

# Nassau County Water Supply Facilities Work Plan

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## **Public Facilities Element**

*(2019-2030)*

Prepared by:

Northeast Florida Regional Council

2019

## EXHIBIT A

### Section 1: Introduction

The purpose of the Nassau County (the County) Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources and facilities needed to serve existing and new development within the County's jurisdiction. The Work Plan planning period of 2019-2030 was determined after a review of the following factors: (a) existing consumptive use permits will expire between 2021-2031; and (b) the comprehensive plan goes until 2030. At a minimum, it will be necessary to update this document prior to the end of the planning period. In addition, in accordance with Section 163.3177(6)(c), and Section 163.3177(4)(a), F.S., the County must ensure coordination of its comprehensive plan with the plans of SJRWMD. Therefore, if SJRWMD updates its NFRWSP and affects the County, it will be necessary to update the Work Plan during the planning period. Potable Water Sub-Element (WAT) Policy WAT.02.02 and related policies contains enabling language to ensure coordination with SJRWMD's plans.

### Section 2: Potable Water Supplier(s) and Service Agreement(s)

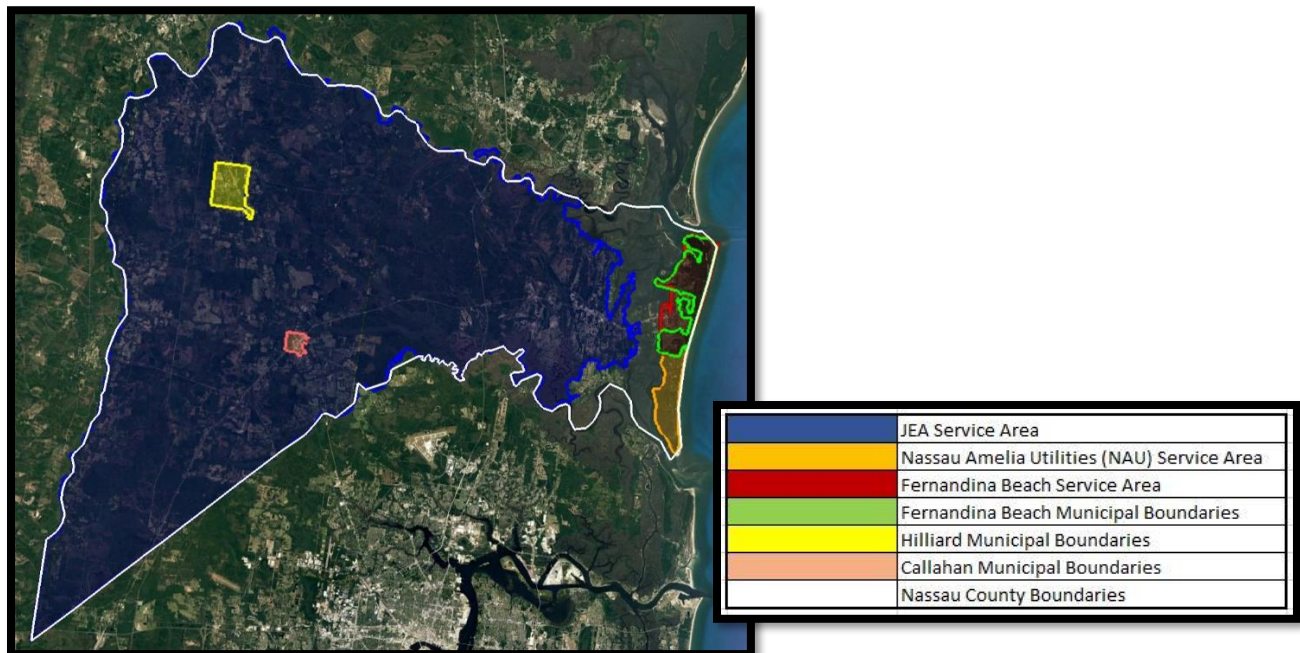
#### **2.1 Potable and Nonpotable Water Supplier(s) Information**

The following entities provide potable water service to unincorporated areas:

- JEA
- City of Fernandina Beach
- Nassau-Amelia Utilities

The figure below contains a map showing the service areas of these water suppliers.

