



**Exhibit "B"**  
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September 10, 2025

Dr. Richard Lobinske  
Florida Department of Environmental Protection  
UIC Program  
2600 Blair Stone Road  
Mail Station No. 3535  
Tallahassee, FL 32399-2400

**Re: City of Pembroke Pines  
Wastewater Treatment Plant Injection Well System  
Proposed Mechanical Integrity Testing Plan  
UIC Permit No. 0336555-003-004-UO/1M**

Dear Dr. Lobinske:

According to our records, Mechanical Integrity Testing (MIT) of the City of Pembroke Pines Wastewater Treatment Plant Injection Wells IW-1 and IW-2, at the above-referenced facility, is required prior to March 7, 2026, and March 3, 2026, respectively. Please find attached the 5-Year MIT Plan, submitted on behalf of the City, for a demonstration of mechanical integrity as required by Chapter 62-528, Florida Administrative Code.

The 5-year MIT program includes three main elements: 1) updated downhole video surveys of the injection casing and the (accessible) open-hole sections of each well, 2) a hydrostatic pressure test of both injection casings, and 3) a radioactive tracer survey log, with background temperature and gamma-ray log plots, of both wells.

Operational and water-quality data from the past five years of operation will be compiled and presented, both in tabular and graphical form, in a report of MIT results. The MIT report will describe the testing methods that were performed, discuss the results of testing, and provide an interpretation of the operational and groundwater data collected during the MIT. The report will be signed and sealed by a Florida-licensed Professional Geologist. Florida Department of Environmental Protection (FDEP) Underground Injection Control (UIC) will be notified a minimum of seven (7) calendar days prior to the initiation of on-site MIT activities.

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City of Pembroke Pines, Injection Well MIT Plan  
WWTP Injection Well System  
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If you have any questions or comments, please don't hesitate to contact me at (561) 596-9476.

Sincerely,  
**Connect Consulting, Inc.**

A handwritten signature in blue ink that reads "Elizabeth S. Owosina". The signature is written in a cursive, flowing style.

Elizabeth S. Owosina, P.G.  
Senior Hydrogeologist

**PROPOSED MECHANICAL INTEGRITY TESTING PLAN  
INJECTION WELLS IW-1 AND IW-2  
CITY OF PEMBROKE PINES  
WASTEWATER TREATMENT PLANT**

**Proposed MIT Procedures**

In accordance with Chapter 62-528, Florida Administrative Code (FAC) requirements, this Mechanical Integrity Testing (MIT) Plan for the City of Pembroke Pines Wastewater Treatment Plant (WWTP) Class I Injection Well System has been prepared and is provided herein for review by the Florida Department of Environmental Protection (FDEP). The 5-year MIT program includes 3 main elements: 1) an updated television survey of the injection casing and the (accessible) open-hole section of the well, 2) a hydrostatic pressure test and 3) a radioactive tracer survey (RTS) log (with background temperature and gamma-ray log plots). The testing plan is the same for both wells and is described below.

The City of Pembroke Pines WWTP is located in Broward County at 13955 Pembroke Road, Pembroke Pines, Florida 33027. There are two injection wells on site, IW-1 and IW-2. Both wells were drilled by Youngquist Brothers, Inc., a water well contractor based in Fort Myers, Florida. IW-1 was completed in 1986; IW-2 was completed in 1993. The IW-1 injection casing is a 16-inch outside diameter, 0.500-inch wall thickness, seamless steel casing seated to a total depth of 2,950 feet below pad level. The IW-2 injection casing is a 24-inch outside diameter, 0.500-inch wall thickness, seamless steel casing seated to a total depth of 2,971 feet below pad level. The WACS facility ID is 53399 and the UIC permit number is 0336555-003-004-UO/1M.

The following figures are included with this plan: 1) a site location map (**Figure 1**), 2) a site plan (**Figure 2**), and 3) construction details for IW-1 and IW-2 (**Figures 3 and 4**). Connect Consulting, Inc. (CCI) will notify the FDEP a minimum of seven (7) calendar days prior to the initiation of MIT procedures. Testing will be conducted during regular working hours Monday through Friday.

**Television Survey**

A color, downhole video survey will be performed in the presence of the Engineer on the entire well, from the top of the injection casing to the bottom of the open hole. The Contractor shall have the survey performed by a qualified service company using equipment capable of surveying and recording to the bottom of the open hole. The Contractor may use his own equipment if it is capable of surveying as required and if the Contractor furnishes proof of the capability of the selected equipment.

