



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: August 13, 2015
TO: Carlotta S. Stauffer, Commission Clerk, Office of Commission Clerk
FROM: Leslie Ames, Attorney, Office of the General Counsel *LA*
RE: Docket No. 140217-WU - Application for staff-assisted rate case in Sumter County by Cedar Acres, Inc.

Attached please find an email with two attachments from Cedar Acres, Inc. as partial response to Staff's fourth data requests, received on Tuesday August 11, 2015. Please file the documents in the documents tab of the above docket file.

Thank you for your assistance in this matter. Should you have any questions, please do not hesitate to contact me.

Leslie Ames

From: davidjsimons@aol.com
Sent: Tuesday, August 11, 2015 3:22 PM
To: Leslie Ames; simonsjsr@aol.com; davidjsimons@aol.com
Subject: Fwd: Docket No. 140217-WU
Attachments: Cedar Acres Staffs Fourth Data Request LAA.docx; Tank inspection invoice.pdf; 2015 Tank Inspection report.pdf

Dear Ms. Ames,

Please allow us a few extra days to complete your data request, as Stayce is out of town this week.

- 1). Without any notice the power to the water well was turned off by the Duke Power. This was for non-payment of a small (under \$276.00) outstanding bill that was not received by Cedar Acres. Once the problem was identified, the bill was paid telephonically and the power was turned on that day. When the power went off the automatic generator came on. Later the generator failed and water pressure was lost. The generator problem was repaired that day and water was restored. The generator has had a full servicing (awaiting invoice).
- 2). Cedar Acres called several residents including the Homeowners Association officers to advise the residents of the boil water notice and rescinding the notice. These residents also called their neighbors. Signs were also put out on the sole road leading into and out of the development. A notice was also put on the community board. We have been advised by DEP of further step to take for notices.
- 3). I contacted several of the residents and many were called by the Homeowners Association members or neighbors. A notice was also put on the main street into the development.
- 4). About two days as required for the water testing.
- 5). DEP was notified by phone on the first day and in writing with the test results showing the water was safe by the plant operator.
- 6). Awaiting alarm invoice. Generator had to be serviced first.
- 7). Tank inspection invoices attached.

David J. Simons
President, Cedar Acres, Inc.

-----Original Message-----

From: simonsjsr <simonsjsr@aol.com>
To: davidjsimons <davidjsimons@aol.com>
Sent: Fri, Aug 7, 2015 1:49 pm
Subject: Fwd: Docket No. 140217-WU

D,

I've attached the invoice and the inspection report.

S

-----Original Message-----

From: Carolyn Craig <CCraig@PSC.STATE.FL.US>

To: 'davidjsimons@aol.com' <davidjsimons@aol.com>; 'simonsjsr@aol.com' <simonsjsr@aol.com>

Cc: Leslie Ames <lames@psc.state.fl.us>

Sent: Fri, Aug 7, 2015 1:22 pm

Subject: Docket No. 140217-WU

On behalf of Leslie Ames, please find attached Staff's Fourth Data Request in Docket No. 140217-WU – Application for staff assisted rate case in Sumter County by Cedar Acres, Inc.

If you have any questions, you may contact Ms. Ames at (850) 413-6187 or lames@psc.state.fl.us.

Thank you.

Carolyn Craig

Administrative Assistant III

Office of the General Counsel

Florida Public Service Commission

(850) 413-6206

ccraig@psc.state.fl.us

AT ENVIRONMENTAL

8/5/15
 CK# 1599

INVOICE

352-572-7599
 atenvironmental@gmail.com

PO Box 271
 Anthony, FL 32617

Mr Symonds
 4700 Sheridan st suite n
 Hollywood, FL 33021
 Date: 7/21/15

Project Title: Oakland Hills Subdivision
 Project Description: Tank cleaning and certification
 Invoice: 1
 Terms: 30 Days

Description	Quantity	Unit Price	Cost
Oakland Hills Hydropneumatic tank cleaning	1	\$1,800	\$1,800
Total			\$1,800.00

Thank you for your business, please reply within 30 days. Make check payable to AT Environmental.

