FLORIDA DEPARTMENT OF Environmental Protection

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

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

Sent Via Electronic Mail November 24, 2021

In the Matter of an Application for Permit by:

Jeff Goodwin
Deputy Director
Manatee County Utilities
4410 66th Street West
Bradenton, Florida 34210
Jeff.Goodwin@mymanatee.org

DEP UIC Permit No.: 0322708-002-UC/1I
WACS Facility ID: 101607
County: Manatee
Class I Injection Well System, IW-1
Construction and Operational Testing
Piney Point Injection Well

Notice of Intent

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

The applicant, Manatee County Utilities, Jeff Goodwin, Deputy Director, 4410 66th Street West, Bradenton, Florida 34210, applied on April 20, 2021, for a permit to construct and operationally test a class I injection well system.

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

Pursuant to Section 403.815, F.S. and Rule 62 110.106(7), Florida Administrative Code (F.A.C.), you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days in the legal ad section of 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, F.S., 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.

The Department will issue the permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. Mediation is not available for this proceeding.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Sections 120.569 and 120.57, F.S. 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, Agency_Clerk@FloridaDEP.gov 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, F.A.C.

The Petition shall contain the following information:

a. The name and address of each agency affected and each agency's file or identification number, if known;
b. The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
c. A statement of when and how the petitioner received notice of the agency decision;
d. A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
e. A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
f. A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
g. A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

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

The files associated with this order are available for public inspection during normal business hours, 8 a.m. to 5 p.m., Monday through Friday, except state holidays, at the Department of Environmental Protection, Southwest District, and at the Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Please contact Annette G. Roberts, Engineering Specialist III, at 850-245-8336, for additional information.

Executing and Clerking:
Executed in Tallahassee, Florida.
State of Florida Department of Environmental Protection

Cindy Fischler

Cindy Fischler, P.G.
Environmental Administrator
Aquifer Protection Program
Division of Water Resource Management

Certificate of Service

The undersigned duly designated clerk hereby certifies that this **Notice of Intent** and all copies were sent on the filing date Wednesday, November 24, 2021, to the following listed persons:

Cindy Fischler, DEP/TLH, Cindy.Fischler@FloridaDEP.gov
Annette G. Roberts, DEP/TLH, Annette.G.Roberts@FloridaDEP.gov
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Jason Meadows, USEPA/ATL, Meadows.JasonB@EPA.gov

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.

Marjane Taylor

Digitally signed by Marjane Taylor
Date: 2021.11.24 12:35:55 -05'00'

Clerk

Nov. 24, 2021
Date

State of Florida
Department of Environmental Protection

Notice of Intent

The Department of Environmental Protection hereby provides notice of intent to issue a permit for the proposed project, subject to the conditions specified in the draft permit and summarized below. The applicant, Manatee County Utilities, Jeff Goodwin, Deputy Director, 4410 66th Street West, Bradenton, Florida 34210 applied on April 20, 2021, for a permit to construct and operationally test a class I injection well. The project is located at the Manatee County Utilities' Piney Point Injection Well, 3105 Buckeye Road, Palmetto, Florida 34221, in Manatee County (File No. 0322708-002-UC/1I, WACS ID No. 101607).

The facility will construct one non-hazardous Class I injection well IW-1 and one dual-zone monitor well DZMW-1 for the disposal of industrial wastewater from the Manatee County Piney Point Facility. The maximum injection rate for IW-1 shall be 2,813 gallons per minute or 4.05 million gallons per day. The injection well will be constructed with a 20-inch diameter casing set to 1,950 feet below land surface (bls), a 11.75-inch diameter tubing set to 1,950 feet bls with a cemented annulus, and a total depth of 3,300 feet bls. The dual-zone monitor well DZMW-1 will be completed in the upper Floridan aquifer from 600 to 650 feet bls and from 900 to 950 feet bls, with final monitoring intervals determined based on in situ testing.

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

The Department will issue the permit unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, Florida Administrative Code (F.A.C.), a petition for an administrative hearing must contain the following information:

a. The name and address of each agency affected and each agency's file or identification number, if known;
b. The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course

of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

c. A statement of when and how the petitioner received notice of the agency decision;
d. A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
e. A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
f. A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
g. A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition 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 via electronic correspondence at Agency_Clerk@FloridaDEP.gov A copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. The failure 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, F.S., or to intervene in this proceeding and participate as a party to it. 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 with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@FloridaDEP.gov, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

FLORIDA DEPARTMENT OF Environmental Protection

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

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

Underground Injection Control
Class I Injection Well System
Construction and Testing Permit

Permittee
Jeff Goodwin
Deputy Director
Manatee County Utilities
4410 66th Street West
Bradenton, Florida 34210
Jeff.Goodwin@mymanatee.org

Permit/Certification

UIC Permit Number:	0322708-002-UC/1I
WACS Facility ID:	101607
Date of Issuance:	Draft
Date of Expiration:	Draft
Permit Processor:	Annette G. Roberts

Facility
Piney Point Injection Well
3105 Buckeye Road
Palmetto, Florida 34221

Location

County:	Manatee
Latitude:	27° 37' 16.6" N
Longitude:	82° 31' 42.6" W

Project: Class I Injection Well System IW-1

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and the rules adopted thereunder, particularly Rule 62-528, Florida Administrative Code (F.A.C.). 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 of Environmental Protection (Department) and made a part hereof and specifically described as follows.

To Construct and Operationally Test: One non-hazardous Class I injection well (IW-1) and one dual-zone monitor well (DZMW-1) for the disposal of industrial wastewater from the Manatee County Piney Point Facility. The maximum injection rate for IW-1 shall be 2,813 gallons per minute (GPM) or 4.05 million gallons per day (MGD). The injection well will be constructed with a 20-inch diameter casing set to 1,950 feet below land surface (bls), a 11.75-inch diameter tubing set to 1,950 feet bls with a cemented annulus, and a total depth of 3,300 feet bls. The dual-zone monitor well DZMW-1 will be completed in the upper Floridan aquifer from 600 to 650 feet bls and from 900 to 950 feet bls, with final monitoring intervals determined based on in situ testing.

In Accordance With: The Application to Construct [DEP Form No. 62-528.900(1)] received April 22, 2021, response to the Department's request for additional information

dated May 5, 2021, and supporting information submitted to the Aquifer Protection Program (APP) Tallahassee office.

Location: Piney Point Injection Well, 3105 Buckeye Road, Palmetto, Florida 34221, in Manatee County.

The injection and monitor wells, as designated below by Well Name and Water Assurance Compliance System (WACS) Testsite identification (ID), and construction details at this facility, are as follows:

Injection Well (IW)

Well Name	WACS Testsite ID	Well Depth (feet bls)	Casing Diameter (OD inches)	Casing or Tubing Type	Casing Depth or Interval (feet bls)
IW-1	13989	3,300	50	Steel	60
			40	Steel	350
			30	Steel	900
			20	Steel	1,950
			11.75	FRP	1,950
			Open Hole		1,950 – 3,300

Injection Well Notes: Will be constructed with new, unused steel and fiberglass-reinforced plastic (FRP) with a fully cemented annulus completed to land surface.

Monitor Well (MW)

Well Name	WACS Testsite ID	Monitor Zone	Casing Diameter (OD inches)	Casing Type	Casing Depth[b] (feet bls)	Monitoring Depth[b] (feet bls)
DZMW-1[a]			24	Steel	60	
			16	Steel	600	
	29238A	Upper Zone				600 – 650
			6	FRP	900	
	29238B	Lower Zone				900 – 950

Monitor Well Notes:
[a] Will be constructed with new, unused steel and FRP with a fully cemented annulus completed to land surface, except for an open zone to allow for sample collection.
[b] The exact depths of casing seats and monitor intervals shall be determined in accordance with Specific Conditions III.B.2 through III.B.9.

Subject To: Specific Conditions I-IX and General Conditions 1-24.

Specific Conditions

I. General Requirements

1. This permit is for Manatee County Utilities to construct and operationally test one non-hazardous Class I injection well IW-1 and associated dual-zone monitor well DZMW-1 for the disposal of industrial wastewater from the Manatee County Piney Point Facility. This permit does not authorize the construction or operational testing of any other well or wells. *[62-528.440(2)(a), F.A.C.]*
2. No underground injection is allowed that causes or allows movement of fluid into an underground source of drinking water (USDW) 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), F.A.C.]*
3. In the event a well must be plugged or abandoned, the permittee shall obtain a permit from the Department as required by Rule 62-528, 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. *[62-528.435(6) and 62-528.460(1), F.A.C.]*
4. 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 maximum two-year operational testing period as referenced in Rule 62-528.450(3)(e), F.A.C., 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) and 62-528.450(3)(e), F.A.C.]*

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. *[62-528.410(9)(b), F.A.C.]*
2. No drilling operations shall begin without an approved disposal site for drilling fluids, cuttings, or waste. It shall be the permittee's responsibility to obtain the necessary approval(s) for disposal prior to the start of construction. A detailed disposal plan shall be submitted to the Department prior to the commencement of drilling activities for the injection and monitor wells. *[62-528.410(9)(a), F.A.C.]*
3. Specific drilling pad dimensions and design drawings for Department record shall be provided prior to commencing construction and shortly after selection of the drilling contractor. *[62-528.410(9)(b), F.A.C.]*

4. Hurricane Preparedness – Upon the issuance of a "Hurricane Watch" by the National Weather Service, the preparations to be made include but are not necessarily limited to the following:
   a. Secure all on-site salt and stockpiled additive materials to prevent surface and/or groundwater contamination.
   b. Properly secure drilling equipment and rig(s) to prevent damage to wells and on-site treatment process equipment.

   [62-528.307(1)(f), F.A.C.]

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 Rule 62-532, F.A.C., to engage in the business of construction, modification, repair, or abandonment of a well. *[62-532.200, F.A.C.]*
2. Well construction shall follow the requirements of Rule 62-532.500 for Water Well Construction Standards. *[62-532.500, F.A.C.]*
3. The measurement points for drilling and logging operations shall be surveyed and referenced to the North American Vertical Datum (NAVD) of 1988 prior to the onset of drilling activities for the injection and monitor wells. *[62-160.240(3)(b)3., F.A.C.]*
4. Blow-out preventers or comparable flow control devices shall be installed on the injection and monitor wells prior to penetration of the Floridan Aquifer system. *[62-528.410(9)(c), F.A.C.]*
5. The Department shall be notified 30 days prior to the mobilization of drilling operations to the site, and again 7 days prior to the mobilization of drilling operations to the site. *[62-528.430(1), F.A.C.]*
6. Waters spilled during construction or testing of the injection well system shall be contained and properly disposed. *[62-528.307(1)(e) and (f), and 62-528.410(9)(b), F.A.C.]*
7. If additives that were not approved in the permit application are to be used during grouting, for lost circulation, or for any other reason, information on their properties shall be submitted to the Department prior to their use for review and approval. *[62-528.410(5)(c), F.A.C.]*
8. No more than 6% bentonite gel shall be used to cement any casing or tubing unless advance approval is received from the Department due to conditions found during the drilling and logging of the well. *[62-528.410(5)(f) and 62-528.420(5)(c), F.A.C.]*

B. Monitoring

1. The construction, geophysical logging, and packer testing programs shall be implemented in accordance with this permit and as proposed in the following submittals:
   - April 22, 2021, Application to Construct [DEP Form No. 62-528.900(1)];
   - May 5, 2021, Response to RAI;
   - Other approved submittals received by the Department.

