

Attachment "A"

Amendments

Water Supply Related Amendments to Growth
Management Plan and Update to the Town's Water
Facilities Work Plan

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TOWN OF CUTLER BAY

WATER SUPPLY PLAN UPDATE RELATED AMENDMENTS 2015

**1st Hearing March 18, 2015
Adoption Hearing XXXXX XX, 2015**

Amendment No. 1

The following lists the amended Objective and Policies which shall be included in the Town's adopted Growth Management Plan to ensure consistency between the elements in the Growth Management Plan and the Town's **2015** 20-year Water Supply Facilities Work Plan Update.

Infrastructure Element

Policy I1-1A: The adopted Cutler Bay LOS standard for potable water is:

Regional treatment. System shall operate with **a maximum daily** rated capacity that is no less than 2% above maximum daily flow for the preceding year, **and an average daily capacity 2% above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.**

~~User LOS. Maintain capacity to produce and deliver 155 gallons per capita per day.~~

User LOS. Maintain capacity to produce and deliver 155 74 gallons per capita per day systemwide.

Water Quality. Shall meet all county, state and federal primary potable water standards.

Countywide Storage. Storage capacity for finished water shall equal no less than 15% of countywide average daily demand (County).

Objective I1-4 Town of Cutler Bay ~~shall comply with~~ **must adopt by reference** its **2015** ~~40~~**20**-year Water Supply Facilities Work Plan **Update**, as required by section 163.3177(6)(c), F.S. within 18 months after the governing board of the South Florida Water Management District approves its **2013** Lower East Coast Water Supply Plan Update. The Work Plan will be updated, at a minimum, every 5 years. The Town of Cutler Bay **2015 20-year** Water Supply Facilities Work Plan **Update** is designed to: assess current and projected potable water demands; evaluate the sources and capacities of available water supplies; and, identify those water supply projects, using all available technologies, necessary to meet the Town's water demands for a ~~40~~**20**-year period.

Monitoring Measure I1-4

The Work Plan **Update** shall remain consistent with the County's 20-Year Supply Facilities Work Plan **Update**, which is compatible with the Miami Dade County Water Use Permit renewals and with projects as listed in the South Florida Water Management District's **2013**

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Lower East Coast Regional Water Supply Plan **Update**. The Work Plan will be updated, at a minimum, every 5 years and within 18 months after the South Florida Water Management District's approval of an updated Lower East Coast Regional Water Supply Plan.

Policy I1-4A: Comply with the **2015** 4020--year Water Supply Facilities Work Plan **Update adopted on XXXX XX, 2015** and incorporate such work plan **update** into the Town of Cutler Bay Growth Management Plan.

Amendment No. 2

The following lists the amended Policy which shall be included in the Town's adopted Growth Management Plan to ensure consistency between the elements in the Growth Management Plan and the Town's **2015** 20-year Water Supply Facilities Work Plan Update.

Conservation Element

Policy C-2H: Implementation of the **2015** ~~40~~20-year water supply facilities work plan **update** will ensure that adequate water supplies and public facilities are available to serve the water supply demands of the Town's growing population.

Amendment No. 3

The following lists the amended Policy which shall be included in the Town's adopted Growth Management Plan to ensure consistency between the elements in the Growth Management Plan and the Town's 2015 20-year Water Supply Facilities Work Plan Update.

Capital Improvements Element

Policy CI2-1A: The Town shall comply with the following minimum level of service (LOS):

* * *

Regional Treatment. The System shall operate with a maximum daily rated ~~maximum-daily~~ capacity that is no less than 2% above maximum daily flow for the preceding year, and an average daily capacity 2% above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

~~User LOS. Maintain capacity to produce and deliver 155 gallons per capita per day.~~

User LOS. Maintain capacity to produce and deliver ~~155~~ 74 gallons per capita per day systemwide.

Water Quality. Shall meet all county, state and federal primary potable water standards.

Countywide Storage. Storage capacity for finished water shall equal no less than 15% of countywide average daily demand ~~(County)~~.

Minimum Fire-Flow LOS:

Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Department, minimum fire flows, based on the land use served, shall be maintained as follows:

- Single Family Residential Estate – 500 gal/min
- Single Family Residential (min. 7,500 SF lots) – 750 gal/min
- Multi-Family Residential – 1,500 gal/min
- Semi-professional offices – 1,500 gal/min
- Hospital/Schools – 2,000 gal/min
- Business/Industry – 3,000 gal/min

Amendment No. 4

The following lists the amended Policy and new Objective and Policy series which shall be included in the Town's adopted Growth Management Plan to ensure consistency between the elements in the Growth Management Plan and the Town's **2015** 20-year Water Supply Facilities Work Plan Update.

Intergovernmental Coordination Element

Policy IC-3C: The Town shall coordinate the planning of potable water and sanitary sewer facilities and services and level-of-service standards within the Miami-Dade County Water and Sewer Department, **Department of Regulatory and Economic Resources**, the South Florida Water Management District, and the **2013** Lower East Coast Water Supply Plan Update.

Policy IC-5B: The Town will coordinate with the South Florida Water Management District concerning its jurisdictional authority as necessary and support its efforts concerning the **2013 Lower East Coast Water Supply Plan 2005-2006 Update**, ACCELER8 Everglades and CERP and the Biscayne Bay Coastal Wetlands Project to protect an Outstanding Florida Water – Biscayne Bay. The Town hereby adopts by reference the Miami-Dade County Comprehensive Development Master Plan Amendments adopted February 4, 2015, the Miami-Dade Water and Sewer Department 20-year Water Supply Facilities Work Plan (2014-2033) Support Data (November 2014), the **2013 Lower East Coast Water Supply Plan Update (LEC)** approved by the South Florida Water Management District (SFWMD) on October 10, 2013 and additional information found within Water Use Permit 13-00017-W are herein incorporated by reference. **The Water Use Permit which was modified and approved by the SFWMD on February 9, 2015, will now expire on February 9, 2035.**

Objective IC-7

Support climate change and sea level rise initiatives.

