

CONSUMPTIVE USE TECHNICAL STAFF REPORT

29-Oct-2018

APPLICATION #: 88271-18

Owner: JEA
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Jacksonville, FL 32202-3155

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Project Name: JEA - Total Consolidation
County: Nassau; Duval; St. Johns

Authorization Statement:

In this modification, the District authorizes the use of two backup wells (Nassau Regional 3, Station ID 481308 and 9A-9B Greenland 3, Station ID 481537). The District continues to authorize, as limited by the attached conditions, the use of 56,575.00 million gallons per year (mgy) (155.00 million gallons per day (mgd) average annual) of groundwater from the Floridan aquifer (increasing in the last 10-years of the permit up to 59,359.95 mgy (162.63 mgd average annual) contingent upon the permittee providing 43.76 mgy of reclaimed water) for public supply purposes to serve a projected population of 1,026,161 through 2031.

Recommendation: Approval

Reviewers: Paula Presley

This letter modification was requested for the following reasons:

The applicant is requesting the use of one backup well (Nassau Regional 3, Station ID 481308) at the Nassau Regional Wellfield and one backup well (9A-9B Greenland 3, Station ID 481537) at the 9A-9B Greenland Wellfield, to meet peak demands. There are no requested changes to allocations or permit duration as part of this modification.

Conditions

1. With advance notice to the permittee, District staff with proper identification shall have permission to enter, inspect, observe, collect samples, and take measurements of permitted facilities to determine compliance with the permit conditions and permitted plans and specifications. The permittee shall either accompany District staff onto the property or make provision for access onto the property.
2. Nothing in this permit should be construed to limit the authority of the St. Johns River Water Management District to declare a water shortage and issue orders pursuant to Chapter 373, F.S. In the event of a declared water shortage, the permittee must adhere to the water shortage restrictions, as specified by the District. The permittee is advised that during a water shortage, reports shall be submitted as required by District rule or order.
3. Prior to the construction, modification or abandonment of a well, the permittee must obtain a water well permit from the St. Johns River Water Management District or the appropriate local government pursuant to Chapter 40C-3, F.A.C. Construction, modification, or abandonment of a well will require modification of the consumptive use permit when such construction, modification, or abandonment is other than that specified and described on the consumptive use permit application form.
4. Leaking or inoperative well casings, valves, or controls must be repaired or replaced as required to eliminate the leak or make the system fully operational.
5. The permittee's consumptive use of water as authorized by this permit shall not interfere with legal uses of water existing at the time of permit application. If interference occurs, the District shall revoke the permit, in whole or in part, to curtail or abate the interference, unless the interference associated with the permittee's consumptive use of water is mitigated by the permittee pursuant to a District-approved plan.

6. The permittee's consumptive use of water as authorized by this permit shall not have significant adverse hydrologic impacts to off-site land uses existing at the time of permit application. If significant adverse hydrologic impacts occur, the District shall revoke the permit, in whole or in part, to curtail or abate the adverse impacts, unless the impacts associated with the permittee's consumptive use of water are mitigated by the permittee pursuant to a District-approved plan.
7. The permittee shall notify the District in writing within 30 days of any sale, transfer, or conveyance of ownership or any other loss of permitted legal control of the Project and/or related facilities from which the permitted consumptive use is made. Where permittee's control of the land subject to the permit was demonstrated through a lease, the permittee must either submit documentation showing that it continues to have legal control or transfer control of the permitted system/project to the new landowner or new lessee. All transfers of ownership are subject to the requirements of Rule 40C-1.612, F.A.C. Alternatively, the permittee may surrender the consumptive use permit to the District, thereby relinquishing the right to conduct any activities under the permit.
8. A District-issued identification tag shall be prominently displayed at each withdrawal site by permanently affixing such tag to the pump, headgate, valve, or other withdrawal facility as provided by Rule 40C-2.401, F.A.C. The permittee shall notify the District in the event that a replacement tag is needed.
9. The permittee's consumptive use of water as authorized by this permit shall not adversely impact wetlands, lakes, rivers, or springs. If adverse impacts occur, the District shall revoke the permit, in whole or in part, to curtail or abate the adverse impacts, unless the impacts associated with the permittee's consumptive use of water are mitigated by the permittee pursuant to a District-approved plan.
10. The permittee's consumptive use of water as authorized by this permit shall not reduce a flow or level below any minimum flow or level established by the District or the Department of Environmental Protection pursuant to Section 373.042 and 373.0421, F.S. If the permittee's use of water causes or contributes to such a reduction, then the District shall revoke the permit, in whole or in part, unless the permittee implements all provisions applicable to the permittee's use in a District-approved recovery or prevention strategy.
11. The permittee's consumptive use of water as authorized by the permit shall not cause or contribute to significant saline water intrusion. If significant saline water intrusion occurs, the District shall revoke the permit, in whole or in part, to curtail or abate the saline water intrusion, unless the saline water intrusion associated with the permittee's consumptive use of water is mitigated by the permittee pursuant to a District-approved plan.

12. The permittee's consumptive use of water as authorized by the permit shall not cause or contribute to flood damage. If the permittee's consumptive use causes or contributes to flood damage, the District shall revoke the permit, in whole or in part, to curtail or abate the flood damage, unless the flood damage associated with the permittee's consumptive use of water is mitigated by the permittee pursuant to a District-approved plan.
13. All consumptive uses authorized by this permit shall be implemented as conditioned by this permit, including any documents incorporated by reference in a permit condition. The District may revoke this permit, in whole or in part, or take enforcement action, pursuant to Section 373.136 or 373.243, F.S., unless a permit modification has been obtained to address the noncompliance. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.
14. This permit does not convey to the permittee any property rights or privileges other than those specified herein, nor relieve the permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.
15. A permittee may seek modification of any term of an unexpired permit. The permittee is advised that Section 373.239, F.S., and Rule 40C-2.331, F.A.C., are applicable to permit modifications.
16. This permit will expire May 10, 2031.
17. All submittals made to demonstrate compliance with this permit must include the CUP number plainly 88271-18 labeled on the submittal. Submittals should be made on-line at www.sjrwmd.com/permitting whenever possible.
18. If the permittee has complied with all the requirements of the conditions set forth in this permit, the maximum annual groundwater withdrawals from the Floridan Aquifer system must not exceed:

44,581.10 million gallons (122.14 million gallons per day average) in 2011,
45,208.90 million gallons (123.86 million gallons per day average) in 2012,
45,847.65 million gallons (125.61 million gallons per day average) in 2013,
46,475.45 million gallons (127.33 million gallons per day average) in 2014,
47,114.20 million gallons (129.08 million gallons per day average) in 2015,
47,917.20 million gallons (131.28 million gallons per day average) in 2016,
48,731.15 million gallons (133.51 million gallons per day average) in 2017,
49,541.45 million gallons (135.73 million gallons per day average) in 2018,
50,351.75 million gallons (137.95 million gallons per day average) in 2019,
51,162.05 million gallons (140.17 million gallons per day average) in 2020,
51,924.90 million gallons (142.26 million gallons per day average) in 2021
through 2031,

unless and until the permittee

- (1) has fully complied with all requirements for reports due before 2021 or the end of that year, including but not limited to those in conditions 27, 30, 41, 45 and 46. below, and
- (2) is fully complying with conditions 40, 42, and 48 below.

Once the permittee documents its full compliance with both paragraphs (1) and (2) above, the allocations will follow the schedule below for the remaining duration of this permit, the first increase occurring in the year that the permittee demonstrates such compliance, with a pro rata reduction for the portion of the year during which the permittee had not yet made the demonstration. Any such scheduled increase would remain subject to any reduction required to ensure continued compliance with paragraph (2) above and to avoid or mitigate unanticipated environmental harm or violation of any other permit condition.

51,924.90 million gallons (142.26 million gallons per day average) in 2022,
51,924.90 million gallons (142.26 million gallons per day average) in 2023,
52,389.76 million gallons (143.53 million gallons per day average) in 2024,
53,127.46 million gallons (145.55 million gallons per day average) in 2025,
53,816.32 million gallons (147.44 million gallons per day average) in 2026,
54,460.35 million gallons (149.21 million gallons per day average) in 2027,
55,106.21 million gallons (150.98 million gallons per day average) in 2028,
55,755.72 million gallons (152.76 million gallons per day average) in 2029,
56,393.52 million gallons (154.50 million gallons per day average) in 2030 and
56,575.00 million gallons (155.00 million gallons per day average) in 2031.

However, the permittee's annual allocations for 2022-2031 shall increase as set forth below if the permittee achieves more reuse than specified in condition 44, by making reclaimed water available through a point of connection to permitted Floridan Aquifer users (Users) and contracting with them to supply it to replace groundwater use by such Users, as follows. Each contract with a User must provide the following:

- (a) The permittee's making available a specified amount of reclaimed water through a point of connection with the User's water system for the duration of this permit; and
- (b) The User's commitment to accept and use that specified amount of reclaimed water for that same duration.

The permittee must submit a copy of the contract to the District within 15 days of its complete execution, so that the District can proceed expeditiously to modify the User's permit to require use of the amount of reclaimed water specified in the contract. Once the nine-month period for modifying the User's permit has expired, the permittee's allocations for the remaining duration of the permit shall increase as soon as the permittee begins providing reclaimed water through a

point of connection to the User's system. If those conditions are met, the permittee's allocations for the remaining duration of the permit shall increase by 50% of the amount of the reclaimed water that the permittee makes available and the User commits to use to replace groundwater use by the User, to the extent that such additional reuse increases the permittee's total provision of reuse beyond the amounts specified in the following schedule. However, if the District's modification of the User's permit to require use of reclaimed water is unsuccessful after a formal administrative hearing initiated by the User and entry of a final administrative order rejecting the permit modification, the increased allocation shall not become effective, or if already in effect, shall lapse.

31.55 mgd by the end of 2020,
37.36 mgd by the end of 2025, and
43.76 mgd by the end of 2030.

Increases based on such additional reuse (beyond 31.55 by the end of 2020) that take effect at the beginning of 2021 or afterwards shall remain in effect until the end of 2025. Increases taking effect at the beginning of 2026 or afterwards (based on additional reuse beyond 37.36 mgd by the end of 2025) shall remain in effect until the end of 2030. Any increase taking effect at the beginning of 2031 shall result from reuse achieved beyond the required amount of reuse (43.76 mgd) by the end of 2030. Any such increase taking effect at any time remains in effect only if the permittee continues to provide and the User continues to use the amount of reclaimed water specified in the contract, unless the User ceases operation and terminates its water use. In that case, the increased allocation shall remain in effect until 9 months after a new User receives a permit to withdraw water from the Floridan Aquifer at the same site, or for the duration of this permit, whichever is sooner. Permittee's increased allocation shall decrease in proportion to the difference between the groundwater allocation previously permitted to the prior User and the groundwater allocation permitted to the new User. If within those 9 months the permittee contracts with the new User for it to use reclaimed water to replace groundwater use, the permittee's increased allocation shall remain in effect for the duration of this permit.

