



## FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTINEZ CENTER  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT  
GOVERNOR

CARLOS LOPEZ-CANTERA  
LT. GOVERNOR

HERSCHEL T. VINYARD JR.  
SECRETARY

### SENT VIA ELECTRONIC MAIL

In the Matter of an Application for Permit by:

30 April 2014

Bevin Beaudet, Director  
Palm Beach County Water Utilities Dept.  
8100 Forest Hill Boulevard  
West Palm Beach, Florida 33416  
[bbeaudet@pbcwater.com](mailto:bbeaudet@pbcwater.com)

Palm Beach County UIC  
[324924-001-UO/1M](#) & [324924-002-UO/1M](#)  
WACS ID [65574](#)  
Class I Injection Well System  
Operation Permit

### NOTICE OF DRAFT PERMIT

The Department of Environmental Protection hereby gives notice that a Draft Permit has been developed for the proposed project as detailed in the application specified above, for the reasons stated below.

The applicant, Palm Beach County Water Utilities Department, Bevin Beaudet, Director, 8100 Forest Hill Boulevard, West Palm Beach, Florida, 33416 applied on March 12, 2014 to the Department of Environmental Protection for a permit to operate a Class I injection well system.

The Department has permitting jurisdiction under chapter 403 of the Florida Statutes and the rules adopted thereunder. The project is not exempt from permitting procedures. The Department has determined that an operation permit is required for the proposed work.

Pursuant to section 403.815 of the Florida Statutes, and Rule 62-528.315 (6)(b) of the Florida Administrative Code, you (the applicant) are required to publish at your own expense the enclosed Notice of Draft Permit. The Notice must be published one time only within 30 days in a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031 of the Florida Statutes, in the county where the activity is to take place. The applicant shall provide proof of publication to the Tallahassee Office of the Department within seven (7) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

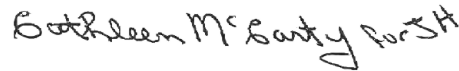
**PERMITTEE:** Bevin Beaudet, Director  
Palm Beach County Water Utilities Dept.  
Southern Region Water Reclamation Facility

**Permit Number:** 324924-001-UO/1M &  
324924-002-UO/1M  
**WACS ID:** 65574

Any interested person may submit written comments on the draft permit within 30 days of the public notice. Written comments may be submitted to the Department of Environmental Protection, Aquifer Protection Program, 2600 Blair Stone Road, MS 3530, Tallahassee, Florida 32399-2400. All comments received within the 30-day period and during the public meeting will be considered by the Department in formulating a final decision concerning this project. If a public meeting is arranged it must be held in the area of the well no less than 30 days after publication of this Notice for the purpose of receiving verbal and written comment concerning this project. If a public meeting is not arranged prior to publication, the Notice must provide an opportunity for a public meeting. If a public meeting is later scheduled, there will be another 30-day notice period for that meeting. Please contact Douglas Thornton, Engineering Specialist at 850.245.8666, for additional information.

Executed in Leon County, Florida.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION



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Joseph Haberfeld, P.G.  
Aquifer Protection Program Administrator

**PERMITTEE:** Bevin Beaudet, Director  
Palm Beach County Water Utilities Dept.  
Southern Region Water Reclamation Facility

**Permit Number:** 324924-001-UO/1M &  
324924-002-UO/1M  
**WACS ID:** 65574

### CERTIFICATE OF SERVICE

The undersigned designated clerk hereby certifies that this NOTICE OF DRAFT PERMIT and all copies were mailed before the close of business on Wednesday, April 30, 2014, to the listed persons.

### FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section.120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged

*Mary-Elizabeth Parker*  
Clerk

April 30, 2014  
Date

#### Copies Furnished To:

Joseph Haberfeld, FDEP/TLH	<a href="mailto:joe.haberfeld@dep.state.fl.us">joe.haberfeld@dep.state.fl.us</a>
Douglas Thornton, FDEP/TLH	<a href="mailto:douglas.thornton@dep.state.fl.us">douglas.thornton@dep.state.fl.us</a>
Cathleen McCarty, FDEP/TLH	<a href="mailto:cathleen.mccarty@dep.state.fl.us">cathleen.mccarty@dep.state.fl.us</a>
Stephen McGrew, PBCWUD	<a href="mailto:smcgrew@pbcwater.com">smcgrew@pbcwater.com</a>
Joseph May, FDEP/WPB	<a href="mailto:joseph.may@dep.state.fl.us">joseph.may@dep.state.fl.us</a>
Nancy Marsh, USEPA/ATL	<a href="mailto:marsh.nancy@epa.gov">marsh.nancy@epa.gov</a>

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**NOTICE OF DRAFT PERMIT**

The Department of Environmental Protection hereby provides Notice that it has prepared a Draft Permit for the proposed project as detailed in application File No. 324924-001-UO/1M & 324924-002-UO/1M, subject to the conditions specified in the draft permit and summarized below. The applicant, Palm Beach County Water Utilities Department, Bevin Beaudet, Director, 8100 Forest Hill Boulevard, West Palm Beach, Florida, 33416 applied on March 12, 2014 for a permit to operate a Class I injection well system. The project is located at 12751 Hagen Ranch Road, Boynton Beach, Florida 33437.

The facility will operate an Injection Well System, consisting of two (2) Class I non-hazardous effluent injection wells (IW-1 & IW-2) and dual-zone monitor well MW-1. Injection well IW-1 was constructed in 1990 with a thirty-four inch (34") diameter steel casing to 1,890 feet below land surface (bls) and nominal twenty-four inch, (24"), diameter final steel casing to 2,660 feet bls, and a total depth of 3,311 feet bls. Injection well IW-2 was constructed in 1990 with a thirty-four inch (34") diameter steel casing to 1,890 feet below land surface (bls) and nominal twenty-four inch, (24"), diameter final steel casing to 2,645 feet bls, and a total depth of 3,450 feet bls. Injection is into the Oldsmar Formation for the primary means of disposal of secondary treated effluent from the Southern Region Water Reclamation Facility (WRF). Injection wells IW-1 and IW-2 are each permitted for a maximum disposal of 15 million gallons per day (MGD). The upper zone of dual zone monitor well MW-1 monitors from 1,000 to 1,096 feet bls and the intermediate zone of modified MW-1 monitors from 1,480 to 1,500 feet bls.

The Department has permitting jurisdiction under Chapter 403 of the Florida Statutes and the rules adopted thereunder. The project is not exempt from permitting procedures. The Department has determined that an operation permit is required for the proposed work.

