

ORDINANCE NO. 18 - 1685

**AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF SURFSIDE, FLORIDA AMENDING THE TOWN'S COMPREHENSIVE PLAN BY ADOPTING THE EVALUATION AND APPRAISAL BASED COMPREHENSIVE PLAN AMENDMENTS; AUTHORIZING TRANSMITTAL; PROVIDING FOR SEVERABILITY; CONFLICTS; AND FOR AN EFFECTIVE DATE.**

**WHEREAS**, Chapter 163.3191, Florida Statutes, directs local governments to periodically complete an Evaluation and Appraisal of the adopted comprehensive plan to determine if amendments are necessary to reflect changes in state law requirements; and

**WHEREAS**, the Town has reviewed its Comprehensive Plan and has prepared the Evaluation and Appraisal Review ("EAR") based Comprehensive Plan amendments necessary to reflect changes in state law requirements and to also address current conditions within the Town; and

**WHEREAS**, the Planning and Zoning Board as the local planning agency for the Town held its hearing on the proposed Comprehensive Plan Amendments on December 7, 2017, with due public notice; and

**WHEREAS**, the Town Commission held the required transmittal hearing on December 13, 2017, with due public notice; and

**WHEREAS**, the Town Commission hereby finds and determines that this Ordinance is in the best interest of the public health, safety, and welfare.

**NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COMMISSION OF THE TOWN OF SURFSIDE, FLORIDA:**

**Section 1. Recitals.** The foregoing "WHEREAS" clauses are ratified and confirmed as being true and correct and are made a specific part of this Ordinance.

**Section 2. Amendments to the Comprehensive Plan.** The Comprehensive Plan Amendments, attached as Exhibit "A," are hereby approved on second reading for transmittal and review as provided herein.

**Section 3. Transmittal.** The Town's Planning Consultant transmitted the Town of Surfside EAR Based Comprehensive Plan Amendments to the Florida Department of Economic

Opportunity in accordance with Florida Statute 163.3191 and all other units of local government or governmental agencies required by law for review after a vote on first reading and has reviewed and responded to the objections, recommendations and comments received.

**Section 4. Adoption of Comprehensive Plan Amendments.** Having reviewed and addressed the comments and recommendations from the Florida Department of Economic Opportunity and other reviewing agencies, the Town Commission, on June 12, 2018, adopts on second reading, the amendments to the Town of Surfside Comprehensive Plan, attached as Exhibit A to this Ordinance and incorporated herein.

**Section 5. Severability.** If any section, subsection, clause or provision of this Ordinance is declared invalid or unconstitutional by a court of competent jurisdiction, the remainder shall not be affected by such invalidity.

**Section 6. Repeal of Conflicting Provisions.** All ordinances, or parts of ordinances in conflict herewith be, and the same, are hereby repealed.

**Section 7. Inclusion in the Comprehensive Plan.** It is the intention of the Town Commission, and it is hereby ordained that the provisions of this Ordinance shall become and made a part of the Town of Surfside Comprehensive Plan; that the sections of this Ordinance may be renumbered or re-lettered to accomplish such intentions; and the word "Ordinance" shall be changed to "Section" of other appropriate word.

**Section 8. Effective Date.** This Ordinance shall become effective, if the amendment is not timely challenged, on the date the state land planning agency posts a notice of intent determining that this amendment is in compliance. If timely challenged, or if the state land planning agency issues a notice of intent determining that this amendment is not in compliance, this amendment shall become effective on the date the state land planning agency or the Administration Commission enters a final order determining this adopted amendment to be in compliance. No development orders, development permits, or land uses dependent on this amendment may be issued or commence before it has become effective. If a final order of noncompliance is issued by the Administration Commission, this amendment may nevertheless be made effective by adoption of a resolution affirming its effective status, a copy of which resolution shall be sent to the State Land Planning Agency.

PASSED AND ADOPTED on first reading this 13<sup>th</sup> day of December, 2017.

PASSED AND ADOPTED on second reading this 12<sup>th</sup> day of June, 2018.

On Final Reading Moved by: Commissioner Paul

On Final Reading Second by: Commissioner Karukin

**FINAL VOTE ON ADOPTION:**

|                               |            |
|-------------------------------|------------|
| Commissioner Barry R. Cohen   | <u>yes</u> |
| Commissioner Michael Karukin  | <u>yes</u> |
| Commissioner Tina Paul        | <u>yes</u> |
| Vice Mayor Daniel Gielchinsky | <u>yes</u> |
| Mayor Daniel Dietch           | <u>yes</u> |

  
\_\_\_\_\_  
Daniel Dietch, Mayor

**ATTEST:**

  
\_\_\_\_\_  
Sandra Novoa, MMC, Town Clerk

**APPROVED AS TO FORM AND LEGALITY FOR THE USE  
AND BENEFIT OF THE TOWN OF SURFSIDE ONLY:**

  
\_\_\_\_\_  
Weiss Serota Helfman Cole & Bierman, P.L.,  
Town Attorney



# Town of Surfside Comprehensive Plan

MAY 2018

Submitted by:



**Calvin, Giordano & Associates, Inc.**  
EXCEPTIONAL SOLUTIONS™

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## FUTURE LAND USE ELEMENT

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### DATA INVENTORY AND ANALYSIS

#### PURPOSE

The purpose of the Future Land Use Element is the designation of future land use patterns as reflected in the goals, objectives and policies contained in the Town of Surfside’s Comprehensive Plan. The supporting data provides a broad survey of current land use patterns, natural land features, and availability of public facilities for existing and future development. Future land use patterns are depicted on the *Future Land Use Map* (Map FLU 7).

#### PLANNING TIMEFRAMES

The Town of Surfside Comprehensive Plan provides guidance on development and redevelopment over two planning periods: a 5-Year short term planning period ending FY ~~2022~~ 2014 and a long term planning period ending FY ~~2035~~ 2030.

#### EXISTING LAND USE CONDITIONS

The Town of Surfside is located in the eastern section of Miami-Dade County. Located on the barrier island, the Town is bordered by water on both its western and eastern boundaries. The western boundary is the Biscayne Bay and Indian Creek and the eastern boundary is the Atlantic Ocean. The Town is nearly built out. The Future Land Use Element supports the Town’s desire to maintain its stable single family residential neighborhood, encourage redevelopment of the Harding Avenue business area, and limit density and intensity of beach front properties.

Existing land use patterns are depicted on *Map FLU 1 Existing Land Use*. An analysis of Existing Land Use indicates that single family residential uses make up approximately 47.4 ~~48~~% and multi-family uses make up 11.3 ~~10.7~~% of the total land area. Vacant lands make up 0.5 ~~1.9~~% of the total town acreage.

The Town has 99.5 ~~98.07~~% of its land developed. Residential development makes up ~~59.3%~~ of the ~~developed lands~~ and 58.7 ~~58.3~~% of total Town acreage. General retail / service business development makes up 1.87% of the total Town acreage. ~~Of developed lands, general business lands make up 1.87% and parking 1.51% respectively.~~

**Table 1-1  
Existing Land Use**

| <b>EXISTING Land Use</b>         | <b>Acres</b>                    | <b>Percentage of Total Acres</b> |
|----------------------------------|---------------------------------|----------------------------------|
| <u>Beach Area</u>                | <u>34.76</u>                    | <u>9.43%</u>                     |
| <u>Community Facilities</u>      | <u>9.26</u> <del>6.72</del>     | <u>2.43</u> <del>1.83%</del>     |
| <u>General Retail/Services</u>   | <u>6.90</u> <del>6.76</del>     | <u>1.87</u> <del>1.84%</del>     |
| <u>Multi-Family Residential</u>  | <u>41.46</u> <del>39.10</del>   | <u>11.34</u> <del>10.64%</del>   |
| <u>Parking</u>                   | <u>4.92</u> <del>5.45</del>     | <u>1.34</u> <del>1.48%</del>     |
| <u>Private Recreation</u>        | <u>6.07</u> <del>5.72</del>     | <u>1.65</u> <del>1.56%</del>     |
| <u>Single Family Residential</u> | <u>174.80</u> <del>175.25</del> | <u>47.43</u> <del>47.69%</del>   |
| <u>Vacant</u>                    | <u>1.89</u> <del>7.07</del>     | <u>0.51</u> <del>1.93%</del>     |
| <u>ROW</u>                       | <u>79.57</u> <del>121.38</del>  | <u>21.59</u> <del>33.03%</del>   |
| <u>Water</u>                     | <u>8.90</u>                     | <u>2.42%</u>                     |

|                      |                                 |                |
|----------------------|---------------------------------|----------------|
| <b>TOTAL ACREAGE</b> | <b>368.53 <del>367.45</del></b> | <b>100.00%</b> |
|----------------------|---------------------------------|----------------|

Source: Miami-Dade County GIS Services ~~Property Appraiser~~; Calvin, Giordano & Associates

## FUTURE LAND USE DESIGNATIONS

Map FLU 7 Future Land Use designates future land uses in the Town. The Future Land Use Map guides future development according to the vision of residents and businesses in the Town. The Future Land Use Map reflects a planning horizon of at least 10 years. The Future Land Use Map serves as the basis for zoning designations provided in the Zoning Code. Table 1-2 shows the distribution of future land uses in the Town.

**Table 1-2  
Future Land Use**

| <b>FUTURE LAND USE DESIGNATION</b>     | <b>Acres</b>                           | <b>Percentage of Total Acres</b> |
|--|--|----------------------------------|
| Community Facility                     | 1.46                                   | 0.40%                            |
| General Retail /Services               | 5.84                                   | <u>1.58</u> <del>1.59%</del>     |
| High Density Residential / Tourist     | 26.27                                  | <u>7.13</u> <del>7.15%</del>     |
| Low Density Residential                | <u>176.48</u> <del>176.03</del>        | <u>47.89</u> <del>47.90%</del>   |
| Moderate Low Density Residential       | 3.09                                   | 0.84%                            |
| Moderate High Density Residential      | 14.81                                  | <u>4.02</u> <del>4.03%</del>     |
| Moderate Density Residential / Tourist | 4.72                                   | <u>1.28</u> <del>1.29%</del>     |
| Parking                                | 4.23                                   | 1.15%                            |
| Public Buildings and Grounds           | <u>2.05</u> <del>2.18</del>            | <u>0.56</u> <del>0.59%</del>     |
| Public Recreation                      | <u>40.54</u> <del>40.87</del>          | <u>11.00</u> <del>11.12%</del>   |
| Private Recreation                     | 4.69                                   | <u>1.27</u> <del>1.28%</del>     |
| Non-designated Right Of Way            | <u>84.35</u> <del>83.27</del>          | <u>22.89</u> <del>22.66%</del>   |
| <b>TOTAL</b>                           | <b><u>368.53</u> <del>367.45</del></b> | <b>100.00%</b>                   |

Source: Miami-Dade County GIS Services ~~Property Appraiser~~; Calvin, Giordano & Associates

Approximately 61.16 ~~61.21%~~ of the total land area is designated for residential uses with the majority of the residential uses designated as Low Density Residential. Commercial uses added up to 1.58 ~~1.59%~~ and Recreation uses, both public and private, made up nearly 12.27 ~~12.4%~~ of the total land area. Non-designated Right of Way makes up 22.89 ~~22.66%~~ of the overall land area.

~~Table 1-3 shows the distribution of future land uses in the undeveloped parcels in the Town.~~

**Table 1-3  
Undeveloped Land with Future Land Use**

| <b>FUTURE LAND USE DESIGNATION</b> | <b>Acres</b> | <b>Percent of Vacant Land</b> | <b>Percent of Town Acreage</b> |
|------------------------------------|--------------|-------------------------------|--------------------------------|
| Community Facility                 | 1.09         | 15.41%                        | 0.30%                          |
| Private Recreation                 | 0.26         | 3.77%                         | 0.07%                          |
| High Density Residential / Tourist | 1.44         | 20.37%                        | 0.39%                          |
| Low Density Residential            | 1.97         | 27.92%                        | 0.54%                          |
| Moderate High Density Residential  | 2.14         | 30.27%                        | 0.58%                          |
| Parking                            | 0.16         | 2.27%                         | 0.04%                          |

|              |             |                |              |
|--------------|-------------|----------------|--------------|
| <b>TOTAL</b> | <b>7.07</b> | <b>100.00%</b> | <b>1.93%</b> |
|--------------|-------------|----------------|--------------|

Source: Miami Dade County Property Appraiser; Calvin, Giordano & Associates

~~Approximately 1.93% of the total land area is vacant, developable land. Residential land uses make up 78.56% of the existing vacant land. At this time no lands designated General Retail Services are vacant, limiting the development of commercial properties.~~

**POPULATION**

**Population and Projections**

The Town's population according to the 2010 U.S. Census was 5,744 ~~was estimated at 5,159 in 2007. The population is expected to increase 2.36% percent to 5,280 residents in 2010.~~ By ~~2035~~ 2020, the Town is expected to continue to be built-out with virtually no vacant residential lands or change in density or intensity; at which time the population is expected to ~~be approximately flat line at 6,556~~ 5,680 residents. ~~According to the Florida Housing Data Clearinghouse (FHDC), B between 2010 2007 and 2035 2030 the Town is projected to see an additional 812~~ 521 residents, which represents ~~14.1~~ 40.1% growth from ~~2010 2007~~. ~~The Town views the population projections from the FHDC as high considering the built-out current condition of the Town. Potential population increases are expected to come from seasonal units being used as full time units and increases in persons per household.~~

**Table 1-3  
Projections: Population, Surfside, ~~2010 2007-2030~~**

| Year              | Population             | % Change <del>Increase from 2010</del><br><del>2007 Population</del> |
|-------------------|------------------------|--|
| <del>2007</del>   | <del>5,159</del>       | <del>0</del>   |
| <del>2010*</del>  | <del>5,744 5,280</del> | <del>0 121</del>   |
| <del>2015**</del> | <del>5,705 5,483</del> | <del>- 0.67% 324</del>   |
| <del>2020**</del> | <del>5,952 5,680</del> | <del>+3.6% 521</del>   |
| <del>2025**</del> | <del>6,181 5,680</del> | <del>+7.6% 521</del>   |
| <del>2030**</del> | <del>6,398 5,680</del> | <del>+11.3% 521</del>  |
| <del>2035**</del> | <del>6,556</del>       | <del>+14.1%</del>  |

Source: \*2010 U.S. Census; \*\*Florida Housing Data Clearinghouse (FHDC). ~~2016 Population projections were obtained from the Miami Dade Department of Planning & Zoning and derived from Transportation Analysis Zone (TAZ). Calvin Giordano & Associates, Inc.~~

**Methodology**

~~The Town of Surfside population projections were primarily obtained from the Miami Dade Department of Planning and Zoning. The Miami Dade Department of Planning and Zoning derives their projections using Traffic Analysis Zone (TAZ) data. However, because it will reach build out in 2020, the Town believes its population will begin to flat line at this time. Therefore, unlike the TAZ model, the Town forecasts its 2030 population to be unchanged from 2020.~~

**Annexation**

No annexations are being considered at this time.

**Analysis of Land Needed to Accommodate Population**

~~The Town is almost built-out with only 1.89 acres of vacant land. The only development that is expected over the next planning horizon is redevelopment of existing developed properties. Redevelopment is expected to be at or near existing densities however, most projects which have redeveloped in the past 10~~

years have been below current densities. As discussed above in the Population and Projections section, the only changes in population are expected through seasonal unit conversion to full time use and increases in persons per household.

The Town does not support the Florida Housing Data Clearinghouse (FHDC) projects for 2035. The Town’s Charter limits density, intensity, and height to the existing maximums in the Zoning Code or Comprehensive Plan, whichever is more restrictive. Therefore, the FHDC projection for 2035 is not anticipated.

**Table 1-5  
Vacant Land and Potential Dwelling Units Analysis**

| <b>Future Land Use of Vacant Lands</b> | <b>Acres</b> | <b>Density</b>  | <b>Potential Dwelling Units</b> | <b>Average Household Size±</b> | <b>Potential Additional Population</b> |
|--|--------------|-----------------|---------------------------------|--------------------------------|--|
| High Density Residential / Tourist     | 1,4410       | 109 du per acre | 157                             | 2.18 persons                   | 343                                    |
| Low Density Residential                | 1,9748       | 8 du per acre   | 9                               | 2.18 persons                   | 20                                     |
| Moderate High Density Residential      | 2,1409       | 79 du per acre  | 169                             | 2.18 persons                   | 369                                    |
| <b>TOTAL</b>                           |              |                 | <b>335</b>                      |                                | <b>732</b>                             |

Source: Miami Dade County Property Appraiser; Calvin, Giordano & Associates

—————\*Census 2000 Demographic Profile for Surfside identified an average of 2.18 persons per household.

~~Population projections show an additional 521 people may take residence in Surfside between 2007 and 2030. Based upon current vacant residential lands, Surfside can accommodate an additional 732 residents. Therefore, throughout year 2030 the Town will have sufficient vacant lands to accommodate the projected populations.~~

**NEED FOR REDEVELOPMENT: The Surfside Charrette**

~~At this time Surfside contains no areas which require economic development. However in response to residents’ concerns, the Town undertook Charrette style community workshops. The Surfside Charrette was conducted in November 2006 to envision the future of Surfside and identify the action steps to achieve that vision. The Charrette was conducted with the help of the public, Town officials, professionals, and a diversity of stakeholders.~~

~~The specific recommendations include the following:~~

- ~~● Implement incremental traffic calming initiatives both in the residential neighborhood and in the business district.~~
- ~~● Pursue objective of reverting the one way pair of Harding and Collins Avenues to their historic two-way flow, and institute lane reduction strategies and other thoroughfare improvement programs.~~
- ~~● Implement a comprehensive community wide streetscape improvement program to create safer, more attractive streets that promote walking and enhance the value and livability of Surfside.~~
- ~~● Institute major streetscape improvement program based upon proposed reconfiguration of Harding Avenue to two lane, two way traffic flow.~~
- ~~● Implement comprehensive parking management program.~~
- ~~● Fund and build new parking decks to support and encourage infill and redevelopment of new mixed-use projects.~~

- ~~Create new mixed use zoning incentives to enable and encourage the creation of new outdoor parks and plazas in the business district and establish a greater “sense of place”.~~
- ~~Implement new zoning tools to encourage and incentivize new mixed use development in the business district, which respects the existing character and scale of the community, while improving the town’s tax base and financial viability.~~
- ~~Create a pedestrian and bicycle network that links the Town’s parks, recreational and natural amenities into an “emerald necklace”.~~
- ~~Create safer play environments for Surfside’s families.~~
- ~~Improve/enhance existing parks and under utilized public properties to dramatically increase the number and quality of parks and open space within the community.~~
- ~~Develop an effective strategy for consolidating and relocating existing recreational facilities to improve access and convenience for the majority of Surfside’s residents.~~
- ~~Develop and implement form based codes and regulations that will protect and enhance Surfside’s unique character and charm, while providing reasonable predictability for investors and homeowners alike.~~
- ~~Identify architectural styles that are appropriate to Surfside and which reflect the traditions of the community.~~
- ~~Create landscape regulations that promote appropriate and sustainable plant species, native or acclimated to the area.~~
- ~~Utilize new landscape code to encourage a more coherent and attractive appearance to the community.~~
- ~~Plant shade trees along all thoroughfares to improve the pedestrian environment and to promote walkability.~~
- ~~Consciously design landscape codes to promote safety and encourage neighborliness.~~

## FACILITIES ANALYSIS

### Sanitary Sewer Facilities

The Town’s sanitary sewer system is interconnected with the Miami-Dade County Water and Sewer Department (MDWASD) system. Surfside maintains its own sewer collection system and two pumping stations. By agreement, the City of Miami Beach transmits the sewage via force mains to the MDWASD system and eventually to the treatment plant and disposal.

The Town of Surfside is located in the MDWASD Central District Sanitary sewer system; however MDWASD operates two additional regional wastewater treatment plants in the North and South Districts. Because the system is interconnected, the service districts have flexible boundaries, and some flows from one district can be diverted to other plants in the system. Surfside’s sewer system is treated by a secondary treatment facility on Virginia Key owned and operated by the Miami-Dade County Water and Sewer Department (MDWASD).

According to the Town of Surfside Consumption Analysis, in 2014/2015 MDWASD 2006 Comprehensive Annual Financial Report, approximately 258 689 million gallons of wastewater were treated by the County system from the Town of Surfside and 260 814 million in 2015/2016 2007. There is sufficient capacity to serve Surfside residents in the short and long term planning time frame.

## Potable Water Facilities

The Town of Surfside's potable water is provided by the Miami-Dade County Water and Sewer Department (MDWASD). The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County. A new upper Floridan Aquifer Reverse Osmosis (RO) water treatment plant was constructed in 2013, and is located at 4250 W. 114<sup>th</sup> Terrace in the City of Hialeah. The WTP was constructed pursuant to a joint Participation Agreement between the City of Hialeah and the County which was approved by the Board of County Commissioners on July 24, 2007 and called for the design, construction, and operation of a water treatment plant constructed in the annexation area and supplied by the brackish Floridan aquifer to produce initially 10 mgd with the capacity to expand to 17.5 mgd. Approval from the Florida Department of Health to produce and distribute water was received in November 2013. The WTP utilizes the Floridan Aquifer as the alternative water supply using RO treatment to remove the salt. The initial operational phase of the Plant is 7.5 mgd, increasing to 10 mgd by the end of 2015 when construction of additional wells is expected to be completed. The quantity of water available to serve MDWASD's North District, as reflected in permitted withdrawal allocations, provides more than adequate capacity.

The MDWASD system wide finished water rate is 137.2 gallons per capita per day (gpcd). The gpcd value for the Town of Surfside is higher than the system wide average at 148.04 gallons per capita per day. The Town adopted its most recent 15-year Water Supply Facilities Work Plan in 2015.

The level of service will be met for Surfside in the short term and long term planning periods.

## Solid Waste

The Town's Public Works Department has three garbage trucks which collect trash and garbage on a weekly basis and haul it to Miami-Dade County's Resource Recovery Plant west of Miami International Airport and other Miami-Dade County landfills. ~~Last Each year (FY 15/16) Surfside deposited approximately 4,932 6,048 tons of waste material at the county's facility. The Town, as of June 2, 2016, discontinued recycling services with Miami-Dade County for residential properties. The Town now collects recycling. Between June 2, 2016 and December 29, 2016 the Town collected a total of 218.9 tons of recycling. Since 2007, the Town is recycling over 500 tons per year. An increase involvement of private firms in the development of solid waste disposal facilities led to an oversupply of disposal capacity and a reduction in disposal fees. As a result,~~ Based on information supplied by the Miami-Dade County Department of Solid Waste Management (See Infrastructure Element), the existing disposal capacity at the North Dade Landfill and the South Dade Landfill and the Resource Recovery Plan appear to have adequate capacity to meet Surfside's needs for the foreseeable future.

## Stormwater Drainage Facilities

Surfside's existing storm drainage system consists of a network of underground storm sewers that collect and direct stormwater to Indian Creek and Biscayne Bay. A pumping station at the western end of 92nd Street assists the drainage of water from that street by pumping to an outfall. Equipment which currently serves the 92nd Street pump station was replaced by FDOT and maintained by the Town; however, even with these modifications, water may still reach curb level in various locations due to tidal fluctuations.

In 2006, the Town of Surfside initiated additional stormwater projects, which consist of retrofitting three of the Town's outfall pipes to reduce pollutants and fresh water entering Biscayne Bay. The project will

addressed long-term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town's shores. ~~The project directly addresses The Trust for Public Land's Biscayne Bay Accessibility report, supports the SFWMD's Biscayne Bay Partnership Initiative (BBPI), and enhances level of service.~~

The recently constructed retrofitted stormwater management system of the Town consists of a network of underground storm sewers along with outfall control structures discharging into the Indian Creek and Biscayne Bay, and three additional pump stations discharging into 9 drainage wells. The newly constructed control structures facilitate well discharge before discharging to Biscayne Bay. The project addressed long-term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town's shores. The project directly addressed The Trust for Public Land's Biscayne Bay Accessibility report, supported the SFWMD's Biscayne Bay Partnership Initiative (BBPI), and enhanced the level of service.

In 2015, the Town completed drainage improvements for Biscaya Island along 88<sup>th</sup> Street. The Town constructed new check valves to prevent back flow into the existing roadways and upsized one 12-inch outfall to a 24-inch diameter outfall. Since the Town completed the retrofit of the existing drainage system in the recent past, there are currently no additional level of service projects required or needed for the Town's drainage system.

## **Transportation**

The major north-south traversing roadways for the Town are Collins Avenue and Harding Avenue, both state arterial roadways. The major east-west traversing roadway is 96th Street. The level of service analysis for existing conditions indicates that all the roadways within the Town are operating at the adopted level of service.

Six bus routes from Miami-Dade Transit travel through the Town, ~~nearly all the routes run along Collins Avenue except Route R which runs along Dickens Avenue.~~ The Town has its own bus system which complements the Miami-Dade County Transit. The Town's mini buses circulate between the business district and residential areas.

## **Parks and Recreation**

The Town has an adopted Level of Service of six (6) acres of publicly-owned lands per 1,000 permanent population. The Town has approximately ~~40~~ 42 acres of publicly-owned parks space and will continue to meet their level of service through the short term and long term planning periods.

There are ~~five~~ four Town-owned recreation facilities; namely the Veterans Park/Surfside Tennis Center, Hawthorne Park Tot Lot, 96th Street Park, ~~and the Surfside Community Center, and Paws Up Dog Park.~~ The majority of the park land within the Town is the state-owned public beach.

## **Public Schools**

There are no public schools located within the Town. In 2008 the Town entered into an Interlocal Agreement for Public School Facility Planning in Miami-Dade County with the Miami-Dade County School Board and adopted a Public Schools Facilities Element. The Miami-Dade County School Board provides figures for current and projected student enrollment and capacity by school. There are currently 1 elementary school, 1 middle school, and 1 high school serving the Town of Surfside. These are:

Elementary:

*Broad, Ruth K./Bay Harbor K-8 Center (Town of Bay Harbor Islands)*

Middle:

*Nautilus Middle (City of Miami Beach)*

High:

*Miami Beach Senior High School (City of Miami Beach)*

These schools are currently and projected to have sufficient capacity to meet level of service standards in the short term and long term planning time frames.

**Capital Improvements**

~~The Town has several capital improvement projects scheduled including FDOT resurfacing projects; a water maintenance program; a sanitary sewer project to repair broken lines; and a stormwater pollution control project. The Town has prepared a Schedule of Capital Improvements (SCI) in the Capital Improvement Element. For FY 2017/2018 the Town has no deficiencies or LOS issues that need to be addressed. With the completion of the Capital Enhancement project several years ago the Water, Wastewater and drainage systems within the Town were completely replaced and modernized.~~

**HISTORIC PRESERVATION**

The Bureau of Archaeological Research within the Florida Office of Cultural and Historic Preservation maintains the Florida Master Site File (MSF), a database that contains information on archaeological and historic resources in Florida. The MSF includes 33 records for the Town of Surfside: three (3) archaeological sites; three (3) resource groups; and 27 structures of which seven (7) are no longer in existence. ~~Map CON-2 Historic Sites, identifies and locates the historic resources contained on the MSF. There are six (6) listed sites within the Town; a prehistoric mound, a prehistoric midden, and four (4) structures.~~ The Indian Creek Bridge, adjacent to the Town, is also listed on the MSF.

The Florida Department of Historic Resources has jurisdiction over historic and archaeological sites if there are human remains or if a state or federal permit is requested. If a private property owner develops or redevelops their property and their property is listed on the MSF, the state historic preservation officer should be contacted for guidance.

Miami-Dade County Office of Historic Preservation within the Regulatory and Economic Resources Department also identifies historic resources and designates historic properties and districts. The County has designated three (3) properties and one (1) district within the Town of Surfside.

The aforementioned County designated historic resources are displayed in Table 1-5 6.

**Table 1-4 6  
County Designated Historic Properties**

| Classification        | Name                             | Address  | Year Built | Additional Information   |
|-----------------------|----------------------------------|--|------------|--|
| Historical Structures | Surf Club                        | 9011 Collins Ave                                   | 1930       | Architectural Style - Mediterranean Revival ca. 1880-1940        |
| Historical Structures | Bougainvillea Apartments         | 9340 Collins Ave                                   | 1940       | Architectural Style – Streamline Moderne                         |
| Historical Structures | Seaway Villas                    | 9149 Collins Ave                                   | 1936       | Architectural Style – Masonry Vernacular with Mediterranean      |
| Historical District   | Collins Avenue Historic District | 90 <sup>th</sup> Street to 91 <sup>st</sup> Street | 1946-1957  | Architectural Style – Streamline Moderne and Miami Modern (MiMo) |

Source: Miami-Dade County Office of Historic Preservation; Calvin, Giordano & Associates, 2017



| <b>Classification</b> | <b>Name</b>             | <b>Address</b>   | <b>Year Built</b> | <b>Additional Information</b>                           |
|-----------------------|-------------------------|------------------|-------------------|---|
| Historical Structures | 8836 Collins Ave        | 8836 Collins Ave | 1930              | Architectural Style—Mediterranean Revival ca. 1880-1940 |
| Historical Structures | Surf Club               | 9011 Collins Ave | 1930              | Architectural Style—Mediterranean Revival ca. 1880-1940 |
| Historical Structures | Nichols West Apartments | 9560 Collins Ave | C1947             | Architectural Style—Moderne ca. 1920-1940               |
| Historical Structures | Van Rel Apartments      | 9578 Collins Ave | C1947             | Architectural Style—Mediterranean Revival ca. 1880-1940 |
| Historical Sites      | Surfside Midden         | Bay Dr and 92 St | n/a               | Culture—Glades  |
| Historical Sites      | Surfside Mound          | Bay Dr and 94 St | n/a               | Culture—Prehistoric                                     |
| Historical Bridges    | Indian Creek Bridge     | Bay Dr and 91 St | C1929             | Engineers—Belsham, Richard A./Ashworth, F. K.           |

Source: Florida Division of Historical Resources; Calvin, Giordano & Associates

## LAND COVER

*Map FLU 2 Soils* identifies and maps native habitat within the Town. The land coverage can be categorized as Developed and Beach. Other than the beach and beach dune system, the Town is built out. There are no native preserves or remaining native habitats or wetlands within the Town. The beach and dune system, although created through a beach renourishment program, is owned by the State and maintained in a natural condition.

## Water Resources

The predominant water resources that are present in the Town are the Atlantic Ocean and Biscayne Bay. Additionally there are Indian Creek and Point Lake. Indian Creek is a channel that separates the Town from the Islands of Indian Creek Village and Bay Harbor Islands. Point Lake, the dredged channel and water body that separates Biscaya Island from the remainder of the Town, is considered part of Biscayne Bay. *Map FLU 5 Water Bodies* highlights water resources.

## Wellfield Protection

There are no public wellfields or wellfield protection zones located in the Town of Surfside.

## Soils

*Map FLU 2 Soils* provides the general distribution of soils/coverage in the Town as mapped by the Natural Resource Conservation Service (NRCS). The U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) identifies Urban Land and Beaches as the only two coverage types found within the Town. The NRCS describes Urban Lands as areas that are more than 70% covered by buildings, streets, sidewalks and other structures so the natural soil is not readily accessible. The NRCS describes beaches as nearly level to sloping, narrow, sandy strips along the Atlantic Ocean of fine to coarse sand mixed with shell fragments.

## Soil Erosion

The entire length of ocean shoreline along the barrier island the Town is located on is recognized as 'Critically Eroded' by the Florida Department of Environmental Protection's Bureau of Beaches and Coastal Systems and is part of a long term beach renourishment program. The Bureau defines critically eroded as a segment of the shoreline where natural processes or human activity have caused or contributed to erosion and recession of the beach or dune system to such a degree that upland development, recreational interests, wildlife habitat, or important cultural resources are threatened or lost.

Critically eroded areas may also include peripheral segments or gaps between identified critically eroded areas which, although they may be stable or slightly erosional now, their inclusion is necessary for continuity of management of the coastal system or for the design integrity of adjacent beach management projects.

The entirety of the Town's bayside shoreline, inclusive of Indian Creek and Point Lake is bulkheaded, and the remainder of the Town is developed and does not experience erosion problems.

### **Commercially Valuable Minerals**

There are no extractable, commercially valuable minerals in the Town.

### **Development and Redevelopment on Flood Prone Areas**

*Map FLU 4 FEMA Flood Zones* locates the flood zones within the Town. Nearly the entirety of the Town is an AE zone; this zone falls generally west of Collins Avenue. The X zone falls generally east of Collins Avenue; the VE zone is located in a narrow strip along the beach; and the X-500 is represented as a narrow strip located along the north end of Collins Avenue and also along the beach. Existing land uses found within these flood zones are illustrated in the Future Land Use map and described in the Future Land Use Element.

### **Topography**

*Map FLU 3 Topography*, identifies the topography of the Town. The Town is nearly flat with elevations ranging only from 0 to 10 feet. The vast majority of the Town has an elevation of 5 feet or less. The lowest elevation is found along the oceanfront coastline. The highest elevation is a narrow linear strip that runs approximately along Collins Avenue.

### **Hazard Mitigation**

Within the Town there is the potential for impacts from lightning, floods, tornadoes and tropical storms, but the most significant natural disaster threat the Town needs to plan for is the event of a hurricane. Records indicate that the Town has been brushed by or hit by a tropical storm or a hurricane 73 ~~51~~ times in a 143 year period ending in 2016 ~~from 1871 through 2007~~.

During a hurricane evacuation, a significant number of vehicles will have to be moved across the local and regional road network. There are limited route choices, *Map CST 1-2-Evacuation Routes* identifies the designated evacuation route for the Town. There are no emergency shelters located within the Town. The Miami-Dade County Office of Emergency Management has identified the Town and the entire barrier island as a Zone B ~~A~~ evacuation area. The Town has developed a Comprehensive Emergency Management Plan (CEMP). ~~The final draft is currently under review for adoption and will be in effect by the beginning of the 2009 hurricane season.~~

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## Future Land Use Element Goals, Objectives and Policies

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***Goal 1: Ensure that the character and location of future land uses provides high economic and quality of life benefits to the Town's residents and business people while preserving the Town's natural resources, residential character and appropriate levels of public services.***

**Objective 1 – Coordination of land uses with topography and soils:** Maintain existing development and achieve new development and redevelopment which is consistent with the goal above and which otherwise coordinates future land uses with the appropriate topography and soil conditions and the availability of facilities and services. This objective shall be measured by implementation of its supporting policies. ~~[9]5.006 (3) (b) 1~~

Policy 1.1 – The Town shall maintain, improve and strictly enforce provisions which are consistent with the Future Land Use Map, including the land uses and densities and intensities specified thereon and including the following:

Low Density Residential: up to 8 dwelling units per acre and not more than 30 feet in height. Permitted uses are single family residential use and parks and open space.

Moderate Low Density Residential: up to 17 dwelling units per acre and not more than 30 feet in height. The permitted uses are single family, duplex, and multi-family residential uses, public schools, places of public assembly, and parks and open spaces. This category is the buffer between Harding Avenue commercial uses and single family residential uses on west side of Abbott Avenue.

Moderate-High Density Residential: up to 79 residential dwelling units per acre or up to 108 hotel units per acre and not more than 40 feet in height. The permitted uses are single family, duplex, and multi-family residential uses, hotels, public schools, places of public assembly, and parks and open spaces.

High Density Residential/Tourist: up to 109 dwelling or hotel units per acre and not more than 120 feet in height. The permitted uses are single family, duplex, and multi-family residential uses, hotels, public schools, places of public assembly, and parks and open spaces.

Moderate Density Residential/Tourist: up to 58 residential dwelling units per acre or up to 108 hotel units per acre and not more than 40 feet in height. The permitted uses are single family, duplex, and multi-family residential uses, hotels, and parks and open space.

General Retail/Services: up to a floor area ratio of 3.0 and not more than 40 feet in height. The permitted uses are commercial uses (professional, retail, office and related parking).

Public Recreation: up to a floor area ratio of 0.05 and not more than 30 feet in height. The permitted uses are Town-owned public parks and state-owned beachfront east of the erosion control line and immediately adjacent to the Atlantic Ocean.

Private Recreation: up to a floor area ratio of 0.05 and not more than 30 feet in height. The permitted uses are privately owned open space and land between bulkhead and erosion control line (privately owned land).

Public Buildings and Grounds: up to a floor area ratio of 3.0 and not more than 40 feet in height. The permitted uses are Town-owned and publicly-owned land, parks and facilities.

Parking: up to a floor area ratio of 3.0 and not more than 40 feet in height. The permitted use is parking.

Community Facilities: up to a floor area ratio of 3.0 and not more than 70 feet in height. The permitted use is Town-owned facilities for community use.

Policy 1.3 - The Town shall work towards the elimination of existing land uses which are inconsistent with the Town's development pattern and not compatible with the future land uses.

Policy 1.4 – The Town shall continue to utilize the Miami-Dade County Subdivision Regulations and will consider ~~Within one (1) year of the adoption of this element the Town shall adopting~~ provisions governing subdivisions in the Code of Ordinances. Such provisions shall be consistent with this plan and with the applicable Florida statutory and administrative code guidelines and otherwise conform to the following standards. ~~{9J-5.006(3)(e)-1}~~

*Subdivision regulations* shall establish rules for platting and subdividing land consistent with the Future Land Use Map and other goals, objectives, and policies of this Comprehensive Plan. They shall establish a plat approval process consisting of preliminary and final plat approval. Final plat approval shall be required prior to construction of subdivision improvements. General and specific design standards shall be included to ensure: 1) appropriate continuity between new streets and existing street; 2) appropriate continuity between new and existing pedestrian accessways; 3) rights-of-way appropriate to traffic carrying characteristics, stormwater management needs, and other pertinent considerations; 4) that access to Collins Avenue and Harding Avenue is controlled and limited; 5) grades, alignments and other design characteristics in accord with the State of Florida *Manual of Uniform Minimum Standards for the Design, Construction and Maintenance of Streets and Highways* plus such additional highway engineering standards as the Town may determine are necessary from time to time; 6) appropriate configuration of blocks and lots; 7) adequate utility easements; 8) installation of certain utilities underground. The enumeration of specific features of the subdivision regulations contained herein shall be interpreted as establishing minimum guidelines for subdivision regulations, not as precluding additional or higher standards which may have a legitimate public purpose.