The permittee must provide the District written notice within 15 days of any reduction of the amount of reclaimed water provided and used under the contract, including a statement of whether the reduction was due to a breach or a renegotiation of the contract or any other reason. The increased allocation shall remain in effect for 9 months after the reduction occurred but then shall decrease in proportion to the amount of reclaimed water no longer provided or used, unless the permittee has reinstated the pre-reduction amount of reclaimed water provided and used before that deadline. In no event, however, shall the permittee's total groundwater allocations (including any increases based on such additional reuse) exceed the following schedule:

52,720.60 million gallons (144.44 million gallons per day average) in 2022,

53,523.60 million gallons (146.64 million gallons per day average) in 2023,
 54,326.60 million gallons (148.84 million gallons per day average) in 2024,
 55,118.65 million gallons (151.01 million gallons per day average) in 2025,
 55,885.95 million gallons (153.03 million gallons per day average) in 2026,
 56,556.75 million gallons (154.95 million gallons per day average) in 2027,
 57,250.25 million gallons (156.85 million gallons per day average) in 2028,
 57,954.70 million gallons (158.78 million gallons per day average) in 2029,
 58,655.50 million gallons (160.70 million gallons per day average) in 2030, and
 59,359.95 million gallons (162.63 million gallons per day average) in 2031.

19. So long as the permittee's overall annual withdrawals in any year do not exceed 56,575.00 million gallons (155 mgd average), the maximum annual groundwater withdrawals must not exceed the allocations specified for each wellfield by year in Figure 1a, subject to the following provision for operational flexibility. In any such year, total withdrawals in any wellfield on the North Grid may exceed the individual wellfield allocation by up to 28%, and those in any wellfield on the South Grid, Lofton Oaks Grid, Ponte Vedra Grid, Ponce de Leon Grid and Mayport Grid by no more than 20%. If the total overall withdrawals exceed 56,575.00 million gallons (155 mgd average) in any year, however, the maximum annual groundwater withdrawals in any grid must not exceed the allocations specified for each wellfield in Figure 1b, and the total withdrawals in any wellfield on the North Grid must not exceed the individual wellfield allocation by more than 20%, the same as for all the other grids. Regardless of which provision for flexibility applies, the overall withdrawals authorized by this permit must not exceed the total allocation for the year, as limited by condition 18 above.
20. All existing and proposed wells must be equipped with totalizing flow meters. All flow meters must maintain 95% accuracy, be verifiable and be installed according to the manufacturer's specifications.
21. Total withdrawals from existing and proposed District Station IDs, as specified in Figure 2, must be recorded continuously, totaled monthly, and reported to the District at least every six months for the duration of this permit using District-approved electronic and digital compliance submittal templates. The reporting dates each year will be as follows:
- | Reporting Period | Report Due Date |
|------------------|-----------------|
| January - June | July 31 |
| July - December | January 31 |
22. The permittee must maintain all flowmeters. In case of failure or breakdown of any meter, the District must be notified in writing within 5 days of its discovery. A defective meter must be repaired or replaced within 30 days of its discovery.
23. The permittee must have all flow meters checked for accuracy at least once every 3 years within 30 days of the anniversary date of permit issuance, and

recalibrated if the difference between the actual flow and the meter reading is greater than 5%. District Form No. EN-51 must be submitted to the District within 10 days of the inspection/calibration.

24. Well modifications, construction and abandonments shall conform to District requirements in chapter 40C-3, F.A.C.
25. The following inactive (abandoned wells) must be plugged in accordance with rule chapter 40C-3.531 no later than December 31, 2015:

| Wellfield or WTP | JEA Well Name | District Station ID |
|----------------------------|---------------|---------------------|
| Blount Island | B105 | 6248 |
| Blanding-Ortega | 1001 | TBD |
| Blanding | 1002 | TBD |
| Whiteshell Bay | WS01 | 6317 |
| Whiteshell Bay | WS02 | 6316 |
| Cecil Field (Yellow Water) | YW1 | TBD |
| Forest Brook | FB01 | 5955 |
| Hyde Grove | HG01 | 5944 |
| Oak Hill | JH03 | 5943 |
| Green Forest | JH01 | 5941 |
| Magnolia Gardens | MG01 | 5953 |
| Venetia Terrace | VT01 | 5956 |
| Arbor Point | N101 | 6050 |
| Marshview | MV70 | 6395 |
| Alderman Park | AG71 | 5916 |
| Alderman Park | AG72 | 5917 |
| *Columbine | AG73 | 5918 |
| *Lake Lucina | AG74 | 5920 |
| Queen Akers | QA01 | 23161 |
| San Jose | SJ70 | 5936 |
| San Jose | SJ71 | 5937 |
| St. Joe | St. Joe | 22015 |
| St. Johns Forest | SJF 1S | 15111 |
| St. Johns Forest | SJF 2S | 15113 |
| *Elvia | Elvia | 5919 |
| University Park | UP | TBD |

*If a well is converted to an Upper Floridan aquifer monitor well, as part of the sub-regional monitor well network, it does not need to be plugged.

26. At least 30 days before construction of any of the proposed production and monitor wells, the permittee must submit to the District for review and approval a well construction and aquifer testing program that includes the following:
- (a) Detailed site map (including road features) of proposed production and monitor well(s) locations,
 - (b) Latitude/Longitude of proposed well(s) locations,
 - (c) Detailed well specifications and drawings,
 - (d) Geophysical Logging Program to be conducted upon completion of each well and include the following: Gamma, Caliper, Electric (sp and electrical resistivity), Fluid Resistivity, Temperature, Flow and Video,
 - (e) Downhole water quality testing program to include field-testing at 20-foot intervals upon penetration of the top of the Upper Floridan aquifer for specific conductivity, chlorides, temperature and pH (Production and Floridan monitor wells only), and
 - (f) Proposed aquifer testing program for wells in any new wellfield, to be conducted in accordance with the Aquifer Testing Guidelines outlined in the Consumptive Use Permit, Applicant's Handbook (December 27, 2010) (Production wells only), unless a District- approved aquifer testing program was already performed for a well in the same wellfield drilled to the same water-bearing zone.
27. By May 10, 2021 (10 years from the date of permit issuance), the permittee shall submit to the District a compliance report under section 373.236(4) of the Florida Statutes. The report shall contain sufficient information to maintain reasonable assurance for the remaining duration of the permit that the permittee's use of water will continue to meet the conditions for permit issuance set forth in the rules existing when the District issued the permit. The compliance report must include the following:
- (a) Updated population and groundwater demand projections, considering the actual growth in customers at that point in the permit duration, the latest projections for growth in the remaining 10 years, existing and projected reclaimed water use, and progress in water conservation,
 - (b) A copy of the reuse progress report the permittee is required to submit in 2021 pursuant to Condition 45,
 - (c) A copy of the water conservation plan progress report the permittee is required to submit in 2021 pursuant to Condition 30,
 - (d) A copy of the updated evaluation of environmental impact of the permittee's groundwater use that the permittee is required to submit in 2021 pursuant to Condition 41,
 - (e) A copy of the evaluation of the effectiveness of measures taken to mitigate saline water intrusion that the permittee is required to submit in 2021 pursuant to Condition 46,
 - (f) Any proposed revisions in groundwater allocations needed to meet the permittee's demonstrated demand in its service area for the remainder of the permit duration,

- (g) A progress report on implementation of any District-approved MFL prevention/recovery strategy, and
- (h) A progress report on implementing the schedule in Condition 48 for selecting and developing one or more alternative water supplies (AWS), including any update needed for the AWS facilities master plan.

28. The use of master meters within the permittee's service area to supply water to any newly constructed or developed multifamily or multiunit structure (excluding hospitals and hotels) is prohibited, unless the owner of the structure is required to provide submetering as a condition of service, or the permittee demonstrates that submetering is not economically, environmentally, or technologically feasible.
29. The permittee must complete and submit an annual water audit for each of the following gridded systems: North Grid and South Grid combined, Ponte Vedra Grid, Ponce de Leon Grid, Mayport Grid and Lofton Oaks Grid using the District's current water audit form set forth in the Applicant's Handbook. The audit period must include at least 12 consecutive months within the three year period preceding submission and must be submitted in a digital EXCEL format to the District by February 28, 2012.

If unaccounted-for water losses exceed 10%, the permittee must perform the following:

- a) A leak detection/leak identification program initiated within 90 days of the 10% exceedance, to determine the source of the water losses,
 - b) A detailed schedule for leak repair submitted to the District within 90 days of audit completion,
 - c) A meter survey identifying unaccounted-for use due to meter inaccuracy (with a proposal to replace/repair inaccurate meters submitted to the District within 90 days of audit completion), and
 - d) An evaluation to identify unmonitored water use and implement a program to get such uses metered within 90 days of audit completion.
- Annual audits and leak detection and repair programs shall continue annually until the permittee demonstrates that its unaccounted-for water loss no longer exceeds 10%.

30. The permittee must submit a Water Conservation Plan Progress Report on February 28 of years 2016, 2021, and 2026. The report shall include the following:

- (a) A detailed discussion of the conservation education components:
 - i. Quantification of the reach and frequency of media impressions,
 - ii. Strategy for development and distribution of video products,
 - iii. Progress report on status of Landscape demonstration projects,
 - iv. Quantification of exhibits and tradeshow conducted,

- v. Quantification of speaking engagements to schools and community organizations, and
 - vi Quantification of water conservation articles and/or reports to local new media.
- (b) An analysis of account-level water use data for single-family, multi-family, and commercial/industrial water use categories in each grid area, documenting the per unit average daily water use of each customer category in each grid area, and the progress in improving water use efficiency.
 - (c) An analysis of the feasibility of additional water conservation measures, based on the results of the billing analysis.
 - (d) Plans to implement feasible measures.

31. The permittee must have groundwater samples from all permitted JEA Floridan aquifer production and monitor wells collected and analyzed quarterly for the permit duration according to the following schedule: Quarter 1 (January - March), Quarter 2 (April - June), Quarter 3 (July - September) and Quarter 4 (October - December). The permitted JEA Floridan aquifer production and monitor wells along with the required sampling parameters are included in the quarterly monitoring program listed in Figure 3.

Sample Collection:

All groundwater samples must be collected in accordance with the Florida Department of Environmental Protection's (FDEP) standard operating procedures (SOP), DEP-SOP-001/01, DEP Quality Assurance Rule, 62-160, F.A.C.

