PLANTATION BAY UTILITY

POTABLE WATER WELL REPORT

Florida Department of
Environmental Protection
Northeast District
7825 Baymeadows Way, Suite B200
Jacksonville, Florida 32256

Governor
Jennifer Carroll
Lt. Governor
Herschel T. Vinyard Jr.
Secretary

March 30, 2012

SENT VIA E-MAIL: dross@icihomes.com

Mr. Douglas Ross Jr., Utility Manager
Plantation Bay WTP
2379 Beville Rd.
Daytona Beach, FL 32119

Drinking Water Sanitary Survey
Plantation Bay WTP // PWS ID: 2184251

Dear Mr. Ross:

Enclosed is a copy of the recently completed Sanitary Survey Report for the above referenced public drinking water system.

The Department is pleased to inform you that the above referenced facility was found to be in compliance with the Florida Safe Drinking Water Act, Section 403, Florida Statutes, and the rules promulgated thereunder, Florida Administrative Code (F.A.C.) Title 62.

Please contact me at (904) 256-1640 or Janice.R.Price@dep.state.fl.us if you have any questions. All correspondence must include the system name and PWS number. Thank you for your cooperation with Florida's Safe Drinking Water Act.

Sincerely,

Janice Price
Environmental Specialist II

Enclosures: (1) Sanitary Survey Report, (2) Sanitary Survey Response Form
cc: Ms. Nancy Boccuzzi, Admin. Asst (nboccuzzi@icihomes.com)
Mr. Jerry Finley, Consultant (jfinley@finleyengineers.com)
Mr. Glenn Wetherell, Operator (wtssales@aol.com)

State of Florida
Department of Environmental Protection
Northeast District

SANITARY SURVEY REPORT

Plant Name **Plantation Bay WTP** County Flagler PWS ID # **2184251**
Plant Location 100 Plantation Bay Drive, Ormond Beach, FL 32174 Phone 386-437-9185
Owner Name Plantation Bay Utility Company / Att. Mr. Douglass Ross Jr. Phone 386-437-9185
Owner Address 2379 Beville Rd, Daytona Beach, FL 32119
Designated Rep. N/A Title N/A Phone N/A
Facility Contact Mr. Glenn Wetherell Title Operator Phone 386-334-4807
This Survey Date 3/23/12 Last Survey Date 4/2/10 Last C.I. Date 2/22/01

PWS TYPE & CLASS
Community - (1C)

SERVICE AREA CHARACTERISTICS
Subdivision

Food Service: ☐ Yes ☐ No ☒ N/A

GENERAL INFORMATION
Number of Service Connections 1512
Population Served 3,000 Basis SC
Plant Design Capacity 756,000 gpd
Basis Permit 0080285-024-WC
Average Day (from MORs) 207,767 gpd
Max. Day (from MORs) 349,000 gpd
Total Storage Capacity 462,000 (459,000 useful) gallons
Comments Email from Mr. Jerry Finely 3/20/12
Update Plant Design Capacity on MORs.

LOCATION
Latitude 29° 24' 10.1067" North
Longitude 81° 10' 17.3029" West
GPS: No Date: DPHO on 1/4/05
Directions From Jacksonville: I -95 S to Old Dixie Hwy exit 278), merge onto S Old Dixie Hwy. Go approx. 1 mile and turn left at the dirt road. (There is a yellow fire hyrant on the left by the dirt road.)

OPERATION & MAINTENANCE
Certified Operator: ☒ Yes ☐ No ☐ Not required
Operator(s) & Certification Class-Number
Mr. Glenn Wetherell, C-2679

O&M Log: ☒Yes ☐No O&M Manual: ☒Yes ☐No
Operator Visitation Frequency
Hrs/day: *Required* *Actual*
Hrs/wk: *Required* *3 *Actual* 3
Days/wk: *Required* 5+2 *Actual* 5+2
Non-consecutive Days? ☐ Yes ☐ No ☒ N/A
MORs submitted regularly? ☒ Yes ☐ No ☐ N/A
Data missing from MORs? ☒ No ☐ Yes ☐ N/A
*Operator staffing reduced per May 27, 2010 letter

Updated Plant Design Capacity on MORs.