Any interested person may submit written comments on the draft permit and may request a public meeting within 30 days after publication of this public notice. A request for a public meeting shall be submitted in writing and shall state the nature of the issues proposed to be raised in the meeting. If a public meeting is later scheduled, there will be another 30-day notice period for that meeting. Written comments or a public meeting request shall be submitted to the Department of Environmental Protection, Aquifer Protection Program, 2600 Blair Stone Road, MS 3530, Tallahassee, Florida 32399-2400, which is the office processing this permit application. All comments received within the 30-day period will be considered in formulation of the Department's final decision regarding permit issuance.

The application, draft permit, and fact sheet are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department of Environmental Protection, Southeast Office, 400 North Congress Avenue, 3<sup>rd</sup> Floor, West Palm Beach, Florida 33401, and at the Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Any additional information concerning this project may be obtained by contacting Douglas Thornton, Engineering Specialist, at 850.245.8666.



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HERSCHEL T. VINYARD JR.  
SECRETARY

## Underground Injection Control Class I Injection Well System Operation Permit

### Permittee:

Bevin Beaudet, Director  
Palm Beach County Water Utilities Dept.  
8100 Forest Hill Boulevard  
West Palm Beach, Florida 33416  
[bbeaudet@pbcwater.com](mailto:bbeaudet@pbcwater.com)

### Permit/Certification

Permit Number: 324924-001-UO/1M & 324924-002-UO/1M  
WACS ID: 65574  
Date of Issuance: Draft  
Date of Expiration: Draft  
Permit Processor: Douglas Thornton

### Facility

Southern Region Water Reclamation Facility  
12751 Hagen Ranch Road  
Boynton Beach, Florida 33437

### Location

County: Palm Beach County UIC  
Latitude: 26° 29' 7" N  
Longitude: 80° 10' 8" W  
**Section/Township/Range:** Sec 4/ T46S / R42E

**Project:** Class I Injection Well System IW-1 and IW-2.

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and the rules adopted thereunder. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows.

**TO OPERATE:** An Injection Well System, consisting of two (2) Class I non-hazardous effluent injection wells (IW-1 & IW-2) and dual-zone monitor well MW-1. Injection well IW-1 was constructed in 1990 with a thirty-four inch (34") diameter steel casing to 1,890 feet below land surface (bls) and nominal twenty-four inch, (24"), diameter final steel casing to 2,660 feet bls, and a total depth of 3,311 feet bls. Injection well IW-2 was constructed in 1990 with a thirty-four inch (34") diameter steel casing to 1,890 feet below land surface (bls) and nominal twenty-four inch, (24"), diameter final steel casing to 2,645 feet bls, and a total depth of 3,450 feet bls. Injection is into the Oldsmar Formation for the primary means of disposal of secondary treated effluent from the Southern Region Water Reclamation Facility (WRF). Injection wells IW-1 and IW-2 are each permitted for a maximum disposal of 15 million gallons per day (MGD). The upper zone of MW-1 monitors from 1,000 to 1,096 feet bls and the intermediate zone of modified MW-1 monitors from 1,480 to 1,500 feet bls.

**PERMITTEE:** Bevin Beaudet, Director  
 Palm Beach County Water Utilities Dept.  
 Southern Region Water Reclamation Facility

**Permit Number:** 324924-001-UO/1M &  
 324924-002-UO/1M  
**WACS ID:** 65574

**IN ACCORDANCE WITH:** The Application to Operate DEP Form No. 62-528.900(1) received, March 12 2014, response to the Department’s March 26, 2014, request for additional information, and supporting information submitted to this agency.

**LOCATION:** Southern Region Water Reclamation Facility, 12751 Hagen Ranch Road, Boynton Beach, Florida 33437, in the county of Palm Beach.

The injection and monitoring wells at this facility are designated as follows:

**Injection Wells**

<i>Well Name</i>	<i>WACS Effluent Testsite ID</i>	<i>Total Well Depth *</i>	<i>Casing Diameter (inches)</i>	<i>Casing or Tubing Type</i>	<i>Casing Depth or Interval*</i>
IW-1	3258	3311	54"	Steel	260
			44"	Steel	1000
			34"	Steel	1890
			24"	Steel	2660
			Open hole		From 2,660 to 3,311
IW-2	3259	3450	54"	Steel	260
			44"	Steel	1000
			34"	Steel	1890
			24"	Steel	2645
			Open hole		From 2,645 to 3,450

\*Feet Below Land Surface

**Monitoring Well System**

<i>Well Name</i>	<i>WACS Monitoring Well Testsite ID</i>	<i>Monitoring Zone</i>	<i>Casing Diameter (OD)</i>	<i>Casing Type</i>	<i>Casing Depth*</i>	<i>Monitoring Depth*</i>
MW-1			24"	Steel	260	
			16"	Steel	1000	
	6531A	Upper Zone				From 1,000 to 1,096
			6.625"	Steel	1900	Packer set within casing to 1,528 & new intermediate zone perforated
	6531B	Intermediate Zone				From 1,480 to 1,500

\*Feet Below Land Surface

**SUBJECT TO:** Specific Conditions I-VI and General Conditions 1-24.

Specific Conditions

**I. OPERATING REQUIREMENTS**

**A. General**

1. Only non-hazardous injectate as described in this permit and purge water from the on-site monitoring wells (associated with the injection well system) may be discharged into the injection wells. [62-528.400(1)]
2. The injection pressure at the wellhead shall be monitored and controlled at all times to ensure the maximum pressure at the wellhead does not exceed two-thirds of the most recent tested pressure on the final casing, final cemented tubing, or casing/tubing annular space, as applicable. The following table outlines the wellhead pressures applicable at the time of permit issuance:

Well	Maximum Permitted Wellhead Pressure (psi)	Most Recent tested wellhead pressure at the time of issuance of this permit (psi)
IW-1	100	152.0
IW-2	107	160.0

At such time as the next pressure test is performed and a report for that test is submitted to and accepted by the Department, the maximum wellhead pressure allowable will become two-thirds of the tested pressure from the successive test.