Wells must be purged in accordance with the appropriate procedure in DEP-SOP-001/01, as necessary to evacuate water from the well column and induce groundwater representative of the hydrogeologic formation into the well prior to sampling. Purged water must be sampled and analyzed in the field for the following parameters:

Water Temperature (°C)
pH (SU)
Specific Conductance (umhos/cm or uS/cm)
Turbidity (NTU)

Purging must be documented using the Groundwater Sampling Log form referenced in the FDEP SOP or equivalent.

Water samples must be stored on ice immediately after collection, and remain on ice until received by the laboratory. It is recommended that sample duplicates be taken to allow for laboratory errors or data loss, and these samples be stored by the laboratory for a minimum of 60 days to ensure backup sample availability should re-analyses be required.

Laboratory Analyses:

Water samples must be analyzed in the laboratory for limited parameters or major ions as required in Figure 3.

Limited Parameter Chemical Analyses

Limited parameter laboratory chemical analyses shall include the following:

Chloride (mg/L)
Sulfate (mg/L)
Total Dissolved Solids (mg/L)
Specific Conductance (umhos/cm or uS/cm)

If the District determines that results for limited parameter analyses indicate that changes in groundwater geochemistry at any of the permitted production wells may be trending towards a chloride concentration or geochemical type of groundwater significantly different from background levels and indicating potential saline water intrusion, the District will notify the permittee within 90 days that major ion analyses will be required for the identified production well(s) for the permit duration.

Major Ion Chemical Analyses

Major ion laboratory chemical analyses shall include the following:

Calcium (mg/L)
Magnesium (mg/L)
Potassium (mg/L)
Sodium (mg/L)
Total iron (mg/L)
Chloride (mg/L)
Sulfate (mg/L)
Bicarbonate Alkalinity (as mg/L CaCO₃)
Carbonate Alkalinity (as mg/L CaCO₃)
Total Dissolved Solids (mg/L)
Specific Conductance (umhos/cm or uS/cm)

Quality Assurance:

The permittee must provide documentation that field instruments were properly calibrated prior to obtaining field measurements during purging and sampling.

All water quality analyses must be performed by a laboratory certified by the Florida Department of Health (FDOH) and the National Environmental Laboratory Accreditation Conference (NELAC). All laboratory analyses must be by methods for which the laboratory has FDOH certification. All laboratory analyses must be completed within EPA holding times. If data is lost or a laboratory error occurs

and the EPA holding time for an analysis has expired, the permittee must have the well re-sampled within 15 days of notification from the laboratory that a loss or laboratory error has occurred. The resample shall be collected according to the procedures described above, and analyzed for the field parameters and the appropriate laboratory chemical analyses listed above.

With the exception of pH, laboratory analyses utilizing selective ion electrodes are not acceptable due to the inadequate sensitivity of these methods. Analyses utilizing test kits typically used for field screening (e.g., Hatch and LaMotte) are also not acceptable for the same reason.

All major ion analyses must be checked for anion-cation balance (equivalent concentration in meq/L), and must not exceed 5% difference. If the ion balance exceeds 5% difference, the permittee must review the data and include in the report submitted to the District, a discussion of the cause or explanation of the imbalance. The permittee may also be required to have the sample re-analyzed if it is within acceptable holding times or have the well re-sampled. The resample shall be collected according to the procedures described above, and analyzed for the four field parameters and the major ion suite.

Reports:

A report must be submitted to the District no later than the last day of the month following the last month of the quarter (for example, the report for Quarter 1 must be submitted to the District no later than April 30). The report must include the following:

- a) Table summarizing results for field measurements and laboratory chemical analyses
- b) Well sampling log
- c) Field instrument calibration verification
- d) Chain of custody forms
- e) Laboratory analytical report (if outsourced)

All data must be submitted to the District in a District-approved electronic format.

32. The permittee must construct or modify existing wells as specified in the JEA Groundwater Monitoring Network in accordance with the timeframes and approximate locations specified in Figure 6.
33. The permittee must monitor the 10 newly constructed shallow monitoring wells at the general locations described below and shown on Figure 4 in accordance with the JEA Wetland Monitoring Wells, Installation and Ecological Monitoring Plan dated June 2012 and submitted to the District on July 27, 2012. The approved monitoring well site locations are:

Site

| No. | Location | Latitude | Longitude |
|-----|--|------------------|------------------|
| 1 | Gold Head Branch State Park | 29° 49' 38.425"N | 81° 56' 44.750"W |
| 2 | Gold Head Branch State Park | 29° 49' 25.740"N | 81° 56' 39.528"W |
| 3 | Belmore State Forest | 29° 48' 41.658"N | 81° 50' 57.579"W |
| 4 | Private – Tanner | 29° 42' 06.232"N | 81° 52' 24.174"W |
| 5 | Orway-Swisher Biological Station (state) | 29° 43' 27.272"N | 81° 58' 38.475"W |
| 6 | Orway-Swisher Biological Station (state) | 29° 40' 51.628"N | 82° 01' 13.475"W |
| 7 | Orway-Swisher Biological Station (state) | 29° 42' 07.951"N | 82° 00' 26.247"W |
| 8A | Private - Tumlin | 29° 42' 02.169"N | 82° 03' 07.795"W |
| 8B | Private - Tumlin | 29° 45' 02.147"N | 82° 03' 07.710"W |
| 9 | Etoniah Creek State Forest | 29° 44' 20.855"N | 81° 48' 03.568"W |

34. At each of the 9 wetland monitoring sites specified in Figure 4, an elevation profile along a transect at least 150 feet in length must be surveyed such that 50 feet of the adjacent upland is included. If the adjacent upland consists of placed

fill, then the transect may be limited to 120 feet in length, such that 20-feet of the adjacent upland is included. The location of the transect must be reviewed and approved by the District prior to survey.

Soil elevations must be recorded to an accuracy of +/- 0.1 foot at 5 foot intervals and wherever there is a change in plant community. Other environmental features such as current water level, cypress buttress inflection points, lower extent of lichen lines or upper extent of moss collars, watermarks, and the lower edge of the saw palmetto (*Serenoa repens*) fringe must be surveyed, if present. A diagram of the elevations, plant communities, and hydric soils located along the transect must be made.

(a) Plant communities must be described, including a listing of all vascular plant species, by plant community, present within 10 feet of one side of the transect line, their relative abundance, and the diameter at breast height (d.b.h.) of any woody plants greater than 1" d.b.h.

(b) A description of soil color, texture, and hydric soil indicators must be made in the top 24 inches of soil at 25 foot intervals along the transect described above for a total of 7 stations. If the soil survey depicts the soils as open water, then the soil description will occur out to a water depth of 3 feet, and depth to sediment surface, and depth of organic substrate will be recorded for the remaining intervals. The baseline data collection described in this section is a one-time event. All of these data, maps, diagrams, etc. must be submitted to the District as a report within 13 months of permit issuance.

35. A permanent photo station must be installed at each of the 9 wetland/lake monitoring wells specified in Figure 4 and in condition 33 above and panoramic photographs must be taken toward the cardinal directions in September, starting in 2012 and annually thereafter. Specific locations of the photo stations must be approved by District staff.
36. Wetland Monitoring Data must be submitted electronically every six months in a District-approved computer accessible format. Specifically, data collected January through June must be submitted on or before July 31st of each year and data collected July through December must be submitted on or before January 31st of each year. Data submittal will start on January 31st, 2012. Water level data (measured weekly without data loggers or daily at noon with data loggers) must be recorded by the permittee for each wetland/lake monitoring site and must be reported as elevation relative to the North American Vertical Datum (NAVD) of 1988.
37. The permittee must calibrate and maintain in working order all data loggers and probes used for measuring water levels in monitoring wells for permit duration. A defective data logger and/or probe must be reported to the District and repaired or replaced and recalibrated within 45 days of its discovery.

38. Wetland Monitoring Summary Report: By Feb 28th (starting 2013) the permittee must submit an annual report summarizing and comparing all of the wetland monitoring data recorded for the last calendar year and previous years. This report will include the panoramic photographs and graphs of the water levels at each wetland through time. The elevation of the upland/wetland interface must be indicated on the graphs.
39. If the permittee is unable to obtain or maintain legal access to any of the 9 wetland monitoring sites, the permittee must notify the District in writing within 15 days of concluding that access to any specific site is not possible. In that case, the permittee must identify alternative sites where legal access can be obtained and submit within 90 days a written request to the District requesting to modify the monitoring network. Within 6 months of District approval of the monitoring network modification, the permittee must implement the approved change(s) except that if the permittee is unable to obtain or maintain legal access to any alternate monitoring site approved by the District, it shall follow the procedures set forth in this condition for modifying the monitoring network.
40. The permittee shall participate in developing and implementing any MFL prevention/recovery strategy approved by the Governing Board for the Keystone Heights area lakes with established MFLs (i.e., Cowpen Lake and Lakes Geneva and Brooklyn), unless a prevention or recovery strategy is no longer required under section 373.0421 of the Florida Statutes. The permittee's participation in developing and implementing an MFL prevention/recovery strategy approved by the Governing Board shall be limited to offsetting or mitigating the impact of the permittee's groundwater allocation and shall not extend to offsetting or mitigating the impact of other water uses or changes and structural alterations to the watershed, surface water, and aquifers and the effects that such changes or alterations have had or will have, and the constraints that such changes or alteration have placed or will place, on the hydrology of the affected watershed. If approved by the Governing Board as part of the regional water supply plan or plan amendment, such a prevention/recovery strategy may include without limitation any of the following actions or combinations of them:
- a) Identifying and developing additional water supplies and other actions, consistent with the authority granted under chapter 373;
 - b) Promulgation of a rule or orders setting forth phasing or a time table, which will allow for the provision of sufficient water supplies for all existing and projected reasonable-beneficial uses, including development of additional water supplies and implementation of conservation and other efficiency measures concurrent with, to the extent practical, and to offset, reductions in permitted withdrawals, consistent with the provisions of chapter 373;

- c) Actions taken by the District or water users, which cause Cowpen Lake or Lakes Geneva or Brooklyn to meet their minimum levels established in rule chapter 40C-8;
- d) Elimination or reduction of permitted water uses; or
- e) A lake impact avoidance/mitigation plan approved by the District, which by surface water augmentation, groundwater recharge, alternative water supply sources or other means offsets or mitigates the impact of the permittee's groundwater allocation on Cowpen Lake or Lakes Geneva or Brooklyn.

The District shall revoke the permit in whole or in part, if the permittee fails to implement its portion of any Board-approved prevention/recovery strategy for Cowpen Lake or Lakes Geneva or Brooklyn in accordance with the schedule included in the strategy, as required by this condition.