*Figure 1: Nassau County Water Supplier Service Areas*



## EXHIBIT A

The County owns and operates Nassau Amelia Utilities, whose water service area is limited to the south end of Amelia Island. The County is financially responsible for capital improvements related to Nassau-Amelia Utilities services, while JEA and Fernandina Beach are the entities financially responsible for capital improvements within their respective service areas. Figure 1 contains a map of the potable water service area for Nassau Amelia Utilities.

### 2.2 Domestic Self-Supply (DSS)

In addition, a significant portion of the unincorporated area utilize domestic self-supply to meet water needs. Below are domestic self-supply projections from the NFRWSP (2015-2035) for Nassau County. The identified DSS population and corresponding water demand is expected to increase during the planning period.

*Table 1: Domestic Self-Supply vs. Public Supply Population Projections*

	2015	2020	2025	2030
Countywide population	76,800	84,480	91,900	99,100
Domestic Self-supply Population	31,685	35,616	39,493	43,203
Public supply populations	45,115	48,784	52,407	55,897

There are currently no countywide plans to remove private wells and connect those areas to a centralized water system. There are also no countywide plans to connect septic tank properties to a centralized sewer system. Policies SEW.03.05, SEW.03.07 and SEW.04.03 overview countywide plans for appropriately monitoring the safe use of septic tanks.

### 2.3 Water Supply Agreements

#### **JEA**

Pursuant an interlocal agreement signed in 2001, Nassau County granted JEA the right to: (1) provide water and wastewater service to those customers in an acquired franchise area within Nassau County and (2) provide water and wastewater service to additional areas in the county not currently served by either Nassau County or other water and wastewater utilities.

#### **Fernandina Beach**

The City of Fernandina Beach also provides potable water and sanitary sewer services to a portion of the unincorporated area located on Amelia Island. However, the County does not currently have a written agreement with the City of Fernandina Beach regarding these services. The County plans on exploring options for establishing an agreement with the City of Fernandina Beach regarding its provision of utility services.

Policies RC.02.02 and RC.02.04 provide enabling language relative to interlocal agreements and the provision of potable water, sanitary sewer, and other services to unincorporated areas. In addition, these policies also provide enabling language relative to establishing an agreement with

## EXHIBIT A

Fernandina Beach.

In addition, because JEA and the City of Fernandina Beach provide water service to some of the unincorporated area, it is important for the County to monitor and participate, as necessary, in their water supply planning processes to ensure these water suppliers account for the water needs of the respective unincorporated area. Regional Coordination Element Policy RC.02.02 contains enabling language for this coordination.

### **Section 3: NAU Potable Water Sources, Demand, Supply, and Facilities**

#### **3.1 Water Sources**

Nassau-Amelia Utilities operates one water treatment plant (WTP) that has a capacity of 4.06 mgd. The County's current Consumptive Use Permit (CUP #50087) expires in 2021. The CUP authorizes the use of 2.695 million gallons per day (mgd) average of groundwater from the upper Floridan aquifer for public supply and 3.636 mgd (maximum) of groundwater from the upper Floridan aquifer for essential use (fire protection).

#### **3.2 Potable Water Demand, Supply, and Facility Capacity**

Table 2 contains both historical and projected population and water demand for the County's potable water service area. The table shows County's CUP allocation and WTP facility data.

*Table 2. Nassau Amelia Utilities Service Area Projections*

	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
Population <sup>1</sup>	8,955	8,955	8,955	8,955
Demand <sup>2</sup>	1.37	1.37	1.37	1.37
CUP Allocation (mgd) <sup>3</sup>	2.395	2.643	2.695	2.695
WTP Capacity (mgd) <sup>4</sup>	4.06	4.06	4.06	4.06

Table 2 demonstrates that the County has adequate potable water supply and facility capacity to accommodate the existing population and projected growth within Nassau-Amelia Utilities service area throughout the planning period.

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<sup>1</sup> North Florida Regional Water Supply Plan (2015-2035), Appendix B.

<sup>2</sup> Ibid.

<sup>3</sup> County's CUP expires in 2021. Therefore, table utilized the CUP allocation for the last year of the CUP [2021] for 2025, 2030, and 2035.