[62-528.300(6)(e)]

3. The flow to the injection wells at each wellhead shall be monitored and controlled at all times to ensure the maximum fluid velocity down the well during operation does not exceed the respective flow rate indicated below, and shall not exceed 10 feet per second except during planned testing, maintenance, or emergency conditions in which case the flow rate shall not exceed 12 feet per second [62-528.415(1)(f)]:

Well	Peak Flow Rate	
	GPM	MGD
IW-1	10,417	15
IW-2	10,417	15

4. No underground injection is allowed that causes or allows movement of fluid into an underground source of drinking water if such fluid movement may cause a violation of any Primary Drinking Water Standard or may otherwise affect the health of persons. [62-528.440(2)(c)]
5. All equipment of this facility shall be operated and maintained so as to function consistently as designed in removing pollutants. The wastewater stream shall remain non-hazardous at all times. [62-528.307(3)(b) and 62-528.400(1)]



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6. In the event a well must be plugged or abandoned, the permittee shall obtain a permit from the Department as required by Chapter 62-528, Florida Administrative Code (F.A.C.). When no longer used for their intended purpose, these wells shall be properly plugged and abandoned. Within 180 days of well abandonment, the permittee shall submit to the Department the proposed plugging method, pursuant to Rule 62-528.460, F.A.C. [62-528.460(1) and 62-528.435(6)]
7. In accordance with rules 62-4.090 and 62-528.455(3)(a), F.A.C., the permittee shall submit an application for permit renewal at least 60 days prior to expiration of this permit. [62-528.307(3)(a)]
8. Hurricane Preparedness: Preparations to be made by permittee upon issuance of a “Hurricane Watch” by the National Weather Service include, but are not limited to:
  - a. Secure all onsite salt and other stockpiled additive materials to prevent surface and/or ground water contamination.
  - b. Properly secure equipment to prevent damage to well(s) and onsite treatment process equipment.[62-528.307(1)(f)]

**B. Mechanical Integrity and Mechanical Integrity Testing (MIT)**

1. Mechanical Integrity.
  - a. The permittee shall maintain the mechanical integrity of the well at all times.
  - b. If the Department determines that the injection well lacks mechanical integrity, written notice shall be given to the permittee.
  - c. Within 48 hours of receiving written notice that the well lacks mechanical integrity, unless the Department requires immediate cessation of injection, the permittee shall cease injection into the well unless the Department allows continued injection pursuant to subparagraph d. below.
  - d. The Department shall allow the permittee to continue operation of a well that lacks mechanical integrity if the permittee has made a satisfactory demonstration that fluid movement into or between underground sources of drinking water is not occurring.[62-528.307(3)(e)]
2. The permittee shall demonstrate mechanical integrity at least once every five years during the life of each injection well. In the event operational or other data indicate a possible loss of integrity in an injection well, the mechanical integrity and other testing may be required at less than a five-year interval. For each injection well, the mechanical integrity testing program shall include: TV survey, pressure test, radioactive tracer survey (RTS), and temperature log. Mechanical integrity testing shall be run and completed prior to the following dates:



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Palm Beach County Water Utilities Dept.  
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<b>Five-Year MIT</b>	
<b>Well Name</b>	<b>Required Completion Date</b>
IW-1	January 29, 2019
IW-2	February 18, 2019

*[62-528.300(6)(b)2, 62-528.300(6)(c), and 62-528.425(1)(d)]*

3. A plan describing the mechanical integrity procedures shall be submitted to the Department's Tallahassee and Southeast District offices for approval at least 90 days prior to the required completion date noted above.  
*[62-528.307(1)(m)4]*
4. The Department's Southeast District office must be notified a minimum of seventy-two (72) hours prior to all testing for mechanical integrity on the injection wells. The testing procedure must be approved by the Department before testing begins. All testing must be initiated during daylight hours, Monday through Friday. An evaluation of all test results must be submitted with all test data. *[62-528.300(6)(f)]*
5. Pursuant to Rule 62-528.430(2)(b)2.a., F.A.C., the final MIT report for the demonstration of mechanical integrity for the injection wells shall be submitted to the Department's Tallahassee office for review and approval within three months of the completion date for mechanical integrity testing. In addition, a copy of the cover letter for the MIT results shall be sent to the U.S. Environmental Protection Agency, Region 4, UIC program, 61 Forsyth St. SW, Atlanta, GA 30303-8909. The final MIT report shall be prepared by a registered/certified Professional Engineer and/or Professional Geologist (as appropriate), and it shall address all tests noted in condition B.2 (including procedures followed, interpretations and results), and shall include a tabular presentation/graphical evaluation of monitoring well data over the previous 5-year period. If the well has failed any of the specified tests, the MIT report shall include a plan for corrective action for all discovered deficiencies. *[ 62-528.440(5)(b)]*

### **C. Surface Equipment**

1. The integrity of the monitoring zone sampling systems shall be maintained at all times. Sampling lines shall be clearly and unambiguously identified by monitoring zone at the point at which samples are drawn. All reasonable and prudent precautions shall be taken to ensure that samples are properly identified by monitoring zone and that samples obtained are representative of those zones. Sampling lines and equipment shall be kept free of contamination with independent discharges and no interconnections with any other lines. *[62-528.307(1)(f) and 62-528.307(3)(b)]*
2. The surface equipment for the each injection well disposing of domestic (municipal) effluent shall maintain compliance with Chapter 62-600.540(4), F.A.C., for water hammer control, screening, access for logging and testing, and reliability and flexibility in the event of damage to the well and effluent piping.  
*[62-600.540(4), 62-528.307(1)(f), and 62-528.307(3)(b)]*

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3. Injection wells not disposing of domestic (municipal) effluent shall maintain compliance with Chapter 62-528.450(2)(j), F.A.C., for water hammer control, as well as access for logging and testing, and reliability and flexibility in the event of damage to the well and effluent piping. *[62-528.450(2)(j), 62-528.307(1)(f), and 62-528.307(3)(b)]*
4. The surface equipment and piping for the injection and monitoring wells shall be kept free of corrosion at all times. *[62-528.307(1)(f) and 62-528.307(3)(b)]*
5. Spillage onto the injection well pad(s) during construction activities, and any waters spilled during mechanical integrity testing, other maintenance, testing or repairs to the system(s) shall be contained on the pad(s) and directed to a sump which in turn discharges to the pumping station, wet well, or via other approved means to the injection well system(s). *[62-528.307(1)(f) and 62-528.307(3)(b)]*
6. The injection well pads shall be maintained and retained in service for the life of the injection wells. The injection well pads are not, unless specific approval is obtained from the Department, to be used for storage of any material or equipment at any time. *[62-528.307(1)(f) and 62-528.307(3)(b)]*
7. The surficial aquifer monitoring wells adjacent to the injection and monitoring wells shall be secured, maintained, and retained in service for subsequent sampling that may be needed (i.e., should there be an accidental discharge to the surficial aquifer); alternatively, the facility may submit a request to the Department for cessation of sampling followed by capping, or plugging and abandonment of these wells. *[62-528.307(3)(b) and 62-520.600(6)(k)]*