41. The permittee's consumptive use shall not adversely impact wetlands, lakes, stream flows, and spring flows, or cause or contribute to a violation of minimum flows and levels adopted in rule chapter 40C-8, except as authorized by a District-approved minimum flow or level (MFL) recovery strategy. On February 28 of 2021, the permittee must submit an updated evaluation of the actual environmental impact of the permittee's groundwater use up to the time of the evaluation, and the projected impact of the groundwater allocations for the remaining duration of the permit, considering monitoring data and the predictions from the best available groundwater flow models existing at the time of the updated evaluation. If unanticipated significant adverse impacts are observed or projected to occur based on the updated evaluation, the District shall revoke the permit in whole or in part to curtail or abate the adverse impacts, unless the impacts are mitigated by the permittee under a District-approved plan.
42. The permittee must measure groundwater levels in all JEA monitor wells as specified in Figure 3 daily at noon using dedicated data loggers for the duration of the permit. Groundwater levels must be measured to an accuracy of 0.01-foot, corrected to compensate for changes in barometric pressure (if required) and converted to elevations relative to the North American Vertical Datum (NAVD) of 1988. Groundwater level elevations must be submitted in a District-approved digital format readable by the District's computerized database no later than the last day of the month following the month that the measurements were obtained (for example, the results for the groundwater level elevations measured in February must be submitted to the District no later than March 31).
43. The permittee shall implement the reuse of reclaimed water to the maximum extent technologically, economically, and environmentally feasible. The permittee shall maximize the use of all available reclaimed water to meet its irrigation, commercial, and industrial needs in place of higher quality water sources (e.g., groundwater sources), and for aquifer recharge and agricultural use.

44. Except to the extent the permittee demonstrates that some portion of the amount of reuse required below is not economically, environmentally, or technologically feasible, the permittee shall provide reclaimed water for reuse within the permittee's service area, in no less than the amounts specified for each of the dates in the following schedule:

31.55 mgd by 2020,
37.36 mgd by 2025, and
43.76 mgd by 2030.

45. The permittee must submit to the District the FDEP Annual Reuse Report each year by February 28 and must submit each of the following items for Governing Board review, detailed and updated, on February 28 of years 2016, 2021, and 2026:

- (a) The permittee's customer account-level data for reclaimed water reuse,
- (b) GIS coverages for system expansion and all new and existing customers,
- (c) Customer potable water offsets achieved by the permittee (in million gallons per day),
- (d) A progress report summarizing the overall total of reclaimed water flows by grid for the preceding year to verify that the permittee is complying with the reclaimed water reuse conditions of this permit,
- (e) The status of any inter-local reclaimed water agreements,
- (f) The status of capital improvements necessary to fulfill the conditions of this permit, and
- (g) An updated feasibility analysis showing that for the remaining duration of the permit the permittee will use or supply all readily available reclaimed water for reuse and aquifer recharge or enhancement, except to the extent that the analysis demonstrates that additional reuse is not economically, environmentally, or technologically feasible.

46. On February 28 of 2021, the permittee must submit an evaluation of the effectiveness of measures taken to mitigate saline water intrusion. If, at any time during the term of the permit, the District determines that significant saline water intrusion is occurring or will occur as a result of the withdrawals authorized by this permit, the District shall revoke the permit in whole or in part to prevent or abate the impact caused by the saline water intrusion, unless the permittee avoids or mitigates the impact under a District-approved plan. The plan must contain a schedule for implementation of corrective action, which may include modification of the well construction, well rehabilitation and reduction in well withdrawal rates or other measures identified by the permittee to abate the impact. The permittee must implement the District-approved plan pursuant to the schedule set forth in the plan.

47. The permittee must adhere to the procedures and provisions set forth in the JEA Universal Well Interference Avoidance and Mitigation Procedure submitted to the District on July 3, 2012.
48. By February 28, 2015, the permittee must submit an alternative water supply facilities master plan. The plan must identify the proposed facilities and nontraditional water sources that the permittee (by itself or with partners) or others will develop to provide water supply within the permittee's service area when such sources are needed to supplement groundwater and reclaimed water use as allocated and conditioned under this permit. Options may include, but are not limited to, aquifer replenishment with reclaimed or surface water, potable reuse of reclaimed water, surface water, and ocean desalination. At a minimum, the plan must include:
- a. Identification of non-traditional water sources and facilities to meet a demand of at least 20 mgd;
 - b. Feasibility evaluation for sources considered will include, but not be limited to:
 - i. Source type,
 - ii. Source quantity range available,
 - iii. Regulatory and permitting issues,
 - iv. Ability to meet user needs,
 - v. Public acceptance issues,
 - vi. Projected costs, and
 - vii. Time required to implement each option evaluated;
 - c. A relative ranking of the evaluated sources in consideration that future sources and relative rankings will change due to future technological, environmental and economic conditions; and
 - d. A proposed schedule for selecting and implementing one or more of the options evaluated.
- The study shall be developed under the responsible charge of a Florida Registered Professional Engineer, and submitted under sign/seal to the District.
49. By December 31, 2016, the permittee must submit to the District an evaluation of water quality data for each well in the Deerwood III, Oakridge and Ridenour wellfields to assess the status and potential for saline water intrusion at these wellfields due to the permittee's withdrawals. At a minimum, the evaluation must include statistical trend analyses that quantify the estimated rate of change in chloride concentration (milligrams per liter per year) and any changes in the geochemistry of the groundwater.
50. The Post-River Crossing wellfield allocations in Figure 1a shall become effective on the date when the District receives written notice from the permittee that it is commencing regular operation of the proposed river crossing in the permittee's distribution system. The permittee may transmit the written notice by email or facsimile, subject to the labeling requirement of condition 17 of the permit. For the year in which the river crossing becomes operational, the specified wellfield

allocations shall be prorated between the Pre-River Crossing and Post-River Crossing allocations, based on the date when the District receives the written notice specified above.

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| Figure 1a | Allocations by Wellfield (Mgals/Year) | |
|----------------------------|--|--|
| | Pre-River Crossing (2012-2013) | Post-River Crossing (2014-2031) |
| JEA Wellfield | | |
| NORTH GRID: | Mgals/Year | Mgals/Year |
| Cecil Commerce Center | 2,208.25 | 3,281.35 |
| Fairfax | 1,168.00 | 2,839.70 |
| Highlands | 3,175.50 | 4,978.60 |
| Lakeshore | 255.50 | 715.40 |
| Main Street | 3,650.00 | 8,402.30 |
| Marietta | 2,190.00 | 2,923.65 |
| McDuff | 1,058.50 | 2,208.25 |
| Northwest | 0.00 | 1,430.80 |
| Norwood | 2,007.50 | 2,040.35 |
| Southwest | 3,832.50 | 4,547.90 |
| Westlake | 912.50 | 1,923.55 |
| SOUTH GRID: | | |
| 9A-9B (Greenland) | 0.00 | 1,653.45 |
| Arlington | 1,825.00 | 912.50 |
| Beacon Hills | 365.00 | 412.45 |
| Brierwood | 2,792.25 | 1,102.30 |
| Community Hall | 1,387.00 | 536.55 |
| Deerwood III | 3,741.25 | 2,555.00 |
| Hendricks | 1,460.00 | 1,460.00 |
| Julington Creek Plantation | 394.20 | 423.40 |
| Lovegrove | 1,095.00 | 730.00 |
| Monument Road | 182.50 | 182.50 |
| Oakridge | 3,339.75 | 2,062.25 |
| Ridenour | 4,015.00 | 2,500.25 |
| River Town | 0.00 | 686.20 |
| Royal Lakes | 912.50 | 854.10 |
| Southeast | 1,295.75 | 1,642.50 |
| St. Johns Forest | 525.60 | 365.00 |
| St. Johns North | 474.50 | 448.95 |
| Woodmere | 551.15 | 492.75 |
| PONTE VEDRA GRID: | | |
| Corona Road | 390.55 | 408.80 |
| Ponte Vedra North | 98.55 | 87.60 |
| PONCE DE LEON GRID: | | |
| A1A South | 14.60 | 14.60 |
| A1A North | 14.60 | 14.60 |
| Ponce De Leon | 138.70 | 160.60 |

| Figure 1a | Allocations by Wellfield (Mgals/Year) | |
|------------------------------|--|--|
| | Pre-River Crossing (2012-2013) | Post-River Crossing (2014-2031) |
| JEA Wellfield | | |
| LOFTON OAKS : | | |
| Lofton Oaks | 47.45 | 29.20 |
| Nassau Regional | 605.90 | 894.25 |
| Otter Run | 43.80 | 43.80 |
| West Nassau Regional | 277.40 | 573.05 |
| MAYPORT GRID: | | |
| Mayport | 29.20 | 36.50 |
| JEA Total Withdrawal* | 46,475.45 | 56,575.00 |

Note:

The Post-River Crossing wellfield allocations in Figure 1a shall become effective on the date when the District receives written notice from the permittee that it is commencing regular operation of the proposed river crossing in the permittee's distribution system. The permittee may transmit the written notice by email or facsimile, subject to the labeling requirement of condition 17 of the permit. For the year in which the river crossing becomes operational, the specified wellfield allocations shall be prorated between the Pre-River Crossing and Post-River Crossing allocations, based on the date when the District receives the written notice specified above.

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Figure 1b Page 1 of 4
 Allocations by Wellfield by Year (2011-2021) *

