



**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:

February 21, 2014

Tommy Strowd, Assistant Executive Director
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406
tstrowd@sfwmd.gov

Palm Beach County UIC
UIC Permit Number **0153872-008-UC/5X**
WACS ID **99057**
Class V, Group 7 ASR Well System
Construction and Testing Permit Modification

NOTICE OF PERMIT MODIFICATION

Enclosed is Permit Number 0153872-008-UC/5X to cycle test: One (1) Class V, Group 7 Aquifer Storage and Recovery injection well (ASR-1) to store and recover treated surface water in the Upper Floridian aquifer system. The surface water will be supplied from the Hillsboro Canal. The injected water shall meet all drinking water standards unless otherwise exempted. The ASR well (ASR-1) consists of 24-inch casing cemented to a depth of 1,015 feet below land surface (bls) and an open borehole completed below the casing, to 1,225 feet bls. There are a total of five monitor wells to determine water quality and level fluctuations in the Surficial and Upper Floridian aquifers.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Leon County, Florida.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Aquifer Protection Administrator

CERTIFICATE OF SERVICE

The undersigned designated clerk hereby certifies that this **NOTICE OF PERMIT MODIFICATION** and all copies were mailed before the close of business on Friday, February 21, 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.

Clerk

Date

Copies Furnished To:

- Joseph Haberkfeld, FDEP/TLH joe.haberkfeld@dep.state.fl.us
- Douglas Thornton, FDEP/TLH douglas.thornton@dep.state.fl.us
- George Heuler, FDEP/TLH george.heuler@dep.state.fl.us
- Cathleen McCarty, FDEP/TLH cathleen.mccarty@dep.state.fl.us
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SECRETARY

**Underground Injection Control
Class V, Group 7 Aquifer and Storage Recovery (ASR) Well System
Construction and Testing Permit Modification**

Permittee:

Tommy Strowd, Assistant Executive Director
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406
tstrowd@sfwmd.gov

Permit/Certification

Permit Number: 0153872-008-UC/5X
WACS ID: 99057
Date of Issuance: February 21, 2014
Date of Expiration: September 4, 2015
Permit Processor: Douglas Thornton

Facility

Western Hillsboro ASR
Western terminus of Loxahatchee Road
Boca Raton, Florida 33428

Location

County: Palm Beach County UIC
Latitude: 26° 21' 07" N
Longitude: 80° 17' 42" W
Section/Township/Range: Sec 19/ 47S /41E

Project: Class V, Group 7 ASR Well System ASR-1.

This permit modification is issued under the provisions of Chapter 403, Florida Statutes, 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 OPERATIONALLY TEST: A Class V, Group 7, Aquifer Storage and Recovery (ASR) well system. One ASR injection well (ASR-1) will store and recover treated surface water in the Upper Floridian aquifer system. The surface water will be supplied from the Hillsboro Canal. The injected water shall meet all drinking water standards unless otherwise exempted. The ASR well (ASR-1) consists of 24-inch casing cemented to a depth of 1,015 feet below land surface (bls) and an open borehole completed below the casing, to 1,225 feet bls. There are a total of five monitor wells to determine water quality and level fluctuations in the Surficial and Upper Floridian aquifers.

An Administrative Order is being issued with this permit because testing of this ASR system may result in exceedances of some ground water standards such as arsenic.

IN ACCORDANCE WITH The Application to Modify Construction DEP Form No. 62-528.900(1) received, August 29, 2013, response to the Department's September 4, 2013, request for additional information, and supporting information submitted to this agency.

PERMITTEE: Tommy Strowd, Assistant Executive Director
 South Florida Water Management District
 Western Hillsboro ASR

Permit Number: 0153872-008-UC/5X
WACS ID: 99057

LOCATION: Western Hillsboro ASR, Western terminus of Loxahatchee Road, Boca Raton, Florida 33428, 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 Testsite ID</i>	<i>Total Well Depth *</i>	<i>Casing Diameter (inches)</i>	<i>Casing or Tubing Type</i>	<i>Casing or Interval*</i>
ASR-1	13518	1225	42"	Steel	55
			36"	Steel	205
			24"	O.D. Steel	1015
			Open hole		From 1015 to 1225