## **II. QUALITY ASSURANCE/QUALITY CONTROL**

1. The permittee shall ensure that the operation of this injection well system shall be as described in the application and supporting documents. Any proposed modifications to the permit shall be submitted in writing to the Tallahassee office of the Underground Injection Control Program for review and clearance prior to implementation. Changes of negligible impact to the environment and staff time will be reviewed by the program manager, cleared when appropriate and incorporated into this permit. Changes or modifications other than those described above will require submission of a completed application and appropriate processing fee as per Rule 62-4.050, F.A.C. *[62-528.100 and 62-4.050]*
2. Proper operation and maintenance include effective performance and appropriate quality assurance procedures; adequate operator staffing and training; and adequate laboratory and process controls. *[62-528.307(3)(b)]*
3. All water quality samples required by this permit shall be collected in accordance with the appropriate Department Standard Operation Procedures (SOP), pursuant to Chapter 62-160, Quality Assurance, Part II, Field Procedures, F.A.C. A certified laboratory shall conduct the analytical work, as provided by Chapter 62-160, Quality Assurance, Part III,

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Laboratory Certification and Procedures, F.A.C. Department-approved test methods shall be utilized, unless otherwise stated in this permit. All calibration procedures for field testing and laboratory equipment shall follow manufacturer's instrumentation manuals and satisfy the requirements of the Department SOPs. A listing of the SOPs pertaining to field and laboratory activities is available at the FDEP website at: <http://www.dep.state.fl.us/water/sas/sop/sops.htm>. [62-4.246 and 62-160]

4. All indicating, recording and totalizing devices associated with the injection well system shall be maintained in good operating condition and calibrated annually at a minimum. The pressure gauges, flow meter, and chart records shall be calibrated using standard engineering methods. [62-528.307(1)(f) and 62-528.307(3)(b)]
5. All reports submitted to satisfy the requirements of this permit shall be signed by a person authorized under Rule 62-528.340(1), F.A.C., or a duly authorized representative of that person under Rule 62-528.340(2), F.A.C. All reports required by this permit which are submitted to the Department shall contain the following certification as required by Rule 62-528.340(4), F.A.C.:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

[62-528.340(1), (2), and (4)]

6. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the Southeast District as being more representative of ground water conditions. [62-520.310(5)]

### **III. TESTING AND REPORTING REQUIREMENTS**

#### **A. General**

1. The permittee shall submit monthly to the Department the results of all injection well and monitoring well data required by this permit no later than the last day of the month immediately following the month of record. The report shall include:
  - a. A cover page summarizing the current status of all monthly activities, including, but not limited to, the certification and signature required in condition II.5.
  - b. Operational and water quality data in a tabular format. The following identifying information must be included on each data sheet:
    - i. Southern Region Water Reclamation Facility
    - ii. Well Name
    - iii. UIC Permit Number
    - iv. WACS Facility ID

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- v. WACS Testsite ID number (on appropriate data sheet) as provided on the Injection Well and Monitoring Well tables on page 2 of this permit.
  - c. Laboratory pages and supporting documentation  
*[62-528.307(3)(d)]*
2. The report may be sent via electronic mail in Adobe™ (.pdf) format to the following Program e-mail addresses:

Southeast District	SED_UIC@dep.state.fl.us
Tallahassee - UIC Program	TAL_UIC@dep.state.fl.us

If a paper copy of the report is submitted, it should be sent to Department staff at the following addresses:

Southeast District	400 North Congress Avenue, 3 <sup>rd</sup> Floor West Palm Beach, Florida 33401
Tallahassee - UIC Program	2600 Blair Stone Road, MS 3530 Tallahassee, Florida, 32399-2400

*[62-528.307(3)(d)]*

**B. Monitoring**

1. The injection system shall be monitored in accordance with Rules 62-528.425(l)(g) and 62-528.430(2), F.A.C. The following injection well performance data and monitor zone data shall be recorded and reported in the Monthly Operating Report (MOR) as indicated below. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [62-528.307(3)(d) and 528.430(2)]

PARAMETER	UNIT	RECORDING FREQUENCY	FREQUENCY OF ANALYSES		
			IW-1 3258	IW-2 3259	MW-1 <i>Upper and Intermediate</i> 6531A & 6531B
Injection Pressure, max.	psi	continuous	a	a	
Injection Pressure, min.	psi	continuous	a	a	
Injection Pressure, avg.	psi	continuous	a	a	
Flow Rate, max.	gpm	continuous	a	a	
Flow Rate, min.	gpm	continuous	a	a	
Flow Rate, avg.	gpm	continuous	a	a	
Total Volume Injected per well	MG	daily/monthly	D/M	D/M	
Total Volume Injected for Facility	MG	daily/monthly	D/M		
Water Level or Pressure max.	ft NAVD or psi	continuous			a
Water Level or Pressure min.	ft NAVD or psi	continuous			a
Water Level or Pressure avg.	ft NAVD or psi	continuous			a
Total Kjeldahl Nitrogen	mg/L	grab	M <sup>c</sup>		M
Nitrate + Nitrite (as N)	mg/L	grab	M <sup>c</sup>		
Ammonia (as N)	mg/L	grab	M <sup>c</sup>		M
Chloride	mg/L	grab	M <sup>c</sup>		M
pH <sup>b</sup>	std. units	grab	M <sup>c</sup>		M
Specific Conductance <sup>b</sup>	µmhos/cm	grab	M <sup>c</sup>		M
Sulfate	mg/L	grab	M <sup>c</sup>		M
Temperature (field) <sup>b</sup>	°C	grab	M <sup>c</sup>		M
Total Dissolved Solids	mg/L	grab	M <sup>c</sup>		M

See injection well and monitoring well tables at beginning of permit for more information.

D – daily; M – monthly

<sup>a</sup> – Operational data reporting for flows, pressures and water levels: daily max, min and average from continuous reporting; monthly max, min and average (calculated from daily averages).

<sup>b</sup> – Field samples

<sup>c</sup> – This is from the effluent sample no matter what injection well is being used.