Policy 1.5 – The Town shall maintain and enhance as necessary zoning code provisions governing signs including size, placement, and design in order to limit visual clutter.

Policy 1.6 – The Town shall maintain and enhance as necessary existing municipal code provisions regulating storm drainage and in particular regulations that govern floodplain protection and water management design standards. Such provisions shall be consistent with this plan, applicable standards promulgated by the South Florida Water Management District, the South Florida Regional Planning Council, the Miami-Dade County Department of Environmental

Resource Management, the Florida Department of Environmental Protection, and with the applicable Florida statutory and administrative code guidelines.

Policy 1.9 – The Town shall participate in the Community Rating System of the National Flood Insurance Program. Through its building permit and development review process, the Town shall continue to review projects to determine and require conformance with FEMA’s National Flood Insurance Program’s “50% Rule”.

Policy 1.10 – The Town shall maintain a concurrency management system which meets the requirements of Chapter 163, Florida Statutes 9J-5.0055. The concurrency management system shall specify that no development permit shall be issued unless the public facilities necessitated by a development (in order to meet level of service standards specified in the Transportation, Recreation and Open Space, Public School Facilities, and Infrastructure Policies) will be in place concurrent with the impacts of the development or the permit is conditional to assure that they will be in place.

Policy 1.11 – The Town shall maintain zoning code standards for new development and/or redevelopment that meet high standards for open space, landscaping, on-site circulation, parking and other performance standards.

Policy 1.12 – The Town shall consider the abundance, status and distribution of environmentally sensitive lands and endangered ecosystems when reviewing land use proposals and acquisitions.

Policy 1.13 – By 2019, the Town shall prepare a study analyzing the use of net density instead of gross density within the Zoning Code.

Policy 1.14 – By 2019, the Town shall prepare a study analyzing the implementation of FAR for residential land use categories.

**Objective 2 – Protection of single family residential areas:** Direct future growth and development so as to minimize the intrusion of incompatible land uses into single family residential areas. Achievement of this objective shall be quantified by the implementation of the following policies:

Policy 2.1 – The Town shall maintain a future land use map pattern and zoning pattern which keeps two-family and other incompatible uses out of single family residential areas.

Policy 2.2 – The Town shall maintain a future land use map pattern and other development regulations which provide effective buffers between single family residential areas and adjacent uses.

Policy 2.3 – The Town shall maintain a future land use map pattern and a traffic circulation pattern which directs through traffic to Collins Avenue and Harding Avenue (State Road A1A).

Policy 2.4 – The Town shall maintain and enhance zoning code standards that regulate massing and scale in order to maintain the historic character and protect the single family residential district.

**Objective 3 – Redevelopment and renewal:** Encourage the redevelopment and renewal of blighted areas. The Town shall coordinate public and private resources necessary to initiate needed improvements to prevent decline and/or redevelopment within currently defined redevelopment areas as well as areas that may in the future exhibit indications of blight or decline.

Policy 3.1 – The Town shall maintain, and improve where appropriate, zoning code regulations which permit the concentration of commercial uses in and around the established Harding Avenue business area.

Policy 3.2 – The Town shall maintain, and improve where appropriate, zoning regulations which permit residential complexes which provide a variety of housing unit sizes and types.

Policy 3.3 – The Town shall maintain, and improve where appropriate, zoning regulations which encourage and/or permit the assemblage of large lots at selected locations on Collins Avenue and Harding Avenue.

Policy 3.4 – The Town shall maintain, and improve where appropriate, zoning regulations which require landscape treatments to improve the appearance of at grade parking areas.

Policy 3.5 – The Town shall maintain, and improve where appropriate, zoning regulations which facilitate the use of plazas, recreational amenities, and abundant landscaping and other open space.

Policy 3.6 – The Town shall maintain a future land use map pattern and other development regulations which limit new tourist facilities to properties in the Moderate Density Residential/Tourist, Moderate-High Residential, and High Density Residential/Tourist land use categories.

Policy 3.7 – The Town shall adopt, maintain, and improve where appropriate, zoning code regulations which help secure a high quality of environment, regarding livability, visual interest, identity and sense of place by implementing the recommendations as presented in the Town's adopted Design Guidelines.

~~Policy 3.8 – By December 2010 the Town shall consider the financial feasibility of conducting a "Business District Expansion Study" to evaluate the expansion of the business district to the south along Harding Avenue, as identified in the November 2006 Charrette.~~

~~Policy 3.9 – By June 2011 the Town shall consider the financial feasibility of conducting a "Parking Trust Fund Study" to evaluate the area's best suited for development, cost, funding techniques and sources, and timeline to construct parking garages within the business district, as identified in the November 2006 Charrette.~~

~~Policy 3.10 – By June 2011 the Town shall consider the financial feasibility of conducting a "Streetscape Masterplan Study" to evaluate the cost, funding techniques and sources, and timeline to complete the façade improvements, wayfinding and place making techniques and pedestrian focused improvements.~~

~~Policy 3.11 – By December 2011 the Town shall consider the financial feasibility of a "Park Enhancement Study" to evaluate the development of under utilized park land and Town owned land including street end parks east of Collins Avenue, as identified in the November 2006 Charrette.~~

**Objective 4 – Elimination or reduction of uses which are inconsistent with community character:** In general, encourage the elimination or reduction of uses which are inconsistent with the community's

character and future land uses. In particular, achieve the elimination of all inconsistent land uses. This objective shall be measured by implementation of its supporting policies. ~~{9J-5.006 (3) (b) 3}~~

Policy 4.1 – Inconsistent uses as referred to in Policy 1.3 are hereby defined as any uses which are located on a site where they would not be permitted by this comprehensive plan.

Policy 4.2 – The Town shall maintain and improve land development regulations which protect the rights of property owners to continue non-conforming uses, but which, at a minimum, provide for the termination of such rights upon the abandonment of a non-conforming use for an extended period of time. Land development regulations which require the elimination of non-conforming uses after a period of amortization shall be consistent with this policy and this comprehensive plan in general.

**Objective 5 – Ensure protection of natural resources:** In general, ensure protection of natural resources. In particular, ensure that stormwater systems which discharge into surface water bodies do not degrade the ambient water quality, particularly the Biscayne Bay Aquatic Preserve.

Policy 5.1–The Town shall monitor the Town's storm drainage system to determine what additional actions may be necessary to improve the storm drainage system. ~~{9J-5.006 (3) (e) 4}~~

Policy 5.2 – The Town shall maintain and enforce a storm water management ordinance which requires that future development provide for onsite-storm water retention.. The enacted provisions shall be consistent with applicable standards promulgated by the South Florida Water Management District, the South Florida Regional Planning Council, the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, and/or other agencies with relevant jurisdiction and/or information. ~~{9J-5.006 (3) (e) 4}~~

Policy 5.3 – The Town shall prohibit the deposit of solid waste or industrial waste including spent oils, gasoline by-products or greases accumulated at garages, filling stations and similar establishments that create a health or environmental hazard upon any vacant, occupied or unoccupied premises, parkway or park, and in any canal or waterway within the Town ~~{9J5.013 (2) (e) 1 and 6}~~

Policy 5.4 – The Town shall cooperate with the Florida Department of Environmental Protection to provide effective and timely reviews of local development proposals for sites east of Collins Avenue, particularly with respect to the requirements of the State Coastal Construction Line.

Policy 5.5 – No new point source discharge of stormwaters into coastal waters shall be permitted.

Policy 5.6 – The Town shall seek the acquisition of property to provide increased permeable surface and other opportunities to control run-off into surface waters including coastal waters so as to protect aquatic vegetation. All publicly-owned property shall be graded and otherwise improved to ensure maximum protection of surface waters.

Policy 5.7 – Consistent with public health and safety, sanitary sewer, solid waste, drainage, adequate water supplies, and potable water facilities shall be in place and available to serve new development no later than the issuance of a certificate of occupancy. Prior to approval of a building permit, the Town shall consult with the water supplier to determine whether adequate water supplies to serve the new development will be available no later than the anticipated date of issuance of a certificate of occupancy.

Policy 5.8 – Proposed future land use map amendments shall be supported with data and analysis from the adopted Town of Surfside 1520-Year Water Supply Facilities Work Plan demonstrating that adequate water supplies and associated public facilities will be available to meet the projected growth demands.

Policy 5.9 – The Town shall ensure coordination between land use and future water supply planning with the adoption and implementation of the Surfside 1520-Year Water Supply Facilities Work Plan within 18 months of the adoption of the Lower East Coast Water Supply Plan, or its update, as required by Chapter 163, Florida Statutes.

Policy 5.10 – The Town shall coordinate land uses and future land use changes with available and projected fiscal resources and a financially feasible schedule of capital improvements for water supply and facility projects.

Policy 5.11 – The Town shall adopt level of service standards to evaluate whether adequate potable water service will be available concurrent with development.

Policy 5.12 – Ensure the adopted Town of Surfside 1520-Year Water Supply Facilities Work Plan is consistent with the Lower East Coast Water Supply Plan and the Miami-Dade County 20-Year Water Supply Facilities Work Plan.

Policy 5.13 – The Town shall adopt by reference the 1520-Year Water Supply Facilities Work Plan, ~~dated November 26, 2008,~~ containing projects and an implementation schedule. The Work Plan shall be updated, at a minimum, every five years.

Policy 5.14 – The Town shall provide for the protection of water quality in the traditional and new alternative water supply sources.

Policy 5.15 – No development order shall be issued unless the Miami-Dade Water and Sewer Department (WASD) certifies that adequate potable water supply is available for new development. The Town shall provide monthly reports to WASD, as required, to track the amount of water to be allocated for new uses.

Policy 5.16 – WASD shall determine if adequate potable water supply is available for new development within the Town's service area.

**Objective 6 – Protection of historic resources:** The Town shall provide protection of historic resources. In particular, identify and conserve local structures and sites which are of historic significance.

Policy 6.1 – The Town shall provide for appropriate use and protection of known historic structures through the site plan review process.

~~Policy 6.2 – The Town shall explore the possibility of obtaining grants, funding assistance, and other financial resources in order to undertake a survey of structures by 2012 to determine if any structures merit historical recognition.~~

Policy 6.2 ~~3~~ – Prior to commencing any public construction or issuing any permits for private construction, not to include minor construction such as resurfacing of an existing street, construction of a residential fence and/or any other such improvement which will not disturb the archeological assets which lie well below the surface of these areas, within the areas identified as



the Surfside Midden and the Surfside Mound, the Town shall notify Miami-Dade County's Historic Preservation Division.

Policy 6.3\_4 – The Town shall coordinate historic resource protection activities, procedures and programs with applicable state and federal laws, policies and guidelines.

**Objective 7 – Coordination of population with hurricane evacuation plans:** Coordinate population densities with the applicable local or regional coastal evacuation plan ~~{9J-5.006 (3) (b) 5}~~ and coordinate future land uses by encouraging the elimination or reduction of land uses which are inconsistent with applicable interagency hazard mitigation report recommendations ~~{9J-5.006 (3) (b) 6}~~. This objective shall be measured by implementation of its supporting policies. ~~{9J5.006 (3) (b) 5 and 6}~~

Policy 7.1 – The Town Manager or designee shall annually assess the Town's existing and permitted population densities to determine if changes are significant enough to transmit such data to the Miami-Dade County Department of Emergency Management and Homeland Security to assist in their hurricane evacuation planning.

Policy 7.2 – The Town shall regulate all future development within its jurisdiction in accordance with the goals and objectives of the “The Local Mitigation Strategy for Miami-Dade County and its Municipalities, Departments and Private Sector Partners” (June 2008). The Town shall periodically review and revise the Future Land Use Map in light of future interagency hazard mitigation reports in order to reduce or eliminate uses which are inconsistent therewith.

Policy 7.3 – Enhance the efforts of the Miami-Dade County Department of Emergency Management and Homeland Security by providing it with all relevant information.

**Objective 8 – Discourage the proliferation of urban sprawl:** The Town shall consider changes to the future land use plan based upon energy-efficient land use patterns and discourage the proliferation of urban sprawl. This objective shall be measured by implementation of its supporting policy. ~~{9J-5.006 (3) (b) 8}~~

Policy 8.1 – The Town shall support and preserve the Town's Future Land Use Map and existing land use pattern which provides for a walkable, compact layout of accessible shopping, entertainment, recreation, and employment opportunities for Town residents

Policy 8.2 – The Town shall support and preserve the Town's existing diverse housing stock which includes both single family and multi-family housing options.

Policy 8.3 – The Town shall continue to allow home based businesses to the extent that impacts are compatible with a residential community.

Policy 8.4 – The Town shall ensure the comprehensive plan and zoning code do not prevent the construction of electric substations within the Town.

Policy 8.5 – The zoning code shall allow for use of alternate, renewable sources of energy including the use of solar panels.

**Objective 9 – Drainage and sewer system land needs:** Ensure the availability of suitable land for drainage and sanitary sewer system facilities needed to support planned infrastructure improvements. This objective shall be measured by implementation of its supporting policies. ~~{9J5.006 (3) (b) 9}~~

Policy 9.1 – The Town shall maintain and improve code of ordinance provisions for sewer lift stations, stormwater lift stations and collection/infiltration mechanisms and other utility land requirements.

Policy 9.2 – The Town shall not vacate any road right-of-way without first obtaining an engineering opinion determining that the vacated right-of-way is not necessary to accommodate future storm and/or sanitary sewer facilities, all of which are expected to be needed in the future can be accommodated in such rights-of-way.

**Objective 10 – Innovative development regulations:** Encourage the use of innovative land development regulations. This objective shall be measured by implementation of its supporting policy. ~~[9J-5.006-(3)-(b) 40]~~

Policy 10.1 – Through its building permit and development review process, the Town shall encourage residents and developers to adhere to the design recommendations as set forth in the Town’s adopted design guidelines ~~and the November 2006 Charrette.~~

Policy 10.2 – ~~Within one (1) year of the adoption of this element, the~~ As necessary, the Town shall review the zoning code’s current permitted uses to determine appropriate revisions; ~~primarily in the Harding Avenue business district,~~ or new categories.

Policy 10.3 – The Town shall utilize Best Practices planning research to review and modify zoning code regulations.

Policy 10.4 – The Town shall continue to monitor updates to sea level rise forecasts and take into consideration the most current data when making decisions regarding land use amendments, capital improvements, infrastructure or critical public facilities projects.

Policy 10.5 – The Town shall maintain land development regulations requiring the use of Crime Prevention through Environmental Design.

Policy 10.6 – The Town shall maintain land development regulations that allow reasonable relief from the Town land development regulations or the use restrictions of this Comprehensive Plan in order to address possible unintended violations of the Religious Land Use and Institutionalized Persons Act of 2000 or the Florida Religious Freedom Restoration Act of 1998. For the purpose of allowing such relief, the land development regulations shall provide that religious land uses may be permitted in the areas of the Town as depicted on Map FLU-8 of this Comprehensive Plan.

**Objective 11 – Greenhouse gas reduction strategies:** The Town shall implement greenhouse gas reduction strategies.

Policy 11.1 – In accordance with Section 255.2575, F.S. the Town will construct all future municipal buildings to meet the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative’s Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system as approved by the Florida Department of Management Services.

Policy 11.2 – The Town shall maintain and improve adopted Design Guideline provisions which encourage the use of the United States Green Building Council (USGBC) Leadership in Energy

and Environmental Design (LEED) rating system, the Green Building Initiative's Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system for both residential and commercial properties. Within two (2) years of adoption of this element, the Town shall explore incentives for use of green building standards in new development and redevelopment.

Policy 11.3 – ~~Continue to investigate~~ ~~By December 2012 the Town shall consider~~ the financial feasibility of conducting a "Pedestrian and Bicycle Network Study" to evaluate the cost, funding techniques and sources, and timeline to create a pedestrian and bicycle network that links the Town's parks, recreational and natural amenities, and business district ~~as identified in the November 2006 Charrette.~~

Policy 11.4 – ~~Continue to support and provide~~ ~~Within two (2) years of the adoption of this element,~~ bicycle parking facilities ~~shall be provided~~ at strategic beach access points and at public parks.

Policy 11.5 – The Town shall continue to support transit ready commercial and multi-family development along major transportation corridors.

Policy 11.6 – The Town shall continue to support the existing Miami-Dade County Transit bus routes that service the Town.

~~Policy 11.7 – The Town shall continue to support the weekly Surfside Farmer's Market in order to encourage local agriculture.~~

Policy 11.7 & – The Town shall continue to participate in Miami-Dade County's curbside recycling program.

**Objective 12 - Increase Community resiliency:** The Town shall increase community resiliency through land use and built environment decisions.

Policy 12.1 - The Town of Surfside shall encourage greener, more energy-efficient and climate resilient construction practices by:

a) requiring that the construction or renovation of Town-owned facilities meets Florida Green Building Coalition, US Green Building Council Leadership in Energy and Environmental Design (LEED), or other acceptable commercial building standards;

b) encouraging commercial builders to require that the construction or renovation of commercial facilities meets Florida Green Building Coalition, US Green Building Council Leadership in Energy and Environmental Design (LEED), or other acceptable commercial building standards;

c) encouraging licensed Town personnel to maintain LEED Green Associate certification;

d) re-evaluating finish floor elevation standards with respect to projected sea level rise scenarios and flooding potential, and;

e) incorporating building design specifications that increase resistance to more frequent and/or intense storm events.

f) requiring development activities be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable Floodplain Management regulations set forth in 44 C.F.R. Part 60.

Policy 12.2 - The Town, shall review and evaluate by 2020 the zoning code according to sustainable community development practices, such as those outlined in the criteria recommended

by the United States Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) certification, Smart Growth Principals, the Urban Land Institute, or by application of a national rating system for local governments, such as the STAR Community Index™ (STAR) and make recommendations on feasible revisions for incorporating increased sustainability.

Policy 12.3 - An integral part of the Town planning processes shall be considerations for adapting the built environment to the impacts of sea level rise including resource management, flood control and stormwater management, coastal management, community development and capital planning. Adaptation strategy options may include but are not limited to: protection; accommodation; managed retreat; avoidance, and/or; other options.

**Objective 13 – Resiliency and sea level rise: Increase opportunities for the community to learn about and participate in decision-making processes regarding resiliency and sea level rise.**

Policy 13.1 - The Town of Surfside shall provide information to the public and community stakeholders about the current and potential impacts of climate change and sea level rise, as well as mitigation, protection, accommodation and adaptation strategies.

Policy 13.2 - The Town of Surfside shall continue to support public education and outreach programs addressing issues including but not limited to: energy efficiency; water conservation; solid waste reduction and recycling; urban forests; native landscaping; air quality, greenhouse gas reduction, and climate change adaptation and response planning.



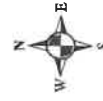
# Surfside Comprehensive Plan

Map: FLU 1

Existing Land Use

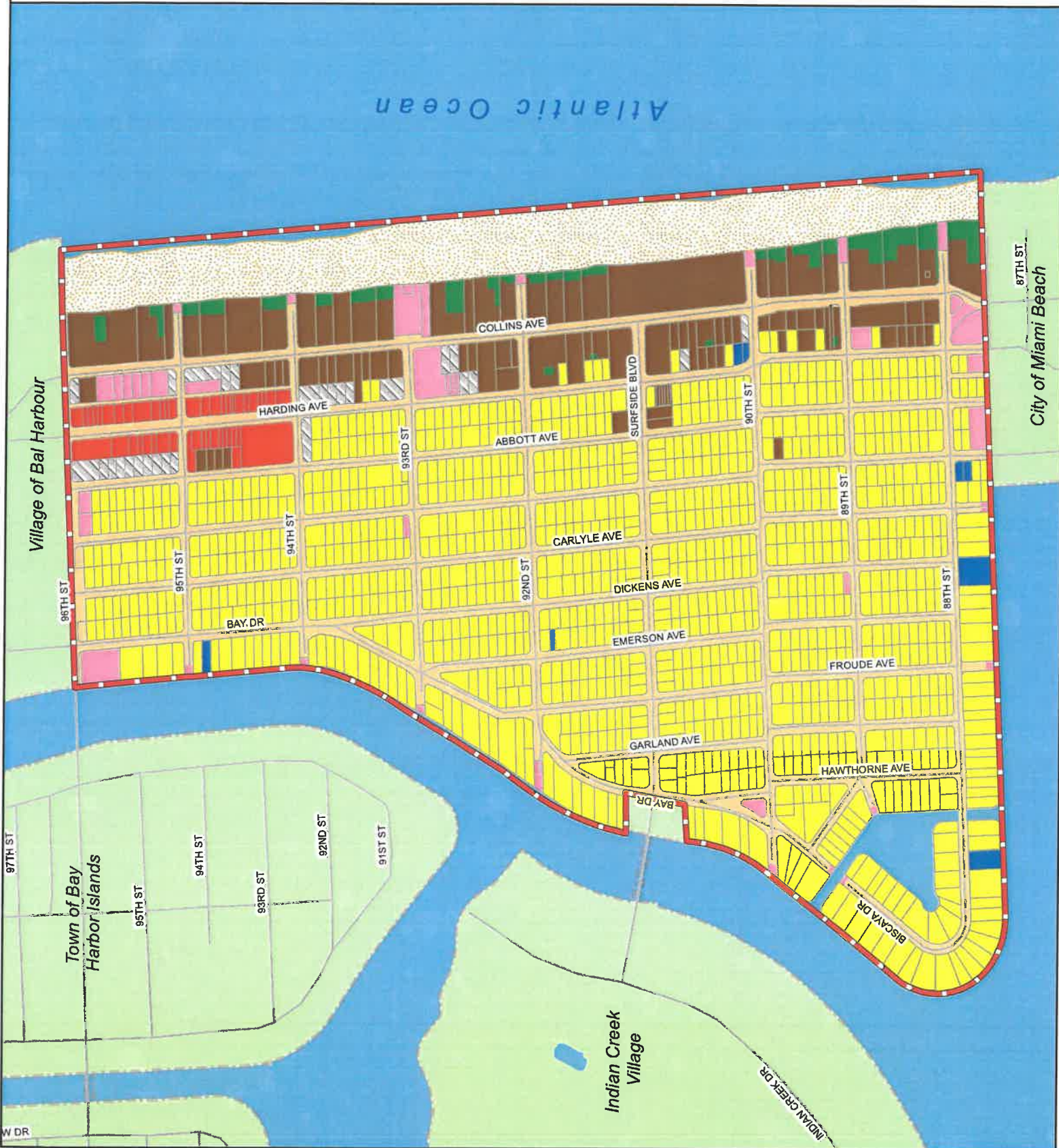
## Legend

- Surfside City Limits
- Adjacent City Limits
- Existing Land Use**
- Beach Area
- Community Facilities
- General Retail/Services
- Multi Family Residential
- Parking
- Private Recreation
- Right of Way
- Single Family Residential
- Vacant
- Water



Print: 6-6-2017

Source: Miami Dade  
GIS Self Services





# Surfside Comprehensive Plan

Map: FLU 2

Soils

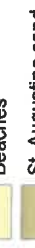
## Legend



Surfside City Limits



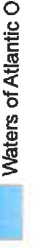
Adjacent City Limits



Beaches



St. Augustine sand



Urban land



Water



Waters of Atlantic Ocean



Print: 6-6-2017

Source: United States Department of Agriculture



Produced and maintained by the City of Surfers Paradise







# Surfside Comprehensive Plan

Map: FLU 3  
Topography

## Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water

## Contours

-  5
-  10
-  15



Print: 6-6-2017

Source: Miami Dade  
GIS Self Services





# Surfside Comprehensive Plan

Map: FLU 4  
Flood Zones

## Legend

- Surfside City Limits
- Adjacent City Limits
- Water

## Flood Zones

- AE
- VE
- Base Flood Elevations determined
- Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined
- X
- Areas determined to be outside the 0.2% annual chance floodplain
- X (SHADED)
- Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood



Print: 6-6-2017

Source: Florida Emergency Management Agency



Produced and maintained by the COA Geographic Information Systems Section







# Surfside Comprehensive Plan

Map: FLU 5  
Water Bodies

## Legend

Surfside City Limits

Adjacent City Limits

## Water Bodies

Atlantic Ocean

Intercoastal

Point Lake



Print: 6-6-2017

Source: Miami Dade  
GIS Services





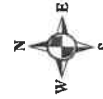
# Surfside Comprehensive Plan

Map: FLU 6  
Aerial Map

## Legend



Surfside City Limits



Print: 6-6-2017

Source: ArcGIS Services



Calvin, Giordano & Associates, Inc.  
EXCEPTIONAL SOLUTIONS



Produced and maintained by the CGA  
Geographic Information Systems Division



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**SR A1A/Harding Avenue**

SR A1A/Harding Avenue is a major principal arterial which runs parallel to Collins Avenue. The three-lane facility serves only southbound traffic.

**SR 922/96th Street**

SR 922/96<sup>th</sup> Street is a minor principal arterial and runs east-west. SR-922/96<sup>th</sup> Street connects Surfside with Bay Harbor Islands and Bal Harbour.

**Primary Local Roads**

The collectors are 88<sup>th</sup> Street, Bay Drive, Dickens Avenue, and Byron Avenue south of 88<sup>th</sup> Street. The major local roads are 91<sup>st</sup> Street/ Surfside Boulevard, Abbott Avenue, 95<sup>th</sup> Street, 94<sup>th</sup> Street, and 93<sup>rd</sup> Street. 91<sup>st</sup> Street/Surfside Boulevard is the only gateway to Indian Creek. A two-lane bridge on the south connects Biscaya Island to the rest of the Town.

*Existing Roadway Level of Service*

The following table 2-1 shows the existing level of service for the state arterial roadways in Surfside.

**Table 2-1 Roadway Existing Level of Service**

| Roadway Name          | Location    |                     | Classification       | Adopted Level of Service | Lanes                     | Adopted LOS E+20 Capacity | Pk Hr Pk Dir Volumes 2007 | Existing Level of Service 2007 |
|-----------------------|-------------|---------------------|----------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------------|
|                       | From        | To                  |                      |                          |                           |                           |                           |                                |
| SR-922/96th Street    | Harding Ave | West of Harding Ave | State Minor Arterial | E+20                     | 2 lanes in each direction | 1,992                     | 1,261                     | D                              |
| SR-A1A/Collins Avenue | 87th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 2,256                     | D                              |
| SR-A1A/Harding Avenue | 88th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 1,797                     | D                              |

Note:

- 1) The peak hour peak direction volume are directly taken from the *FDOT Traffic Information DVD 2007*.
- 2) The adopted level of service standard thresholds are based on the *FDOT Generalized Table 4-7 for Peak Hour Directional Volumes*.

**Table 2-1 Roadway Existing Level of Service**

| Roadway Name          | Location    |                     | Classification       | Adopted Level of Service | Lanes                     | Adopted LOS E+20 Capacity | Pk Hr Pk Dir Volumes 2015 | Existing Level of Service 2015 |
|-----------------------|-------------|---------------------|----------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------------|
|                       | From        | To                  |                      |                          |                           |                           |                           |                                |
| SR-922/96th Street    | Harding Ave | West of Harding Ave | State Minor Arterial | E+20                     | 2 lanes in each direction | 1,992                     | 1,290                     | D                              |
| SR-A1A/Collins Avenue | 87th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 2,205                     | D                              |
| SR-A1A/Harding Avenue | 88th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 2,326                     | D                              |

Note:

- 1) The peak hour peak direction volume are directly taken from the *FDOT Traffic Information DVD 2015*.
- 2) The adopted level of service standard thresholds are based on the *FDOT Generalized Table 4-7 for Peak Hour Directional Volumes*.

*Future Short Term Level of Service*

As shown in Table 2-3, the state roadways within Surfside shall maintain their levels of service through 2020.

**Table 2-2 Future (2020) Peak Hour Peak Direction Level of Service Analysis**

| Roadway Name          | Location    |                     | Classification       | Adopted Level of Service | Lanes                     | Adopted LOS E+20 Capacity | Pk Hr Pk Dir Volumes 2015 | Existing Level of Service 2015 |
|-----------------------|-------------|---------------------|----------------------|--------------------------|---------------------------|---------------------------|---------------------------|--------------------------------|
|                       | From        | To                  |                      |                          |                           |                           |                           |                                |
| SR-922/96th Street    | Harding Ave | West of Harding Ave | State Minor Arterial | E+20                     | 2 lanes in each direction | 1,992                     | 1,316                     | D                              |
| SR-A1A/Collins Avenue | 87th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 2,249                     | D                              |
| SR-A1A/Harding Avenue | 88th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 2,373                     | D                              |

Note:

- 1) The peak hour peak direction volume are directly taken from the *FDOT Traffic Information DVD 2015*.
- 2) The adopted level of service standard thresholds are based on the *FDOT Generalized Table 4-7 for Peak Hour Directional Volumes*.

*Future Long Range Level of Service*

As shown in Table 2-2, the state roadways within Surfside shall maintain their levels of service through 2040.

**Table 2-2 Future (2030) Peak Hour Peak Direction Level of Service Analysis**

| Roadway Name          | Location    |                     | Classification       | Adopted Level of Service | Lanes                     | Adopted LOS E+20 Capacity | 2030 Daily Volumes | K     | D      | Pk Hr Pk Dir Volumes 2030 | Future Level of Service 2030 |
|-----------------------|-------------|---------------------|----------------------|--------------------------|---------------------------|---------------------------|--------------------|-------|--------|---------------------------|------------------------------|
|                       | From        | To                  |                      |                          |                           |                           |                    |       |        |                           |                              |
| SR-922/96th Street    | Harding Ave | West of Harding Ave | State Minor Arterial | E+20                     | 2 lanes in each direction | 1,992                     | 34,454             | 0.095 | 0.5500 | 1,800                     | D                            |
| SR-A1A/Collins Avenue | 87th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 27,292             | 0.095 | -      | 2,593                     | D                            |
| SR-A1A/Harding Avenue | 88th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 27,006             | 0.095 | -      | 2,566                     | D                            |

Note:

- 1) The bi-directional volumes are directly taken from the *Miami Dade County MPO 2030 Long Range Transportation Plan (LRTP)*.
- 2) The adopted level of service standards are based on the *FDOT Generalized Table 4-7 for Peak Hour Directional Volumes*.
- 3) The peak hour factor (K) and directional factor (D) are directly taken from the *FDOT Quality/Level of Service Handbook*.

**Table 2-32 Future (2040) Peak Hour Peak Direction Level of Service Analysis**

| Roadway Name          | Location    |                     | Classification       | Adopted Level of Service | Lanes                     | Adopted LOS E+20 Capacity | 2040 Daily Volumes | K     | D      | Pk Hr Pk Dir Volumes 2040 | Future Level of Service 2040 |
|-----------------------|-------------|---------------------|----------------------|--------------------------|---------------------------|---------------------------|--------------------|-------|--------|---------------------------|------------------------------|
|                       | From        | To                  |                      |                          |                           |                           |                    |       |        |                           |                              |
| SR-922/96th Street    | Harding Ave | West of Harding Ave | State Minor Arterial | E+20                     | 2 lanes in each direction | 1,992                     | 36,220             | 0.095 | 0.5500 | 1,811                     | D                            |
| SR-A1A/Collins Avenue | 87th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 28,691             | 0.095 | -      | 2,869                     | D                            |
| SR-A1A/Harding Avenue | 88th Avenue | SR-922/96th Street  | State Major Arterial | E+20                     | 3 lanes-one way           | 2,988                     | 28,391             | 0.095 | -      | 2,839                     | D                            |

Note:

- 1) The bi-directional volumes are directly taken from the *Miami Dade County MPO 2040 Long Range Transportation Plan (LRTP)*.
- 2) The adopted level of service standards are based on the *FDOT Generalized Table 4-7 for Peak Hour Directional Volumes*.
- 3) The peak hour factor (K) and directional factor (D) are directly taken from the *FDOT Quality/Level of Service Handbook*.

*Capital Improvement Projects*

Currently, the only roadway capital improvements planned in Surfside are a bridge rehabilitation project, FDOT resurfacing projects multimodal trail project and transit improvement project along Collins Avenue that does not affect level of service.

**Table 2-3 FDOT Five Year Work Plan (FY10-FY14)**

| FDOT Projects   |   |         |                    |                    |         |         |                    |
|---|---|---------|--------------------|--------------------|---------|---------|--------------------|
| Project Name  | Location  | FY 2010 | FY 2011            | FY 2012            | FY 2013 | FY 2014 | Total              |
| SRAIA/Collins Avenue Resurfacing<br>FDOT Item No. 4198581 | 150 feet north of 75 <sup>th</sup> Street to north of 96 <sup>th</sup> Street |         |                    | \$5,516,000        |         |         | \$5,516,000        |
| SRA1A/Harding Avenue Resurfacing<br>FDOT Item No. 4198601 | 75 Street to 91 <sup>st</sup> Street  |         |                    | \$1,462,000        |         |         | \$1,462,000        |
| SRA1A/Harding Avenue Resurfacing<br>FDOT Item No. 4198231 | From Bal Harbor Shop Entrance to 94 <sup>th</sup> Street                      |         | \$1,056,000        |                    |         |         | \$1,056,000        |
| <b>Total Cost of FDOT Projects</b>                        |   |         | <b>\$1,056,000</b> | <b>\$6,978,000</b> |         |         | <b>\$8,034,000</b> |

Source: FY2010-2014 Transportation Improvement Program, Miami-Dade Metropolitan Planning Organization

**Table 2-4 FDOT Five Year Work Plan (FY17-FY21)**

| FDOT Projects                       |                                      |         |         |         |         |                    |                    |
|-------------------------------------|--------------------------------------|---------|---------|---------|---------|--------------------|--------------------|
| Project Name                        | Location                             | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021            | Total              |
| Indian Creek Bridge<br>#876100 PD&E | 91 <sup>st</sup> Street/<br>Surfside |         |         |         |         | \$1,515,001        | \$1,515,001        |
| <b>Total Cost of FDOT Projects</b>  |                                      |         |         |         |         | <b>\$1,515,001</b> | <b>\$1,515,001</b> |

Source: FY2018-2023 FDOT Work Program

| Miami Dade Transportation Planning Organization - Transportation Improvement Projects |                      |         |         |         |         |                     |       |
|---|----------------------|---------|---------|---------|---------|---------------------|-------|
| Project Name  | Location             | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2031-2040        | Total |
| Collins Avenue Enhanced Bus   | Collins Avenue       |         |         |         |         | \$54,210,000        |       |
| Atlantic Trail  | North of Miami Beach |         |         |         |         | \$ 4,082,000        |       |
| <b>Total Cost of Miami-Dade MPO Projects</b>  |                      |         |         |         |         | <b>\$58,292,000</b> |       |

*Economic Development*

~~SR A1A is currently divided into a one way pair that includes Collins Avenue and Harding Avenue. Each roadway consists of three lanes with parallel parking along both sides. The current A1A one way pair has proved to be inefficient and caused many frustrated commuters to redirect their routes into the surrounding neighborhood streets. The local traffic using the one way pair is frequently forced to make many unnecessary turns to access businesses, particularly on Harding Avenue. This results in a greater vehicular delay along with an unfriendly pedestrian environment. However, while the vehicle delay is significant at the intersections because of the large number of left turns, speeding is a concern at many of the stretches along the one way pair and on the neighborhood streets. Originally, both Collins Avenue and Harding Avenue were two way roadways.~~

~~A 2006 Design Charrette identified the opportunity to explore reverting from the current one way pairs of Collins Avenue and Harding Avenue to their original two way configuration. The Charrette recommended that Collins Avenue be converted to a four lane divided roadway with two sidewalks and no parking while Harding Avenue is converted to a two lane roadway with two sidewalks. Additionally, bike lanes would be added along both sides of Harding Avenue south of 93<sup>rd</sup> Street.~~

~~The conversion of Collins Avenue may allow the roadway to become an upscale boulevard with a beautifully landscaped median which is more in tune with the surrounding multi story buildings. Similarly, the conversion of Harding Avenue may allow the street to become more in scale with the surrounding single family homes and townhomes.~~

~~There are several more benefits of the two way configuration other than just the aesthetic appeal. Safer pedestrian crossing on the two way streets may occur with narrower lanes and middle islands, further increasing public safety. The reduction in turns may be more convenient and safer for local drivers and pedestrians. The reduction in speeds will lead to less severe crashes. The aforementioned A1A modifications would encourage a multi-modal traffic circulation system that accommodates the future land use map.~~

### *Neighborhood Traffic*

The Town of Surfside is currently facing the challenges of fast growth in the South Florida area. The Town of Surfside was not designed and built to accommodate high speed and high volume traffic. As a result, the Town is experiencing high speed cut-through traffic on the Town's local streets in an attempt to avoid the congested arterials. The Town is striving to provide excellent quality of living for its residents and visitors, while maintaining the character of the Town. Some traffic calming has been used to address the issues of speeding and cut-through traffic problems. The Town conducted a series of public input meetings known as the Surfside Charrette to identify the existing problems and solutions to achieve the Town's vision. The Town of Surfside had a Townwide Traffic Study completed in December of 2012 that evaluated the neighborhood traffic intrusion and recommended a list of traffic mitigation improvements on the local road network.

### *Bicycle and Pedestrian Ways*

There are sidewalks on Collins Avenue, Harding Drive, and parts of Abbot Avenue. Map TRN-5 shows the existing and future sidewalks. No new sidewalks or bike paths are planned.