*Feet Below Land Surface

Monitoring Wells

<i>Well Name</i>	<i>WACS Testsite ID</i>	<i>Casing Diameter (inches)</i>	<i>Casing Type or Interval</i>	<i>Casing or Interval Depth*</i>
PBF-10R	26316	12"	Steel	60
		3"	O.D. FRP	1015
		Upper Zone		From 1015 to 1225
PBF-11	26815A	24"	Steel	375
		18"	Steel	998
		12"	Steel	1515
		Intermediate Zone		From 1515 to 1670
PBF-12	26815B	2.375"	O.D. FRP	2135
		Lower Zone		From 2135 to 2260
PBF-14	26314	14"	Steel	215
		6"	O.D. FRP	1015
		Upper Zone		From 1015 to 1230
PBS-11	26313	4"	O.D. PVC	155
		PVC Screen		From 155 to 175

*Feet Below Land Surface

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

Specific Conditions

I. GENERAL REQUIREMENTS

1. This permit modification is for South Florida Water Management District to operationally test one ASR injection well (ASR-1) to store and recover treated surface water in the Upper Floridian aquifer system. The surface water will be supplied from the Hillsboro Canal. The injected water shall meet all drinking water standards unless otherwise exempted. This permit does not authorize the construction or operational testing of any other well or wells.
[62-528.440(2)(a)]
2. 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. 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)]
3. If injection is to continue beyond the expiration date of this permit the permittee shall apply for, and obtain an operation permit. If necessary to complete the operational testing period, the permittee shall apply for renewal of the construction permit at least 60 days prior to the expiration date of this permit. *[62-528.307(2)(a)]*
4. The permittee will operate the facility in accordance with Water Quality Criteria Exemption no. 06-0718.

II. SITE REQUIREMENTS

1. A drilling pad shall be provided to collect spillage of contaminants and to support the heaviest load that will be encountered during drilling. Spillage during construction activities, and any fluids spilled during maintenance, testing or repairs to the system(s) shall be contained on the pad(s) and directed to a means of treatment or proper disposal. The specifications for a temporary containment structure around the borehole during the drilling of the ASR well and storage zone monitoring wells shall be submitted to and approved by the Department prior to those wells being constructed.
[62-528.410(9)(b)]
2. 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)]*

III. CONSTRUCTION AND TESTING REQUIREMENTS

A. General

1. Any construction, modification, repair, or abandonment of a well shall be performed by a Florida licensed water well contractor, licensed under Chapter 62-532, F.A.C., to engage in the business of construction, modification, repair or abandonment of a well.
[62-532.200]
2. Well construction shall follow the requirements of Rule 62-532.500 for Water Well Construction Standards. *[62-532.500]*
3. The measurement points for drilling and logging operations shall be surveyed and referenced to the North American Vertical Datum of 1988 (NAVD 88) prior to the onset of drilling activities for the ASR well(s) and associated monitoring well system. *[62-160.240(2)]*

B. 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 and piping for the ASR and monitoring wells shall be kept free of corrosion at all times. *[62-528.307(1)(f) and 62-528.307(3)(b)]*
3. The ASR well pads shall be maintained and retained in service for the life of the ASR wells. The ASR 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)]

IV. QUALITY ASSURANCE/QUALITY CONTROL

1. The permittee shall ensure that the construction and operational testing of this ASR 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 Aquifer Protection Program for review and clearance prior to implantation. 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, 62-4.050]*

PERMITTEE: Tommy Strowd, Assistant Executive Director
South Florida Water Management District
Western Hillsboro ASR

Permit Number: 0153872-008-UC/5X
WACS ID: 99057

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(2)(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, 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, 62-160]*
4. All indicating, recording and totalizing devices associated with the ASR 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(2)(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)]*
7. A professional engineer registered pursuant to Chapter 471, F.S., shall be retained throughout the construction period to be responsible for the construction operation and to certify the application, specifications, completion report and other related documents. The Department shall be notified immediately of any change of engineer. *[62-528.440(5)(b)]*

8. Continuous on-site supervision by qualified personnel (engineer and/or geologist, as applicable) is required during all testing and geophysical logging operations.
[62-528.440(5)(b)]