RAW WATER SOURCE
☒ GROUND; Number of Wells 4
☐ SURFACE/UDI; Source
☐ PURCHASED from PWS ID #
☐ Emergency Water Source
Emergency Water Capacity

AUXILIARY POWER SOURCE
☒ Yes ☐ None ☐ Not Required
Source Generator
Capacity of Standby (kW) 230
Switchover: ☒ Automatic ☐ Manual
Standby Plan: ☒ Yes ☐ No
Hrs Operated Under Load 1 hr/wk.
What equipment does it operate?
☐ Well pumps Wells have their own generator
☒ High Service Pumps
☒ Treatment Equipment
Satisfy 1/2 max-day demand? ☒Yes ☐No ☐Unk
Comments Wells generator capacity is 60 kW excercised 1 hr/wk

TREATMENT PROCESSES IN USE
Aeration, lime softening, filtration, pH adjustment, chloramines, corrosion control
What additional treatment is needed?
Corrective action for DBPs
For control of what deficiencies?
DBPs

DISTRIBUTION SYSTEM
Flow Measuring Device Flow Meter
Meter Size & Type 12" Water Specialties
Backflow Prevention Devices: ☒ Yes ☐ No
Cross-connections None noted
Cross-connection Control Program: ☒Yes ☐No ☐N/A
Coliform Sampling Plan: ☒ Yes ☐ No
Disinfection By-Product Plan: ☒ Yes ☐ No ☐N/A
Lead & Copper Sampling Plan: ☒Yes ☐ No ☐N/A
Comments Flow meter located on raw tap line coming into clarifier. ERP is being revised ensure that an updated copies is provided to the plant. Distribution Maps kept in guard shack & at office.

Plantation Bay WTP

PWS ID # 2184251
Survey Date 3/23/12

GROUND WATER SOURCE

Well Number (PWS Identification)		2184251-1	2184251-2	2184251-3	2184251-4
Well Name (System Identification)		Well 1	Well 2	Well 3	Well 4
Year Drilled		1985	1985	1985	2002
Depth Drilled		160'	160'	160'	180'
Latitude		29° 24' 07.1470" N	29° 23' 57.9120" N	29° 23' 48.0550" N	29° 23' 43.2013" N
Longitude		81° 11' 21.1310" W	81° 11' 18.9700" W	81° 11' 18.3690" W	81° 11'09.4049 " W
GPS (Y or N) / Date (if applicable)		Y / 2-4-97	Y / 2-4-97	Y / 2/4/97	N / DPHO 9-7-06
Florida Well ID		AAL1790	AAL1791	AAF0426	AAF0425
Static Water Level		17'	17'	18'	15'
Actual Yield (if different than rated capacity)		Unk	Unk	Unk	Unk
Strainer		Yes	Yes	Yes	Unk
Length (outside casing)		90'	99'	103'	Unk
Diameter (outside casing)		8"	8"	8"	8"
Material (outside casing)		Steel	Steel	Steel	Steel
Well Contamination History		0 since 2010 Survey	0 since 2010 Survey	0 since 2010 Survey	0 since 2010 Survey
Is inundation of well possible?		Not likely	Not likely	Not likely	Not likely
6' X 6' X 4" Concrete Pad		Ok	Ok	Ok	Ok
SET BACKS	Septic Tank	None noted	None noted	None noted	None noted
	Reuse Water	N/A	N/A	N/A	N/A
	WW Plumbing	None noted	None noted	None noted	None noted
	Other Sanitary Hazard	None noted	None noted	None noted	None noted
PUMP	Type	Vertical Turbine	Vertical Turbine	Vertical Turbine	Vertical Turbine
	Manufacturer Name	Goulds	Goulds	Goulds	Goulds
	Model Number	5-TLC-4	5-TLC-4	5-TLC-4	5-TLC-4
	Rated Capacity (gpm)	200	200	200	200
	Motor Horsepower	7.5	7.5	7.5	7.5
Well casing 12" above grade?		No-S.C.	No-S.C.	No-S.C.	Ok
Well Casing Sanitary Seal		Ok	Ok	Ok	Ok
Raw Water Sampling Tap		Ok	Ok	Ok	Ok
Above Ground Check Valve		Ok	Ok	Ok	Ok
Fence/Housing		Housed and locked	Housed and locked	Housed and locked	Housed and locked
Well Vent Protection		Ok	Ok	Ok	Ok

COMMENTS The Well casings for Well 1, Well 2, and Well 3 are less than 12 inches above grade. The Department will not require that the casing be raised unless bacteriological and chemical results are unsatisfactory. If, however, in the future any changes are required to be made to the system, the well casing must be raised to the required 12 inches above grade.**The well field is located off of US-1 South. Take a left out of the WTP onto S Old Dixie Hwy, Turn left onto SR-5(US-1S) go approximately 2-3 miles, entrance will be on your left. Well#1, #2, and #3 ARV needs to be screened, Well #2 ARV has a possible leak with algae growth. These items were fixed the day of the Inspection.