2. A specific injectivity test shall be performed quarterly on the injection well as required by Rule 62-528.430 (2) (b)l.b., F.A.C. Pursuant to Rule 62-528.430(2) (d), F.A.C, the specific injectivity test shall be performed with the pumping rate to the well set at a predetermined level and reported as the specific injectivity index (gallons per minute/specific pressure). The pumping rate to be used shall be based on the expected flow, the design of the pump types, and the type of pump control used. As part of this test, the well shall be shut-in for a period of time necessary to conduct a valid observation

of pressure fall-off. The specific injectivity test data shall be submitted along with the monitoring results of the injection and monitoring well data. [62-528.430(2) (b) and (d)]

3. Pertaining to the evacuation (purging) of monitoring wells, which is required prior to the collection of samples for the Monthly Operating Reports (MORs), the facility may elect to follow either one of the following two purging protocols:

- a. The protocol stated below:

A minimum of three well volumes of fluid shall be evacuated from the monitoring systems prior to sampling for the chemical parameters listed above. Sufficient purging shall have occurred when either of the following has occurred:

- 1) pH, specific conductance and temperature when sampled, upon purging the third or subsequent well volume, each vary less than 5% from that sampled upon purging the previous well volume; or
- 2) Upon purging the fifth well volume.

- b. The following protocol taken from DEP-SOP-001/01(Field Procedures):

- 1) Purge until the water level has stabilized (well recovery rate equals the purge rate), then purge a minimum of one well volume, and then collect the first set of stabilization parameters, namely pH, specific conductance and temperature;
- 2) Thereafter, collect stabilization parameters  $\geq$  every  $\frac{1}{4}$  well volume;
- 3) Purging shall be complete when either of the following have occurred:
  - a) 3 consecutive readings of the parameters listed below are within the following ranges<sup>[1]</sup>:
    - i. pH  $\pm$  0.2 Standard Units
    - ii. Specific Conductance  $\pm$  5.0% of reading
    - iii. Temperature  $\pm$  0.2°C
  - b) Upon purging the fifth well volume.

[62-160.210(1) and 62-528.430(2)]

4. The flow from the monitoring zones during well evacuation and sampling shall not be discharged to surface waters or aquifers containing an underground source of drinking water. Waters purged from monitoring wells in preparation for sampling shall be diverted to the injection well head via the pad drainage system, wet well, or treatment plant. [62-4.030, 62-620.320]

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<sup>[1]</sup> Provided dissolved oxygen in the groundwater of the zone being monitored is  $\leq$  20% of saturation for the measured temperature and turbidity is  $\leq$  20 NTUs. This assumption holds true for groundwater in most zones of the Floridan aquifer.

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#### **IV. ABNORMAL EVENTS**

1. In the event the permittee is temporarily unable to comply with any of the conditions of a permit due to breakdown of equipment, power outages or destruction by hazard of fire, wind, or by other cause, the permittee of the facility shall notify the Southeast District office. *[62-528.415(4)(a)]*
2. Notification shall be made in person, by telephone, or by electronic mail (e-mail) within 24 hours of breakdown or malfunction to the Southeast District office. *[62-528.307(1)(x)]*
3. A written report of any noncompliance referenced in Specific Condition (1) above shall be submitted to the Southeast District office and the Tallahassee office within five days after its occurrence. The report shall describe the nature and cause of the breakdown or malfunction, the steps being taken or planned to be taken to correct the problem and prevent its reoccurrence, emergency procedures in use pending correction of the problem, and the time when the facility will again be operating in accordance with permit conditions. *[62-528.415(4)(b)]*

#### **V. EMERGENCY DISPOSAL**

1. All applicable federal, state and local permits must be in place to allow for any alternate discharges due to emergency or planned outage conditions. *[62-528.415(4)(c)1]*
2. Any proposed changes in emergency disposal methods shall be submitted to the Southeast District office and the Tallahassee office for review and approval prior to implementation. *[62-528.415(4)(c)]*
3. The emergency disposal method must be fully operational in the event of planned or emergency outages of the injection well system. *[62-528.415(4)(c)2]*

#### **VI. FINANCIAL RESPONSIBILITY**

1. The permittee shall maintain at all times the financial resources necessary to close, plug, and abandon the injection and associated monitoring wells. *[62-528.435(9)]*
2. The permittee shall annually review the cost estimate for plugging and abandonment. Upon the occurrence of the plugging and abandonment cost estimate exceeding, by 10 percent or more on an annual basis, the cost estimate upon which the current financial responsibility is based, the permittee shall submit to the Department certified financial documentation necessary to amend, renew, or otherwise replace the existing financial responsibility pursuant to Rule 62-528.435(9)(b), F.A.C. and the conditions of this permit. Documentation that the annual updates are being conducted shall be submitted thirty (30) months after the date of permit issuance. *[62-528.435(9)(b)]*
3. In the event that the mechanism used to demonstrate financial responsibility should become insufficient or invalid for any reason, the permittee shall notify the Department's



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Tallahassee office in writing within 14 days of such insufficiency or invalidation. The permittee shall within 90 days of said notification submit to the Department's Tallahassee office for approval new financial documentation certifying either the remedy of current financial insufficiency or resolution of the financial instrument invalidation in order to comply with Rule 62-528.435(9)(b), F.A.C, and the conditions of this permit.  
*[62-528.435(9)(b)]*

### General Conditions

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are "permit conditions" and are binding and enforceable pursuant to section 403.141, F.S.  
*[62-528.307(1)(a)]*
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action. *[62-528.307(1)(b)]*
3. As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit. *[62-528.307(1)(c)]*
4. This permit conveys no title to land, water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. *[62-528.307(1)(d)]*
5. This permit does not relieve the permittee from liability for harm to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties there from; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. *[62-528.307(1)(e)]*
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, or are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules. *[62-528.307(1)(f)]*
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be

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required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under conditions of this permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
  - d. Reasonable time will depend on the nature of the concern being investigated.  
*[62-528.307(1)(g)]*
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- a. A description of and cause of noncompliance; and
  - b. The period of noncompliance, including dates and times; or, if not corrected the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent the recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.  
*[62-528.307(1)(h)]*
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.  
*[62-528.307(1)(i)]*
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. *[62-528.307(1)(j)]*
11. This permit is transferable only upon Department approval in accordance with rules 62-4.120 and 62-528.350, F.A.C. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.  
*[62-528.307(1)(k)]*
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.  
*[62-528.307(1)(l)]*
13. The permittee shall comply with the following:

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- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records shall be extended automatically unless the Department determines that the records are no longer required.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
  - 1) the date, exact place, and time of sampling or measurements;
  - 2) the person responsible for performing the sampling or measurements;
  - 3) the dates analyses were performed;
  - 4) the person responsible for performing the analyses;
  - 5) the analytical techniques or methods used;
  - 6) the results of such analyses.
- d. The permittee shall furnish to the Department, within the time requested in writing, any information which the Department requests to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.
- e. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

