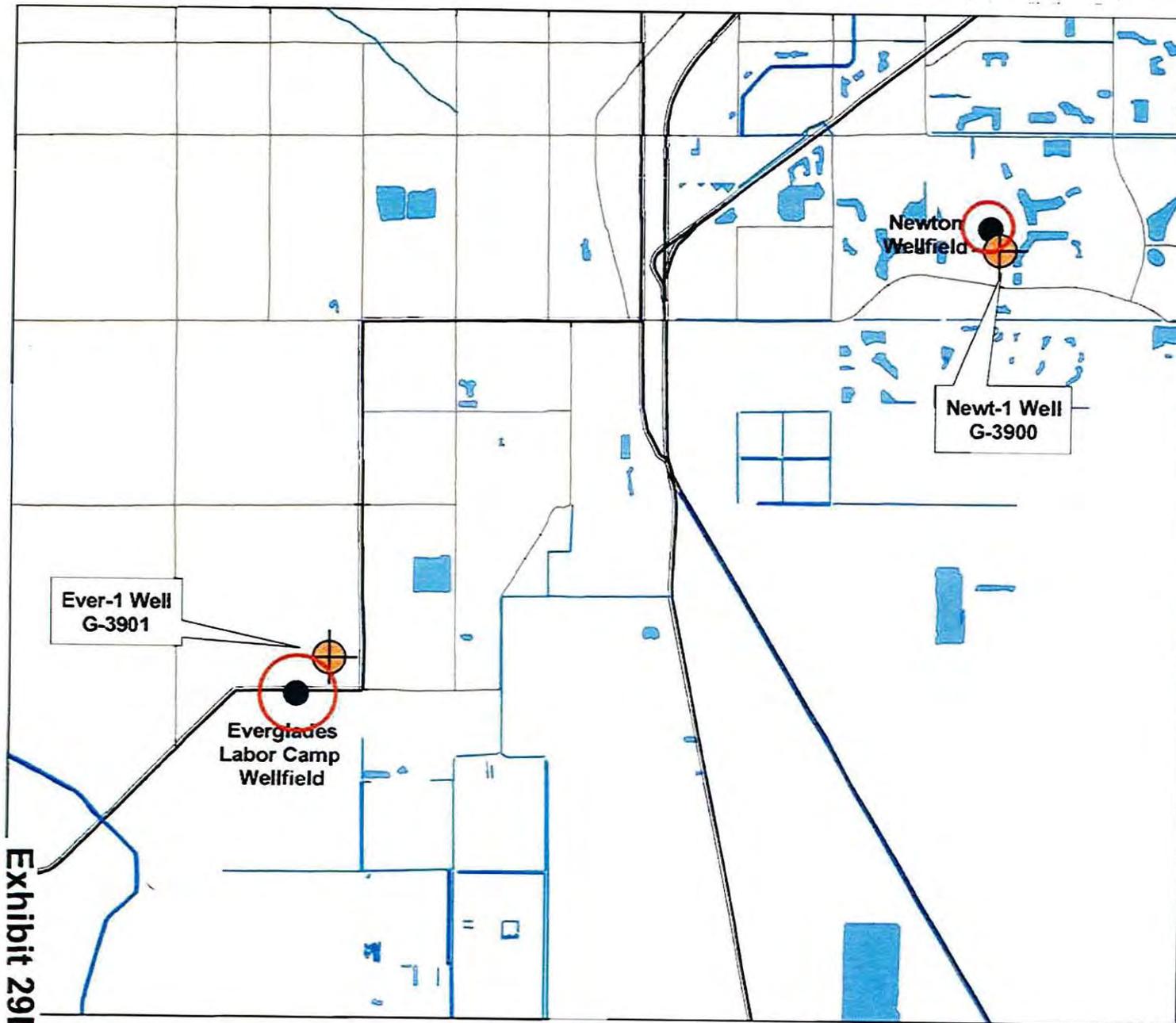
updated 9/21/10



Wellfield 0.1 ft drawdown based on 90 day no recharge dry season conditions using SFWMD South Dade Groundwater Flow Model

- Legend**
- ▲ water level/WQ monitoring wells
 - MDWASD production wells
 - - - USGS salt line 2008
 - SFWMD canals
 - ◆ SFWMD canal structures
 - wellfield 0.1 ft drawdown
 - major roads

Figure 9. South Miami Heights Wellfield Groundwater Level and Water Quality Monitoring



 water level-water quality monitoring well

Wellfield 0.1 ft drawdown based on 90 day no recharge dry season conditions using SFWMD South Dade Groundwater Flow Model

- Legend**
-  MDWASD production wells
 -  wellfield 0.1 ft drawdown
 -  SFWMD canals
 -  Major Roads

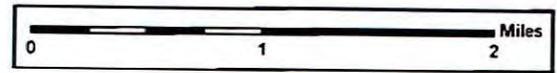


Exhibit 29D

Figure 10. South Dade Wellfields Groundwater Level and Water Quality Monitoring

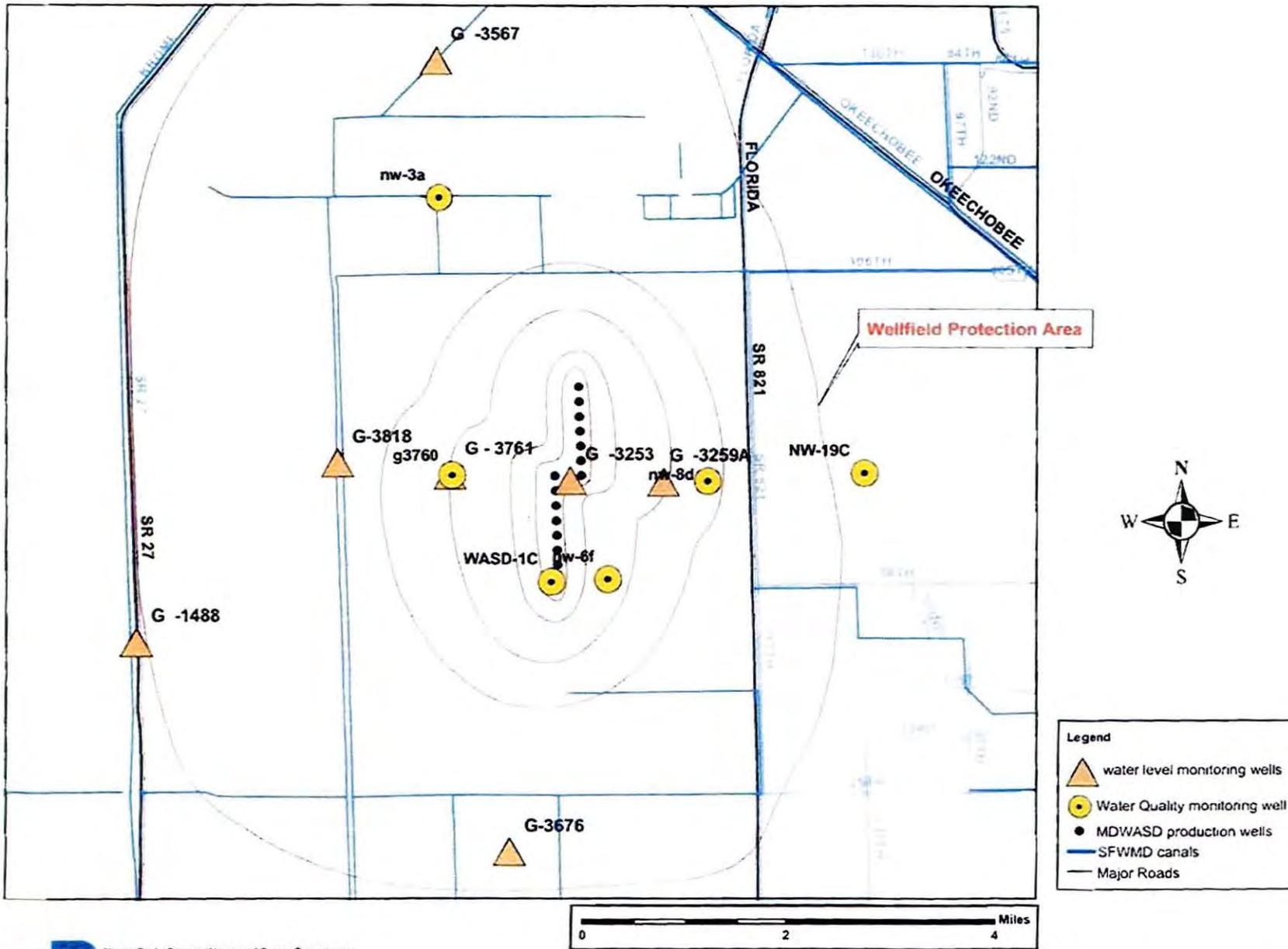


Figure 11. Northwest Groundwater Level and Water Quality Monitoring
 11-8-07

Table 4. Water Quality and Water Level Monitoring Wells by Wellfield.