V. OPERATIONAL TESTING AND MONITORING REQUIREMENTS

A. Operational Testing

1. The permittee shall conduct operational testing of the ASR well system prior to submittal of an operating permit application to demonstrate that the system will operate consistently with Department rules. *[62-528.450(3)(a)]*
2. Prior to operational testing, the permittee shall comply with the requirements of rule 62-528.450(3) (a), (b) and (c), F.A.C. *[62-528.307(2)(e)]*
3. Pressure gauges and flow meters shall be installed on the ASR well prior to initiating injection activities at the site. *[62-528.450(3)(a)]*
4. Prior to the beginning of operational testing, the permittee shall contact the Southeast District office to arrange a site inspection. The inspection will determine if the conditions of the permit have been met and to verify that the ASR well system is operational. During the inspection, emergency procedures and reporting requirements shall be reviewed.
[62-528.450(3)(c)]
5. The Engineer of Record or designated qualified representative must be present for the start-up operations and the Department must be notified in writing of the date operational testing commenced for the subject well. *[62-528.440(5)(b)]*
6. Cycle Testing Plan

The following cycles shall be conducted under this permit. Requests to modify the cycles or add more cycles shall be made to the Department for approval prior to their implementation.

- Cycle 4 – Recharge 90 days, Storage 30 days, Recovery 30 days or until conductivity reaches 1275 $\mu\text{mhos/cm}$, whichever comes first
- Cycle 5 – Recharge 90 days, Storage 60 days, Recovery 60 days or until conductivity reaches 1275 $\mu\text{mhos/cm}$, whichever comes first
- Cycle 6 – Recharge 120 days, Storage 90 days, Recovery 60 days or until conductivity reaches 1275 $\mu\text{mhos/cm}$, whichever comes first

B. Monitoring

1. The ASR system shall be monitored in accordance with Rules 62-528.425(l)(g) and 62-528.430(2), F.A.C. The following ASR 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. The monitoring frequency or parameters may be changed upon justification provided to the Department and written approval provided by the Department. [62-528.307(2)(d), 528.430(2) and 62-528.450(3)(b)5.]

Recharge Mode								
PARAMETER	UNIT	RECORDING FREQUENCY	FREQUENCY OF ANALYSES					
			ASR Well 13518	PBF-10R 26316	PBF-14 26314	PBS-11 26313	PBF-11 26315A	PBF-12 26315B
Flow Rate, max.	gpm	continuous	a					
Flow Rate, min.	gpm	continuous	a					
Flow Rate, avg.	gpm	continuous	a					
Total Volume Recharged	mg	daily/monthly						
Net Storage	MG	monthly						
ASR Well Pressure, max.	psi	continuous	a					
ASR Well Pressure, min.	psi	continuous	a					
ASR Well Pressure, avg.	psi	continuous	a					
Water Level or Pressure, max.	feet (NAVD) or psi	continuous		a	a	a	a	a
Water Level or Pressure, min.	feet (NAVD) or psi	continuous		a	a	a	a	a
Water Level or Pressure, avg.	feet (NAVD) or psi	continuous		a	a	a	a	a
Chloride	mg/L	grab	B+W	W	W	B+M	B	B
Specific Conductivity ^b	µmhos/cm	grab	B+W	W	W	B+M	B	B
Color	PCU	grab	B+W	W	W	B+M	B	B
Total Dissolved Solids	mg/L	grab	B+W	W	W	B+M	B	B
Dissolved Oxygen ^b	mg/L	grab	M	W	W	B+M		
Oxidation-Reduction Potential ^b	mV	grab	M	W	W	B+M		
pH ^b	std. units	grab	W	W	W	B+W		
Temperature ^b	°C	grab	W	W	W	B+W		
Arsenic	µg/L	grab	W	W	W	B+W		
Fecal Coliform	CFU/100ml	grab	W	W	W			
Total Coliform	CFU/100ml	grab	W	W	W			
Source Water, Primary and Secondary Drinking Water Standards.		grab	A			A		

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

B – Baseline, to be sampled within one day of initiation of recharge;

W – Weekly; M – Monthly; A – Annual

^a - 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).