<sup>4</sup> Nassau Amelia Utilities

## EXHIBIT A

### **Section 4: Non-potable Water Suppliers, Sources, Services, and Facilities**

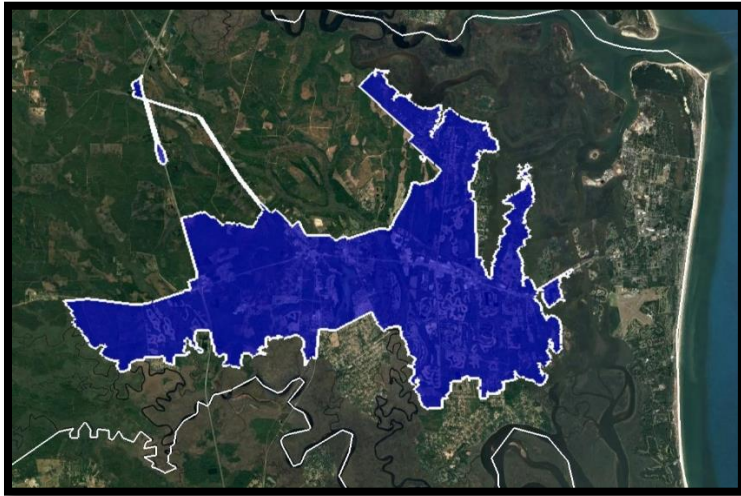
#### **4.1 Non-Potable Water Services**

The following entities provide non-potable water (reuse/reclaimed) service to unincorporated areas:

- JEA
- Nassau-Amelia Utilities

Each entity is individually financially responsible for capital improvements related to reuse services within their respective service areas. Figure 2 below contains a map showing JEA's reuse service area within Nassau County.

*Figure 2: JEA Reuse Service Area in Nassau County (Shaded in Blue)*



Nassau Amelia Utilities (NAU) operates a 0.95 MGD wastewater treatment plant. One hundred percent of the discharge of wastewater from the WWTP is sent to the Long Point, Amelia Links and Ocean Links golf courses as reclaimed water for irrigation. In 2019, the average daily flow is 0.886 mgd.

JEA operates the Nassau Regional WRF, a 2.0 MGD wastewater treatment plant within Nassau County, in accordance with the County's interlocal agreement with JEA.

## **EXHIBIT A**

### **Section 5: Water Supply and Facility Concurrency**

#### **5.1 Potable Water Level of Service**

The County is ultimately responsible for authorizing development within unincorporated areas. All future development and redevelopment in unincorporated areas of the County shall be compatible with the adopted level of service (LOS) standards. However, because the County relies on regional utility provider JEA and, in some cases, the City of Fernandina Beach to provide potable water service to unincorporated areas, it is important for the County's water supply and facility concurrency system to be coordinated and consistent with the requirements of its water suppliers.

Policies WAT.01.01 and CI.02.01 contains enabling language that establishes the County's potable water level of service. These policies also contain LOS standards relative to Nassau-Amelia Utilities and JEA.

#### **5.2 Water Supply and Facility Concurrency**

The current legislative requirements for concurrency [i.e., Section 163.3180(2)(a), F.S.] require that the County's comprehensive plan and land development regulations to ensure that adequate water supplies and facilities are available to serve new development no later than the date on which the County anticipates issuing a certificate of occupancy. In addition, the County must, prior to the approval of a building permit, determine whether adequate water supplies will be available to serve the development by the anticipated issuance date of the certificate of occupancy. Policy CI.02.05 provides enabling language for water supply and facility concurrency, and addresses the requirements of Section 163.3180(2), F.S.

### **Section 6: Water Supply and Facility Capacity Projects – Alternative and Traditional; Potable and Nonpotable**

#### **6.1 JEA Projects in Nassau County**

JEA has several projects identified in the NFRWSP that are located within Nassau. These projected are summarized below.