   [62.528.307(1)(b), F.A.C.]
2. Exact depths of casing seats and monitor intervals shall be determined based on field conditions and the results obtained during the construction and testing program and are subject to the conditions of this permit. The injection well will be constructed first followed by the monitor wells. In the case of a multi-well injection system, at least one injection well shall be constructed first. *[62-528.410(4)(c), F.A.C.]*
3. Packer tests and geophysical logs shall be conducted in both injection and monitor wells to identify permeable zones, confinement, and the base of the USDW.
   a. The program shall include sufficient packer tests to be conducted during the drilling of Injection Well IW-1 and dual-zone monitor well DZMW-1, at intervals which are to be identified in each well's formation testing program. The depth and placement of the packer tests shall be proposed by the permittee and approved by the Department.
   b. Placement of the upper and lower monitor zones are subject to review and approval by the Department. In conjunction with geophysical logs for the proposed injection well, sufficient straddle packer tests shall be conducted above and below the base of the USDW with packer element separation to accurately define the depth of the base of the USDW. Sufficient confirmatory straddle packer tests shall also be completed at DZMW-1, to verify the upper and lower monitor intervals from the injection well construction data. The placement and depth of the packer tests shall be approved by the Department.
   c. Packer tests shall be conducted in the anticipated confining intervals, from the lowermost zone of the USDW to the top of the injection zone. Results from the packer tests will contribute to the demonstration of confinement. To the extent practicable, the packer tests shall be performed over intervals that are sufficiently narrow so as not to include high hydraulic conductivity beds.

d. Water samples shall be collected from each packer test and analyzed for total dissolved solids (TDS), chlorides, specific conductance, temperature, ammonia, total Kjeldahl nitrogen, and sulfate.

[62-528.405(1)(a) and (2)(a), and 62-528.420(6)(f), F.A.C.]

4. Department approval is required prior to the following stages of construction and testing:
   a. Intermediate (30-inch) casing seat in the injection well
   b. Final (20-inch) casing seat in the injection well
   c. Final seat for tubing and packer in the injection well
   d. Injection well formation testing program to identify the depth of the base of the USDW using the smallest interval possible.
   e. Dual-zone monitor well formation testing program to identify the depth of the base of the USDW using the smallest interval possible.
   f. Intermediate (16-inch) casing seat in the monitor well
   g. Final (6-inch O.D.) casing seat in the monitor well
   h. Monitor zone selections
   i. Short-term injection test
   j. Operational testing

   [62-528.410(4)(c) and 62-528.420(4)(c), F.A.C.]
5. The depth of the USDW and the background water quality of the monitor zones shall be determined during drilling and testing using the following information:
   a. Water samples from packer testing data with analysis and interpretation.
   b. Geophysical logging upon reaching the total depth of the appropriate pilot hole interval including the following logs at a minimum: caliper, gamma ray, dual induction, and borehole compensated sonic. Other logs as identified in the permit application documents shall be run.

   [62-528.405(1)(a) and 62-528.405(3)(b), F.A.C.]
6. The upper monitor interval shall be established within the lowermost portion of the USDW unless it can be demonstrated that no zone is present that can produce adequate water for the collection of representative ground water samples. *[62-528.425(1)(g)4., F.A.C.]*
7. The lower monitor interval shall be positioned in a zone below the base of the USDW that can produce adequate water for the collection of representative ground water samples. The purpose of the lower monitor zone is to verify the long-term effectiveness of the confining zone and external mechanical integrity of the injection well. The lower monitor zone shall be positioned above the confining zone to monitor its long-term effectiveness and shall be placed below the base of

the USDW to detect fluid movement prior to movement into the USDW. *[62-528.425(1)(g)4., F.A.C.]*

8. The data and analysis supporting the selection of the monitor intervals shall be submitted to the Department after the collection, interpretation, and analysis of all pertinent cores, geophysical logs, packer testing and analysis of fluid samples. The Department shall approve the final selection of the specific upper and lower monitor intervals prior to monitor well completion. *[62-528.420(4)(c), F.A.C.]*

9. To identify the upper and lower monitor zones, the following information from the injection and monitor wells and all available on-site sources of data shall be analyzed, interpreted and submitted for Department review and approval:
   a. Borehole televiewer or downhole television survey.
   b. The characteristics of the transition zone (especially regarding TDS) in the vicinity of the base of the USDW.
   c. Packer test data including water quality (TDS, chlorides, sulfate, specific conductance, ammonia, and total Kjeldahl nitrogen, at a minimum).
   d. The specific capacity of the proposed upper and lower monitor zones based on packer testing results.
   e. The identification of the base of the USDW.
      i. The permittee shall identify the base of the USDW, based on the definition in Rule 62-528.200(66), F.A.C.; and shall complete the lower monitor zone so that the permittee is monitoring a permeable zone within the Avon Park Formation that is below the base of the USDW.
      ii. The permittee shall complete an upper monitor zone in a permeable zone within and near the base of the USDW.
      iii. The permittee shall provide results from lithologic logs, packer tests, and core/cutting descriptions to describe the presence of confining zones that are encountered during drilling of the proposed injection well, and in accordance with Rules 62-528.420 and 62-528.425, F.A.C.
      iv. If the permittee's drilling and water quality information indicates that the upper portion of the Avon Park High Permeability Zone is not below the base of the USDW, the permittee shall propose an alternate, deeper permeable monitor zone for Department approval, prior to completing the lower monitoring interval for the proposed dual-zone monitoring well.

   [62-528.420(4)(c), and 62-528.425, F.A.C.]

10. Confinement shall be demonstrated using at a minimum, directly measured lithologic properties, geophysical evidence, and tests performed while pumping the formation. *[62-528.405(2)(c), F.A.C.]*

11. Test results pertaining to formation testing shall include and/or specifically reference the following informational and quality control items:
    a. Information that documents the calibration of tools, including field checks prior to testing.
    b. The conditioning/development of the borehole prior to logging, including the techniques used and the time periods in which they were applied, and
    c. Pertaining to packer/pump testing - recording the pumping rate regularly throughout the test to account for possible variations in the pumping rate, and providing information regarding the detection of packer leaks, if any, during testing.

    [62-528.405(2) and (3), F.A.C.]

12. Representative samples of circulation fluid shall be collected when drilling with water, air, or reverse air during the drilling of the pilot holes of injection and monitor wells. Representative samples of circulation fluid shall be collected at a minimum of every 90 feet during drilling. The circulation fluid samples shall be analyzed for chloride and specific conductance at a minimum. *[62-528.405(1)(a) and 62-528.420(6)(g), F.A.C.]*

13. At sites where previous injection has occurred, the representative samples of circulation fluid below the intermediate 30-inch casing in the injection well shall be analyzed for TDS, chloride, sulfate, specific conductance, ammonia, and total Kjeldahl nitrogen, at a minimum. *[62-528.405(2)(c) and (3)(b), F.A.C.]*

14. If effluent is encountered or suspected during pilot hole drilling and testing, the Department shall be notified immediately by telephone and in writing and immediate appropriate precautionary measures shall be taken to prevent any upward fluid movement. *[62-528.440(2)(d), F.A.C.]*

C. Mechanical Integrity

1. Mechanical Integrity:
    a. Injection is prohibited until the permittee affirmatively demonstrates that the well has mechanical integrity. Prior to operational testing the permittee shall establish, and thereafter 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(2)(f), F.A.C.]

2. Mechanical integrity of each injection well shall be determined pursuant to Rule 62-528.300(6)(b) and (c), F.A.C. For wells with a fluid-filled casing/tubing annulus, this includes both continuous annular monitoring and a pressure test of the casing/tubing annulus every 5 years. *[62-528.300(6)(b) and (c), F.A.C.]*
3. Verification of pressure gauge calibration must be provided to the Department representative at the time of the test and in the certified test report. *[62-528.300(6)(f), F.A.C.]*
4. The Department's Southwest District office must be notified a minimum of seven (7) calendar days prior to all testing for mechanical integrity on the injection wells. Any change in the approved testing procedure must be approved by the Department before testing begins. All testing must be initiated during daylight hours, Monday through Friday other than State Holidays, unless approval has been given by the Department. An evaluation of test results must be submitted with all test data. *[62-528.300(6)(f), F.A.C.]*

D. Surface Equipment

1. The integrity of the monitor zone sampling systems shall be maintained at all times. Sampling lines shall be clearly and unambiguously identified by monitor 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 the monitor well name or 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(2)(b), F.A.C.]*
2. The surface equipment for each injection well disposing of domestic (municipal) effluent shall maintain compliance with Rule 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(2)(b), F.A.C.]*
3. Injection wells not disposing of domestic (municipal) effluent shall maintain compliance with Rule 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(2)(b), F.A.C.]*

4. The surface equipment and piping for the injection and monitor wells shall be kept free of corrosion at all times. *[62-528.307(1)(f) and 62-528.307(2)(b), F.A.C.]*
5. Spillage onto the injection well pad(s) during construction activities, and any waters spilled during mechanical integrity testing, 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, via other approved means to the injection well system, or by another method approved by the Department. *[62-528.307(1)(f) and 62-528.307(2)(b), F.A.C.]*
6. After well construction activities are complete, 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(2)(b), F.A.C.]*
7. Four surficial aquifer monitor wells, identified as Pad Monitor Wells (PMWs), shall be located near the corners of the pads to be constructed for the injection and monitor wells, and shall be identified by number or pad location, i.e. NW, NE, SW, and SE. If located in a traffic area the wellhead(s) must be protected by traffic bearing enclosure(s) and cover(s). Each cover must lock and be specifically marked to identify the well and its purpose. The PMWs shall be sampled as follows:
   a. The PMWs shall be sampled and analyzed prior to drilling the test injection or monitor wells and then weekly thereafter during the construction and associated testing phases. Sampling shall include specific conductance (micromhos/centimeter [µmhos/cm]), pH (standard units), chloride (milligram per liter [mg/L]), field temperature (°Celsius [C]), and water level (pound per square inch [psi] or feet [ft] North American Vertical Datum [NAVD] of 1988). Chloride and specific conductance may be from field or lab samples.
   b. Initial PMW analyses shall be submitted prior to the onset of drilling activities.
   c. The PMWs shall also be sampled for total dissolved solids (mg/L, laboratory samples) during the first four weeks of PMW sampling and at all times when specifically requested by the Department.
   d. The results of the PMW analyses shall be submitted to the Department in the weekly progress report. The PMWs shall be retained in service throughout the construction phase of the project. Upon completion of construction, the permittee may submit a request to the Department for cessation of sampling followed by capping or plugging and abandonment of these wells.

   [62-528.410(9)(b), F.A.C.]