| WELL ID | STATION ID | LATITUDE | LONGITUDE | SITE USE | BORE HOLE DEPTH (ft) ¹ | CASING DEPTH (ft) ¹ | Screen Interval (ft) ¹ | WELL FIELD PUMPAGE INTERVAL (ft) ¹ | GROUND WATER LEVEL MONITOR FREQUENCY | WATER QUALITY MONITORING FREQUENCY | WELLFIELD |
|-----------------|-------------------------------------|----------|------------|------------------------|-----------------------------------|--------------------------------|-----------------------------------|---|--------------------------------------|------------------------------------|--------------|
| 25413080234501 | G - 551 | 25 41 30 | -080 23 45 | standby supply | 80.0 | 71 | 29-71 | 33-108 | CONTINUOUS | | AO SC, SWWF |
| 253902080202501 | G - 553 | 25 39 02 | -080 20 19 | observation/monitoring | 91.0 | 79 | no screen | 33-108 | CONTINUOUS | | AO SC, SWWF |
| 254215080201503 | G -3074B | 25 42 15 | -080 20 15 | observation/monitoring | 39.0 | 17.0 | no screen | 33-108 | CONTINUOUS | | AO SC, SWWF |
| 254157080214002 | G -3074 | 25 41 57 | -080 21 40 | observation/monitoring | 40.0 | 40.0 | no screen | 33-108 | CONTINUOUS | | AO SC, SWWF |
| 254111080272501 | G -3555 | 25 41 11 | -080 27 25 | observation/monitoring | 19.0 | 14.0 | 14-19 | 33-108 | CONTINUOUS | | AO SC, SWWF |
| 254340080203601 | G -3563 | 25 43 40 | -080 20 36 | observation/monitoring | 18.1 | 13 | no screen | 33-108 | CONTINUOUS | | AO SC, SWWF |
| 254218080241801 | G -3565 | 25 42 18 | -080 24 18 | observation/monitoring | 19.0 | 14 | no screen | 33-108 | CONTINUOUS | | AO SC, SWWF |
| 253948080250701 | G -3897 | 25 39 47 | -080 25 08 | observation/monitoring | 22.5 | 17.5 | 17.5-22.5 | 33-108 | CONTINUOUS | | AO, SC, SWWF |
| DERM Well | AO-6N | 25 42 07 | -080 20 41 | observation/monitoring | 60 | 60 | 55 - 60 | 40-100 | 3xYear | 3xYear | AO |
| DERM Well | AO-8C | 25 43 00 | -080 19 50 | observation/monitoring | 60 | 60 | 55 - 60 | 40-100 | 3xYear | 3xYear | AO |
| DERM Well | SC-1N | 25 42 17 | -080 21 40 | observation/monitoring | 60 | 60 | 55 - 60 | 50-108 | 3xYear | 3xYear | SC |
| DERM Well | SC-6N | 25 41 38 | -080 21 27 | observation/monitoring | 60 | 60 | 55 - 60 | 50-108 | 3xYear | 3xYear | SC |
| DERM Well | SW-2W | 25 41 50 | -080 24 14 | observation/monitoring | 60 | 60 | 55 - 60 | 33-104 | 3xYear | 3xYear | SWWF |
| DERM Well | SW-7W | 25 41 01 | -080 24 10 | observation/monitoring | 60 | 60 | 55 - 60 | 33-104 | 3xYear | 3xYear | SWWF |
| 254158080294501 | G -3551 | 25 41 58 | -080 26 45 | observation/monitoring | 18.3 | 13.3 | 13.3-18.3 | 35-70 | CONTINUOUS | | WWF |
| 254157080287101 | G -3553 | 25 41 52 | -080 28 21 | observation/monitoring | 19.9 | 14.9 | 14.9-19.9 | 35-70 | CONTINUOUS | | WWF |
| 254152080274501 | G -3554 | 25 41 52 | -080 27 45 | observation/monitoring | 20.0 | 15.0 | 15-20 | 35-70 | CONTINUOUS | | WWF |
| 254213080281501 | G -3556 | 25 42 13 | -080 28 15 | observation/monitoring | 19.7 | 14.1 | 14.1-19.1 | 35-70 | CONTINUOUS | | WWF |
| 254207080300201 | G -3577 | 25 42 07 | -080 30 02 | observation/monitoring | 8.0 | Open Hole | no screen | 35-70 | CONTINUOUS | | WWF |
| DERM Well | WWF-21S | 25 41 56 | -080 28 18 | observation/monitoring | 48 | 48 | 43 - 48 | 35-70 | 3xYear | 3xYear | WWF |
| DERM Well | WWF-75S | 25 41 53 | -080 27 44 | observation/monitoring | 55 | 55 | 50 - 55 | 35-70 | 3xYear | 3xYear | WWF |
| 254152080282601 | G -3898 | 25 41 52 | -080 28 25 | observation/monitoring | 22.8 | 17.8 | 17.8-22.8 | 35-70 | CONTINUOUS | | WWF |
| 253419080223701 | G -3899 | 25 34 19 | -080 22 37 | observation/monitoring | 20.6 | 15.6 | 15.6-20.6 | | CONTINUOUS | 3xYear | SMH |
| 252506080300801 | G -3901 | 25 25 06 | -080 30 06 | observation/monitoring | 22.3 | 17.3 | 17.3-22.3 | 40-65 | CONTINUOUS | 3xYear | EVERGLADES |
| 252718080264901 | G -3900 | 25 27 15 | -080 26 49 | observation/monitoring | 27 | 17 | 17-22 | 50-66 | CONTINUOUS | 3xYear | NEWTON |
| 254830080284201 | G -1488 | 25 49 07 | -080 28 57 | observation/monitoring | 20.0 | Open Hole | no screen | 46-100 | CONTINUOUS | | NWWF |
| 255027080245501 | G -3253 | 25 50 27 | -080 24 55 | observation/monitoring | 34.5 | 18.0 | no screen | 46-100 | CONTINUOUS | | NWWF |
| 255026080240302 | G -3258A | 25 50 26 | -080 24 03 | observation/monitoring | 60.0 | Open Hole | no screen | 46-100 | CONTINUOUS | | NWWF |
| 255358080260901 | G -3567 | 25 53 58 | -080 26 09 | observation/monitoring | 8.7 | 15.7 | no screen | 46-100 | CONTINUOUS | | NWWF |
| 254720080253002 | G -3676 | 25 47 20 | -080 25 30 | observation/monitoring | 33.0 | 25.0 | 23-33 | 46-100 | CONTINUOUS | | NWWF |
| 255035080270501 | G -3818 | 25 50 36 | -080 27 05 | observation/monitoring | 20.0 | 15.0 | 15-20 | 46-100 | CONTINUOUS | | NWWF |
| DERM Well | NW-8D | 25 50 25 | -080 23 38 | observation/monitoring | 60 | 60 | 55 - 60 | 46-100 | 3xYear | 3xYear | NWWF |
| DERM Well | NW-6F (replaced NW-6D in 2004) | 25 49 37 | -080 24 30 | observation/monitoring | 60 | 60 | 55 - 60 | 46-100 | 3xYear | 3xYear | NWWF |
| DERM Well | WASD-1C ² | 25 51 18 | -080 24 49 | observation/monitoring | 40 | 40 | 35 - 40 | 46-100 | 3xYear | 3xYear | NWWF |
| DERM Well | G-376C ³ | 25 50 29 | -080 26 02 | observation/monitoring | 72.7 | 70.7 | no screen | 46-100 | CONTINUOUS | 3xYear | NWWF |
| DERM Well | NW-3A | 25 52 47 | -080 26 06 | observation/monitoring | 88 | 88 | 83 - 89 | 46-100 | 3xYear | 3xYear | NWWF |
| DERM Well | NW-19C (replaced NW-19S in 2006) | 25 50 31 | -080 22 13 | observation/monitoring | 50 | 50 | 45 - 50 | 46-100 | 3xYear | 3xYear | NWWF |

¹ Feet Below Land Surface (bfs)
² Located in NWWF compound, just north of pump house #15
³ Located west of NWWF, on FPL easement

TABLE 3 DEEM Ground Water Quality Monitoring Parameter and Frequency Schedule

| Parameter Selection in Water | sampling frequency |
|--------------------------------|--------------------|
| NUTRIENTS | |
| NH3 | 3x |
| NOxN | 3x |
| T-P | 3x |
| CATIONS | |
| Ca ⁺ | annual |
| K ⁺ | annual |
| Mg ⁺ | annual |
| Na ⁺ | annual |
| ANIONS | |
| Cl ⁻ | 3x |
| CN | annual |
| F | annual |
| SO4 ⁻ | annual |
| PHYSICAL PROPERTIES | |
| Color | 3x |
| Hardness | 3x |
| Turbidity | 3x |
| TDS | 3x |
| TSS | |
| METALS (TOTAL) | |
| Al | annual |
| As | annual |
| Ag | annual |
| Ba | annual |
| Cd | annual |
| Cr | annual |
| Cr ^{VI} (hexavalent) | annual |
| Cu | annual |
| Fe | annual |
| Hg | annual |
| Mn | annual |
| Ni | annual |
| Pb | annual |
| Se | annual |
| Zn | annual |
| AGGREGATE ORGANICS | |
| Phenol | annual |
| TOC | annual |
| TKN | annual |
| INDIVIDUAL ORGANICS | |
| 8081 - Chlorinated Pest | annual |
| - Chlorinated Herbicide | annual |
| 8021/B - Volatile Organics | 3x |
| 8279 - Semivolatiles | annual |
| Organophosphorus SV2, 6, 14, 1 | annual |
| 807 - Triazines | annual |
| 8-1 - Carbamates | annual |
| 817 - Glyphosate | annual |
| 8-2 - Chlorides | 3x |
| 8-3 - Sulfides | 3x |

SCANNED 05/13/2011 15:28 J.P.

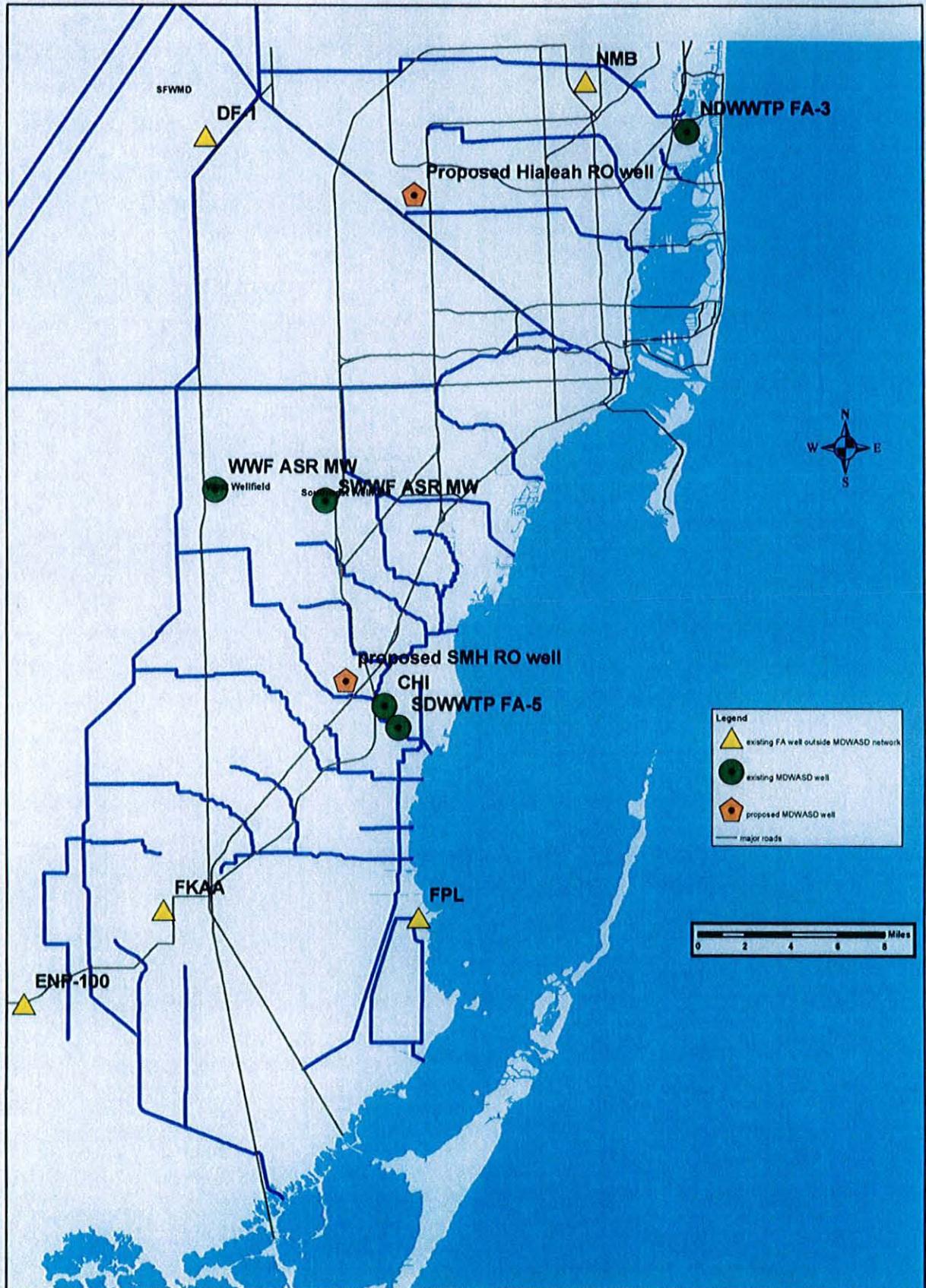


Figure 13. Floridan Aquifer Monitoring Network Design



Miami-Dade County Water and Sewer Department
3071 SW 38 Ave
Miami FL 33146

EXHIBIT 32A

Table 5. Floridan Aquifer Monitoring Wells

| WELL ID | LOCATION | LATITUDE | LONGITUDE | BORE HOLE DEPTH (ft) ² | CASING DEPTH (ft) ² | MONITORING INTERVAL (ft) ² | PRESSURE LEVEL MONITOR FREQUENCY | WATER QUALITY MONITOR FREQUENCY |
|------------------------|--------------------------|------------------|--------------|-----------------------------------|--------------------------------|---------------------------------------|----------------------------------|---------------------------------|
| DF-1 ¹ | N. Krome Ave | 25 54 35.831 | 80 28 06.935 | 1800 | TZ | 516-620, 1140-1230, 1700-1800 | Maintained by SFWMD | |
| ENP-100 ¹ | Everglades National Park | 25 22 57.096 | 80 36 10.71 | 1333 | 620 | 620-1333 | Maintained by USGS | |
| FKAA ¹ | Florida City | 25 26 36 | 80 30 31 | 1500 | 1067 | 880-1353 | Maintained by FCAA | |
| FPL ¹ | FPL Property | 25 21 01.416 | 80 24 28.204 | 2304 | TZ | 1120-1330, 1535-1920, 2100-2304 | Maintained by FPL | |
| NMB ¹ | NMB | 25 56 58.44 | 80 12 54.909 | 1900 | 1020 | | Maintained by NMB | |
| NDWWTP FA-3N | NDWWTP | 25 55 05.037 | 80 08 49.465 | 1510 | 1410 | 1410-1510 | Continuous | Monthly |
| SDWWTP FA-5 | SDWWTP | 25 33 04.976 | 80 20 49.073 | 1890 | DZ | 1490-1588, 1790-1890 | Continuous | Monthly |
| ASR MW-1 | WWF | 25 42 01.374 | 80 28 29.193 | 1396 | DZ | 855-1010, 1350-1396 | Continuous | Monthly |
| SWWF MW-1 | SWWF | 25 69 | 80 39 | 1200 | DZ | 845-900, 1110-1200 | Continuous | Monthly |
| CHI Monitoring Well | near SDWWTP | 25 33 51.64 | 80 21 23.45 | 1900 | DZ | 1000 - 1100, 1400-1500, | Continuous | Monthly |
| South Miami Heights RO | new SMH RO WTP | Proposed FA Well | | | | | Continuous | Monthly |
| Hialeah RO | New Hialeah RO WTP | Proposed FA Well | | | | | Continuous | Monthly |