Policy IC-7A:1: Support the M-D **WASD Water and Sewer Department** and **SFWMD South Florida Water Management District** in any efforts to evaluate the consequences of sea level rise, changing rainfall and storm patterns, temperature effects, and cumulative impacts to existing structures and existing legal uses.

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Policy IC-7A.:2: Participate in the Southeast Florida Regional Climate Change Compact to support regional planning efforts and initiatives to adapt to rising sea level in the LEC Planning Area.

Policy IC-7A.3: Work collaboratively with the M-D ~~WASD~~ Water and Sewer Department, other utilities and ~~SFWMD~~ South Florida Water Management District to identify the utility wellfields and other users at potential risk of saltwater intrusion within the LEC Planning Area.

Monitoring Measure: The Town shall enact legislation supporting the efforts of the MDWASD and SFWMD to evaluate climate change and its impacts.



TOWN OF CUTLER BAY

20-YEAR WATER SUPPLY FACILITIES WORK PLAN 2015 UPDATE

**1st Hearing March 18, 2015
Adoption Hearing XXXXX XX, 2015**

ACKNOWLEDGEMENTS

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1.0 INTRODUCTION

The Town of Cutler Bay (Town) acknowledges the importance of water conservation and reuse and has included policies in its Growth Management Plan (comprehensive plan) in order to assist in implementing related strategies. The Town also recognizes that in order to maintain a proactive water conservation program there must be an effective coordination program with Miami-Dade County Water and Sewer Department (MDWASD) to ensure the success of the program. In addition, the Town maintains an excellent working relationship with MDWASD as a retail customer to ensure compliance with all applicable regulations and guidelines. As a retail customer, the Town residents buy their water directly from MDWASD at a determined rate. Under this arrangement, the Town's Public Works Department coordinates with WASD to ensure that enough capacity is available for existing and future customers and supporting infrastructure such as the water lines are adequately maintained.

The Town Water Supply Facilities Work Plan Update (hereinafter the Work Plan Update) **adopted on XXXX XX, 2015** will reference the initiatives already identified in the Miami-Dade County's 20-year Water Supply Facilities Work Plan Update, which was adopted on February 4, 2015, since the Town is a retail customer. According to state guidelines, the Work Plan and the Growth Management Plan (GMP) elements must address the development of traditional and alternative water supplies, bulk sales agreements and conservation and reuse programs that are necessary to serve existing and new development for at least a 10-year planning period.

The purpose of the Town of Cutler Bay's new 20-Year Water Supply Facilities Work Plan Update is to identify and plan for the water supply sources and facilities needed to serve existing and new development within the local government's jurisdiction. The Town's first Work Plan was adopted on December 10, 2008 with a 10-year planning horizon. This Work Plan Update will be adopted with a 20-year planning horizon to be consistent with both the Miami-Dade County and South Florida Water Management District Water Facilities Work Plans. Chapter 163, Part II, F.S., requires local governments to prepare and adopt Water Supply Work Plans into their comprehensive plans within 18 months after the water management district approves a regional water supply plan or its update. Updates to the original Work Plan are required every five years. The Town is located in the South Florida Water Management District region in southeast Florida (Figure 1.). The **2013 Lower East Coast Water Supply Plan Update** (LEC) was approved by the South Florida Water Management District (SFWMD) on October 10, 2013. Therefore, local governments within the South Florida Water Management District Lower East Coast jurisdiction should amend their comprehensive plans to adopt a Work Plan Update by March 12, 2015. As stated previously, MDWASD provides retail potable water service to its customers in the Town (Figure 2.).

The Town's Work Plan is divided into six sections:

Section 1 – Introduction

Section 2 – Background Information

Section 3 – Data and Analysis
Section 4 – Intergovernmental Coordination
Section 5 -- Capital Improvement Elements
Section 6 – Goals, Objectives, Policies

1.1 Statutory History

The Florida Legislature has enacted bills in the 2002, 2004, 2005 and 2011 sessions to address the state’s water supply needs. These bills, especially Senate Bills 360 and 444 (2005 legislative session), significantly changed Chapter 163 and 373 Florida Statutes (F.S.) by strengthening the statutory links between the regional water supply plans prepared by the water management districts and the comprehensive plans prepared by local governments. In addition, these bills established the basis for improving coordination between the local land use planning and water supply planning.

1.2 Statutory Requirements

The Town of Cutler Bay has considered the following statutory provisions when updating the Water Supply Facilities Work Plan (Work Plan):

1. Coordinate appropriate aspects of its comprehensive plan with the South Florida Water Management District’s Regional Water Supply Plan, [163.3177(6)(a), F.S.].
2. Ensure that its future land use plan is based upon availability of adequate water supplies and public facilities and services [s.163.3177(6)(a), F.S. Data and analysis demonstrating that adequate water supplies and associated public facilities will be available to meet projected growth demands must accompany all proposed Future Land Use Map amendments submitted for review.
3. Ensure that adequate water supplies and facilities are available to serve new development no later than the issuance by the local government of a certificate of occupancy or its functional equivalent and consult with the applicable water supplier to determine whether adequate water supplies will be available to serve the development by the anticipated issuance date of the certificate of occupancy [s.163.3180 (2)(a), F.S.].
4. For local governments subject to a regional water supply plan, revise the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element (the “Infrastructure Element”), within 18 months after the water management district approves an updated regional water supply plan, to:
 - a. Identify and incorporate the alternative water supply project(s) selected by the local government from projects identified in the updated SFWMD Regional Water Supply Plan or the alternative project(s) proposed by the local government under s. 373.709(8)(b), F.S. [s. 163.3177(6)(c), F.S.];

2.0 BACKGROUND INFORMATION

2.1 Overview

The intent of this section is to provide an overview of the Town including information on land use and population.

The Town of Cutler Bay was incorporated in 2005, making it the 35th municipality established in Miami-Dade County. The boundaries of the Town encompass an area approximately ten square miles bounded by SW 184 Street to the north, the US-1 busway to the west, SW 232 Street to the south, and Biscayne National Park to the east. The Town is surrounded by unincorporated Miami-Dade County to the south and west, and the Village of Palmetto Bay to the north.