IV. 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, construction procedures, testing procedures, completion procedures, operation procedures, or any additional work not described in the application or supporting documents shall be submitted in writing to the Tallahassee office of the Aquifer Protection 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. *[62-4.050, F.A.C.]*
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), F.A.C.]*
3. All water quality samples required by this permit shall be collected in accordance with the appropriate Department Standard Operation Procedures (SOP), pursuant to Rule 62-160.210, F.A.C., *Approved Field Procedures*. A certified laboratory shall conduct the analytical work, as provided by Rule 62-160.300, F.A.C., *Laboratory Certification*. Department approved test methods shall be utilized unless otherwise stated in this permit. All calibration procedures for field testing and laboratory equipment shall follow the 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 Department's website: https://floridadep.gov/dear/quality-assurance/content/dep-sops. *[62-4.246 and 62-160, F.A.C.]*
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 recorders shall be calibrated using standard engineering methods. *[62-528.307(1)(f) and 62-528.307(2)(b), F.A.C.]*
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), F.A.C.]*

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

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), F.A.C.]*

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), F.A.C.]*

V. Reporting Requirements

1. The drilling and construction schedule, site layout of drilling pad, and pad monitor well locations shall be submitted to the Department during site preparation but prior to drilling operation commencement for the injection well system. *[62-528.430(2)(a), F.A.C.]*

2. Weekly progress reports shall be submitted to the Department's Tallahassee and Southwest District offices throughout the construction period for each well. These reports, which may be submitted by electronic mail, shall be submitted within 48 hours of the end of the period of record and shall include at a minimum the following information:

   a. A cover letter summary of the daily engineer report, driller's log, and a projection for activities in the next reporting period.

   b. Daily engineer's reports and driller's/work logs with detailed descriptions of all drilling progress, cementing, testing, logging, and casing installation activities.

   c. Description of daily footage drilled by diameter of bit, size of hole opener, or reamer being used.

   d. Collection of drilling cuttings every 10 feet and at every formation change.

e. Description of work during installation and cementing of casing, including amounts of casing and cement used. Details of cementing operations shall include the number of cementing stages, and the following information for each stage of cementing: the volume and type of cement pumped, the theoretical fill depth, and the actual tag depth. From both the physical tag and the geophysical logs, a percent fill shall be calculated. An explanation of any deviation between actual versus theoretical fill shall be provided.

f. Details of the additions of salt or other materials to suppress well flow, including the date, depth, and amount of material used.

g. Description of testing accomplished including (but not limited to) pumping and packer tests.

h. Lithologic logs and core descriptions with cuttings description, formation and depth encountered.

i. Geophysical logs, video logs, and deviation survey results.

j. Water quality analyses, including but not limited to the weekly water quality analysis and water levels for the PMWs.

k. Well development records.

l. Description of any construction problems that developed during the reporting period and current status.

m. Interpretations included with all test results and logs submitted.

n. Documentation of disposal of drilling fluids, cuttings, formation water, or waste as per specific condition II.2.

[62-528.410(9)(a) and 62-528.430(1), F.A.C.]

3. The final selection of specific injection and monitor intervals must be approved by the Department. In order to obtain an approval, the permittee shall submit a written request to the APP Tallahassee office. All casing seat requests for the injection and monitor wells shall be accompanied by technical justification. To the extent possible, each casing seat request should address the following items:

   a. Lithologic and geophysical logs with interpretations, as the interpretations relate to the casing seat.

   b. Water quality data (including but not necessarily limited to TDS concentrations).

   c. Identification of confining units, including hydrogeologic data and interpretations.

   d. Identification of monitor zones.

   e. Casing depth evaluation (mechanically secure formation, potential for grout seal).

f. Lithologic drilling rate and weight on bit data, with interpretations (related to the casing seat).

g. Identification of the base of the USDW using water quality and geophysical log interpretations.

h. A certified (P.E. or P.G.) evaluation of all logging and test results submitted with test data.

i. Transmissivity or specific capacity of proposed monitor zone.

j. Packer test drawdown curves and interpretation.

[62-528.410(4)(c) and 62-528.420(4)(c), F.A.C.]

4. The short-term injection test request shall contain the following justifications:

a. Cement bond logs and interpretation.

b. Final downhole television survey with interpretation.

c. Demonstration of mechanical integrity, which shall include radioactive tracer test results, pressure testing results, and temperature logging results (if the injection test is to be after any of these mechanical integrity tests).

d. Reasonable assurance that adequate confinement exists.

e. Planned injection testing procedures.

f. Proposed source water to be used. Per Rule 62-528.405(3)(b), F.A.C., if an adequate potable water supply for the injection test does not exist, and the data collected during drilling provide assurance of the presence of confining bed(s), the applicant shall, after demonstrating mechanical integrity pursuant to Rules 62-528.300(6)(b)2. and (c), F.A.C., be allowed to use an alternate source for testing only with specific prior written authorization from the Department. An analysis of the alternate water source is required prior to Department approval, according to the table below:

Water Source	Required Analyses
Potable Water	No analysis needed.
Domestic Wastewater	A copy of the latest comprehensive analysis submitted to the Department's domestic wastewater program.
Desalination Concentrate or Other Industrial Wastewater	A copy of the latest comprehensive analysis submitted to the Department's industrial wastewater program. If more than one year old, sample the water for the parameters required for monthly monitoring of the wastewater in Specific Condition VI.
Ground Water	Sample the water for: • total dissolved solids (mg/L) • chloride (mg/L) • specific conductance (temperature compensated, µmhos/cm or mS/cm) • total suspended solids (TSS) (mg/L) • nitrogen, ammonia, total as N (mg/L) • nitrogen, total Kjeldahl as N (TKN, mg/L) • nitrogen, nitrate, total as N (mg/L) • sodium (mg/L) • potassium (mg/L) • calcium (mg/L) • magnesium (mg/L) • total iron (mg/L) • bicarbonate (mg/L) • phosphorous, total as P (mg/L) • pH (standard units) • sulfate, total as SO_4 (mg/L) • field temperature (°C) • gross alpha (picoCuries per liter [pCi/L]) • combined radium-226 and radium-228 (pCi/L)
Surface Water	As above for ground water, with the additional constituents: • total and fecal coliform (cfu/100ml), • Escherichia Coli (cfu/100ml), Enterococci (cfu/100ml), and Turbidity (Nephelometric Turbidity Unit [NTU]).

[62-528.405(3)(b), F.A.C.]

5. Upon completion of analysis of cores and sample cuttings recovered during the construction of wells covered by this permit (when no longer needed by the well owner), the permittee shall contact the Geological Sample Acquisition & Management Section of the Florida Geological Survey (FGS) to arrange for the transfer of the cores and cuttings. *[62-528.450(5), F.A.C.]*
6. All cores and cuttings for FGS shall be shipped to the Florida Geological Survey, Geological Sample Acquisition & Management Section, 3915 Commonwealth Boulevard, Tallahassee, Florida 32399. All cores and samples shall clearly identify the site name, well name/number, depths of samples/cores, and the latitude/longitude location of the well(s) using the form in this permit. *[62-528.450(5), F.A.C.]*
7. A final report of the construction and testing of the injection and monitor wells shall be submitted no later than 120 days after commencement of operational testing, pursuant to Rule 62-528.430(1)(e), F.A.C. In addition, a copy of the cover letter for the report shall be sent to the U. S. Environmental Protection Agency, Region 4, Underground Injection Control (UIC) Program, 61 Forsyth St. SW, Atlanta, GA 30303-8909, or R4gwuic@EPA.gov. This report shall include as a minimum, definitions of the injection interval, all relevant confining units, the depth of the base of the USDW, and all monitoring zones, including all relevant data and interpretations. *[62-528.450(5), F.A.C.]*

VI. Operational Testing and Monitoring Requirements

A. Operational Testing

1. The permittee shall conduct operational testing of the injection well system to demonstrate that the well can absorb the design and peak daily flows that are expected, prior to granting approval for operation. *[62-528.450(3)(a), F.A.C.]*
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), F.A.C.]*
3. The operational testing of the Class I injection well system under this permit shall not commence without written authorization from the Department. *[62-528.450(3)(b), F.A.C.]*
4. Prior to operational testing approval, the following items must be submitted with the request for operational testing approval for APP Tallahassee office review and approval:
   a. Lithologic and geophysical logs with interpretations.
   b. A copy of the borehole television survey(s) or borehole televiewer log(s) of the injection well with interpretation.
   c. Certification (P.E. or P.G.) of mechanical integrity and interpreted test data.

d. Results of the short-term injection test with interpretation of the data.

e. A description of the actual injection procedure including the anticipated maximum pressure and flow rate at which the well will be operated under normal and emergency conditions.

f. Information concerning the compatibility of the injected waste with fluids in the injection zone and minerals in both the injection zone and the confining zone.

g. Certification of completion of well construction from water well contractor and certification by the Engineer of Record that permit conditions are met.

h. Surface equipment (including piping, pressure gauges and flow meters, and all appurtenances) completion certified by the Engineer of Record.

i. Draft operation and maintenance manual, including a description of surge and water hammer control and emergency discharge management plan procedures. The emergency discharge system must be fully constructed and operational (ready to operate) prior to approval of operational testing.

j. Calibration certificates for pressure gauges and flow meters.

k. Signed and sealed record "as-built" engineering drawings of the injection well system including all well construction, subsurface and surface piping and equipment, and appurtenances.

l. Demonstration of confinement and definition of the injection and confining sequences shall utilize data collected during the drilling, logging, and testing of the injection and monitor wells. This submittal shall be prepared, signed, and sealed by a Florida Registered Professional Geologist or appropriately qualified Florida Registered Professional Engineer.

m. Background water quality data from the monitoring and injection zones, analyzed for primary and secondary drinking water standards (62-550, F.A.C., see attachment).

n. A wastestream analysis for the same parameters as in condition VI.A.4.m., above. Unless already submitted, this analysis shall be submitted within 60 days after the beginning of operational testing.

o. Other data obtained during well construction needed by the Department to evaluate whether the injection well system will operate in compliance with Department rules.

p. A survey indicating the exact location in metes and bounds of all wells authorized by this permit shall be provided prior to issuance of an operating permit.

[62-528.450(3)(a)3. and 62-528.455(1)(c)6., F.A.C.]

5. Pressure gauges and flow meters shall be installed on the injection wells prior to initiating injection activities at the site. *[62-528.450(3)(a), F.A.C.]*
6. Prior to the authorization of operational testing by the APP Tallahassee office, the permittee shall contact the Southwest 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 injection well system is operational. During the inspection, emergency procedures and reporting requirements shall be reviewed. *[62-528.450(3)(c), F.A.C.]*
7. The Engineer of Record or designated qualified representative must be present for the start-up operations and the APP Tallahassee office must be notified in writing of the date operational testing commenced for the subject wells. *[62-528.440(5)(b), F.A.C.]*

B. Monitoring

1. The permittee shall submit monthly to the APP Tallahassee office the results of all injection well and monitor 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 Specific Condition Number IV.5. above.
   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 the appropriate data sheet (as provided on the Injection Well and Monitor Well tables on page 2 above).
   c. Laboratory pages and original supporting documentation including DEP Form FD 9000-24, *Groundwater Sampling Log*, for the purging of each monitor well.