Sincerely yours,
 Adam Fish

**INSPECTION
REPORT
FOR THE
OAKLAND HILLS
WATER TREATMENT FACILITY'S
*HYDROPNEUMATIC PRESSURE TANK***

PWS ID. No.: 6604824

**13710 U.S. Highway 441
Lady Lake, Sumter County, Florida**

Prepared by:



***P.O. Box 42
Ocala, Florida 34478
dnmengineering@embarqmail.com***

July 17, 2015

Oakland Hills Water Treatment Facility
Hydropneumatic Tank Inspection

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Oakland Hills Water Treatment Facility
Hydropneumatic Tank Inspection

CERTIFICATIONS

ENGINEER:

DNM Engineering & Associates, Inc.
Douglas A. VanDeursen, P.E.
P.O. Box 42
Ocala, Florida 34478
(352) 624-2068

This inspection report describes the structural and coating integrity of the finished water storage tank through visual observations and non-destructive testing performed on the date(s) listed on the cover page. As the Professional Engineer responsible for preparation of this report, the undersigned certifies that the information contained in this report is true and correct to the best of his knowledge, the report was prepared in accordance with sound engineering principles, and the recommendations and schedules have been discussed with the public water system supplier.

Signature of Engineer: _____

Florida Registration No.: _____

Date: _____

D. VanDeursen
60297
7/17/15

A circular professional engineer seal for the State of Florida, partially obscured by the signature and registration information. The seal contains the text "STATE OF FLORIDA" and "PROFESSIONAL ENGINEER".

INTRODUCTION

In accordance with Chapter 62-555.350(2) of the Florida Administrative Code, *finished-drinking-water storage tanks, including conventional hydropneumatic tanks with an access manhole but excluding bladder- or diaphragm-type hydropneumatic tanks without an access manhole, shall be checked at least annually to ensure that hatches are closed and screens are in place; shall be cleaned at least every five years to remove biogrowths, calcium or iron/manganese deposits, and sludge from inside the tanks; and shall be inspected for structural and coating integrity at least once every five years by personnel under the responsible charge of a professional engineer licensed in Florida.*

Inspection and testing of the hydropneumatic water storage tank was performed by AT Environmental, LLC and DNM Engineering & Associates, Inc. on July 16, 2017.

TANK DESCRIPTION

Manufacturer:	Unknown
ASME Code Stamp:	No
Manufactured:	Unknown
Serial No.:	Unknown
Overall Length:	14.67 Feet
Diameter:	8 Feet
Volume:	5,000+/- Gallons
Construction:	Welded Steel

PRE-INSPECTION

The following summarizes the procedures implemented prior to inspection of the hydropneumatic pressure tank:

- Universal Waters and the facility manager issued boil water notices prior to bypassing the facility's hydropneumatic pressure tank (HPT).
- The HPT's isolation gate valves were closed and the HPT's bypass gate valve was opened. The HPT's drain valve was opened to drain the HPT.
- The facility's groundwater supply wells and chlorination equipment remained in operation throughout the inspection and cleaning of the HPT.
- Upon completely draining the HPT, the fasteners for the HPT's manway were loosened and the manway cover and gasket were removed.
- Cleaned the interior of the hydropneumatic tank with pressure washer to remove any biogrowths, calcium or iron/manganese deposits, sand and/or sludge from the interior of the tank.

VISUAL INSPECTION

The following summarizes the noted observations during the visual inspection of the exterior and interior of the HPT:

Hydropneumatic Tank Exterior

- The exterior of the HPT was in good condition. There were no signs of deteriorated welds, pitting or structural damage.
- The concrete and steel supports were in good condition. Connections for a sight glass, relief valve, pressure switch, pressure gauge and yard piping were available and in good condition.
- The exterior protective paint coating was in fair condition as areas located throughout the HPT were observed to be deteriorating as the paint coating was cracking and surface rust was evident. These areas should be wire brushed and the entire HPT repainted with the proper exterior paint to a minimum of 4 mils thick.

Hydropneumatic Tank Interior

- The interior of the HPT appeared to not have been coated with a protective epoxy coating. The interior steel of the HPT appeared to be in fair/good condition with a moderate amount of iron staining and tubercles observed throughout the interior of the HPT. Minor pitting was observed along the lower halves of the HPT's Bell Head Ends. Approximately four (4) 5-gallon buckets of sand sediment was removed from the bottom of the HPT.