*[62-528.307(1)(m)]*

14. All applications, reports, or information required by the Department shall be certified as being true, accurate, and complete. *[62-528.307(1)(n)]*
15. Reports of compliance or noncompliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each scheduled date. *[62-528.307(1)(o)]*
16. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *[62-528.307(1)(p)]*
17. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-528.307(1)(q)]*
18. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit. *[62-528.307(1)(r)]*

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19. This permit may be modified, revoked and reissued, or terminated for cause, as provided in 40 C.F.R. sections 144.39(a), 144.40(a), and 144.41 (1998). The filing of a request by the permittee for a permit modification, revocation or reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. *[62-528.307(1)(s)]*
20. The permittee shall retain all records of all monitoring information concerning the nature and composition of injected fluid until five years after completion of any plugging and abandonment procedures specified under rule 62-528.435, F.A.C. The permittee shall deliver the records to the Department office that issued the permit at the conclusion of the retention period unless the permittee elects to continue retention of the records. *[62-528.307(1)(t)]*
21. All reports and other submittals required to comply with this permit shall be signed by a person authorized under rules 62-528.340(1) or (2), F.A.C. All reports shall contain the certification required in rule 62-528.340(4), F.A.C. *[62-528.307(1)(u)]*
22. The permittee shall notify the Department as soon as possible of any planned physical alterations or additions to the permitted facility. In addition, prior approval is required for activities described in rule 62-528.410(1)(h). *[62-528.307(1)(v)]*
23. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or injection activity which may result in noncompliance with permit requirements. *[62-528.307(1)(w)]*
24. The permittee shall report any noncompliance which may endanger health or the environment including:
  - a. Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water; or
  - b. Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

*[62-528.307(1)(x)]*

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Issued this \_\_\_\_\_ day of \_\_\_\_\_ 2014

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

Draft

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Joseph Haberfeld, P.G.  
Aquifer Protection Program Administrator  
Division of Water Resource Management

FACT SHEET  
Palm Beach County Southern Region Water Reclamation Facility  
Permit Number 0324924-001-002UO/1M  
WACS Facility ID 65574  
April 30, 2014

Renewal Operation Permit for Palm Beach County Southern Region Water Reclamation Facility  
Class I Injection Wells IW-1 and IW-2 and Monitor Well MW-1.

1. General Information

A. Statutory Basis For Requiring/Issuing Permit

The Department has permitting jurisdiction under Chapter 403, Florida Statutes (F.S.), and the rules adopted thereunder. The project is not exempt from permitting procedures. The Department has determined that an operation permit is required for the proposed project.

B. Name and Address of Applicant

Mr. Bevin Beaudet, Director  
Palm Beach County Water Utilities Department  
8100 Forest Hill Boulevard  
West Palm Beach, Florida 33416  
[bbeaudet@pbcwater.com](mailto:bbeaudet@pbcwater.com)

C. Description of Applicant's Proposed Operation

To operate two Class I injection wells (IW-1 and IW-2) and monitor well MW-1, located at the Palm Beach County (PBC) Southern Region Water Reclamation Facility (WRF). The WRF is located at 12751 Hagen Ranch Road (IW-1 - latitude 26°29'07"N and longitude 80° 10'08"W and IW-2-latitude 26°29'07"N and longitude 80° 10'06"W) Boynton Beach, Florida, Palm Beach County. The injection wells are used for the disposal of non-hazardous, secondary treated municipal effluent from the PBC Southern Region WRF. The maximum permitted capacity for each injection well is 15 MGD as based on a velocity of 8 feet per second and the rate at which the injection test was run. The maximum permitted wellhead pressure is 101 psi for IW-1 and 107 psi for IW-2. The maximum wellhead pressure may be modified as based on the most recent pressure test conducted on the injection well not to exceed two-thirds of the pressure at which it is tested and approved by the Department. See Documents 1, 3, and 4, Rules 62-528.400, 62-528.415(1)(f), 62-528.455(2)(c), (e), and (f), 62-528.455(3), 62-600.420(1)(d)1., and 62-600.540, Florida Administrative Code (F.A.C.), and permit specific conditions I, II, III, IV, V, and VI.

D. Permitting History of this Facility

The injection wells and monitor well were constructed under permits UC50-165238 and UC50-165239. The construction permits were issued February 27, 1990, and were to expire October 15, 1991. The permits were extended to July 31, 1992. Operational testing began in November 1991. Operation permits UO50-219232 and UO50-219240 were issued on July 2, 1993, and were to expire on July 3, 1998. Permits UO50-219232 and UO50-219240 were extended by timely submittal (April 24, 1998) of the renewal operation permit applications. A freshening trend of decreasing chloride and total dissolved solids concentrations occurred in the lower monitor zone (1,900 to 1,984 feet below land surface) between the years of 1991 through 1994. During this time the concentrations of the effluent indicator parameters increased. A perforation plan for testing an intermediate depth in the monitor well was approved in 1994. Construction permit UC50-260656 to modify the monitor well was issued on December 15, 1994. A retrievable packer was placed in the 6-inch casing at a depth of 1,528 feet on December 12, 1994. A pressure test on the 6-inch casing was conducted on December 14, 1994, to ensure that formation waters from the lower monitor zone could not migrate upward past the packer. The pressure test was conducted at 140 psi for one hour. The perforation of the monitor well between the depths of 1,480 to 1,500 feet below land surface (bls) was completed on December 15, 1994. Permit UC50-260656 was extended to December 1, 1996. An aquifer exemption petition was received on April 1, 1998, but withdrawn on February 8, 2012. Operation permits 0050844-001 and 002-UO were issued on November 5, 1998, and were to expire on November 5, 2003. Operation permits 0050844-001 and 002-UO were extended under an administrative extension (refer to the August 23, 2005, letter to Hassan Hadjimiry). Modification permit 0050844-022-UC was issued to allow the testing to rerate the maximum flows to the injection wells. Modification permit 0050844-022-UC was issued on May 15, 2008, for the monitor well, but no modifications were made.

E. Documents Used in Permitting Decision

1. Applications to operate Class I Injection Well IW-1 and IW-2, received March 12, 2014.
2. "Engineering Report for the Drilling and Testing of the Deep Injection and Dual-Zone Monitor Wells at the Palm Beach County Southern Region Wastewater Treatment Plant" dated May, 1991.
3. "Operation and Maintenance Manual Deep Injection and Dual-Zone Monitor Wells at the Palm Beach County Southern Region Water Reclamation Facility", dated March 2014.