Cutler Bay's municipal form of government as set forth in its charter is "Council-Manager". The elective officers are the Mayor and members of the Town Council, each of whom are elected to three-year terms. The Manager is the chief administrative officer of the Town and is responsible for the day-to-day functions. Each department reports directly to the Manager. The Manager is responsible for presenting the annual budget to the Town Council for approval.

The Town of Cutler Bay is substantially built-out. The Town's current population is approximately 41,398 (2015 Miami-Dade County WASD estimate), with future development potential and population growth limited by the scarcity of vacant and developable land. The potential expansion of the Town's current boundaries through annexations is the only factor which might result in significant population increase during the planning period.

In 2007, when the Town's first Growth Management Plan was being developed an evaluation of existing gross acreage by land uses revealed that 2,472.6 acres or 38.5% of the total gross acreage in the town is dedicated to residential use. The remaining gross acreages are allocated to non-residential such as retail and office (4.4%); hotels and motels (.06%); institutional (2%); transportation, communication, utilities (16.1%); undeveloped (21%) and; inland water (.5%). The Town does not anticipate substantial increases in land area in the near future, unless there is policy decision from the Town Council to reconsider their position on annexation and submit an application for annexation to Miami-Dade County. Future increases in population may come from the redevelopment of areas such as the Town Center District which allows for a mix of uses including high density residential. In the meantime, the residential and non-residential growth rate is anticipated to be minimal for the next 10 to 20 years.

Future population estimates are based on the MDWASD population estimates for Retail Customers by municipality. As stated above the current population of the Town is 41,398 increasing to 42,258 in 2020; 43,119 in 2025; and, 43,980 in 2030.

The water distribution service area for the Town includes only those areas within its municipal boundaries (Current and Future Service Areas).

2.2 Relevant Regional Issues

Regional issues that affect the Town of Cutler Bay include minimizing pressure on the Everglades and Biscayne Bay ecosystems and, Biscayne and Florida Aquifers. To that end, the Comprehensive Everglades Restoration Plan (CERP) is providing the foundation for one of the largest ecosystem restoration projects in the world. The SFWMD and the US Army Corps of Engineers have partnered in order to restore, protect and preserve the water resources of central and southern Florida, including the Everglades. Various projects under CERP help ensure the proper quantity, quality, timing, and distribution of waters to the Everglades and all of South Florida. The goal of CERP is to capture fresh water that now flows unused to the Atlantic Ocean and the Gulf of Mexico redirect it to areas that need it most. The Town has within its boundaries an important CERP project.

The South Florida Water Management District is the state agency responsible for water supply in the Lower East Coast planning area which includes the jurisdictional boundaries of Cutler Bay. SFWMD plays a pivotal role in resource protection, through criteria used for Consumptive Use Permitting. As pressure increased on the Everglades ecosystem resource, the Governing Board initiated rulemaking to limit increased allocations dependent on the Everglades system. As a result, the Regional Water Availability Rule was adopted by the Governing Board on February 15, 2007 as part of the SFWMD's water use permit program. This reduced reliance on the regional system for future water supply needs, mandates the development of alternative water supplies, and increasing conservation and reuse.

Even with an ever increasing population, withdrawals from the Aquifers will be limited, greater conservation will be required to reduce per capita use; and, reclaimed water must continue to be an important alternative water source per the 2008 Leah G. Schad Ocean Outfall Program.

The Lower East Coast's 2013 Plan Update notes that a number of utilities have diversified their water supplies, including treatment and storage technologies, and water conservation programs. These alternatives include constructing brackish Floridan aquifer wells and reverse osmosis treatment plants, reclaimed water treatment and distribution facilities, and aquifer storage and recovery systems. Between 2007 and 2009, 41 MGD of potable water supply capacity was added. From 2010 to 2013, nine utilities built potable water supply (PWS) projects with a capacity of 49 MGD. Approximately 14 percent of the current PWS allocation is now from an alternative water source, primarily brackish groundwater.

Through Policies I5-1B and IC-5B supports CERP and the Biscayne Bay Coastal Wetlands Project. Additional Policies such as FLU-9C and 9D assist in the protection of surface and ground waters and, Objective I3-4 requires that private development and

public infrastructure projects maintain required surface water quality standards and serve to recharge the groundwater aquifer.

3.0 DATA AND ANALYSIS

The intent of the data and analysis section of the Work Plan Update is to describe the information that local governments need to provide to state planning and regulatory agencies as part of their proposed comprehensive plan amendments, particularly those that would change the Future Land Use Map (FLUM) to increase density and/or intensity. Additionally, population projections should be reviewed for consistency between the County and the South Florida Water Management District's Water Supply Plan.

3.1 Population Information

The Town's existing and future population figures were derived from the MDWASD Retail Customers estimate. Below is a comparison in tabular format. As stated previously, for the purpose of water supply planning the LEC projections will be utilized. As shown in Table 1, the LEC Update states that the MDWASD Service Area has a population of 2,239,773.

The total 2010 population of Miami-Dade County, in which the Town's population is included, was 2,496,435 (Table A-7. PWS and DSS population projections for the LEC Planning Area, *2013 LEC Water Supply Plan Update*). Of that total the Miami-Dade WASD serviced 2,141,885 residents.

Table 1.
Town vs. Miami-Dade County Population Comparison

	2010	2015	2020	2025	2030
Town of Cutler Bay	40,537	41,398	42,258	43,119	43,980
MDWASD Service Area	2,141,885	2,239,773	2,337,660	2,435,548	2,533,436
Miami-Dade County Total Pop.	2,496,435	2,610,526	2,724,618	2,838,709	2,952,800

3.2 Maps of Current and Future Areas Served

Figure 2 depicts current and future water service areas of the Town. MDWASD is the only service provided to customers within the Town's municipal boundaries. There are no areas anticipated to be annexed.

3.3 Potable Water Level of Service Standard

Policy I1-1A of the Town’s Infrastructure Element contains the Town’s LOS Standards including Potable Water:

Policy I1-1A: The adopted Cutler Bay LOS standard for potable water is:

Regional treatment. System shall operate with a maximum daily rated capacity that is no less than 2% above maximum daily flow for the preceding year, and an average daily capacity 2% above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

~~User LOS. Maintain capacity to produce and deliver 155 gallons per capita per day.~~

User LOS. Maintain capacity to produce and deliver 155 74 gallons per capita per day systemwide.