   [62-528.307(2)(d), F.A.C.]
2. The report may be sent via electronic mail in Adobe™ (.pdf) format to the following Program e-mail addresses:

Southwest District Office	SWD_UIC@FloridaDEP.gov
Aquifer Protection Program	TAL_UIC@FloridaDEP.gov

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

Southwest District Office	13051 N. Telecom Parkway Temple Terrace, Florida 33637-0926
Aquifer Protection Program	2600 Blair Stone Road, MS 3530 Tallahassee, Florida 32399-2400

[62-528.307(3)(d), F.A.C.]

3. The injection system shall be monitored in accordance with Rules 62-528.425(1)(g) and 62-528.430(2), F.A.C. Monitor wells shall be located within 150 feet of the injection well. The following injection well performance data and monitor zone data shall be recorded and reported in the *Monthly Operation Report* (MOR) as indicated below. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. *[62-528.307(2)(d), 528.430(2), and 62-528.450(3)(b), F.A.C.]*
    a. Quarterly (Q) sampling measurements shall be taken in the months of March, June, September, and December and submitted with the MOR due that month.
    b. Monthly (M) sampling measurements shall be taken during the same week of each month, and as close to 30 days apart as possible.

Parameter	Unit	Recording Frequency or Sampling Method	Frequency of Analyses		
			IW-1 *13989*	DZMW-1 Upper Zone *29238A*	DZMW-1 Lower Zone *29238B*
Injection Pressure, Max.	psi	continuous	D/M [a]		
Injection Pressure, Min.	psi	continuous	D/M [a]		
Injection Pressure, Avg.	psi	continuous	D/M [a]		
Flow Rate, Max.	GPM	continuous	D/M [a]		
Flow Rate, Min.	GPM	continuous	D/M [a]		
Flow Rate, Avg.	GPM	continuous	D/M [a]		
Volume Injected per Well	MG	daily/monthly	D/M		
Pressure or Water Level Max.	psi or ft NAVD	continuous		D/M [a]	D/M [a]
Pressure or Water Level Min.	psi or ft NAVD	continuous		D/M [a]	D/M [a]
Pressure or Water Level Avg.	psi or ft NAVD	continuous		D/M [a]	D/M [a]
pH[b]	standard units	grab/purge	M	M	M
Specific Conductance[b]	µmhos/cm	grab/purge	M	M	M
Temperature[b]	°C	grab/purge	M	M	M
Dissolved Oxygen[b]	mg/L	grab/purge		M	M
Turbidity[b]	NTU	grab/purge		M	M
Chloride	mg/L	grab/purge	M	M	M
Sulfate	mg/L	grab/purge	M	M	M
Total Dissolved Solids	mg/L	grab/purge	M	M	M
Nitrate + Nitrite as N	mg/L	grab/purge	M	M	M
Ammonia as N	mg/L	grab/purge	M	M	M
Total Kjeldahl Nitrogen	mg/L	grab/purge	M	M	M
Total Organic Carbon (TOC)	mg/L	grab/purge	M	M	M
Total Organic Halogens (TOX)	mg/L	grab/purge	A	A	A
Aluminum	mg/L	grab/purge	M	M	M
Ammonium	mg/L	grab/purge	M	M	M
Arsenic	mg/L	grab/purge	M	M	M
Chromium	mg/L	grab/purge	M	M	M
Fluoride	mg/L	grab/purge	M	M	M
Manganese	mg/L	grab/purge	M	M	M
Total Phosphorus	mg/L	grab/purge	M	M	M
Orthophosphate	mg/L	grab/purge	M	M	M
Bicarbonate	mg/L	grab/purge	M	M	M
Calcium	mg/L	grab/purge	M	M	M
Total Iron	mg/L	grab/purge	M	M	M
Magnesium	mg/L	grab/purge	M	M	M
Potassium	mg/L	grab/purge	M	M	M
Sodium	mg/L	grab/purge	M	M	M
Gross Alpha	pCi/L	grab/purge	M	M	M
Uranium	µg/L	grab/purge	M	M	M
Radium^{226}	pCi/L	grab/purge	M	M	M
Radium^{228}	pCi/L	grab/purge	M	M	M
d15N		grab/purge	Q	Q	Q
Primary & Secondary Drinking Water Standards, Source Water		grab	A		

D - Daily; M - Monthly; A - Annually [a] - Operational data reporting for flows, pressures and water levels: daily maximum, minimum and average from continuous reporting; monthly maximum, minimum and average (calculated from daily averages). [b] - Field samples Refer to the tables on page 2 above for the appropriate WACS testsite IDs to be used for reporting

4. A laboratory analysis for the Primary and Secondary Drinking Water Standards of Chapter 62-550, F.A.C., shall be submitted annually after the beginning of operational testing. See the attachment to this permit for the parameters.

a) For facilities permitted to inject domestic wastewater, the domestic wastewater annual sample results may be the same as submitted for the domestic wastewater program if taken within the last 12 months. Primary and Secondary Drinking Water Standards of Chapter 62-550, F.A.C., not included in the domestic wastewater annual sample requirements shall be included in the same sample or in a separate sample. If not required annually for the domestic wastewater program, a separate sample shall be taken and reported for this permit. The samples shall be composite and grab samples as appropriate for the domestic wastewater program. The permittee may choose to take a combined annual sample from multiple domestic wastestreams if they are authorized for injection in this permit.

b) For facilities permitted to inject water other than domestic wastewater, the source water samples shall not be combined with domestic wastewater samples. The samples shall be grab samples. The permittee may choose to take a combined annual sample from multiple non-domestic wastestreams if they are authorized for injection in this permit.

c) The report should be sent to the addresses in Specific Condition VI.B.2.

For renewal of this permit, the permittee shall submit a separate laboratory analysis for each permitted injectate source.
[62-528.425(1)(a), F.A.C.]

5. A specific injectivity test shall be performed monthly on the injection well as required by Rule 62-528.450(3)(b)6., 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 and pressure fall-off test data shall be submitted along with the monitoring results of the injection and monitor well data. The testing may be reduced to quarterly after a minimum of six months of operational testing and with written APP Tallahassee office approval.
[62-528.430(2)(b) and (d) and 62 528.450(3)(b)6., F.A.C.]
6. Monitor well purging and field stabilization parameter measurement is required prior to the collection of laboratory samples for the MORs. The facility shall conduct the monitor well sampling following the monitor well sampling protocols specified in FS 2200-*Groundwater Sampling* in the DEP-SOP-001/01 Standard Operating Procedures for Field Activities. The results of the purging techniques and field stabilization parameters shall be provided on DEP Form FD 9000-24 or a

similar alternative approved by the Department, and the completed forms shall be submitted to the Department with the MORs.

a. Calculate the volume of water in the well casing (or sample pipe if installed), and the monitoring interval. For dual-zone monitor wells, calculate the upper monitor zone volume with allowance for reduced volume due to the hollow cylinder created by the lower zone tubing. Purge until the water level has stabilized (when the well recovery rate equals the purge rate), purging a minimum of one well volume, and then collect the first set of stabilization parameters.

b. Thereafter, collect stabilization parameters after every ¼ well volume beyond the initial one volume.

c. Purging shall be complete when three consecutive readings of the parameters listed below are within the following ranges[1] **and** a minimum of 1.5 well casing volumes of fluid since the beginning of purging have been evacuated from the monitor well:
   - pH: ± 0.2 Standard Units
   - Specific Conductance: ± 5.0% of reading
   - Temperature: ± 0.2° C
   - Dissolved Oxygen: ≤ 20% Saturation or ± 0.2 mg/L
   - Turbidity: ≤20 NTU

d. If necessary, continue to take the above readings every additional ¼ well volume until three consecutive readings meet the above criteria.

e. Typical field conditions may not allow the temperature parameter to be met. If all the other purging criteria have stabilized, the sampling team leader may decide whether to collect a sample if the temperature criteria has not been met (DEP SOP FS2212 Section 3.6). Documentation as to why the sample was collected without meeting a field parameter must be recorded in the groundwater sampling log.

f. If three consecutive ¼ well volume readings have not reached the stabilization criteria listed above by the time the fifth well volume has been reached, the monitor well sample shall be taken, and document the reason(s) in the groundwater sampling log.

g. If a sampling pipe is used for purging, the sampling pipe volume will substitute for the well casing volume.

[1] Provided dissolved oxygen in the groundwater of the zone being monitored is ≤ 20% of saturation for the measured temperature and turbidity is ≤ 20 NTUs. This assumption holds true for groundwater in most zones of the Floridan Aquifer.

The APP Tallahassee office will consider an alternate purging method meeting monitor well sampling protocol in FS 2200-Groundwater Sampling in the DEP-SOP-001/01 Field Sampling Procedures Manual in the case where the above procedure causes a hardship to the facility. The permittee shall request an alternate method and receive written APP Tallahassee approval before implementing it. *[62-160.210(1) and 62-528.430(2), F.A.C.]*

7. 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 monitor wells in preparation for sampling shall be diverted to the injection wellhead via the pad drainage system, wet well, or treatment plant.
   [62-4.030, 62-620.320, 62-520.420 and .430, F.A.C.]

VII. 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 Southwest District office. *[62-528.415(4)(a), F.A.C.]*
2. Notification shall be made in person, by telephone, or by electronic mail (e-mail) within 24 hours of breakdown or malfunction to the Southwest District office. *[62-528.307(1)(x), F.A.C.]*
3. A written report of any noncompliance referenced in Specific Condition Number VII.1 above shall be submitted to the Southwest District office and the APP 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), F.A.C.]*
4. **Reporting Requirements**

   The permittee shall report to the Department's Southwest District office any noncompliance which may endanger health or the environment. 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 five 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 time, and if the noncompliance has not been corrected, the anticipated time it is expected to

continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

a. The following shall be included as information which must be reported within 24 hours under this condition:
   1) Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,
   2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
   3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and
   4) Any unauthorized discharge to surface or ground waters.

b. Oral reports as required by this subsection shall be provided as follows:
   1) For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4. that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the **State Watch Office Toll-Free Number** 800-320-0519, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Watch Office:
      a) Name, address, and telephone number of person reporting;
      b) Name, address, and telephone number of permittee or responsible person for the discharge;
      c) Date and time of the discharge and status of discharge (ongoing or ceased);
      d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);
      e) Estimated amount of the discharge;
      f) Location or address of the discharge;
      g) Source and cause of the discharge;
      h) Whether the discharge was contained on-site, and cleanup actions taken to date;
      i) Description of area affected by the discharge, including name of water body affected, if any; and
      j) Other persons or agencies contacted
   2) Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department's Southwest

District office within 24 hours from the time the permittee becomes aware of the circumstances.

c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's Southwest District office shall waive the written report.

[403.077(2)(d), F.S., 62-528.307(1)(e) and 62-528.307(1)(x), F.A.C.]