CHLORINATION (Disinfection)
Type: Gas Chlorination
Make Regal Capacity 150 ppd (each)
Chlorine Feed Rate N/A
Avg. Amount of Cl_2 gas used 25-30 ppd
Chlorine Residuals: Plant 2.2 Remote 1.86
Remote tap location Tap off Lake Bridge Rd.
DPD Test Kit: ☐ On-site ☒ With operator ☐ None ☐ Not Used Daily
Injection Points Transfer tank
Booster Pump Info N/A
Comments Total Cl2 was taken
Eyewash and shower located outside Cl2 room

Chlorine Gas Use Requirements	YES	NO	Comments
Dual System	☒	☐	
Auto-switchover	☒	☐	
Alarms:			Telemetered to Operator; Leak alarm
Loss of Cl_2 capability	☒	☐	
Loss of Cl_2 residual	☒	☐	
Cl_2 leak detection	☒	☐	
Scale	☒	☐	
Chained Cylinders	☒	☐	
Reserve Supply	☒	☐	
Adequate Air-pak	☒	☐	
Sign of Leaks	☐	☒	
Fresh Ammonia	☒	☐	
Ventilation	☒	☐	
Room Lighting	☒	☐	
Warning Signs	☒	☐	
Repair Kits	☒	☐	
Fitted Wrench	☒	☐	
Housing/Protection	☒	☐	

Light switch inside room and has a floor drain that goes to backwash. Ok-if ugrades are done, this must be corrected.

AMMONIATION
Make Stenner Capacity 10 gpd
Injection Points Downstream of Cl2 into GST
Comments 18% Ammonia Hydroxide

AERATION (Gases, Fe, & Mn Removal)
Type Tray Capacity 600 gpm
Aerator Condition Ok
Bloodworm Presence None noted
Visible Algae Growth None noted
Protective Screen Condition OK
Comments Minor rust and corrosion-please monitor.
Aerator onto of clarifier. Usually runs 300-350 gpm.

SOFTENING (Ca/Mg Hardness Removal)
Chemical Precipitation Process:
Chemicals Used Lime
Nature of Floc Ok
Sludge Blanket Appearance Settles
Is settling OK? Yes
Excessive carry-over? No
Secondary Precipitation Unk
Effluent Stability Ok
Recarbonation Type Unk
Sludge Recirculation Used Yes
Comments Minor rust and corrosion-please monitor

FILTRATION (Suspended Solids Removal)
Type Rapid Sand
Size 8' x 10' No. of Units 3
Length of Filter Runs 8-9 minutes
Type of Filter Media sand, gravel, charcoal
Is media visible? Yes Clean after BW? Yes
Filter Rate 5 gpm sq ft BW Rate 1700 gpm
Filter Capacity 750,000 gal
Cracks/Cementation/Channeling No
Effluent Stability Good Algae Growth None
Turbidity in clearwell? Unk
Head Loss Gauge Unk
Comments backwashed every other day

STABILIZATION
Effluent S.I. Unk Is pH control done? Yes
Chemical Used Sulfuric acid
Injection Point Filters
pH Range of Effluent ~8.5

CORROSION CONTROL
Make Stenner Capacity 3 gpd
Injection Points runs with transfer pumps into GST
Chemicals Used Aquamag
Comments

OTHER PUMPS

Pump Number	F1	P1	P2
Type	Centrifugal	Centrifugal	Centrifugal
Make	Aurora	Aurora	Aurora
Model	411-BF	411-BF	411-BF
Capacity (gpm)	500	300	300
Motor HP	50	25	25
Date Installed	Unk	Unk	Unk
Maintenance	Ok	Ok	Ok

Comments F=fire pump; P=pressure pump

Plantation Bay WTP

PWS ID # 2184251
Survey Date 3/23/12

HIGH SERVICE (HSP), BACKWASH (BWP), TRANSFER (TP) and OTHER (OP) PUMPS

Pump Purpose	TP	TP	TP	BW	BW	OP	OP
Pump Number	1	2	3	1	2	1	2
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Make	Aurora	Aurora	Aurora	Aurora	Aurora	Aurora	Aurora
Model	344A-BF	344A-BF	344A-BF	Unk	Unk	7RH	7RH
Capacity (gpm)	350	350	175	1600	1600	350	350
Motor HP	3	3	2	25	25	5	5
Date Installed	1985	1985	1985	1985	1985	1985	1985
Maintenance	Ok	Ok	Ok	Ok	Ok	Ok	Ok

