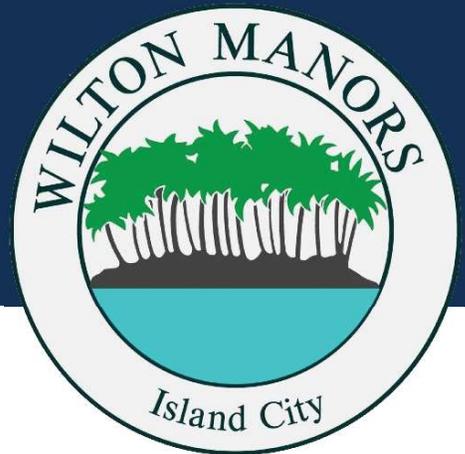




**Water, Wastewater & Stormwater Integrated  
Master Plan Final 100% Report**  
**City of Wilton Manors**

Submitted: January 21, 2020



# City of Wilton Manors

## ***Water, Wastewater & Stormwater Integrated Master Plan Final 100% Report***

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# SECTION 1: Introduction

# Section 1 Introduction

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## 1.1 Purpose

On January 22nd, 2019, The City of Wilton Manors (City) contracted with Baxter & Woodman, Inc. (B&W) to perform professional engineering services for the preparation of an Integrated Master Plan to inventory, assess and prepare a Capital Improvement Plan (CIP) for the Water Distribution System, Wastewater Collection System and Stormwater System. The CIP includes improvement recommendations with estimated budgetary cost estimates for short term (1 to 10 years) and long term (11 to 25 years) planning horizons with an emphasis on the redevelopment expected to occur by 2025 according to the City. The CIP is based upon recent information associated with service area demographics, water resources, water demands, wastewater flows, hydraulic simulations and City recorded accounts of significant issues. The goals and objectives of the Master Plan include:

- Provide and maintain potable water, wastewater, and stormwater services (Service(s)) in an efficient and cost effective manner that will insure public health, safety and quality of life, while protecting the environment.
- Maintain the minimum levels of service standards for Services within the City limits.
- Continue to assess the Service lines and correct deficiencies in a timely manner.
- Coordinate with the City of Fort Lauderdale through the Bulk User Agreement (potable water), Large User Agreement (wastewater), and the Municipal Separate Storm Sewer System Permit (MS4).
- Continue to operate the Services as enterprise funds.

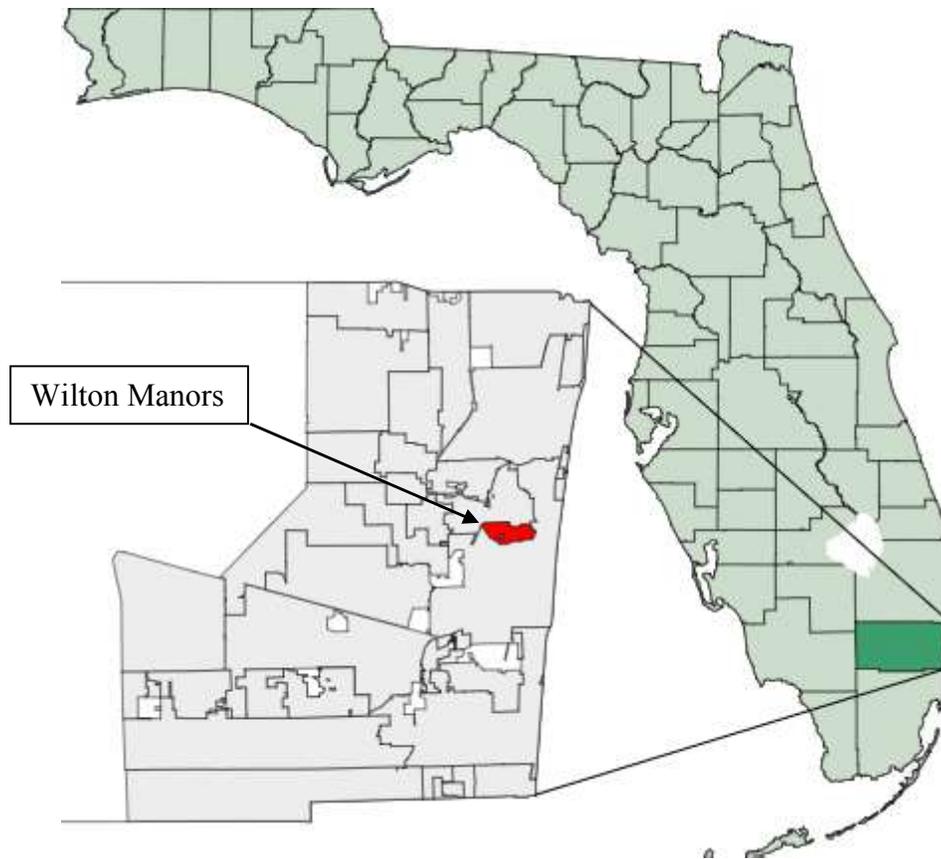
## 1.2 Background

The Village of Wilton Manors was incorporated in 1947. In 1953, the Village of Wilton Manors was abolished and the City of Wilton Manors was created with an Act filed with the Secretary of State. The City is approximately 1.97 square miles and is centrally located within Broward County. The City is bound to the north by the City of Oakland Park and the North Fork of the Middle River, to the south by the South Fork of the Middle River and the City of Fort Lauderdale, to the east by Federal Highway and to the west by Interstate 95.