Water Quality. Shall meet all county, state and federal primary potable water standards.

Countywide Storage. Storage capacity for finished water shall equal no less than 15% of countywide average daily demand (County).

The Town will continue to encourage the reduction of annual average per person demand pursuant to policies in the comprehensive plan as coordinated by MDWASD and the South Florida Water Management District.

3.4 Population and Potable Water Demand Projections for the Town

The South Florida Water Management District 2013 *Lower East Coast Water Supply Plan Update* (LEC) details the projected potable water demand for MDWASD, which includes the Town of Cutler Bay. Since MDWASD provides water to a number of Miami-Dade County municipalities and most of the unincorporated area, the analysis of the Town’s water needs is determined by the Town’s percentage of the overall population of the MDWASD service area population (Table 2).

Table 2.
MDWASD – Including Cutler Bay
Current and Projected Water Supply
(MDWASD) Water Use Permit No. 13-00017-W)

	ACTUAL	PROJECTED			
	2010	2015	2020	2025	2030
Population	40,537	41,398	42,258	43,119	43,980
Per Capita (gallons per day finished water)					

	141 74	141 74	141 74	141 74	141 74
	MGD	MGD	MGD	MGD	MGD
Potable Water Demands (daily average annual) – Town of Cutler Bay	5.72 3.00	5.84 3.06	5.96 3.13	6.08 3.19	6.20 3.25

Notes

1. Population projections MDWASD Retail Customers
2. Per Capita data from LEC Chapter 6: Water Supply Development Projects, p. 248

3.5 Water Supply Distribution Provided by the Town of Cutler Bay

MDWASD is a regional water and wastewater utility that furnishes potable water service to approximately 2.2 million inhabitants and tens of thousands of commercial establishments. The service area covers numerous municipalities and most of the unincorporated areas of Miami-Dade County. The Town of Cutler Bay does not provide or distribute potable water to the Town’s residents or businesses.

3.6 Water Supply Provided by Miami-Dade County WASD

As stated above, the MDWASD System supplies potable water to over 2.2 million persons, including residents and businesses within the Town of Cutler Bay, and is an interconnected system of three subareas. Other water suppliers within Miami-Dade County include: North Miami Beach, North Miami, Homestead and Florida City. Currently within the MDWASD Service Area there are 15 municipal wholesale customers.

The information contained in the Comprehensive Development Master Plan Amendments adopted February 4, 2015 and the Miami-Dade WASD 20-year Water Supply Facilities Work Plan (2014-2033) Support Data (November 2014), the 2013 Lower East Coast Water Supply Plan Update (LEC) approved by the South Florida Water Management District (SFWMD) on October 10, 2013 and additional information found within Water Use Permit 13-00017-W are herein incorporated by reference. The Water Use Permit which was modified and approved by the SFWMD on February 9, 2015, will now expire on February 9, 2035.

The following Miami-Dade County CDMP Policy supports the coordination with the SFWMD LEC Update:

WS-6D. In the development of its future potable water supplies, Miami-Dade County shall, to the maximum extent feasible, utilize methods which preserve the integrity of the Biscayne Aquifer, protect the quality of surface water and related ecosystems, consider and are compatible with the South Florida Water Management District’s 2013 Lower East Coast Regional Water Supply Plan Update and the current Water Use Permit, and comply with the land use and environmental protection policies of the Miami-Dade County CDMP, the Strategic Regional Policy Plan for South Florida, and the State Comprehensive Plan.

The Town is within the Alexander Orr, Jr. Subarea which comprises of a high pressure system with two major piping loops. This system delivers water to nearly all of Miami-Dade County south of approximately Flagler Street and north of SW 248th Street, including Virginia Key, Fisher Island, the Village of Key Biscayne and, upon request, to the City of Homestead, and Florida City. Capital Improvements Projects impacting the Town are referenced in Section 5 of this Plan Update.

3.7 Conservation

Water conservation is the key to maintaining the health and productivity of the Surficial and Floridan Aquifers. Promoting water conservation equipment, techniques, and practices will benefit customers economically and maintain a realistic water demand picture for utilities. Protection of the aquifer system and wellfields (Figure 3.) through conservation and reuse, recharge enhancement, limitations on withdrawal, regulation of land use, and maintenance of minimum flows and levels will ensure the availability of an adequate water supply for all competing demands, maintain and enhance the functions of natural systems and preserve water quality.

The Town of Cutler Bay works in coordination with MDWASD, SFWMD and state efforts aimed at promoting conservation through a variety of means including:

- Water Use Efficiency requirements included in the Code of Miami-Dade County
- Limiting Irrigation Hours
- Florida-Friendly Landscape Ordinance
- Rain Sensor Ordinance
- Water Conservation Rate Structure
- Leak Detection and Repair Program
- Public education.
- Offering low-cost kits to its customers to reduce water use in their homes (Ultralow Volume Fixtures).

3.7.1 County-wide Efforts

Section 4.5 Water Conservation and Reuse of the Miami-Dade WASD 20-year Water Supply Facilities Work Plan (2014-2033) Support Data (November 2014) outlines additional MDWASD efforts (pages 4-6 and 7).

Presently, water utilities are saving substantial amounts of water through strategic water-efficiency programs and Best Management Practices (BMP) included in their Water Use Efficiency Plan. The savings from water conservation often translate into more potable water available for residential and non-residential use, capital and operating savings, which allow systems to defer or avoid significant expenditures for water supply facilities and wastewater facilities.

The Town of Cutler Bay continues to remain in full support of the water conservation initiatives adopted by the SFWMD and Miami-Dade County.

While the Town is not responsible for the Comprehensive Everglades Restoration Project, it is supportive of the regional water conservation efforts related to this regional rehydration of the Florida Everglades. The Town is also supportive of mandating yard water restrictions that have been directed by the South Florida Regional Water Management District. There are no water conservation projects identified in the Town's CIE or CIS.