4. "Palm Beach County Water Utilities Department Southern Region Water Reclamation Facility Deep Injection Well - IW-1 Mechanical Integrity Test Report", dated January 2014.
5. "Palm Beach County Water Utilities Department Southern Region Water Reclamation Facility Deep Injection Well - IW-2 Mechanical Integrity Test Report", dated February 2014.
6. "Emergency Discharge Effluent Management Plan Southern Region Water Reclamation Facility" date February 2006.
7. "Engineering Report Temporary Modification of Dual Zone Monitor Well MW-1 at the Palm Beach County Southern Region Wastewater Treatment Plant" dated May 1995.
8. April 3, 2014, response to the Department's March 26, 2014, request for information concerning the operation renewal application.

## 2. Reasons Permit Was Issued

### A. Area of Review (Rule 62-528.300(4), F.A.C.)

Wells located within a three-mile radius from the injection facility were located on a map and the well information listed. There were no wells identified that were not properly completed or plugged within the three-mile area of review. See Document 1, and Rules 62-528.300(4) and 62-528.455(3)(b)1. and 2., F.A.C.

### B. Mechanical Integrity Demonstration (Rule 62-528.300(6), F.A.C.)

1. A pressure test of 152.0 psi, with a 0.99 percent decrease to 150.5 psi by the end of the one hour test period, was conducted on the 24-inch casing of injection well IW-1 on January 30, 2014. The pressure change is within the 5 percent limits allowed by the Department. See Document 4, Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2)(b)2.a., 62-528.455(2)(b), 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III.
2. A television (TV) survey of injection well IW-1 was conducted on February 7, 2014. The TV survey did not reveal any defects in the cased portion of the well. See Document 4, Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2)(b)2.a., 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III.

3. A temperature log run on injection well IW-1 on February 11, 2014, indicated no evidence of fluid movement behind the casing. See Document 4, Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2)(b)2.a., 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III.
4. The February 11, 2014, radioactive tracer survey (RTS) indicated that there was no fluid movement behind the injection well casing of IW-1. See Document 4, Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2)(b)2.a., 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III.
5. A pressure test of 160.0 psi, with a 0.94 percent decrease to 158.5 psi over the one hour test period, was conducted on the 24-inch casing of injection well IW-2 on February 19, 2014. The pressure change was within the 5 percent limits allowed by the Department. See Document 5, Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2)(b)2.a., 62-528.455(2)(b), 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III
6. A TV survey of injection well IW-2 was conducted on February 25, 2014. The TV survey did not reveal any defects in the cased portion of the well. See Document 5, Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2)(b)2.a., 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III.
7. A temperature log run on injection well IW-2 on February 16, 2014, indicated no evidence of fluid movement behind the casing. See Document 5, Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2)(b)2.a., 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III.
8. The February 26, 2014, RTS indicated that there was no fluid movement behind the injection well casing of IW-2. See Document 5, Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2)(b)2.a., 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III.
9. A pressure test of 100.0 psi, with a 3.8 percent decrease to 96.2 psi over the one hour test period, was conducted on the 6-inch casing of the monitor well on September 4, 1990. See Document 2, page 5-3 and Appendix I and Rules 62-528.300(6), 62-528.420(6), and 62-528.455(2)(b), F.A.C.
10. The temperature log and cement bond log run on August 30, 1990, and September 2, 1990, respectively, confirmed the integrity of the cement bond in the monitor well. See Document 2, pages 5-3 and 5-4 and Volume 2 and Rules 62-528.300(6), 62-528.410(7)(a), and 62-528.455(2)(b), F.A.C.

11. The monitor well physical/chemical (pressure/water quality) data does not indicate movement of fluids out of the injection zone. See Documents 1, 4, and 5, and Rules 62-528.425(1)(g), 62-528.430(2), 62-528.455(3)(b)6., and 62-528.455(3)(c), F.A.C.
12. Mechanical integrity testing (TV survey, pressure test, radioactive tracer survey, and temperature log) shall be completed on injection well IW-1 before January 29, 2019, and IW-2 before February 18, 2019. A final report for the demonstration of mechanical integrity test must be submitted within three (3) months of the initiation date for mechanical integrity testing, as required by Rules 62-528.300(6), 62-528.425(1)(d), 62-528.430(2), 62-528.455(3)(b)5., and 62-528.455(3)(c), F.A.C., and permit specific conditions I and III.

C. Confinement (Rule 62-528.405(2), F.A.C.)

Demonstrated through formation sampling, coring, straddle packer tests, water quality tests and geophysical logs. The vertical permeability results of the core samples from the confining unit ranged from  $1.1 \times 10^{-10}$  to  $1.1 \times 10^{-4}$  cm/sec. The horizontal permeability results of the core samples from the confining unit ranged from  $4.8 \times 10^{-10}$  to  $7.9 \times 10^{-5}$  cm/sec.

The confining unit is in the Lake City Formation at a depth of approximately 1475 to 2920 feet below land surface (bls). The primary confining sequence extends from 2280 to 2645 feet bls. See Documents 1 and 2, Rules 62-528.405(1)(a), (2)(a), and (2)(c), 62-528.455(1)(c)1., and 62-528.455(2)(a), F.A.C.

D. Injection Zone Testing (Rule 62-528.405(3), F.A.C.)

Performed through water quality testing, geophysical logs, well video surveys, and long and short term injection testing. Quarterly specific injectivity testing indicates that there is no apparent plugging of the injection zone. The injection zone is in the Oldsmar Formation at a depth greater than 2645 feet bls. See Document 1, Document 2, Figure 3-1 and page 3-6, and Rules 62-528.405(1)(a) and (3), 62-528.430(2)(d), 62-528.455(1)(c)1., 62-528.455(2)(a),(d), and (f), and 62-528.455(3)(b)7., F.A.C.

E. Underground Source of Drinking Water (USDW) (Rule 62-528.405(1)(a), F.A.C.)

The base of the lowermost USDW occurs in the Avon Park Formation at approximately 1750 feet bls. The depth was determined by the testing described in item 2.C and 2.D. above. See Documents 1 and 2, Rules 62-528.405(1)(a), 62-528.425(1)(e)1.a., 62-528.430(2)(e), 62-528.440, 62-528.455(1)(c), 62-528.455(2)(a) and (d), 62-528.455(3)(b)6., and 62-528.455(3)(c)1., F.A.C., and permit specific conditions I and III.