NONDESTRUCTIVE TESTING

The following summarizes the measured exterior paint coating, steel thickness, and interior epoxy coating of the hydropneumatic pressure tank:

Hydropneumatic Tank's Exterior Paint Coatings

- The HPT's exterior paint coating was examined for dry film thickness using the Defelsko, PosiTest® FM Coating Thickness Gauge.
- A total of 78 dry film thickness readings were taken along the exterior perimeter of HPT's shell and heads. The readings ranged from 8.0 to 22.0 mils with an average of 12.5 mils along the exterior of the HPT. All of the readings were above the recommended minimum dry film thickness of 4.0 mils, however, the HPT exterior shall be repainted due to several areas where the paint coating is cracking and surface rust was observed.

Oakland Hills Water Treatment Facility
Hydropneumatic Tank Inspection

Hydropneumatic Tank's Steel Thickness

- The exterior of the HPT was examined for steel thickness using the Phase II+ Model UTG-2600 Ultrasonic Thickness Gauge.
- A total of 147 steel thickness readings were taken along the exterior perimeter of the HPT's shell and bell head ends. The readings ranged from 0.389 to 0.446 inches with an average of 0.410 inches on the bell heads of the HPT. The readings ranged from 0.316 to 0.383 inches with an average of 0.347 inches along the perimeter of the HPT's shell.
- Based upon the requirements of ASME Section VIII and the minimum steel thickness measurements for the HPT's bell head ends and shell, the maximum allowable working pressure is calculated as follows:

Assumptions:

- Calculations based upon a HPT with Longitudinal Stress (Circumferential Joints)
- Maximum Allowable Stress Value (S) for Grade 70 Steel = 17,500 psi
- Joint Efficiency (E): Ellipsoidal Bell Head (One Piece) = 0.85
Shell (Butt-Welded Joints, Examined) = 0.85

Bell Head Ends:

P = Maximum Allowable Working Pressure (PSI)
t = Minimum Measured Steel Thickness (0.389 Inches)
D = Measured Outside Diameter (96 inches)

Internal Pressure Formula (Outside Dimensions): 2:1 Ellipsoidal Head

$$P = \frac{(2)(S)(E)(t)}{D - 1.8(t)} = \frac{(2)(17,500)(0.85)(0.389)}{96 - 1.8(0.389)} = \underline{\underline{121.4 \text{ psig}}}$$

Shell:

P = Maximum Allowable Working Pressure (PSI)
t = Minimum Measured Steel Thickness (0.316 Inches)
R = Calculated Outside Radius (48 inches)

*Internal Pressure Formula (Outside Dimensions):
Cylindrical Shell*

$$P = \frac{(S)(E)(t)}{R - 0.4(t)} = \frac{(17,500)(0.70)(0.316)}{48 - 0.4(0.316)} = \underline{\underline{80.8 \text{ psig}}}$$

The operating pressures of the hydropneumatic tank should remain below the calculated maximum allowable working pressure of 80 psig.

Hydropneumatic Pressure Tank's Interior Epoxy Coating

- No interior epoxy coating was observed within the Oakland Hills WTF's HPT.

POST-INSPECTION

The following summarizes the procedures performed upon completion of the inspection of the HPT and the steps to be implemented to place the HPT back into operation:

- Closed the drain valve and disinfected the tank in accordance with AWWA C652.
- Re-installed access manway cover, secured fasteners, opened HPT's isolation gate valves, closed HPT's bypass gate valve, refilled, and pressurized the HPT. Returned the HPT back into normal operation.
- As the water level in the HPT returned to its normal operating level and pressure, the access manway was observed for proper sealing and leakage.
- The certified operator is to take two (2) bacteriological samples at the discharge of the HPT with a minimum of 6 hours between sampling events.
- Upon receipt of satisfactory test results, submit to the Florida Department of Environmental Protection (FDEP) for review.