### *Transit*

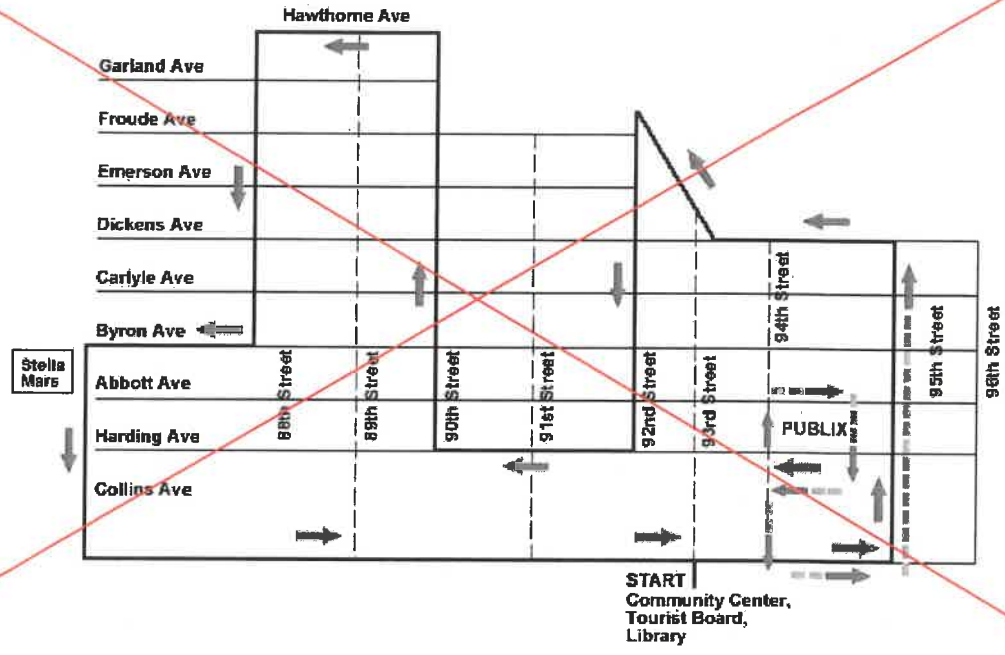
## PUBLIC TRANSPORTATION SYSTEM

Six bus routes from Miami-Dade Transit travel through the Town, most of which run along Collins Avenue. The following are the route numbers, service areas and features.

| Route                                     | Service Areas  | Features                                      |
|---|--|---|
| <u>E</u>                                  | <u>Golden Glades Park &amp; Ride Lot, Jackson North, The Mall at 163rd Street, City of North Miami Beach, Eastern Shores, Winston Towers, Aventura Mall, Turnberry Isle, Diplomat Mall/Hallandale</u>  | <u>Wheelchair</u><br><u>Bike</u>              |
| G   | NW 27 Avenue/163 Street, Bunche Park, Opa-locka, Bal Harbour, Collins Avenue, City of Miami Beach, Lincoln Road, Convention Center Drive   | Wheelchair<br>Bike                            |
| H   | North Miami Beach, Skylake Mall, The Mall at 163rd Street, Sunny Isles Boulevard, Bal Harbour, Bal Harbour Shops, City of Miami Beach, Collins Avenue, Lincoln Road Mall, South Beach, Rebecca Towers  | Wheelchair                                    |
| <del>K</del>                              | <del>Omni Bus Terminal, Downtown (Miami) Bus Terminal, Federal Building, MacArthur Causeway, South Beach, Washington Avenue, City of Miami Beach, Haulover Marina, Winston Towers, Hallandale Beach Boulevard (Broward County), Diplomat Mall (Broward County)</del>                 | <del>Wheelchair</del><br><del>Metrorail</del> |
| <del>R</del>                              | <del>City of Miami Beach, Alton Road, Mount Sinai Hospital, Miami Heart Institute, Collins Avenue, Hawthorne Avenue, 96 Street/Harding Avenue</del>  | <del>Wheelchair</del>                         |
| S   | Downtown (Miami) Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Government Center Metrorail Station, Omni Bus Terminal, MacArthur Causeway, City of Miami Beach, South Beach, Lincoln Road, Collins Avenue, 192 Street Causeway, Aventura, Aventura Mall           | Wheelchair                                    |
| 120<br>Beach<br>MAX                       | Downtown (Miami) Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Government Center Metrorail Station, Miami-Dade College Wolfson Campus, Omni Bus Terminal, Julia Tuttle Causeway, City of Miami Beach, Collins Avenue, Surfside, Bal Harbour, Haulover Park Marina | Wheelchair<br>Bike<br>Metrorail               |
| <u>Mid-North<br/>Beach<br/>Connection</u> | <u>Harding/88 St., Alton Road, Sheridan Avenue, Lincoln/Washington, Mt. Sinai Medical Center, 17 St./Washington Ave.</u>   | <u>Wheelchair</u><br><u>Bike</u>              |

Additionally, the Town has its own bus system which complements the Miami-Dade County Transit system. The Town's mini-buses circulate between the business district and residential areas.

**Figure 2-1 Surfside Mini-Bus Route**





**Figure 2-1 Surfside Mini-Bus Route**



Source: Town of Surfside (<http://www.townofsurfsidefl.gov>)

## FUTURE TRANSIT

The MPO Long Range Transportation Plan (~~2030-2040~~) indicates that premium transit is planned for A1A from 81<sup>st</sup> Street to the Broward County line. However, at this time it is a Priority IV unfunded project and therefore, because of the uncertainty of implementation, the route has not be added to the Existing and Future (~~2030-2040~~) Transit map.

## EXISTING MODAL SPLIT AND VEHICLE OCCUPANCY RATES

According to journey-to-work data collected in the ~~2000~~ 2010 census, single-occupant automobile trips account for approximately ~~78.8%~~ 72.7% of all trips to and from work reported by residents in Surfside. Carpools account for approximately ~~9.9%-11.6%~~, public transit for approximately ~~2.1%,-~~ 6.8%, and walking for approximately ~~2.5%~~ 3.6% of all trips. Residents working at home total ~~5.4%~~ 5.1% of the population. For those commuting by private automobile, including carpooling, average vehicle occupancy for Town residents was ~~1.07~~ 1.14 persons, which is less than the ~~1.10~~ 1.49 reported for Miami-Dade County.

The Southeast Florida Regional Travel Characteristics Study, ~~also~~ completed in 2000, reported that the average vehicle occupancy for Miami-Dade County was 1.34 persons per vehicle.

## PARKING FACILITIES

The Town conducted a survey of parking facilities within the Town in 2008. The following is an updated parking estimates of the existing parking facilities in the Town:~~were collected:~~

Metered Parking - ~~671 Spaces~~ 638 spaces

Non-metered - 31 Spaces

Residential - 1545 Spaces

Private – 217 Spaces

*Map FLU 1 Existing Land Uses* shows the locations of parking within the Town. Surfside businesses have indicated a desire for more parking. ~~Therefore, the Town would like to investigate the feasibility of creating a parking trust fund to finance structured parking to support comprehensive plan goals and objectives.~~ The Town has adopted a Downtown Parking Trust Fund Ordinance in December of 2010. The Town also completed a Parking Structure Feasibility Study in March of 2013 and Parking Solution The Next Step Study in April of 2014.

## EVACUATION

Miami-Dade County has identified ~~five~~ three hurricane evacuation/storm surge planning zones based upon potential storm surge. The Town of Surfside is located in Zone BA, as designated by the Miami-Dade Department of Emergency Management and Homeland Security, with Miami Beach and all islands lying within Biscayne Bay, including Sunny Isles Beach, Bal Harbour, Bay Harbor Islands, Indian Creek Village, Surfside, and North Bay Village. *Map CST-2* shows the evacuation route along 96<sup>th</sup> Street/Broad Causeway. The Zones are designated based upon the SLOSH model developed by the storm surge group at the National Hurricane Center working with the U.S. Army Corps of Engineers, the U.S. Geological Survey and the Federal Emergency Management Agency in cooperation with state and local offices of emergency management. (Note: SLOSH is an acronym for "Sea Lake and Overland Surge from Hurricanes.")

Miami-Dade Transit will activate specific Emergency Evacuation Bus Pick-Up Sites by zone. These buses will only travel between the Emergency Evacuation Bus Pick-Up Site and the Hurricane Evacuation Center. The Surfside Town Hall is an evacuation pick up site in Zone B. The closest Evacuation Center designated by Miami-Dade County is North Miami Senior High School at 13110 NE 8<sup>th</sup> Avenue, North Miami, FL. 33161. ~~Charles Drew Middle School at 1801 NW 60<sup>th</sup> Street, Miami, Florida 33142.~~

## **EVACUATION TIMES**

The Miami-Dade County Comprehensive Emergency Management Evacuation Plan(CEMP) dated June 2013 provides clearance times for critical evacuation routes. The closest evacuation route is 96<sup>th</sup> Street/Broad Causeway. ~~The following tables show clearance times for 96<sup>th</sup> Street/Broad Causeway at low and high capacities.~~

**Table 2-4 Miami Dade Clearance Times (Low Capacity)**

| Critical Roadway Segment                                 | Clearance Times A Low Occ | Clearance Times B Low Occ | Clearance Times C Low Occ |
|--|---------------------------|---------------------------|---------------------------|
| I-95 northbound at Ft Pierce                             | 20.89                     | 39.64                     | 44.50                     |
| Florida Turnpike northbound at Glades Rd in P Bch County | 22.14                     | 42.14                     | 47.21                     |
| I-95 northbound out of Miami - Dade                      | 8.53                      | 14.17                     | 17.23                     |
| Florida Turnpike northbound out of Miami - Dade          | 9.43                      | 16.00                     | 19.07                     |
| I-75 west/northbound out of Miami - Dade                 | 5.25                      | 7.28                      | 10.04                     |
| US 27 northbound out of Miami - Dade                     | 7.28                      | 11.47                     | 14.83                     |
| US 41 westbound out of Miami - Dade                      | 8.95                      | 15.43                     | 20.05                     |
| Lehman Causeway  | 7.06                      | 7.26                      | 9.26                      |
| Sunny Isles Causeway                                     | 4.53                      | 4.73                      | 6.73                      |
| Broad Causeway   | 8.06                      | 8.28                      | 10.28                     |
| Kennedy Causeway   | 8.56                      | 8.56                      | 10.56                     |
| NW 79th at I-95  | 12.24                     | 15.15                     | 17.76                     |
| Julia Tuttle Causeway                                    | 6.20                      | 6.20                      | 8.20                      |
| Venetian Causeway  | 7.28                      | 7.28                      | 9.28                      |
| MacArthur Causeway                                       | 11.39                     | 11.39                     | 13.39                     |
| Homestead Ext of Fla Turnpike south of US 27             | 6.03                      | 8.90                      | 14.10                     |

Source: Miami Dade Comprehensive Emergency Management Plan, 2008

**Table 2-5 Miami-Dade County Clearance Times (High Occupancy)**

| Critical Roadway Segment                                 | Clearance Times A High Occ | Clearance Times B High Occ | Clearance Times C High Occ |
|--|----------------------------|----------------------------|----------------------------|
| I-95 northbound at Ft. Pierce                            | 27.86                      | 50.36                      | 58.25                      |
| Florida Turnpike northbound at Glades Rd in P Bch County | 30.00                      | 55.71                      | 62.71                      |
| I-95 northbound out of Miami - Dade                      | 10.07                      | 16.23                      | 19.33                      |
| Florida Turnpike northbound out of Miami - Dade          | 11.23                      | 18.43                      | 21.53                      |
| I-75 west/northbound out of Miami - Dade                 | 5.78                       | 8.09                       | 10.84                      |
| US 27 northbound out of Miami - Dade                     | 8.31                       | 13.28                      | 16.64                      |
| US 41 westbound out of Miami - Dade                      | 10.66                      | 17.82                      | 22.38                      |
| Lehman Causeway  | 7.74                       | 7.98                       | 9.98                       |
| Sunny Isles Causeway                                     | 5.07                       | 5.07                       | 7.07                       |
| Broad Causeway   | 8.72                       | 8.94                       | 10.94                      |
| Kennedy Causeway   | 9.02                       | 9.02                       | 11.02                      |
| NW 79th at I-95  | 13.15                      | 16.76                      | 18.76                      |
| Julia Tuttle Causeway                                    | 6.53                       | 6.53                       | 8.53                       |
| Venetian Causeway  | 7.50                       | 7.50                       | 9.50                       |
| MacArthur Causeway                                       | 11.86                      | 11.86                      | 13.86                      |
| Homestead Ext of Fla Turnpike south of US 27             | 6.73                       | 10.23                      | 15.47                      |

Source: Miami-Dade Comprehensive Emergency Management Plan, 2008

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## Transportation Element Goals, Objectives and Policies

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**Goal:** *Provide a transportation system that meets the needs of the Town of Surfside and the larger community of which Surfside is a part with minimal negative community and environmental impacts on the quality of life for Surfside residents and businesses.*

**Objective 1 – ~~Multi-Modal~~ ~~Motorized and non-motorized~~ transportation system:** In general, provide for a safe, convenient, and efficient ~~Multi-Modal~~ ~~motorized and non-motorized~~ transportation system. In particular, achieve acceptable level of service for roads, and a well connected ~~attractive and convenient~~ bicycle, pedestrian and transit ~~pedestrian~~ facility network that promotes alternative modes of transportation. ~~facilities in order to reduce greenhouse gas emissions.~~ This objective shall be made measurable by its implementing policies. ~~{9J-5.007 (4) (b) 1}~~

Policy 1.1 – The Town shall regulate the timing of development to maintain at least the following peak hour Level of Service standards on roadways that lie within its municipal boundaries: ~~{9J-5.007 (4) (e) 1}~~

*Local roads:* D

*Collector roads:* D

*State Roadways:*

A Level of Service of LOS E+20 shall be established (where mass transit service having headways of 20 minutes or less is provided within 1/2-mile distance, roadways shall operate at no greater than 120 percent of their capacity.)

Policy 1.2 – The Town shall review all proposed developments and issue development orders only when it finds that a proposed development will not cause roadway levels of service to fall below the above standards or cause further degradation of service if conditions at the time of the review indicate that standards are already below the above standards.

Policy 1.3 – As a condition for development approval, the Town may require that proposed new developments provide roadway improvements necessary to meet the level of service standards established above.

Policy 1.4 – The Town shall utilize State Gas Tax funds and other available funding sources for a roadway repaving and reconstruction program and other transportation activities. Among the items which are specifically authorized and encouraged by this policy are the following: sidewalk repair and replacement; public transportation operations and maintenance; roadway and right-of-way maintenance and equipment; roadway and right-of-way drainage improvements; street lighting, traffic signs, traffic engineering, signalization, and pavement markings; bridge maintenance and operations; and debt service and current expenditures for transportation capital projects in each and all of the foregoing program areas.

Policy 1.5 – The Town shall enact and enforce land development code standards and a review process to control roadway access points, on-site traffic flow and on-site parking. The land development code will require the use of joint access drives for adjacent uses. It will also set minimum design standards for: 1) the spacing and design of driveway curb cuts; 2) the size of ingress and egress lanes for major land uses; 3) the spacing and design of median openings; and 4) the provision of service roads. State highway access management standards will be utilized in developing roadway access point controls, particularly on State Road A1A. The access management controls will be tailored to achieve the ends set forth in Objective 1. ~~{9J-5.007 (4) (e)-2}~~

Policy 1.6 – The Town shall seek quick action by Miami-Dade County to replace missing road signs and repair malfunctioning traffic signals.

Policy 1.7 – The Town shall continue a program to trim or remove roadside shrubbery which blocks visibility at intersections.

Policy 1.8 – The Town shall maintain safe, handicapped accessible walkways to the fullest extent possible.

Policy 1.9 The feasibility of developing bike routes shall be determined in all roadway, transit, and park and recreation projects. ~~{9J-5.007 (4) (e) 5}~~

Policy 1.10 – On-site circulation and parking requirements shall be designed to ensure safe and efficient traffic ~~large~~ circulation ~~isles~~, and adequate turning radii and parking spaces. On-site traffic flow and on-site parking standards will be designed to encourage high levels of pedestrian and bicycle use, including requiring bike racks under certain conditions. Pedestrian access-ways will be required through large parking lots to connect building areas to public sidewalks. Bicycle parking racks shall be required for large scale uses. Parking regulations will establish the minimum number of parking spaces which will be required to serve uses; minimums will be based on intensity measures such as building square feet. Parking regulations will establish appropriate minimum parking space dimensions and provide sizes for appropriate traffic ~~circulation-isles, parking stalls and parking stall angles~~. General standards will provide for review of parking lot layout in order to ensure that the layout will be safe. ~~{9J-5.007 (3) (e) 3}~~

Policy 1.11 – The Town shall monitor the impact of the Transportation Concurrency Exception Area (TCEA) in coordination with Miami-Dade County and the MPO.

Policy 1.12 – The Town shall evaluate opportunities to improve walkability throughout the Town by sperating pedestrians from vehicle traffic. This will include looking at pedestrian connectivity of the Town to key points of interest including street ends that lead to the beach. ~~The Town shall educate residents on the environmental impacts of automobile idling.~~

Policy 1.13 – The Town shall continue to support transit ready commercial and multi-family development along major transportation corridors.

~~Policy 1.14 – By June 2011 the Town shall consider the financial feasibility of conducting a “Streetscape Masterplan Study” to evaluate the cost, funding techniques and sources, and timeline to complete façade improvements, wayfinding and place making techniques and pedestrian focused improvements.~~

Policy 1.14 ~~5~~ – Continue to investigate ~~By December 2012 the Town shall consider~~ the financial feasibility of conducting a “Pedestrian and Bicycle Network Study” to evaluate the cost, funding techniques and sources, and timeline to create a pedestrian and bicycle network that links the Town’s parks, recreational and natural amenities, and business district ~~as identified in the November 2006 Charrette.~~

**Objective 2 – Coordination of transportation with land use:** In general, coordinate the traffic circulation system with land uses shown on the future land use map. This objective shall be made measurable by its implementing policies. ~~[9J-5.007(4)(b)-2]~~

Policy 2.1 – The Town shall approve no alteration in the existing traffic circulation system which materially reduces the continuity and rights-of-way of arterial or collector roadways.

Policy 2.2 – The Town shall consider alterations in traffic flow which serve to reduce non local traffic through residential areas as well as improve alternative modes of transportation including pedestrian, bicycle and transit facilities.

Policy 2.3 – The Town shall evaluate locations of mid-block crossings in order to ensure safe pedestrian movements where necessary. The Town will coordinate with FDOT regarding locations along SR A1A Collins Avenue, SR A1A Harding Avenue and 96<sup>th</sup> Street. The Town shall study the financial feasibility of conducting a traffic analysis in order to properly determine the practicability of reestablishing a two way flow on Harding Avenue and Collins Avenue. The analysis should include a parking analysis, access management strategies and a review of traffic signals by June 2011.

Policy 2.4 – Maintain a financially feasible traffic calming program that includes studies of local roadways with significant cut-through traffic and implementation programs.

Policy 2.5 – Ensure roadway signage follows guidelines set forth in the Manual on Uniform Traffic Control Devices (MUTCD).

Policy 2.6 – The Town shall support County and State comprehensive traffic data collection efforts ~~counting systems~~ for annually monitoring roadway levels of service and to coordinate concurrency management with the County and FDOT.

Policy 2.7 – The Town shall support the County’s implementation of a transportation demand management (TDM) program to reduce overall peak-hour demand and use of single occupant vehicles (SOV). This program will include such TDM strategies as the following:

- 1) van pooling and employer-based car pooling;
- 2) employer-based staggered and/or flexible work hours;
- 3) parking management;
- 4) telecommunicating;
- 5) congestion pricing;
- 6) park and ride lots;
- 7) high occupancy vehicle lanes;
- 8) trip reduction ordinances;
- 9) transportation management associations (TMA's); and
- 10) subsidies for transit riders.



Policy 2.8- The Town shall support the County's efforts to improve the operating efficiency of the existing thoroughfare system and reduce peak hour congestion by encouraging the application of low-cost transportation system management techniques including, but not limited to, improved signal timing, pavement marking and signage modifications, ~~and intersection signing, marking, channelization, and on-street parking restrictions.~~

Policy 2.9-The Town shall evaluate neighborhood intersection operations, as financially feasible, to improve the safety of local roadways.

**Objective 3 – Intergovernmental Coordination:** Coordinate the transportation system with the plans and programs of the Miami-Dade Transportation Metropolitan Planning Organization (TPOMPO), South Florida Regional Transportation Authority, and the Florida Department of Transportation.

Policy 3.1 – The Town staff shall annually review and evaluate the Florida Department of Transportation 5-Year Transportation Plan, the Miami-Dade County Transportation Improvement Program and the traffic circulation plans and programs of Miami Beach Indian Creek Islands, and Bal Harbour to determine if plans and programs contained therein necessitate any revision to this or other elements of this Comprehensive Plan.

Policy 3.2 – Appropriate Town staff shall attend selected meetings of Miami-Dade Transportation Metropolitan Planning Organization and related ad hoc committees pertaining to traffic and transportation issues affecting the Town.

Policy 3.3 – The Town shall revise this Transportation Element as necessary in response to results from Policy 3.1~~the above~~.

Policy 3.4 – The Town shall include statements of findings in support of all modifications to this Transportation Element.

Policy 3.5 - The Town shall coordinate with Miami-Dade County, local governments and regional and state agencies in the implementation of the Transportation Element, through mechanisms such as established by the Miami-Dade County TPOMPO, FDOT Districts 4 and 6, the South Florida Regional Transportation Authority, and the South Florida Regional Planning Council.

Policy 3.6 - The Town will continue to coordinate ~~ion~~ with Miami-Dade County regarding traffic operational improvements along the 96<sup>th</sup> Street corridor, ~~left turn signage at the intersection of Abbott Avenue and 96<sup>th</sup> Street.~~

**Objective 4 – Coordination with transit authority:** In general, coordinate with the plans and programs of the Miami-Dade Transit. This objective shall be made measurable by its implementing policy. ~~{9J-5.007-(4)-(b)-3}~~

Policy 4.1 – Appropriate Town staff shall attend selected meetings of Miami-Dade Transit pertaining to levels of service for buses and other transit.

**Objective 5 – Right-of-way protection:** In general, protect existing rights-of-way and future rights-of-way from building encroachment including rights-of-way for mass transit. In particular, achieve zero net loss of right-of-way from building encroachment throughout the period during which this plan is in effect. ~~{9J-5.007-(4)-(b)-5}~~

Policy 5.1 – The Town shall use the land development code as enacted, the land development code enforcement procedures and the building code enforcement procedures to protect existing rights-of-way through setback requirements which prohibit right-of-way encroachments of any kind. The Town shall evaluate opportunities to obtain easements for sufficient ADA sidewalk infrastructure from new developments or redevelopment projects. ~~[9J-5.007 (4) (e) 4]~~

**Objective 6 – Adequate Parking:** The Town shall help provide an adequate supply of parking to serve the business area and major community facilities. Achievement of this objective shall be quantified by the implementation of the following policy.

Policy 6.1 The Town will continue to administer the Downtown Parking Trust Fund Ordinance adopted in December of 2010. The Town will evaluate recommendations for Parking as outlined in the 2013 Parking Structure Feasibility Study and the 2014 Parking Solution The Next Step. ~~By June 2011 the Town shall consider the financial feasibility of conducting a “Parking Trust Fund Study” to evaluate the areas best suited for development, cost, funding techniques and sources, and timeline to construct parking garages within the business district, as identified in the November 2006 Charrette.~~

**Objective 7 – Greater use of mass transit:** The Town shall encourage greater use of existing mass transit facilities. Achievement of this objective shall be measured by the implementation of the following policies:

Policy 7.1 – The Town shall stay updated regarding ~~keep abreast of~~ bus service demand needs and notify Miami-Dade Transit of required service changes as necessary.

Policy 7.2 – The Town shall monitor its mini-bus system and accommodate increasing ridership as necessary.

**Objective 8 – Provision of transit and coordination of transit planning:** In general, provide efficient mass transit and paratransit services based on existing and proposed major trip generators. In particular, provide the Miami-Dade County transportation planning agencies with ad hoc periodic development reports and other input on the status of any development or redevelopment which could alter the need for bus and paratransit services. This objective shall be made measurable by its implementing policies. ~~[9J-5.008 (4) (b) 4]~~

Policy 8.1 – The Town shall prepare a written report to be transmitted to the Transportation Planning Technical Advisory~~Coordinating~~ Committee of the Miami-Dade Transportation Metropolitan Planning Organization outlining the locations, characteristics and/or special transit needs that have developed or been identified in the year preceding the annual request for the Transportation Improvement Program Update. This report shall include: 1) estimated new employment by income; 2) estimated new patrons; 3) estimated new residential occupancy. Potential current and future mass transit needs will be suggested.

Policy 8.2 – The Town ~~shall should~~ support proposals for increased frequency of bus service on arterial roads as a means to relieve congestion ~~tendencies~~ for over capacity transportation facilities during peak hours. Such service should be restricted to arterial and collector roads and should not be provided on local roads because it could be detrimental to residential neighborhoods.~~quietude.~~

**Objective 9 – Coordinate with plans for “transportation disadvantaged people:”** On a continual basis and throughout the effective period of this plan, the Town shall coordinate with Miami-Dade County Transit, the Transportation Metropolitan Planning Organization, the Florida Department of Transportation and any public transportation agency offering special services for “transportation disadvantaged people.” This objective shall be made measurable by its implementing policies. ~~[9J-5.008 (4) (b) 4]~~

Policy 9.1 – Appropriate Town staff shall attend selected meetings of Miami-Dade Transit, the Transportation Metropolitan Planning Organization, the Florida Department of Transportation and any other public transportation agency offering special services for the disadvantaged.

Policy 9.2 – The Town shall encourage the increased use of wheelchair accessible buses on Town routes.

Policy 9.3 – Continue to provide sidewalks within two blocks of bus stops on arterials when costs permit.



# Surfside Comprehensive Plan

Map: TRN 1

Existing and Future Number of Lanes

## Legend

 Surfside City Limits

 Adjacent City Limits

 Water

## Total Number of Lanes

 1

 2

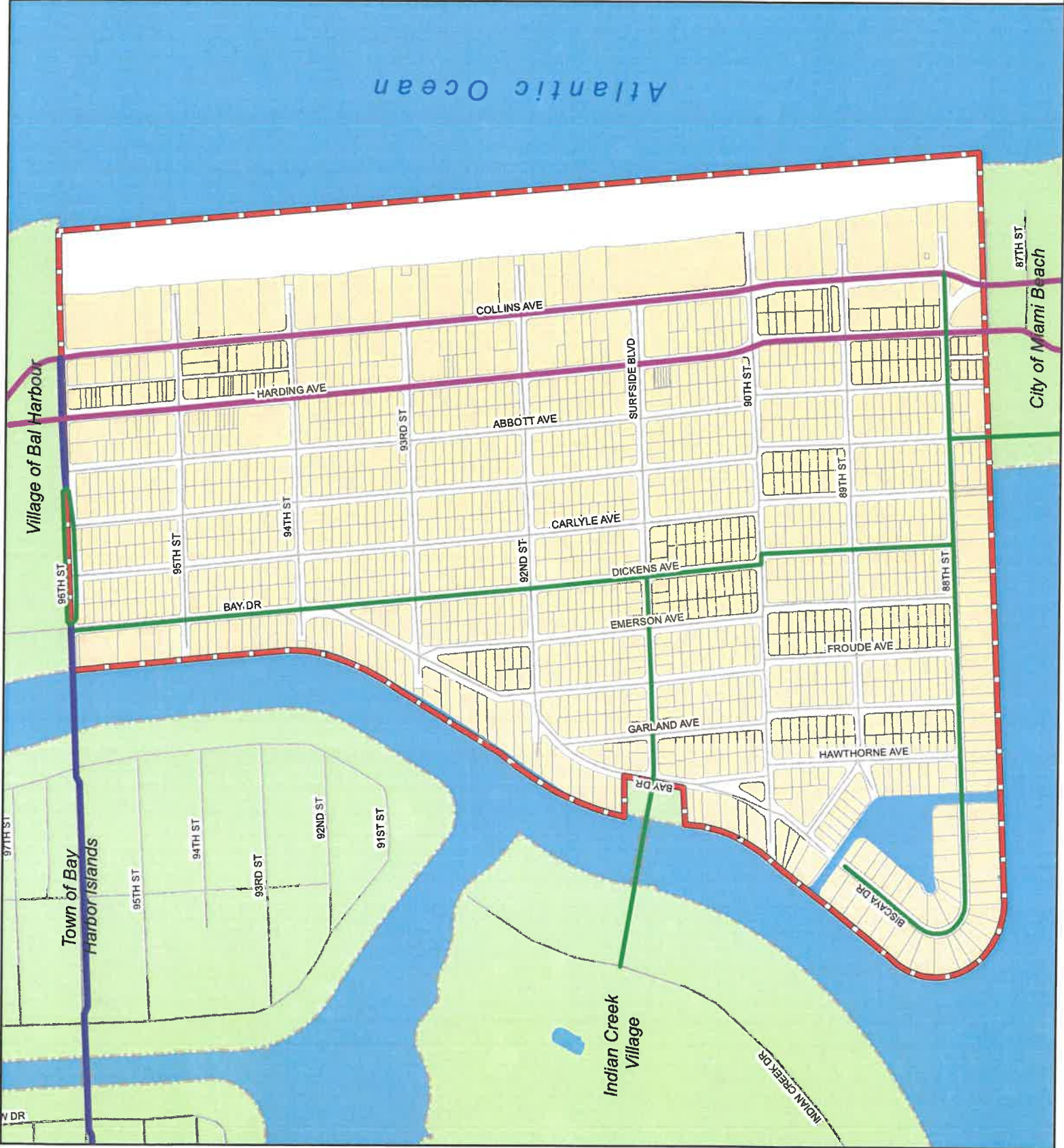
 3

 4



Print: 6-7-2017

Source: Florida Department of Transportation (Revised)





# Surfers Paradise Comprehensive Plan

Map: TRN 2

Existing and Future Functional Classification

## Legend

- Surfers Paradise City Limits
- Adjacent City Limits
- Water

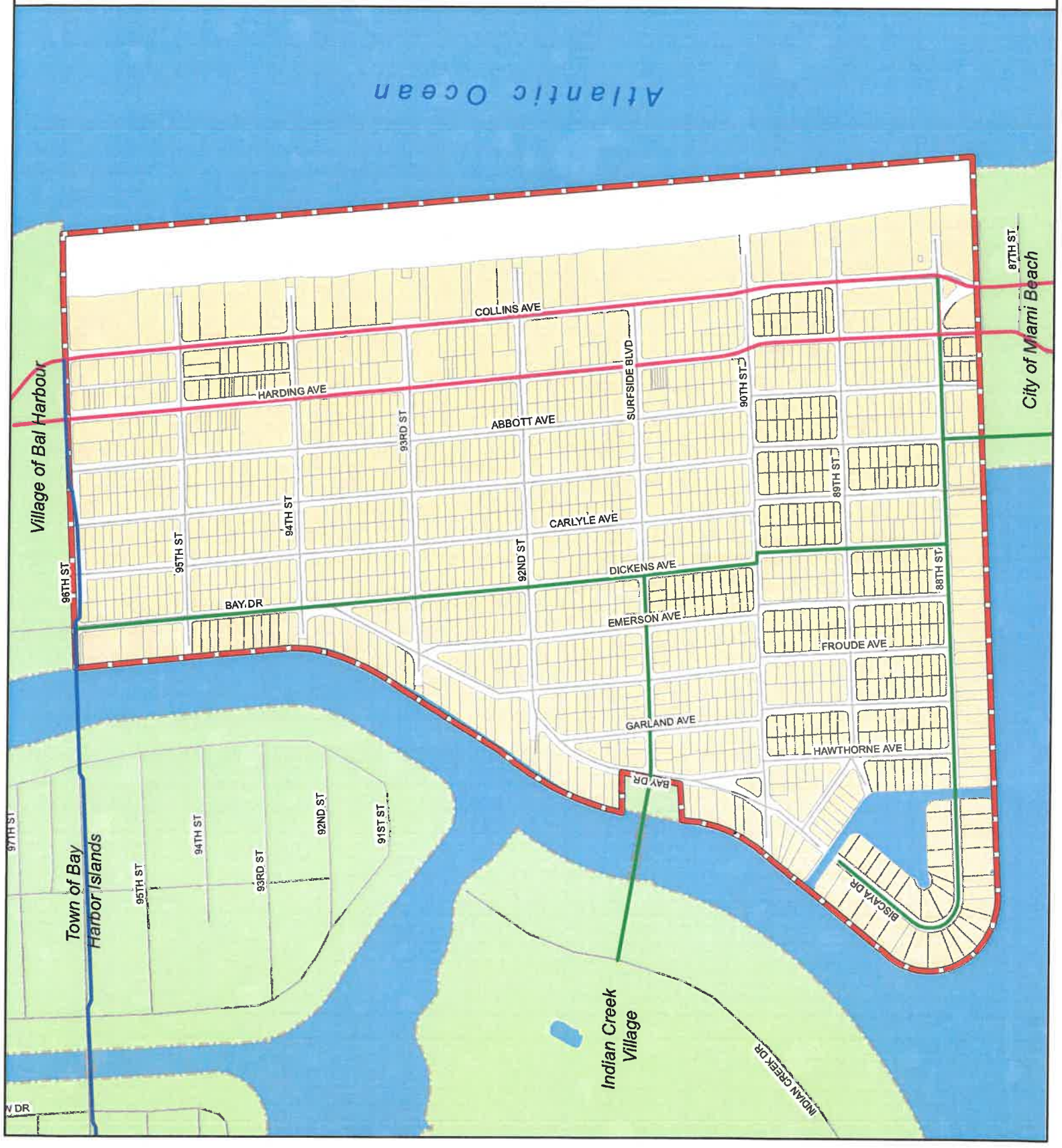
## Functional Classification

- Collector Road
- State Major Arterial
- State Minor Arterial



Print: 6-7-2017

Source: Florida Department of Transportation





# Surfside Comprehensive Plan

Map: TRN 3

Existing Roadway Level of Service

## Legend



Surfside City Limits



Adjacent City Limits

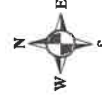


Water

## Level of Service



D



Print: 6-7-2017

Source: Town of Surfside  
Miami Dade MPO



Village of Bal Harbour

City of Miami Beach

Atlantic Ocean





# Surfside Comprehensive Plan

Map: TRN 4

Future Roadway Level of Service (2040)

## Legend

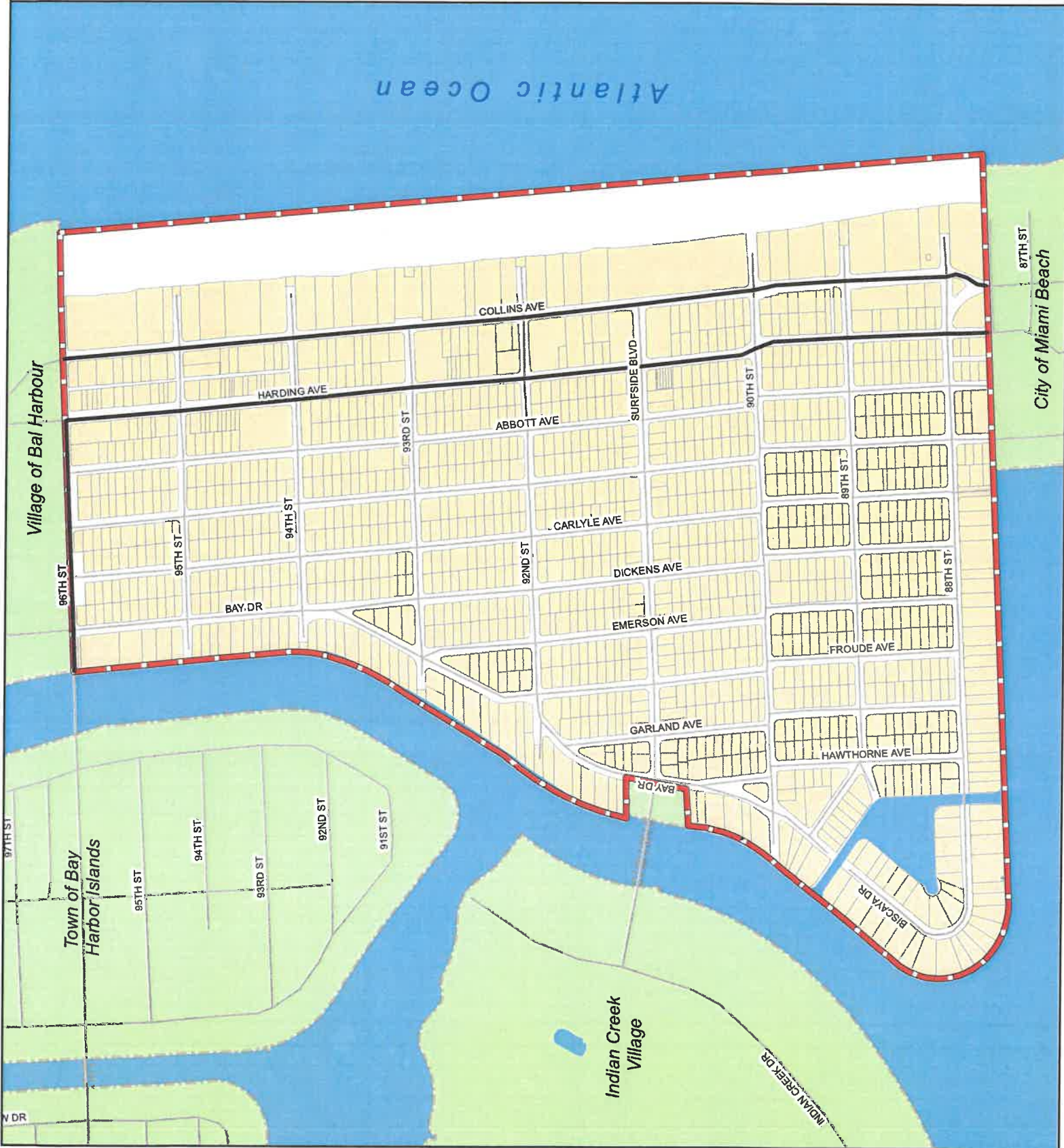
- Surfside City Limits
- Adjacent City Limits
- Water
- Level of Service D



Print: 6-7-2017

Source: Town of Surfside  
Miami Dade MPO

Calvin, Giordano & Associates, Inc.  
CONSULTING ENGINEERS










# Surfside Comprehensive Plan

Map: TRN 5

Existing and Future Pedestrian Facilities

## Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water
- Pedestrian Facilities**
-  Beachwalk
-  Sidewalk



Print: 6-7-2017

Source: Town of Surfside  
Miami Dade MPO







# Surfside Comprehensive Plan

Future Land Use Element

Future Land Use (2036)

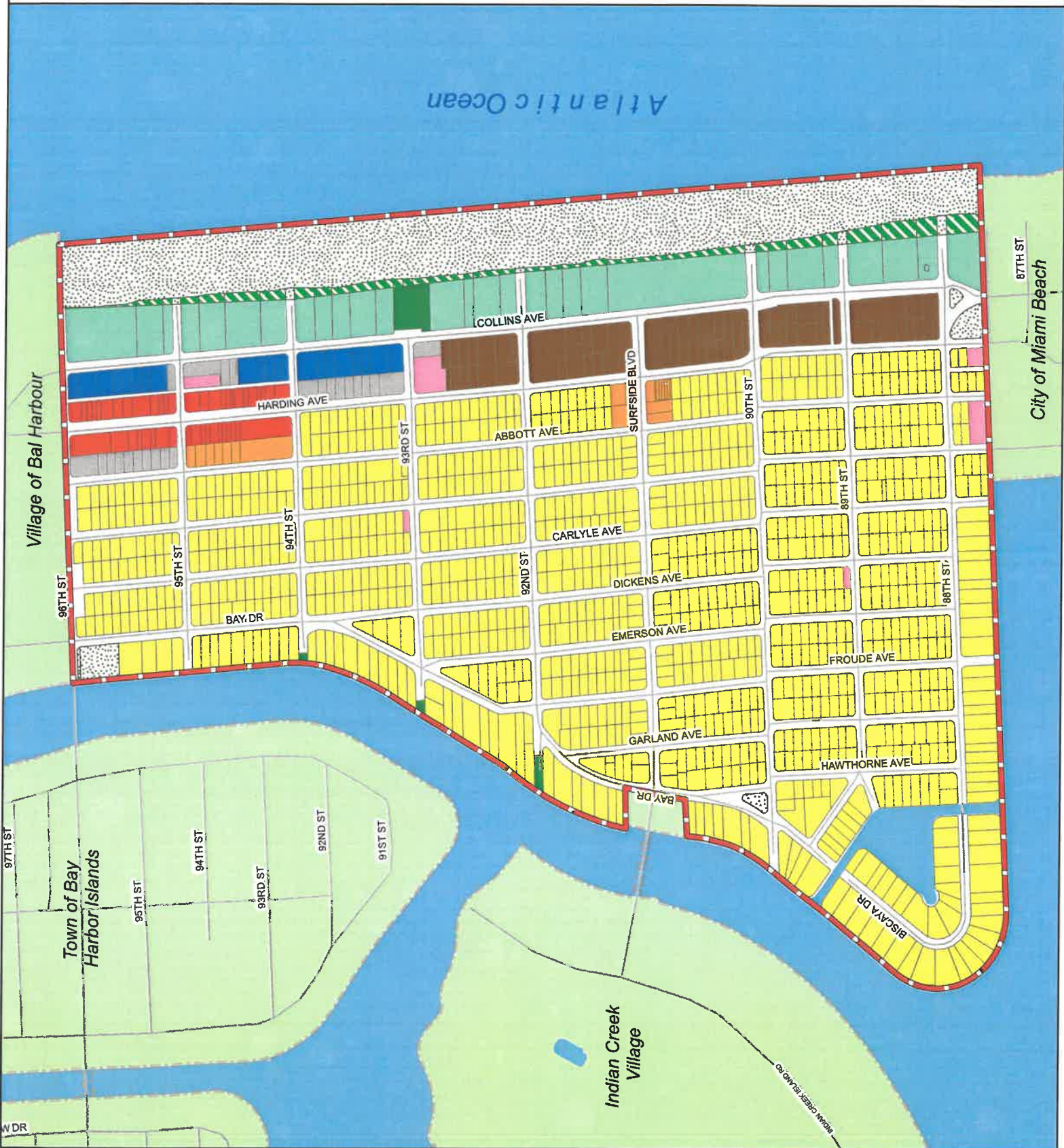
## Legend

- Surfside City Limits
- Adjacent City Limits
- Future Land Use**
- Community Facility
- General Retail/Services
- High Density Residential/Tourist
- Low Density Residential
- Moderate Density Residential/Tourist
- Moderate High Density Residential
- Moderate Low Density Residential
- Parking
- Private Recreation
- Public Buildings and Grounds
- Public Recreation



Print: 3-27-2017

Source: Miami Dade GIS Self Services



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# TRANSPORTATION ELEMENT

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## DATA INVENTORY AND ANALYSIS

### PURPOSE

A local government which has all or part of its jurisdiction included within the urban area of a Metropolitan Planning Organization (MPO) pursuant to Section 339.175, F.S., shall prepare and adopt a transportation element consistent with the provisions of this Rule and Chapter 163.3177(6)(b), ~~Part II~~, F.S. Within a designated MPO area, the transportation elements of the local plans shall be coordinated with the long range transportation plan of the MPO. The purpose of the transportation element shall be to plan for a multimodal transportation system that places emphasis on public transportation systems.