The Town will continue to coordinate future water conservation efforts with WASD and SFWMD to ensure that proper techniques are applied. In addition, the Town will continue to support and expand existing goals, objectives and policies in the GMP that promotes water conservation in a cost-effective and environmentally sensitive manner. The Town will continue to actively support SFWMD and Miami-Dade County in the implementation of new regulations or programs that are designed to conserve water.

Reuse

For the past years, the State of Florida is leading the nation in water reuse. The water reuse effort in the state is primarily led by utilities, local governments, the water management districts and state agencies. The intent of their efforts is to implement water reuse programs that increase the volume of reclaimed water used and promotes public acceptance of reclaimed water. The Town of Cutler Bay is in full support of the water reuse initiatives under consideration by both the SFWMD and Miami-Dade County. The County has committed to implement a total of **470 117.5** mgd of water reuse as noted in the County's 20-year water use permit.

3.7.2 Town Specific Actions, Programs, Regulations, or Opportunities

The Town will coordinate future water conservation and reuse efforts with MDWASD and the SFWMD to ensure that proper techniques are applied. In addition, the Town will continue to support and expand existing goals, objectives and policies in the comprehensive plan that promotes water conservation and reuse in a cost-effective and environmentally sensitive manner. The Town will continue to actively support the SFWMD and MDWASD in the implementation of new regulations or programs that are design to conserve water during the dry season. Finally, the Town will administer its own water conservation practices.

The Town has been successful in implementing, as applicable, its water conservation policies and supporting efforts by Miami-Dade County and the South Florida Water Management District in their efforts to promote water conservation and reuse. The Town promotes the policies, requirements and procedures as outlined in Section 3.7. As shown by the Town's per capita consumption rate of 74 gallons per capita vs. 141 generally countywide, the Town has been a leader by this metric.

3.7.3 MDWASD Specific Regulations

MDWASD, and therefore the Town of Cutler Bay, implement water conservation through the following Ordinances: Irrigation Hours, Florida-Friendly Landscape, Ultralow Volume Fixtures, Rain Sensor, Water Conservation Rate Structure, Leak Detect & Repair Program and Public Education Program. The Town will also continue to comply with all the Water Use Efficiency requirements included in the Code of Miami-Dade County.

4.0 INTERGOVERNMENTAL COORDINATION

The provision of water supply needs in Town of Cutler Bay is achieved in coordination with local, county, and regional partners including Miami-Dade County WASD and South Florida Water Management District. MDWASD is the Town's primary water partner as they provide the Town its water service utilities. MDWASD ensures that water supply services are provided to the majority of residents of Miami-Dade County in the most efficient and effective manner. SFWMD acts to protect the region's water supply resources and coordinates the implementation of state water regulations and policies through local water planning efforts and water supply services.

In this update of the original Water Supply Plan, the Town has reviewed its water supply related Objectives and policies and updated them as necessary. Changes to the Objectives and policies are outlined in Section 6.0. Policies are included which detail coordination efforts with both MDWASD and SFWMD. As a retail customer, the Town must coordinate the adequate supply of water and conservation practices with MDWASD and implement the requirements of County Code.

5.0 CAPITAL IMPROVEMENTS

The information contained in the Comprehensive Development Master Plan Amendments adopted February 4, 2015 and the Miami-Dade WASD 20-year Water Supply Facilities Work Plan (2014-2033) Support Data (November 2014), the 2013 Lower East Coast Water Supply Plan Update (LEC) approved by the South Florida Water Management District (SFWMD) on October 10, 2013 and additional information found within Water Use Permit 13-00017-W are herein incorporated by reference. The Water Use Permit which was modified and approved by the SFWMD on February 9, 2015, will now expire on February 9, 2035.

As a retail customer the Town of Cutler Bay is not responsible for the provision of infrastructure for potable water treatment and distribution. Below is a partial list of MDWASD projects and changes to its Capital Improvement Schedule.

As stated previously in Section 3.6 the Town is within the Alexander Orr, Jr. Subarea which comprises of a high pressure system with two major piping loops. The following major Capital Improvements Projects may impact the Town and are as further described in the Miami-Dade WASD 20-year Water Supply Facilities Work Plan (2014-2033) Support Data (November 2014) Table 12:

- 1) Systemwide Wellfield Improvements;
- 2) Systemwide Water Main Extensions;
- 3) Central M-D Water Transmission Mains Improvements; and,
- 4) Alexander Orr, Jr. Water Treatment Plant Expansion.

Alternative Water Supply Projects

10 MGD Hialeah RO WTP Phase 1 – Operational October 2013 (7.5 MGD well capacity constructed)

20 MGD South Miami Heights WTP – under design (17.5 MGD Biscayne Aquifer/2.5 MGD Florida Aquifer)

CANCELLED AWSP's

Hialeah RO WTP Phase 2 and 3

Blending and canal recharge projects

Reuse Projects

Updated Reuse Projects

Existing Reuse at Three Wastewater Treatment Plants

Biscayne Bay Coastal Wetlands Rehydration

Pilot Completed

Full Scale capacity

90 MGD FPL for new cooling towers

CDWWTP, SDWWTP, New WDWTP Florida Aquifer re-charge to meet Ocean Outfall Legislation (Total 27.6 MGD)

CANCELLED REUSE PROJECTS

Phase 1 and 2 Canal Re-charge for Alexander Orr WTP

Water Treatment Plants

Hialeah RO WTP

On-line October 2013

10 MGD (7.5 MGD Operational)

50% MDWASD/50% Hialeah

South Miami Heights

On-line by December 31, 2018

17.5 MGD Finished Water from Florida Aquifer

2.55 MGD Finished Water from Biscayne Aquifer

6.0 GOALS, OBJECTIVES AND POLICIES

The following lists the Goals, Objectives and Policies are included in the Town's adopted Growth Management Plan to ensure consistency between the elements in the Growth Management Plan and the 2015 20-year Water Supply Facilities Work Plan Update.

Infrastructure Element

Policy I1-1A: The adopted Cutler Bay LOS standard for potable water is:

Regional treatment. System shall operate with a maximum daily rated capacity that is no less than 2% above maximum daily flow for the preceding year, and an average daily capacity 2% above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

~~User LOS. Maintain capacity to produce and deliver 155 gallons per capita per day.~~

User LOS. Maintain capacity to produce and deliver 155 74 gallons per capita per day systemwide.