Highlighted wells proposed for MDWASD Floridan Aquifer monitoring network

- 1. Data for Wells from DBHydro, wells not in MDWASD network.
- 2. Feet Below Land Surface (bls)

TZ - tri-zone
DZ - dual zone

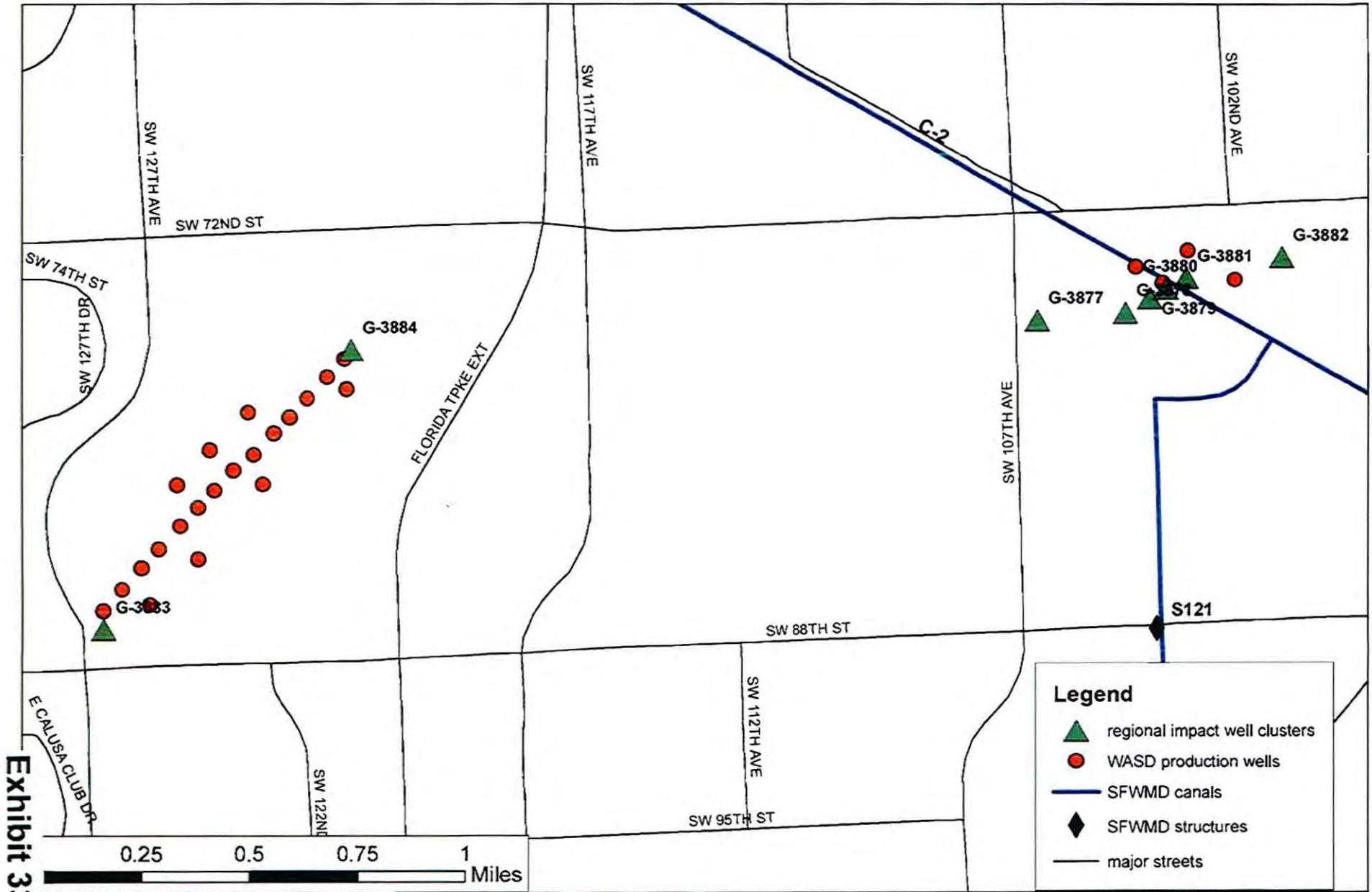


Exhibit 33A



Miami-Dade Water and Sewer Department
 3071 SW 38 Ave
 Miami FL 33146



Figure 12a. Regional Impact well Cluster locations: Southwest and Snapper Creek wellfields

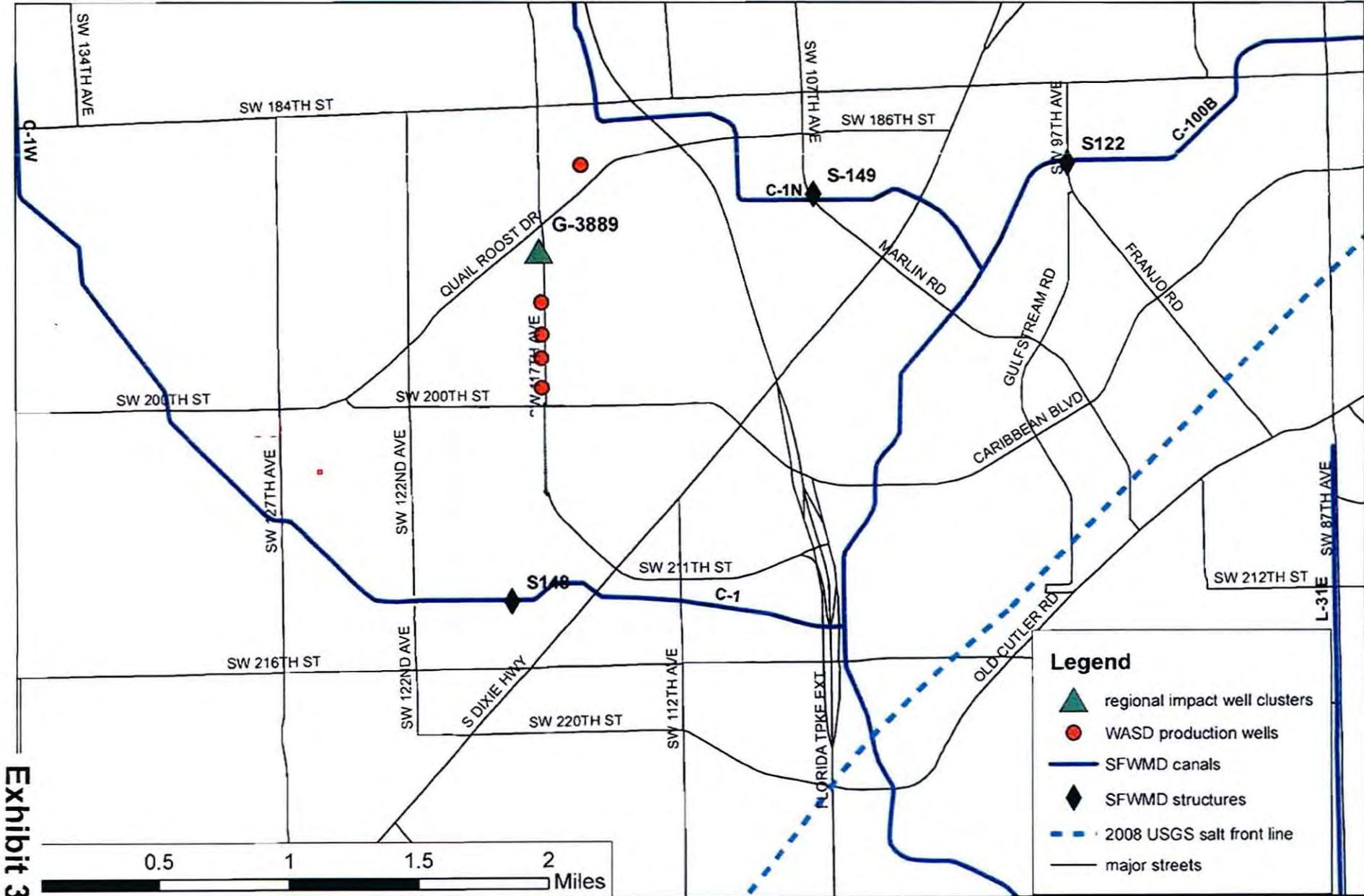


Exhibit 33B



Miami-Dade Water and Sewer Department
 3071 SW 38 Ave
 Miami FL 33146



Figure 12b. Regional Impact well Cluster locations:
 South Miami Heights wellfield

New Monitoring Well Completion Schedule

| WELL ID | SITE USE | NETWORK | DATE WELL INSTALLATION COMPLETION | STATUS |
|-----------------|--|---------------------|--|-----------|
| SWWF-1/G-3897 | Located near SWWF for water elevation well-wetland monitoring | WQ/WL | Mar-09 | Completed |
| WWF-1N/G-3898 | Located NE of West Wellfield for water elevation well-wetland monitoring | WQ/WL | Mar-09 | Completed |
| SMH-1/G-3899 | Located near South Miami Heights Wellfield for water elevation well | WQ/WL | Mar-09 | Completed |
| Ever-1/G-3901 | Located near Everglades Labor Camp Wellfield for water elevation well | WQ/WL | Mar-09 | Completed |
| Newton-1/G-3900 | Located near Newton Wellfield for water elevation well | WQ/WL | Mar-09 | Completed |
| Hialeah RO | Located near new City of Hialeah RO Water Treatment Plant | Floridan monitoring | Based on City of Hialeah RO plant construction | Pending |
| G-3949 | North Miami-Dade County near Broward line | Salt Monitoring | Sep-10 | Completed |
| G-3948 | North Miami-Dade County | Salt Monitoring | Sep-10 | Completed |
| G-3947 | North Miami-Dade County | Salt Monitoring | Jul-10 | Completed |
| G-3888 | City of Miami south of C-6 canal | Salt Monitoring | Oct-09 | Completed |
| G-3887 | Eastern Miami-Dade County/Pinecrest | Salt Monitoring | Sep-09 | Completed |
| G-3886 | Northeast of SMH Wellfield | Salt Monitoring | Oct-09 | Completed |
| G-3885 | South of SMH Wellfield | Salt Monitoring | Aug-09 | Completed |
| G-3946 | South Miami-Dade County Model Lands | Salt Monitoring | Jul-09 | Completed |
| G-3877 | Snapper Creek Wellfield | Regional Impact | Mar-10 | Completed |
| G-3878 | Snapper Creek Wellfield | Regional Impact | Mar-10 | Completed |
| G-3879 | Snapper Creek Wellfield | Regional Impact | Mar-10 | Completed |
| G-3880 | Snapper Creek Wellfield | Regional Impact | Mar-10 | Completed |
| G-3881 | Snapper Creek Wellfield | Regional Impact | Mar-10 | Completed |
| G-3882 | Snapper Creek Wellfield | Regional Impact | Mar-10 | Completed |
| G-3889 | Located midway between the Proposed SMH Wellfield and the Aquifer Recharge Project | Regional Impact | Mar-10 | Completed |
| G-3884 | Southwest Wellfield | Regional Impact | Mar-10 | Completed |
| G-3883 | Southwest Wellfield | Regional Impact | Mar-10 | Completed |
| SMH RO | Located near South Miami Heights RO Water Treatment Plant | Floridan monitoring | 2014 | Pending |