### TRANSPORTATION PLANNING AREA

Surfside is located within the Beach/Central Business District (CBD) Transportation Planning Area defined by the Miami-Dade's Transportation Metropolitan Planning Organization (TPOMPO). The Beach/CBD Transportation Planning Area has unique characteristics due to the presence of various islands and causeways. The Town of Surfside falls under Miami-Dade County's designated Transportation Concurrency Exception Areas (TCEA). A TCEA is a compact geographic area designated to support the urban infill and redevelopment to circumvent the adverse impacts of concurrency requirements. The Miami-Dade County MPO projects a 1634% increase in population in the Beach/CBD Planning Area; but since the Town is almost 100% developed, not much change is expected, and the anticipated future growth will be mostly redevelopment.

As part of the TCEA, the Level of Service for major state roadways in Surfside is LOS E+20, meaning that where mass transit service having headways of 20 minutes or less is provided within a ½-mile distance, roadways shall operate at no greater than 120 percent of their capacity.

### EXISTING TRANSPORTATION SYSTEM

The Town is responsible for maintaining the local network program. The Town's street system is configured in a grid with most blocks 250-feet wide and 660-feet long. Surfside has two state arterials, five collectors, and fifteen local roads. The regional road network is under the State of Florida's jurisdiction. Collins Avenue and Harding Avenue are the major north-south corridors through the Town, while 96<sup>th</sup> Street is the main east-west roadway.

#### *State Roadways*

State arterial roadways include Collins Avenue, Harding Avenue and 96<sup>th</sup> Street which are all functioning at level of service standard 'D' and therefore are meeting level of service standards. Because of the compact nature of the Town, these roadways are within a ½-mile of mass transit. There are no FIHS or SIS facilities within the Town of Surfside.

#### **SR A1A/Collins Avenue**

SR A1A/Collins Avenue is a major principal arterial which runs parallel to Harding Avenue. The three-lane facility serves only northbound traffic.









# Surfside Comprehensive Plan

Map: TRN 6

Existing and Future Transit Routes

## Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water
- Bus Routes**
-  Beach Max, Route's G, H, S
-  City Shuttle
-  Route E, Mid-North Beach Connection



Print: 6-7-2017

Source: Miami Dade County GIS Services





# Surfside Comprehensive Plan

Map: TRN 7

Existing and Future Traffic Generators

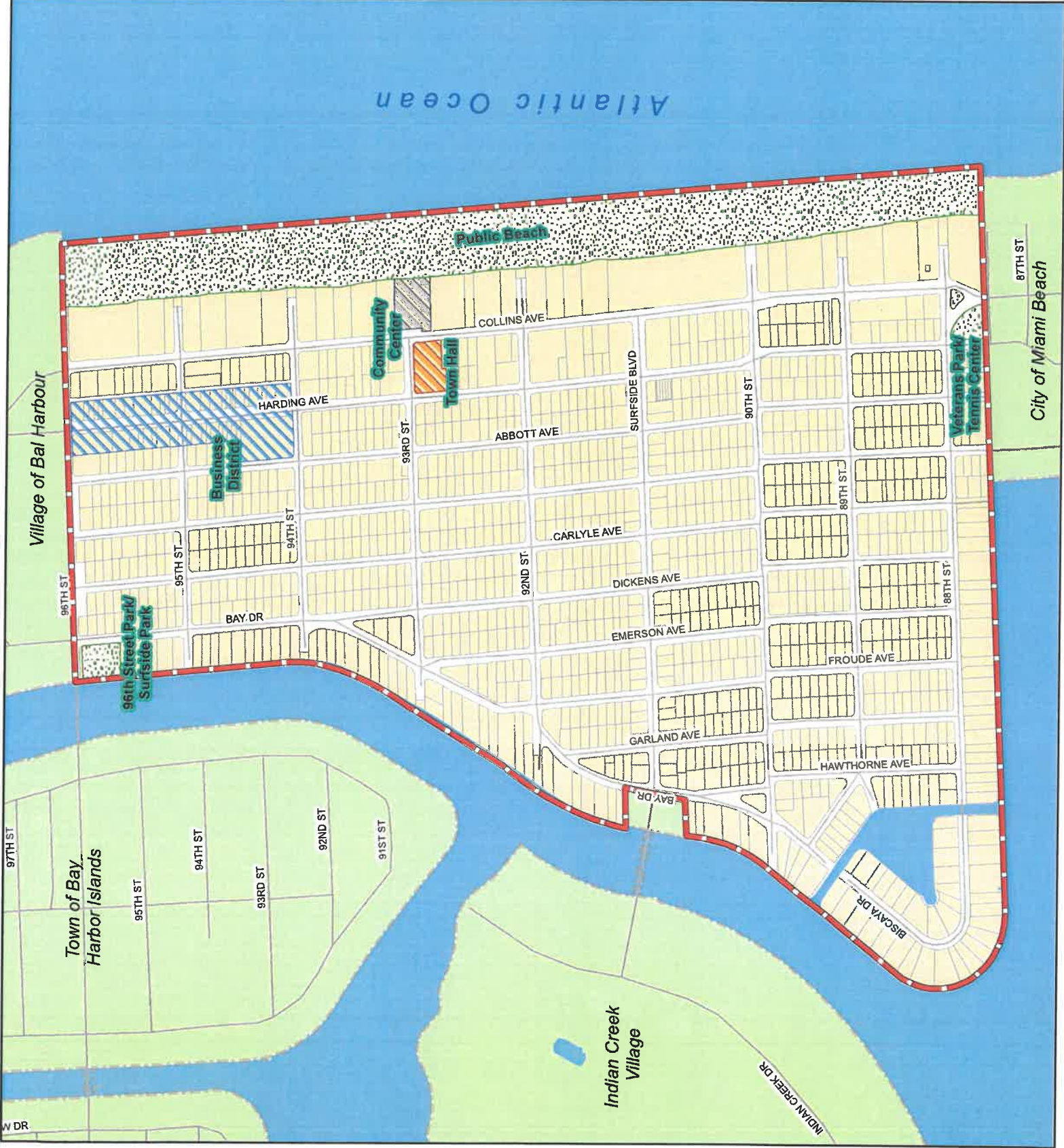
## Legend

- Surfside City Limits
- Adjacent City Limits
- Water
- Traffic Generators
  - Public Recreation
  - Business District
  - Community Center
  - Town Hall



Print: 6-7-2017

Source: Town of Surfside





# Surfside Comprehensive Plan

Map: TRN 8

Future Roadway Level of Service (2020)

## Legend



Surfside City Limits



Adjacent City Limits



Water

## Level of Service



Print: 6-12-2017

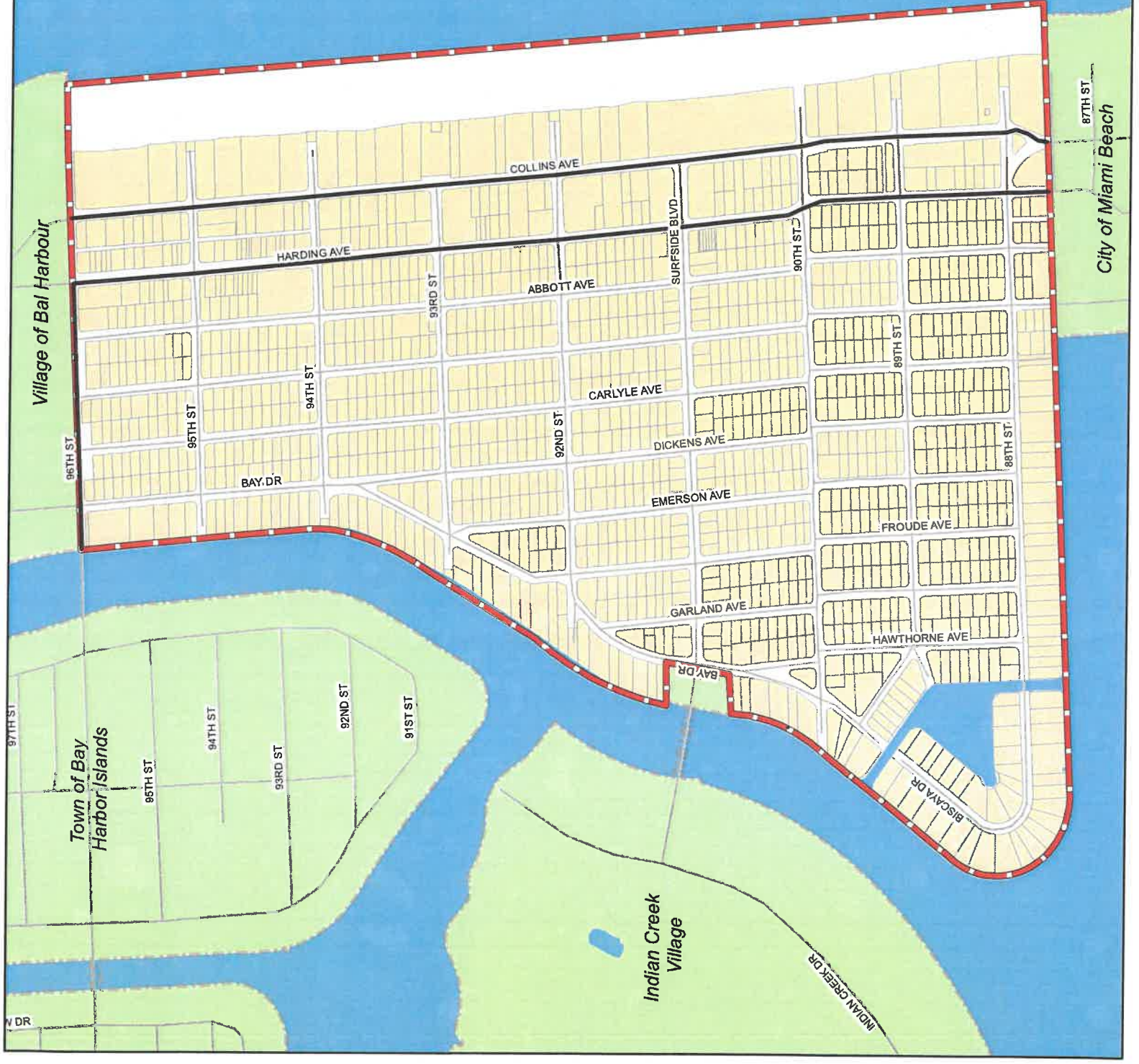
Source: Town of Surfside  
Miami Dade MPO



Village of Bal Harbour

City of Miami Beach

Atlantic Ocean



Town of Bay Harbor Islands

Indian Creek Village

W DR

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## HOUSING ELEMENT

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### DATA INVENTORY AND ANALYSIS

#### PURPOSE

The purpose of the Housing Element is to provide guidance for development of appropriate plans and policies to meet identified or projected deficits in the supply of housing for moderate income, low income and very-low income households, group homes, foster care facilities and households with special housing needs. These plans and policies address government activities, as well as provide direction and assistance to the efforts of the private sector.

Assuring the continued provision of affordable housing is an ongoing challenge as the Town is almost completely built out. Moreover, half of the Town is in a coastal high hazard area, and Florida Statutes compel local governments to direct population concentrations away from known coastal high hazard areas and limit public expenditures that subsidize development permitted in these areas. However, the Town of Surfside has made efforts to maintain an affordable housing stock through infrastructure improvements and proactive code compliance which extend the lifespan of the Town and provide for continuance of a quality area.

#### HOUSING INVENTORY

Information from the U.S. 2000 Census Bureau and the Florida Housing Data Clearinghouse (Shimberg Center) for ~~Affordable Housing~~ has been used to provide many of the following comparative characteristics between Surfside and Miami-Dade County as this is the best available data. ~~Population projections are from the Miami-Dade Planning and Zoning Department.~~

**Housing Type:** Residential use is a major development characteristic of Surfside. The 4,035 ~~3,166~~ total housing units reported for the Town in 2015 ~~2000~~ comprised 0.40 ~~0.37~~ percent of the County's total housing stock of 998,833 ~~852,278~~ reported units. As of March 2017 ~~January 2009~~, there were 216.26 ~~214.34~~ acres that had an existing land use of residential. This represents approximately 58.7 ~~58.3~~ percent of the Town's total land area of 368.5 ~~367.4~~ acres.

The 2000 ~~2011-2015~~ Americian Community Survey (U.S. Census) determined approximately 68 ~~60~~ percent (2,691 ~~1,892~~ units) of housing units in Surfside were multi-family (2 or more), while single-family homes made up 32.40 percent (1,287 ~~1,262~~ units) of the Town's housing stock. The same survey by the Census Bureau identified 57 mobile home units in Surfside ~~Twelve mobile homes were identified in the 2000 Census.~~ However, there are no mobile homes existing today. Total units and the percentage of housing inventory by type of unit are shown in Table 3-1. ~~The data comes from the Affordable Housing Needs Assessment (AHNA), prepared by the Shimberg Center for Affordable Housing for the State Department of Community Affairs.~~

**Table 3-1  
Dwelling Units by Structure Type, ~~2015~~ 2000**

| Dwelling Units        | Surfside                         | Surfside                     | Miami-Dade County                 | Miami-Dade County           |
|-----------------------|----------------------------------|------------------------------|-----------------------------------|-----------------------------|
|                       | Number                           | Percent                      | Number                            | Percent                     |
| <b>SINGLE FAMILY:</b> | <u>1,287</u><br><del>1,262</del> | <u>32%</u><br><del>40%</del> | <u>504,330</u> <del>448,569</del> | <u>50.4%</u> <del>53%</del> |
| <i>1, detached</i>    | <u>1,236</u><br><del>1,220</del> |                              | <u>405,953</u> <del>363,849</del> |                             |
| <i>1, attached</i>    | <u>51</u> <del>42</del>          |                              | <u>98,377</u> <del>84,720</del>   |                             |
| <b>MULTI-FAMILY:</b>  | <u>2,691</u><br><del>1,892</del> | <u>68%</u><br><del>60%</del> | <u>494,503</u> <del>387,550</del> | <u>49.6%</u> <del>45%</del> |
| 2                     | <u>21</u> <del>0</del>           |                              | <u>20,666</u> <del>21,913</del>   |                             |
| 3 or 4                | <u>13</u> <del>43</del>          |                              | <u>35,242</u> <del>33,382</del>   |                             |
| 5 to 9                | <u>20</u> <del>124</del>         |                              | <u>51,791</u> <del>43,328</del>   |                             |
| 10 to 19              | <u>186</u> <del>266</del>        |                              | <u>67,651</u> <del>54,749</del>   |                             |
| 20 or more            | <u>2,451</u><br><del>1,459</del> |                              | <u>305,520</u> <del>234,178</del> |                             |
| <b>MOBILE HOMES</b>   | <u>57</u> <del>12</del>          | <b>0%</b>                    | <u>13,144</u> <del>15,338</del>   | <b>0%-2%</b>                |
| <b>OTHER</b>          | <b>0</b>                         | <b>0%</b>                    | <u>489</u> <del>821</del>         | <b>0%</b>                   |
| <b>TOTAL</b>          | <u>4,035</u><br><del>3,166</del> | <b>100%</b>                  | <u>998,833</u> <del>852,278</del> | <b>100%</b>                 |

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census) ~~Shimberg Center for Affordable Housing~~

**Housing Tenure:** Housing tenure refers to the occupancy of a unit, either owner-occupied or renter-occupied. The ~~2010~~ U.S. Census ~~AHNA~~ reported 70 percent of households in Surfside were owner-occupied in ~~2010~~ ~~2005~~. (Statewide, Florida's homeownership rate is ~~67.7~~ ~~70.3~~ percent.) The remaining 30 percent were renter-occupied households. Housing tenure characteristics are detailed in Table 3-2.

**Table 3-2  
Households by Tenure, ~~2010~~ 2005**

| Tenure                      | Surfside                      | Surfside    | Miami-Dade County                 | Miami-Dade County           |
|-----------------------------|-------------------------------|-------------|-----------------------------------|-----------------------------|
|                             | # of Households               | Percent     | # of Households                   | Percent                     |
| Owner Occupied              | <u>1,830</u> <del>1,774</del> | 70%         | <u>483,874</u> <del>489,066</del> | <u>55.6%</u> <del>58%</del> |
| Renter Occupied             | <u>771</u> <del>764</del>     | 30%         | <u>383,478</u> <del>348,353</del> | <u>44.2%</u> <del>42%</del> |
| <b>Total Occupied Units</b> | <u>2,609</u> <del>2,538</del> | <b>100%</b> | <u>867,352</u> <del>837,419</del> | <b>100%</b>                 |

Source: 2010 U.S. Census ~~Shimberg Center for Affordable Housing~~

**Housing Vacancy:** Table 3-3 shows the housing vacancy characteristics for Surfside and Miami-Dade County as reported in the ~~2010~~ ~~2000~~ Census. At the time of the Census, 1,281 ~~840~~ housing units in Surfside were vacant out of 3,890 total units reported. This represents a vacancy rate of 32.9 ~~25.6~~ percent for the Town, which is significantly more than the overall Miami-Dade County rate of 12.3 ~~8.9~~ percent. This high vacancy rate is largely attributed to Surfside's seasonal residents. If units which had been rented or sold that were awaiting occupancy and units held for occasional/seasonal use were eliminated

from this figure, Surfside's vacancy rate was 4.7 ~~7.1~~ percent as shown in Table 3-3. There were 43 ~~72~~ vacant housing units for sale and 140 ~~82~~ vacant units for rent.

**Table 3-3**  
**Housing Vacancy, 2010** ~~2000~~

| Status                                 | Surfside                           | Surfside                    | Miami-Dade County                       | Miami-Dade County           |
|--|------------------------------------|-----------------------------|---|-----------------------------|
|  | # of Units                         | Percent                     | # of Units                              | Percent                     |
| For rent                               | <u>140</u> <del>82</del>           | <u>10.9%</u> <del>10%</del> | <u>37,848</u> <del>20,508</del>         | <u>31.0%</u> <del>27%</del> |
| For sale                               | <u>43</u> <del>72</del>            | <u>3.4%</u> <del>9%</del>   | <u>16,156</u> <del>10,986</del>         | <u>13.2%</u> <del>15%</del> |
| Other                                  | <u>105</u> <del>34</del>           | <u>8.2%</u> <del>4%</del>   | <u>24,425</u> <del>7,087</del>          | <u>20.0%</u> <del>9%</del>  |
| For migrant workers                    | 0                                  | 0%                          | <u>41</u> <del>78</del>                 | 0%                          |
| Seasonal, recreational, occasional use | <u>962</u> <del>596</del>          | <u>75.1%</u> <del>74%</del> | <u>38,302</u> <del>31,316</del>         | <u>31.4%</u> <del>41%</del> |
| Rented or sold, not occupied           | <u>31</u> <del>26</del>            | <u>2.4%</u> <del>3%</del>   | <u>5,311</u> <del>5,529</del>           | <u>4.4%</u> <del>7%</del>   |
| <b>TOTAL</b>                           | <b><u>1,281</u> <del>810</del></b> | <b>100%</b>                 | <b><u>122,083</u> <del>75,504</del></b> | <b>100%</b>                 |

Source: 2010 U.S. Census ~~Shimberg Center for Affordable Housing~~

**Housing Age:** The age of housing structures is distributed relatively evenly throughout the past several decades, with units built in the 1990s being the high percentage at 27% ~~a notable increase in housing construction during the 1950s~~. ~~According to data supplied by the Surfside Building Department, only 16 certificates of occupancy have been issued for new housing structures since 2000.~~ Table 3-4 lists the age of housing structures reported by the U. S. Census Bureau in the ~~2000 Census~~. ~~Approximately 38% of all housing units are~~ ~~The majority of structures are now~~ over 50 years old. Many of these are in sound condition, others have gone through renovations, and some are being demolished and replaced with new structures. Overall, the older structures are well maintained, demonstrating that the Town has been successful in maintaining adequate housing, thus minimizing any potential of deterioration.

**Table 3-4**  
**Age of Housing Structures**

| Year Built                                     | Surfside                                | Surfside                      | Miami-Dade County                        | Miami-Dade County             |
|--|---|-------------------------------|--|-------------------------------|
|  | # of Units                              | Share by Decade               | # of Units                               | Share by Decade               |
| <u>2010-2015</u><br><del>1999 March 2000</del> | <u>7</u> <del>0</del>                   | <u>0.2%</u> <del>17.8%</del>  | <u>9,227</u> <del>14,019</del>           | <u>0.9%</u> <del>15.2%</del>  |
| <u>2000-2009</u><br><del>1995-1998</del>       | <u>499</u> <del>303</del>               | <u>12%</u>                    | <u>143,228</u> <del>50,523</del>         | <u>14.3%</u>                  |
| <u>1990-1999</u> <del>1994</del>               | <u>1,071</u> <del>261</del>             | <u>27%</u>                    | <u>120,731</u> <del>64,968</del>         | <u>12.1%</u>                  |
| <u>1980-1989</u>                               | <u>600</u> <del>330</del>               | <u>15%</u> <del>10.4%</del>   | <u>154,249</u> <del>155,186</del>        | <u>15.4%</u> <del>18.2%</del> |
| <u>1970-1979</u>                               | <u>301</u> <del>536</del>               | <u>7.4%</u> <del>16.9%</del>  | <u>191,022</u> <del>191,906</del>        | <u>19.1%</u> <del>22.5%</del> |
| <u>1960-1969</u>                               | <u>437</u> <del>195</del>               | <u>11%</u> <del>6.2%</del>    | <u>133,681</u> <del>142,827</del>        | <u>13.4%</u> <del>16.8%</del> |
| <u>1950-1959</u>                               | <u>528</u> <del>934</del>               | <u>13%</u> <del>29.5%</del>   | <u>148,946</u> <del>140,635</del>        | <u>14.9%</u> <del>16.5%</del> |
| <u>1940-1949</u>                               | <u>463</u> <del>431</del>               | <u>11.4%</u> <del>13.6%</del> | <u>59,113</u> <del>56,783</del>          | <u>5.9%</u> <del>6.7%</del>   |
| <u>1939 or earlier</u>                         | <u>136</u> <del>176</del>               | <u>3%</u> <del>5.6%</del>     | <u>38,636</u> <del>35,431</del>          | <u>3.9%</u> <del>4.2%</del>   |
| <b>TOTAL</b>                                   | <b><u>4,042</u> <del>** 3,166</del></b> | <b>100%</b>                   | <b><u>998,833</u> <del>852,278</del></b> | <b>100%</b>                   |

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census Bureau); \*Town of Surfside Building Department; \*\*U.S. Census and Town of Surfside 2000 Census of Population and Housing Prepared by: Calvin, Giordano & Associates, Inc.



**Monthly Housing Rent:** Table 3-5 compares the monthly gross rents for specified renter-occupied housing units in the Town with the Miami-Dade County totals for the year 2015 ~~2000~~. The median rent paid by Surfside households in 2010 ~~2000~~ was \$1,897 ~~\$648~~ per month, compared to a countywide median rent of \$1,112 ~~\$647~~, and a statewide median rent of \$1,002 ~~\$641~~. Rents in the Town of Surfside are significantly higher than in the County as a whole. ~~It bears repeating this data is nearly a decade old, and rents have increased substantially since that time.~~ In Miami-Dade County and the surrounding metro area, the HUD Fair Market Rent in 2016 ~~2009~~, representing rent for a typical modest apartment, was \$774 ~~\$842~~ for a studio apartment, \$975 ~~\$953~~ for a one-bedroom, \$1,250 ~~\$1,156~~ for a two-bedroom, \$1,671 ~~\$1,479~~ for a three-bedroom, and \$1,987 ~~\$1,728~~ for a four-bedroom unit. Municipality-specific information for 2016 ~~2009~~ is not available.

**Table 3-5  
Monthly Gross Rent, Renter-Occupied Housing Units, 2015 ~~2000~~**

| Contract Rent                               | Surfside                         | Surfside                    | Miami-Dade County                        | Miami-Dade County           |
|---|----------------------------------|-----------------------------|--|-----------------------------|
|   | # of Units                       | Percent                     | # of Units                               | Percent                     |
| Less than <u>\$500</u> <del>\$200</del>     | 0                                | 0%                          | <u>32,247</u> <del>19,076</del>          | <u>8.6%</u> <del>6%</del>   |
| <u>\$500-999</u> <del>\$200-299</del>       | <u>18</u> <del>0</del>           | <u>2.0%</u> <del>0%</del>   | <u>118,453</u> <del>11,302</del>         | <u>31.5%</u> <del>3%</del>  |
| <u>\$1,000-1,499</u> <del>\$300-499</del>   | <u>146</u> <del>0</del>          | <u>16.2%</u> <del>0%</del>  | <u>138,105</u> <del>53,881</del>         | <u>36.7%</u> <del>16%</del> |
| <u>\$1,500-1,999</u> <del>\$500-749</del>   | <u>360</u> <del>387</del>        | <u>40.0%</u> <del>59%</del> | <u>57,888</u> <del>125,095</del>         | <u>15.4%</u> <del>38%</del> |
| <u>\$2,000-2,499</u> <del>\$750-999</del>   | <u>315</u> <del>84</del>         | <u>35.0%</u> <del>13%</del> | <u>17,762</u> <del>69,880</del>          | <u>4.8%</u> <del>21%</del>  |
| <u>\$2,500-2,999</u> <del>\$1000-1499</del> | <u>18</u> <del>62</del>          | <u>2.0%</u> <del>9%</del>   | <u>5,571</u> <del>30,560</del>           | <u>1.5%</u> <del>9%</del>   |
| <u>\$3,000</u> <del>\$1500</del> or more    | <u>43</u> <del>79</del>          | <u>14.8%</u> <del>2%</del>  | <u>5,333</u> <del>7,896</del>            | <u>1.5%</u> <del>2%</del>   |
| No cash rent                                | 41                               | 6%                          | 9,143                                    | 3%                          |
| <b>TOTAL</b>                                | <b>900</b> <del><b>653</b></del> | <b>100%</b>                 | <b>375,359</b> <del><b>326,833</b></del> | <b>100%</b>                 |
| Median rent per month                       | <u>\$1,897</u> <del>\$648</del>  |                             | <u>\$1,112</u> <del>\$647</del>          |                             |

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census) ~~2000 Census of Population and Housing~~  
Prepared by: Calvin, Giordano & Associates, Inc.

**Housing Value:** Based on figures delineated from the Miami-Dade County Property Appraiser, the average just value (fair market value) for a single family home in Surfside in 2016 ~~2008~~ was \$690,004 ~~\$576,234~~, which is significantly more than the countywide average (\$335,332 ~~\$398,522~~). Statewide, the average value of a single family home in Florida in 2016 ~~2008~~ was \$219,681 ~~\$248,425~~. Condominiums also had a significantly higher value in Surfside. In 2016 ~~2008~~, the average value of condominiums in Surfside was \$528,783 ~~\$424,548~~, compared with the County average condominium value of \$288,271 ~~\$267,332~~. Table 3-6 shows the value of owner-occupied housing units in the Town as reported by the U.S. Census Bureau ~~in the 2000 Census~~.

**Table 3-6  
Median Home Value of Owner-Occupied Housing Units, 2015 ~~2000~~**

| Value              | Surfside          | Surfside             |
|--------------------|-------------------|----------------------|
|                    | # of Units        | Percent              |
| Less than \$50,000 | 45 <del>0</del>   | 3.5% <del>0%</del>   |
| \$50,000-99,999    | 29 <del>34</del>  | 2.3% <del>3%</del>   |
| \$100,000-149,999  | 40 <del>123</del> | 3.1% <del>13%</del>  |
| \$150,000-199,999  | 63 <del>318</del> | 5.0% <del>33%</del>  |
| \$200,000-299,999  | 41 <del>340</del> | 3.2% <del>35%</del>  |
| \$300,000-499,999  | 382 <del>93</del> | 30.1% <del>10%</del> |

|                     |                                    |                            |
|---------------------|------------------------------------|----------------------------|
| \$500,000-999,999   | <u>525</u> <del>17</del>           | <u>41.3%</u> <del>2%</del> |
| \$1,000,000 or more | <u>146</u> <del>50</del>           | <u>11.5%</u> <del>5%</del> |
| <b>TOTAL</b>        | <b><u>1,271</u> <del>975</del></b> | <b><u>100%</u></b>         |

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S.Census) ~~2000 Census of Population and Housing~~  
Prepared by: Calvin, Giordano & Associates, Inc.

**Median Sales Price:** The average sales price for a single family home in Surfside was \$1,028,696 ~~\$722,854~~ in 2016 ~~2007~~. The median sales price that year was \$717,250 ~~\$650,000~~, compared to a countywide and statewide median sales price of \$289,000 ~~\$365,000~~ and \$212,000 ~~\$240,000~~ respectively. Table 3-7 charts the median sales price for single family homes and condominiums in Surfside and Miami-Dade County from 2010 ~~2001~~ through 2016 ~~2007~~. Sale prices have steadily risen since the 2008 Recession and have now past the 2006 previous high mark. ~~It is important to note that 2006 may represent peak sales prices in the real estate boom experienced in the first half of this decade. Sales prices may be lower for the remainder of the decade.~~

**Table 3-7**  
**Median Home Sales Prices, 2010-2016 ~~2001-2007~~**

| Year                        | Single Family                            |  | Condominium                              |  |
|-----------------------------|--|--|--|--|
|                             | Surfside                                 | Miami-Dade County                        | Surfside                                 | Miami-Dade County                        |
| <u>2010</u> <del>2001</del> | <u>\$350,000</u><br><del>\$277,000</del> | <u>\$210,000</u><br><del>\$155,000</del> | <u>\$230,000</u><br><del>\$250,000</del> | <u>\$185,000</u><br><del>\$118,900</del> |
| <u>2011</u> <del>2002</del> | <u>\$372,500</u><br><del>\$315,150</del> | <u>\$199,000</u><br><del>\$172,000</del> | <u>\$220,000</u><br><del>\$320,000</del> | <u>\$165,000</u><br><del>\$135,000</del> |
| <u>2012</u> <del>2003</del> | <u>\$427,000</u><br><del>\$365,000</del> | <u>\$210,000</u><br><del>\$195,000</del> | <u>\$300,000</u><br><del>\$304,750</del> | <u>\$170,000</u><br><del>\$155,000</del> |
| <u>2013</u> <del>2004</del> | <u>\$500,000</u><br><del>\$435,000</del> | <u>\$245,000</u><br><del>\$240,000</del> | <u>\$417,500</u><br><del>\$347,000</del> | <u>\$200,000</u><br><del>\$185,000</del> |
| <u>2014</u> <del>2005</del> | <u>\$540,000</u><br><del>\$572,000</del> | <u>\$261,990</u><br><del>\$300,000</del> | <u>\$440,000</u><br><del>\$479,950</del> | <u>\$221,000</u><br><del>\$226,701</del> |
| <u>2015</u> <del>2006</del> | <u>\$679,000</u><br><del>\$680,000</del> | <u>\$281,000</u><br><del>\$348,000</del> | <u>\$814,100</u><br><del>\$545,000</del> | <u>\$248,500</u><br><del>\$257,550</del> |
| <u>2016</u> <del>2007</del> | <u>\$717,250</u><br><del>\$650,000</del> | <u>\$289,000</u><br><del>\$365,000</del> | <u>\$675,000</u><br><del>\$490,000</del> | <u>\$225,000</u><br><del>\$265,000</del> |

Source: Miami-Dade County Property Appraiser tax roles, compiled by Shimberg Center – Florida Housing Data Clearinghouse

**Monthly Owner-Occupied Costs:** Of the total number of owner-occupied housing units in Surfside, 41.7% (530 units) ~~61 percent~~ were mortgaged and 58.3% (741 units) ~~39 percent~~ were not mortgaged according to the U.S. Census Bureau in 2015 ~~at the time of the 2000 Census~~. Table 3-8 shows the monthly owner costs of owner-occupied housing units in the Town in 2015 ~~2000~~. Over 50% of the Town's owners with mortgaged units are paying over \$3,000 in monthly cost compared to only 13.2% of owners in Miami-Dade County overall.