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Mgals/Year |
| North Grid: | | | | | | | | | | | |
| Cecil Commerce | 2,564.29 | 2,519.56 | 2,515.35 | 2,507.91 | 2,473.58 | 2,512.20 | 2,550.75 | 2,589.99 | 2,629.84 | 2,669.71 | 2,745.42 |
| Fairfax | 1,458.52 | 2,886.26 | 2,177.88 | 1,927.37 | 2,142.23 | 2,171.80 | 2,193.76 | 2,216.39 | 2,239.63 | 2,292.94 | 2,417.78 |
| Highlands | 3,796.90 | 3,599.94 | 3,633.72 | 3,084.57 | 3,093.90 | 3,149.47 | 3,191.39 | 3,234.23 | 3,277.87 | 3,375.05 | 3,496.92 |
| Lakeshore | 313.11 | 315.44 | 200.13 | 267.05 | 339.06 | 347.70 | 356.31 | 364.99 | 373.74 | 382.47 | 419.18 |
| Main Street | 1,823.15 | 1,813.77 | 3,143.21 | 6,658.63 | 7,100.94 | 7,545.05 | 8,059.02 | 8,564.71 | 9,073.79 | 9,357.25 | 9,331.42 |
| Marietta | 1,973.75 | 2,227.78 | 2,142.56 | 2,132.50 | 2,119.11 | 2,196.59 | 2,256.56 | 2,316.96 | 2,377.75 | 2,506.14 | 2,605.44 |
| McDuff | 2,374.05 | 2,168.64 | 2,122.94 | 2,105.40 | 2,092.14 | 2,149.82 | 2,194.11 | 2,238.92 | 2,284.19 | 2,381.44 | 2,577.20 |
| Northwest | 0.00 | 0.00 | 0.00 | 1,033.35 | 1,144.32 | 1,210.43 | 1,276.14 | 1,341.85 | 1,407.60 | 1,473.08 | 1,507.53 |
| Norwood | 1,541.75 | 512.59 | 486.59 | 472.17 | 566.38 | 589.93 | 608.22 | 626.60 | 645.08 | 683.86 | 837.38 |
| Southwest | 4,712.43 | 4,928.72 | 4,948.30 | 4,903.58 | 4,604.24 | 4,762.67 | 4,916.46 | 5,074.82 | 5,230.06 | 5,259.90 | 5,282.39 |
| Westlake | 816.45 | 788.60 | 784.82 | 855.32 | 1,074.97 | 1,086.09 | 1,097.22 | 1,108.69 | 1,120.46 | 1,132.26 | 1,198.62 |
| South Grid: | | | | | | | | | | | |
| 9A-9B (Greenland) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 245.07 | 491.55 | 732.32 | 974.27 | 1,326.34 | 1,324.02 |
| Arlington | 1,572.90 | 1,585.92 | 1,581.85 | 1,392.13 | 1,386.62 | 1,287.49 | 1,189.34 | 1,088.21 | 991.30 | 896.89 | 905.20 |
| Beacon Hills | 424.15 | 465.20 | 509.71 | 389.80 | 405.59 | 404.54 | 403.55 | 402.43 | 401.29 | 400.28 | 410.72 |
| Briarwood | 2,679.81 | 1,585.92 | 1,581.85 | 1,566.15 | 1,559.95 | 1,518.76 | 1,478.08 | 1,437.26 | 1,396.68 | 1,356.87 | 1,351.04 |
| Community Hall | 1,590.57 | 1,585.92 | 1,581.85 | 1,566.15 | 1,386.62 | 1,311.66 | 1,237.46 | 1,163.50 | 1,090.09 | 1,017.65 | 979.50 |
| Deerwood III | 3,888.06 | 3,118.97 | 2,812.18 | 2,088.20 | 2,079.93 | 1,932.97 | 1,787.44 | 1,642.58 | 1,498.88 | 1,356.87 | 1,283.49 |
| Hendricks | 883.65 | 881.06 | 878.81 | 870.08 | 866.64 | 845.67 | 824.97 | 804.18 | 783.51 | 763.24 | 743.07 |
| Jullington Creek Plantation | 392.34 | 528.64 | 506.19 | 501.17 | 485.32 | 486.69 | 488.11 | 489.35 | 490.54 | 491.87 | 507.99 |
| Lovegrove | 1,325.47 | 1,321.60 | 1,342.82 | 1,183.31 | 1,143.96 | 1,180.49 | 1,216.84 | 1,252.47 | 1,287.67 | 1,322.95 | 1,317.94 |
| Monument Road | 395.87 | 528.64 | 752.26 | 696.07 | 710.64 | 755.93 | 800.91 | 845.25 | 889.11 | 932.85 | 915.33 |
| Oakridge | 3,142.26 | 3,171.83 | 3,163.70 | 2,697.25 | 2,391.92 | 2,274.00 | 2,157.31 | 2,040.91 | 1,925.38 | 1,811.42 | 1,797.56 |
| Ridenour | 2,965.53 | 3,083.73 | 2,900.06 | 1,914.18 | 1,906.60 | 1,864.62 | 1,823.19 | 1,781.52 | 1,740.06 | 1,699.48 | 1,682.72 |
| River Town | 0.00 | 0.00 | 0.00 | 0.00 | 277.32 | 309.96 | 342.36 | 374.37 | 406.06 | 437.59 | 438.41 |
| Royal Lakes | 371.13 | 1,057.28 | 1,054.57 | 1,044.10 | 1,039.97 | 1,010.67 | 981.72 | 952.70 | 923.86 | 895.53 | 885.61 |
| Southeast | 1,194.69 | 1,409.70 | 1,845.49 | 1,479.14 | 1,490.62 | 1,539.47 | 1,588.07 | 1,635.74 | 1,682.83 | 1,730.01 | 1,709.06 |
| St. Johns Forest | 176.73 | 528.64 | 527.28 | 522.05 | 519.98 | 483.24 | 446.86 | 410.65 | 374.72 | 339.22 | 337.76 |
| St. Johns North | 215.61 | 528.64 | 527.28 | 522.05 | 519.98 | 517.76 | 515.61 | 513.31 | 510.98 | 508.83 | 506.64 |
| Woodmere | 487.77 | 511.02 | 520.25 | 435.04 | 519.98 | 496.36 | 472.98 | 449.66 | 426.50 | 403.67 | 409.36 |

Figure 1b Page 2 of 4
 Allocations by Wellfield by Year (2011-2021)

| Ponte Vedra Grid: | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Mgals/Year |
| Corona Road | 382.92 | 381.14 | 379.72 | 380.94 | 385.19 | 383.25 | 387.47 | 385.61 | 383.66 | 387.83 | 386.05 |
| Ponte Vedra North | 73.33 | 71.46 | 72.88 | 71.66 | 71.06 | 73.00 | 72.43 | 74.29 | 72.59 | 72.07 | 73.85 |
| Ponce De Leon Grid: | | | | | | | | | | | |
| A1A North | 9.39 | 9.94 | 10.26 | 10.76 | 11.04 | 10.95 | 11.13 | 11.04 | 10.95 | 16.04 | 15.93 |
| A1A South | 23.46 | 24.84 | 25.65 | 32.27 | 33.13 | 32.85 | 33.40 | 33.12 | 32.85 | 32.09 | 31.85 |
| Ponce De Leon | 131.40 | 144.07 | 153.89 | 161.37 | 171.18 | 175.20 | 178.12 | 182.14 | 186.15 | 181.82 | 185.82 |
| Lofton Oaks Grid: | | | | | | | | | | | |
| Lofton Oaks | 39.53 | 40.28 | 41.16 | 42.01 | 41.14 | 42.58 | 43.62 | 45.11 | 46.42 | 47.68 | 48.25 |
| Nassau Regional | 679.88 | 628.39 | 572.17 | 516.68 | 436.08 | 459.90 | 484.20 | 509.79 | 533.78 | 557.81 | 579.02 |
| Offer Run | 55.34 | 56.39 | 57.63 | 58.81 | 57.60 | 59.62 | 61.07 | 63.16 | 64.98 | 66.75 | 67.55 |
| West Nassau Reg. | 83.01 | 169.18 | 263.44 | 357.05 | 436.08 | 459.90 | 484.20 | 509.79 | 533.78 | 557.81 | 579.02 |
| Mayport Grid: | | | | | | | | | | | |
| Mayport | 29.20 | 29.20 | 29.20 | 29.20 | 29.20 | 29.20 | 32.85 | 32.85 | 32.85 | 32.85 | 32.85 |

Figure 1b Page 3 of 4
 Allocations by Wellfield by Year (2022-2031)

| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
|-----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| North Grid: | Mgals/Year |
| Cecil Commerce | 2,820.62 | 2,895.84 | 2,971.08 | 3,046.05 | 3,143.98 | 3,241.58 | 3,338.46 | 3,436.17 | 3,533.81 | 3,609.87 |
| Fairfax | 2,541.85 | 2,665.63 | 2,789.16 | 2,912.17 | 3,046.90 | 3,181.14 | 3,314.50 | 3,448.55 | 3,582.40 | 3,659.50 |
| Highlands | 3,667.94 | 3,842.34 | 4,016.39 | 4,185.98 | 4,329.97 | 4,432.52 | 4,534.21 | 4,637.17 | 4,736.42 | 4,838.36 |
| Lakeshore | 455.67 | 492.03 | 528.28 | 564.36 | 591.50 | 618.54 | 645.41 | 672.41 | 699.36 | 714.41 |
| Main Street | 9,305.42 | 9,280.95 | 9,257.93 | 9,235.31 | 9,215.63 | 9,196.27 | 9,176.11 | 9,159.42 | 9,143.51 | 9,340.31 |
| Manietta | 2,704.10 | 2,802.63 | 2,901.06 | 2,999.10 | 3,128.15 | 3,256.74 | 3,384.47 | 3,512.93 | 3,641.21 | 3,719.58 |
| McDuff | 2,771.78 | 2,965.74 | 3,159.12 | 3,351.65 | 3,493.66 | 3,635.16 | 3,775.71 | 3,917.08 | 4,058.27 | 4,145.62 |
| Northwest | 1,541.74 | 1,576.00 | 1,610.30 | 1,644.49 | 1,678.28 | 1,711.97 | 1,745.35 | 1,779.25 | 1,813.16 | 1,852.19 |
| Norwood | 990.03 | 1,142.00 | 1,293.36 | 1,444.01 | 1,572.01 | 1,699.52 | 1,826.31 | 1,953.27 | 2,079.93 | 2,124.70 |
| Southwest | 5,304.58 | 5,327.44 | 5,350.94 | 5,374.50 | 5,447.33 | 5,520.00 | 5,591.82 | 5,665.42 | 5,739.21 | 5,862.74 |
| Westlake | 1,264.57 | 1,330.36 | 1,396.00 | 1,461.35 | 1,469.43 | 1,477.51 | 1,485.41 | 1,493.83 | 1,502.33 | 1,534.67 |
| South Grid: | | | | | | | | | | |
| 9A-9B | 1,318.27 | 1,312.74 | 1,306.97 | 1,298.41 | 1,362.31 | 1,425.76 | 1,488.24 | 1,549.98 | 1,610.89 | 1,589.64 |
| Arlington | 912.91 | 920.33 | 929.46 | 871.46 | 911.17 | 884.05 | 858.95 | 833.08 | 807.38 | 796.73 |
| Beacon Hills | 420.83 | 430.89 | 440.76 | 450.47 | 436.97 | 423.66 | 410.39 | 397.23 | 384.16 | 379.09 |
| Brierwood | 1,344.49 | 1,338.17 | 1,331.61 | 1,324.91 | 1,291.21 | 1,258.03 | 1,224.89 | 1,192.02 | 1,159.34 | 1,144.05 |
| Community Hall | 941.14 | 903.26 | 865.54 | 828.07 | 757.03 | 686.82 | 617.15 | 548.16 | 479.82 | 473.49 |
| Deerwood III | 1,210.04 | 1,137.44 | 1,065.29 | 993.68 | 950.62 | 908.13 | 865.85 | 823.96 | 782.40 | 772.08 |
| Hendricks | 722.66 | 702.54 | 682.45 | 662.45 | 593.17 | 524.66 | 456.72 | 389.44 | 322.82 | 318.57 |
| Jullington Creek Plantation | 523.68 | 539.28 | 554.61 | 569.71 | 535.50 | 501.70 | 468.13 | 434.88 | 401.92 | 396.61 |
| Lovegrove | 1,312.22 | 1,306.72 | 1,300.98 | 1,295.10 | 1,353.08 | 1,410.68 | 1,467.36 | 1,523.37 | 1,578.61 | 1,557.79 |
| Monument Road | 897.45 | 879.85 | 862.22 | 844.63 | 807.37 | 770.59 | 734.01 | 697.75 | 661.79 | 653.06 |
| Oakridge | 1,782.79 | 1,768.39 | 1,753.73 | 1,738.94 | 1,737.98 | 1,737.28 | 1,736.17 | 1,734.97 | 1,733.57 | 1,710.70 |
| Ridenour | 1,665.15 | 1,647.96 | 1,630.55 | 1,613.07 | 1,614.73 | 1,616.60 | 1,618.08 | 1,619.43 | 1,620.58 | 1,599.20 |
| River Town | 438.98 | 439.59 | 440.10 | 507.11 | 440.92 | 441.37 | 441.71 | 442.02 | 442.27 | 436.44 |
| Royal Lakes | 875.26 | 865.13 | 854.89 | 844.63 | 840.98 | 837.49 | 833.83 | 830.16 | 826.43 | 815.53 |
| Southeast | 1,687.34 | 1,666.02 | 1,644.54 | 1,623.01 | 1,641.75 | 1,660.54 | 1,678.75 | 1,696.67 | 1,714.20 | 1,691.58 |
| St. Johns Forest | 336.12 | 334.54 | 332.90 | 331.23 | 314.25 | 297.49 | 280.82 | 264.31 | 247.94 | 244.67 |
| St. Johns North | 504.18 | 501.81 | 499.35 | 496.84 | 494.31 | 491.87 | 489.34 | 486.80 | 484.24 | 477.85 |
| Woodmere | 414.78 | 420.19 | 425.45 | 430.59 | 447.51 | 464.32 | 480.86 | 497.19 | 513.29 | 506.52 |