EXHIBIT 33C

Exhibit 33C

US Geological Survey Project Timeline
 QUANTIFICATION OF GROUND-WATER FLOWS IN SUPPORT OF SIMULATION OF SURFACE-
 AND GROUNDWATER FLOWS TO BISCAYNE AQUIFER, MIAMI-DADE COUNTY,

Updated 6/21/12

| Task | FY08 | | | | FY09 | | | | FY10 | | | | FY11 | | | | FY12 | | | | FY13 | | | |
|--|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|
| | ND | JFM | AMJ | JAS | OND | JFM | AMJ | JAS |
| 1. Test and select best flowmeter type suitable for deployment | XX | XXX | XXX | XXX | XXX | - | - | - | - | | | | | | | | | | | | | | | |
| 2. Drill coreholes, log, and construct monitor wells | - | - | - | - | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | | | | | | | | | | | | |
| 3. Construct DCPs and install Flowmeters | - | - | - | - | - | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | | | | | | | | | | | |
| 4. Begin collection of WQ/WL data-- | - | - | -- | - | - | - | - | - | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | | | | | |
| 5. Aquifer Step Testing- | - | - | -- | - | - | - | - | - | | | | | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX |
| 6. Real-time data collection and dissemination via website- | - | - | - | - | - | - | - | -- | - | - | - | - | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX |
| 7. Report preparation and publish report | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX |

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE U.S. DEPARTMENT OF INTERIOR,
THE GOVERNOR OF THE STATE OF FLORIDA,
THE SOUTH FLORIDA WATER MANAGEMENT
DISTRICT AND METROPOLITAN DADE COUNTY

This Memorandum of Understanding (hereinafter sometimes referred to as the "Agreement"), made and entered into this ____ day of ____ 1993, by and between the U.S. Department of the Interior, after called the "SECRETARY", the Governor of the State of Florida, hereinafter called the "GOVERNOR", the South Florida Water Management District, a public corporation of the State of Florida, hereinafter called the "DISTRICT", and Metropolitan Dade County, a political subdivision of the State of Florida, hereinafter referred to as the "COUNTY".

ARTICLE I. BACKGROUND AND OBJECTIVES

WHEREAS, the COUNTY proposes to construct a West Dade Wellfield, hereinafter referred to as the "Wellfield", and has applied to the DISTRICT for a Water Use permit (application #890731-12), requesting in said application to withdraw up to 40 million gallons per day from the Biscayne Aquifer and an allocation from the Floridan Aquifer System consistent with the Water Use permit, and

EXHIBIT 24

WHEREAS, the parties hereto desire to enter into this Agreement in order to provide adequate assurances that, in the event said Water Use permit is issued, withdrawals of water pursuant to said permit shall not cause adverse impacts to the hydrologic resources of the Everglades National Park, and

WHEREAS, the Everglades National Park Protection and Expansion Act of 1989, 16 U.S.C. secs. 410r-5 et seq., hereinafter referred to as the "Act" (Appendix "A"), provides that no Federal license, permit, approval, right of way or assistance shall be granted or issued with respect to the West Dade Wellfield (to be located in the Bird Drive Drainage Basin, as identified in the Comprehensive Development Master Plan for Dade County, Florida) until the SECRETARY, the Governor of the State of Florida, the South Florida Water Management District and Dade County, Florida enter into an agreement providing that any Water Use permit issued by the South Florida Water Management District for the Wellfield must include certain limiting conditions, which limiting conditions are included within this Agreement;

NOW THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties hereto agree as follows:

ARTICLE II. TERMS AND CONDITIONS

A. The foregoing recitals are true and correct and are incorporated herein by this reference.

B. Conditions to be Incorporated if Water Use Permit is Issued by DISTRICT.

(1) If the DISTRICT issues any Water Use permit for the Wellfield pursuant to Application #890731-12, the Wellfield's peak pumpage shall not exceed the forty (40) million gallons per day from the Biscayne Aquifer. The appropriate allocation from the Floridan Aquifer System will be addressed in the permit based on DISTRICT Water Use Criteria and demonstrated hydraulic characteristics of the Floridan Aquifer System.

(2) Notwithstanding anything to the contrary herein, if the DISTRICT issues any Water Use permit for the Wellfield, the withdrawals authorized by the permit shall be limited to an amount which meets the applicable water use permitting criteria of the DISTRICT in Chapter 373, Florida Statutes, and Chapter 40E-2, F.A.C., which criteria shall in no event be applied to permit an allocation of water which would allow water withdrawals or pumpage rates which exceed the limitations set forth in the Act;

(3) If the DISTRICT issues a Water Use permit for the Wellfield, the permit shall include the following additional

conditions regarding DISTRICT-declared water shortages:

(a) Reasonable, enforceable measures to limit demand on the Wellfield in times of water shortage, which shortage impacts the South Dade Water Use Basin, as defined in Chapter 40E-21, F.A.C., or the Everglades National Park, hereinafter called the "PARK". During such times of water shortage, the District has been authorized to declare areas of critical water supply pursuant to Chapter 373, Florida Statutes, and Chapter 40E-21, F.A.C.

(b) If, during times of a declared water shortage, the DISTRICT fails to limit demand on the Wellfield pursuant to Article II, Sec. B (3)(a) above, or if the DISTRICT limits demand on the Wellfield pursuant to Article II, Sec. B (3)(a) above, but the SECRETARY or the GOVERNOR certifies that operation of the Wellfield is still causing Adverse Impacts (see Article II, Sec. G herein) on the hydrologic resources of the PARK, as determined by the monitoring program described in Appendix "E", the GOVERNOR shall require the DISTRICT to take necessary actions to alleviate the Adverse Impacts, including temporary reduction or cessation in pumpage from the Biscayne Aquifer from the Wellfield, use of alternative sources of water from the Floridan Aquifer System or additional reductions in demand. This certificate issued

by the SECRETARY or the GOVERNOR shall specify what temporary corrective measures shall be required in the event of a disagreement regarding Adverse Impacts. In the event of such a disagreement, the COUNTY agrees to implement the corrective measures specified in the certificate pending outcome of the dispute resolution or correction of the Adverse Impacts, whichever occurs first. In the event that the COUNTY does not agree that Adverse Impacts have occurred in a particular case, the dispute mechanism set forth in Article II, Sec. D of this Agreement shall apply. The term "Adverse Impacts", as used herein, shall have the meaning set forth in Article II, Sec. G of this Agreement.

(c) Nothing herein shall be construed to limit the ability of the SECRETARY or the GOVERNOR to declare that Adverse Impacts to the hydrologic resources of the PARK have occurred when no water shortage has been declared by the DISTRICT.

C. The COUNTY agrees to comply with all conditions contained in any Water Use permit issued by the DISTRICT for the Wellfield.

D. The COUNTY agrees to operate the Wellfield in a manner which will not result in Adverse Impacts to hydrologic resources of

the PARK. Upon notification by the SECRETARY or the GOVERNOR of Adverse Impacts to PARK hydrologic resources pursuant to the protocol developed in accordance with Article II, Sec. G herein, the COUNTY shall take necessary actions to alleviate the Adverse Impacts, including temporary reduction or cessation in pumping from the Biscayne Aquifer from the Wellfield, use of alternative sources of water from the Floridan Aquifer System, or additional reductions in demand. In the event that the COUNTY does not agree that Adverse Impacts have occurred, the COUNTY shall only be required to implement the temporary corrective measures indicated in the certificate of Adverse Impacts pending resolution of the dispute pursuant to the dispute resolution procedure set forth in this Section. In the event of such a dispute, the COUNTY shall serve notice of the dispute upon the party which certified the Adverse Impacts. Upon notification of a dispute, the Key Officials indicated in Article IV, shall convene (by whatever communication device is expedient) within seventy-two (72) hours to determine whether Adverse Impacts have occurred. If the Key Officials substantiate that Adverse Impacts have occurred, they shall then decide what final action must be taken to alleviate the Adverse Impacts, and the COUNTY shall be required to take such action. If the Key Officials determine that Adverse Impacts have not occurred, the COUNTY shall not be required to continue corrective actions. If the Key Officials are unable to reach a unanimous resolution of the issue, then the decision of the SECRETARY shall be determinative.

E. If the DISTRICT issues a Water Use permit for the Wellfield, then, prior to the operation of the Wellfield, the COUNTY shall fund development of the following:

- (1) the plan entitled, "Hydrologic Monitoring Program for the West Dade Wellfield" (Appendix "B"); and
- (2) a stochastic hydrologic model (hereinafter "the model"), which model will be developed in cooperation with the DISTRICT and the PARK, and which will be used to develop an operation schedule for the Wellfield.

F. If the DISTRICT issues a Water Use permit for the Wellfield then, prior to the operation of the Wellfield, the COUNTY shall, with the cooperation of the PARK and the DISTRICT, implement the plan entitled, "Hydrologic Monitoring Program for the West Dade Wellfield" (Appendix "B"). The parties to this Agreement agree that this monitoring plan shall be implemented for a minimum of one (1) calendar year prior to operation of the Wellfield, in order to obtain a sufficient data base to allow for the calibration of the stochastic hydrologic model. All data, models and model output pertaining to the monitoring or determination of impacts related to the planning, development, implementation, or operation of the Wellfield shall be made available to all parties to this Agreement upon request.

G. Upon development and calibration of the model, the SECRETARY shall provide a protocol for timely notification to the GOVERNOR, the DISTRICT and the COUNTY when Adverse Impacts to the hydrologic resources of the PARK have occurred. The term "Adverse Impacts", for purposes of this Agreement, shall be defined as negative changes in water levels or flows in the L-31N canal and shall be equal to (a) specified hydrologic unit(s) of measurement which can reliably be detected by the monitoring network, and which can reasonably be linked by the model as being caused by the Wellfield. After collection of the base data as set forth in Article II, Sec. F herein, said unit(s) of measurement shall be determined by agreement of the parties hereto and incorporated as the standard(s) by which said "Adverse Impacts" shall be determined by inclusion in an appendix hereto (Appendix "C"), which appendix, upon approval of all parties to this Agreement, shall automatically be made a part of this Agreement without need for amendment hereto.

H. Nothing herein shall be construed to restrict the DISTRICT from exercising its authority under Chapter 373 of the Florida Statutes, or its implementing rules and permit conditions, to prevent or mitigate any adverse water resource impacts or impacts to existing legal uses and land uses.

I. Nothing herein shall be construed to restrict the COUNTY from applying for any other permit(s), or for modifications to any permit(s), if issued, provided, however, that this Agreement, unless amended, shall not pertain to any such application(s). If the COUNTY applies for a modification of (a) permit(s), or (an) additional permit(s) for this Wellfield, then this Agreement shall be modified, or a new agreement shall be entered into between the four parties hereto.

J. The DISTRICT agrees that it shall consider the feasibility of a water control structure on the C-4 canal (which structure would be located near the intersection of the C-4 Canal and the Dade-Knoward Levee) as part of the reevaluation of the Central and Southern Florida Flood Control Project or the first update of the Lower East Coast Regional Water Supply Plan.

K. Notwithstanding anything to the contrary herein, the DISTRICT does not warrant or guarantee in any way that it shall issue ANY Water Use permit to the COUNTY.