**Table 3-8  
Monthly Costs of Owner-Occupied Housing Units, ~~2015~~ 2000**

| Mortgage Status and Elected Monthly Costs   | Surfside                    | Surfside                      | Miami-Dade County                 | Miami-Dade County             |
|---|-----------------------------|-------------------------------|-----------------------------------|-------------------------------|
|   | # of Units                  | Percent                       | # of Units                        | Percent                       |
| <b>Mortgaged Units</b>                      | <u>530</u> <del>597</del>   | <u>100%</u> <del>61.2%</del>  | <u>294,099</u> <del>258,002</del> | <u>100%</u> <del>76.8%</del>  |
| <i>Less than \$500</i> <del>300</del>       | <u>0</u>                    | <u>0.0%</u>                   | <u>2,887</u> <del>421</del>       | <u>1.0%</u> <del>0.1%</del>   |
| <i>\$500-999</i> <del>300-499</del>         | <u>22</u> <del>0</del>      | <u>4.2%</u> <del>0.0%</del>   | <u>34,725</u> <del>5,471</del>    | <u>11.8%</u> <del>1.6%</del>  |
| <i>\$1,000-1,499</i> <del>500-699</del>     | <u>53</u> <del>32</del>     | <u>10.0%</u> <del>3.3%</del>  | <u>78,273</u> <del>18,269</del>   | <u>26.7%</u> <del>5.4%</del>  |
| <i>\$1,500-1,999</i> <del>700-999</del>     | <u>83</u> <del>21</del>     | <u>15.7%</u> <del>2.2%</del>  | <u>73,270</u> <del>58,953</del>   | <u>24.9%</u> <del>17.6%</del> |
| <i>\$2,000-2,499</i> <del>1,000-1,499</del> | <u>65</u> <del>148</del>    | <u>12.3%</u> <del>15.2%</del> | <u>43,192</u> <del>97,592</del>   | <u>14.7%</u> <del>29.1%</del> |
| <i>\$2,500-2,999</i> <del>1,500-1,999</del> | <u>41</u> <del>191</del>    | <u>7.7%</u> <del>19.6%</del>  | <u>22,705</u> <del>43,669</del>   | <u>7.7%</u> <del>13.0%</del>  |
| <i>More than \$3,000</i> <del>2000</del>    | <u>266</u> <del>205</del>   | <u>50.2%</u> <del>21.0%</del> | <u>39,047</u> <del>33,627</del>   | <u>13.2%</u> <del>10.0%</del> |
| <b>Non-Mortgaged Units</b>                  | <u>741</u> <del>378</del>   | <u>100%</u> <del>38.8%</del>  | <u>158,727</u> <del>77,813</del>  | <u>100%</u> <del>23.2%</del>  |
| <i>Less than \$250</i> <del>300</del>       | <u>0</u> <del>20</del>      | <u>0%</u> <del>2.1%</del>     | <u>15,378</u> <del>15,540</del>   | <u>9.7%</u> <del>4.6%</del>   |
| <i>\$250-399</i> <del>300-499</del>         | <u>55</u> <del>155</del>    | <u>7.4%</u> <del>15.9%</del>  | <u>31,615</u> <del>35,122</del>   | <u>19.9%</u> <del>10.5%</del> |
| <i>\$400-599</i> <del>500-699</del>         | <u>73</u> <del>98</del>     | <u>9.9%</u> <del>10.1%</del>  | <u>39,824</u> <del>15,650</del>   | <u>25.1%</u> <del>4.7%</del>  |
| <i>\$600-799</i> <del>700-999</del>         | <u>84</u> <del>65</del>     | <u>11.3%</u> <del>6.7%</del>  | <u>26,386</u> <del>7,041</del>    | <u>16.6%</u> <del>2.1%</del>  |
| <i>\$800-999</i>                            | <u>147</u>                  | <u>19.8%</u>                  | <u>15,329</u>                     | <u>9.7%</u>                   |
| <i>More than \$1,000</i>                    | <u>382</u> <del>40</del>    | <u>51.6%</u> <del>4.1%</del>  | <u>30,195</u> <del>4,460</del>    | <u>19.0%</u> <del>1.3%</del>  |
| <b>TOTAL REPORTED UNITS</b>                 | <u>1,271</u> <del>975</del> | <u>100%</u>                   | <u>452,826</u> <del>335,815</del> | <u>100%</u>                   |

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census) ~~2000 Census of Population and Housing~~  
Prepared by: Calvin, Giordano & Associates, Inc.

**AFFORDABLE HOUSING NEEDS**

**Cost Burden:** Cost-burdened households pay more than 30 percent of income for rent or mortgage costs. Data for this section has been supplied by the Florida Housing Data Clearinghouse. The data indicates that 1098 households within the Town (42%) paid more than 30% of income for housing compared to 53% of County households paid more than 30% of income for housing. Statewide, 42% of households are considered cost burdened. Using household information extrapolated from the Miami Dade Department of Planning & Zoning's estimated 2007 Surfside population of 5,159, the amount of income paid for housing is delineated below by tenure. (Miami Dade County figures are taken directly from the Florida Housing Data Clearinghouse.) The data suggests 914 Surfside households (39 percent) paid more than 30 percent of income for housing.

**Table 3-9  
Amount of Income Paid for Housing  
Household by Cost Burden, ~~2015~~ 2007**

| A. Owner-Occupied Households, <del>2015</del> 2007 |                                      |                                |                                     |                                |                                     |                                |                                      |             |
|--|--------------------------------------|--------------------------------|-------------------------------------|--------------------------------|-------------------------------------|--------------------------------|--------------------------------------|-------------|
|  | NO COST BURDEN                       |                                | COST BURDEN                         |                                |                                     |                                | Total Owners                         |             |
|  | 0% - 30%                             |                                | 30% - 50%                           |                                | 50% or more                         |                                |                                      |             |
|  | Number                               | Percent                        | Number                              | Percent                        | Number                              | Percent                        | Number                               | Percent     |
| Surfside   | <u>1,194</u><br><del>1,066</del>     | <u>64.5%</u><br><del>65%</del> | <u>236</u><br><del>324</del>        | <u>12.7%</u><br><del>20%</del> | <u>421</u><br><del>260</del>        | <u>22.7%</u><br><del>16%</del> | <u>1,851</u><br><del>1,650</del>     | <u>100%</u> |
| Miami-Dade   | <u>288,027</u><br><del>299,602</del> | <u>55.0%</u><br><del>64%</del> | <u>111,915</u><br><del>95,923</del> | <u>21.2%</u><br><del>20%</del> | <u>126,575</u><br><del>74,453</del> | <u>24.0%</u><br><del>16%</del> | <u>526,517</u><br><del>469,978</del> | <u>100%</u> |

| County  |                                  |                     |                                 |                     |                                 |                     |                                  |         |
|---|----------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|----------------------------------|---------|
| <b>B. Renter-Occupied Households, 2015 2007</b> |                                  |                     |                                 |                     |                                 |                     |                                  |         |
|   | 0% - 30%                         |                     | 30% - 50%                       |                     | 50% or more                     |                     | Total Renters                    |         |
|   | Number                           | Percent             | Number                          | Percent             | Number                          | Percent             | Number                           | Percent |
| Surfside  | <u>323 388</u>                   | <u>42.3%</u><br>54% | <u>217 166</u>                  | <u>28.4%</u><br>23% | <u>224 164</u>                  | <u>29.3%</u><br>23% | <u>764 718</u>                   | 100%    |
| Miami-Dade County                               | <u>155,027</u><br><u>181,866</u> | <u>37.4%</u><br>53% | <u>107,612</u><br><u>78,332</u> | <u>26.0%</u><br>23% | <u>151,963</u><br><u>83,996</u> | <u>36.6%</u><br>24% | <u>414,602</u><br><u>344,194</u> | 100%    |

Source: Miami-Dade County and Town of Surfside data taken from Shimberg Center – Florida Housing Data Clearinghouse. Surfside data extrapolated by Calvin, Giordano & Associates, Inc. using population data obtained from the Miami-Dade Department of Planning & Zoning and derived from Transportation Analysis Zone (TAZ).

Per Table 3-9, Surfside had ~~lower a similar~~ percentages of residents with a housing cost burden ~~as than~~ Miami-Dade County. In addition, ~~However~~, according to the U.S. 2000 Census Bureau, the 2015 median household per capita income in Surfside was ~~almost more than~~ twice that of Miami-Dade County (\$78,443 ~~\$38,375~~ compared to \$43,129 ~~\$18,497~~). Many Surfside residents choose to purchase homes at a higher value, resulting in a self-imposed cost burden, rather than the forced cost burden experienced throughout Miami-Dade County.

**Household Income:** In Table 3-10, household income is measured as a percentage of the median income for the County or area, adjusted for size. In Surfside and the surrounding metro area, the HUD-estimated median income for a family of four is ~~\$48,100~~ \$49,200 in 2016 2008. Data for this section has been supplied by the Florida Housing Data Clearinghouse. ~~The following figures for Surfside have been extrapolated based on population data obtained from the Miami-Dade Department of Planning & Zoning, derived from Transportation Analysis Zone (TAZ), and using the ratios provided by the University of Florida's Shimberg Center for Affordable Housing.~~ Of the ~~2,398~~ 2,368 households identified by the U.S. Census Bureau in Surfside in ~~2015~~ 2007, ~~478~~ 604 (20 ~~26~~ percent) were both cost-burdened and in the low or very-low income bracket.

**Table 3-10**  
**Households by Tenure, Income, and Cost Burden, 2015 2007**

| <b>A. Owner-Occupied Households, 2015 2007</b> |  |                 |                    |                |
|--|--|-----------------|--------------------|----------------|
|  | Household Income as a Percentage of Area Median Income (AMI) |                 |                    |                |
|  | 0 – 50% AMI  | 50.01 – 80% AMI | 80.01 + – 120% AMI | 120.01%+ AMI   |
|  | Very Low   | Low             | Moderate +         | Above Moderate |
| No Cost Burden                                 | <u>63 55</u>   | <u>82 79</u>    | <u>1,333 180</u>   | <u>752</u>     |
| At 30% or More Cost Burden                     | <u>83 49</u>   | <u>51 69</u>    | <u>319 103</u>     | <u>103</u>     |
| At 50% or More Cost Burden                     | <u>241 147</u>   | <u>103 65</u>   | <u>123 30</u>      | <u>18</u>      |
| <b>B. Renter-Occupied Households, 2007</b>     |  |                 |                    |                |
|  | Very Low   | Low             | Moderate           | Above Moderate |
| No Cost Burden                                 | <u>70</u>  | <u>41</u>       | <u>105</u>         | <u>172</u>     |
| At 30% or More Cost Burden                     | <u>40</u>  | <u>74</u>       | <u>41</u>          | <u>11</u>      |

|                                       |                |               |              |              |
|---------------------------------------|----------------|---------------|--------------|--------------|
| <del>At 50% or More Cost Burden</del> | <del>139</del> | <del>21</del> | <del>4</del> | <del>0</del> |
|---------------------------------------|----------------|---------------|--------------|--------------|

Source: ~~Florida Housing Data Clearinghouse (Shimberg Center) Prepared and extrapolated by Calvin, Giordano & Associates, Inc. using population data obtained from the Miami-Dade Department of Planning & Zoning and derived from Transportation Analysis Zone (TAZ).~~

**Elderly Households:** According to the ~~Florida Housing Data Clearinghouse same analysis, 985 852~~ households in Surfside (~~37.7 36~~ percent) were headed by a person age 65 or older in ~~2015 2007~~. In comparison, ~~29.6 27~~ percent of households statewide were headed by elderly persons. In Surfside, ~~839 707~~ of elderly households (~~85.2 83~~ percent) own their homes, while ~~399 332~~ elderly households (~~40.5 39~~ percent) pay more than 30 percent of income for rent or mortgage costs.

### HOUSING CONDITIONS

**Substandard Housing:** Individual housing units may be considered substandard if the unit lacks of complete plumbing for exclusive use of the residents, lack of complete kitchen facilities, lack of central heating, and overcrowding. The U.S. 2000 Census Bureau provides data regarding these interior conditions of the housing stock. Table 3-11 contains a summary of the measures of substandard housing conditions for Surfside and Miami-Dade County. In 2015, the American Community Survey 5-Year Estimates indicated that out of 2,220 occupied housing units 2000, 160 194 housing units (7.3 8.2 percent of all units) in Surfside were statistically overcrowded, meaning they housed more than one person per room, compared to a countywide percentage of 5.9 20 percent. Surfside has more homes without heating than average of the county, which may be due to the age of the homes. However, because Surfside is a coastal community in the subtropics, the Town does not consider units without heating a substandard condition. Code enforcement operations have proven effective in ensuring that substandard housing conditions are taken care of in a timely manner.

**Table 3-11  
Condition of Housing Stock Summary, ~~2015 2000~~**

| Substandard Condition                       | Surfside           | Surfside             | Miami-Dade County         | Miami-Dade County     |
|---|--------------------|----------------------|---------------------------|-----------------------|
|   | # of Units         | Percent              | # of Units                | Percent               |
| Overcrowded (more than one person per room) | <del>160 194</del> | <del>7.3% 8.2%</del> | <del>49,683 155,516</del> | <del>5.9% 20.0%</del> |
| Lacking complete kitchen facilities         | <del>0 29</del>    | <del>0% 0.9%</del>   | <del>5,964 8,095</del>    | <del>0.7% 0.9%</del>  |
| Lacking central heating (No Fuel Used)      | <del>177 203</del> | <del>8.0% 8.6%</del> | <del>41,251 39,311</del>  | <del>4.9% 5.1%</del>  |
| Lacking complete plumbing facilities        | <del>0 21</del>    | <del>0% 0.7%</del>   | <del>3,107 7,948</del>    | <del>0.4% 0.9%</del>  |

Source: ~~2011-2015 American Community Survey 5-Year Estimates (U.S. Census) 2000 Census of Population and Housing Prepared by: Calvin, Giordano & Associates, Inc.~~

**Subsidized Housing:** ~~Chapter 163.3177(f), F.S. Section 9J 5.010(1)(d) of the Florida Administrative Code~~ requires local housing elements to provide an inventory of renter-occupied housing developments currently using federal, state, or local subsidies. Surfside has no such facilities.

**Community Residential Facilities:** ~~Chapter 163.3177(f), F.S. Section 9J-5.010(1)(e) of the Florida Administrative Code~~ requires local housing elements to provide an inventory of group homes licensed by the Florida Department of Children and Family Services. A “community residential home” means a dwelling unit licensed to serve residents who are clients of the Department of Elderly Affairs, the Agency for Persons with Disabilities, the Department of Juvenile Justice, or the Department of Children and Family Services. Surfside has no such facilities.

**Mobile Homes:** ~~Chapter 163.3177(f), F.S. Section 9J-5.010(1)(f) of the Florida Administrative Code~~ requires local housing elements to provide an inventory of existing mobile home parks licensed by the Florida Department of Children and Family Services. Although ~~57~~ 42 mobile homes were identified by the U.S.Census Bureau in the 2011-2015 American Community Survey ~~inventoried in the 2000 Census,~~ the Town has neither mobile home parks nor any more mobile homes.

**Historically Significant Housing:** ~~Chapter 163.3177(f), F.S. Section 9J-5.010(1)(g) of the Florida Administrative Code~~ requires local housing elements to provide an inventory of historically significant housing listed on the Florida Master Site File, National Register of Historic Places, or designated as historically significant by a local ordinance. ~~According to the~~ The Florida Master Site File; includes 33 records for the Town of Surfside: three (3) archaeological sites; three (3) resource groups; and 27 structures of which seven (7) are no longer in existence ~~there are three historically significant housing structures in Surfside: the Nichols West Apartments and Van Rel Apartments, both in the 9500 block of Collins Avenue, and a private residence on the 8800 block of Collins Avenue.~~ Miami-Dade County Office of Historic Preservation within the Regulatory and Economic Resources Department also identifies historic resources and designates historic properties and districts. The County has designated three (3) properties and one (1) district within the Town of Surfside. The aforementioned County designated historic resources are discussed further in the Future Land Use Element in Table 1-6 .

**Farmworker Housing:** There are no rural or farmworker households within the Town.

## NEEDS ASSESSMENT

**Population and Household Projections:** ~~Chapter 163.3177(f), F.S. Section 9J-5.010(2)(b) of the Florida Administrative Code~~ requires that an affordable housing assessment be performed ~~using methodology established by the Florida Department of Community Affairs.~~

The Florida Housing Data Clearinghouse (Shimberg Center) has supplied data to be used in this section of the Housing Element. The data suggests that the Town population will remain fairly stable over the next 20 years with the possibility of a modest 14.1% growth rate between 2010 and 2035. Table 3-12 illustrates the population projections prepared by the Shimberg Center.

**Table 3-12**  
**Population Projections, 2010-2035**

|                 | <u>2010</u>  | <u>2015</u>  | <u>2020</u>  | <u>2025</u>  | <u>2030</u>  | <u>2035</u>  |
|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <u>Surfside</u> | <u>5,744</u> | <u>5,705</u> | <u>5,952</u> | <u>6,181</u> | <u>6,398</u> | <u>6,556</u> |

Source: Florida Housing Data Clearinghouse (Shimberg Center)

~~While much of the information provided thus far in this Element is based on data provided by the Shimberg Center for Affordable Housing, the Town does not agree with the Center’s population projections which estimates Surfside will have 9,061 residents in 2030. The following population projections were primarily obtained from the Miami-Dade Department of Planning & Zoning and derived from Transportation Analysis Zones (TAZs). The Town will reach build out in 2020 and the population~~

will begin to flat line at that time. Therefore, unlike the TAZ model, the Town forecasts its 2030 population to be unchanged from 2020. Using these population projects, the number of dwelling units and households can be estimated. Since the Town is virtually built out and the land uses are not expected to change significantly, Surfside believes these County figures more accurately project the Town's future housing needs. Using this methodology, Surfside is expected to have 5,680 residents by 2030, representing an 10 percent growth rate over 23 years, or an average increase of 0.44 percent per year. Table 3-12 summarizes the projected housing needs through 2030.

**Table 3-12  
Projections: Population, Households, and Dwelling Units, Surfside, 2007-2030**

| Year | Dwelling Units | Households | Population |
|------|----------------|------------|------------|
| 2007 | 3,181          | 2,367      | 5,159      |
| 2010 | 3,255          | 2,422      | 5,280      |
| 2015 | 3,381          | 2,515      | 5,483      |
| 2020 | 3,502          | 2,606      | 5,680      |
| 2025 | 3,502          | 2,606      | 5,680      |
| 2030 | 3,502          | 2,606      | 5,680      |

Source: Population projections were obtained from the Miami-Dade Department of Planning & Zoning and derived from Transportation Analysis Zones (TAZs). Household and dwelling unit projections extrapolated by Calvin, Giordano & Associates, Inc.

With an estimated 521 additional residents projected by 2030, and using a household to dwelling unit ratio, it is estimated that 321 new dwelling units will be required by 2030 to accommodate the 239 additional households. This equates to 14 new units per year. An inventory of vacant residential land uses determined there is room for approximately 335 additional dwelling units. Therefore, residential acreage required to accommodate projected needs for the short term and long term planning timeframes is sufficient. This new housing will be almost exclusively multi family dwelling units. The private sector will continue to serve as the primary delivery vehicle for housing development in the short and long term planning timeframes. Redevelopment of existing properties is expected to address long range needs.

Although the Town is expected to have an adequate supply of existing and newly constructed residential units to meet future demand, some of the households will be faced with a cost burden. The following tables provide a more detailed needs assessment as supplied by the Florida Housing Data Clearinghouse — by household size, tenure, and income — based on the methodology, data, and analysis developed by the University of Florida's Shimberg Center for Affordable Housing along with population projections obtained from Miami-Dade Department of Planning & Zoning.

**Size of households:** According to the 2000 Census, Surfside had an average of 2.18 persons per household. Using population projections provided by the Miami-Dade Department of Planning and Zoning, the number of Surfside households by size can be projected through 2030.

**Table 3-13  
Household Projections by Household Size**

| SIZE | 2007  | 2010  | 2015  | 2020  | 2025  | 2030  |
|------|-------|-------|-------|-------|-------|-------|
| 1-2  | 1,137 | 1,164 | 1,208 | 1,252 | 1,252 | 1,252 |
| 3-4  | 841   | 860   | 893   | 926   | 926   | 926   |
| 5+   | 389   | 398   | 413   | 428   | 428   | 428   |

Source: Prepared by: Calvin, Giordano & Associates, Inc.

**Affordable Housing Demand:** Table 3-13 14 presents the very-low, low, and moderate income housing needs estimates and projections through 2035 ~~2030~~.

**Table 3-13 14**  
**Projected Housing Affordability by Income and Tenure, Surfside, 2010-2035 ~~2007-2030~~**

| <b>A. Owner-Occupied Households</b>  |   |                           |                           |                             |
|--------------------------------------|---|---------------------------|---------------------------|-----------------------------|
|                                      | <b>Household Income as a Percentage of Area Median Income (AMI)</b> |                           |                           |                             |
|                                      | <b>0-50% AMI</b>  | <b>50.01-80% AMI</b>      | <b>80.01-120% AMI</b>     | <b>120.01+% AMI</b>         |
| <b>Year</b>                          | <b>Very-Low</b>   | <b>Low</b>                | <b>Moderate</b>           | <b>Above Moderate</b>       |
| <u>2010</u> <del>2007</del>          | <u>595</u> <del>251</del>   | <u>235</u> <del>213</del> | <u>783</u> <del>313</del> | <u>1,000</u> <del>873</del> |
| <u>2015</u> <del>2010</del>          | <u>604</u> <del>252</del>   | <u>236</u> <del>216</del> | <u>781</u> <del>318</del> | <u>994</u> <del>898</del>   |
| <u>2020</u> <del>2015</del>          | <u>639</u> <del>262</del>   | <u>248</u> <del>222</del> | <u>818</u> <del>330</del> | <u>1,032</u> <del>929</del> |
| <u>2025</u> <del>2020</del>          | <u>674</u> <del>267</del>   | <u>257</u> <del>230</del> | <u>852</u> <del>341</del> | <u>1,070</u> <del>959</del> |
| <u>2030</u> <del>2025</del>          | <u>709</u> <del>267</del>   | <u>268</u> <del>230</del> | <u>886</u> <del>341</del> | <u>1,092</u> <del>959</del> |
| <u>2035</u> <del>2030</del>          | <u>735</u> <del>267</del>   | <u>275</u> <del>230</del> | <u>909</u> <del>341</del> | <u>1,110</u> <del>959</del> |
| <b>B. Renter-Occupied Households</b> |   |                           |                           |                             |
| <b>Year</b>                          | <b>Very Low</b>   | <b>Low</b>                | <b>Moderate</b>           | <b>Above Moderate</b>       |
| <u>2007</u>                          | <u>249</u>  | <u>136</u>                | <u>149</u>                | <u>183</u>                  |
| <u>2010</u>                          | <u>255</u>  | <u>139</u>                | <u>154</u>                | <u>190</u>                  |
| <u>2015</u>                          | <u>266</u>  | <u>148</u>                | <u>160</u>                | <u>199</u>                  |
| <u>2020</u>                          | <u>277</u>  | <u>152</u>                | <u>169</u>                | <u>209</u>                  |
| <u>2025</u>                          | <u>277</u>  | <u>152</u>                | <u>169</u>                | <u>209</u>                  |
| <u>2030</u>                          | <u>277</u>  | <u>152</u>                | <u>169</u>                | <u>209</u>                  |

Source: Florida Housing Data Clearinghouse (Shimberg Center) Calvin, Giordano & Associates, Inc.

The analysis suggests that 180 ~~77~~ of the additional 237 households projected through 2035 ~~2030~~ will have an income less than 80 percent of the area median income. ~~Of these low and very low income households, 33 (43 percent) will be owner occupied, while 44 (57 percent) will be renter occupied.~~ Overall, these projections point out the stability of income and population in the Town.

## CONCLUSION

A major goal of the Town is to achieve a range of housing that accommodates both existing and future residents' affordable opportunities. The Town's demographics are shifting from an aging snowbird population to young families. Many of the newer residents are adding new additions and tearing down older homes to building new single family structures. Fortunately, many senior residents purchased their homes 20 to 30 years ago, when prices were much lower. While many seniors have held on to their homes and have not been negatively affected by the soaring real estate prices, many of the newcomers are in the high and upper high ranges of income, having less of a need for low and moderate income housing.

The Town has ~~several approximately three~~ hotels and two blocks of commercial in its jurisdictional boundaries. This has limited the number of workers entering the Town and needing housing. Previously, there were a number of hotels, which would have generated the need for additional housing. These hotels have either been torn down to make way for new condominiums or they have been converted into condominiums. This has reduced the need for low and moderate income housing in the Town. Moreover,



the large numbers of well maintained small single family units and older multi-family units have provided a variety of housing choices for this area.

Despite these realities, the Town recognizes the need for affordable housing in order to support economic development and sustainability of the region. The Town's geography—a barrier island bounded by the Atlantic Ocean on the east, Indian Creek and Biscayne Bay on the west—makes the provision of affordable housing even more of a challenge. Due to the area surroundings, it contains unusually high property values. Compounding the situation, 47% of the Town is within the Coastal High Hazard Area and ~~Chapter 163 F.S. Rule 9J-5.010 (3) (c) (10) of the Florida Administrative Code~~ does not permit jurisdictions to direct affordable housing into coastal high hazard areas.

The Harding ~~Avenue Street~~ and Collins Avenue corridors have several older multi-family dwelling units which provide some of the most affordable housing opportunities in Surfside. The Town has made efforts to maintain an affordable housing stock in these corridors through the completion of several roadway, and drainage. These infrastructure improvements, along with proactive code enforcement activities, have contributed to extending the lifespan of the neighborhood, providing for continuance of a quality area. The age and size of the units along Harding ~~Avenue Street~~ and Collins Avenue provide a decent amount of affordable housing in the Town and through Surfside's continuing improvement efforts, this area can maintain its affordable status. However, a number of properties are undergoing redevelopment. To help preserve the nature and character of the corridor, Miami-Dade County Historic Preservation has designated a historic district along one of the blocks.

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## Housing Element Goals, Objectives and Policies

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**Goal:** *Provide decent, safe and sanitary housing in suitable locations at affordable costs to meet the needs of the Town's existing and future residents.* ~~{9J-5.010 (3) (a)}~~

**Objective 1 – Development of new dwelling units:** The Town of Surfside shall provide for adequate and affordable housing for existing and future residents, households with special housing needs, and very low, low, and moderate income households through the short term and long term planning timeframes.

Policy 1.1 – The Town shall provide information and assistance to the private sector to maintain a housing production capacity sufficient to meet the identified demands.

Policy 1.2 – The Town Code shall provide processes in an effort to provide more efficient mechanisms for reviewing proposed housing developments.

Policy 1.3 – The Town Code shall maintain appropriate regulations which enable Town officials to work with the private sector to renovate buildings as needed.

**Objective 2 – Creation of affordable housing:** In general, create affordable housing for all current and anticipated future residents. In particular, facilitate development of as much new affordable housing as the market economics and available subsidies can generate. This objective shall be made measurable by its implementing policies. ~~{9J-5.010 (3) (b) 1}~~

Policy 2.1 – The Town manager or designee shall monitor the housing and related activities of the Miami-Dade County Housing Within Reach Taskforce, Miami-Dade Housing Agency (MDHA), the South Florida Regional Planning Council and nearby local jurisdictions. The Town Manager shall inform the Town Commission of these activities and shall recommend, as appropriate, Town actions that could help encourage the provision of adequate sites for the distribution of very low income, low income and moderate income families in nearby communities with land values that can reasonably accommodate such housing. Among the actions that may be considered are specific agreements with other local governments concerning the provision of affordable housing, ~~as referenced in Rule 9J-5.010 (3) (e) (10). F.A.C. {9J-5.010 (3) (e) 1}~~

Policy 2.2 – The Town shall maintain and improve where appropriate land development code provisions which are consistent with the Future Land Use Map including the land uses and the densities and intensities specified thereon and the descriptions of the requirements of those categories, which appear in this Future Land Use Element under the heading “Future Land Use Category Descriptions.” ~~The map and the descriptions are incorporated by reference into this Policy 1.1. {9J-5.010 (3) (e) 1}~~

Policy 2.3 – The Town shall periodically review: 1) its own development permitting procedures; 2) best current practice employed by other jurisdictions; and 3) best current practice reported in relevant professional literature. The purpose of the review shall be to determine if there are appropriate procedural and substantive changes which could facilitate more expeditious development application processing. ~~{9J-5.010 (3) (e) 2}~~

Policy 2.4 – Manufactured housing shall not be prohibited in any area designated by this plan for residential use. Mobile homes shall not be permitted in the Town unless they meet the same standards as manufactured homes. ~~{9J-5.010 (3) (b) 3 and 9J-5.010 (3) (e) 5}~~

Policy 2.5 – Housing for very low income, low income and moderate income households shall not be prohibited per se in any area designated by this plan for residential use. ~~{9J-5.010 (3) (e) 5}~~

**Objective 3 – Preservation of affordable housing:** In general, preserve affordable housing for all current and anticipated future residents. In particular, preserve the existing housing stock in sound condition. This objective shall be made measurable by its implementing policies. ~~{9J-5.010 (3) (b) 1}~~

Policy 3.1 – The Town shall maintain as part of its own land development code the County minimum housing standards code or an appropriate modification thereof. ~~{9J-5.010 (3) (e) 3}~~

Policy 3.2 – The Town shall from time to time informally evaluate alternate strategies to guide enforcement of the County minimum housing standards code so as to achieve maximum effectiveness. It is recognized by this policy that systematic and ad hoc inspections might be most appropriate at different times and in different sub areas of the Town. ~~{9J-5.010 (3) (e) 4}~~

Policy 3.3 – Through land development code regulations including minimum unit sizes, maximum building heights, and setback standards, the Town shall help assure the continuation of stable residential neighborhoods. ~~{9J-5.010 (3) (e) 3}~~

**Objective 4 – Eliminate substandard housing; structurally and aesthetically improve housing; conserve, rehabilitate and demolish housing:** In general, eliminate substandard housing conditions ~~{9J-5.010 (3) (b) 2}~~, structurally and aesthetically improve housing ~~{9J-5.010 (3) (b) 2}~~, conserve, rehabilitate and demolish housing ~~{9J-5.010 (3) (b) 5}~~. In particular, encourage private property owners to maintain and improve their properties so as to protect property values and ensure safe and sanitary housing. This objective shall be made measurable by its implementing policies and by the existence of no substandard housing units in the Town. ~~{9J-5.010 (3) (b) 2 and 9J-5.010 (3) (b) 5}~~

Policy 4.1 – Require owners of substandard structures to promptly renovate or remove such structures.

Policy 4.2 – The Town shall assist owners of substandard historic housing to obtain financial assistance for renovation from Miami-Dade County, State of Florida or Federal sources.

Policy 4.3 – The Town shall work with Miami-Dade County officials to maintain an effective housing code enforcement program.

Policy 4.4 – On a continuous basis, ~~Following the 2010 Census,~~ the Town's Building Department shall maintain an accurate inventory of the housing units within the Town via the utility billing process.

**Objective 5 – Provision of adequate sites for very low, low and moderate income households:** In general, provide adequate sites for very low, low and moderate income households. In particular, facilitate development of as much new affordable housing as the market economics and available subsidies can generate. This objective shall be made measurable by its implementing policies. ~~{9J-5.010 (3) (b) 3}~~

Policy 5.1 – Monitor the actions of the Miami-Dade County ~~Government Office of Community and Economic Development~~ relative to the development of very low, low and moderate income

housing facilities to serve County residents. The purpose of such monitoring shall be to identify activities to which the Town of Surfside may make a specific contribution.

Policy 5.2 – Assist ~~the Miami-Dade County to~~ Office of Community and Economic Development identify housing units which may be eligible for participation in the Miami-Dade Housing Finance Authority’s Multi-Family Rental Program.

**Objective 6 – Adequate sites for group homes:** Accommodate community residential homes and foster care facilities in residential areas. This objective shall be made measurable by its implementing policies. ~~{9J-5.010 (3) (b) 4}~~

Policy 6.1 – Notify the Florida Department of Children and Family Services of applications to construct Community Residential Facilities.

Policy 6.2 – The Town shall maintain and improve land development code regulations which permit Children and Family Services licensed group homes, including foster care facilities. Such regulations shall permit community residential homes and foster care facilities in residential areas and areas with residential character and shall otherwise be designed to meet State law in general and Chapter 419, F.S., in particular. Prior to enactment of such regulations, the Town shall interpret and enforce applicable existing regulations in a manner which is fully consistent with State law and administrative code requirements pertaining to group homes. ~~{9J-5.010 (3) (e) 6}~~

**Objective 7 – Housing coordination and implementation:** The Town Manager shall be responsible for achieving housing policy implementation. ~~{9J-5.010 (3) (b) 7}~~

Policy 7.1 – The Town shall maintain formal communications with appropriate public and private and non-profit housing agencies to assure that adequate information on Town housing policies flows to housing providers. This list shall include the Miami-Dade Housing Agency, Housing Finance Authority of Miami-Dade County, the Miami-Dade Affordable Housing Foundation, the Board of Realtors and the Home Builders Association. ~~{9J-5.010 (3) (e)}~~

Policy 7.2 – The Town shall fully cooperate with any developer using County Surtax funds, the Housing Finance Authority of Miami-Dade County or other subsidy mechanisms. ~~{9J-5.010 (3) (e) 7}~~

**Objective 8 – Greenhouse Gas Reduction.** The Town shall support energy efficiency and the use of renewable energy resources in existing housing and in the design and construction of new housing.

Policy 8.1 – The Town shall encourage support for residential construction that meets the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative’s Green Globes rating system, the Florida Green Building Coalition standards, or other nationally recognized, high-performance green building rating system as recognized by the Florida Department of Management Services ~~by December 2011.~~

Policy 8.2 – The Town shall educate Surfside residents on home energy reduction strategies.

Policy 8.3 – The Town shall not prohibit the appropriate placement of photovoltaic panels. The Town shall develop and adopt review criteria to establish the standards for the appropriate placement of photovoltaic panels.

Policy 8.4 – The Town shall provide educational materials on the strategic placement of landscape materials to reduce energy consumption.

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## INFRASTRUCTURE ELEMENT

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### DATA INVENTORY AND ANALYSIS

#### POTABLE WATER

This section evaluates the potable water system serving the Town of Surfside inclusive of all structures designed to collect, treat, and distribute potable water in addition to water wells, treatment plants, reservoirs and distribution mains.

#### *Miami Dade County Water and Sewer Department Geographic Service Area*

The Town of Surfside's potable water is provided by a system operated by the Miami-Dade County Water and Sewer Department (MDWASD) which provides service for approximately 2.6 million customers in Miami-Dade County. The MDWASD water service area illustrated in Figure 3.1 (Appendix 4-A Town of Surfside 15-Year Water Supply Facilities Work Plan) is interconnected and functions as a single service area. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County.

The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. Primary mains feeding the system run under the Town's streets and vary in size from 6-inch to 16-inches in diameter, which feed three-inch and four-inch water lines located along the rear property lines.

#### *Water Source*

The source water for the Hialeah Water Treatment Plant (WTP) is from the Hialeah-Miami Springs Wellfields, supplemented by the Northwest Wellfield. There are three active wells located in the Hialeah Wellfield constructed in 1936. Each well is 14 inches in diameter, 115 feet deep and have casing depths of 80 feet. The total wellfield capacity is 12.54 mgd or 8,700 gpm (2,900 gpm for each well). The twenty active wells located in the Miami Springs Wellfield were constructed between 1924 and 1954. These wells are 14 inches and 30 inches in diameter, 80 to 90 feet deep and have casing depths of 80 feet. The total wellfield capacity is 79.30 mgd or 55,070 gpm (ranging between or 2,500 and 5,000 gpm for each well). The Northwest Wellfield has fifteen active wells that were constructed in 1980. The wells are 40 inches and 48 inches diameter and 80 to 100 feet deep, with casing depths ranging from 46 to 57 feet. These wells have two-speed motors. The total nominal capacity of the wells at the low speed flow rate is 149.35 mgd. The capacity of each well, except well No. 10, is 10 mgd at the low speed flow rate. Well No. 10 has a low speed capacity of 9.35 mgd. The total nominal capacity for the wells at the high speed flow is 220.94 mgd.

The seven active wells located in the John E. Preston Wellfield were constructed in 1966 and 1972. Each well is 42 inches in diameter, 107 feet deep and have casing depths of 66. The capacity of wells No. 1 through No. 6 is 5,000 gallons per minute (gpm) each and the capacity of well No. 7 is 7,000 gpm. The total wellfield capacity is 53.28 mgd.

### ***Water Treatment Plants (WTPs)***

The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant's capacity totaled 40 mgd. In 1946, capacity was increased to 60 mgd. Air strippers with a capacity of 84 mgd were added to the treatment process in 1991 to remove volatile organics from the finished water. A 3.2 MG storage reservoir for both the Hialeah and John E. Preston WTPs was also added in 1991. The Hialeah WTP has a current rated capacity of 60 mgd and there are plans to rerate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The treatment process for this WTP includes lime softening with sodium silicate activated by chlorine, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The plant site is relatively small, and is surrounded by residential areas.

The John E. Preston WTP was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was re-rated to a total capacity of 130 mgd in 1984. The plant reached its present capacity of 165 mgd with another addition in 1988. In 1991, the plant was modified with an air stripping capacity of 185 mgd to remove VOCs. In 2005, plant process modifications to provide enhanced softening for reduction of color and total organic carbon came on line. The main source of water for the Preston WTP is from the Northwest Wellfield. The current rated capacity is 165 mgd with a treatment process similar to that of the Hialeah WTP. This includes lime softening with ferric and other coagulant and chemicals added prior to lime for enhanced softening, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The Preston plant is also located in a residential area of Hialeah.

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

The Town of Surfside currently coordinates with MDWASD and the South Florida Water Management District to meet existing and projected demands based on level of service (LOS). MDWASD's projected water demands shown in **Table 4-1** below were developed utilizing an average gallons per capita per day (gpcd) value of 137.2 gpcd.

**Table 4-1  
Miami-Dade Water and Sewer Department (MDWASD) Water Demand Projection**

| <b>Year</b> | <b>Population</b> | <b>Finished Water Use (gpcd)</b> | <b>AADD Finished Water Use (MGD)</b> | <b>Water Conservation Credit (MGD)</b> | <b>Reuse Reclaimed Water Credit</b> | <b>Adjusted Finished Water Demand (MGD)</b> | <b>Adjusted Finished Water Use (gpcd)</b> |
|-------------|-------------------|----------------------------------|--------------------------------------|--|-------------------------------------|---|---|
| 2015        | 2,266,092         | 137.2                            | 310.84                               | 2.04                                   | 0.00                                | 308.80                                      | 136.27                                    |
| 2020        | 2,370,769         | 137.2                            | 325.20                               | 5.44                                   | 0.00                                | 319.76                                      | 134.88                                    |
| 2025        | 2,475,446         | 137.2                            | 339.56                               | 8.84                                   | 0.00                                | 330.72                                      | 133.60                                    |
| 2030        | 2,580,123         | 137.2                            | 353.92                               | 9.55                                   | 0.00                                | 344.37                                      | 133.47                                    |

Source: MDWASD's 20 year water supply plan (2014-2033)

**Table 4.2** provides the projected water use for Year 2015 through Year 2030 for the Town of Surfside utilizing the finished water use rate of 148.04 gallons per capita per day.