Water Quality. Shall meet all county, state and federal primary potable water standards.

Countywide Storage. Storage capacity for finished water shall equal no less than 15% of countywide average daily demand (County).

Objective I1-4 Town of Cutler Bay ~~shall comply with~~ must adopt by reference its 2015 ~~4020~~-year Water Supply Facilities Work Plan Update, as required by section 163.3177(6)(c), F.S. within 18 months after the governing board of the South Florida Water Management District approves its 2013 Lower East Coast Water Supply Plan Update. The Work Plan will be updated, at a minimum, every 5 years. The Town of Cutler Bay 2015 20-year Water Supply Facilities Work Plan Update is designed to: assess current and projected potable water demands; evaluate the sources and capacities of available water supplies; and, identify those water supply projects, using all available technologies, necessary to meet the Town's water demands for a ~~4020~~-year period.

Monitoring Measure I1-4

The Work Plan Update shall remain consistent with the County's 20-Year Supply Facilities Work Plan Update, which is compatible with the Miami Dade County Water Use Permit renewals and with

projects as listed in the South Florida Water Management District's **2013** Lower East Coast Regional Water Supply Plan **Update**. The Work Plan will be updated, at a minimum, every 5 years and within 18 months after the South Florida Water Management District's approval of an updated Lower East Coast Regional Water Supply Plan.

Policy I1-4A: Comply with the **2015** 4020--year Water Supply Facilities Work Plan **Update adopted on XXXX XX, 2015** and incorporate such work plan **update** into the Town of Cutler Bay Growth Management Plan.

Conservation Element

Policy C-2H: Implementation of the **2015** 4020-year water supply facilities work plan **update** will ensure that adequate water supplies and public facilities are available to serve the water supply demands of the Town's growing population.

Capital Improvements Element

Policy CI2-1A: The Town shall comply with the following minimum level of service (LOS):

* * *

Regional Treatment. The System shall operate with a **maximum daily** rated ~~maximum-daily~~ capacity that is no less than 2% above maximum daily flow for the preceding year, and an average daily capacity 2% above the average daily system **demand** for the preceding 5 years. **The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.**

~~User LOS. Maintain capacity to produce and deliver 155 gallons per capita per day.~~

User LOS. Maintain capacity to produce and deliver ~~155~~ **74** gallons per capita per day **systemwide.**

Water Quality. Shall meet all county, state and federal primary potable water standards.

Countywide Storage. Storage capacity for finished water shall equal no less than 15% of countywide average daily demand (County).

Minimum Fire Flow LOS:

Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Department, minimum fire flows, based on the land use served, shall be maintained as follows:

- Single Family Residential Estate – 500 gal/min
- Single Family Residential (min. 7,500 SF lots) – 750 gal/min
- Multi-Family Residential – 1,500 gal/min
- Semi-professional offices – 1,500 gal/min
- Hospital/Schools – 2,000 gal/min
- Business/Industry – 3,000 gal/min

Intergovernmental Coordination Element

Policy IC-3C: The Town shall coordinate the planning of potable water and sanitary sewer facilities and services and level-of-service standards within the Miami-Dade County Water and Sewer Department, **Department of Regulatory and Economic Resources**, the South Florida Water Management District, and the **2013** Lower East Coast Water Supply Plan Update.

Policy IC-5B: The Town will coordinate with the South Florida Water Management District concerning its jurisdictional authority as necessary and support its efforts concerning the **2013 Lower East Coast Water Supply Plan 2005-2006 Update**, ACCELER8 Everglades and CERP and the Biscayne Bay Coastal Wetlands Project to protect an Outstanding Florida Water – Biscayne Bay. The Town hereby adopts by reference the Miami-Dade County Comprehensive Development Master Plan Amendments adopted February 4, 2015, the Miami-Dade Water and Sewer Department 20-year Water Supply Facilities Work Plan (2014-2033) Support Data (November 2014), the **2013 Lower East Coast Water Supply Plan Update** (LEC) approved by the South Florida Water Management District (SFWMD) on October 10, 2013 and additional information found within Water Use Permit 13-00017-W are herein incorporated by reference. **The Water Use Permit which was modified and approved by the SFWMD on February 9, 2015, will now expire on February 9, 2035.**

Objective IC-7

Support climate change and sea level rise initiatives.

Policy IC-7A:1: Support the M-D **WASD Water and Sewer Department** and **SFWMD South Florida Water Management District** in any efforts to evaluate the consequences of sea level rise, changing rainfall and storm patterns, temperature effects, and cumulative impacts to existing structures and existing legal uses.

Policy IC-7A.:2: Participate in the Southeast Florida Regional Climate Change Compact to support regional planning efforts and initiatives to adapt to rising sea level in the LEC Planning Area.

Policy IC-7A.3: Work collaboratively with the M-D **WASD Water and Sewer Department**, other utilities and **SFWMD South Florida Water Management District** to identify the utility wellfields and other users at potential risk of saltwater intrusion within the LEC Planning Area.

Monitoring Measure:

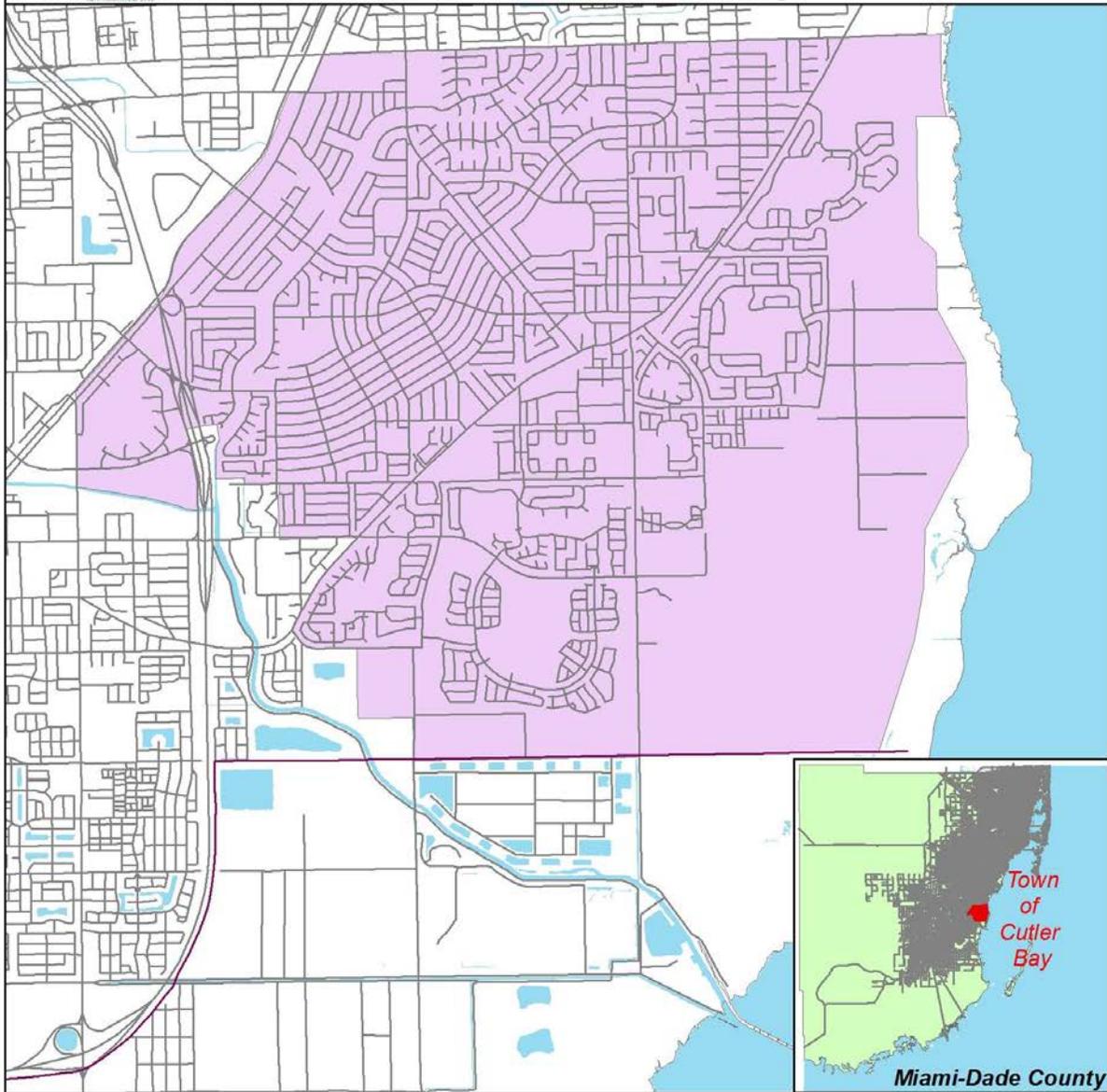
The Town shall enact legislation supporting the efforts of the MDWASD and SFWMD to evaluate climate change and its impacts.