Comments Backwash filters are for the filters, OP pumps are return pumps from backwash recovery from the clarifier

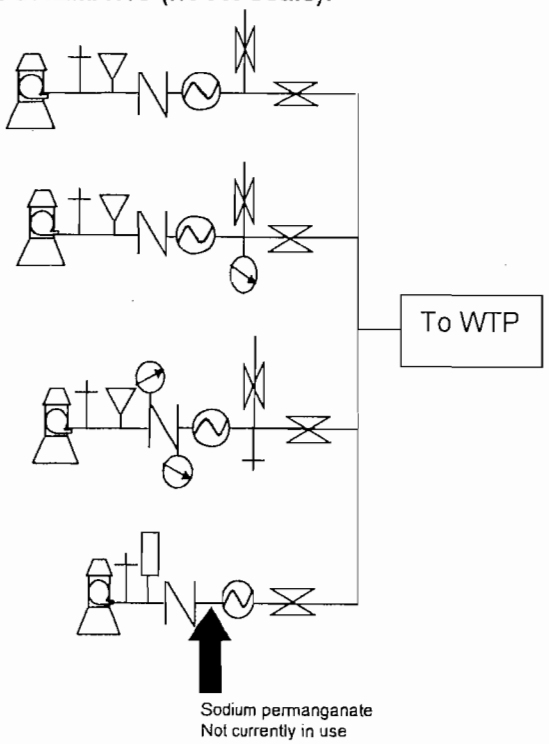
STORAGE FACILITIES

(B) Bladder (CW) Clearwell (C) Contact (E) Elevated (G) Ground (H) Hydropneumatic **(SC) See Comments**

Tank Type/Number	**S.C. (1)**	**G**	**H1**	**H2**
Capacity (gal)	6,000	450,000	15,000	6,000
Material	Steel	Concrete	Steel	Steel
Gravity Drain	No	Yes	Yes	Yes
By-pass Piping	No	Yes	Yes	Yes
Pressure Gauge	N/A	N/A	Yes	Yes
Sight Glass or Level Indicator	No	L.I.	S.G.	S.G.
Fittings for Sight Glass	No	No	Yes	Yes
Protected Openings	Yes	Yes	Yes	Yes
PRV/ARV	N/A	N/A	S.C. (2)	ARV
On/Off Pressure	N/A	N/A	Unk	Unk
Access Padlocked	Yes	Yes	Yes	Yes
Height to Bottom of Elevated Tank	N/A	N/A	N/A	N/A
Height to Max. Water Level	N/A	N/A	N/A	N/A
Last Inspection Date (for tanks with access manholes)	N/A	1/2010	Unk	12/2009