Figure 1b Page 4 of 4
 Allocations by Wellfield by Year (2022-2031)

| Wellfield/ Grid: | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
|----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Mgals/Year |
| Ponte Vedra Road | 390.18 | 388.47 | 392.58 | 390.53 | 391.95 | 392.94 | 396.99 | 395.39 | 399.42 | 402.49 |
| Ponte Vedra North | 73.37 | 75.08 | 74.62 | 73.03 | 75.25 | 74.26 | 73.86 | 75.46 | 75.08 | 75.66 |
| Ponce De Leon Grid: | | | | | | | | | | |
| A1A North | 15.57 | 15.23 | 14.91 | 14.91 | 14.60 | 14.30 | 14.30 | 14.02 | 13.74 | 13.74 |
| A1A South | 36.34 | 35.55 | 34.79 | 34.79 | 34.07 | 33.37 | 33.37 | 32.70 | 32.06 | 32.06 |
| Ponce De Leon | 181.69 | 182.82 | 183.90 | 183.90 | 184.93 | 185.93 | 185.93 | 186.88 | 187.80 | 187.80 |
| Lofton Oaks Grid: | | | | | | | | | | |
| Lofton Oaks | 49.03 | 49.78 | 50.52 | 51.00 | 51.43 | 51.98 | 52.39 | 52.44 | 52.95 | 54.03 |
| Nassau Regional | 598.16 | 617.33 | 636.53 | 657.85 | 673.76 | 691.35 | 707.28 | 723.65 | 741.29 | 756.41 |
| Otter Run West | 68.64 | 69.70 | 70.73 | 71.40 | 72.00 | 72.77 | 73.35 | 73.41 | 74.13 | 75.64 |
| Nassau Reg. | 598.16 | 617.33 | 636.53 | 657.85 | 673.76 | 691.35 | 707.28 | 723.65 | 741.29 | 756.41 |
| Mayport Grid: | | | | | | | | | | |
| Mayport | 36.50 | 36.50 | 36.50 | 36.50 | 36.50 | 36.50 | 36.50 | 36.50 | 36.50 | 40.15 |

* JEA has elected to preserve these allocations in light of the modifications to Figure 1a.

FIGURE 2 -- DISTRICT STATION IDS AND JEA WELL NAMES -- Page 1 of 2

| Site | District Well ID | JEA WELL NAME | Site | District Well ID | JEA WELL NAME | Site | District Well ID | JEA WELL NAME |
|-------------------|------------------|-----------------------|--------------|------------------|-------------------|-----------------------------|------------------|----------------------------|
| 9A/9B (Greenland) | 223642 | 9A-9B Greenland 1 | Deerwood III | 6097 | Deerwood 3 - 5701 | Jullington Creek Plantation | 15015 | JCP 1 |
| | 230916 | 9A-9B Greenland 2 | | 6098 | Deerwood 3 - 5702 | | 15016 | JCP 2 |
| | 431537 | 9A-9B Greenland 3 | | 6099 | Deerwood 3 - 5703 | | | |
| Arlington | 6085 | Arlington - 5402 | Lakeshore | 6100 | Deerwood 3 - 5704 | Lakeshore | 6117 | Lakeshore - 501 |
| | 6086 | Arlington - 5403 | | 22539 | Deerwood 3 - 5705 | | 6116 | Lakeshore - 502 |
| | 6087 | Arlington - 5404 | | 22540 | Deerwood 3 - 5706 | | 6120 | Lakeshore - 503 |
| | 6088 | Arlington - 5405 | | 35645 | Deerwood 3 - 5707 | | 6118 | Lakeshore - 504 |
| | 34488 | Arlington - 5406 | | 38533 | Deerwood 3 - 5708 | | 6115 | Lakeshore - 505 |
| Beacon Hills | 6033 | Beacon Hills 1 | Lofton Oaks | | | Lofton Oaks | 230903 | Lakeshore - 506 |
| | 6034 | Beacon Hills 2 | | 6160 | Fairfax - 301 | | 19914 | Lofton Oaks 1 (well 3) |
| Brierwood | 22522 | Brierwood - 1 | Fairfax | 6163 | Fairfax - 302 | Lovegrove | 6052 | Lovegrove - 5201 |
| | 22523 | Brierwood - 2 | | 6159 | Fairfax - 303 | | 6054 | Lovegrove - 5203 |
| | 22524 | Brierwood - 3 | | 6157 | Fairfax - 304 | | 6055 | Lovegrove - 5204 |
| | 22525 | Brierwood - 4 | | 6161 | Fairfax - 306 | | 6207 | Mayport - 8A01 |
| | 22526 | Brierwood - 5 | | 6158 | Fairfax - 307 | | 6208 | Mayport - 8A03 |
| Cecil Commerce | 35408 | Cecil Commerce - 1 | Hendricks | 6162 | Fairfax - 308 | Main Street | 6171 | Main Street - 101 (JEA 1) |
| | 35409 | Cecil Commerce - 2 | | 6101 | Hendricks - 5001 | | 6170 | Main Street - 102 (JEA 2) |
| | 35410 | Cecil Commerce - 3 | | 6102 | Hendricks - 5002 | | 6167 | Main Street - 103 (JEA 6) |
| | 35411 | Cecil Commerce - 4 | | 6103 | Hendricks - 5003 | | 6172 | Main Street - 104 (JEA 7) |
| | 38536 | Cecil Commerce - 5 | | 6074 | Hendricks - 5107 | | 6169 | Main Street - 105 (JEA 8) |
| Cobblestone | 6035 | Cobblestone 1 | Highlands | 6076 | Hendricks - 5108 | Main Street | 6165 | Main Street - 107 (JEA 12) |
| | 6036 | Cobblestone 2 | | 6075 | Hendricks - 5110 | | 6166 | Main Street - 108 (JEA 10) |
| Community Hall | 6069 | Community Hall - M104 | Highlands | 6105 | Hendricks - 5501 | Main Street | 6164 | Main Street - 119 (JEA 3) |
| | 6090 | Community Hall - M105 | | 6104 | Hendricks - 5502 | | 230905 | Main Street 109 (JEA 14) |
| | 6091 | Community Hall - M501 | | 6125 | Highlands - 601 | | 230906 | Main Street 110 (JEA 13) |
| | 6092 | Community Hall - M502 | | 6124 | Highlands - 602 | | 230907 | Main Street 111 (JEA 15) |
| | 6093 | Community Hall - M503 | | 6128 | Highlands - 603 | | 230908 | Main Street 112 (JEA 16) |
| Community Hall | 6094 | Community Hall - M504 | Highlands | 6127 | Highlands - 604 | Main Street | 6179 | Main Street 120 (JEA 4) |
| | 34327 | Community Hall - M505 | | 6126 | Highlands - 605 | | 449005 | Main Street 6A (JEA 6A) |
| | | | | 230901 | Highlands - 606 | | 6148 | Marietta - 701 |
| | | | | 230902 | Highlands - 607 | | 6149 | Marietta - 702 |
| | | | | | | | 6147 | Marietta - 703 |
| | | | | | | 6145 | Marietta - 704 | |