FIGURES



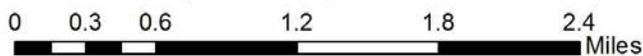
Town of Cutler Bay General Location Map

Figure 1



Legend

-  Cutler Bay
-  Streets
-  Water
-  Urban Development Boundary



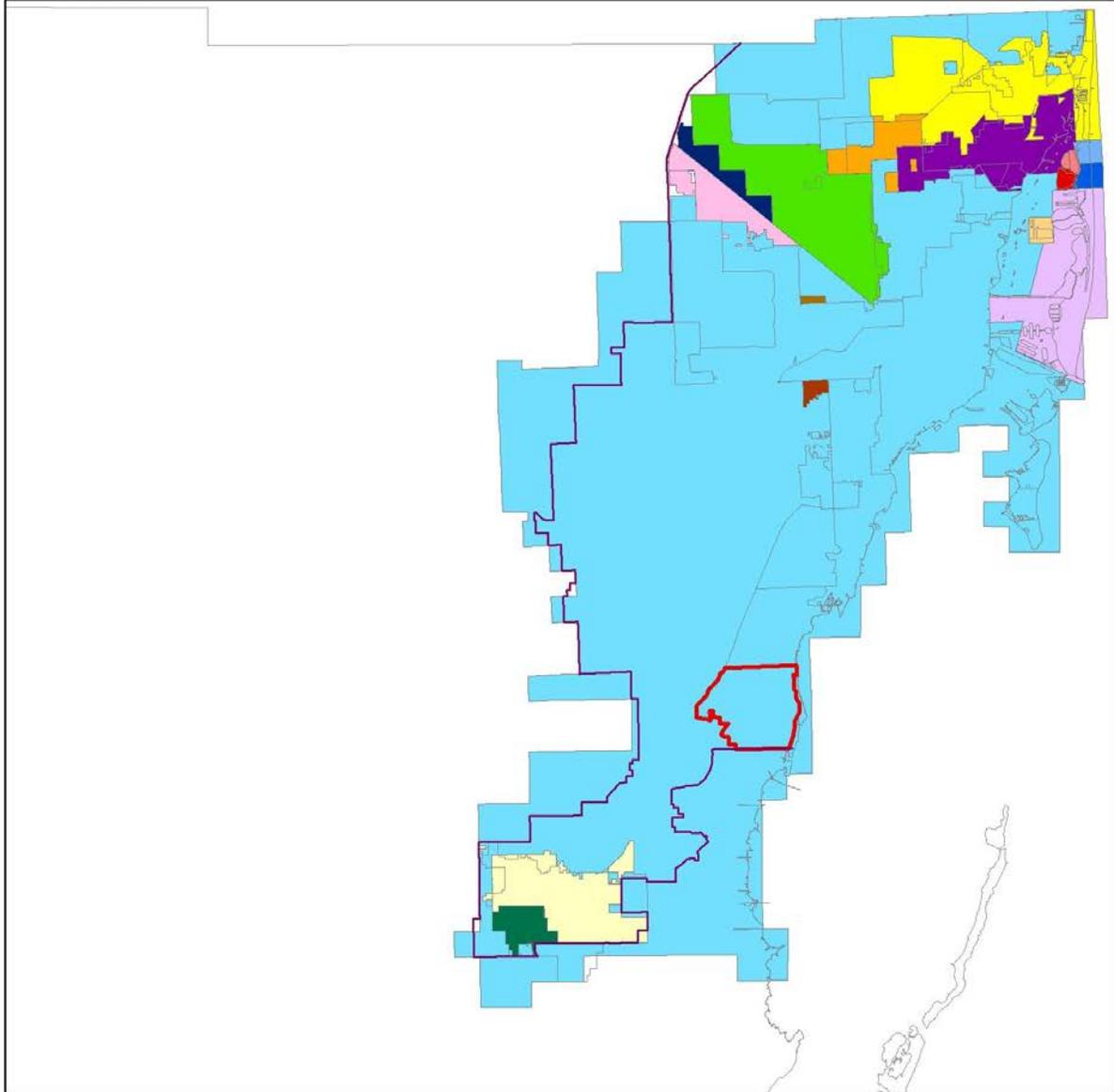
Prepared By: Date: 2/25/2015





Miami-Dade County Water Service Provider

Figure 2



Legend

Bay Harbor Island	Hialeah Gardens	Medley	Surfside	UDB (2015)
Bal Harbour	Homestead	North Bay Village	Virginia Gardens	
Hialeah	Indian Creek Village	North Miami	West Miami	
Florida City	Miami Beach	North Miami Beach	Cutler Bay (Retail)	
	Miami-Dade Water Sewer	Opa-Locka		

Prepared By: _____ Date: 2/25/2015

0 1.5 3 6 9 12 Miles

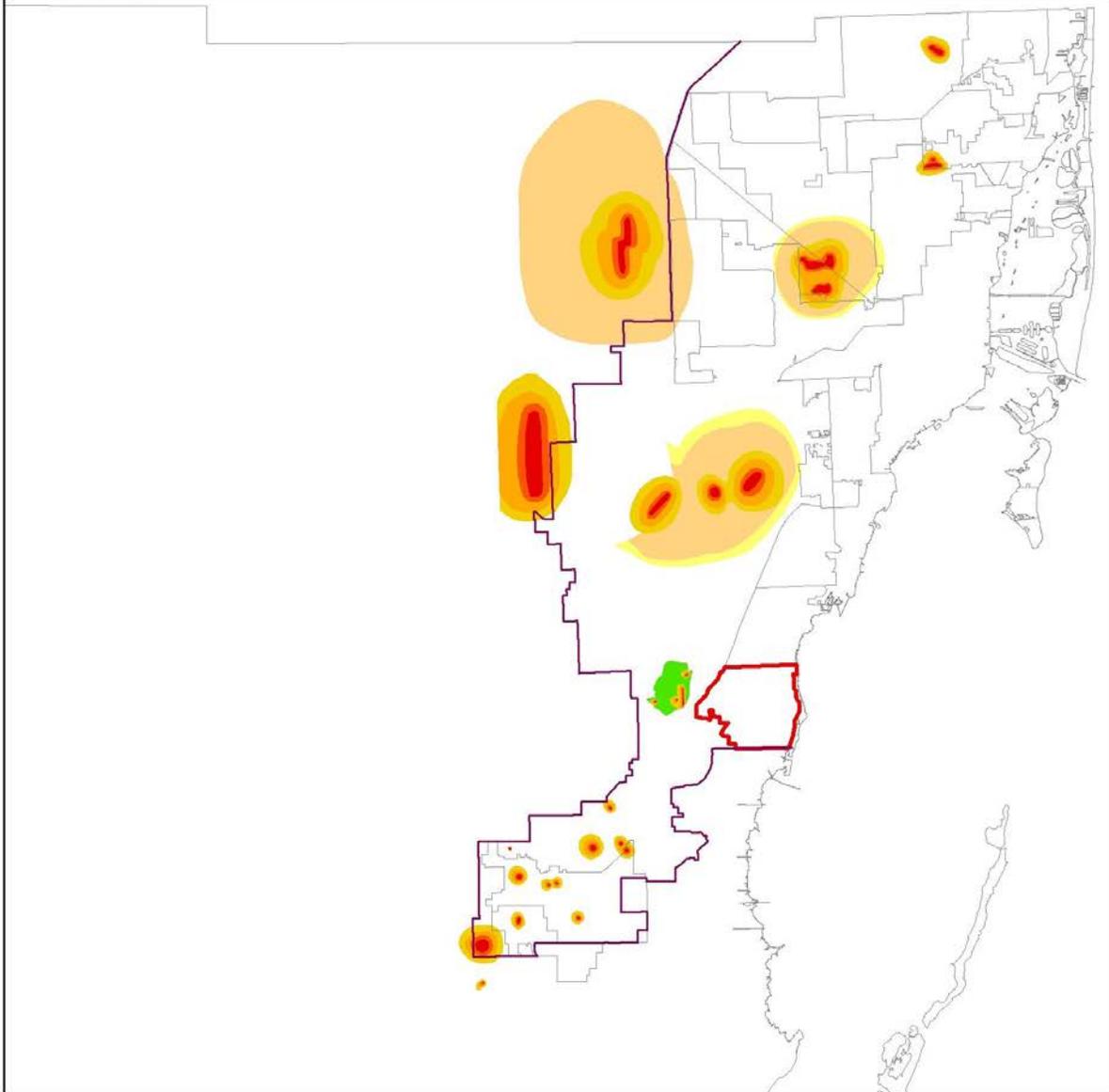
THE CORRADINO GROUP
Engineers • Planners • Program Managers • Environmental Scientists

BELL DAVID PLANNING GROUP, INC.
Incorporated Florida Architects



Miami-Dade County Wellfield Protection Cones of Influence

Figure 3



Legend

- 10 Day
- 30 Day
- 100 Day
- 210 Day
- Average Day
- Maximum
- Outer
- Cutler Bay
- Miami-Dade Municipalities
- Urban Development Boundary

0 1.5 3 6 9 12 Miles



Prepared By: Date: 2/25/2015