^b - Field samples

Storage Mode								
PARAMETER	UNIT	RECORDING FREQUENCY	FREQUENCY OF ANALYSES					
			ASR Well 13518	PBF-10R 26316	PBF-14 26314	PBS-11 26313	PBF-11 26315A	PBF-12 26315B
ASR Well Pressure, max.	psi	continuous	^a					
ASR Well Pressure, min.	psi	continuous	^a					
ASR Well Pressure, avg.	psi	continuous	^a					
Water Level or Pressure, max.	feet (NAVD) or psi	continuous		^a	^a	^a	^a	^a
Water Level or Pressure, min.	feet (NAVD) or psi	continuous		^a	^a	^a	^a	^a
Water Level or Pressure, avg.	feet (NAVD) or psi	continuous		^a	^a	^a	^a	^a
Chloride	mg/L	grab		W	W			
Specific Conductivity ^b	µmhos/cm	grab		W	W			
Color	PCU	grab		W	W			
Total Dissolved Solids	mg/L	grab		W	W			
Dissolved Oxygen ^b	mg/L	grab		W	W			
pH ^b	std. units	grab		W	W			
Temperature ^b	°C	grab		W	W			
Oxidation-Reduction Potential ^b	mV	grab		B+M	B+M			
Arsenic	µg/L	grab		B+M	B+M			
Fecal Coliform	CFU/100ml	grab		B+M	B+M			
Total Coliform	CFU/100ml	grab		B+M	B+M			

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

B – Baseline, to be sampled within one day of initiation of recharge;

W – Weekly; M – Monthly; A – Annual

^a - 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).

^b - Field samples

Recovery Mode								
PARAMETER	UNIT	RECORDING FREQUENCY	FREQUENCY OF ANALYSES					
			ASR Well 13518	PBF-10R 26316	PBF-14 26314	PBS-11 26313	PBF-11 26315A	PBF-12 26315B
Flow Rate, max.	gpm	continuous	a					
Flow Rate, min.	gpm	continuous	a					
Flow Rate, avg.	gpm	continuous	a					
Total Volume Recovered	mg	daily/monthly						
Net Storage	MG	monthly						
ASR Well Pressure, max.	psi	continuous	a					
ASR Well Pressure, min.	psi	continuous	a					
ASR Well Pressure, avg.	psi	continuous	a					
Water Level or Pressure, max.	feet (NAVD) or psi	continuous		a	a	a	a	a
Water Level or Pressure, min.	feet (NAVD) or psi	continuous		a	a	a	a	a
Water Level or Pressure, avg.	feet (NAVD) or psi	continuous		a	a	a	a	a
Chloride	mg/L	grab	W+E	W	W	B+M		
Specific Conductivity ^b	µmhos/cm	grab	W+E	W	W	B+M		
Total Dissolved Solids	mg/L	grab	W+E	W	W	B+M		
Color	PCU	grab	W+E	W	W	B+M		
pH ^b	std. units	grab	W+E	W	W	B+M		
Temperature ^b	°C	grab	W+E	W	W	B+M		
Dissolved Oxygen ^b	mg/L	grab	W+E	W	W	B+M		
Oxidation-Reduction Potential ^b	mV	grab	W+E	W	W	B+M		
Arsenic	µg/L	grab	W+E	W	W	B+M		
Fecal Coliform	CFU/100ml	grab	W+E	W	W			
Total Coliform	CFU/100ml	grab	W+E	W	W			

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

B – Baseline, to be sampled within one day of initiation of recharge; E – End of Recovery;

W – Weekly; M – Monthly; A – Annual

^a - 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).

^b - Field samples

PERMITTEE: Tommy Strowd, Assistant Executive Director
South Florida Water Management District
Western Hillsboro ASR

Permit Number: 0153872-008-UC/5X
WACS ID: 99057

2. The permittee shall submit monthly to the Department the results of all ASR 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 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. Facility Name
 - ii. Well Name
 - iii. UIC Permit Number
 - iv. WACS Facility ID
 - v. WACS Testsite ID (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)]

3. 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, 3rd Floor
West Palm Beach, Florida, 33401

Tallahassee— UIC Program
2600 Blair Stone Road, MS 3530
Tallahassee, Florida, 32399-2400

[62-528.307(3)(d)]

4. Pertaining to the evacuation (purging) of the 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^[1]:
 - pH \pm 0.2 Standard Units
 - Specific Conductance \pm 5.0% of reading
 - Temperature \pm 0.2°C
 - b) Upon purging the fifth well volume.

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

5. 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 (USDW). Waters purged from monitoring wells in preparation for sampling shall be diverted to the ASR well head via the pad drainage system, wet well, or treatment plant. *[62-4.030, 62-620.320]*

VI. 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)]*

^[1] 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 Floridian aquifer.