**Table 4-2  
Town of Surfside Water Demand Projection**

| Year | Population | Per Capita Consumption | Projected Consumption | Projected Consumption |
|------|------------|------------------------|-----------------------|-----------------------|
|      |            | GPCD                   | GPD                   | MGD                   |
| 2015 | 5,866      | 148.04                 | 868,399               | .87                   |
| 2020 | 6,019      | 148.04                 | 891,073               | .89                   |
| 2025 | 6,173      | 148.04                 | 913,747               | .91                   |
| 2030 | 6,326      | 148.04                 | 936,421               | .94                   |

Figure 4.1 in the Town of Surfside 15-Year Water Supply Facilities Work Plan indicates that there will be no deficit of finished water through 2030.

To assure adequate level of service, potable water facilities shall meet the following level of service standards as identified in the MDWASD goals for potable water:

- (a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent 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.
- (b) 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 Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

| Land Use  | Min. Fire Flow (gpm) |
|---|----------------------|
| Single Family Residential Estate                                  | 500                  |
| Single Family and Duplex; Residential on minimum lots of 7,500 sf | 750                  |
| Multi-Family Residential;   | 1,500                |
| Semiprofessional Offices  | 1,500                |
| Hospitals; Schools  | 2,000                |
| Business and Industry   | 3,000                |

Source: Miami-Dade County Adopted 2014 Water, Sewer and Solid Waste Element

***Storage Capacity***

The finished water storage facilities for the Hialeah-Preston subarea consist of both “in-plant” and remote storage facilities. The total combined storage capacity between both plants inclusive of remote storage facilities is 56.0 MG. Additional information on MDWASD’s finished water storage facility capacities can be found in Table 3.1 of Appendix A (Town of Surfside 15-Year Water Supply Facilities Work Plan).

***Water Supply Facilities Work Plan***

The purpose of the Town of Surfside 15-Year Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources, as well as facilities needed to serve the existing and new development within the local government’s jurisdiction. Chapter 163, Part II, F.S., requires local governments to prepare and adopt Work Plans into their Comprehensive Plans

within 18 months after the water management district approves a regional water supply plan. Surfside adopted their Work Plan in December 2015.

On a regional level, the Town falls within the South Florida Water Management District (SFWMD) and within the SFWMD's Lower East Coast (LEC) Planning Area. The *2013 Lower East Coast Water Supply Plan Update* (2013 LEC Plan Update), approved by the SFWMD in September 2013, is one of five, long-term comprehensive regional water supply plan updates the SFWMD has developed for its planning areas. The planning horizon for the 2013 LEC Plan Update is 2010-2030.

## **SANITARY SEWER**

The sanitary sewer system is defined as structures or systems designed for the collection, transmission, treatment, or disposal of sewage and may include trunk mains, interceptors, treatment facilities, and disposal systems. The Town's sanitary sewer system is interconnected with the Miami-Dade County Water and Sewer Department (MDWASD) system. Surfside maintains its own sewer collection system and two pumping stations. By agreement, the Town of Surfside and Bal Harbour share a sanitary force main that connects to the City of Miami Beach transmission system. The tri-party agreement provides for the transmission of sewage via force mains to the MDWASD system and eventually to the treatment plant and disposal.

### ***Geographic Service Area***

The Town of Surfside's sanitary sewer system is part of a system run by MDWASD. The Town's system is coextensive with the Town's boundaries. The County system includes unincorporated and incorporated areas of Miami-Dade County inside the 2005 Urban Development Boundary that have an agreement with MDWASD. The system also incorporates a small number of facilities, mostly State or County owned, outside of the Urban Development Boundary.

### ***Treatment Facilities and Capacity***

There has been a significant reduction in average flow into the regional system as a result of extensive infiltration and inflow (groundwater and rainwater) prevention projects conducted by MDWASD in recent years. Infiltration and inflow within the sewer system should be kept at a minimum to avoid hydraulic overload to the receiving treatment plant. It is pertinent for an operation and maintenance plan to be part of the county's sanitary sewer system. As a result, the regional wastewater treatment plants operating capacity can remain in compliance with Miami-Dade County MDWASD and Florida Department of Environmental Protection (FDEP) standards.

The Town of Surfside is located in the MDWASD Central District Sanitary sewer system; however, ~~as noted in the MDWASD's 2007 Water Supply Facilities Work Plan,~~ MDWASD operates two additional regional wastewater treatment plants in the North and South Districts. Because the system is interconnected, the service districts have flexible boundaries, and some flows from one district can be diverted to other plants in the system.

The Town of Surfside's sewer system is treated by a secondary treatment facility on Virginia Key owned and operated by the Miami-Dade County Water and Sewer Department (MDWASD). The Town's sanitary sewer collection system is divided into two basins. Sanitary sewer pipes range in size from 8 to 15 inches with flows directed to two pump stations. Pump Station 1 receives sewage from the area of Surfside north of 91<sup>st</sup> Street, which includes the Business District and a majority of the high rise buildings. Pump Station 2 serves the remainder of the Town, including most of the waterfront lots. The sewage is pumped via the force main which runs along 89<sup>th</sup>



Street, 93<sup>rd</sup> Street, Collins ~~Byron~~ Avenue and connects to the City of Miami Beach’s system near 74<sup>th</sup> street. Sewage continues under pressure through MDWASD force mains to Virginia Key.

***Current Facility Demand***

According to the Town of Surfside Consumption Analysis, in 2014/2015 MDWASD 2006 Comprehensive Annual Financial Report, approximately ~~258 689~~ million gallons of wastewater were treated by the County system from the Town of Surfside and ~~260 814~~ million in 2015/2016 2007.

In FY08, the Town began mapping all sewer and potable water lines within the municipal boundary to enhance maintenance. Also in FY09, the Town identified infiltration issues to the sanitary sewer system and has begun a program to seal manholes and smoke/video testing to identify and repair broken lines. ~~In FY09, existing pump stations were rehabilitated in order to ensure levels of service standards are maintained.~~ Table 4-2A shows projected sewage flow demand for the Town of Surfside and Table 4-2B show current and projected waste water capacity for the entire county.

In 2010 to 2014, the Town completed a sanitary sewer rehabilitation plan. All existing gravity sewer mains and laterals were lined or reconstructed in accordance with the approved plan. All sanitary manholes were rehabilitated. The Town also completed rehabilitation of the existing sanitary sewer pump stations, and construction of 12” Force Mains along 93<sup>rd</sup> Street and 89<sup>th</sup> Street. The Force Mains were tied-in to the newly constructed 16” Force Main along Collins Avenue. The existing Force Main that runs along Byron Avenue is not currently in use and only remains as a stand-by facility.

Since the Town completed the sanitary sewer rehabilitation plan of the existing system in the recent past, there are currently not additional level of service projects required or needed for the Town’s sanitary sewer system.

**Table 4-2A  
Projected Sewage Flows**

| PROJECTED SEWAGE FLOWS                       |                  |              |            |
|--|------------------|--------------|------------|
| Year   | 2010<br>(actual) | 2020<br>2015 | 2030       |
| Population                                   | 5,744            | 5,952        | 6,398      |
| Per Capita (gallons per day finished sewage) | 5,280            | 5,483        | 5,680      |
| (all potable volumes are finished sewage)    | 155              | 155          | 155        |
|  | <b>MGD</b>       | <b>MGD</b>   | <b>MGD</b> |
| Sewage Total Flow (daily average annual)     | 0.89             | 0.92         | 0.99       |
|  | 0.82             | 0.85         | 0.88       |

Source: Calvin, Giordano & Associates, Inc. ~~2017 2009~~

The County’s LOS standard requires that the “system” component of the wastewater facility operate below 102 percent of the previous year’s average daily flow. A comparison of the projected treatment capacity to the 102 percent of the previous year’s average annual daily flow (AADF) requirement, from 2016 to 2026 2005 to 2020, is presented below. According to the County’s data, the capacity of the MDWASD sanitary sewer system will continue to remain below the 102 percent requirement through 2026 2020. The below table confirms the availability of the sanitary sewer system to meet the needs of Surfside in the short term and long term planning period.

**Table 4-2B  
Miami-Dade County Current and Projected Wastewater System Capacity 2016-2026 2005-2020**

| County WWTP Capacities |                           | Actual County Flow (mgd)<br>Dec. 2015 | Total Permitted Capacity / Projected County Flows (mgd) |                          |                          |
|------------------------|---------------------------|---------------------------------------|---|--------------------------|--------------------------|
|                        | 2016 Plant Capacity (mgd) |                                       | 2022  | 2024                     | 2026                     |
| <b>North</b>           | 120.0                     | 89.3                                  | 120.0 / N/A <sup>1</sup>                                | 120.0 / N/A <sup>1</sup> | 85.0 / N/A <sup>1</sup>  |
| <b>Central</b>         | 143.0                     | 120.0                                 | 143.0 / N/A <sup>1</sup>                                | 143.0 / N/A <sup>1</sup> | 83.0 / N/A <sup>1</sup>  |
| <b>South</b>           | 112.5                     | 97.1                                  | 121.0 / N/A <sup>1</sup>                                | 131.0 / N/A <sup>1</sup> | 131.0 / N/A <sup>1</sup> |
| <b>West</b>            | N/A                       | N/A                                   | N/A   | N/A                      | 102.0 / N/A <sup>1</sup> |
| <b>Total</b>           | 375.5                     | 306.4                                 | 384.0 / 321.1   | 394.0 / 326.3            | 401.1 / 331.6            |

Source: Miami-Dade Water and Sewer Department, 2016; <sup>1</sup>County only has projected data for total regional system

| County WWTP Capacities |                      | Actual County Flow (mgd)<br>2005 | Projected County Flows (mgd) |       |       |
|------------------------|----------------------|----------------------------------|------------------------------|-------|-------|
|                        | Plant Capacity (mgd) |                                  | 2010                         | 2015  | 2020  |
| <b>North</b>           | 112.5                | 84.3                             | 83.8                         | 88.5  | 92.3  |
| <b>Central</b>         | 143.0                | 135.3                            | 132.5                        | 139.6 | 146.4 |
| <b>South</b>           | 112.5                | 75.1                             | 76.5                         | 82.6  | 87.4  |
| <b>Total</b>           | 368.0                | 294.7                            | 292.8                        | 310.7 | 326.0 |

Source: Miami-Dade Water and Sewer Department, 2009

## DRAINAGE

In 2013, the Town completed a major retrofit of the existing drainage systems. The existing storm drainage system consisted of a network of underground storm sewers and outfalls discharging directly into Indian Creek and Biscayne Bay. An existing pumping station at the western end of 92nd Street assisted the drainage of water from that street by pumping to an outfall. Storm sewers in the existing system ranged in diameter from 10 inches to 36 inches.

~~Surfside's existing storm drainage system consists of a network of underground storm sewers that collect and direct the stormwater to Indian Creek and Biscayne Bay. A pumping station at the western end of 92<sup>nd</sup> Street assists the drainage of water from that street by pumping to an outfall. Storm sewers in the system range in diameter from 10 inches to 36 inches.~~

Town of Surfside has two state roadways within the Town: a north-south pair SR A1A/Collins Ave (northbound) and Harding Avenue (southbound); and one east-west SR-922/96<sup>th</sup> Street. The Florida Department of Transportation (FDOT) provided storm drainage improvements on Harding and Collins Avenue in the early 1990's. Equipment which currently serves the 92<sup>nd</sup> Street pump station were replaced by FDOT and maintained by the Town; however, even with these modifications, water may still reach curb level in various locations due to tidal fluctuations. The water level of Biscayne Bay is higher than normal during storm periods and high tide,

creating a back up in the outfall pipes. The Harding and Collins storm drainage improvements utilize on-site wells and control structures to provide additional capacity.

In 2002, FDOT completed the Stormwater Pump Station System Operational Evaluation and Recommended Improvements (OERI) Report which provided three alternatives to improve stormwater pump systems along Harding. It was determined that the most feasible alternatives are those that have an appropriate overflow capacity, once the wells reach capacity. This was achieved by introducing an emergency gravity bypass in the event that the pumps fail. The alternative consists of new pump stations at the existing vault locations. These new stations required the existing gravity system to be extended to the Intracoastal Waterway seawalls (at 88<sup>th</sup> Street and 94<sup>th</sup> Street), a new 36-inch force main to be connected to the existing wells; new pumps, structures, controls, and a new gravity bypass drainage pipe.

In 2006, the Town of Surfside initiated another stormwater project, which consists of retrofitting three of the Town's outfall pipes to reduce pollutants and fresh water entering Biscayne Bay. The ~~proposed~~ facilities at each location ~~will~~ consist of three ~~new~~ stormwater pump stations which pump water into ~~new~~ drainage wells. In order to address pollution concerns for a Florida Department of Environmental Protection (FDEP) drainage well permit, the Town ~~will~~ installed Nutrient Separating Baffle Boxes upstream of the pump station to provide treatment before the runoff enters the groundwater which ~~was~~ is included in this retrofit project.

The recently constructed retrofitted stormwater management system of the Town consists of a network of underground storm sewers along with outfall control structures discharging into Indian Creek and Biscayne Bay, and three additional pump stations discharging into 9 drainage wells. The newly constructed control structures facilitate well discharge before discharging to Biscayne Bay. The project addressed long-term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town's shores. The project directly addressed The Trust for Public Land's Biscayne Bay Accessibility report, supported the SFWMD's Biscayne Bay Partnership Initiative (BBPI), and enhanced the level of service.

In 2015, the Town completed drainage improvements for Biscaya Island along 88<sup>th</sup> Street. The Town constructed new check valves to prevent back flow into the existing roadways and upsized one 12-inch outfall to a 24-inch diameter outfall. Since the Town completed the retrofit of the existing drainage system in the recent past, there are currently not additional level of service projects required or needed for the Town's drainage system.

~~The project addresses long term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town's shores. The project directly addresses The Trust for Public Land's Biscayne Bay Accessibility report, supports the SFWMD's Biscayne Bay Partnership Initiative (BBPI), and enhances level of service.~~

## SOLID WASTE

The Town's Public Works Department has three garbage trucks which collect trash and garbage on a weekly basis and haul it to Miami-Dade County's Resource Recovery Plant west of Miami International Airport and other Miami-Dade County landfills. Last Each year (FY15/16) Surfside deposited s approximately 4,932 6,048 tons of waste material at the County's facility. Based on the 2010 U.S. Census an estimated 2007 population of 5,744 5,159 a volume of just 4.7 6 pounds per person per day was calculated. The Town, as of June 2, 2016, discontinued recycling services with Miami-Dade County for residential properties. The Town now collects recycling. Between June 2, 2016 and December 29, 2016 the Town collected a total of 218.9 tons of

recycling. Since 2007, the Town is recycling over 500 tons per year. An increase involvement of private firms in the development of solid waste disposal facilities led to an oversupply of disposal capacity and a reduction in disposal fees. As a result, Based on information supplied by the Miami-Dade County Department of Solid Waste Management (Table 4-3), the existing disposal capacity at the North Dade Landfill and the South Dade Landfill and the Resource Recovery Plan appear to have adequate capacity to meet Surfside's needs for the foreseeable future.

**Table 4-3  
Miami-Dade County Solid Waste Facility Capacity**

|   | <u>South Dade Landfill</u> | <u>North Dade Landfill</u> | <u>Resources Recovery Facility and Ashfill</u> |
|---|----------------------------|----------------------------|--|
| <b>Built out Capacity in Tons</b>                       | <u>23,208,000</u>          | <u>13,526,000</u>          | <u>8,060,000</u>                               |
| <b>Tons in Place (June 30, 2016)</b>                    | <u>17,547,000</u>          | <u>11,984,000</u>          | <u>5,765,000</u>                               |
| <b>Remaining Capacity in Tons</b>                       | <u>1,261,000</u>           | <u>1,541,000</u>           | <u>2,295,000</u>                               |
| <b>Last Year's Disposal Tonnage (7/1/15 – 6/30/16)</b>  | <u>390,626</u>             | <u>190,478</u>             | <u>160,879</u>                                 |
| <b>Estimated Average Disposal Rate per Year in Tons</b> | <u>400,800</u>             | <u>183,900</u>             | <u>168,500</u>                                 |

Source: Miami-Dade County Department of Solid Waste Management, 2016; Landfill Capacity Analysis for DSWM Active Landfills, July 1, 2016.

| Data Item / Landfill ID                         | <u>South Dade Landfill</u> | <u>North Dade Landfill</u> | <u>Resources Recovery Ashfill</u> | <u>Total</u> |
|---|----------------------------|----------------------------|-----------------------------------|--------------|
| <b>Acreage Data:</b>                            |                            |                            |                                   |              |
| FDEP Landfill Type                              | Class I (Garbage)          | Class III (Trash)          | Class I (Ash)                     | N/A          |
| Total Area (Acre)                               | 300                        | 218                        | 80                                | 598          |
| Disposal Area (Acre)                            | 180                        | 180                        | 66                                | 426          |
| Stormwater Management Area + Offices (Acre)     | 120                        | 38                         | 14                                | 172          |
| Formally Closed Area (Acre)                     | 45                         | 96                         | 26                                | 167          |
| Cell filled in & Closure in progress (Acre)     | 45                         | 0                          | 20                                | 65           |
| Active Area (Acre)                              | 45                         | 84                         | 10                                | 139          |
| Future Area (Acre)                              | 45                         | 0                          | 10                                | 55           |
| Landfill peak elevation at closure (Feet)       | 150                        | 138                        | 125                               | N/A          |
| Landfill average Bottom elevation (Feet)        | 10                         | 12                         | 10                                | N/A          |
| Landfill Maximum Depth (+/-Feet)                | 140                        | 125                        | 115                               | N/A          |
| <b>Capacity Information</b>                     |                            |                            |                                   |              |
| Tons in Place (June 30, 2006)                   | 13,799,000                 | 10,328,000                 | 4,077,000                         | 28,204,000   |
| Built out capacity in tons                      | 21,184,000                 | 12,581,000                 | 6,559,000                         | 40,347,000   |
| Remaining Capacity in tons                      | 7,385,000                  | 2,253,000                  | 2,505,000                         | 12,143,000   |
| Last year's disposal tonnage (7/1/05-6/30/06)   | 1,042,000                  | 641,000                    | 159,000                           | 1,842,000    |
| Estimated average disposal rate per year        | 550,000                    | 360,000                    | 155,000                           | 1,065,000    |
| Years of remaining life at normal disposal rate | 13                         | 6                          | 16                                | N/A          |

Source: Miami-Dade County, 2009

There is sufficient capacity in Miami-Dade County landfills to meet the Town's needs for solid waste disposal for the short term and long term planning horizons.

### NATURAL GROUNDWATER AQUIFER RECHARGE

The principal ground water resources for the Lower East Coast (LEC) Planning Area are the Surficial Aquifer System (SAS), including the Biscayne Aquifer, and the Floridan Aquifer System (FAS). The Surficial and Biscayne aquifers provide more than 1 billion gallons a day for public water supply and other uses such as agriculture and landscape irrigation within the LEC Planning Area.

Although the Biscayne Aquifer is part of the Surficial Aquifer System (SAS), it exists only along the coastal areas in Miami-Dade, Broward and southern Palm Beach counties. The Biscayne Aquifer is highly productive with high-quality fresh water. The extension of the SAS through central and northern Palm Beach County is less productive, but is still used for consumptive uses, including potable water. These aquifers are shallow, generally located within 200 feet of ground surface, and are connected to surface water systems, including canals, lakes and wetlands.

The Biscayne Aquifer and the extension of the SAS into northern Palm Beach County provide more than 1 billion gallons per day of high-quality, inexpensive fresh water for the populations of Palm Beach, Broward and Miami-Dade counties and the Florida Keys portion of Monroe County. In 2010, fresh groundwater accounted for 94 percent of potable water produced by public water supply utilities.

This volume is heavily supported, especially during the annual dry season, as well as in periodic droughts, by water from the regional system, primarily the Everglades. During droughts, water from Lake Okeechobee has been required to supplement water from the Everglades to meet the needs of the coastal counties. In 2008, the United States Army Corps of Engineers (USACE) implemented the “2008 Lake Okeechobee Federal Regulation Schedule,” lowering the operation levels at the lake to reduce the risk of dike failure and minimize impacts to the lake’s ecology. This resulted in a projected decline in the level of certainty for agriculture users to rely on the lake, and increased the expectation that the lake would exceed its minimum flow and levels criteria more frequently. In response, the South Florida Water Management District (SFWMD) adopted regulatory criteria to limit future additional withdrawals from Lake Okeechobee and connected water bodies to protect the lake and prevent further erosion to the level of certainty for existing legal users. The Okeechobee Utility Authority in the Kissimmee Basin Planning Area is the only remaining utility using water directly from Lake Okeechobee. Since the 2005-2006 LEC Plan update, Clewiston, South Bay, Belle Glade, and Pahokee have all discontinued the use of Lake Okeechobee as their supply source and now use Floridan Aquifer System water treated by reverse osmosis.

The Biscayne Aquifer is designated as a sole source aquifer by the U.S. Environmental Protection Agency (USEPA) under the *Safe Drinking Water Act* because it is a principal source of drinking water and is highly susceptible to contamination due to its high permeability and proximity to land surface in many locations. As of the 2013 LEC Plan Update, SFWMD has placed limitations on additional allocations from the Biscayne Aquifer. As a result, use of alternative water sources has expanded and a Comprehensive Water Conservation Program has been adopted by SFWMD.

The Floridan Aquifer System (FAS) exists not just in the LEC Planning Area, but throughout the entire state and portions of adjacent states. The Upper Floridan Aquifer in southeast Florida contains brackish water, and is increasingly being tapped as a source of raw water for treatment with reverse osmosis (RO) to create potable water. Brackish water from the Floridan Aquifer is also blended with fresh water prior to conventional water treatment to expand water supplies during the dry season. Additionally, the Floridan Aquifer is used for seasonal storage of treated fresh water within aquifer storage and recovery (ASR) systems. Until recent years, the Floridan Aquifer was more extensively developed in the Upper East Coast (UEC) and Lower West Coast (LWC) planning areas of the South Florida Water Management District (SFWMD or District) than in the LEC Planning Area.

From Jupiter to southern Miami, water from the FAS is highly mineralized and not suitable for drinking water without specialized treatment. More than 600 feet of low permeability sediments confine this aquifer and create artesian conditions in the LEC Planning Area. Although the

potentiometric surface of the aquifer is above land surface, the low permeability units of the intermediate confining unit prevent significant upward migration of saline waters into the shallower freshwater aquifers.

The top of the Upper Floridan Aquifer is approximately 900 feet in southeast Florida, and the base of the Upper Floridan extends as deep as 1,500 feet. At the base of the Lower Floridan Aquifer, there are cavernous zones with extremely high transmissivities collectively known as the boulder zone. Because of their depth and high salinity, these deeper zones of the Lower Floridan Aquifer are used primarily for disposal of treated wastewater.

The Miami-Dade Water Supply Facilities Work Plan outlines a number of Alternative Water Supply (AWS) and conservation strategies designed to protect water sources and comply with recent regulations limiting withdrawals and allocations and eliminating the use of existing ocean outfalls.

### ***Wellfield Protection Areas***

There are no wellfield protection areas within the Town of Surfside.

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## Infrastructure Element Goals, Objectives and Policies

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***Goal 1: Public utilities capacity shall be provided to adequately serve residents, visitors and business people.***

**Objective 1 – Ensure sufficient capacity of potable water and sanitary sewer facilities:**  
In general, ensure sufficient potable water and sanitary sewer system capacity in the most cost effective manner possible. This objective shall be made measurable by its implementing policies.

Policy 1.1 – The Town shall continue use of Miami-Dade County Water and Sewer Department facilities at the Central District Wastewater Treatment Plant on Virginia Key and the Hialeah/Preston Water Treatment Plant or such other Miami-Dade County facilities as may be appropriate.

Policy 1.2 – The Town shall upgrade the potable water distribution system and the sanitary sewer collection system through ongoing maintenance.

Policy 1.3 – The Town shall continue to follow the Sanitary Sewer Evaluation Study (SSES) protocols for Phases I, II, and III, including the testing and implementation of improvements/repairs of the collection system.

Policy 1.4 – Projects and programs shall be funded to maintain adequate levels of service.

Policy 1.5 – The Town shall maintain a minimum of a five-year schedule of capital improvements for the expansion and upgrade in the capacity of water and sanitary sewage facilities in accordance with the Water Supply Facilities Work Plan.

Policy 1.6 – The Town shall maintain a Water Supply Facilities Work Plan with a minimum planning horizon of at least 10 years, and shall ensure coordination between land uses and future water supply planning within 18 months of the adoption of the Lower East Coast Water Supply Plan, or its update, as required by Chapter 163, Florida Statute.

Policy 1.7 – The Town of Surfside 15-Year Water Supply Facilities Work Plan dated December 2015 is hereby adopted by reference into the Comprehensive Plan, along with the Miami Dade Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014–2033) inclusive of all potable water projects. The Work Plan will be updated as needed, or concurrent with any updates to the Miami-Dade Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014-2033).

Policy 1.8 – The Town of Surfside 1520-Year Water Supply Facilities Work Plan shall be consistent with the Potable Water Level of Service standards as established in the Comprehensive Plan.

Policy 1.9 – The Town’s 1520-Year Water Supply Facilities Work Plan shall guide future expansion and upgrade of facilities needed to transmit and distribute potable water to meet current and future demands. The Town shall research and identify alternative, renewable sources of water to the projected increases in demand.

Policy 1.10 – The Town shall provide for the protection of water quality when using traditional and new alternative water supply sources.

Policy 1.11 – The Town shall identify traditional and alternative water supply projects and the conservation and reuse programs to meet current and future water use demands within the Town’s jurisdiction consistent with the Miami-Dade County 20-Year Water Supply Facilities Work Plan and the South Florida Water Management District’s Water Supply Plan.

Policy 1.12 – The Town shall issue no development order unless the Miami-Dade Water and Sewer Department (MDWASD) certifies that adequate potable water supply is available for new development. The Town shall provide monthly reports to MDWASD, as required, to track the amount of water to be allocated for new uses.

**Objective 2 – Correct deficiencies and increase capacity of drainage facilities:** Optimize the utilization of water resources through the provision of stormwater management for the Town which reduces damage and inconvenience from flooding, promotes aquifer recharge, and minimizes degradation of water quality in surface water bodies.

Policy 2.1 – For site plan approval, the Town shall require that surface water management systems be designed and operated consistent with the Town’s adopted drainage level of service.

Policy 2.2 – Financially feasible projects and programs shall be implemented in order to maintain adequate level of service standards, and to make preventative improvements to the system.

Policy 2.3 – The Town shall implement the stormwater improvement projects specified in the State of Florida Department of Environmental Protection (DEP) Agreement No. LP6768.

Policy 2.4 – The Town shall construct the Stormwater Treatment Trains and Rehabilitation projects specified in the State of Florida Department of Environmental Protection (DEP) Agreement No. S0374.

Policy 2.5 – The Town shall adhere to the National Pollution Discharge Elimination System-Municipal Separate Storm Sewer System (NPDES-MS4) Permit and shall implement the permit conditions including monitoring of outfalls and improving stormwater management practices.

Policy 2.6 – The Town shall use Best Management Practices (BMPs) in accordance with its regulations and those of the South Florida Water Management District (SFWMD) and DERM.

Policy 2.7 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection and enhancement of the Biscayne Bay Aquatic Preserve.

**Objective 3: Maintain sufficient solid waste capacity.** The Town shall support Miami-Dade County in its provision of solid waste management facilities available to meet the Town’s short-term and long-term future needs.

Policy 3.1 – The Town shall require in the land development regulations that applicants for development permits demonstrate adequacy of solid waste disposal sites or facilities prior to occupancy.

Policy 3.2 – The Town shall cooperate with Miami-Dade County to further preserve landfill space, examine the need for a comprehensive countywide yard waste program and establish clear policies regarding the construction and debris waste stream.



**Objective 4 – Level of service:** Achieve adequate facility capacity to serve existing development and new development concurrent with the impact of that development. Achievement of this objective shall be measured by the implementation of the following policies:

Policy 4.1 – The Town will enforce the following level of service standards as identified in the MDWASD goals for potable water:

**Sanitary Sewers:** The County-wide “maximum day flow” of the preceding year shall not exceed 102 percent of the County treatment system's rated capacity. The sewage generation standard shall be 155 average gallons per capita per day. ~~{9J-5.011 (2) (e) 2a}~~

**Potable Water:**

- (a) the regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent 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.
- (b) 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 Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

| Land Use  | Min. Fire Flow (gpm) |
|---|----------------------|
| Single Family Residential Estate                                  | 500                  |
| Single Family and Duplex; Residential on minimum lots of 7,500 sf | 750                  |
| Multi-Family Residential  | 1,500                |
| Semiprofessional Offices  |                      |
| Hospitals; Schools  | 2,000                |
| Business and Industry   | 3,000                |

**Drainage:** All nonresidential development and redevelopment shall adequately accommodate runoff to meet all Federal, state and local requirements. Stormwater shall be treated in accordance with the provisions of Chapter 17-25, FAC in order to meet receiving water standards in Chapter 17-302.500, FAC. One inch of runoff shall be retained on site. Post-development runoff shall not exceed peak pre development runoff. ~~{9J-5.011 (2) (e) 2e}~~

**Solid Waste:** The County solid waste disposal system shall maintain a minimum of five years capacity. For Town planning purposes, a generation rate of 5.2 pounds per person per calendar day shall be used. ~~{9J-5.011 (2) (e) 2b}~~

**Objective 5 – Water conservation:** Conserve and protect potable water resources by optimizing the utilization of water resources through effective water management practices.

Policy 5.1 – The Town shall maintain and improve land development code and other regulations that include: 1) water conservation-based irrigation requirements; 2) water conservation-based plant species requirements derived from the South Florida Water Management District's list of native species and other appropriate sources; 3) lawn watering restrictions; 4) mandatory use of

high-efficiency water saving devices for substantial rehabilitation and new construction; and 5) other water conservation measures, as feasible.

Policy 5.2 – The Town shall promote education programs for residential, commercial and other uses which will discourage waste and conserve potable water.

**Objective 6 – Infrastructure resiliency:** Ensure resiliency of existing and future water resources, and water, wastewater and storm water infrastructure to the impacts of climate change and consider the development of adaptation for areas vulnerable to climate change-related impacts.

Policy 6.1 – Coordinate with Miami-Dade County to assess the adequacy of water supply and water/wastewater facilities and infrastructure to effectively capture, store, treat, and distribute potable water and reuse under variable climate conditions, including changes in rainfall patterns, sea level rise, and flooding, with potential water quality and quantity impacts.

Policy 6.2 – Coordinate adaptive management implementation strategies for water and wastewater resources that address the potential impacts of climate change for long term operations.

Policy 6.3 – Evaluate cost/benefit analysis for implementing adaptive management strategies including; planning, siting, construction, replacement and maintenance of public infrastructure as well as fortification or retrofitting of existing infrastructure.

Policy 6.4 – Work with Miami-Dade County to develop water demand projection scenarios that account for potential changes in demands if temperatures increase and drought conditions become more frequent or persistent.

Policy 6.5 – Evaluate infiltration and inflow programs to strategically reduce the flow of groundwater and stormwater and stormwater to wastewater collection and treatment facilities.

Policy 6.6 - The Town of Surfside shall continue to conduct a review and identify feasible regulations that require new construction, redevelopment, additions, retrofits or modifications of property to incorporate porous materials, reduce total impervious area, and employ other techniques to reduce run-off, capture and reuse rain water, and recharge the Biscayne Aquifer.

Policy 6.7 - The Town shall continue to identify public investments and infrastructure at risk from sea level rise and other climate change related impacts, and update this assessment every 5 years. Specifically, the Town shall analyze vulnerability to facilities and services, including but not limited to: buildings; water and wastewater infrastructure, transmission lines and pumping stations; stormwater systems; roads, bridges, and all transportation and transit infrastructure; power generation facilities and power transmission infrastructure; critical infrastructure such as city hall, police and fire stations.

Policy 6.8 - The Town shall coordinate with Miami-Dade County in improving the resiliency of existing water resources and water and wastewater infrastructure to climate change impacts, while improving energy efficiency and reducing greenhouse gas emissions.

Policy 6.9 - The Town of Surfside shall consider the installation of backflow preventers on drainage systems that discharge to Biscayne Bay in coordination with the appropriate agencies.

Policy 6.10 - The Town of Surfside shall construct the additional stormwater drainage infrastructure necessary to accommodate projected increases in stormwater, including drainage wells, injection wells, swales, bioswales, and other related structures.

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## COASTAL MANAGEMENT ELEMENT

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### DATA INVENTORY AND ANALYSIS

#### PURPOSE

The purpose of the Coastal Management Element is to protect human life and to limit public expenditures in areas that are subject to destruction by natural disaster. It is also to plan for, and where appropriate, restrict development activities where such activities would damage or destroy coastal resources.

#### COASTAL PLANNING AREA

Surfside is an Atlantic Ocean coastal community located on a barrier island along the southeast coast of the Florida peninsula in Miami-Dade County. The barrier island the Town is located on is separated from the mainland by the north end of the Biscayne Bay estuary. The Hurricane Storm Surge Evacuation Map prepared by the Miami-Dade County Office of Emergency Management has identified the Town and the entire barrier island as hurricane vulnerable, and classified the entire barrier island as a Zone A-B evacuation area. Zone B is at greatest risk for storm surge for Category 2 and higher storms. ~~Therefore,~~ The entirety of the Town is recognized as the Coastal Planning Area (CPA).

#### LAND USE IN THE COASTAL PLANNING AREA

The existing land uses in the Town are identified on *Map FLU 1 Existing Land Use*. The Future Land Uses within the Town are identified on *Map FLU 7 Future Land Use*. The Future Land Use Element inventories and provides greater detail on these uses. The Town has no identified blighted areas in need of redevelopment, and has no Community Redevelopment Agency.

#### NATURAL RESOURCES IN THE COASTAL AREA

The natural conditions of this barrier island have been highly altered. The Town is nearly built out with only a few vacant lots. The entirety of the Town's Bayside shoreline, inclusive of Indian Creek and Point Lake, has been significantly altered and is bulkheaded, and the adjacent nearshore waters have been dredged.

The one mile length of beach and dune along the Town's ocean frontage is created from a beach renourishment program. The restoration of the federally-authorized Dade County Shore Protection Project, which included the Town of Surfside, began in 1978 and was completed in January 1982 using sand from offshore borrow sites. The project included restoration of a 20 foot wide dune at elevation +10.7 ft NGVD and a 50 foot wide level berm at elevation +8.2 ft NGVD. Additional fill material, equivalent to ten years of advance nourishment, was placed seaward of the design berm. At the time of the compilation of this data in ~~November 2008~~ 2017, there is still approximately 38 acres of beach area seaward of the erosion control line within the Town. This beach area is maintained in a natural state and the vegetated dune serves as nesting habitat to marine turtles.

#### ACCESS FACILITIES

The entirety of the Town's one mile length of oceanfront beach is under the ownership of the State and is open to the public for recreational use. The erosion control line, which runs approximately along the crest of the dune, defines the limits of private property and the beginning of the state owned beach. The state

owned beach is comprised of approximately 38 acres. Ample access to this public beach is provided via the platted public right of ways for 88<sup>th</sup>, 89<sup>th</sup>, 90<sup>th</sup>, and 92<sup>nd</sup> Streets and 94<sup>th</sup>, 95<sup>th</sup> and through 96<sup>th</sup> Streets; the eastern ends of which terminate at the State-owned beach. Beach access is also provided from the Town's beach front Community Center site located near at 93<sup>rd</sup> Street. The beach and dune system is maintained by the Miami-Dade County Park and Recreation Department in a natural condition. There are no piers, marinas or structures other than a lifeguard station along the beach.

The Town has established an ocean bulkhead line that applies to the private beach front properties east of Collins Avenue. The zoning code prohibits development or any redevelopment seaward of the bulkhead line. Seaward of this bulkhead line there are approximately 19 acres that are undeveloped that lie adjacent to the State owned beach. Within this undeveloped ocean bulkhead setback area, along the landward side of the dune, there is an unimproved maintenance path that is utilized by the State, the County and the Town that runs the entire length of the Town. This maintenance path is, and has historically been, a popular public walking and biking path. The landward side of the dune in this area is more sparsely vegetated than the seaward side, and the property owners have landscaped the area nearest the bulkhead on many of the properties.

To limit impacts to the dune and dune vegetation, seventeen (17) dune cross-over locations have been established and are maintained by the Town. Eight of these cross-overs correspond to the termination of the platted public right-of-ways and one is in front of the Town Community Center site. Although the remaining cross-overs are located in front of private properties, the established maintenance path provides access to these cross-overs also.

The entire shoreline along Biscayne Bay, which includes Point Lake and Indian Creek, is bulkheaded. There are approximately 1.5 miles of shoreline along the barrier island portion of the Town and approximately 0.7 miles of shoreline around the Biscaya Island neighborhood. The western ends of the platted public right of ways for 90<sup>th</sup> and 92<sup>nd</sup> through 95<sup>th</sup> Streets terminate at the Indian Creek bulkhead; the southern ends of the platted right of ways for Froude and Carlyle Avenues terminate at the Biscayne Bay bulkhead, and the platted right of ways of Biscaya Drive, Bay Drive and the west end of 89<sup>th</sup> Street each terminate at the Point Lake bulkhead. At this time there are no docks, platforms or specific improvements to facilitate water accessibility; however, the Town intends to retain these platted right of ways as public access.