## EXHIBIT A

Table 3. JEA Projects in Nassau County<sup>5</sup>

Project Name	Project Description	Project Type	Completion
Nassau Area - Radio Av - Reclaimed Water Storage Tank and Booster Pump Station.	1.0 MG storage tank and 1,000 gpm high service pumps.	Reuse - Storage and Pumping	2019
Nassau Regional WWTF Reclaimed Water Storage Tank, UV Disinfection and Pumps.	1.0 MG storage tank, 1,500 gpm high service pumps, and high-level UV disinfection.	Reuse - Storage, Pumping and Supply	2019
William Burgess Rd - SR200 to Harts Rd - Trans - New - Reclaimed Water System Expansion.	Installation of 13,000 feet of 16" reclaimed water main to serve as a transmission pipeline.	Reuse - Pipeline	2017
Nassau RW Main - Radio Av to Harts Rd - Trans - Reclaimed Water System Expansion.	Installation of 11,000 feet of 16" reclaimed water main to serve as a transmission pipeline.	Reuse - Pipeline	2019
T-Line - Amelia Concourse to Amelia National - Reclaimed Water System Expansion.	Installation of 5,700 feet of 10" reclaimed water main to serve as a transmission pipeline.	Reuse - Pipeline	2021

### 6.2 Nassau County (Nassau Amelia Utilities) Projects

Nassau County does not have any potable or nonpotable water supply or facility capacity projects planned for the work plan's planning period, beyond that related to routine system maintenance and operation.

In addition, Nassau County does not currently have any projects listed in the North Florida Regional Water Supply Plan (NFRWSP).

### 6.3 Fernandina Beach Water Supply Projects

Fernandina Beach does not currently have any projects listed in the NFRWSP.

## Section 7: Water Conservation Practices

The County currently implements water conservation practices, including some that are enabled by comprehensive plan policies. In addition, because the County relies on regional utility provider JEA and, in some cases, the City of Fernandina Beach to provide potable water service unincorporated areas, it is important for the County to coordinate its water conservation practices with these water suppliers.

### 7.1 Water Source Protection Practices

Water conservation is important to reduce potable water demand. The County's water conservation practices include the following:

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<sup>5</sup> North Florida Regional Water Supply Plan (NFRWSP) 2015-2035, Appendix K, pp. 3-4.

## **EXHIBIT A**

- Promoting water conservation measures (WAT.04.01)
- Developing experimental projects to promote green development practices (RC.01.11)
- Cooperate and assist the Water Management District to facilitate enforcement of emergency water conservation restrictions (CS.01.04)
- Enforcing the Uniform Energy Conservation Construction Code (CS.01.05)
- Incentivizing the use of Low Impact Development (LID) techniques (CS.01.06)

### **Section 8: Nonpotable Water (reuse) Practices**

The County currently implements reuse practices through Nassau Amelia Utilities, including some that are enabled by comprehensive plan policies. In addition, because regional utility provider JEA also provides reuse water service to a portion of the unincorporated area, it is important for the County to coordinate its practices with JEA.

#### **8.1 Reuse Practices**

Utilization of reuse water is important to reduce potable water demand. The County's reuse practices include the following:

- Considering regulations in Land Development Code requiring wastewater reuse for landscape irrigation where available (WAT.04.02)
- Requiring wastewater to be reused where practical (SEW.04.01)

### **Section 9: Water Source Protection Practices**

#### **9.1 Water Source Protection Practices**

Protection of water sources is important to ensure the quality and quantity of water. The County's commitment to water source protection practices include the following:

- Evaluating land use requests based on need and potential impact to aquifer (WAT.05.01)
- Wellhead/wellfield protection standards (WAT.05.03)
- Promoting public awareness about properly operating septic systems (SEW.04.03)
- Regulating densities and impervious surfaces to protect aquifer recharge (CS.01.03)

## EXHIBIT A

### **Section 10: Comprehensive Plan Policies Pertaining to WSFWP**

*Table 4: Comprehensive Plan Policies Pertaining to WSFWP*

	<b>2030 Comprehensive Plan</b>
Water Supply Agreements	RC.02.04; RC.03.04
Reuse Practices	WAT.04.02; SEW.04.01
Water Conservation Practices	WAT.04.01; RC.01.11; CS.01.04; CS.01.05; CS.01.06
Water Source Protection Practices	WAT.05.01; WAT.05.03; SEW.04.03
Coordination of Comp Plan with RWSP	WAT.02.02; CI.01.03; CS.01.01
Water Supply and Facility Concurrency	CS.01.02; WAT.01.07; RC.02.01; RC.02.02; CI.02.01; WAT.01.01; WAT.01.03; CI.02.05

RC: Regional Coordination

SEW: Sanitary Sewer Sub-Element

WAT: Potable Water Sub-Element in Public Facilities Element

CI: Capital Improvements Element

CS: Conservation Element