Since the 1990's, the City has enjoyed a development resurgence where commercial development along Wilton Drive has been converted from strips of small quaint retail shops into an arts and entertainment district with numerous restaurants, retail stores, apartment complexes and condominiums. The population of the City has grown as the popularity of City has increased. The City is currently home to 12,528 residents.

## 1.3 Service Area

The City's service area covers the entire land area within the City limits as shown in **Figure I-1**. The service area includes a broad and diverse mix of residential, commercial, industrial, and recreational land uses that typify a South Florida urban area.



*Figure 1-1: City of Wilton Manors Service Area*

## 1.4 Overview of Existing Systems

### 1.4.1 Water Distribution System

The City's water distribution system consists of a vast network of pipes of various diameters and materials that convey potable water to the end users. Potable water is provided to the City by the City of Fort Lauderdale through a Bulk Service Agreement dated September 7th, 2005 under resolution 05-154, with an expiration date of September 6, 2030. The City's potable water system connects to the City of Fort Lauderdale at three (3) locations:

- Western - 30"x6" connection on the corner of NW 26th St and NW 9th Ave
- Central – 30"x8" connection on the corner of E Oakland Blvd and N Andrews Ave
- Eastern– 42"x10" connection on the corner of NE 26th St and NE 9th Ave

### 1.4.2 Wastewater Collection System

The City's wastewater collection system consists of a network of gravity sanitary sewer mains, manholes, lift stations and force mains that collect and transmits wastewater to the City of Fort Lauderdale's system. Ultimate treatment of the City's wastewater is provided by the City of Fort Lauderdale through a Large User Wastewater Agreement dated August 1st, 2001 under

resolution 01-138, with an expiration date of December 31st, 2021. The City’s sanitary sewer service system connects to the City of Fort Lauderdale at a single location:

- 24”x16” at the intersection of E Oakland Park Blvd and NE 16<sup>th</sup> Ave

### 1.4.3 Stormwater System

The City is also known as the “Island City”, aptly nicknamed for being surrounded on the north by the North Fork of the Middle River, and to the south by the South Fork of the Middle River. A small portion of Wilton Manors at the northwest corner is located between West Oakland Park Boulevard to the north and the North Fork of the Middle River to the south. The Middle River diverges at the west boundary of the City and converges at the east boundary before ultimately discharging into the Florida Intracoastal Waterway.

Stormwater conveyance is provided through a network of inlets and approximately 2 miles of culverts to direct runoff into the Middle River via over ninety (90) outfalls. Many of the systems are undersized and aging. Being virtually surrounded by the tidally influenced waters, the City is especially vulnerable to rising sea levels and king tides.

## 1.5 Report Organization

This Master Plan includes six (6) Sections that are organized as follows:

- **Section 1 – Introduction:** The Section presents a brief purpose of the Master Plan and a summary of the existing service area, customer base and infrastructure.
- **Section 2 – Water Analysis:** The Section and its subsections provide an evaluation of the historical and future population projections for the water distribution service area, establishes goals and Level of Service (LOS) and presents a summary of water distribution regulatory requirements.

The Section includes an inventory and capacity analysis of the existing water distribution system, a general condition assessment of system components for renewal and replacement requirements.

The Section provides a population and flow projection for the short term (1-10 years) and long term (11 – 25 years) planning horizons. Population projections, anticipated development/re-development and LOS are utilized to project future water distribution flows. Recommendations are made to improve the City’s water distribution system for future needs.

- **Section 3 – Wastewater Analysis:** The Section and its subsections provide an evaluation of the historical and future population projections for the wastewater collection system service area, establishes goals and LOS and presents a summary of wastewater collection regulatory requirements.

The Section includes an inventory and capacity analysis of the existing wastewater collection system, a general condition assessment of the collection system components, and an evaluation of the City's current infiltration/inflow (I/I) abatement program.

The Section will also provide a population and flow projection by sub-regional lift station service areas for the short term (1-10 years) and long term (11 – 25 years) planning horizons. Population projections, anticipated development/re-development and LOS are utilized to project future wastewater flows. Recommendations are made to improve the City's wastewater collection system for future needs.

- **Section 4 – Stormwater Analysis:** The Section and its subsections provide an evaluation of the historical data for the stormwater service area for flooding, LOS, Sea Level Rise (SLR), and water quality analyses.

A stormwater ordinance and operations review is included to identify deficiencies in the City's system in comparison to the most recent regulatory revisions for similar systems. Suggestions for revisions to City ordinances to ensure the City is in conformance with the latest stormwater regulations with an emphasis on flood control and water quality. Review of current and future requirements of the National Pollutant Discharge Elimination System (NPDES) regulation in comparison to the City's current efforts.

The Section provides an evaluation of the future stormwater system needs in the short term (1 - 10 years), long term (11 – 25 years) planning horizons, and extend term to 2060 to account for SLR. Population projections, anticipated development/re-development and LOS are utilized to project future stormwater flows. Recommendations are made to improve the City's stormwater system for future needs.

- **Section 5 – Utilities Department Operating Procedures:** The Section provides a review of the City's existing Emergency Management / Utilities Department operating procedures, organization, and training programs.
- **Section 6 – Report Summary and Capital Improvement Program:** The Section summarizes the capital improvement recommendations provided in previous sections, and presents a schedule of primary capital improvement projects for the short term (1 – 10 years) and long term (11 – 20 years) planning horizons.