~~There is a Town park located along Indian Creek at the corner of 96<sup>th</sup> Street and Bay Drive. The Town is in the process of obtaining grants to purchase a residential property immediately south of the 96<sup>th</sup> Street Park. The long range plans for this property have not yet been determined.~~

## ESTUARINE POLLUTION CONDITIONS

Biscayne Bay, a sub-tropical estuary, is located along the coast of Miami-Dade and northeastern Monroe Counties; it is a marine ecosystem comprised of about 428 square miles with a watershed area of about 938 square miles. The bay can generally be divided into the north, central and south Biscayne Bay areas. North Biscayne Bay extends from Dumfoundling Bay (approximately NE 192<sup>nd</sup> Street) south to the Rickenbacker Causeway. The Town of Surfside is located along the north portion of Biscayne Bay. The bayou, referred to as Indian Creek, that separates the Town from Bay Harbor Islands and the Island of Indian Creek Village, and the dredged channels and water body referred to as Point Lake that separates Biscaya Island from the remainder of the Town are considered parts of Biscayne Bay. The northern portion of Biscayne Bay retains the most estuarine habitat that can be found throughout the bay, but it is also the most altered by dredging and bulkheading. Although remaining shallow areas contain some productive seagrass beds, roughly 40 percent of the northern bay area is too deep or too turbid to support a productive estuarine ecosystem. The entirety of the Town's bayside shoreline, inclusive of Indian Creek

and Point Lake is bulkheaded and the near shore waters have been significantly altered through dredging. The mainland and barrier island of the north Biscayne Bay area are highly urbanized.

The Atlantic Intracoastal Waterway (ICW) runs through Biscayne Bay in a north south direction. The ICW is managed and maintained by the Florida Inland Navigation District (FIND), which is a special state taxing district. The increased vessel traffic and maintenance dredging, which has created spoil islands that run along the edge of the ICW, also contribute to the impacts to the estuary.

The Town has developed and adopted a Stormwater Management Master Plan (SMMP). The SMMP identifies 9 separate basins within the Town and proposed improvements for each basin. The Town's drainage includes thirteen outfalls into the bay; eleven are Town maintained and two are Florida Department of Transportation (FDOT) outfalls. Under Financial Project Number 249561-2-52-01, FDOT ~~is currently~~ completed ~~undertaking~~ improvements to retrofit their existing pump stations and injection wells whereby only during emergency bypass situations will discharges to the bay occur from the FDOT outfalls, which are located at 94<sup>th</sup> Street and at Carlyle Avenue. This FDOT drainage system, ~~which addresses~~ the drainage from the area along Collins Avenue and east of Harding Avenue, ~~is identified as Basin 9 in the SMMP. The SMMP indicates that at present, runoff from the other 8 basins flows untreated to the remaining outfalls and into the bay.~~

With assistance from grant monies under FDEP Agreements S0374 and LP6787, the Town ~~currently~~ completed retrofitting three outfall locations to install stormwater pump stations and injection wells to redirect run-off into the groundwater, for water quality. Nutrient separating baffle boxes ~~were~~ will be installed upstream of the pump stations to provide treatment before the runoff enters the groundwater. These improvements ~~will occur~~ occurred at the ends of 95<sup>th</sup> Street (Basin 1), Carlyle Avenue (Basin 6) and Surfside Boulevard (Basin 4). The SMMP identifies how basins 1 through 6 and 8 will interconnect for better quality control and hydraulic performance.

Surveying the Town for elevations and Street alignments has been completed and an inventory of all the components of the stormwater drainage system ~~was~~ has also been completed. The Town ~~also~~ recently sealed all manhole covers and ~~is in the process of repairing~~ or ~~replacing~~ the sanitary sewer lines, where necessary, to decrease transmigration of e-coli and other contaminants to Biscayne Bay. ~~The sewer rehab project improvements will be completed by December of 2010.~~

## HISTORIC RESOURCES

The Bureau of Archaeological Research within the Florida Office of Cultural and Historic Preservation maintains the Florida Master Site File (MSF); a database that contains information on archaeological and historic resources in Florida. The state MSF also contains those sites listed on the National Register. ~~Map CON 2 Historic Sites, identifies and locates the historic resources contained on the MSF.~~ There are six (6) listed sites within the Town; a prehistoric mound, a prehistoric midden, and four (4) structures. The Indian Creek Bridge, adjacent to the Town, is also listed on the MSF.

The Town regulates the type of earth disturbing activities that may occur in the location of the midden and mound. The four structures listed on the MSF are all located along Collins Avenue and include the Surf Club lodge constructed circa 1930, a private residence also constructed circa 1930, and the Van Rel and Nichols apartment buildings constructed in 1947. The historic status of these structures should be considered when reviewing any applications for modifications or redevelopment of these structures.

## INFRASTRUCTURE IN THE COASTAL AREA

The Town has an atlas with a complete inventory of the water distribution system and the sanitary sewer collection system in the Town. The Town recently completed an inventory of all signage and traffic control devices in the Town, as well as an inventory of all the components of the stormwater drainage system. Surveying the Town for elevations and street alignments has also recently been completed. The Town has current data on the infrastructure, which is addressed in greater detail in the Infrastructure Element of this plan.

## COASTAL HIGH HAZARD AREA

Pursuant to Chapter 163.3178(2)(h)F.S. the “Coastal High Hazard Areas” (also referred to as “high-hazard coastal areas”) means the area below the elevation of the category 1 storm surge line as established by a Sea, Lakes, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model. Map CST 1 Storm Tides shows the tide during a Category 1 storm from the US Army Corps of Engineers Hurricane Storm Tide Atlas printed in 200+18.

Miami-Dade County storm surge planning zones have been drawn in relation to updated data which supersedes the previously-used SLOSH model. The newest generation of SLOSH model reflects major improvements, including higher resolution basin and grid data. The Storm Surge Planning Zones are used to identify risk of storm surge and is based on all directions of storms. As a storm is approaching, Miami-Dade County Emergency Management will identify which areas should evacuate for that particular storm. Evacuation Zones will be all of or a portion of the Storm Surge Planning Zones. The entire Town of Surfside is recognized as a Zone B. Surge Planning Zone B is defined as at greatest risk for storm surge for Category 2 and higher storms. A Surge Planning Zone A is at risk for for storm surge for Category 1 and higher storms. The Miami-Dade County website provides an on-line mapping tool to determine if a specific location is within a storm surge planning zone, the mapping tool can be found at: <http://gisweb.miamidade.gov/communityservices/?ShowWhat=OEM>

## INFRASTRUCTURE IN THE COASTAL HIGH HAZARD AREA

The current SLOSH model indicates a significant portion of the western side of the Town falls within the CHHA. This area falls along Indian Creek and Point Lake. The land within the CHHA is built out. Other than the surface parking lot along Abbot Avenue between 95<sup>th</sup> and 96<sup>th</sup> Streets and the 96<sup>th</sup> Street Park, there is private residential development in the CHHA. These homes are served by public roads, sewer and water.

## DISASTER PLANNING

Within the Town there is the potential for impacts from lightning, floods, tornadoes and tropical storms, but the most significant natural disaster threat the Town needs to plan for is the event of a hurricane. Hurricanes have the potential to occur from June through November; heavy rainfall, high winds, storm surge and widespread flooding may accompany these storms. ~~The Miami-Dade County Comprehensive Emergency Management Plan states that southeast Florida has experienced 34 hurricanes between 1994 and 2007, nine of which have been a category 3 or greater.~~ Records indicate that the Town has been brushed by or hit by a tropical storm or a hurricane 735+ times from 1871 through ~~2007~~2016.

During a hurricane evacuation, a significant number of vehicles will have to be moved across the local and regional road network. The quantity of evacuating vehicles will vary depending upon the magnitude of the hurricane, publicity and warnings provided about the storm and particular behavioral response characteristics of the vulnerable population. The Town and County must be prepared to evacuate highly vulnerable populations on critical routes, often concurrently with evacuees from outside the County.

There are limited route choices; *Map CST 2-21 Evacuation Routes* identifies the designated evacuation route for the Town. The Miami-Dade County Office of Emergency Management has identified the Town and the entire barrier island as a Zone A-B evacuation area.

The Town of Surfside is within the 50-mile Emergency Planning Zone (EPZ) for the Turkey Point Nuclear Power Facility located in southern Miami-Dade County. This EPZ includes the ingestion exposure pathway in which the population and animals are vulnerable to the long-term health effects associated with the ingestion of contaminated food and water. Additional manmade disasters that the Town may be subject to include other hazardous materials contamination, civil disturbances and mass migration events, terrorism, biological epidemics or coastal oil spills.

The Town has developed a Comprehensive Emergency Management Plan (CEMP). ~~The final draft is currently under review for adoption and will be in effect by the beginning of the 2009 hurricane season.~~ The CEMP identifies that the Emergency Planning Committee, as directed by the Public Works Director, will be responsible for annually reviewing the CEMP. The Public Works Director will be responsible for annually updating all annexes which reference contact information and other changing information. The Basic Plan and Functional Annexes will be updated once every four years unless substantial deficiencies are demonstrated through an actual or simulated disaster response incident. The Town Manager may also direct more frequent updates as the environment, conditions, or assumptions within the Town change. The Town of Surfside is also a participant in the Miami-Dade County Local Mitigation Strategy Planning Group. The Town coordinates their Post Disaster Redevelopment with the County Emergency Management Office.

The Town has identified publicly owned locations to be utilized as temporary debris storage and reduction sites in the event of a hurricane, and has had these sites reviewed by the Miami-Dade Department of Environmental Resource Management and has forwarded this site information to FDEP. The Town has also selected a disaster management/recovery services firm and debris monitoring services firm.

## **RESILIENCY PLANNING**

The Town of Surfside is an older, built-out community that has been addressing resiliency concerns on an ongoing basis. This is a commitment by this Town and continues to be an ongoing process. Below is a brief overview of some of the action taken that began at least a decade ago.

By the end of 2009 the Town completed a Stormwater Management Master Plan to address water quality issues and to reduce flooding within the Town. The Master Plan included a complete engineering analysis based on engineered computer models. The report included the best approach to reduce or eliminate pollutant discharge loadings into Biscayne Bay and targeted improvement in hydraulic performance of the Town's drainage system to reduce stormwater flooding. The report informed the actions of the significant drainage system improvements the Town then undertook.

The storm sewer improvements were a part of an overall utility rehabilitation project that included the sanitary sewer and potable water systems. This was a significant project that consisted of the replacement of over 32,000 linear feet of water main, 1,587 water services, 1,278 new water meters and 46 additional fire hydrants. The sanitary sewer upgrades included over 50,000 linear feet of sanitary sewer main being CIPP lined or replaced, two (2) sewage pump stations being completely rebuilt with updated and more efficient pumps including SCADA controls, the force mains from the pump stations to the shared transmission main being replaced, and placing full dish gaskets on all manhole openings.



The storm sewer system was upgraded to include 3 SCADA controlled pump stations, 9 shallow injection drainage wells, 20 control structures and the required RCP pipeline to interconnect the existing gravity drainage system with the newly installed pumped well system. It also included the installation of over 45,000 linear feet of curb and 167,000 square yards of asphalt roadway resurfacing, sealing all stormwater manholes and installing back flow preventers on outfalls.

The Town searched for and obtained funding assistance for this project, which included the Miami Dade Building Better Communities General Obligation Bond, FDEP Grants, Regions Bank publically bid bond issuance and the FDEP's State Revolving fund program.

The Town obtained two Florida Inland Navigation District (FIND) grants to financially assist in replacing and elevating all Town owned seawalls. This project was completed by the end of 2017. The Town also adopted an ordinance that specifically requires the following: "The elevation for the top of shore end of all groins or other shore protective work shall be plus five feet above mean low water; the elevation for the top of seaward end of all groins and other shore protective work shall be plus 2&half feet above mean low water; and the elevation of the top of all seawalls fronting on the waters of Biscayne Bay, Indian Creek and Point Lake shall be plus five feet above mean low water." This ordinance provides for an initial, and for an ever increasing height as the mean low water line increases.

Reflective of recommendations of the Regional Climate Action Plan, in April of 2016, the Town Commission officially formed the Sustainability Subcommittee of the Planning and Zoning Board. The purpose of the Subcommittee is to study and recommend policies and programs that strengthen the resiliency of the community. The Subcommittee's goals include:

1. Adapting and mitigating to climate change and sea level rise;
2. Promoting green and sustainable building, construction and operations;
3. Protecting, restoring, optimizing and creating green spaces;
4. Improving alternative transportation and mobility; and
5. Increased environmental awareness and stewardship of our treasured ecosystems.

The Town amended their flood ordinance to specify the following within the A zones:

- Residential construction. All new construction and substantial improvements of any residential building (including manufactured home) shall have the lowest floor, including basement, elevated to no lower than one foot above the base flood elevation.
- Nonresidential construction. All new construction and substantial improvements of any commercial, industrial, or nonresidential building (including manufactured home) shall have the lowest floor, including basement, elevated to no lower than one foot above the base flood elevation.

Additionally, all new construction and substantial improvements in V zones shall be elevated on pilings or columns so that:

- The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to no lower than one foot above the base flood elevation.

The Town also requires all development other than single family residential be developed in accordance with Leadership in Energy & Environmental Design (LEED) or Florida Green Building Coalition (FGBC) building design and construction standards to ensure the incorporation of sustainable development practices.

In the Town's ongoing efforts to develop accurate, effective and comprehensive flood peril strategies, the Town has obtain and reviewed a proposal for the following project and will be including the funding for this project in the fiscal year 2019 budget.

Project: Obtain elevation data at all of the street centerline intersections of public rights-of-way within the Town, and obtain beach dune height topographic survey with a grid of cross section elevations traversing from the Bulkhead line to the edge-of-water along the Atlantic coastline. The Town will also produce a Beach and Dune Use Best Management Practices document and develop Beach Use regulations.

The street intersection data will produce specific and accurate information on the lowest (most vulnerable) locations within the Town. This data will be incorporated into the Town's GIS database to cross reference FIRM data, infrastructure data, historic site data and all other data layers the Town has developed. The analysis of this data will enable the Town to direct planning efforts and strategies toward the infrastructure, critical facilities and adjacent properties in these locations; direct Capital Improvements funds most effectively; and assist the Town in assessing and developing effective freeboard criteria as needs arise.

The Town recognizes the protective value of the beach and dune system, particularly to the Town's commercial corridor, and main thorough fairs that are also main thorough fairs for the entire barrier island. The baseline data obtained on the current geo/topographic conditions of the dune and beach will also be incorporated into the Town GIS database; allowing the data to be placed over a current aerial photograph to identify the limits of the dune vegetation. Analysis of the survey information will enable the Town to identify any vulnerable areas that may need restoration or replanting, provide the baseline for the Town to be able to monitor changes, and to establish geo/topographic goals to strive for. The Town will research best protective management practices for the beach and dune system and produce a Beach and Dune Use Best Management Practices document. The information obtained will also guide the Town in the development of beach use regulations to ensure this natural resource remains an effective protection system for the Town.

The Town has also reviewed the requirements, feasibility and resource allocations associated with pursuing and obtaining a Certification through the Florida Green Building Coalitions. The will be pursuing FGBC certification and will additionally be putting funding for this project in the fiscal year 2019 budget.

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## Coastal Management Element Goals, Objectives and Policies

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*Goal 1: Provide for conservation and environmentally sound use of natural resources and the protection of human life and property. To plan for, and where appropriate, restrict development activities where such activities would damage or destroy coastal resources, and to limit public expenditures in areas that are subject to destruction by natural disaster.*

**Objective 1 – Protect living marine resources and maintain and improve estuarine water:** The Town shall limit the specific and cumulative impacts of development or redevelopment upon water quality by requiring that surface water management systems be designed and operated consistent with state and regional standards and the Town’s adopted level of service.

Policy 1.1 – The Town shall continue to coordinate and cooperate with all applicable agencies in the appropriate management of the Biscayne Bay Aquatic Preserve, including, but not limited to, the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, the National Park Service and the Biscayne Bay Shoreline Development Review Committee.

Policy 1.2 – For site plan approval, the Town shall require that surface water management systems be designed and operated consistent with the Towns adopted drainage level of service.

Policy 1.3 – The Town shall ~~continue to review and update as needed the adopted~~ **implement the** Stormwater Management Master Plan ~~adopted by the Town in February of 2008. The Town shall update the Plan as necessary.~~

~~Policy 1.4 – The Town shall construct the Stormwater Treatment Trains and Rehabilitation projects specified in the State of Florida Department of Environmental Protection Agreement No. S0374.~~

Policy 1.45 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection of Atlantic Ocean coastal waters, particularly relating to beach renourishment projects and Coastal Construction Control Line permitting.

~~Policy 1.6 – The Town shall implement the stormwater improvement projects specified in the State of Florida Department of Environmental Protection Agreement No. LP6768.~~

Policy 1.57 – The Town shall cooperate and coordinate with the applicable agencies to assure that solid and hazardous wastes generated within the Town are properly managed to protect the environment and the near shore waters. The Town shall report any hazardous waste violation they may become aware of to the appropriate jurisdictional agency.

Policy 1.68 – The Town shall adhere to the Nation Pollution Discharge Elimination System – Municipal Separate Storm Sewer System (NPDES-MS4) Permit and shall implement the permit conditions including monitoring of outfalls and improving stormwater management practices.

~~Policy 1.9 – The Town shall work cooperatively with the Florida Department of Transportation (FDOT) to ensure the installation of the improvements to the DOT stormwater systems currently discharging into Biscayne Bay waters.~~

Policy 1.710 – When applicable, the Town shall provide development proposal information to the Biscayne Bay Shoreline Development Review Committee for review.

~~Policy 1.11 – The Town shall continue the infrastructure improvement program to seal the manholes, and to repair or replace the sanitary sewer lines, where necessary, to decrease contamination to Biscayne Bay. These project improvements shall be completed by December of 2010.~~

**Objective 2 – Protect living marine resources including manatees and sea turtles:** In general, protect, conserve, or enhance living marine resources. In particular, limit impacts to manatees, sea turtle eggs, fisheries, wildlife, wildlife habitat, marine habitat and environmentally sensitive land.

Policy 2.1 – The Town police shall maintain communications with County and State marine police in order to report any violations of the boat speed limits in the adjacent waters which are a manatee protection area. The Miami-Dade County manatee telephone hotline shall also be publicized by Town officials.

Policy 2.2 – The Town shall enact and enforce land development provisions which regulate the location and screening of lights along the beach in a way which is practical to water dependent and water related uses to assist in protecting sea turtles by minimizing the amount of light on beach locations where sea turtles may nest. In addition, the Town shall actively cooperate with Miami-Dade County efforts to protect sea turtle nests. Cooperative actions to be taken by Miami-Dade County and/or Surfside shall include the following: 1) prohibiting horseback riding and campfires on and seaward of the dune during nesting; 2) prohibiting taking, killing, touching or otherwise interfering with sea turtle nests and nesting activities; 3) regulation of coastal construction so as to minimize negative impacts on sea turtles; and 4) beach and dune stabilization and preservation.

Policy 2.3 – The Town shall contact the Miami-Dade County ~~Department~~ Division of Environmental Management (DERM) if any adverse impact is observed relative to the sea grass beds in adjacent waters.

Policy 2.4 – The Town shall cooperate with the U.S. Army Corps of Engineers for beach renourishment if such becomes necessary. Where beach restoration or renourishment is necessary, the project should be designed and managed to minimize damage to offshore grass flats, terrestrial and marine animal habitats and dune vegetation. Native dune and beach plants should be planted and maintained.

Policy 2.5 – The Town shall maintain and enforce land development code provisions requiring minimum building setbacks from the ocean. Specifically, the Town shall retain the ocean bulkhead line setback criteria established in the zoning code.

Policy 2.6 – The Town shall require all new shoreline development affecting marine habitats to be reviewed by the Miami-Dade County ~~Department~~ Division of Environmental Resource Management or other applicable jurisdictional agency.

Policy 2.7 –The Town shall coordinate with existing resource protection plans of other governmental agencies, including the Miami-Dade County ~~Department~~ Division of Environmental Resource Management, the South Florida Water Management District, the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and others.

Policy 2.8 – The Town shall cooperate with Federal, state and county programs designed to ensure the required use, proper maintenance and proper functioning of dockside pump out facilities.

**Objective 3 – Prioritize water-related and water dependent uses:** The amount of shoreline devoted to water dependent and/or water-related uses shall be maintained.

Policy 3.1 – The Town shall continue to permit water dependent hotel uses and water-oriented residential uses east of Collins Avenue. The regulations of this area shall be consistent with the density limits established by the Future Land Use Map of this plan.

Policy 3.2 – Those public access areas including street ends, municipal parking facilities and municipal parks along and near coastal waters will be maintained or redesigned to provide greater public access to Biscayne Bay and the Atlantic Ocean beach areas.

Policy 3.3 – The Town shall design and construct signage along major thoroughfares to direct the public's attention to public shoreline parks and water-related facilities.

Policy 3.4 – The Town shall require water-dependent uses to meet the following criteria:

- a) Construction or subsequent operation shall not destroy or degrade sea grass or hard bottom communities, or habitats used by endangered or threatened species.
- b) Where applicable, all external agency approvals shall be obtained.
- c) The proposed facility shall be: 1) compatible with existing, surrounding land uses, and 2) of sufficient size to accommodate project and the required parking.
- d) The proposed facility shall: 1) preserve or improve traditional public shoreline uses and public access to estuarine and coastal waters, 2) preserve or enhance the quality of the estuarine and coastal waters, water circulation, tidal flushing and light penetration, 3) preserve archaeological artifacts or zones and preserve, or sensitively incorporate historic sites, and 4) where applicable, provide a hurricane contingency plan.

**Objective 4 – Protect and enhance beaches and dunes:** The Town shall protect beaches and dunes, establish construction standards which minimize the impacts of manmade structures on beach or dune systems, and restore altered beaches and dunes where feasible.

Policy 4.1 – The Town shall continue to maintain the posted signs prohibiting walking on vegetated dune and/or uprooting or otherwise damaging plants.

Policy 4.2 – The Town shall maintain the provisions contained in the zoning code restricting development seaward of the ocean bulkhead line on the properties east of Collins Avenue and shall require all construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.

Policy 4.3 – The Town shall enforce and maintain the adopted landscape provisions contained in the zoning code requiring the installation of native beach dune landscape materials seaward of the ocean bulkhead line with any new or redevelopment.

Policy 4.4 – The Town shall continue to coordinate and cooperate with the Florida Department of Environmental Protection’s Bureau of Beaches and Coastal Systems and with the Miami-Dade County Park and Recreation Department regarding access to and the appropriate maintenance of the beach area seaward of the erosion control line.

Policy 4.5 – The Town shall regulate the property adjacent to beaches and dunes to ensure the protection of the ecological value of beach and dune areas.

Policy 4.6 – No new dune cross over locations shall be established. The Town shall limit the dune crossovers providing access to the beach to the seventeen crossover locations that currently exist.

~~Policy 4.7 – The Town shall enforce and maintain the adopted Beach Sand Quality Ordinance to aid in protecting the natural characteristics of, and the physical and chemical composition of the beach sand.~~

**Objective 5 – Direct population concentrations away from coastal high hazard areas and limit coastal high hazard area infrastructure expenditures:** The Town shall, through land use designation and development review, regulate and limit the type of uses in the predicted Coastal High Hazard Area. The Town shall direct population concentrations away from known or predicted High Hazard Areas.

Policy 5.1 – The Town shall ~~restrict development in accordance with the Future Land Use Map of this plan.~~ require development activities be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable floodplain Management regulations set forth in 44 C.F.R. part 60, and shall require all construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.

Policy 5.2 – The Town shall limit future public expenditure for new infrastructure which will subsidize growth within the Coastal High Hazard Area; expenditures for restoration and maintenance are exempt from these limitations and expenditures for the enhancement and protection of natural resources or for public land acquisition is encouraged.

Policy 5.3 – Objective 5 and Policy 5.2 above shall not be implemented in such a way as to preclude the Town's plans to improve drainage facilities or reconfigure streets in order to provide adequate infrastructure to serve the Future Land Use Plan development pattern, adapt to climate change, or development for which rights were vested prior to enactment of this Plan.

Policy 5.4 – Pursuant to Chapter 163.3178(2)(h) of the Florida Statutes, the “Coastal High Hazard Areas” (also referred to as “high-hazard coastal areas”) means the area below the elevation of the category 1 storm surge line as established by a Sea, Lakes, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model.

Policy 5.5 – Consideration for the relocation, mitigation or replacement of any of the existing infrastructure in the Coastal High Hazard Area, as may be deemed appropriate by the Town, shall be coordinate with the state when state funding is anticipated to be needed for implementation of the project.

**Objective 6 – Hurricane Preparedness:** The Town shall coordinate with the County to maintain a 12-hour hurricane evacuation clearance time to shelter for a category 5 storm event as measured on the Saffir-Simpson scale.

Policy 6.1 – To provide for safe and efficient evacuation of the residents of the Town and other local communities in the event of a hurricane, the Town shall continue to plan and coordinate with Miami-Dade County in updates of the County’s Comprehensive Emergency Management Plan, including evacuation planning. This update shall enable the County and incorporated municipalities to plan for future population densities to ensure compliance with adopted level of service standards established in this Plan.

Policy 6.2 – The Town shall continue to coordinate with the County in updating hurricane evacuation shelter assignments and in disseminating information concerning evacuation routes and evacuation scheduling.

Policy 6.3 – The Town shall conduct an ongoing hurricane evacuation information program to make all residents aware of evacuation needs and plans.

Policy 6.4 – The Town shall maintain its traffic level of service which in turn is based upon the Future Land Use Map, thereby achieving a reasonable hurricane evacuation time.

Policy 6.5 – The Town shall continue to update its ~~adopt a~~ Comprehensive Emergency Management Plan in order to be prepared for, respond to, and recover from ~~and mitigate~~ potential hazard ~~by December 2011~~.

Policy 6.6 – The Town shall maintain a contingency fund in order to cover the Town’s required match for disaster assistance grants.

**Objective 7 – Emergency Preparedness:** The Town shall plan and coordinate response for emergency preparedness and/or post-disaster management in the context of climate change.

Policy 7.1 – The Town shall ensure adequate planning and response for emergency management in the context of climate change by maximizing the resilience and self-sufficiency of, and providing access to, public structures, schools, hospitals and other shelters and critical facilities.

Policy 7.2 – The Town shall continue to communicate and collaboratively plan with other local, regional, state and federal agencies on emergency preparedness and disaster management strategies including incorporating climate change impacts into updates of local mitigation plans, water management plans, shelter placement and capacity, review of major trafficways and evacuation routes, and cost analysis of post disaster redevelopment strategies.

Policy 7.3 – The Town shall consider the public health consequences of climate change, such as extreme temperatures and vector-borne diseases, and take steps to build capacity to respond to or support other agency responders.

**~~Objective 7 – Post-disaster redevelopment:~~** ~~The Town shall prepare a post-disaster redevelopment plan which will reduce the exposure of life and property to natural disasters.~~

~~Policy 7.1— By 2012 the Town shall have prepared and adopted a Post Disaster Redevelopment Plan. The Plan shall ensure that actions needed to protect the public health and safety shall receive first priority in emergency permitting decisions. Priority actions include the following:~~

- ~~1. Repairs to potable water, wastewater and power facilities;~~
- ~~2. Removal of debris from roadways and necessary infrastructure;~~
- ~~3. Stabilization or removal of any structure which is about to collapse;~~
- ~~4. Minimal repairs to make structures habitable; and~~
- ~~5. Emergency repairs related to environmental damages.~~

~~Policy 7.2— The Town shall coordinate their Post Disaster Redevelopment Plan with the County Emergency Management Office for continuity with the County Plan. The Town's Post Disaster Redevelopment Plan shall provide a basis to:~~

- ~~1. Ensure a means to restore economic activity;~~
- ~~2. Establish a framework for deciding whether to implement a temporary moratorium on building activity as may be required for public safety;~~
- ~~3. Develop procedures for reviewing and deciding upon emergency building permits;~~
- ~~4. Coordinate with State and federal officials to prepare disaster assistance applications;~~
- ~~5. Analyze and recommend to the Town Commission hazard mitigation options, including reconstruction or relocation of damaged public facilities;~~
- ~~6. Recommend amendments to the Town's Comprehensive Emergency Management Plan;~~
- ~~7. Ensure the timely re-entry of Town residents following an evacuation; and~~
- ~~8. Provide immediate response to post disaster situations.~~

~~Policy 7.3— The Post Disaster Redevelopment Plan shall plan for evaluating future options for damaged public facilities; such options shall include but not be limited to abandonment, repair in place, relocation or reconstruction with structural modification. The Town shall consider these options based on the following considerations:~~

- ~~1. Construction and maintenance costs;~~
- ~~2. Recurring damages;~~
- ~~3. Impacts on land use, the environment, and the public sector;~~
- ~~4. Consistency with Federal or State funding provisions;~~
- ~~5. Considerations of structural integrity and safety; and~~
- ~~6. Consistency with the Secretary of Interior's Guidelines for Rehabilitation for any structure deemed historic according to the National Register of Historic Places, when applicable.~~

~~Policy 7.4— The Post Disaster Redevelopment Plan shall ensure the Town shall authorize redevelopment up to the actual built density in existence on the property prior to the natural disaster.~~

**Objective 8 –Ensure public access to beach and shorelines:** The Town shall maintain all existing public access to the beach and shorelines, particularly the Atlantic Ocean and the Atlantic Ocean beach.

Policy 8.1 – The Town shall maintain all existing street ends and public access points to the Atlantic beach and to the waters of Biscayne Bay.



Policy 8.2 – The Town shall beautify and enhance ~~public beach~~ accesses at the public street ends east of Collins Avenue 88th Street and 90th Street when funds are available and conditions merit.

Policy 8.3 – The Town shall regulate public parking near beach access points to facilitate its use by beach visitors, particularly during nonbusiness days and hours.

Policy 8.4 – The Town shall continue to provide beach access from the work toward the redevelopment of the Surfside Community Center.

Policy 8.5 – The Town shall apply for State and Federal grant funds, such as the Florida Recreation Development Assistance Program, and the Land and Water Conservation Fund for the improvement of public recreation and open space.

Policy 8.6 – The Town shall design and install signage along Collins Avenue and Harding Avenue to identify the public access locations to the beach.

**Objective 9 – Protect historic properties:** The Town shall provide for protection, preservation or sensitive reuse of historic structures.

Policy 9.1 – The Town shall provide for appropriate use and protection of known historic structures through the site plan review process.

~~Policy 9.2 – The Town shall explore the possibility of obtaining grants, funding assistance, and other financial resources in order to undertake a survey of structures constructed prior to 1940 to determine if any structures not yet recognized as historic merit historical recognition. [9J5.012 (3)(c)11]~~

Policy 9.23 – Prior to commencing any significant public construction or issuing any permits for significant private construction, not to include minor construction such as resurfacing of an existing street, construction of a residential fence and/or any other such improvement which will not disturb the archeological assets which lie well below the surface of these areas within the areas identified as the Surfside Midden and the Surfside Mound, the Town shall notify Miami-Dade County's Historic Preservation Division.

Policy 9.34 – The Town shall coordinate historic resource protection activities, procedures and programs with applicable state and federal laws, policies and guidelines.

**Objective 10 – Level of service and public facility timing:** The Town shall achieve and maintain Level-of-Service standards through a concurrency management system with a phased capital improvement schedule.

Policy 10.1 – The Town shall implement the concurrency management system contained in this plan and the Town shall supplement the concurrency management system with which will be further detailed in land development code capital improvements when appropriate and necessary to meet Level-of- Service standards concurrent with the impact of development.

Policy 10.2 – Priority shall be given to drainage system improvements for State Road A1A because it serves as a primary evacuation route.

Policy 10.3 – Potential rise in sea level ~~due to storms~~ shall be taken into consideration in the design of all infrastructure.

**Objective 11 – Hazard mitigation:** In general, the Town shall regulate development so as to minimize and mitigate hazard resulting from hurricanes. In particular, the Town shall ensure that all construction and reconstruction complies with applicable regulations designed to minimize hurricane impact on buildings and their occupants.

Policy 11.1 – The Town shall maintain consistency with the program policies of the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA) and shall monitor new cost effective programs for minimizing flood damage. Such programs may include modifications in construction setback requirements or other site design techniques, as well as upgraded building and construction techniques. The Town’s adopted flood protection regulations shall be amended as necessitated by changes in FEMA regulations.

Policy 11.2 – When structures are renovated at a cost in excess of fifty (50) percent of the structure's pre-renovation market value, the structure shall be brought into conformance to meet all current laws and ordinances, including those enacted since construction of the subject structure.

Policy 11.3 – The City shall ensure that its code compliance process continues to identify and require the removal and/or rehabilitation of structures that are deemed to be a hazard to the public health, safety and welfare.

Policy 11.4 – The Town shall participate in the Community Rating System of the National Flood Insurance Program

Policy 11.5 – The Town shall continue to enforce regulations and codes which provide for hazard mitigation, including but not limited to, land use, building construction, placement of fill, flood elevation, sewer, water and power infrastructure, and stormwater facilities. These regulations shall be applied to eliminate unsafe conditions, inappropriate uses and reduce hazard potentials.

Policy 11.6 – The Town shall increase public awareness of hazards and their impacts by providing hazard mitigation information to the public. Information shall address evacuation, sheltering, building techniques to reduce hazards as well as other hazard mitigation issues that could help prevent loss of life and property.

~~Policy 11.7 – The Town shall coordinate with the Town Manager when making land use amendments, capital improvement decisions or creating significant planning initiatives.~~

Policy 11.7~~8~~ – The Town shall continue to monitor updates to sea level rise forecasts and take into consideration the most current data when making decisions regarding land use amendments, capital improvements, infrastructure or critical public facilities projects.

Policy 11.8~~9~~ – The Town shall, as deemed appropriate, incorporate the recommendation of the hazard mitigation annex of the local emergency management plan and shall analyze and consider the recommendations from interagency hazard mitigation reports.

Policy 11.9~~10~~ – The Town shall include criteria in the five (5) year schedule of Capital Improvement projects to include consideration for and prioritization for projects that are hazard mitigation initiatives.

**Objective 12 – Sea Level Rise:** The Town shall plan for and prepare for the impacts of sea level rise.

Policy 12.1 – The Town shall support the efforts of state environmental and planning agencies to jointly develop, assess, and recommend a suite of planning tools and climate change adaptation strategies for local municipalities to maximize opportunities to protect the beach and dune systems and other coastal resources from the impacts of sea level rise and shall require all construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.

Policy 12.2 – The Town shall cooperate with federal and State agencies on any beach and dune renourishment programs, and any coral reef protection or establishment programs to enhance coastal resiliency and storm protection.

Policy 12.3 – The Town shall continue to review updated mapping studies to aid in identifying areas of the Town most vulnerable to sea level rise, tidal flooding, and other impacts of climate change.

Policy 12.4 – The Town shall, by 2025, continue to review the best available data and designate areas that are at increased risk of flooding due to, or exacerbated by, sea level rise over the next 50 years, and work to make these areas more climate resilient by discouraging density increases and encouraging the use of adaptation and mitigation strategies.

Policy 12.5 – The Town shall, by 2020, assess if sufficient data is readily available through other governmental entities such as the Regional Climate Compact or the County to identify Town vulnerabilities as it relates to sea level rise or if there would be benefits to developing its own Vulnerability Plan. The Town shall continue to review and implement available data that is applicable to the Town from governmental entities such as the Regional Climate Compact or the County that identifies development and redevelopment principles, strategies, and engineering solutions that reduce the flood risk in coastal areas which results from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise.

Policy 12.6 – The Town shall continue its program to replace all Town owned seawalls by the end of 2017, and continue to implement the increased elevations for seawalls and groins as specified in the Town code of ordinances.