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 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:
 - 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:
 - i. the date, exact place, and time of sampling or measurements;
 - ii. the person responsible for performing the sampling or measurements;
 - iii. the dates analyses were performed;
 - iv. the person responsible for performing the analyses;
 - v. the analytical techniques or methods used;
 - vi. 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)]*
- 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)]

PERMITTEE: Tommy Strowd, Assistant Executive Director
South Florida Water Management District
Western Hillsboro ASR

Permit Number: 0153872-008-UC/5X
WACS ID: 99057

Issued this 21st day of February 2014

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
PROTECTION



Joseph Haberfeld
Aquifer Protection Administrator
Division of Water Resource Management



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

BEFORE THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permittee:

South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

Facility:

Western Hillsboro ASR
Western terminus of Loxahatchee Road, Boca Raton
Palm Beach County
DEP Permit No. 0153872-008-UC/5X

Responsible Authority:

Mr. Tommy Strowd, Assistant Executive Director

Project:

Western Hillsboro ASR Site
Class V, Group 7 Aquifer Storage & Recovery (ASR) Well System

ADMINISTRATIVE ORDER

I. STATUTORY AUTHORITY

The Department of Environmental Protection (Department) issues this Administrative Order under the authority of Section 403.088(2)(f) of the Florida Statutes (F.S.). The Secretary of the Department has delegated this authority to the Deputy Director of Water Resource Management, who issues this Order and makes the following findings of fact.

II. FINDING OF FACT

1. South Florida Water Management District (SFWMD) is a person under Section 403.031, F. S.
2. The project is the aquifer storage and recovery (ASR) facility, located at the western terminus of Loxahatchee Road, in Boca Raton, Palm Beach County, Florida. The Facility will capture surface water from the Hillsboro Canal during times of excess

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S. Fl. Water Management District
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supply, treat the water by ultraviolet disinfection, inject it into the receiving zone of the upper Floridan Aquifer System (FAS) for storage, and will recover this water when needed. This ASR operation is subject to the requirements contained in Rules 62-4, 62-520, and 62-528, Florida Administrative Code (F.A.C.), which includes underground injection control, permitting, and ground water monitoring requirements.

3. The Facility applied to renew the construction permit on August 29, 2013, under Section 403.0876, F.S., to resume operational testing of the ASR system. Permit No. 0153872-008-UC/5X (Permit) constitutes Department approval for the operational (cycle) testing of the approved ASR Facility.
4. The Facility has provided reasonable assurance that the water injected will meet all primary drinking water standards prior to recharge, unless otherwise exempted.
5. The Facility constructed and conducted operational testing of its ASR system under Permit Nos. 153872-001-UC and 153872-002-UC. The earliest permit was issued prior to January 26, 2006, the date the federal primary drinking water standard for arsenic decreased from 50 µg/L to 10 µg/L. During operational testing the facility complied with the applicable arsenic standard of 50 µg/L. However, for part of the testing the facility measures arsenic values greater than 10 µg/L in the recovered water.

III. ORDER

Based on the foregoing findings of fact, IT IS ORDERED,

1. The Facility shall comply with all conditions of Permit No. 0153872-008-UC/5X and applicable water quality standards, except as otherwise authorized under this Administrative Order.
2. If arsenic levels during operational (cycle) testing conducted under Permit No. 0153872-008-UC/5X exceed 10 µg/L in the recovered water or any associated monitor well, the permittee shall submit a report addressing the operational (cycle) testing results of the collected ground water monitoring data including a determination after every two cycles of whether arsenic levels are decreasing. The report shall be submitted to the Department no later than 90 days following the end of the recovery period for the second cycle. The report shall include a discussion of the changes in water quality for parameters exceeding maximum contaminant levels, including arsenic, during the injection, storage, and recovery periods. The discussion of the arsenic results shall address the possibility that continued cycles may allow the Facility to come into compliance without pretreatment and shall include a projected time until compliance will be achieved.
3. In addition, the Department may require certain enhancements to the ASR Facility, which may include, but not be limited to, additional monitoring parameters; a greater monitoring frequency; additional monitoring wells particularly if ground water not meeting the arsenic standard may be migrating off-site; and a pretreatment program to

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reduce arsenic leaching in the storage zone.