F. Well Construction

As-built casing program for injection well IW-1 (all casings are new, unused steel, cemented to land surface). See Document 1 and Document 2, Figure 2-2 and Appendix B.

60" OD (0.5" thick) casing set to 50 feet bls  
54" OD (0.5" thick) casing set to 260 feet bls  
44" OD (0.5" thick) casing set to 1000 feet bls  
34" OD (0.5" thick) casing set to 1890 feet bls  
24" OD (0.5" thick) casing set to 2660 feet bls  
Total depth of well 3311 feet bls

As-built casing program for injection well IW-2 (all casings are new, unused steel, cemented to land surface). See Document 1 and Document 2, Figure 2-2 and Appendix B.

60" OD (0.5" thick) casing set to 25 feet bls  
54" OD (0.5" thick) casing set to 260 feet bls  
44" OD (0.5" thick) casing set to 1000 feet bls  
34" OD (0.5" thick) casing set to 1890 feet bls  
24" OD (0.5" thick) casing set to 2645 feet bls  
Total depth of well 3450 feet bls

As-built casing program for the monitor well MW-1 (all casings are new, unused steel, cemented to land surface, except for the 6.625" casing which is used for monitoring). Refer to Sections 1.D. or 2.G. for explanation on monitor well modifications. See Document 1 and Document 2, Figure 2-2 and Appendix B.

24" OD (0.5" thick) casing set to 260 feet bls  
16" OD (0.5" thick) casing set to 1000 feet bls  
Upper Monitor Zone 1000 to 1096 feet bls  
6.625" (0.5" thick) casing set to 1900 feet bls  
Intermediate Zone (modified from the Lower Monitor Zone) by perforations completed on December 15, 1994, in the 6.625" casing from 1480 to 1500 feet bls.  
Original Lower Monitor Zone (1900 to 1984 feet bls) was sealed on December 12, 1994, by placing a retrievable packer in the 6-inch casing at 1528 feet bls.

G. Monitor Plan (Rule 62-528.425(1), F.A.C.)

Monitor well MW-1 is located between the injection wells, at approximately 90 feet from each injection well. The current monitor intervals are located within the USDW from 1000 to 1096 feet bls (UMZ in the Avon Park Formation) and 1480 to 1500 feet bls (IMZ in the Avon Park Formation). The original lower interval for this well was below the base of the USDW from 1900 to 1984 feet bls (LMZ in the Avon Park

Formation). The 1900 to 1984 foot interval was sealed with a retrievable packer that was set in the 6-inch casing at 1528 feet on December 12, 1994. This interval was sealed off due to indications that fluid was moving upwards out of the injection zone. Fluid movement has not been detected in the current two zones that are within the USDW. See Document 1, Document 2, Figures 2-1, 2-2 and 3-1, Document 3, Document 7, and Rules 62-528.425(1)(e) and (g), F.A.C.

Ground water from the monitor zones is analyzed monthly for total dissolved solids (TDS), specific conductance, chloride, pH, total kjeldahl nitrogen (TKN), ammonia, sulfate, and temperature. See Rules 62-528.425(1)(e) and (g), and 62-528.430(2), F.A.C., and permit specific conditions II and III.

The pressure or water level of the monitor zones are recorded continuously. See Rules 62-528.425(1)(e) and (g), and 62-528.430(2), F.A.C., and specific conditions II and III.

The injection wells are monitored continuously for pressure and flow. See Rules 62-528.425(1)(b) and (e), and 62-528.430(2), F.A.C., and permit specific conditions II and III.

A controlled quarterly injectivity test to determine changes in the capacity of the well is conducted. As part of the injectivity test a quarterly pressure fall-off test is required.

See Rules 62-528.425(1)(c) and 62-528.430(2), F.A.C., and permit specific conditions II and III.

The effluent is monitored monthly for chloride, TDS, pH, ammonia, TKN, nitrate+nitrite (as N), sulfate, specific conductance, and temperature. See Rules 62-528.425(1)(a) and 62-528.430(2), F.A.C., and permit specific conditions II and III.

H. Financial Responsibility (Rules 62-528.435(9) and 62-528.455(3)(b)8. and (c)3., F.A.C.)

Demonstrated by Local Government Guarantee. See Document 1, Rules 62-528.435(9), 62-528.455(3)(b)8. and (c)3., F.A.C., and permit specific condition VI.

I. Emergency Disposal (Rule 62-528.455(1)(c)4. and(d), F.A.C.)

If one injection well is out of service for planed events the effluent will be diverted to the other injection well

If both wells are out of service the emergency discharge is to the storm water detention ponds, Palm Beach County Southern Region Operations Center Class I injection well, and created wetlands. See Document 3, Rule 62-528.455(1)(c)4. and (d), F.A.C., and specific condition V.

3. Agency Action

A draft permit shall be issued as per rule 62-528.310, F.A.C.

4. Public Rights (Rules 62-528.315, .321, and .325, F.A.C.)

The Department will accept written comments on the draft permit and /or a request for a public meeting within 30 days following publication of the Notice of Draft Permit. [Public notice is pursuant to section 403.815, F.S., and Rule 62-110.106(12), F.A.C.] A request for a public meeting shall be submitted in writing and shall state the nature of the issues proposed to be raised in the meeting. If a public meeting is then accordingly scheduled, there will be another thirty –day public notice period for the meeting. Comments received within the 30 day period (s) and during the public meeting (if one is held) will be considered by the Department in formulating a final decision concerning this project. Please contact Douglas Thornton at (850)245-8666 for additional information concerning this project. Comments can be mailed to the Department of Environmental Protection, Mr. Douglas Thornton, MS 3530 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

After the conclusion of the public comment period and public meeting described above, the Department may revise the conditions of the permit based on such public comment. Then the applicant will publish Notice of the Proposed Agency Action. A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing). Accordingly, the Department's final action may be different from the position taken by it in the Notice of Proposed Agency Action. The petition must conform to the requirements specified in the Notice and be filed (received) within 14 days of publication of the Notice in the Department's Office of General Counsel, MS 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes, or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will only be at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

The application and draft permit are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department of Environmental Protection, Southeast District Office, 400 North Congress Avenue, 3<sup>rd</sup> Floor, West Palm Beach, Florida, 33401 or at the Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Please contact Mr. Douglas Thornton at (850)245-8666 for if additional information concerning this project.

5. Department of Environmental Protection Contact

Mr. Douglas Thornton, Engineering Specialist  
Florida Department of Environmental Protection  
MS 3530  
2600 Blair Stone Road  
Tallahassee, Florida, 32399-2400  
Phone: (850)245-8666