5. **Pollution Notification**

a. In accordance with subsection 403.077, F.S., in the event of a reportable pollution release, an owner or operator of the installation at which the reportable pollution release occurs must provide to the department information reported to the State Watch Office within the Division of Emergency Management pursuant to any department rule, permit, order, or variance, within 24 hours after the owner's or operator's discovery of such reportable pollution release. The Department's Pollution Notice website is at https://floridadep.gov/pollutionnotice.

b. If multiple parties are subject to the notification requirements based on a single reportable pollution release, a single notification made by one party in accordance with this section constitutes compliance on behalf of all parties subject to the requirement. However, if the notification is not made in accordance with this section, the department may pursue enforcement against all parties subject to the requirement.

c. If, after providing notice pursuant to paragraph (a), the owner or operator of the installation determines that a reportable pollution release did not occur or that an amendment to the notice is warranted, the owner or operator may submit a letter to the department documenting such determination.

d. If, after providing notice pursuant to paragraph (a), the installation owner or operator discovers that a reportable pollution release has migrated outside the property boundaries of the installation, the owner or operator must provide an additional notice to the department that the release has migrated outside the property boundaries within 24 hours after its discovery of the migration outside of the property boundaries.

[403.077(2)(d), F.S., 62-528.307(1)(e) and 62-528.307(1)(x), F.A.C.]

VIII. 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, F.A.C.]*
2. Any proposed changes in emergency disposal methods shall be submitted to the Southwest District office and the APP Tallahassee office for review and approval prior to implementation. *[62-528.415(4)(c), F.A.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, F.A.C.]*

IX. Financial Responsibility

1. The permittee shall maintain at all times the financial resources necessary to close, plug, and abandon the injection and associated monitor wells. *[62-528.435(9), F.A.C.]*
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. *[62-528.435(9)(b), F.A.C.]*
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 APP Tallahassee office in writing within 14 days of such insufficiency or invalidation. The permittee shall within 90 days of said notification submit to the APP Tallahassee office for approval new financial documentation certifying either the remedy of current financial insufficiency or resolution of the financial instrument invalidation to comply with Rule 62-528.435(9)(b), F.A.C, and the conditions of this permit. *[62-528.435(9)(b), F.A.C.]*

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), F.A.C.]*
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), F.A.C.]

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), F.A.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), F.A.C.]
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), F.A.C.]
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), F.A.C.]
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), F.A.C.]

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), F.A.C.]
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 is 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), F.A.C.]*
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), F.A.C.]*
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), F.A.C.]*
12. This permit or a copy thereof shall be kept at the work site of the permitted activity. *[62-528.307(1)(l), F.A.C.]*
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:
   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), F.A.C.]

14. All applications, reports, or information required by the Department shall be certified as being true, accurate, and complete. *[62-528.307(1)(n), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]*

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), F.A.C.]

Issued this (Day) day of (Month) 2021

State of Florida
Department of Environmental Protection

Cindy Fischler, P.G.
Environmental Administrator
Aquifer Protection Program
Division of Water Resource Management

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	SITE LOCATION:
WELL NO:	SAMPLE ID:	DATE:

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 ^{o}C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Attachment
PRIMARY AND SECONDARY DRINKING WATER STANDARDS
For Injection Permit Background Water Samples and Wastestream Analyses
Table Numbers are from Chapter 62-550, F.A.C.

TABLE 1
MAXIMUM CONTAMINANT LEVELS FOR INORGANIC COMPOUNDS

FEDERAL CONTAMINANT ID NUMBER	CONTAMINANT	MCL (mg/L)
1074	Antimony	0.006
1005	Arsenic	0.010
1010	Barium	2
1075	Beryllium	0.004
1015	Cadmium	0.005
1020	Chromium	0.1
1024	Cyanide (as free Cyanide)	0.2
1025	Fluoride	4.0
1030	Lead	0.015
1035	Mercury	0.002
1036	Nickel	0.1
1040	Nitrate	10 (as N)
1041	Nitrite	1 (as N)
	Total Nitrate and Nitrite	10 (as N)
1045	Selenium	0.05
1052	Sodium	160
1085	Thallium	0.002

TABLE 2
MAXIMUM RESIDUAL DISINFECTANT LEVELS

FEDERAL CONTAMINANT ID NUMBER	DISINFECTANT RESIDUAL	MRDL (mg/L)
1012	Chlorine	4.0 (as Cl_2)
1006	Chloramines	4.0 (as Cl_2)
1008	Chlorine Dioxide	0.8 (as ClO_2)

TABLE 4
MAXIMUM CONTAMINANT LEVELS FOR VOLATILE ORGANIC CONTAMINANTS

FEDERAL CONTAMINANT ID NUMBER	CONTAMINANT & (CAS NUMBER)	MCL (mg/L)
2977	1,1-Dichloroethylene (75-35-4)	0.007
2981	1,1,1-Trichloroethane (71-55-6)	0.2
2985	1,1,2-Tricholoroethane (79-00-5)	0.005
2980	1,2-Dichloroethane (107-06-2)	0.003
2983	1,2-Dichloropropane (78-87-5)	0.005
2378	1,2,4-Tricholorobenzene (120-82-1)	0.07
2990	Benzene (71-43-2)	0.001
2982	Carbon tetrachloride (56-23-5)	0.003
2380	cis-1,2-Dichloroethylene (156-59-2)	0.07
2964	Dichloromethane (75-09-2)	0.005
2992	Ethylbenzene (100-41-4)	0.7
2989	Monochlorobenzene (108-90-7)	0.1
2968	o-Dichlorobenzene (95-50-1)	0.6
2969	para-Dichlorobenzene (106-46-7)	0.075
2996	Styrene (100-42-5)	0.1
2987	Tetrachloroethylene (127-18-4)	0.003
2991	Toluene (108-88-3)	1
2979	trans-1,2-Dichloroethylene (156-60-5)	0.1
2984	Trichloroethylene (79-01-6)	0.003
2976	Vinyl chloride (75-01-4)	0.001
2955	Xylenes (total) (1330-20-7)	10

TABLE 5
MAXIMUM CONTAMINANT LEVELS FOR SYNTHETIC ORGANIC CONTAMINANTS

FEDERAL CONTAMINANT ID NUMBER	CONTAMINANT & (CAS NUMBER)	MCL (mg/L)
2063	2,3,7,8-TCDD (Dioxin) (1746-01-6)	3×10^{-8}
2105	2,4-D (94-75-7)	0.07
2110	2,4,5-TP (Silvex) (93-72-1)	0.05
2051	Alachlor (15972-60-8)	0.002
2050	Atrazine (1912-24-9)	0.003
2306	Benzo(a)pyrene (50-32-8)	0.0002
2046	Carbofuran (1563-66-2)	0.04
2959	Chlordane (57-74-9)	0.002
2031	Dalapon (75-99-0)	0.2
2035	Di(2-ethylhexyl)adipate (103-23-1)	0.4
2039	Di(2-ethylhexyl)phthalate (117-81-7)	0.006
2931	Dibromochloropropane (DBCP) (96-12-8)	0.0002
2041	Dinoseb (88-85-7)	0.007
2032	Diquat (85-00-7)	0.02
2033	Endothall (145-73-3)	0.1
2005	Endrin (72-20-8)	0.002
2946	Ethylene dibromide (EDB) (106-93-4)	0.00002
2034	Glyphosate (1071-83-6)	0.7
2065	Heptachlor (76-44-8)	0.0004
2067	Heptachlor epoxide (1024-57-3)	0.0002
2274	Hexachlorobenzene (118-74-1)	0.001
2042	Hexachlorocyclopentadiene (77-47-4)	0.05
2010	Lindane (58-89-9)	0.0002
2015	Methoxychlor (72-43-5)	0.04
2036	Oxamyl (vydate) (23135-22-0)	0.2
2326	Pentachlorophenol (87-86-5)	0.001
2040	Picloram (1918-02-1)	0.5
2383	Polychlorinated biphenyls (PCBs)	0.0005
2037	Simazine (122-34-9)	0.004
2020	Toxaphene (8001-35-2)	0.003

TABLE 6
SECONDARY DRINKING WATER STANDARDS

FEDERAL CONTAMINANT ID NUMBER	CONTAMINANT	MCL (mg/L)
1002	Aluminum	0.2
1017	Chloride	250
1022	Copper	1
1025	Fluoride	2.0
1028	Iron	0.3
1032	Manganese	0.05
1050	Silver	0.1
1055	Sulfate	250
1095	Zinc	5
1905	Color	15 color units
1920	Odor	3 (threshold odor number)
1925	pH	6.5 - 8.5
1930	Total Dissolved Solids	500
2905	Foaming Agents	0.5

OTHER PRIMARY DRINKING WATER STANDARDS, CHAPTER 62-550

DISINFECTANT RESIDUALS

DISINFECTANT RESIDUAL	MRDL
Chlorine	4.0 mg/L (as Cl_2)
Chloramines	4.0 mg/L (as Cl_2).
Chlorine Dioxide	0.8 mg/L (as ClO_2).

DISINFECTION BYPRODUCTS

DISINFECTION BYPRODUCT	MCL
Bromate	0.010 mg/L
Chlorite	1.0 mg/L
Total Trihalomethanes (TTHM)	0.080 mg/L
Haloacetic Acids (Five) (HAA5)	0.060 mg/L

RADIONUCLIDES

CONTAMINANT	MCL
Combined radium226 and radium228	5 pCi/L
Gross alpha particle activity including radium226 but excluding radon and uranium	15 pCi/L
Uranium	30 ug/L

Abbreviations Used: MCL = maximum contaminant level
mg/L = milligrams per liter.
pCi/L = picoCuries per liter
MRDL = maximum residual disinfectant level
CAS Number = Chemical Abstract System Number

FDEP Underground Injection Control Program Sample Form

(Cores/Cuttings/Formation Water)

Contact: David Paul, P.G.
Geological Sample Acquisition & Management Section
Florida Geological Survey
Florida Department of Environmental Protection
3915 Commonwealth Blvd
Tallahassee, FL 32399
Office: (850) 245-3131
Fax: (850) 245-3136
David.Paul@dep.state.fl.us

Well Name:	
Well Type (circle one) Class I Class V Exploratory Monitoring	
Date Collected:	Date sent to FGS:
Sample type (circle one) Core Cuttings Formation Water	
Preservative used — if formation water sample — (circle one) Nitric n/a Other (describe)	
Datum and elevation:	Sample Interval:
Elevation method (circle one) Survey USGS Quadrangle Other (describe)	
Sample Interval Drilling Method (circle one) Reverse Air Mud Rotary Sonic/Acoustic Other (describe)	
Well Coordinates ____ º ____ ‘ _____ “ N / ____ º ____ ‘ _____ “ W	
Method (circle one) AGPS (hand held) DGPS (GPS survey) Map Derived	
FDEP Permit Number:	
Facility Name:	
Permittee (owner):	
Facility Address:	
Drilling Company:	Lead Driller:
Project Geologist:	Consulting Company:

First Amendment to the Fact Sheet

PA File Number: 0322708-002-UC/1I
(At the Time of Proposed Permit Issuance)

Aquifer Protection Program
Division of Water Resource Management
Florida Department of Environmental Protection

Date: November 24, 2021

WACS Facility ID: 101607

PA File Number: 0322708-002-UC/1I

Permittee: Manatee County Utilities Department

Project: Class I Injection Well, Manatee County UIC – Piney Point Injection Well

I. Comments by the Permittee Requesting Changes to the Draft Permit, summarized as follows:

The permittee submitted comments on September 20, 2021, to request minor clarifications and updates to the draft permit. A summary of the Department changes in response to the permittee's comments are provided under Section IV. below.