Prior to and during the video survey, the Contractor will pump clear fresh water, up to three well volumes (approximately 81,300 gallons for IW-1 and 192,400 gallons for IW-2), into the injection well as necessary to ensure that the borehole fluid is of sufficient clarity to perform the survey. Any observed features of the injection casing which may negatively affect the integrity/performance of the well, in the opinion of the Engineer, will be inspected using a rotating side-view camera to obtain

a close-up of the feature. The television camera shall be centralized within the borehole during the survey and the video will be conducted at a logging rate that is consistent with providing an acceptable quality video record of conditions encountered within the well. It is anticipated that a logging rate of 20 to 25 feet per minute will meet this requirement. The depth recording will be presented continuously on the video copies. If the video survey shows that cleaning is necessary, the casing will be cleaned in a manner so as to not damage the interior wall of the casing. After cleaning procedures (if necessary), another video will be performed.

While pumping the fresh water into the well and during the video survey, the well may be under positive pressure at the wellhead and may flow. The Contractor will be required to provide and use a stripper-head assembly and other equipment necessary to keep the well under control at all times. The Contractor will be required to contain any fluids that might be released at the wellhead due to his activities. Copies of the survey will be made and submitted to FDEP as part of the MIT report.

### **Hydrostatic Pressure Testing**

Before beginning the pressure test, the Contractor will pump a salt slurry into the injection well to "kill" (suppress flow from) the well. The Contractor is responsible for an accurate measurement of the weighted fluid prior to the pressurization of the casing. An internal hydrostatic pressure test will then be conducted on the injection well casing according to the following procedure.

1. For both IW-1 and IW-2, an inflatable packer will be set near the middle of the bottommost casing section as observed by the video survey. The inflatable packer assembly shall be tested at the surface, or within the first joint, to ensure it is operational prior to placing it down the well.
2. The casing will be filled with potable water and placed under a pressure of approximately 150 psi in IW-1 and IW-2. Preliminary pressure testing will be conducted prior to performing the official pressure test. The official pressure test shall be witnessed and certified in writing by CCI. If a significant pressure change (greater than 5%) occurs, the test shall be repeated under controlled conditions to the satisfaction of CCI and the FDEP representatives onsite. The test will be considered successful if the pressure does not change (increase or decrease) by more than 5%.
3. If a pressure change greater than 5% occurs, the test shall be repeated under controlled conditions to verify that the change was caused by a leak in the casing. The test shall be repeated to the satisfaction of CCI and FDEP. If the re-test indicates a compromise of casing integrity, the packer will be deflated, moved further up the casing string and re-inflated. The casing then will be retested in an effort to identify the location of the leak.

The Contractor shall submit verification of pressure-gauge calibration to the FDEP and CCI prior to performing the official pressure test. The pressure gauge verification of calibration will indicate the date and place of the pressure-gauge calibration. The pressure gauge utilized for the hydrostatic pressure test will be certified as calibrated within the previous 6-month period from the date of the pressure test.

The resolution of the 6-inch dial pressure gauge will be at least 1 psi and the pressure gauge will be graduated from 0 to 200 psi or 0 to 300 psi (in increments of 1 psi) with an accuracy of  $\pm 0.25\%$ . The resolution (precision) of the calibrated pressure gauge (1 psi) will be sufficient to monitor the pressure in the casing and make a pressure change of less than the allowable 5% easily discernible. The pressure gauge will be mounted on the wellhead at or near eye level, to make any change in pressure easily discernible.

### **Radioactive Tracer Survey and Temperature Log**

A radioactive tracer survey (RTS) test will be performed on the injection well and witnessed by a hydrogeologist. The RTS tool will be equipped with crystal "scintillation" type detectors. The RTS tool will be loaded with 4 millicuries (MCI) of medicinal grade Iodine-131 (the selected radioactive-tracer material for this RTS testing). The certification (assay label) for the Iodine-131 will be present the day of RTS testing and a copy of the certification will be included in the final report. The assay date of the Iodine-131 will be within 8 days of the RTS test. The Contractor will provide a copy of the Iodine-131 certification to the Engineer.

A casing collar locator (CCL) will be positioned below the tool to precisely locate the bottom of the casing. The tool will be configured so that one gamma-ray detector will be located above the ejector chamber and two detectors will be located below the ejector. The RTS testing will be conducted according to the following procedure:

1. For casing flushes, fresh water will be used. Prior to initiation of RTS testing, up to approximately 3 well volumes (IW-1: 81,300 gallons; IW-2: 192,400 gallons) of freshwater will be injected to establish a freshwater "bubble" below the final casing seat.
2. A combination gamma-ray/temperature tool will be used to initially log the injection well, recording temperature from land surface to the total (accessible) well depth. The high-resolution temperature log will include a differential temperature log on the same plot.
3. A background gamma-ray log will be conducted in the interval from the total accessible depth to land surface. A casing-collar locator log will be used during this survey to locate the base of the final casing. The temperature log and background gamma-ray log will be performed prior to loading Iodine-131 into the RTS tool.
4. The combination logging tool will be positioned with the ejector located approximately 5 feet above the bottom of the casing, with one gamma-ray detector above the ejector (GRT), and two gamma-ray detectors below the ejector (one inside the casing above the casing seat [GRM] and one outside the casing below the casing seat [GRB]).
5. A low-rate dynamic test will be performed. A low injection rate will be established using fresh water. The velocity for this test will be between 3 and 5 feet per minute (equating to a flow rate between 28 and 46 gpm for IW-1 and between 65 and 108 gpm for IW-2). A flowmeter with totalizer and an instantaneous flow-rate indicator will be installed to monitor the flow rate into

the well. The flowmeter will be calibrated within 6 months of the test and will be capable of measuring the flow rate with an accuracy of 5%.

6. Time-drive monitoring will begin and a 1 MCI slug of tracer material will be ejected. This release will be confirmed by the GRM detector and the bottom detector, GRB.
7. Gamma-ray levels will be monitored for one hour while the tool is held stationary. In the event that the tracer slug is detected by GRT during the one-hour monitoring period, the logging tool may log out of position to a new position approximately 20 feet above the previous position of the RTS tool and logging will resume for the remainder of the one-hour monitoring period.
8. Following the end of the time-drive monitoring, the RTS tool will log "out of position" (moving) to at least 200 feet above the highest point where the tracer was detected.
9. Following the out-of-position gamma-ray log, the RTS tool shall be repositioned with the ejector located approximately 5 feet above the bottom of the casing. If excessive staining (elevated readings) is observed, as determined by the Engineer or the FDEP onsite inspector, the injection casing shall be flushed by injecting freshwater up to one injection well volume (IW-1: 27,100 gallons; IW-2: 64,130 gallons), and steps 10 and 11 (below) shall be completed. If excessive staining is not observed, the Contractor shall proceed to step 12 (below).
10. Following flushing, the combination logging tool shall be repositioned with the ejector located approximately 5 feet above the bottom of the casing and another gamma-ray log shall be run out of position to at least 200 feet above the highest point where tracer was detected.
11. If tracer movement continues to be detected, multiple out-of-position logs shall be conducted to identify the extent of tracer movement. The out-of-position logs shall be conducted to at least 200 feet above the highest point where the tracer was detected.
12. The combination logging tool shall then be repositioned with the ejector located approximately 5 feet above the bottom of the casing. This is the same depth as that used for the first low-rate dynamic test. A low injection rate shall be established using potable water. The flow rate of the second low-rate dynamic test shall be the same as the first low-rate dynamic test. Time-drive monitoring shall begin, a 1.0-MCI slug of tracer material shall be ejected, and the release of the tracer material will be confirmed by detectors GRM and GRB.
13. Gamma-ray levels shall be monitored for 30 minutes while the tool is held stationary. In the event that the tracer slug is detected by the upper gamma-ray detector (GRT) during the one-hour monitoring period, the operator of the logging tool may log out of position to a new position approximately 20 feet above the previous position of the RTS tool and logging shall resume for the remainder of the 30-minute monitoring period. If the logging tool is to be moved upwards in the event of detection of tracer by the upper detector, the tool should not be moved prior to the time period required for the tracer to travel from the middle detector to the lower detector (theoretically a minimum of 2 minutes for a 5-foot/minute flow rate).

14. Following the end of the time-drive monitoring, the RTS tool shall log "out of position" (moving) to at least 200 feet above the highest point where the tracer was detected.
15. If tracer material is not detected in GRT after both "out of position" logs (steps 8 and 14 above), the RTS tool shall be lowered to approximately 5 feet above the uppermost transmissive injection interval in the open hole. The remaining tracer material shall be ejected while flushing with at least one casing volume of freshwater.

The RTS tool shall then be lowered to the total depth of the well and a final gamma-ray log shall be performed from the total depth to land surface.

### **Report**

Following completion of the MITs for IW-1 and IW-2, a final summary report will be prepared for submittal to the FDEP. The report will include descriptions of the MIT test procedures, results and interpretations of MIT testing, the background temperature and gamma ray logs, RTS log plots, and a tabular and graphical presentation and interpretations of monitoring well data over the previous five years. A copy of the Iodine-131 certification assay that was used during the RTS will be included with the report as well as a schematic of the radioactive tracer survey (RTS) tool. A copy of the downhole video surveys will be mailed to FDEP staff on a flash drive in a .mp4 or equivalent format.