ARTICLE III. TERM OF AGREEMENTS; RENEWAL

A. Initial Term. This Agreement shall become effective upon the issuance of a Water Use permit for the Wellfield and shall have an initial term of fifty (50) years (which is the statutory

maximum period of time for which a consumptive use permit may be issued by the South Florida Water Management District) or that period of time during which the Wellfield remains in operable condition, whichever is less.

B. Renewal Term. In the event that the initial term of this Agreement is fifty (50) years, this Agreement shall be automatically renewed for one (1) additional term of fifty (50) years, unless, prior to ninety (90) days before the expiration of said initial term, any of the parties to this Agreement notifies all other parties of its intent not to renew this Agreement.

C. Effect On Permit(s). Any permit issued by the DISTRICT shall be for the period of time which is stated in the permit, which time period need not coincide with the effective term of this Agreement. Similarly, the failure to renew this Agreement shall not affect the validity of any applicable Water Use permit(s) in existence at the time of said failure to renew.

ARTICLE IV. KEY OFFICIALS

The following key officials (the "Key Officials") are authorized to act on behalf of the parties hereto in all matters undertaken pursuant to the terms of this Agreement:

EXHIBIT 35E

THE U.S. DEPARTMENT OF INTERIOR: The Superintendent of the PARK, or authorized delegate, will provide review and approval of terms of all agreements, will be the authorized representative for service as required herein of all notices on the SECRETARY and participation in the dispute resolution mechanism set forth in Article II, Sec. D herein, and will exercise the authority to approve conduct of cooperative projects with regards to the conditions contained herein. The Assistant Director of the South Florida Research Center shall act as the authorized technical representative for the PARK with regard to the technical scope of this Agreement.

THE GOVERNOR OF THE STATE OF FLORIDA: The Secretary of the State of Florida Department of Environmental Protection (DEP), or authorized delegate, will provide review and approval of terms of all agreements, will be the authorized representative for service as required herein of all notices on the GOVERNOR and participation in the dispute resolution mechanism set forth in Article II, Sec. D herein, and will exercise the authority to approve conduct of cooperative projects with regards to the conditions contained herein. The Chief of the Bureau of Wetland Resource Management shall act as the authorized technical representative for DEP with regard to the technical scope of this Agreement.

THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT: The Executive Director, or authorized delegate, will provide review and approval of terms of all agreements, will be the authorized representative for service as required herein of all notices on the DISTRICT and participation in the dispute resolution mechanism set forth in Article II, Sec. D herein, and will exercise the authority to approve conduct of cooperative projects with regards to the conditions contained herein. The Director of the Water Use Division's Regulation Department shall act as the authorized technical representative for the DISTRICT with regard to the technical scope of this Agreement.

METROPOLITAN DADE COUNTY: The Director of the Miami Dade Water and Sewer Authority Department, or authorized delegate, will provide review and approval of terms of all agreements, will be the authorized representative for service as required herein of all notices on the COUNTY and participation in the dispute resolution mechanism set forth in Article II, Sec. D herein, and will exercise the authority to approve conduct of cooperative projects with regards to the conditions contained herein. The Director of DERM, or authorized delegate, shall act as the authorized technical representative for the COUNTY with regard to the technical scope of this Agreement.

Written notice shall be provided to all parties of any change in Key Officials within four (4) weeks of such change.

ARTICLE V. AMENDMENT

This Agreement may be modified by amendment upon mutual written agreement of all parties.

ARTICLE VI. NOTICES

All notices required or permitted to be given under the terms and provisions of this Agreement by a party to the other parties shall be in writing and shall be sent by registered or certified mail, return receipt requested, to the parties as follows:

Department of the Interior
Richard S. Ring, Superintendent (Attn: Robert F. Doren)
Everglades National Park
40001 State Road 9336
Homestead, FL 33034-6733

The Governor of the State of Florida
c/o Secretary of the Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Attn: Chief of the Bureau of Wetland Resource Management

South Florida Water Management District
c/o Executive Director
P.O. Box 24680
West Palm Beach, Florida 33416-4680

Metropolitan Dade County
c/o Director, Miami Dade Water and Sewer Dept.
P.O. Box 330316
Miami, Florida 33133

or to such other address as may hereafter be provided by the parties in writing. Notices by registered or certified mail shall be deemed received on the delivery date indicated by the U.S. Postal Service on the return receipt.

ARTICLE VII. VENUE

Any litigation hereunder shall be brought in the appropriate state or federal court in Dade County, Florida.

ARTICLE VIII. HEADINGS

Captions and headings in this Agreement are for ease of reference only and do not constitute a part of this Agreement and

shall not affect the meaning or interpretation of any provisions herein.

ARTICLE IX. RIGHTS OF OTHERS

Nothing in this Agreement express or implied is intended to confer upon any person other than the parties hereto any rights or remedies under or by reason of this Agreement.

ARTICLE X. WAIVER

There shall be no waiver of any right related to this Agreement unless in writing signed by the party waiving such right. No delay or failure to exercise a right under this Agreement shall impair such right or shall be construed to be a waiver thereof. Any waiver shall be limited to the particular right so waived and shall not be deemed a waiver of the same right at a later time, or of any other right under this Agreement.

ARTICLE XI. INVALIDITY OF PROVISIONS

The invalidity of one or more of the phrases, sentences, clauses, or Articles contained in this Agreement shall not affect the validity of the remaining portion of the Agreement, provided that the material purposes of this Agreement can be determined and effectuated.

ARTICLE XII. AUTHORITY OF PARTIES TO ENTER INTO AGREEMENT

A. Authority of the SECRETARY. The SECRETARY represents that (1) this Agreement has been duly authorized, executed and delivered by the Superintendent, Everglades National Park, pursuant to the authority vested in him by 16 U.S.C. secs. 1 and 1a-1 and 16 U.S.C. sec. 410r-8(i), as the duly authorized representative of the U.S. Department of the Interior for purposes of this Agreement, and (2) the U.S. Department of the Interior has the required power and authority to perform this Agreement.

B. Authority of the GOVERNOR. The GOVERNOR represents that (1) this Agreement has been duly authorized, executed and delivered by the Governor of the State of Florida, and (2) he has the required power and authority to perform this Agreement.

C. Authority of the DISTRICT. The DISTRICT represents that (1) this Agreement has been duly authorized, executed and delivered by the Governing Board of the South Florida Water Management District, and (2) it has the required power and authority to perform this Agreement.

D. Authority of the COUNTY. The COUNTY represents that (1) this Agreement has been duly authorized, executed and delivered by

the Board of County Commissioners as the governing body of the County, and (2) it has the required power and authority to perform this Agreement.

ARTICLE XIII. ALLOCATION OF NATIONAL PARK SERVICE FUNDS

Nothing in this Agreement shall be construed to require the National Park Service to expend funds that have not been lawfully appropriated and administratively allocated for such purposes.

ARTICLE XIV. NONDISCRIMINATION

During the performance of this Agreement, the participants agree to abide by the terms of Executive Order 11246 on nondiscrimination and will not discriminate against any person because of race, color, religion, sex or national origin. The participants will take affirmative action to ensure that applicants are employed without regard to their race, color, religion, sex or national origin.

ARTICLE XV. CONGRESSIONAL PARTICIPATION RESTRICTION

No member or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Agreement if made with a

17

corporation for its general benefit.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representative(s) on the latest day and year noted below.

WITNESSES:

WITNESSES:

WITNESSES:

[Signature]
Assistant Secretary

ATTEST:

By: _____

Clerk

Approved as to form and
legal sufficiency: _____

DEPARTMENT OF THE INTERIOR

By: _____
Superintendent
Everglades National Park

THE STATE OF FLORIDA

By: _____
Governor

SOUTH FLORIDA WATER MANAGEMENT
DISTRICT

By: [Signature]
Chairman, Governing Board

METROPOLITAN DADE COUNTY

By: _____
County Manager



18

Requirement by Limiting Condition Report

App No: 110511-6

Permit No: 13-00017-W

Project Name: MIAMI-DADE CONSOLIDATED P W S

Limiting Condition No: 17

Limiting Condition Code: WUSTD021-8

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|---------------------|--|------------------|------------------|-------------|
| WELL - RO1 Hialeah | Calibration report for WELL RO1 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO2 Hialeah | Calibration report for WELL RO2 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO3 Hialeah | Calibration report for WELL RO3 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO4 Hialeah | Calibration report for WELL RO4 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO5 Hialeah | Calibration report for WELL RO5 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO6 Hialeah | Calibration report for WELL RO6 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO8 Hialeah | Calibration report for WELL RO8 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO9 Hialeah | Calibration report for WELL RO9 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO10 Hialeah | Calibration report for WELL RO10 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO11 Hialeah | Calibration report for WELL RO11 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO12 Hialeah | Calibration report for WELL RO12 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO13 Hialeah | Calibration report for WELL RO13 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - RO14 Hialeah | Calibration report for WELL RO14 Hialeah | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - 1 NWWF | Calibration report for WELL 1 NWWF | Every Five Years | Every Five Years | 07-APR-2013 |
| WELL - 2 NWWF | Calibration report for WELL 2 NWWF | Every Five Years | Every Five Years | 07-APR-2013 |
| WELL - 3 NWWF | Calibration report for WELL 3 NWWF | Every Five Years | Every Five Years | 07-APR-2013 |
| WELL - 4 NWWF | Calibration report for WELL 4 NWWF | Every Five Years | Every Five Years | 07-APR-2013 |
| WELL - 5 NWWF | Calibration report for WELL 5 NWWF | Every Five Years | Every Five Years | 07-APR-2013 |
| WELL - 6 NWWF | Calibration report for WELL 6 NWWF | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - 7 NWWF | Calibration report for WELL 7 NWWF | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - 8 NWWF | Calibration report for WELL 8 NWWF | Every Five Years | Every Five Years | 29-APR-2013 |
| WELL - 9 NWWF | Calibration report for WELL 9 NWWF | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - 10 NWWF | Calibration report for WELL 10 | Every Five Years | Every Five Years | 29-APR-2013 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|--------------------|---|------------------|------------------|-------------|
| WELL - 11 NWWF | NWWF Calibration report for WELL 11 NWWF | Every Five Years | Every Five Years | 29-APR-2013 |
| WELL - 12 NWWF | NWWF Calibration report for WELL 12 NWWF | Every Five Years | Every Five Years | 30-APR-2013 |
| WELL - 13 NWWF | NWWF Calibration report for WELL 13 NWWF | Every Five Years | Every Five Years | 29-APR-2013 |
| WELL - 14 NWWF | NWWF Calibration report for WELL 14 NWWF | Every Five Years | Every Five Years | 29-APR-2013 |
| WELL - 15 NWWF | NWWF Calibration report for WELL 15 NWWF | Every Five Years | Every Five Years | 29-APR-2013 |
| WELL - 1 Medley | Calibration Report for Well 1 Medley | Every Five Years | Every Five Years | 04-APR-2013 |
| WELL - 2 Medley | Calibration Report for Well 2 Medley | Every Five Years | Every Five Years | 04-APR-2013 |
| WELL - 5 Medley | Calibration Report for Well 5 Medley | Every Five Years | Every Five Years | 04-APR-2013 |
| WELL - 6 Medley | Calibration Report for Well 6 Medley | Every Five Years | Every Five Years | 04-APR-2013 |
| WELL - 1 MS Lower | Calibration report for WELL 1 MS Lower | Every Five Years | Every Five Years | 08-APR-2013 |
| WELL - 2 MS Lower | Calibration report for WELL 2 MS Lower | Every Five Years | Every Five Years | 08-APR-2013 |
| WELL - 3 MS Lower | Calibration report for WELL 3 MS Lower | Every Five Years | Every Five Years | 10-APR-2013 |
| WELL - 4 MS Lower | Calibration report for WELL 4 MS Lower | Every Five Years | Every Five Years | 08-APR-2013 |
| WELL - 5 MS Lower | Calibration report for WELL 5 MS Lower | Every Five Years | Every Five Years | 09-APR-2013 |
| WELL - 6 MS Lower | Calibration report for WELL 6 MS Lower | Every Five Years | Every Five Years | 08-APR-2013 |
| WELL - 7 MS Lower | Calibration report for WELL 7 MS Lower | Every Five Years | Every Five Years | 09-APR-2013 |
| WELL - 8 MS Lower | Calibration report for WELL 8 MS Lower | Every Five Years | Every Five Years | 09-APR-2013 |
| WELL - 9 MS Upper | Calibration report for WELL 9 MS Upper | Every Five Years | Every Five Years | 10-APR-2013 |
| WELL - 10 MS Upper | Calibration report for WELL 10 MS Upper | Every Five Years | Every Five Years | 05-APR-2013 |
| WELL - 14 MS Upper | Calibration report for WELL 14 MS Upper | Every Five Years | Every Five Years | 05-APR-2013 |
| WELL - 15 MS Upper | Calibration Report for Well 15 MS Upper | Every Five Years | Every Five Years | 09-APR-2013 |
| WELL - 16 MS Upper | Calibration Report for Well 16 MS Upper | Every Five Years | Every Five Years | 09-APR-2013 |
| WELL - 17 MS Upper | Calibration report for WELL 17 MS Upper | Every Five Years | Every Five Years | 09-APR-2013 |
| WELL - 18 MS Upper | Calibration Report for Well 18 MS Upper | Every Five Years | Every Five Years | 10-APR-2013 |
| WELL - 19 MS Upper | Calibration Report for Well 19 MS Upper | Every Five Years | Every Five Years | 10-APR-2013 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|--------------------|---|------------------|------------------|-------------|
| WELL - 20 MS Upper | Calibration report for WELL 20 MS Upper | Every Five Years | Every Five Years | 28-APR-2013 |
| WELL - 21 MS Upper | Calibration report for WELL 21 MS Upper | Every Five Years | Every Five Years | 28-APR-2013 |
| WELL - 22 MS Upper | Calibration report for WELL 22 MS Upper | Every Five Years | Every Five Years | 28-APR-2013 |
| WELL - 23 MS Upper | Calibration report for WELL 23 MS Upper | Every Five Years | Every Five Years | 10-APR-2013 |
| WELL - 1 Preston | Calibration report for WELL 1 Preston | Every Five Years | Every Five Years | 01-APR-2013 |
| WELL - 2 Preston | Calibration report for WELL 2 Preston | Every Five Years | Every Five Years | 01-APR-2013 |
| WELL - 3 Preston | Calibration report for WELL 3 Preston | Every Five Years | Every Five Years | 01-APR-2013 |
| WELL - 4 Preston | Calibration report for WELL 4 Preston | Every Five Years | Every Five Years | 01-APR-2013 |
| WELL - 5 Preston | Calibration report for WELL 5 Preston | Every Five Years | Every Five Years | 01-APR-2013 |
| WELL - 6 Preston | Calibration report for WELL 6 Preston | Every Five Years | Every Five Years | 01-APR-2013 |
| WELL - 7 Preston | Calibration report for WELL 7 Preston | Every Five Years | Every Five Years | 04-APR-2013 |
| WELL - 11 Hialeah | Calibration report for WELL 11 Hialeah | Every Five Years | Every Five Years | 04-APR-2013 |
| WELL - 12 Hialeah | Calibration report for WELL 12 Hialeah | Every Five Years | Every Five Years | 05-APR-2013 |
| WELL - 13 Hialeah | Calibration report for WELL 13 Hialeah | Every Five Years | Every Five Years | 05-APR-2013 |
| WELL - 1 Orr | Calibration report for WELL 1 Orr | Every Five Years | Every Five Years | 12-FEB-2013 |
| WELL - 2 Orr | Calibration report for WELL 2 Orr | Every Five Years | Every Five Years | 12-FEB-2013 |
| WELL - 3 Orr | Calibration report for WELL 3 Orr | Every Five Years | Every Five Years | 13-FEB-2013 |
| WELL - 4 Orr | Calibration report for WELL 4 Orr | Every Five Years | Every Five Years | 13-FEB-2013 |
| WELL - 5 Orr | Calibration report for WELL 5 Orr | Every Five Years | Every Five Years | 13-FEB-2013 |
| WELL - 6 Orr | Calibration report for WELL 6 Orr | Every Five Years | Every Five Years | 13-FEB-2013 |
| WELL - 7 Orr | Calibration report for WELL 7 Orr | Every Five Years | Every Five Years | 14-FEB-2013 |
| WELL - 8 Orr | Calibration report for WELL 8 Orr | Every Five Years | Every Five Years | 14-FEB-2013 |
| WELL - 9 Orr | Calibration report for WELL 9 Orr | Every Five Years | Every Five Years | 01-MAY-2013 |
| WELL - 10 Orr | Calibration report for WELL 10 Orr | Every Five Years | Every Five Years | 01-MAY-2013 |
| WELL - 11 SW | Calibration report for WELL 11 SW | Every Five Years | Every Five Years | 14-FEB-2013 |
| WELL - 12 SW | Calibration report for WELL 12 SW | Every Five Years | Every Five Years | 14-FEB-2013 |
| WELL - 13 SW | Calibration report for WELL 13 SW | Every Five Years | Every Five Years | 15-FEB-2013 |
| WELL - 14 SW | Calibration report for WELL 14 SW | Every Five Years | Every Five Years | 15-FEB-2013 |
| WELL - 15 SW | Calibration report for WELL 15 SW | Every Five Years | Every Five Years | 06-MAR-2013 |
| WELL - 16 SW | Calibration report for WELL 16 SW | Every Five Years | Every Five Years | 06-MAR-2013 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|-------------------------|--|------------------|------------------|-------------|
| WELL - 17 SW | Calibration report for WELL 17 SW | Every Five Years | Every Five Years | 06-MAR-2013 |
| WELL - 18 SW | Calibration report for WELL 18 SW | Every Five Years | Every Five Years | 07-MAR-2013 |
| WELL - 19 SW | Calibration report for WELL 19 SW | Every Five Years | Every Five Years | 07-MAR-2013 |
| WELL - 20 SW | Calibration report for WELL 20 SW | Every Five Years | Every Five Years | 02-APR-2013 |
| WELL - 21 SC | Calibration report for WELL 21 SC | Every Five Years | Every Five Years | 14-APR-2013 |
| WELL - 22 SC | Calibration report for WELL 22 SC | Every Five Years | Every Five Years | 14-APR-2013 |
| WELL - 23 SC | Calibration report for WELL 23 SC | Every Five Years | Every Five Years | 05-MAR-2013 |
| WELL - 24 SC | Calibration report for WELL 24 SC | Every Five Years | Every Five Years | 05-MAR-2013 |
| WELL - 25 SW | Calibration report for WELL 25 SW | Every Five Years | Every Five Years | 02-APR-2013 |
| WELL - 26 SW | Calibration report for WELL 26 SW | Every Five Years | Every Five Years | 02-APR-2013 |
| WELL - 27 SW | Calibration report for WELL 27 SW | Every Five Years | Every Five Years | 02-APR-2013 |
| WELL - 28 SW | Calibration report for WELL 28 SW | Every Five Years | Every Five Years | 02-APR-2013 |
| WELL - 29 W | Calibration report for WELL 29 W | Every Five Years | Every Five Years | 08-MAY-2013 |
| WELL - 30 W | Calibration report for WELL 30 W | Every Five Years | Every Five Years | 07-MAY-2013 |
| WELL - 31 W | Calibration Report for Well 31 W | Every Five Years | Every Five Years | 07-MAY-2013 |
| WELL - 32 SW | Calibration Report for Well 32 SW | Every Five Years | Every Five Years | 03-APR-2013 |
| WELL - 33 SW | Calibration Report for Well 33 SW | Every Five Years | Every Five Years | 03-APR-2013 |
| WELL - 34 SW | Calibration Report for Well 34 SW | Every Five Years | Every Five Years | 02-APR-2013 |
| WELL - ASR/Blending 1W | Calibration report for WELL ASR/Blending 1W | Every Five Years | Every Five Years | 01-AUG-2012 |
| WELL - ASR/Blending 2W | Calibration report for WELL ASR/Blending 2W | Every Five Years | Every Five Years | 01-AUG-2012 |
| WELL - ASR/Blending 3W | Calibration report for WELL ASR/Blending 3W | Every Five Years | Every Five Years | 01-AUG-2012 |
| WELL - ASR/Blending 4SW | Calibration Report for Well ASR/Blending 4SW | Every Five Years | Every Five Years | 01-AUG-2012 |
| WELL - ASR/Blending 5SW | Calibration Report for Well ASR/Blending 5SW | Every Five Years | Every Five Years | 01-AUG-2012 |
| WELL - ET 1 | Calibration report for WELL ET 1 | Every Five Years | Every Five Years | 05-MAR-2013 |
| WELL - ET 2 | Calibration Report for Well ET 2 | Every Five Years | Every Five Years | 05-MAR-2013 |
| WELL - EVRGL 1 | Calibration report for WELL EVRGL 1 | Every Five Years | Every Five Years | 04-MAR-2013 |
| WELL - EVRGL 3 | Calibration report for WELL EVRGL 3 | Every Five Years | Every Five Years | 04-MAR-2013 |
| WELL - EVRGL 3 | Calibration Report for Well EVRGL 3 | Every Five Years | Every Five Years | 04-MAR-2013 |
| WELL - LC 2 | Calibration report for WELL LC 2 | Every Five Years | Every Five Years | 04-MAR-2013 |
| WELL - LC 3 | Calibration report for WELL LC 3 | Every Five Years | Every Five Years | 04-MAR-2013 |
| WELL - LC 4 | Calibration report for WELL LC 4 | Every Five Years | Every Five Years | 04-MAR-2013 |
| WELL - LC 5 | Calibration report for WELL LC 5 | Every Five Years | Every Five Years | 05-MAR-2013 |
| WELL - NWTN 1 | Calibration report for WELL | Every Five Years | Every Five Years | 03-MAR-2013 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|------------------------|---|------------------|------------------|-------------|
| | NWTN 1 | | | |
| WELL - NWTN 2 | Calibration report for WELL NWTN 2 | Every Five Years | Every Five Years | 03-MAR-2013 |
| WELL - FP 1 | Calibration report for WELL FP 1 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - NJ 1 | Calibration report for WELL NJ 1 | Every Five Years | Every Five Years | 05-MAR-2013 |
| WELL - RHP 1 | Calibration report for WELL RHP 1 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - RHP 2 | Calibration report for WELL RHP 2 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - RHP 3 | Calibration report for WELL RHP 3 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - RHP 4 | Calibration report for WELL RHP 4 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - SMH-F1 | Calibration report for WELL SMH-F1 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - SMH-F3 | Calibration report for WELL SMH-F3 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - SMH-F4 | Calibration report for WELL SMH-F4 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - SMH-F5 | Calibration report for WELL SMH-F5 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - SMH-F6 | Calibration report for WELL SMH-F6 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - SMH-F7 | Calibration Report for Well SMH-F7 | Every Five Years | Every Five Years | 31-DEC-2015 |
| WELL - SMH-F8 | Calibration Report for Well SMH-F8 | Every Five Years | Every Five Years | 31-DEC-2015 |
| PUMP - SWWF recharge | Calibration report for PUMP SWWF recharge | Every Five Years | Every Five Years | 30-NOV-2020 |
| PUMP - SWWF recharge 2 | Calibration report for PUMP SWWF recharge 2 | Every Five Years | Every Five Years | 30-NOV-2020 |