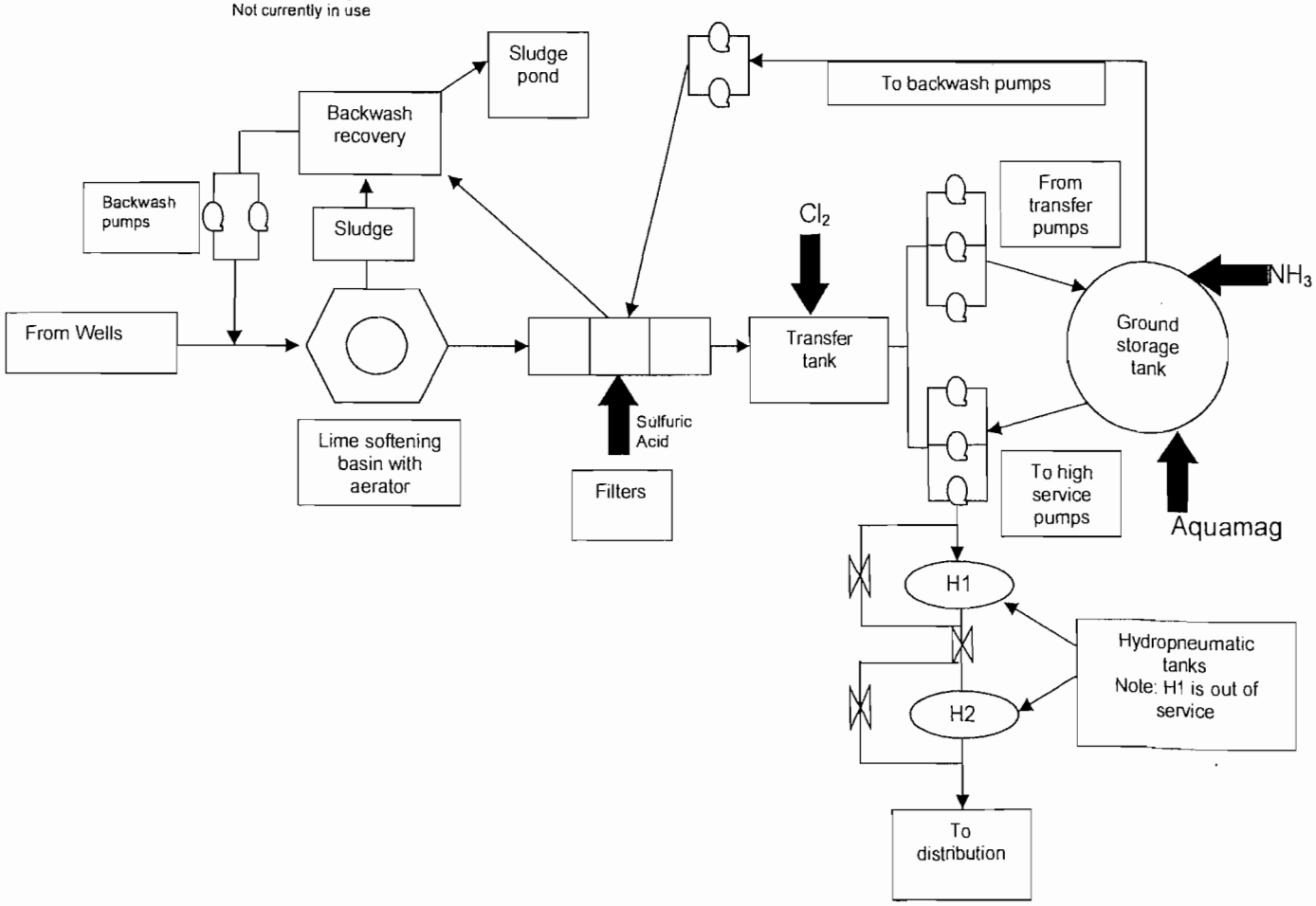
Comments (1) This is a transfer tank after the filters. (2) The check valve on top of H1 is used as a pressure relief. H1 is offline.
GST next inspection due 2015, and H2 next inspection due 2014.
Pressure=~64 psi

SCHEMATIC (not to scale):



SCHEMATIC KEY

- Well with vertical pump
- Raw sample tap
- ARV
- Check valve
- Flow meter
- PRV
- Pressure gauge
- Pump
- Valve



Monitoring Schedule					
Chemical	**Next Due**	**Comments**	**Chemical**	**Next Due**	**Comments**
Bacteriologicals	Monthly		VOCs	2012	
Disinfectant Levels	Monthly		SOCs	Full set 2012	Simazine due 4Q 2012
Nitrate & Nitrite	2012		Rads	2015	
Inorganics	2012		DBPs	Quarterly	
Asbestos	2012	or Waiver	Pb-Cu	2012	June-Sept
Secondaries	2012		WQPs	Every 2 weeks	from the POE

**Sample locations vary. If you have any questions, please contact your inspector.*

MONITORING VIOLATIONS	MCL VIOLATIONS
None since 2008	None since 2008

DEFICIENCIES:

#	Deficiency	Rule Reference	Corrective Action
	N/A		

ADDITIONAL COMMENTS:

Please ensure that the MORs are updated with the current population and service connections. Also, please update the plant design capacity to reflect the 756,000 gpd.

Also, please ensure that an updated Emergency Reponse Plan is kept at the water treatment plant for reference.

Inspector: _____ (904) 256-1640
Janice Price, Environmental Specialist II Janice.R.Price@dep.state.fl.us

Approved by: _____
Jessica Landkrohn, Environmental Specialist III

SANITARY SURVEY RESPONSE FORM

PWS ID Number: **2184251**

PWS Name: **Plantation** Bay WTP

Please forward response to:
Florida Department of Environmental Protection
Drinking Water Section
ATTN: Janice Price
7825 Baymeadows Way, Suite B200
Jacksonville, FL 32256
or EMAIL: Janice.R.Price@dep.state.fl.us

Please update contact information, if necessary:

Business Name: _____

Owner(s) Name: _____

Mailing Address: _____

_____

Phone: _____

Fax: _____

E-mail address: _____

In response to the Department's Sanitary Survey Report for the subject public water system dated 3/23/12, the following actions were done to correct the listed deficiencies (if applicable):

Item #	Corrective Action	Date Completed

(Attach additional sheets if necessary)

I certify the above information is accurate.

Name of PWS Owner/Representative: _____
(Please Type or Print)

PWS Owner/Representative: _____ Date: _____
(Signature)