10/9/20 Revisions to 2nd POD of JEA

FIGURE 2 -- DISTRICT STATION IDS AND JEA WELL NAMES -- Page 2 of 2

| Site | District Well ID | JEAWELL NAME | Site | District Well ID | JEAWELL NAME | Site | District Well ID | JEAWELL NAME | Site | District Well ID | JEAWELL NAME |
|-------------|------------------|------------------------|------------------|------------------|-------------------------|------------------|------------------|------------------------|--------------------------|------------------|-----------------------|
| Monument | 23162 | Monument 1 | Ponce de Leon | 14699 | Ponce 1-A | St Johns North | 22058 | St Johns North 3 | St Johns North | 22058 | St Johns North 3 |
| | 5894 | Monument 2 | | 476496 | Ponce 1-C | | 22059 | St Johns North 4 | | | |
| McDuff | 6175 | McDuff - 201 | Ridenour | 105544 | Ponce A1A S Replacement | West Nassau | 223643 | West Nassau 1 | West Nassau | 223643 | West Nassau 1 |
| | 6178 | McDuff - 203 | | 243339 | Ponce A1A N Replacement | | 232249 | West Nassau 2 | | | |
| | 6176 | McDuff - 204 | | 22567 | Ridenour - 5901 | | 34989 | Westlake - 2 | | | |
| | 6114 | McDuff - 205 | | 22568 | Ridenour - 5902 | | 36136 | Westlake - 3 | | | |
| Nassau | 6177 | McDuff - 206 | River Town | 22569 | Ridenour - 5903 | Woodmere | 38525 | Westlake - 4 | Woodmere | 38525 | Westlake - 4 |
| | 19915 | Nassau Regional 1 (#1) | | 34484 | Ridenour - 5904 | | 230915 | Westlake - 5 | | | |
| | 35838 | Nassau Regional 2 (#5) | | 34485 | Ridenour - 5905 | | 6031 | Woodmere 1 | | | |
| | 481308 | Nassau Regional 3 | | 34486 | Ridenour - 5906 | | 6032 | Woodmere 2 | | | |
| Northwest | 223644 | Northwest 1 | Royal Lakes | 34487 | Ridenour - 5907 | Royal Lakes A | 459603 | Woodmere 3 | Whole Sale Interconnects | 459603 | Woodmere 3 |
| | 230910 | Northwest 2 | | 204343 | River Town 1 | | 407870 | Palm Valley to SJCUD | | | |
| | 230911 | Northwest 3 | | 230917 | River Town 2 | | 407871 | Marsh Harbor to SJCUD | | | |
| | 230912 | Northwest 4 | | 5946 | Royal Lakes A | | 707872 | JEAWELL NAME | | | |
| Norwood | 6134 | Norwood - 401 | St. Johns Forest | 5947 | Royal Lakes B | St. Johns Forest | 6031 | Woodmere 1 | Woodmere | 6031 | Woodmere 1 |
| | 6133 | Norwood - 402 | | 15112 | SJF 1D | | 6032 | Woodmere 2 | | | |
| | 6113 | Norwood - 403 | | 15111 | SJF 1S | | 459603 | Woodmere 3 | | | |
| | 6135 | Norwood - 404 | | 15114 | SJF 2D | | 407870 | Palm Valley to SJCUD | | | |
| Oakridge | 6060 | Oakridge - 5301 | Southeast | 15113 | SJF 2S | Southeast | 15113 | SJF 2S | Southeast | 15113 | SJF 2S |
| | 6061 | Oakridge - 5302 | | 6081 | Southeast - 5801 | | 6081 | Southeast - 5801 | | | |
| | 6063 | Oakridge - 5304 | | 6082 | Southeast - 5802 | | 6082 | Southeast - 5802 | | | |
| | 6064 | Oakridge - 5305 | | 39253 | Southeast - 5803 | | 39253 | Southeast - 5803 | | | |
| Otter Run | 35998 | Oakridge - 5306 | Southwest | 230918 | Southeast - 5804 | Southwest | 230918 | Southeast - 5804 | Southwest | 230918 | Southeast - 5804 |
| | 38532 | Oakridge - 5307 | | 6141 | Southwest 1 | | 6141 | Southwest 1 | | | |
| | 38538 | Oakridge - 5308 | | 6142 | Southwest 2 | | 6142 | Southwest 2 | | | |
| | 19912 | Otter Run 1 (well 1) | | 6139 | Southwest 3 | | 6139 | Southwest 3 | | | |
| Ponte Vedra | 19913 | Otter Run 2 (well 2) | Ponte Vedra | 24929 | Southwest 4 | Ponte Vedra | 24929 | Southwest 4 | Ponte Vedra | 24929 | Southwest 4 |
| | 14726 | Ponte Vedra - 1 Corona | | 5942 | Southwest 6 | | 5942 | Southwest 6 | | | |
| | 14727 | Ponte Vedra - 2 Corona | | 230913 | Southwest 7 | | 230913 | Southwest 7 | | | |
| | 232257 | Ponte Vedra - 3 Corona | | 230914 | Southwest 8 | | 230914 | Southwest 8 | | | |
| Ponte Vedra | 14728 | Ponte Vedra - 3 North | Ponte Vedra | 14728 | Ponte Vedra - 3 North | Ponte Vedra | 14728 | Ponte Vedra - 3 North | Ponte Vedra | 14728 | Ponte Vedra - 3 North |
| | 232258 | Ponte Vedra - 4 Corona | | 232258 | Ponte Vedra - 4 Corona | | 232258 | Ponte Vedra - 4 Corona | | | |
| | 232259 | Ponte Vedra - 5 Corona | | 232259 | Ponte Vedra - 5 Corona | | 232259 | Ponte Vedra - 5 Corona | | | |

FIGURE 3
JEA Groundwater Monitoring Network FCRU 001633
Quarterly Water Quality and Monthly Water Level Monitoring Schedule and POD of JEA

| SITE LOCATION | LIMITED PARAMETERS ¹ | MAJOR ION SUITE ² | WATER LEVELS ³ |
|---|--|--|--|
| | JEA Well Name (District Station ID) | JEA Well Name (District Station ID) | JEA Well Name (District Station ID) |
| 9A -9B Greenland Wellfield (Site 7, Fig 6) | 9A -9B Greenland 1 (223642) | 9A -9B Greenland 2 (230916) 9A-9B Greenland 3 (481537) | |
| | | [N] 9A-9B LFA MW (407883) | [N] 9A-9B LFA MW (407883) |
| Arlington Wellfield | Arlington – 5402 (6085) Arlington – 5403 (6086) Arlington – 5405 (6088) Arlington – 5406 (34488) | Arlington – 5404 (6087) | |
| | | [E] MWA1 - LFA MW (38419) | [E] MWA1 - LFA MW (38419) |
| Beacon Hills Wellfield | Beacon Hills – 1 (6033) Beacon Hills – 2 (6034) | | |
| Brierwood | Brierwood – 1 (22522) Brierwood – 2 (22523) Brierwood – 3 (22524) Brierwood – 5 (22526) | Brierwood – 4 (22525) | |
| | | [E] MWB1 - LFA MW (243331) | [E] MWB1 - LFA MW (24431) |
| Cecil Commerce | Cecil Com – 2 (35409) Cecil Com – 3 (35410) Cecil Com – 4 (35411) Cecil Com – 5 (38536) | Cecil Com – 1 (35408) | |
| Cobblestone | Cobblestone – 1 (6035) | Cobblestone – 2 (6036) | |
| Community Hall | Com Hall – M104 (6069) Com Hall – M105 (6090) Com Hall – M501 (6091) Com Hall – M503 (6093) Com Hall – M504 (6094) | Com Hall – M502 (6092) | Community Hall – M505 (34327) |
| | | [E] MWC-3 LFA MW (38603) | [E] MWC-1 IAS (38604) [E] MWC-2 SAS (38605) [E] MWC-3 LFA MW (38603) |
| Confederate Point (Site 5, Fig 6) | | [N] Confederate Point UFA MW (409700) | [N] Confederate Point UFA MW (TBD) |
| Deerwood 3 | | Deerwood 3 – 5701 (6097) Deerwood 3 – 5702 (6098) Deerwood 3 – 5703 (6099) Deerwood 3 – 5704 (6100) Deerwood 3 – 5705 (22539) Deerwood 3 – 5706 (22540) Deerwood 3 – 5707 (35645) Deerwood 3 – 5708 (38533) | |
| | | [E] Deerwood LFA MW (38600) | [E] Deerwood LFA MW (38600) |
| Fairfax | Fairfax – 301 (6160) Fairfax – 302 (6163) Fairfax – 304 (6157) Fairfax – 305 (6156) Fairfax – 307 (6158) Fairfax – 308 (6162) | Fairfax – 303 (6159) | Fairfax – 306 (6161) |
| Hendricks | Hendricks – 5001 (6101) Hendricks – 5002 (6102) Hendricks – 5003 (6103) Hendricks – 5107 (6074) Hendricks – 5108 (6076) Hendricks – 5110 (6075) Hendricks – 5501 (6105) Hendricks – 5502 (6104) | | |
| Highlands | Highlands – 601 (6125) Highlands – 602 (6124) Highlands – 603 (6128) Highlands – 604 (6127) Highlands – 606 (230901) Highlands – 607 (230902) | Highlands – 605 (6126) | |

FIGURE 3
JEA Groundwater Monitoring Network FCRU 001634
Quarterly Water Quality and Monthly Water Level Monitoring Schedule Approved POD of JEA

| SITE LOCATION | LIMITED PARAMETERS ¹ | MAJOR ION SUITE ² | WATER LEVELS ³ |
|--|--|--|---|
| | JEA Well Name (District Station ID) | JEA Well Name (District Station ID) | JEA Well Name (District Station ID) |
| | | [E] MWH1 - LFA MW (38607) [E] MWH2 - UFA MW (38608) | [E] MWH1 - LFA MW (38607) [E] MWH2 - UFA MW (38608) |
| Julington Creek Plantation | JCP – 1 (15015) JCP – 2 (15016) | | |
| Lake Lucina-Columbine or Elvia Dr. (Site 6, Fig 6) | | [R] Lake Lucina-Columbine or Elvia Dr. UFA MW (409701) | [R] Lake Lucina-Columbine or Elvia Dr. UFA MW (409701) |
| Lakeshore | Lakeshore – 501 (6117) Lakeshore – 503 (6120) Lakeshore – 504 (6118) Lakeshore – 505 (6115) Lakeshore – 506 (230903) | Lakeshore – 502 (6116) | |
| Lincoln Estates (Site 3, Fig 6) | | [N] Lincoln Estates UFA MW (409702) | [N] Lincoln Estates UFA MW (409702) |
| JEA Cell Tower Site (Site 2, Fig 6) | | [N] Loblolly UFA MW (409703) [N] Loblolly LFA MW (409704) | [N] Loblolly Surficial MW (409705) [N] Loblolly Intermediate MW (409706) [N] Loblolly UFA MW (409703) [N] Loblolly LFA MW (409704) |
| Lofton Oaks | 1 Well 3 (19914) | | |
| Lovegrove | Lovegrove – 5201 (6052) Lovegrove – 5203 (6054) Lovegrove – 5204 (6055) | | |
| Main Street | Main St. – 101 (6171) Main St. – 102 (6170) Main St. – 104 (6172) Main St. – 105 (6169) Main St. – 107 (6165) Main St. – 108 (6166) Main St. – 109 (230905) Main St. – 110 (230906) Main St. – 111 (230907) Main St. – 112 (230908) Main St. – 119 (6164) Main St. – 120 (6179) | Main St. – 6A (449005) | |
| Main St, Fairfax, McDuff (Site 1, Fig 6) | | [N] Main St. Fairfax, McDuff – UFA MW (409707) [N] Main St. Fairfax, McDuff – LFA MW (409708) | [N] Main St. Fairfax, McDuff – UFA MW (409707) [N] Main St. Fairfax, McDuff – LFA MW (409708) |
| Marietta | Marietta – 701 (6148) Marietta – 703 (6147) Marietta – 704 (6145) | Marietta – 702 (6149) | |
| Mayport | Mayport – 8A01 (6207) Mayport – 8A03 (6208) | | |
| McDuff | McDuff – 201 (6175) McDuff – 202 (6174) McDuff – 203 (6178) McDuff – 204 (6176) McDuff – 205 (6114) | McDuff – 206 (6177) | |
| Monument | Monument – 2 (5894) | Monument – 1 (23162) | |
| Nassau Regional | Nassau Reg 2 – Well 5 (35838) Nassau Reg 3 (481308) | Nassau Reg 1 – Well 4 (19915) | |
| Northwest | Northwest – 2 (230910) Northwest – 3 (230911) Northwest – 4 (230912) | Northwest – 1 (223644) | |
| Norwood | Norwood – 401 (6134) Norwood – 403 (6113) Norwood – 404 (6135) | Norwood – 402 (6133) | |
| Oakridge | Oakridge – 5301 (6060) Oakridge – 5302 (6061) Oakridge – 5305 (6064) | Oakridge – 5304 (6063) | |