II. Comment by U.S. EPA Region IV Requesting Changes to the Draft Permit and Fact Sheet

No comments, recommendations or objections were received from EPA-Region 4 on this draft permit within the 30 days review period for the state's UIC program implementation under the Memorandum of Agreement between the Department and the US Environmental Protection Agency-Region 4, effective July 17, 2006.

III. Other Comments

Public comments were able to be submitted and received on the draft permit between September 1, 2021, when the notice of draft permit was issued, through the end of the public meeting that was held by the Florida Department of Environmental Protection on Oct. 6, 2021, in the Manatee County Central Library Auditorium. The public meeting was noticed by publication in the Bradenton Herald and in the Florida Administrative Register (Vol. 47, No. 172) on September 3, 2021. The open house public meeting was held to receive public comment, answer questions, and provide information about the Manatee County Piney Point draft Underground Injection Control (UIC) construction well permit. There were 68 attendees who signed in at the public meeting, and 31 written comments and five oral comments were received during the meeting. A total of approximately 7,356 public comments were received on the draft permit with the majority of the comments being form comments repeated by most commenters.

The Department has prepared a response (see Attachment to the First Amendment to the Fact Sheet) to address the comments and concerns that were received during the extended comment period culminating in the referenced public meeting. A review of all of the public comments indicates that the draft permit contains provisions that appropriately addressed the comments in accordance with applicable Department rules for protection of

water quality and the environment. Accordingly, no additional changes to the draft permit itself were made based on the public comments received and applicable Department rules. To ensure that the concerns specific to this permitting action, which were raised during the comment period submittals and in the public meeting submittals, were fully and adequately addressed within the provisions of the proposed permit, the Department grouped the comments into key topic areas (see Attachment to the First Amendment to the Fact Sheet). The Department's review indicated that Manatee County's application to construct and test an underground injection control well and an associated dual zone monitor well meets all applicable regulations for permitting and the protection of ground water resources and the environment. Each key topic area discussed in the Attachment to the First Amendment to the Fact Sheet addresses similar public comments, including selected specific comments, all of which the Department believes are fully and properly addressed in the draft permit in accordance with applicable Department rules and applicable environmental protection requirements.

IV. Department Changes Since Draft Permit; Minor Corrections & Clarifications

The following changes and clarifications were made upon request from the permittee

1. Specific Condition III.B.3.a and Specific Condition III.B.3.b.

   Assigning an absolute number of packer tests was changed to a "sufficient number of packer tests" to which "The depth and placement of the packer tests shall be proposed by the permittee and approved by the Department."

2. Changes were made to Specific Condition III.B.3.b to clarify the placement and depth of straddle packer tests which shall be approved by the Department. Specific Condition III.B.4.e.

   In reference to testing to determine the depth of the base of the USDW, the wording "smallest possible interval "was changed to "smallest practicable interval"

3. Specific Condition VI.B.3. Parameter Table.

   References to annular monitoring were removed because the annulus is to be cement filled and not fluid filled.

4. Specific Condition VI.B.3. Parameter Table
   Due to the difficulty in finding a certified laboratory for the following analyses these were removed: $^{87}Sr/^{86}Sr$, ^{13}C. Added in their place is d15N .

5. Specific Condition VII.3.

   Reference to IV.1 was changed to VII.1

6. A name change was made for the permit transmittal list.

Review of Public Comments

The Department provides information in response to public comments received between September 1, 2021, through the end of the public meeting that was held on Oct. 6, 2021. The responses to comments, below, have grouped similar comments received during the extended public comment period into key topic areas, followed by selected specific comments, each of which is part of the Department's response to address the corresponding public comments or concerns.

Summary of General and Specific Comments, Recommendations, and Concerns:

1. Ensuring Proper Permit Well Class and Construction

Department Response: The applicant provided an application to construct and operationally test a Class I Injection well system for the disposal of water from the former Piney Point Phosphates, Inc. phosphogypsum stack system in northern Manatee County. The applicant will use the proposed injection well to dispose of treated non-hazardous industrial wastewater stored in the Piney Point facility phosphogypsum stack system and non-hazardous stack seepage water that is collected in the stacks' subsurface drain system. The applicant provided reasonable assurance the classification of the proposed underground injection control (UIC) well and the proposed well construction is consistent with the applicable requirements of Chapter 403, Fla. Stat., and the rule requirements for UIC wells in Florida as adopted under Chapter 62-528, Fla. Admin. Code. The information provided by the applicant to characterize the wastewater identified for disposal via the proposed UIC well is consistent with the Department's records, including comprehensive and representative analyses of wastewater characteristics from this former fertilizer manufacturing facility.

Specific Questions:

- Is the draft permit improperly classified? It is not clear if a Class 1 permit for non-hazardous wastewater is properly classified for the wastewater Manatee proposes from Piney Point.
    - *The permit is for a Class I industrial well. Class I wells may be used for industrial and municipal disposal which inject fluids beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water. The proposed well is properly classified for the disposal of non-hazardous wastewater in a manner that is protective of Florida's ground water resources.*
- Where can one find the control over what contaminants are being injected?
    - *The permit would require the applicant to submit monthly operating reports. These reports will detail injection flows, pressures, and water levels. The reports also require water quality data from the injectate and from the monitor wells. All monthly operating reports are made available to the public in the Department's online electronic file system, OCULUS. Additionally, as discussed further elsewhere in this response to comments, the application and draft permit were reviewed based on the proposed injection of the specific*

wastewater from the Piney Point site. Department rules would require the permittee to seek and obtain a modification of the UIC well permit before other sources of water could be injected.

- The well construction process is very flawed. Steel casing corroded and failed. The concrete that is pumped down the casing is corrosive. The concrete is supposed to flow down the inside of the casing and then flow upwards between the drill wall and the outside of the steel casing, right? Does concrete flow upwards through water?
    - *Injection wells are constructed with a cemented layer that wraps between the annular space of the multiple casings. When injected into the space, the cement is alkaline. However, the cement is not corrosive and would not cause corrosion and failure of the steel casing. The combination of steel and cement is used commonly in the construction of buildings and bridges throughout the United States.*
    - *When the casing is being cemented, it is pumped using pressure from the bottom of the casing upwards. The force of the cement being pumped displaces the water as the cement is pushed vertically under pressure. The location of the of the cement is documented during well construction and the effectiveness of the seal is tested to ensure a complete seal.*
- When was the last study done on the safety of these types of wells? There are different phases or levels of wells, please explain what this well will be labeled.
    - *The U.S. Environmental Protection Agency categorizes injection wells into six classes. The proposed injection well is classified as a Class I injection well. Class I injection wells are constructed for injection into a zone that is beneath the base of the usable source of drinking water. Each Class I injection well is monitored continuously for flows and pressures. Class I injection wells in Florida also have monitoring wells that are sampled monthly to ensure that injected fluids may are not migrating upward into a zone that contains a usable source of drinking water. In accordance with both federal and state regulations, Class I injection wells are tested for mechanical integrity every five years to ensure they are being maintained and operated in a manner that continues to protect drinking water resources.*
- What is the Well Casing material made of, steel or?
    - *The casing design is included in the application. The final casing will be steel. Within the steel casing will be a fiberglass reinforced plastic (FRP) tubing that is used to convey the water for injection.*
- Will these wells be sealed or surrounded with a concrete substance?
    - *The casing design is included in the application. The area outside of the well casing material will be sealed with cement.*
- Where are ALL of the existing Wells, monitoring, water supply wells, etc.?
    - *A map of existing wells can be found in the permit application under the topic of "Area of Review."*

- How close is the closest Private Well?
    - *The nearest private well is approximately ¼-mile south of the injection well construction site.*
- How close is the closest Municipal Well?
    - *The nearest public water supply well is approximately 1-mile east from the injection well construction site.*
- Am I correct that 1- 3,300 foot deep injection well for the disposal well will be drilled and one monitoring well will be drilled?
    - *One injection well is proposed to be drilled with an injection zone beginning 1,950 ft below land surface (bls) to a total depth of 3,300 ft bls. One dual zone monitor well is proposed to be constructed. The dual zone monitor well will monitor both upper zone within the USDW, and a lower zone that is below the USDW, to ensure that the USDW is not impacted by the proposed use of the well.*
- How far away is the monitoring well from the DWI Well?
    - *The monitoring well will be constructed within 150 feet of the injection well, in accordance with Department rule requirements.*
- What is the depth and diameter of each well?
    - *The injection well is proposed to be constructed with a 20-inch diameter steel casing set to 1,950 ft bls, a 11.75-inch diameter fiberglass reinforced plastic tubing set to 1,950 ft bls and a total depth of 3,300 ft bls.*
    - *The dual-zone monitor well is proposed to be completed with a monitoring zone from 600 to 650 ft bls and a monitoring zone from 900 to 950 ft bls, with final monitoring intervals determined based on on-site testing.*

2. Concerns About Injection of Hazardous or Radioactive Waste

Department Response: The wastewater at the Piney Point site has been extensively tested over the years by the Department, particularly following the 2001 abandonment of the site and bankruptcy of Piney Point Phosphates, Inc, and its parent company, Mulberry Corporation. Based on the Department's testing, the wastewater in each of the lined ponds at the site, and the pore water seepage in the seepage collections drains that surround the stack system itself do not have any characteristics that render the wastewater to be considered a hazardous waste in accordance with 40 C.F.R. §§ 261.1 - 261.4, and §§ 261.20 - 261.24.

Most importantly, waste characterizations performed following the bankruptcy of the Mulberry Corporation in 2001 have consistently not exhibited any of the hazardous waste characteristics that are defined for hazardous waste in accordance with 40 C.F.R. §§ 261.20 - 261.24. For example, the pH of the process water in the lined storage ponds (e.g., the NGS-S and the NGS-N) and for the stack seepage from the collection system consistently

have pH measurements that are not corrosive. These pH measurements are in the range of 5 to 7.5 s.u. today. Water quality monitoring at the site has also confirmed that the water at the Piney Point site is below the key radiological standards for uranium and combined radium that apply to drinking water systems. Based on the known characteristics of all remnant process water at the site (including process water mixed with seawater from the 2011 Port Manatee dredging project), the wastewater at the site is properly classified as non-hazardous wastewater. Moreover, the Department's regulatory analysis and waste characterization is consistent with Chapter 62-730, Fla. Admin. Code, and both EPA and Department joint determinations enforcing the Bevill mixture provisions that are applicable under 40 C.F.R. § 261.3 and 261.4.