Limiting Condition No: 18

Limiting Condition Code: WUSTD022-1

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|--------------------|---|----------|-----------|-------------|
| WELL - RO1 Hialeah | Monthly withdrawal for WELL RO1 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO2 Hialeah | Monthly withdrawal for WELL RO2 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO3 Hialeah | Monthly withdrawal for WELL RO3 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO4 Hialeah | Monthly withdrawal for WELL RO4 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO5 Hialeah | Monthly withdrawal for WELL RO5 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO6 Hialeah | Monthly withdrawal for WELL RO6 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO7 Hialeah | Monthly withdrawal for WELL RO7 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO8 Hialeah | Monthly withdrawal for WELL RO8 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO9 Hialeah | Monthly withdrawal for WELL RO9 Hialeah | Monthly | Quarterly | 31-OCT-2012 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|----------------------|--|-----------------|-----------------|-----------------|
| WELL - RO10 Hialeah | Monthly withdrawal for WELL RO10 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO11 Hialeah | Monthly withdrawal for WELL RO11 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO12 Hialeah | Monthly withdrawal for WELL RO12 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO13 Hialeah | Monthly withdrawal for WELL RO13 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO14 Hialeah | Monthly withdrawal for WELL RO14 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 1 NWWF | Monthly withdrawal for WELL 1 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 2 NWWF | Monthly withdrawal for WELL 2 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 3 NWWF | Monthly withdrawal for WELL 3 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 4 NWWF | Monthly withdrawal for WELL 4 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 5 NWWF | Monthly withdrawal for WELL 5 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 6 NWWF | Monthly withdrawal for WELL 6 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 7 NWWF | Monthly withdrawal for WELL 7 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 8 NWWF | Monthly withdrawal for WELL 8 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 9 NWWF | Monthly withdrawal for WELL 9 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 10 NWWF | Monthly withdrawal for WELL 10 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 11 NWWF | Monthly withdrawal for WELL 11 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 12 NWWF | Monthly withdrawal for WELL 12 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 13 NWWF | Monthly withdrawal for WELL 13 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 14 NWWF | Monthly withdrawal for WELL 14 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 15 NWWF | Monthly withdrawal for WELL 15 NWWF | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 1 Medley | Monthly withdrawal for WELL 1 Medley | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 1 Medley | Monthly withdrawal for WELL 2 Medley | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 1 Medley | Monthly withdrawal for WELL 5 Medley | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 1 Medley | Monthly withdrawal for WELL 6 Medley | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 1 MS Lower | Monthly withdrawal for WELL 1 MS Lower | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 2 MS Lower | Monthly withdrawal for WELL 2 MS Lower | Monthly | Quarterly | 31-OCT-2012 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|--------------------|--------------------------------|----------|-----------|-------------|
| | MS Lower | | | |
| WELL - 3 MS Lower | Monthly withdrawal for WELL 3 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Lower | | | |
| WELL - 4 MS Lower | Monthly withdrawal for WELL 4 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Lower | | | |
| WELL - 5 MS Lower | Monthly withdrawal for WELL 5 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Lower | | | |
| WELL - 6 MS Lower | Monthly withdrawal for WELL 6 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Lower | | | |
| WELL - 7 MS Lower | Monthly withdrawal for WELL 7 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Lower | | | |
| WELL - 8 MS Lower | Monthly withdrawal for WELL 8 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Lower | | | |
| WELL - 9 MS Upper | Monthly withdrawal for WELL 9 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 10 MS Upper | Monthly withdrawal for WELL 10 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 14 MS Upper | Monthly withdrawal for WELL 14 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 15 MS Upper | Monthly withdrawal for WELL 15 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 16 MS Upper | Monthly withdrawal for WELL 16 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 17 MS Upper | Monthly withdrawal for WELL 17 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 18 MS Upper | Monthly withdrawal for WELL 18 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 19 MS Upper | Monthly withdrawal for WELL 19 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 20 MS Upper | Monthly withdrawal for WELL 20 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 21 MS Upper | Monthly withdrawal for WELL 21 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 22 MS Upper | Monthly withdrawal for WELL 22 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 23 MS Upper | Monthly withdrawal for WELL 23 | Monthly | Quarterly | 31-OCT-2012 |
| | MS Upper | | | |
| WELL - 1 Preston | Monthly withdrawal for WELL 1 | Monthly | Quarterly | 31-OCT-2012 |
| | Preston | | | |
| WELL - 2 Preston | Monthly withdrawal for WELL 2 | Monthly | Quarterly | 31-OCT-2012 |
| | Preston | | | |
| WELL - 3 Preston | Monthly withdrawal for WELL 3 | Monthly | Quarterly | 31-OCT-2012 |
| | Preston | | | |
| WELL - 4 Preston | Monthly withdrawal for WELL 4 | Monthly | Quarterly | 31-OCT-2012 |
| | Preston | | | |
| WELL - 5 Preston | Monthly withdrawal for WELL 5 | Monthly | Quarterly | 31-OCT-2012 |
| | Preston | | | |
| WELL - 6 Preston | Monthly withdrawal for WELL 6 | Monthly | Quarterly | 31-OCT-2012 |
| | Preston | | | |
| WELL - 7 Preston | Monthly withdrawal for WELL 7 | Monthly | Quarterly | 31-OCT-2012 |
| | Preston | | | |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|----------------------|--|-----------------|-----------------|-----------------|
| WELL - 11 Hialeah | Monthly withdrawal for WELL 11 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 12 Hialeah | Monthly withdrawal for WELL 12 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 13 Hialeah | Monthly withdrawal for WELL 13 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 1 Orr | Monthly withdrawal for WELL 1 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 2 Orr | Monthly withdrawal for WELL 2 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 3 Orr | Monthly withdrawal for WELL 3 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 4 Orr | Monthly withdrawal for WELL 4 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 5 Orr | Monthly withdrawal for WELL 5 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 6 Orr | Monthly withdrawal for WELL 6 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 7 Orr | Monthly withdrawal for WELL 7 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 8 Orr | Monthly withdrawal for WELL 8 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 9 Orr | Monthly withdrawal for WELL 9 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 10 Orr | Monthly withdrawal for WELL 10 Orr | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 11 SW | Monthly withdrawal for WELL 11 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 12 SW | Monthly withdrawal for WELL 12 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 13 SW | Monthly withdrawal for WELL 13 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 14 SW | Monthly withdrawal for WELL 14 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 15 SW | Monthly withdrawal for WELL 15 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 16 SW | Monthly withdrawal for WELL 16 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 17 SW | Monthly withdrawal for WELL 17 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 18 SW | Monthly withdrawal for WELL 18 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 19 SW | Monthly withdrawal for WELL 19 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 20 SW | Monthly withdrawal for WELL 20 SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 21 SC | Monthly withdrawal for WELL 21 SC | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 22 SC | Monthly withdrawal for WELL 22 SC | Monthly | Quarterly | 31-OCT-2012 |
| WELL - 23 SC | Monthly withdrawal for WELL 23 SC | Monthly | Quarterly | 31-OCT-2012 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|-------------------------|---|----------|-----------|-------------|
| | SC | | | |
| WELL - 24 SC | Monthly withdrawal for WELL 24 | Monthly | Quarterly | 31-OCT-2012 |
| | SC | | | |
| WELL - 25 SW | Monthly withdrawal for WELL 25 | Monthly | Quarterly | 31-OCT-2012 |
| | SW | | | |
| WELL - 26 SW | Monthly withdrawal for WELL 26 | Monthly | Quarterly | 31-OCT-2012 |
| | SW | | | |
| WELL - 27 SW | Monthly withdrawal for WELL 27 | Monthly | Quarterly | 31-OCT-2012 |
| | SW | | | |
| WELL - 28 SW | Monthly withdrawal for WELL 28 | Monthly | Quarterly | 31-OCT-2012 |
| | SW | | | |
| WELL - 29 W | Monthly withdrawal for WELL 29 | Monthly | Quarterly | 31-OCT-2012 |
| | W | | | |
| WELL - 30 W | Monthly withdrawal for WELL 30 | Monthly | Quarterly | 31-OCT-2012 |
| | W | | | |
| WELL - 31 W | Monthly withdrawal for WELL 31 | Monthly | Quarterly | 31-OCT-2012 |
| | W | | | |
| WELL - 32 SW | Monthly withdrawal for WELL 32 | Monthly | Quarterly | 31-OCT-2012 |
| | SW | | | |
| WELL - 33 SW | Monthly withdrawal for WELL 33 | Monthly | Quarterly | 31-OCT-2012 |
| | SW | | | |
| WELL - 34 SW | Monthly withdrawal for WELL 34 | Monthly | Quarterly | 31-OCT-2012 |
| | SW | | | |
| WELL - ASR/Blending 1W | Monthly withdrawal for WELL ASR/Blending 1W | Monthly | Quarterly | 31-OCT-2012 |
| WELL - ASR/Blending 2W | Monthly withdrawal for WELL ASR/Blending 2W | Monthly | Quarterly | 31-OCT-2012 |
| WELL - ASR/Blending 3W | Monthly withdrawal for WELL ASR/Blending 3W | Monthly | Quarterly | 31-OCT-2012 |
| WELL - ASR/Blending 4SW | Monthly withdrawal for ASR/Blending 4SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - ASR/Blending 5SW | Monthly withdrawal for ASR/Blending 5SW | Monthly | Quarterly | 31-OCT-2012 |
| WELL - ET 1 | Monthly withdrawal for WELL ET 1 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - ET 2 | Monthly withdrawal for Well ET 2 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - EVRGL 1 | Monthly withdrawal for WELL EVRGL 1 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - EVRGL 2 | Monthly withdrawal for Well EVERGL 2 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - EVRGL 3 | Monthly withdrawal for WELL EVRGL 3 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - LC 2 | Monthly withdrawal for WELL LC 2 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - LC 3 | Monthly withdrawal for WELL LC 3 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - LC 4 | Monthly withdrawal for WELL LC 4 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - LC 5 | Monthly withdrawal for WELL LC 5 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - NJ 1 | Monthly withdrawal for WELL NJ 1 | Monthly | Quarterly | 31-OCT-2012 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|------------------------|---|----------|-----------|-------------|
| WELL - NWTN 1 | Monthly withdrawal for WELL NWTN 1 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - NWTN 2 | Monthly withdrawal for WELL NWTN 2 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - FP 1 | Monthly withdrawal for WELL FP 1 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RHP 1 | Monthly withdrawal for WELL RHP 1 | Monthly | Quarterly | 31-OCT-2015 |
| WELL - RHP 2 | Monthly withdrawal for WELL RHP 2 | Monthly | Quarterly | 31-OCT-2015 |
| WELL - RHP 3 | Monthly withdrawal for WELL RHP 3 | Monthly | Quarterly | 31-OCT-2015 |
| WELL - RHP 4 | Monthly withdrawal for WELL RHP 4 | Monthly | Quarterly | 31-OCT-2015 |
| WELL - SMH-F1 | Monthly withdrawal for WELL SMH-F1 | Monthly | Quarterly | 31-DEC-2015 |
| WELL - SMH-F2 | Monthly withdrawal for WELL SMH-F2 | Monthly | Quarterly | 31-DEC-2015 |
| WELL - SMH-F4 | Monthly withdrawal for WELL SMH-F4 | Monthly | Quarterly | 31-DEC-2015 |
| WELL - SMH-F5 | Monthly withdrawal for WELL SMH-F5 | Monthly | Quarterly | 31-DEC-2015 |
| WELL - SMH-F6 | Monthly withdrawal for WELL SMH-F6 | Monthly | Quarterly | 31-DEC-2015 |
| WELL - SMH-F7 | Monthly withdrawal for PUMP SWWF recharge 2 | Monthly | Quarterly | 31-DEC-2015 |
| WELL - SMH-F8 | Monthly withdrawal for Well SMH-F8 | Monthly | Quarterly | 31-DEC-2015 |
| PUMP - SWWF recharge 2 | Monthly withdrawal for PUMP SWWF recharge 2 | Monthly | Quarterly | 31-DEC-2020 |
| PUMP - SWWF recharge | Monthly withdrawal for PUMP SWWF recharge | Monthly | Quarterly | 31-DEC-2020 |

Limiting Condition No: 19

Limiting Condition Code: WUASR001-1

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|---------------|----------------------------------|----------|----------|-------------|
| PERMIT | ASR Operations Report for PERMIT | Yearly | Yearly | 15-APR-2013 |