SUMMARY & RECOMMENDATIONS

The structural and coating integrity of the HPT that serves Oakland Hills Subdivision located in Lady Lake, Sumter County, Florida was inspected on July 16, 2015. The summary and recommendations are as follows:

- The structural integrity of the HPT was found to be in good condition. The HPT is a Non-ASME Code Pressure Vessel. The remaining steel thickness of the HPT's cylindrical shell is the limiting factor in determining the maximum allowable working pressure for the HPT. Based on the calculations of ASME Section VIII, the HPT's maximum allowable working pressure (MAWP) is 80 psig, however, the HPT's pressure relief valve shall be adjusted and tested to not exceed 70 psi since new "Non-stamped" or "Non-Code" HPTs are typically designed and constructed to meet a MAWP of 75 psi.
- The exterior paint coating was found to be in fair condition. All of the readings were above the recommended minimum dry film thickness of 4.0 mils, however, several areas of the exterior paint coating were observed to be cracking and the surrounding surface beginning to rust. These areas should be wired brushed and the entire exterior surface of the HPT repainted with a proper exterior paint to a minimum of 4 mils thick. HPT should be repainted with a "Dark Blue" exterior paint** within the next 6 months. Typical outside coating systems are detailed in AWWA D102-11, *Coating Steel Water Storage Tanks*.
- The steel saddles, concrete slab, sight glass, pressure gauge air compressor, yard piping, pressure switches, and pressure gauge were in good condition.
- No protective epoxy coating was observed on the interior of the HPT, therefore, in order to protect the structural integrity of the HPT, it is suggested that all interior surfaces of the hydropneumatic pressure tank be properly prepared and coated with a NSF approved epoxy coating within the next 24 months. Coating of the interior of the HPT shall be performed in accordance with the following procedures as detailed in AWWA D102-11:

Oakland Hills Water Treatment Facility
Hydropneumatic Tank Inspection

1. Interior surface preparation shall include sandblasting the surface in accordance with SSPC-SP10/NACE 2 Near-White Blast Cleaning to remove all debris and foreign matter.
2. The re-coating material for the interior shall be certified by NSF International in accordance with ANSI/NSF Standard 61 and shall consist of at least two (2) coats of a high solids epoxy; Tnemec Pota-Pox® Plus, N140, or equal. The first coat shall have a minimum dry film thickness (MDFT) range of 3.0 to 5.0 mils. The second coat shall have a MDFT range of 5.0 to 6.0 mils, for a total minimum dry film thickness range of 8.0 to 11.0 mils.

APPENDICES

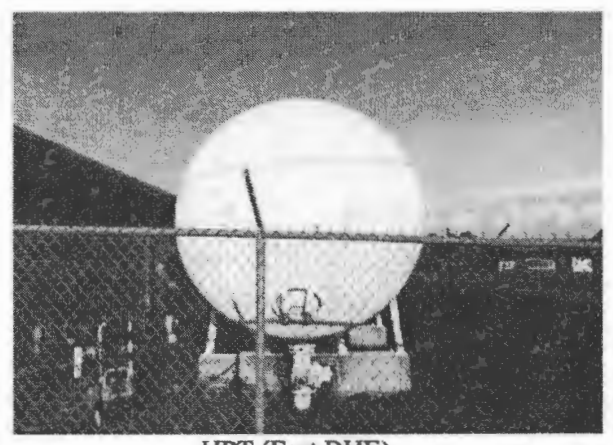
Photographs

**In accordance with the *Recommended Standards For Water Works, Section 2.14: Piping Color Code*: To facilitate identification of piping in water treatment plants, it is recommended that the following color scheme be utilized:

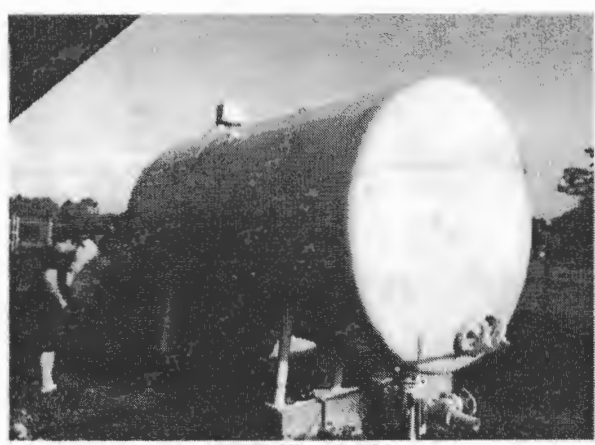
<u>Water Lines:</u>	<u>Color Code:</u>
Raw Water:	Olive Green
Finished or Potable:	Dark Blue
<u>Chemical Lines:</u>	
Chlorine (Gas or Solution)	Yellow



HPT (North Side)



HPT (East BHE)



HPT (South Side)



HPT (West BHE)



Interior of HPT



Interior of HPT