Specific Questions:

- Will the Hazardous Waste Containment Ponds aka Gypsum Stacks, Clay Setting Ponds, Decantment Ponds, Stormwater Sediment/Pollutants Ponds or Retention Ponds be directly connected to the DWI by a conduit system?
    - *No, as explained above, the phosphogypsum stack system does not contain hazardous waste. The deep injection well will not be directly connected to storage ponds or other sources of water from the Piney Point site. Rather, the applicant has proposed that water from the site would be transferred from the site (generally via a dedicated pipeline), treated as needed by the applicant for the proper operation of the underground injection control well, then routed through filtration processes, and then injected in a controlled manner in compliance with the proposer permit requirements to ensure protection of Florida's ground water resources. The injection zone is approximately 1,000 ft below the underground source of drinking water. The Avon Park Formation is expected to provide confinement between the Upper Floridan Aquifer and the Lower Floridan Aquifer between approximately 900 feet below land surface (bls) and the bottom of the well casing at 1,950 feet bls. The Middle Confining Unit II is present and located from approximately 1,550 – 1,900 bls and is almost 400 ft thick.*
- Can a Class I non-hazardous injection well be used for disposal of hazardous waste?
    - *No, it cannot. The proposed well and draft permit would only allow the injection of non-hazardous wastewater as described in the permit application. Further, Florida law at this time does not allow the disposal of hazardous waste into an injection well, in accordance with the provisions of s. 403.7222, Fla. Stat., and the Rule 62-528.400, Fla. Admin. Code.*

3. Suitability of Well Location Geology

Department Response: The Department thoroughly reviewed geology at the site based on regional information including nearby wells of a similar proposed construction. Based on the file review, the applicant has provided reasonable assurance that the UIC well can be constructed as required to protect ground water and the USDW. In addition, the permit

requires a construction process that further identifies the depths to which casing is to be installed to ensure protection of ground water resources and a properly constructed well that preserves the integrity of the confining units and water quality in the separate drinking water aquifer.

Specific Questions:

- What is the location of these wells?
  - *The applicant has proposed that the injection well be constructed at 3105 Buckeye Road, Palmetto Florida. Geographic coordinates are Latitude 27 degrees 37 minutes 16.6 seconds North, Longitude 82 degrees, 31 minutes, 42.6 seconds West.*
- The "confining" layer that will receive these contaminants is porous, permeable, right?
  - *No. By definition a confining layer is impermeable or distinctly less permeable material which is capable of limiting fluid movement from an injection zone. Porosity and permeability would be low so that the separate and overlying drinking water aquifer would be protected.*
- How does anything porous and permeable confine that is pumped or injected into it?
  - *The injection zone itself is highly transmissive and capable of receiving the injectate, while the separate confining layers above are by definition impermeable or distinctly less permeable geologic formations which are capable of limiting fluid movement from an injection zone. Lack of permeability and porosity will inhibit the movement of fluid through the confining zone.*
- Can you please explain how porous and permeable material can confine or keep material within? Is that even possible?
  - *Please see above discussion.*
- Does FDEP have data to support that the proposed well has the capacity to receive the large volume (hundreds of millions gallons) of wastewaters?
  - *As a requirement of the draft permit, the permittee would be required to conduct an injection test after the well is constructed. The test will measure pressures and evaluate the site's ability to accept the anticipated volume to be injected.*

4. Potential Impacts to Drinking Water

Department Response: The wastewater is not to be injected into an underground source of drinking water (USDW). The base of the USDW is around 900 ft bls and the injection zone is from 1,950 ft – 3,300 ft bls, which is well below the USDW. Additionally, there are also multiple areas of confinement between the USDW and the injection zone that further separate the proposed injection zone from the protected ground water resource.

Specific Questions:

- Safety of drinking water wells of homes in area, is there a plan to connect homes to city water?
    - *No, there is no need to connect homes in the area to alternate drinking water supplies. The proposed underground injection well will not impact the drinking water aquifer. The proposed injection zone has high concentrations of total dissolved solids (e.g., > 40,000 mg/L) and is already not suitable for use as a source of drinking water. As discussed further in response to other comments, the injection zone is well below the drinking water aquifer, and is separated from the underground source of drinking water by multiple confinement layers that already protect the drinking water aquifer from the unsuitable water quality that already exists in the injection zone.*
- Who is responsible for the assurance or guarantee that this will NOT contaminate our Waters?
    - *The County will be responsible for complying with permit requirements for the proper construction of the proposed injection well and monitoring the wells and water quality. They are required to submit monthly operating reports (MOR) with the water quality data to the Department. The Department will also oversee construction of the well to ensure that it is constructed as required to protect ground water resources from contamination.*
- Mechanical integrity requirements p.8 in the draft permit, section d., establishes criteria for continued operation of a well lacking mechanical integrity. Please clarify why any continued operation for a lack of mechanical integrity in a well is acceptable?
    - *Injection would only be allowed to continue if the permittee were able to prove to the Department that there would be no endangerment or risk to the underground source of drinking water.*
- What are the assurances or guarantees and from what department of state or county that this deep injection well will not pollute the Florida's aquifer or the groundwater?
    - *The injection zone for the well is from 1,950 ft to 3,300 ft below land surface. With a large confining zone between the underground source of drinking water and the injection zone. The proposed permit requires two monitoring well zones to monitor water quality on a monthly basis. Additionally, injectate quality will also be monitored. Mechanical integrity tests are also required to be regularly performed on the injection well to ensure it is operating as permitted and designed to protect the drinking water aquifer.*

- How does the draft permit anticipate a receiving well depth of 1,950-3,300 feet bls that can avoid contaminating the Florida aquifer?
    - *The wastewater will be injected into the saline boulder zone which is a highly transmissive section of the Lower Floridan aquifer. The Lower Floridan aquifer is not a source of drinking water. The base of the USDW is anticipated to be around 900 ft.*
- What data from the proposed site supports that the proposed depth is sufficient to prevent contaminating the aquifer?
    - *The state has multiple wells around the region using the boulder zone for injection, including sites that are consistent with the geology at the proposed site. All of these sites are closely monitored. In addition, the permit requires drilling of pilot holes that are used to specifically identify the depths of subsurface formations at the well site, and to ensure that well casings are properly installed to construct the well as designed and to ensure that the drinking water aquifer is being protected. As noted elsewhere, the Department would be overseeing the construction of the proposed underground injection control well.*

5. Consideration of Other Treatment and Disposal Methods, and the Handling of Solids or Sediments

Department Response: There are a variety of options that could be implemented to safely and effectively remove remnant process water from the Piney Point site so that the ponds that are currently at the site can themselves be closed and no longer present a risk of future failure. Throughout the history of the Piney Point site various treatment and disposal methods have been considered and used to safely remove wastewater from the site including:

- Spray evaporation.
- Trucking and piping to wastewater treatment facilities.
- Offshore disposal.
- Beneficial reuse for cooling at other phosphate processing facilities.
- Treatment through reverse osmosis and discharge to Bishop Harbor.
- Double lime treatment and discharge.
- Treatment to reduce nutrients through innovative technologies.

Some of these proved successful and continue to be used to date (piping water to nearby wastewater treatment facilities and spray evaporation), while others proved less effective or efficient in removing the pollutants of concern while meeting water volume reduction needs. Reverse osmosis (RO) in one of the technologies that was used and successfully treated a limited amount of water making it suitable for discharge.

- However, the byproduct of this treatment process is that ultimately pollutants are retained onsite in a more concentrated form - leaving a more complicated and environmentally challenging disposal concern.
    - There is a point where this concentrated reject itself will have to be managed and disposed.
    - The reject will reach a point where it cannot be effectively treated and discharged and would have to be sent to a UIC well or heated and evaporated and sent to a landfill. The concentrated pollutants from the RO process would still have to be treated or dealt with during this disposal process.
- Additionally, the amount of "clean" water obtained through this treatment process (permeate) is generally a fraction (approximately 1/3) of the amount of water treated using this process.

The UIC well has the ability to provide water quality protections and the water volume reduction needs at the site that are essential to facilitate closure. Other treatment and disposal methods can and will continue to be utilized and explored in order to close the site in a safe manner as quickly as possible.

Specific Questions:

- A statement was made by an official that the water to be injected is "treated and safe." If that is the case, why isn't the water being released into the surface waters?
    - *The water still contains nutrients (both phosphorus and nitrogen) that remains from the historical fertilizer manufacturing that was done at this site. Even though the nitrogen and phosphorus concentrations can be effectively reduced by a variety of treatment technologies, members of the public have expressed concern over any additional discharges, even treated water discharges to Tampa Bay. Manatee County's proposed use of an underground injection well provides a safe and effective method for disposal of the remaining water from the Piney Point site without any additional surface water discharges of nutrients to Tampa Bay.*
- Will there be any requirement for pre-treatment of the Piney point gyp-stack pond water prior to UIC well injection? If yes, can you outline what technologies will be required such as pH adjustment and pre-filtration along specifications such as particle size, TSS and Turbidity?
    - *The injectate will undergo treatment before injection. The treatment will consist of adjusting the pH, which will precipitate solids to reduce the potential for scale and precipitation of minerals in the formation, followed with filtration of the water prior to injection. The treatment will protect the aquifer formation and the well from precipitation and scale build-up by removing calcium and phosphate.*
- Have other water treatment technologies such as ultrafiltration and reverse osmosis been taken into consideration in leu of or in parallel with the UIC well

injection process, and are there other solutions to the Piney Point wastewater disposal problem? If so what are they and how will these technologies be deployed as part of the UIC well injection process? If not, why haven't other established water treatment technologies such as membrane based treatment been explored as part of the solution to close the Piney Point GypStack pond system?

- *As discussed above, membrane technologies have been utilized successfully both at this site and for similar mineralized water including seawater. However, they are not suitable for uses to remove all of the water prior to closure of the ponds. Use of membrane technologies do not actually remove pollutants from a site. Accordingly, the reject flow from all membrane technologies would ultimately result in an increased concentration of pollutants that could cause more water quality concerns for either a surface water discharge (e.g., exceedance of water quality standard) or disposal using a UIC well. If the concentrated RO reject was disposed in connection with a UIC well, the UIC well would receive the same amount of pollutants as it would have if RO had not been used. That is, the same mass of all of the dissolved minerals would still be injected into the disposal well.*
- *The general discussion provides an overview of the historical water treatment and removal options that have been used at the Piney Point site. Water continues to be treated by the court-appointed Receiver to reduce nutrient concentrations in the water onsite. This ongoing treatment is compatible with the proposed deep well injection process, and unlike membrane processes, it does effectively remove pollutants from the water onsite prior to its proposed disposal using a UIC well.*

- What is the treatment process for ALL of the materials, solids, sediments, heavy metals, liquids, etc., etc., that is used prior to the disposal?
  - *Please see discussion elsewhere in this response to comments on the nature and purpose of the treatment process that is proposed by the applicant.*
- Does the treatment remove the heavy metals like Lead, Arsenic, etc.?
  - *Some metals and other inorganics are co-removed in conjunction with treatment that has been done at the site during 2021, and would be co-removed by the pH adjustment and precipitation and filtration processes that are proposed by the applicant to protect the integrity of the well's operations. The concentrations of all constituents, including the concentration of metals, in the proposed water for injection from the site do not pose a threat to the USDW as the injection zone is confined and separated geologically from the overlying USDW.*
- Does it treat or remove the radioactive substances?
  - *The applicant's proposed treatment process is not designed specifically to remove radiological parameters. However, the water at the site is already*

well below the key radiological drinking water quality standards for uranium and combined radium.