FIGURE 3
JEA Groundwater Monitoring Network FCRU 001635
Quarterly Water Quality and Monthly Water Level Monitoring Schedule Approved POD of JEA

| SITE LOCATION | LIMITED PARAMETERS ¹ | MAJOR ION SUITE ² | WATER LEVELS ³ |
|----------------------------------|---|--|--|
| | JEA Well Name (District Station ID) | JEA Well Name (District Station ID) | JEA Well Name (District Station ID) |
| | Oakridge – 5306 (35998) Oakridge – 5307 (38532) Oakridge – 5308 (38536) | [E] MWO1 LFA MW (38601) | [E] MWO1 –LFA MW (38601) |
| Otter Run | Otter Run – 1 (19912) Otter Run – 2 (19913) | | |
| Ponce de Leon | Ponce – 1A (14699) Ponce – 1C (476496) Ponce A1A S Replacement (105544) Ponce A1A N Replacement (243339) | | |
| Ponte Vedra | Ponte Vedra – 1 Corona (14726) Ponte Vedra – 2 Corona (14727) Ponte Vedra – 3 Corona (232257) Ponte Vedra – 3 North (14728) Ponte Vedra – 4 Corona (232258) Ponte Vedra – 5Corona (232259) | | |
| Ridenour | Ridenour – 5901 (22567) Ridenour – 5903 (22569) Ridenour – 5904 (34484) Ridenour – 5905 (34485) Ridenour – 5906 (34486) Ridenour – 5907 (34487) | Ridenour – 5902 (22568) | |
| | | [E] MWR2 LFA MW (38420) [E] MWR1 UFA MW (38421) | [E] MWR2 LFA MW (38420) [E] MWR1 UFA MW (38421) |
| River Town | River Town – 2 (230917) | River Town – 1 (204343) | |
| Rolling Hills (Site 4, Fig 6) | | [R] Rolling Hills LFA MW (409709) [N] Rolling Hills UFA MW (409710) | [R] Rolling Hills LFA MW (409709) [N] Rolling Hills UFA MW (409710) |
| Royal Lakes | Royal Lakes – A (5946) Royal Lakes – B (5947) | | |
| St. Johns Forest | SJF – 1D (15112) SJF – 2D (15114) | | |
| SJRPP (Site 8, Fig 6) | | [N] SJRPP UFA MW (181221) [E] SJRPP LFA MW (181220) | [N] SJRPP UFA MW (181221) [E] SJRPP LFA MW (181220) |
| Southeast | Southeast – 5801 (6081) Southeast – 5802 (6082) Southeast – 5803 (39253) Southeast – 5804 (230918) | | |
| | | [E] MWS1 – LFA MW (38606) | [E] MWS1 – LFA MW (38606) |
| Southwest | Southwest – 1 (6141) Southwest – 3 (6139) Southwest – 4 (24929) Southwest – 6 (5942) Southwest – 7 (230913) Southwest – 8 (230914) | Southwest – 2 (6142) | |
| St. Johns North | St. Johns North – 2 (14493) St. Johns North – 3 (22058) St. Johns North – 4 (22059) | | |
| West Nassau (Site 9, Fig 6) | West Nassau – 2 (232249) | West Nassau – 1 (223643) [N] West Nassau LFA MW (407885) | [N] West Nassau LFA MW (407885) |
| Westlake | Westlake – 3 (36136) Westlake – 4 (38525) Westlake – 5 (230915) | Westlake – 2 (34989) | |
| | | [E] Westlake – UFA MW (34988) | [E] Westlake – UFA MW (34988) |

WETLAND AND MFL MONITORING SITES

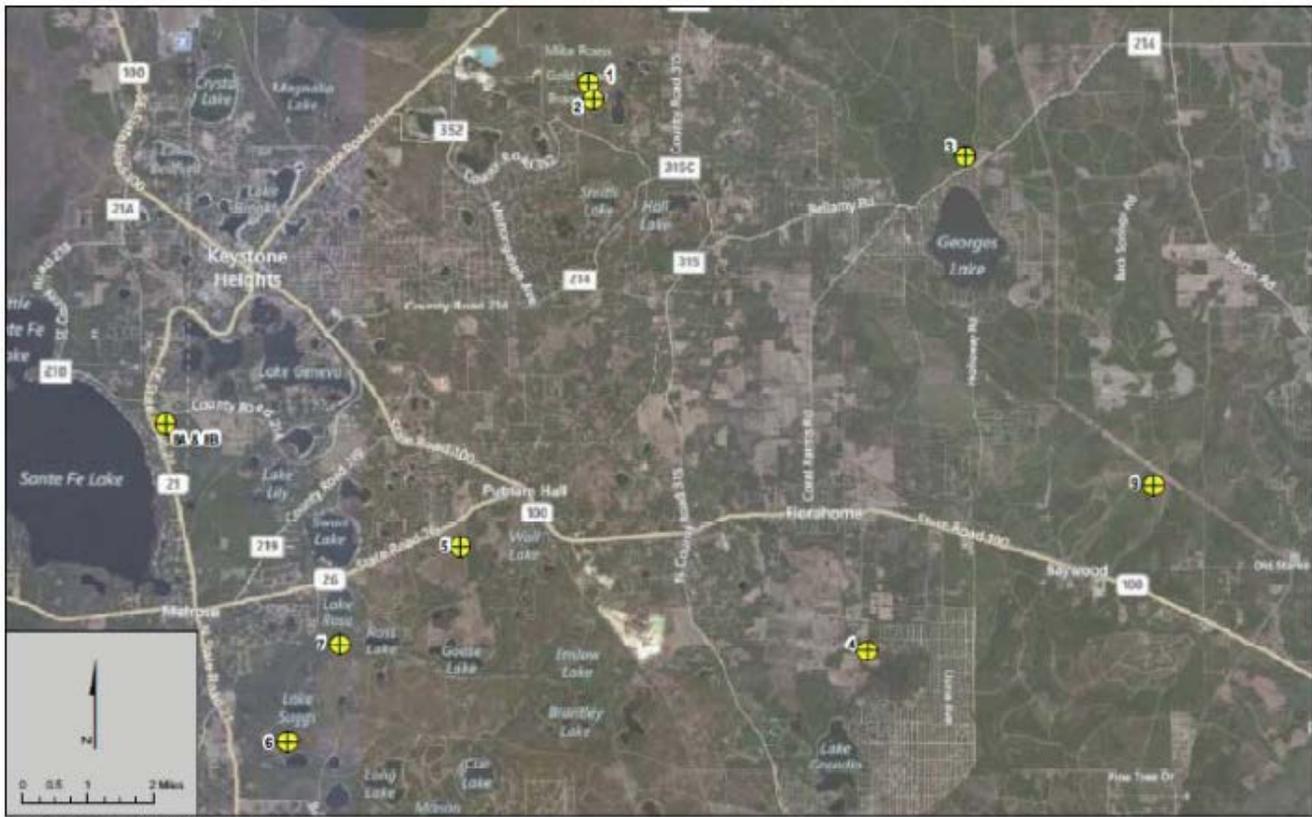


TABLE 1-1

JEA Monitoring Well Locations

| Site No. | Location | Latitude | Longitude |
|----------|---|-------------------|-------------------|
| 1 | Gold Head Branch State Park | 29° 49' 38.425" N | 81° 56' 44.750" W |
| 2 | Gold Head Branch State Park | 29° 49' 25.740" N | 81° 56' 39.528" W |
| 3 | Belmore State Forest | 29° 48' 41.658" N | 81° 50' 57.579" W |
| 4 | Private - Tanner | 29° 42' 06.232" N | 81° 52' 24.174" W |
| 5 | Ordway-Swisher Biological Station (state) | 29° 43' 27.272" N | 81° 58' 38.475" W |
| 6 | Ordway-Swisher Biological Station (state) | 29° 40' 51.628" N | 82° 01' 13.475" W |
| 7 | Ordway-Swisher Biological Station (state) | 29° 42' 07.951" N | 82° 00' 26.247" W |
| 8A | Private - Tumlin | 29° 45' 02.169" N | 82° 03' 07.795" W |
| 8B | Private - Tumlin | 29° 45' 02.147" N | 82° 03' 07.710" W |
| 9 | Etonia Creek State Forest | 29° 44' 20.855" N | 81° 48' 03.568" W |

Figure 5**JEA Groundwater Monitoring Network
Monitoring Well Construction Plan**

Note: Each site number is identified on FIGURE 6. JEA to do continuous water level measurements, reported monthly and quarterly water quality sampling at all sites (in accordance with Figure 3), with data electronically downloaded to the District's Hydrologic Data Services Division. The sites are listed in order of priority for well construction or continued use.

1. Construct new monitoring wells (Upper Floridan and Lower Floridan aquifer) between the Main St., Fairfax, and McDuff JEA CUP wells by June 2012.
2. Construct new monitoring wells (surficial, intermediate, Upper Floridan, and Lower Floridan aquifer) at JEA's Cell Tower Site on Yellow Water Rd. before January 2013 (approximate location 301300 latitude, 820000 longitude).
3. Construct new Upper Floridan monitoring well next to existing D-0592 (Lower Floridan well) at Lincoln Estates before January 2014.
4. Reconstruct D-0221 (currently Upper / Lower Floridan well) at Rolling Hills to Upper Floridan well. Construct new Lower Floridan monitoring well next to reconstructed D-0221 before January 2014.
5. Construct new Upper Floridan monitoring well next to existing D-0075 (Lower Floridan well) at Confederate Point before January 2014.
6. Reconstruct one well (Lake Lucina– Columbine- Elvia Drive) to Upper Floridan monitoring well (near Arlington LFA monitoring well) before January 2014.
7. Construct new Lower Floridan monitoring well at 9A 9B JEA CUP wells before January 2015.
8. Use existing Upper Floridan monitoring well at SJRPP before January 2015.
9. Construct new Lower Floridan aquifer well at West Nassau Regional wellfield before January 2015.

Figure 6
JEA Groundwater Monitoring Network