4. If monitoring indicates that arsenic exceeding 10 µg/L is occurring off-site because of the ASR activity, the Department shall require the following:
 - (a) An estimate of the vertical and lateral extent of arsenic concentration exceeding 10 µg/L
 - (b) A field-verified inventory of all water wells within the area determined by best professional judgment to include the area potentially affected by the discharge plus a safety factor of 50%, or a one-mile radius, whichever is larger (area of review)
 - (c) Provisions for alternate water supplies for water wells within the area of review
 - (d) Measures that will be taken to remove off-site contamination or risk-based corrective actions the Facility will conduct under Chapter 62-780, F.A.C., including Department-approved institutional controls in accordance with the Division of Waste Management's Institutional Controls Procedures Guidance, November 2004, to prevent the construction or use of new water wells within areas of off-site contamination. The Department also shall accept a local government's ordinance as an institutional control if that ordinance prohibits the construction or use of water wells within areas of off-site contamination.
 - (e) The Facility may be required to sample off-site wells identified within the area of review that withdrawal from the storage zone
 - (f) The Department will notify all property owners of off-site wells likely to exceed the arsenic standard
5. Reports or other information required by this Administrative Order shall be sent to the Department of Environmental Protection, Underground Injection Control Program, MS 3530, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.
6. This Administrative Order does not operate as a permit under Section 403.088 of the Florida Statutes. This Administrative Order shall be incorporated by reference into Permit No. 0153872-008-UC/5X.
7. Failure to comply with the requirements of this Administrative Order shall constitute a violation of this Administrative Order and Permit No. 0153872-008-UC/5X, and may subject the Facility to penalties as provided in Section 403.161, F.S.
8. If any event, excluding administrative or judicial challenges by third parties unrelated to the Facility, occurs which causes delay or the reasonable likelihood of delay, in complying with the requirements of this Administrative Order, the Facility shall have the burden of demonstrating that the delay was or will be caused by circumstances beyond the reasonable control of the Facility and could not have been or cannot be overcome by the Facility's due diligence. Economic circumstances shall not be considered circumstances beyond the reasonable control of Facility, nor shall the failure of a

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contractor, subcontractor, materialman or other agent (collectively referred to as “contractor”) to whom responsibility for performance is delegated to meet contractually imposed deadlines be a cause beyond the control of Facility, unless the cause of the contractor’s late performance was also beyond the contractor’s control. Upon occurrence of an event causing delay, or upon becoming aware of a potential for delay, the Facility shall notify the Department orally at (850)245-8645 within 24 hours or by the next working day and shall, within seven calendar days of oral notification to the Department, notify the Department in writing at: Department of Environmental Protection, Underground Injection Control Program, MS 3530, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 of the anticipated length and cause of the delay, the measures taken or to be taken to prevent or minimize the delay and the timetable by which the Facility intends to implement these measures. If the parties can agree that the delay or anticipated delay has been or will be caused by circumstances beyond the reasonable control of the Facility, the time for performance hereunder shall be extended for a period equal to the agreed delay resulting from such circumstances.

IV. NOTICE OF RIGHTS

A person whose substantial interests are affected by this Order may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000 or e-mailed to agency_clerk@dep.state.fl.us.

Under Rule 62-110.106(4), Florida Administrative Code, a person may request enlargement of the time for filing a petition for an administrative hearing. The request must be filed (received by the clerk) in the Office of General Counsel before the end of the time period for filing a petition for an administrative hearing.

Petitions by the applicant or any of the persons listed below must be filed within fourteen days of receipt of this written notice. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), Florida Statutes, must be filed within fourteen days of publication of the notice or within fourteen days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within fourteen days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within fourteen days of receipt of notice shall constitute a waiver of that person’s right to request an administrative determination (hearing) under Sections 120.569 and 120.57, Florida Statutes. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance

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with Rule 28-106.205, Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- a. The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the Department permit identification number and the county in which the subject matter or activity is located;
- b. A statement of how and when each petitioner received notice of the Department action;
- c. A statement of how each petitioner's substantial interests are affected by the Department action;
- d. A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- e. A statement of facts that the petitioner contends warrant reversal or modification of the Department action;
- f. A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief and
- g. A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation under Section 120.573, Florida Statutes, is not available for this proceeding.

This Order is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this Order will not be effective until further order of the Department.

Any party to the permit has the right to seek judicial review of the Order under Section 120.68, Florida Statutes, by the filing of a notice of appeal under Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000 or e-mailed to agency_clerk@dep.state.fl.us; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when this Order is filed with the clerk of the Department.

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DONE AND ORDERED on this 21st day of February 2014 in Tallahassee, Florida.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Christine M. Klena
Deputy Director
Division of Water Resource Management
Department of Environmental Protection
2600 Blair Stone Road, Mail Station 3500
Tallahassee, Florida 32399-2400

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

Clerk

Date