- How much "processed" Water is expected to be treated and then disposed of?
  - *The applicant has indicated that the planned disposal rate is expected to be approximately 1 million gallons per day (mgd) and that it may take approximately 2.5 years to remove the ponded water from the ponds at the site. The site currently contains about 550 million gallons of a mixture of process water and seawater, including inputs such a rainfall runoff. The amount of water that will have to be removed prior to closure of the ponds at the site will depend largely on how quickly the work may be completed and how much rainfall happens during that time period.*
- How will all the solids and/or the "sediments" be handled, and will these solids be made into a slurry and injected or pumped down the DWI Well??
  - *The applicant plans to return solids from water treatment and filtration back to the Piney Point site where they will be properly disposed of as part of the engineered closure of the lined ponds. Once the planned closure work at the site is completed, any additional solids will be appropriately dewatered and disposed of in accordance with applicable solid waste regulations.*
- Once all of this crap is pumped or injected down the Well. How would anyone get the contaminants out of the Filter or "confining" lay and/or remove the contaminants from Our Water?
  - *Please see the discussion provided elsewhere in this response to public comments.*

6. Ensuring Appropriate Water Quality Monitoring

Department Response: The applicant has provided plans and information on both the nature of the proposed injectate, and on the monitoring that is required under Chapter 62-528, Fla. Admin. Code for the protection of the USDW. Accordingly, the draft permit provided conditions specifying requirements for construction of the proposed dual zone monitor well at the site to ensure that it will be completed in a manner that meets the rule's water quality monitoring provisions.

- How far away is the monitoring well from the DWI Well?
  - *The monitoring well will be constructed within 150 feet of the injection well, in accordance with Department rule requirements.*
- Could FDEP clarify the draft permit monitoring requirement 6 p.6, because "unless it can be demonstrated that no zone is present that can produce adequate water for the collection of representative ground water samples"? It appears to offer no control of contamination. Please consider removing this condition offering no control and require sampling and measurement and review/approval prior to injection.

- *The upper monitor zone is required by Department rules and the permit to be established in the USDW (i.e., the protected ground water resource). There needs to be enough water flow for water samples to be collected in order to collect a sample that is reflective of the water quality in the USDW. In order for the facility to say there is no zone present - proof would need to be provided to the Department. This proof for the Department's oversight would include, but is not limited to, packer tests, geophysical logs and lithologic descriptions.*

- The specified QA /QC requirements specified paragraph 3, draft permit page 11, requires department SOP to be followed. Because there is a complex mixture of contaminants and components in the sample matrix in Piney Point wastewaters, a requirement for site specific validation of each analytical method using an appropriate matrix reflecting the Piney Point wastewater should be performed prior to accepting analytical monitoring data obtained from these methods. This requirement is sound analytical laboratory validation practices for results originating from complex mixture matrices. It is not clear that this validation practice is understood as a basic requirement for department laboratory SOP in complex environmental matrices, as described in the draft permit. Please consider adding this validation clarification to all permits involving Piney Point facility, as a means to demonstrate appropriate environmental stewardship.
  - *Department rules and the draft permit would require that appropriate QA/QC requirements, in accordance with Chapter 62-160, Fla. Admin. Code, along with the required use of U.S. Environmental Protection Agency analytical methods (e.g, for laboratory determination of total recoverable metals, etc.) are being employed to generate representative and reliable characterizations of the water that is proposed for injection under the draft permit. These rule and permit requirements are technically sound, proven, and demonstrate environmental stewardship by providing for protection of water resources.*
- Who will monitor the deep water well? One of the Manatee County Commissioners said that the Deep Well Injection will be a "Permanent" solution. As a resident & business owner in the area, I am concerned that Manatee County as well as FDEP will take the attitude, "Out of Sight Out of Mind".
  - The department will continue monitoring the well unless it is properly plugged and abandoned. The injection well operation permit is required to be renewed every five years, and a mechanical integrity test is also required every five years. The draft permit would require that monthly operating reports be submitted as part of the ongoing regulatory oversight to ensure that the well would continue to be maintained and operated in a manner that protects the quality of the drinking water aquifer.
- How often are samples taken from the monitoring well?
  - *The draft permit would require that monthly operating reports be submitted for the proposed well. Water quality samples will be taken and analyzed from the injectate and the two required monitor well intervals.*

- What specific tests are done on the samples?
    - *The draft permit provided the proposed monitoring requirements, and the final permit, if issued, would include the required parameter list with the monitoring requirements and frequencies.*
- How many other monitoring wells already exist on this parcel of land?
    - *At the time of the application, there are no other UIC program monitor wells located on the parcel owned by the County. The draft permit would require installation of a dual zone monitor well to monitor water quality both in the USDW and below the bottom of the USDW.*
- What information is in the Tampa Bay Sampling Response and Results – what are these reports telling the general public, and where was the bay's levels of toxicity before the dump of Piney Point wastewater.
    - *The Department's website has continued to provide analytical results for water quality sampling that has been conducted in Tampa Bay before, during, and following the emergency discharges of the mixture of process water and seawater from the NGS-S compartment at the site. The results show the increase in concentrations of nutrients in response to the emergency discharge that started on March 30, along with the reduction of concentrations following the cessation of the emergency discharge by April 9, 2021.*

7. Concerns About Financial Responsibility

Department Response: The applicant is responsible for meeting the rule requirements under Chapter 62-528, Fla. Admin. Code, including the financial responsibility requirements applicable to the county under Rule 62-528.435, Fla. Admin. Code, for being able to properly close, plug, and abandon the underground injection operation.

Specific Questions:

- Who is responsible for future damage/cleanup?
    - *The applicant would be responsible for operating the well in compliance with Department rules and the proposed permit to ensure that the USDW is protected.*
- Who is paying for the well? Phosphate companies should pay for cleanup, not county or taxpayers.
    - *The phosphate company that last operated the Piney Point site filed for bankruptcy in 2001, and is no longer a viable company. While the state's financial assurance rule requirements were strengthened in 2005, the bankruptcy itself left the site with unfunded water management and closure obligations at that time. The cooperative efforts by a combination of state and local agencies are focused on completing water removal that is necessary before closure of the lined ponds on top of the phosphogypsum stack system at the site can be completed. Their closure is needed so that they no longer can impound and accumulate water at*

the site. These actions will ensure that this legacy site is no longer able to accumulate water that could become a risk to the state's water resources.

8. Handling of Solids and/or Sediments

Department Response: The questions related to solids have been incorporated and discussed above under topic no. 5, "Consideration of other treatment and disposal methods, and the handling of solids or sediments."

9. Assurances the Well Will Only Be Used for This Site and NOT Accept Other Waste Products from Other Sites

Department Response: The application for the proposed UIC well only specified disposal of water from the Piney Point site. Please see additional information below.

Specific Questions:

- What assurances will be made that if this deep well is created, that it will only be used for this situation and NOT accept other waste products from other sites? Once the water is drained from Piney Point stacks – will this well be CLOSED for all future dumping?
    - *The applicant has proposed that the well be used only for the ponded water from the Piney Point site, and that it will continue to be used to inject water from the seepage collection drains that surround the stack system. The construction application is for the disposal of industrial wastewater only from the Piney Point Facility. If Manatee County desires to add another source, the county must separately apply for a Permit Modification to evaluate the proposed change. That application would be subject to a separate Department review and would also required to be publicly noticed. Once the need injection well is no longer being used, Manatee County must apply for a Plug and Abandonment Permit to ensure that the well is properly decommissioned.*
- Will the DWI Well continue to be utilized as a Waste Disposal Well in any of the VI Classes of DWI Wells? Who will actually monitor who and what materials are being disposed of?
    - *Please see additional discussion in this response to comments on the classification of this well, the environmental protection requirements of the applicable rules and the draft permit, and on the monitoring and oversight that is incorporated in the draft permit.*
- Will this DWI be used for only the material from Piney Point? If so, who is responsible after Piney Point is officially closed?
    - *The permit is for the construction of an injection well designed for the disposal of industrial wastewater from the Piney Point Facility. If Manatee County desires to add additional sources, the county must apply for a*

modification to the permit and the permit modification must be noticed to the public. After Piney Point is closed, the county will still have financial responsibility for the injection well.

10. Other Miscellaneous Comments or Questions

Department Response: Please see the individual responses provided below.

Specific Questions:

- Will there be trucking and hauling required to transport the materials from the "Ponds" to the DWI Well?
    - *The permit is for the construction of an injection well and is limited to the well itself. The applicant has indicated that it expects to construct a pipeline to transport the water from the ponds to the proposed injection well property.*
- After Piney Point is officially closed. What is next?
    - *The closure work and removal of the ponds at the site will eliminate the risk this site has caused for water resources in Tampa Bay. After the planned closure of the ponds on the top of the phosphogypsum stack system, the site will continue to require long-term care to provide for required water management of stack seepage and environmental monitoring, along with periodic maintenance of the stack system.*
- How will the Giant Containment Berms be handled?
    - *The Receiver is working to prepare closure plans that will eliminate the ability of the lined ponds and containment berms on top of the phosphogypsum stack system to hold or impound water. These areas will be constructed so that they generate clean and safe storm water runoff from the site.*
- Regarding the spray evaporation that is taking place at the site, once the evaporation happens, does airborne particles get released into the air? If so, what is the danger to the public or the environment once these particles are in the air?
    - *The site has used spray evaporation to manage excess rainfall since May 2005. The spray evaporation system uses spray nozzles that are similar to those used for irrigation systems and are designed to increase the evaporation rate of water over existing ponded areas at the site. The spray systems that have been used at the site are designed to allow particulates and mineral concentrations to remain in the pond and the overall stack system at the site. Airborne particulate drift has not presented any concerns because of the system's design and location in ponded areas at the site.*

- What is the timeframe for the completion of the permitting process for the UIC well system to be fully functional.? In other words what is the target start up date for full production?
    - *The draft permit was issued on September 1, 2021. The comment period on the draft permit ran through the close of a public meeting that was held in Manatee County on October 6, 2021. The Department has reviewed all public comments, and the draft permit based on the applicable laws and rules in conjunction with those comments. The next step would be for the Department to make a subsequent decision of the draft permit, and either issue a notice of intent to issue or a notice of intent to deny the permit. If the Department issues a notice of intent to issue the permit, the applicant would be required to publish the notice in the newspaper. The notice would provide a 14-day period during which interested parties could petition the Department's decision. Once the permit may become effective, the applicant has indicated that the construction of the UIC well, along with the dual zone monitoring well, and construction of any required pretreatment facilities could be expected to take somewhere between six to twelve months.*