Limiting Condition No: 21

Limiting Condition Code: WUWC004-1

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|---------------------|---------------------------------------|---------------|---------------|-------------|
| WELL - RO8 Hialeah | Updated Table A for WELL RO8 Hialeah | One time Only | One time Only | 31-JAN-2013 |
| WELL - RO9 Hialeah | Updated Table A for WELL RO9 Hialeah | One time Only | One time Only | 31-JAN-2013 |
| WELL - RO10 Hialeah | Updated Table A for WELL RO10 Hialeah | One time Only | One time Only | 31-JAN-2013 |
| WELL - RO11 Hialeah | Updated Table A for WELL RO11 Hialeah | One time Only | One time Only | 31-JAN-2013 |
| WELL - RO12 Hialeah | Updated Table A for WELL RO12 Hialeah | One time Only | One time Only | 31-JAN-2013 |
| WELL - RO13 Hialeah | Updated Table A for WELL RO13 Hialeah | One time Only | One time Only | 31-JAN-2013 |
| WELL - RO14 Hialeah | Updated Table A for WELL RO14 Hialeah | One time Only | One time Only | 31-JAN-2013 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|----------------------------------|---|-----------------|-----------------|-------------|
| | Hialeah | | | |
| WELL - SMH-F1 | Updated Table A for WELL SMH-F1 | One time Only | One time Only | 31-DEC-2015 |
| WELL - SMH-F2 | Updated Table A for WELL SMH-F2 | One time Only | One time Only | 31-DEC-2015 |
| WELL - SMH-F3 | Updated Table A for WELL SMH-F3 | One time Only | One time Only | 01-DEC-2015 |
| WELL - SMH-F4 | Updated Table A for WELL SMH-F4 | One time Only | One time Only | 01-DEC-2015 |
| WELL - SMH-F5 | Updated Table A for WELL SMH-F5 | One time Only | One time Only | 01-DEC-2015 |
| WELL - SMH-F6 | Updated Table A for WELL SMH-F6 | One time Only | One time Only | 01-DEC-2015 |
| WELL - FP 1 | Updated Table A for WELL FP 1 | One time Only | One time Only | 01-DEC-2015 |
| WELL - RHP 1 | Updated Table A for WELL RHP 1 | One time Only | One time Only | 01-DEC-2015 |
| WELL - RHP 3 | Updated Table A for WELL RHP 3 | One time Only | One time Only | 01-DEC-2015 |
| WELL - RHP 4 | Updated Table A for WELL RHP 4 | One time Only | One time Only | 01-DEC-2015 |
| Limiting Condition No: 23 | Limiting Condition Code: <u>WUPWS008-2</u> | | | |
| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
| PERMIT | Ten-Year Compliance Report for PERMIT | Every Ten Years | Every Ten Years | 30-NOV-2020 |
| Limiting Condition No: 36 | Limiting Condition Code: <u>WUWLM001-4</u> | | | |
| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
| WELL - AO-6N | Ground water level for WELL AO-6N | Monthly | Quarterly | 31-OCT-2012 |
| WELL - AO-8C | Ground water level for WELL AO-8C | Monthly | Quarterly | 31-OCT-2012 |
| WELL - SC-1N | Ground water level for WELL SC-1N | Monthly | Quarterly | 31-OCT-2012 |
| WELL - SC-6N | Ground water level for WELL SC-6N | Monthly | Quarterly | 31-OCT-2012 |
| WELL - SW-2W | Ground water level for WELL SW-2W | Monthly | Quarterly | 31-OCT-2012 |
| WELL - SW-7W | Ground water level for WELL SW-7W | Monthly | Quarterly | 31-OCT-2012 |
| WELL - WWF-21S | Ground water level for WELL WWF-21S | Monthly | Quarterly | 31-OCT-2012 |
| WELL - WWF-755 | Ground water level for WELL WWF-755 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - NW-3A | Ground water level for WELL NW-3A | Monthly | Quarterly | 31-OCT-2012 |
| WELL - NW-6F | Ground water level for WELL NW-6F | Monthly | Quarterly | 31-OCT-2012 |
| WELL - NW-8D | Ground water level for WELL NW-8D | Monthly | Quarterly | 31-OCT-2012 |
| WELL - NW-19C | Ground water level for WELL NW-19C | Monthly | Quarterly | 31-OCT-2012 |
| WELL - WASD-1C | Ground water level for WELL WASD-1C | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-551 | Ground water level for WELL G- | Monthly | Quarterly | 31-OCT-2012 |

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|----------------|-------------------------------------|----------|-----------|-------------|
| | 551 | | | |
| WELL - G-553 | Ground water level for WELL G-553 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-1074B | Ground water level for WELL G-1074B | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-1488 | Ground water level for WELL G-1488 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3074 | Ground water level for WELL G-3074 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3253 | Ground water level for WELL G-3253 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3259A | Ground water level for WELL G-3259A | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3551 | Ground water level for WELL G-3551 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3553 | Ground water level for WELL G-3553 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3554 | Ground water level for WELL G-3554 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3555 | Ground water level for WELL G-3555 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3556 | Ground water level for WELL G-3556 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3563 | Ground water level for WELL G-3563 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3565 | Ground water level for WELL G-3565 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3567 | Ground water level for WELL G-3567 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3577 | Ground water level for WELL G-3577 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3676 | Ground water level for WELL G-3676 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3760 | Ground water level for WELL G-3760 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3761 | Ground water level for WELL G-3761 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3818 | Ground water level for WELL G-3818 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3897 | Ground water level for WELL G-3897 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3898 | Ground water level for WELL G-3898 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3899 | Ground water level for WELL G-3899 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3900 | Ground water level for WELL G-3900 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3901 | Ground water level for WELL G-3901 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - SMH-F3 | Ground water level for SMH-F3 | Monthly | Quarterly | 31-OCT-2012 |

Limiting Condition No: 37

Limiting Condition Code: WUSAT001-4

Requirement by Limiting Condition Report

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|------------------------|-----------------------------------|----------|-----------|-------------|
| WELL - F-45 | Chloride for WELL F-45 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - F-279 | Chloride for WELL F-279 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-354 | Chloride for WELL G-354 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-432 | Chloride for WELL G-432 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-548 | Chloride for WELL G-548 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-571 | Chloride for WELL G-571 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-894 | Chloride for WELL G-894 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-896 | Chloride for WELL G-896 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-901 | Chloride for WELL G-901 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-939 | Chloride for WELL G-939 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-1009B | Chloride for WELL G-1009B | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-1179 | Chloride for WELL G-1179 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-1180 | Chloride for WELL G-1180 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-1351 | Chloride for WELL G-1351 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-1354 | Chloride for WELL G-1354 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3162 | Chloride for WELL G-3162 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3224 | Chloride for WELL G-3224 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3229 | Chloride for WELL G-3229 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3250 | Chloride for WELL G-3250 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3313C | Chloride for WELL G-3313C | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3313E | Chloride for WELL G-3313E | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3885 | Chloride for WELL G-3885 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3886 | Chloride for WELL G-3886 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3887 | Chloride for WELL G-3887 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3888 | Chloride for WELL G-3888 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3946 | Chloride for WELL G-3946 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3947 | Chloride for WELL G-3947 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3948 | Chloride for WELL G-3948 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - G-3949 | Chloride for WELL G-3949 | Monthly | Quarterly | 31-OCT-2012 |
| WELL - FA-3N NDWWTP | Chloride for WELL FA-3N NDWWTP | Monthly | Quarterly | 31-OCT-2012 |
| WELL - FA-5 SDWWTP | Chloride for WELL FA-5 SDWWTP | Monthly | Quarterly | 31-OCT-2012 |
| WELL - ASR MW-1 (WEST) | Chloride for WELL ASR MW-1 (WEST) | Monthly | Quarterly | 31-OCT-2012 |
| WELL - ASR MW-1 (SW) | Chloride for WELL ASR MW-1 (SW) | Monthly | Quarterly | 31-OCT-2012 |
| WELL - CHI SDWWTP | Chloride for WELL CHI SDWWTP | Monthly | Quarterly | 31-OCT-2012 |
| WELL - RO7 Hialeah | Chloride for WELL RO7 Hialeah | Monthly | Quarterly | 31-OCT-2012 |
| WELL - SMH-F3 | Chloride for WELL SMH-F3 | Monthly | Quarterly | 31-OCT-2012 |

Limiting Condition No: 38

Limiting Condition Code: WUZZUD001-2

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|---------------|-----------------------------------|---------------|---------------|-------------|
| PERMIT | Large User Agreement with Hialeah | One time Only | One time Only | 01-FEB-2013 |

Limiting Condition No: 40

Limiting Condition Code: WUZZUD001-4

| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
|---------------|-------------------|----------|----------|-------------|
| PERMIT | AWS annual report | Yearly | Yearly | 15-APR-2013 |

Requirement by Limiting Condition Report

| | | | | |
|----------------------------------|--|--|-----------------|-----------------|
| Limiting Condition No: 42 | | Limiting Condition Code: <u>WUZZUD001-6</u> | | |
| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
| PERMIT | Reuse Information Update | Yearly | Yearly | 15-APR-2013 |
| Limiting Condition No: 44 | | Limiting Condition Code: <u>WUZZUD001-9</u> | | |
| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
| PERMIT | Reuse Projects 5 & 6 Update | One time Only | One time Only | 01-JUL-2013 |
| Limiting Condition No: 45 | | Limiting Condition Code: <u>WUZZUD004-1</u> | | |
| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
| PERMIT | BBCW Reuse Project feasibility determination | One time Only | One time Only | 15-JAN-2014 |
| PERMIT | Alternate Reuse project proposal | One time Only | One time Only | 15-DEC-2014 |
| Limiting Condition No: 47 | | Limiting Condition Code: <u>WUPWS004-1</u> | | |
| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
| South Miami Heights | Raw Water Influent Report for South Miami Heights | Monthly | Quarterly | 31-OCT-2012 |
| Hialeah/Preston WTP | Raw Water Influent Report for Hialeah/Preston WTP | Monthly | Quarterly | 31-OCT-2012 |
| Alexander Orr WTP | Raw Water Influent Report for Alexander Orr WTP | Monthly | Quarterly | 31-OCT-2012 |
| Hialeah RO WTP | Raw Water Influent Report for Hialeah RO WTP | Monthly | Quarterly | 31-OCT-2012 |
| South Miami Heights | Treated Water Outflow Report for South Miami Heights | Monthly | Quarterly | 31-OCT-2012 |
| Hialeah/Preston WTP | Treated Water Outflow Report for Hialeah/Preston WTP | Monthly | Quarterly | 31-OCT-2012 |
| Alexander Orr WTP | Treated Water Outflow Report for Alexander Orr WTP | Monthly | Quarterly | 31-OCT-2012 |
| Hialeah RO WTP | Treated Water Outflow Report for Hialeah RO WTP | Monthly | Quarterly | 31-OCT-2012 |
| Limiting Condition No: 48 | | Limiting Condition Code: <u>WUPWS006-1</u> | | |
| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
| PERMIT | Water Conservation Plan annual report | Yearly | Yearly | 15-APR-2013 |
| Limiting Condition No: 49 | | Limiting Condition Code: <u>WUZZUD004-3</u> | | |
| Facility Name | Requirement Name | Col Freq | Sub Freq | Due Date |
| PERMIT | Unaccounted for Water Loss Plan update | Yearly | Yearly | 15-APR-2013 |
| PERMIT | Unaccounted for Water Loss Report for the four calendar quarters | Yearly | Yearly | 15-APR-2013 |

STAFF REPORT DISTRIBUTION LIST

MIAMI-DADE CONSOLIDATED P W S

Application No: 110511-6

Permit No: 13-00017-W

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EXTERNAL DISTRIBUTION

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- X Agent - Miami-Dade Water And Sewer Department

GOVERNMENT AGENCIES

- X Dept of Environmental Protection -West Palm Beach
- X Miami-Dade County Engineer Public Works Department

OTHER INTERESTED PARTIES

- X B.F. Sewell

Exhibit No:37