**~~9J-5.0012 Objective and policy requirements not applicable to the Town of Surfside: Rule 9J-5 of the Florida Administrative Code requires communities to adopt as part of their Coastal Management Element objectives and policies which address various issues, except where those issues are not reasonably applicable to a particular community. The following objective and policy provisions of Rule 9J-5 are deemed by the Town of Surfside to be inapplicable:~~**

~~9J-5.012 (3) (c) 12 pertaining to relocation of infrastructure.~~

~~9J-5.012 (3) (c) 12 pertaining to deep water ports.~~

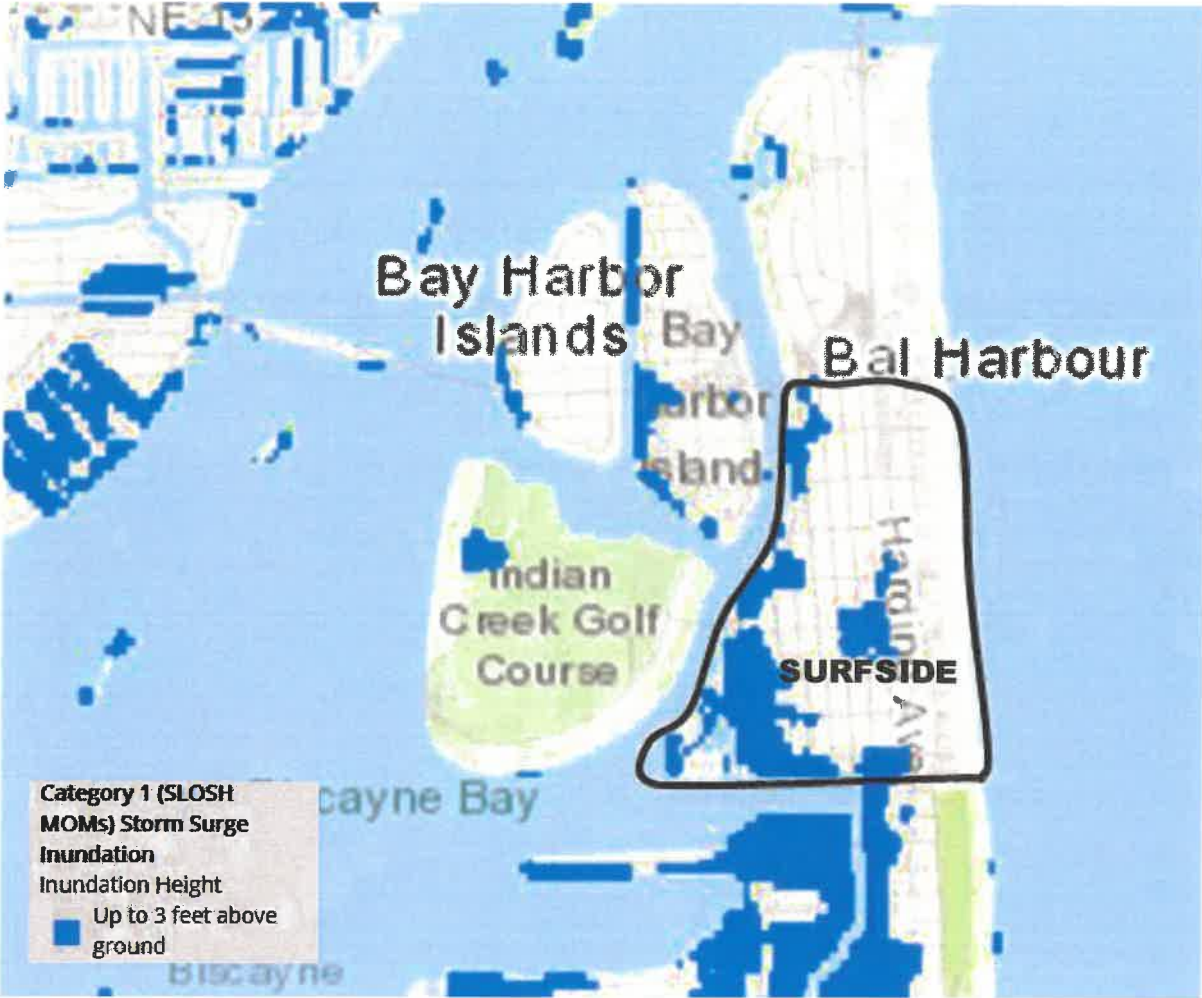
~~9J-5.012 (3) (b) 1 pertaining to protection, conservation or enhancement of remaining coastal wetlands.~~

~~9J-5.012 (3) (c) 1 pertaining to limiting impacts to wetlands.~~

~~9J-5.012 (3) (c) 2 pertaining to enhancement of degraded wetlands and programs to mitigate future disruptions or degradations.~~

~~9J-5.012 (3) (c) 9 pertaining to the establishment of criteria for marina siting.~~

**CST 1 Storm Tides: NATIONAL STORM SURGE HAZARD MAPS - SLOSH CATEGORY 1 MAP**



Source: NOAA/NWS/NHC Storm Surge Unit



# Surfside Comprehensive Plan

Map: CST 2

Evacuation Routes

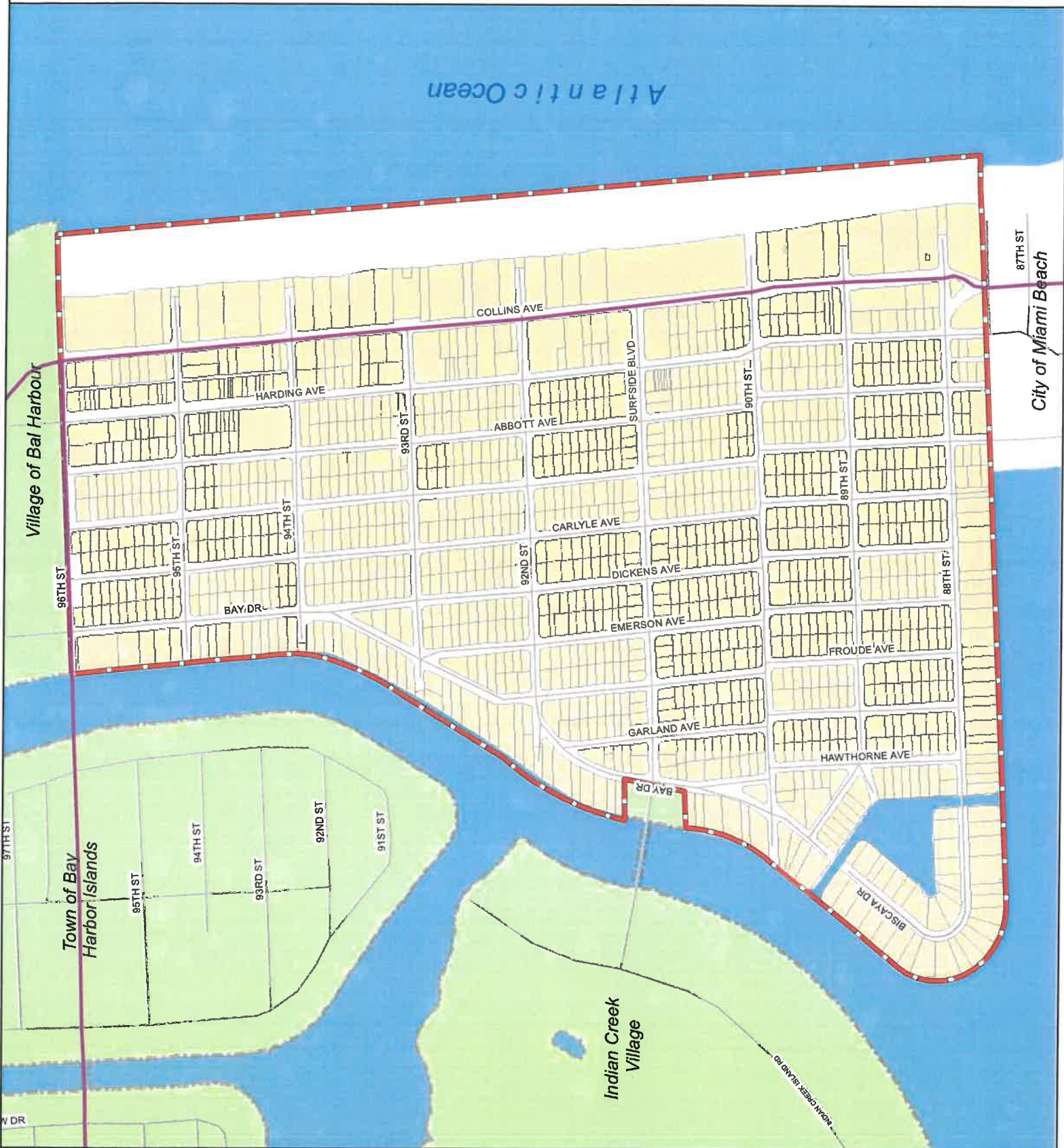
## Legend

- Surfside City Limits
- Adjacent City Limits
- Evacuation Route
- Water



Print: 6-7-2017

Source: Miami Dade GIS Self Services



87TH ST  
City of Miami Beach

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## CONSERVATION ELEMENT

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### DATA INVENTORY AND ANALYSIS

#### PURPOSE

The purpose of the Conservation Element is to promote the conservation, use, and protection of natural resources in the Town.

#### NATURAL ENVIRONMENT

##### Climate

The Southeast Regional Climate Center identifies that from 1927 to 200~~127~~, the average annual maximum temperature is 81.1 F° and the average annual minimum temperature is 71.4 F° for the barrier island the Town is located on. The average annual total precipitation is ~~46.85~~ 47.82 inches. Precipitation is not distributed evenly throughout the year. Precipitation ranges from an average monthly low of ~~1.84~~ 5 inches in December, to ~~7.02~~ 13 inches in September. Precipitation is heaviest from ~~June~~ May through ~~September~~ October with ~~50~~ 71% of the rainfall occurring during these ~~four~~ six months. No snowfall has been reported during this recording period.

Thunderstorms are common during the summer months. Hurricanes, which occur less frequently, have the potential to occur from June through November; heavy rainfall, high winds, and widespread flooding may accompany these storms. Records indicate that the Town has been brushed by or hit by a tropical storm or hurricane ~~54~~ 73 times in a 143 year period ending in 2016 ~~from 1871 through 2007~~. Two of the more devastating hurricanes which occurred struck in 1926 and in 1992 when Hurricane Andrew, a category 5 hurricane, made landfall in South Miami-Dade County. The most recent hurricane events occurred in 2005 with Hurricanes Katrina and Wilma. Both of these storms caused moderate damage to the area.

##### Soils

The U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) identifies Urban Land and Beaches as the only two coverage types found within the Town. The NRCS describes Urban Lands as areas that are more than 70% covered by buildings, streets, sidewalks and other structures so the natural soil is not readily accessible. The NRCS describes beaches as nearly level to sloping, narrow, sandy strips along the Atlantic Ocean of fine to coarse sand mixed with shell fragments. *Map FLU 2 Soils*, provides the general distribution of soils/coverage in the Town as mapped by the NRSC.

The beach along the Town's ocean frontage is created from a beach renourishment program. The deposit material utilized for the renourishment program was sand that was harvested from off-shore borrow sites that is similar to the beach sand which would naturally occur on this barrier island.

##### Physiography

Surfside is an Atlantic Ocean coastal community located on a barrier island on the southeast coast of the Florida peninsula in Miami-Dade County. The Town is separated from the mainland by the north end of the Biscayne Bay. The Biscayne Bay Inlet (Bakers Haulover Cut), less than one mile north of the Town, is the northern end of the barrier island, and Government Cut, approximately seven and one half miles

south of the Town, is the southern end. The Town itself is one mile in length from its north to south end and is approximately three-fourths of a mile wide at its widest point on the south end of Town. Biscaya Island, also a part of the Town, is a small residential neighborhood at the southwest corner of the Town that is separated from the barrier island by the dredged water feature referred to as Point Lake, but connectivity is maintained via a short bridge segment, referred to as Biscaya Bridge, on Eighty-Eighth Street.

The natural conditions of this barrier island have been highly altered. The one mile length of beach and dune along the Town's ocean frontage is created from a beach renourishment program. The restoration of the federally-authorized Dade County Shore Protection Project, which included the Town of Surfside, began in 1978 and was completed in January 1982. The project utilized sand from offshore borrow sites. The project included restoration of a 20 foot wide dune at elevation +10.7 ft NGVD and a 50 foot wide level berm at elevation +8.2 ft NGVD. Additional fill material equivalent to ten years of advance nourishment was placed seaward of the design berm. Though nourishment of several areas of the initial project was conducted between 1987 and 1990, the overall project has exceeded performance expectations. At the time of the compilation of this data in ~~November of 2008~~ 2017, there is approximately 38.2 acres of beach seaward of the erosion control line within the Town.

The entirety of the Town's bay side shoreline, inclusive of Indian Creek and Point Lake, has been significantly altered and is bulkheaded, and the adjacent nearshore waters have been dredged. *Map FLU 5 Water Bodies*, identifies the water bodies that abut the limits of the Town.

*Map FLU 3 Topography* identifies the topography of the Town. The Town is nearly flat with elevations ranging only from 0 to 10 feet. The vast majority of the Town is 5 feet or less. The lowest elevation is found along the oceanfront coastline. The highest elevation is a narrow linear strip that runs approximately along Collins Avenue.

### **Soil Erosion**

The entire length of ocean shoreline along the barrier island the Town is located on is recognized as 'Critically Eroded' by the Florida Department of Environmental Protection's Bureau of Beaches and Coastal Systems and is part of a long term beach renourishment program. The Bureau defines critically eroded as a segment of the shoreline where natural processes or human activity have caused or contributed to erosion and recession of the beach or dune system to such a degree that upland development, recreational interests, wildlife habitat, or important cultural resources are threatened or lost. Critically eroded areas may also include peripheral segments or gaps between identified critically eroded areas which, although they may be stable or slightly erosional now, their inclusion is necessary for continuity of management of the coastal system or for the design integrity of adjacent beach management projects.

The entirety of the Town's bayside shoreline, inclusive of Indian Creek and Point Lake is bulkheaded and the remainder of the Town is developed and does not experience erosion problems.

### **Commercially Valuable Minerals**

There are no extractable, commercially valuable minerals in the Town.

### **Floodplains**

The National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA) has identified the following flood zones within the Town:



| <b>Zone</b>        | <b>Description</b>   |
|--------------------|--|
| <b>VE</b>          | Coastal areas with a 1 percent or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26 percent chance of flooding over the life of a 30 year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones. <u>Special Flood Hazard Area coastal flood zone with velocity hazard (wave action); base flood elevations determined.</u>  |
| <b>AE</b>          | <u>Special Flood Hazard Areas subject to inundation by the with a 1 percent annual chance of flooding; base flood elevations determined. and a 26 percent chance of flooding over the life of a 30 year mortgage. In most instances, base flood elevations derived from detailed analyses are shown at selected intervals within these zones.</u>  |
| <b>X</b>           | Areas determined to be outside the 1/2 percent annual chance floodplain, areas of 1 percent annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1 percent annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1 percent annual chance flood by levees. No base flood elevations or depths are shown within this zone. Insurance purchase is not required in this zone.                          |
| <b>X shaded500</b> | <u>Areas of 500 year flood; areas of 100 year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100 year flood. An area inundated by 0.2 percent annual chance flooding. Areas of 2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1 percent annual chance flood.</u> |

Map FLU 4 FEMA Flood Zones, locates the flood zones within the Town. Nearly the entirety of the Town is an AE zone; this zone falls generally west of Collins Avenue. The X zone falls generally east of Collins Avenue; the VE zone is located in a narrow strip along the beach; and the X-500 is represented as a narrow strip located along the north end of Collins Avenue and also along the beach. Existing land uses found within these flood zones are illustrated in the Future Land Use map and described in the Future Land Use Element.

Land use, as it relates to the discharge of stormwater and to the use of natural drainage, is regulated through the South Florida Water Management District and Miami-Dade County. The Florida Building Code regulates construction as it relates to flood zones.

**Air**

Air quality in the Town is generally considered good by the Florida Department of Environmental Protection (FDEP) other than for ozone. The FDEP 2012 AIR MONITORING REPORT states that “The national ambient air quality standards (NAAQS) are met throughout Florida, (with the exception of a small area in Tampa where the lead standard is violated). Florida counties are in attainment for all pollutants with the exception of Orange County, Duval County, the Tampa Bay area including Hillsborough and Pinellas Counties, and Southeast Florida including Miami-Dade, Broward, and Palm Beach Counties which continue to be classified by the Environmental Protection Agency as attainment/maintenance areas for the pollutant ozone, and a portion of Hillsborough County which is classified as a nonattainment area for lead.”

The FDEP 2016 Annual Air Monitoring Network Plan reports that Florida has created a robust and comprehensive air monitoring network comprised of more than 220 monitors at 101 sites that are strategically positioned across the state to measure air quality, including in Miami-Dade County.

The Air Quality Index (AQI) was developed by the Environmental Protection Agency (EPA) to provide accurate and easily understandable information to the community about daily air pollution levels. The AQI provides EPA with a uniform system of measuring pollution levels for the major air pollutants regulated under the Clean Air Act (CAA). The Clean Air Act of 1970 defined six criteria pollutants and established ambient concentration limits to protect public health and welfare. The criteria pollutants are (1) ozone, (2) carbon monoxide, (3) nitrogen dioxide, (4) particulates, (5) sulfur dioxide and (6) lead. FDEP takes the lead in the state of Florida for monitoring and regulating the major pollutants under the Clear Air act. Miami Dade County offers its residents an Air Quality Notification Service that can be customized for each resident's own needs.~~Based upon ambient air quality monitoring, conducted by the Florida Department of Environmental Protection (FDEP) and documented in the 2006 Florida Air Monitoring Report, Miami Dade County (and now all of Florida) is an attainment area for the six major air contaminants measured. These contaminants are carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide. The attainment area designation indicates that the concentrations of major pollutants are within the acceptable limits set by the FDEP and the U.S. Environmental Protection Agency.~~ Air quality is a matter that must be addressed at a regional level requiring the local, County and regional entities to coordinate air quality maintenance and improvement efforts.

### **Water Resources**

The predominant water resources that are present are the Atlantic Ocean and Biscayne Bay. Indian Creek is a channel that separates the Town from the Islands of Indian Creek Village and Bay Harbor Islands, and Point Lake, the dredged channel and water body that separate Biscaya Island from the remainder of the Town, is considered part of Biscayne Bay.

Biscayne Bay, a sub-tropical estuary, is located along the coast of Miami-Dade and northeastern Monroe Counties. It is a marine ecosystem comprised of about 428 square miles with a watershed area of about 938 square miles. The bay can be divided into three general areas, north, central and south Biscayne Bay. North Biscayne Bay extends from Dumfoundling Bay (approximately NE 192<sup>nd</sup> Street) south to the Rickenbacker Causeway. The Town of Surfside is located adjacent to the north portion of Biscayne Bay. This northern portion of the bay retains the most estuarine habitat found throughout the bay, but it is also the most altered by dredging and bulkheading. Although remaining shallow areas contain some productive seagrass beds, roughly 40 percent of this area is too deep or too turbid to support a productive estuarine ecosystem. The entirety of the Town's bayside shoreline, inclusive of Indian Creek and Point lake has been significantly altered through dredging and is bulkheaded.

Central Biscayne Bay, extending from the Rickenbacker Causeway south to Black Point, is more of a marine system that is heavily influenced by daily tidal flushing. Estuarine areas are limited to near shores areas close to major sources of freshwater inflow (canals). Seagrass meadows are extensive. A narrow band of mangrove-forested coastal wetlands begins at Matheson Hammock Park and extends southward along the shoreline.

Southern Biscayne Bay extends from Black Point to Jewfish Creek. This southern area is most profoundly affected by the reduction in historical freshwater flows and tends to become hypersaline during periods of low rainfall. The near shore freshwater wetlands have been significantly reduced and a transition to mangrove species is occurring. This southern area encompasses Biscayne National Park as well as Card and Barnes Sounds, which are both included in the Florida Keys National Marine Sanctuary.

The Bay supports a wide variety of plants and animals, some of which are important for fisheries. Many rare, threatened and endangered species inhabit this estuarine ecosystem including manatees and crocodiles. Historically, it is clear water supported a diversity of productive communities of seagrass, corals and sponges, and prior to settlement, mangroves and coastal wetlands rimmed the bay. Oyster bars

and estuarine species like red and black drum were common. However, intensive development of the watershed has altered the natural cycle of freshwater inflows into the bay. Northern and central Biscayne Bay are strongly affected by the urban development associated with the growth of Miami-Dade County. Southern Biscayne Bay is influenced by drainage from the Everglades, which has been altered by canals and agricultural activities. Overall, Biscayne Bay shows increasing signs of distress; declines in fisheries, increased pollution and dramatic changes in near shore vegetation. Today, the bay is a pulsed system that alternates between marine conditions and extreme low salinities near the discharges of 19 major canals.

Biscayne Bay is now designated as an Outstanding Florida Water and an Aquatic Preserve under Florida statutes. The Biscayne Bay Aquatic Preserve was established by the Florida Legislature in 1974 and covers approximately 69,000 acres of state submerged land. The Aquatic Preserve consists of two separate areas of the bay, the northern part and the southern portion which is separated by Biscayne National Park, a submerged lands park encompassing the central portion of the bay. A variety of organizations have monitoring and research underway in Biscayne Bay and its watershed. The western edge of the Town abuts the northern portion of the Biscayne Bay Aquatic Preserve.

The Bay area off of the Town is also recognized as an Impaired Waterbody (WBID 3226H). The parameters for which the impaired water-body was assessed is Mercury in fish tissue.

### **Land Cover**

*Map FLU 6 Aerial*, best exemplifies the land coverage within the Town. The land coverage can be categorized as Developed and Beach. Other than the beach and beach dune system, the Town is built out. There are no native preserves or remaining native habitats or wetlands within the Town. The beach and dune system, although created through a beach renourishment program, is owned by the State and maintained in a natural condition.

### **Natural Habitats**

There is 38.2 acres of state owned beach (approximately 1 mile in length) seaward of the erosion control line, which runs approximately along the crest of the dune. This beach is maintained under an agreement with the State by the Miami-Dade Park, ~~and Recreation~~ and Open Spaces Department. The seaward face of the dune is vegetated. The beach is recognized as nesting habitat for the federally listed loggerhead, green, hawksbill, and leatherback sea turtles. Sea turtles typically nest at night from March through November, with incubation lasting approximately 55 days. Threats to sea turtle nests are both man-made and naturally occurring. Detrimental activities include: physical disturbance of dune systems by development; the placement of physical obstructions on the beach entrapping adults and hatchlings; high raccoon predator populations; nest disturbance by stray or unleashed pets; or the disorientation of hatchlings from direct lighting of the beaches at night. Natural occurring coastal erosion which can cause cliffing and, although not frequent, hurricanes causing serious beach erosion or accretion are also detrimental to nesting success.

Along beachfront private properties, the Town has an established ocean bulkhead line. The zoning code prohibits development or any redevelopment seaward of this ocean bulkhead line. Seaward of the ocean bulkhead line there is approximately 19 acres that are undeveloped that lie adjacent to the State owned beach. Within this undeveloped ocean bulkhead setback area along the landward side of the dune, there is an unimproved maintenance path that is utilized by the State, the County and the Town that runs the entire length of the Town. This maintenance path is a popular public walking and biking path. The landward side of the dune in this area is more sparsely vegetated than the seaward side, and the property owners have landscaped the area nearest the bulkhead on many of the properties.

To limit impacts to the dune and dune vegetation, access to the beach is limited to seventeen (17) dune cross-over locations. Eight of these cross-overs correspond to the termination of the platted public right of ways that terminate at the State beach area and one is in front of the Town's Community Center site providing direct public access to the beach. Although the remaining cross-overs are located in front of private properties, the established maintenance path provides open public access to these cross-overs also.

Appendix 6-A. List of Federal State and County Endangered, Threatened, Rare, and Special Concern Fauna in Miami Dade County as presented in the Conservation, Aquifer Recharge and Drainage Element of the Miami-Dade Comprehensive Development Master Plan including amendments adopted up through November 18, 2015. Although most of these species may not occur within the Town, the table proves useful to understand the listed species that may be within the proximity of the Town. ~~Listed Wildlife Species identifies those federal and state listed animal species that may be found within the Town. Listed and other animal species depend on native vegetative communities for refuge, foraging, nesting, and denning. The size, quality and connectivity of native communities all influence wildlife utilization. Due to the highly urbanized nature of the Town the listed species that may occur are limited to those that utilize the bay or coastal waters, or beach habitat.~~

Appendix 6-B. List of Federal, State and County Endangered, Threatened, Rare, and Special Concern Flora in Miami-Dade County Native Plant Species contains a list as presented in the Conservation, Aquifer Recharge and Drainage Element of the Miami-Dade Comprehensive Development Master Plan including amendments adopted up through November 18, 2015. Although most of these species may not occur within the Town, the table proves useful to understand the listed species that may be within the proximity of the Town. ~~of native plant species having the most likely potential to occur in the Town, and it identifies those species that are recognized as either threatened or endangered by the State or the federal government. This list contains dune and beach habitat vegetation along with coastal tree or shrub species that are recognized as native to Miami Dade County.~~

Appendix 6-C. Invasive Pest Plant Species identifies the plants listed on the Florida Exotic Pest Plant Council's 2017 List of Invasive Plant Species. ~~invasive exotic pest plant species that are problematic throughout South Florida and may occur in the Town.~~ Due to the highly urbanized nature of the Town occurrence of these pest plant species will be limited, but may still occur and create problems on the beach and within landscaped areas if not maintained.

### **Conservation Opportunities**

Conservation opportunities are enhanced through the public ownership of land. There is approximately 38 acres of state owned beach seaward of the erosion control line. The beach is maintained under an agreement with the State by the Miami-Dade Park, ~~and Recreation and Open Space~~ Department. The beach is maintained in a natural state. The Town has been built out since the 1980's; there are no preserves, wetlands or natural habitats within the Town other than the beach habitat. The Park and Recreation Element inventories and identified the parks located in the Town.

## Potable Water

The Town of Surfside purchases their potable water supply directly from the Miami-Dade County Water and Sewer Department (WASD). Under this arrangement, the Town of Surfside coordinates with Miami-Dade County to ensure that adequate capacity is available for existing and future customers. The Biscayne Aquifer, an underground geologic formation, is the source of raw water for WASD. See the Infrastructure Element for more details on water supply. ~~Approximately 330 million gallons per day are withdrawn from the aquifer through wells extending an average of 80 feet below the ground surface to meet the needs of the County.~~

The Town is served by the WASD Hialeah-Preston subarea, which lies generally north of Flagler Street. The Hialeah and the John E. Preston water treatment plants (WTPs) serving this subarea are located at 200 W. 2nd Avenue and 1100 W. 2nd Avenue, respectively. These adjacent facilities located in Hialeah share interconnected source water and finished water storage capacity and have similar treatment processes. There are no public wellfields or wellfield protection zones located in the Town of Surfside.

On a regional level the Town falls within the South Florida Water Management District (SFWMD) and within the SFWMD's Lower East Coast (LEC) Planning Area. ~~The 2005-2006 Lower East Coast Water Supply Plan Update 2013(2005-2006 LEC Plan Update), approved by the SFWMD on February 15, 2007,~~ is one of four, long-term comprehensive regional water supply plan updates the District has developed for its planning areas. ~~Previous water supply plans for the Lower East Coast (LEC) Planning Area include the 1998 Interim Plan for Lower East Coast Regional Water Supply, which provided recommendations to improve water resource management and benefit water users until the long term regional water supply plan was completed, and the 2000 Lower East Coast Regional Water Supply Plan (2000 LEC Plan), which was completed in May 2000. The planning horizon for the 2000 LEC Plan was 2020; the planning horizon for the 2005-2006 LEC Plan Update is 2025.~~

As the state agency responsible for water supply in the region, including the Lower East Coast planning area, the SFWMD plays a vital role in resource protection. As a component of the District's Consumptive Use Permitting Program, the Regional Water Availability Rule ~~was also adopted by the SFWMD Governing Board on February 15, 2007.~~ This rule mandates the development of alternative water supplies, and increasing conservation and reuse to reduce the reliance on the regional system for future water supply needs. The Town of Surfside is working with WASD's Water Use Efficiency Section to identify the water conservation best management practices (BMPs) applicable to the Town to develop the Town's Water Conservation Plan as required by Miami-Dade County Ordinance 06-177.

~~The Town has completed their Utility Profile, and entered this data into the Conserve Florida on-line database, currently located at the conservefloridawater.org website. This data base is a component of Florida's Statewide Comprehensive Water Conservation Program.~~

## Ground Water

The principal ground water resources for the LEC Planning Area are the Surficial Aquifer System (SAS), including the Biscayne aquifer, and the Floridian Aquifer System (FAS). The Surficial and Biscayne aquifers provide most of the fresh water for public water supply and agriculture within the LEC Planning Area. The 2005-2006 LEC Plan Update identifies the following:

Although the Biscayne Aquifer is part of the Surficial Aquifer System (SAS), it exists only along the coastal areas in Miami-Dade, Broward and southern Palm Beach counties. The Biscayne Aquifer is highly productive with high-quality fresh water. The extension of the SAS through central and northern Palm Beach County is less productive, but is still

used for consumptive uses, including potable water. These aquifers are shallow, generally located within 200 feet of ground surface, and are connected to surface water systems, including canals, lakes and wetlands.

The Biscayne Aquifer and the extension of the SAS into northern Palm Beach County provide more than 1 billion gallons per day of high-quality, inexpensive fresh water for the populations of Palm Beach, Broward and Miami-Dade counties and the Florida Keys portion of Monroe County. This volume is heavily supported, especially during the annual dry season, as well as in periodic droughts, by water from the regional system, primarily the Everglades. During droughts, water from Lake Okeechobee has been required to supplement water from the Everglades to meet the needs of the coastal counties.

The Biscayne Aquifer is designated as a sole source aquifer by the U.S. Environmental Protection Agency (USEPA) under the *Safe Drinking Water Act* because it is a principal source of drinking water and is highly susceptible to contamination due to its high permeability and proximity to land surface in many locations. Protection of the Biscayne Aquifer is provided for through the District's *Basis of Review for Water Use Permit Applications* (SFWMD 2003) and in Chapter 373, Florida Statutes (F.S.), which limit the water availability for consumptive uses.

The Floridan Aquifer System (FAS) exists not just in the LEC Planning Area, but throughout the entire state and portions of adjacent states. The Upper Floridan Aquifer in southeast Florida contains brackish water and is increasingly being tapped as a source of raw water for treatment with reverse osmosis (RO) to create potable water. Brackish water from the Floridan Aquifer is also blended with fresh water prior to conventional water treatment to expand water supplies during the dry season. Additionally, the Floridan Aquifer is used for seasonal storage of treated fresh water within aquifer storage and recovery (ASR) systems. The Floridan Aquifer has been more extensively developed in the Upper East Coast (UEC) and Lower West Coast (LWC) planning areas of the South Florida Water Management District (SFWMD or District) than in the LEC Planning Area.

From Jupiter to southern Miami, water from the FAS is highly mineralized and not suitable for drinking water without specialized treatment. More than 600 feet of low permeability sediments confine this aquifer and create artesian conditions in the LEC Planning Area. Although the potentiometric surface of the aquifer is above land surface, the low permeability units of the intermediate confining unit prevent significant upward migration of saline waters into the shallower freshwater aquifers.

The top of the Upper Floridan Aquifer is approximately 900 feet in southeast Florida, and the base of the Upper Floridan extends as deep as 1,500 feet. At the base of the Lower Floridan Aquifer, there are cavernous zones with extremely high transmissivities collectively known as the boulder zone. Because of their depth and high salinity, these deeper zones of the Lower Floridan Aquifer are used primarily for disposal of treated wastewater.

## **Surface Water**

Surface waters tend to contain silts and suspended sediments, algae, dissolved organic matter from topsoil, and chemical and microbiological contaminants from municipal wastewater discharges,

stormwater runoff, and industrial and agricultural activities. Traditionally, surface water has not been used extensively for public supply in the LEC planning area.

Storm water throughout the developed areas of the SFWMD is often captured in constructed stormwater drainage and retention/detention systems. Water from these systems can be directly used to meet many non-potable water needs, such as golf course irrigation and other irrigation water needs. Stormwater, because of its diffuse and intermittent nature, is generally not considered a viable option for direct public-supply applications where reliability is a major consideration.

## **Pollutants**

Waste generators, solid waste facilities, above and underground storage tanks, and dry cleaning facilities are licensed by the Florida Department of Environmental Protection (FDEP). Current information on these facilities is available through the Florida Department of Environmental Protection Division of Waste Management. Information on contaminated sites is also available through the U.S. Environmental Protection Agency (EPA) Resource Conservation Recovery Act (RCRA), Superfund, National Priorities List and the brownfield databases.

Within Miami-Dade County the ~~Department~~ Division of Environmental Resource Management (DERM) Pollution Remediation Section is currently contracted with the Florida Department of Environmental Protection (FDEP) to inspect all petroleum storage facilities in the County and oversee the cleanup of petroleum contamination in accordance with Chapters 62-761 and 62-770, Florida Administrative Code (F.A.C.), the stationary tank rule and the petroleum contamination cleanup criteria rule, respectively. The primary responsibility of DERM is to provide the technical oversight, management, and administrative activities necessary to prioritize, assess, and clean up sites contaminated by discharges of petroleum and petroleum products from stationary petroleum storage systems.

~~A November 2008~~ database search identifies that at this time there are no sites in the Town listed on the U.S. Environmental Protection Agency's (EPA) Federal Superfund list or the National Priorities List (NPL). There are no designated or candidate brownfields in the Town. Within the Town several sites are recognized by FDEP as having or had contamination issues. ~~There are two operating dry cleaning facilities that are registered in the State Dry Cleaning Solvent Cleanup Program and awaiting cleanup, one closed dry cleaning facility with no tank or site information listed, and a closed petroleum facility with records indicating that all tanks had been removed by May of 1988.~~

The Town's Sanitary Department has three garbage trucks which collect trash and garbage on a weekly basis and haul it to Miami-Dade County's Resource Recovery Plant west of Miami International Airport and other Miami-Dade County landfills. The Town can provide public information regarding the safe disposal of household chemicals for its residents. Specifically, information can be made available on the free disposal of household hazardous wastes, information on disposal contractors available to small businesses and the special waste programs available for landfill disposal of non-typical materials, such as spill clean-ups and contaminated soils. Additionally the Town may consider contracting with a licensed hazardous waste hauler to execute a *Household Hazardous Waste Mobil Collection Event*. The Contractor would receive, catalog, inventory and prepare the manifest of disposal for the household products that are dropped off, as well as place them in appropriate containers and haul them away. Setting-up a system where the residents just drive up and 'pop the trunk' and let the contractor deal with the products from that point is an effective means to reduce the potential of contaminants being disposed of in inappropriate or detrimental ways. The Town could do this in conjunction with distributing informational handouts or gathering survey data from the event participants. Running it near Earth Day or in conjunction with spring cleaning drives has proven to increase participation. It is optimal to hold such an event in a paved area,

and not near a school or park or an environmentally sensitive area to avoid the perception of putting environmentally sensitive sites at risk.

### **Greenhouse Gas Reduction Strategies**

Climate change is largely attributed to the buildup of carbon dioxide and other greenhouse gas (GHG) concentrations in the atmosphere. ~~Global emissions of GHG from human activities, such as the burning of fossil fuels and deforestation, have increased by 70% between 1970 and 2004 according to The American Planning Association (APA). In the April 2008, *Policy Guide on Planning and Climate Change*, updated in 2011,~~ the APA provides guidance for local governments toward the reduction of GHG emissions and on energy efficient land use decisions. The APA document indicates that effective actions to address GHG emissions should include a mix of education, incentives, subsidies, and regulation. Among others, ~~t~~The APA has suggested the following strategies for local governments to facilitate a reduction in GHG emissions: providing shopping, recreational and employment opportunities near residential areas, energy efficient buildings, convenient intermodal transportation systems, and the reduction of heat island effects through green spaces.

As currently developed, the Town of Surfside is a compact, walkable community that provides recreational, shopping, and employment opportunities completely within the municipality. The Future Land Use Element provides that the Town support green building standards through the Design Guidelines, consider all new residential development utilize green building standards and that all new municipal buildings will be build with nationally recognized green building standards.

Surfside already has convenient access to Miami-Dade Transit bus routes. The Future Land Use Element and Transportation Elements propose developing a Pedestrial and Bicycle Network Study to enhance links to parks, the business district and other Town amenities. The Town will also continue to support transit ready development and coordinate with Miami-Dade County on transit. To further reduce greenhouse gas production through transportation, the Town will ~~support the Surfside Farmer's Market which promotes local agriculture,~~ continue to allow home based businesses and continue curbside recycling programs.

In addition, the Town has ~~significant~~ open space and landscape requirements to diminish heat island effects. The Comprehensive Plan also includes policies to educate the public on the placement of canopy trees and other landscape materials to strategically provide shade, and educating the public on home energy reduction strategies and automobile idling.

Other policies that support energy efficiency include allowing for electric subcharging stations and use of solar panels. ~~Because of the compact, walkable nature of the Town, a map showing the energy conservation areas and features was not included.~~



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## Conservation Element Goals, Objectives and Policies

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***Goal 1: Regulate the development and use of land in such a manner as to maintain and enhance environmental quality.***

**Objective 1 – Air quality and Greenhouse Gas Reduction:** In general, protect air quality. In particular, promote improved air quality for the region.

Policy 1.1 – Support Miami-Dade County's efforts to conduct regular monitoring of air quality.

Policy 1.2 – Educate residents and business owners on the cost and environmental effects of automobile idling.

Policy 1.3 – Facilitate more efficient transportation services and facilities (including public transit facilities, bicycle facilities and pedestrian facilities) by pursuing the objectives and policies set forth in the Transportation Element.

Policy 1.4 – Enforce all adopted measures to contain and stabilize exposed or destabilized soil surfaces at construction sites to prevent erosion and the degradation of ambient air quality caused by the generation of dust particles.

Policy 1.5 – Require oxygen renourishing landscaping as a part of new private development.

Policy 1.6 – Provide oxygen renourishing landscaping for public grounds.

Policy 1.7 – Maintain, and improve where appropriate, zoning or other development code regulations which protect existing trees in a way consistent with the standards of the broader community.

Policy 1.8– The zoning code shall allow for use of alternate, renewable sources of energy including the use of solar panels.

Policy 1.9 – In accordance with Section 255.2575, F.S. the Town will construct all future municipal buildings to meet the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative's Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system as approved by the Florida Department of Management Services.

Policy 1.10 – The Town shall maintain and improve adopted Design Guideline provisions which encourage the use of the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative's Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system for both residential and commercial properties. Within two (2) year of adoption of this element, the Town shall explore incentives for use of green building standards in new development and redevelopment.

Policy 1.11 – Within two (2) years of the adoption of this element the Town shall consider the feasibility of requiring all new single family and multi-family structures to meet the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative’s Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system as approved by the Florida Department of Management Services.

~~Policy 1.12 – The Town shall coordinate with and support the efforts of the South Florida Regional Planning Council and Miami Dade County in pursuing a grant to conduct a neighborhood wide building retro fit program. The Town shall coordinate and support the implementation of the program if the funding is provided.~~

**Objective 2 – Water quality:** Conserve, appropriately use, and protect the quality and quantity of current and projected water sources and waters that flow into estuarine waters or oceanic waters.

Policy 2.1 – For site plan approval, the Town shall require that surface water management systems be designed and operated consistent with the Town’s adopted drainage level of service.

~~Policy 2.2 – The Town shall construct the Stormwater Treatment Trains and Rehabilitation projects specified in the State of Florida Department of Environmental Protection (DEP) Agreement No. S0374.~~

Policy 2.2~~3~~ – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection and enhancement of the Biscayne Bay Aquatic Preserve.

Policy 2.3~~4~~ – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection of Atlantic Ocean coastal waters, particularly relating to beach renourishment projects.

~~Policy 2.5 – The Town shall implement the stormwater improvement projects specified in the State of Florida Department of Environmental Protection (DEP) Agreement No. LP6768.~~

Policy 2.4~~6~~ – The Town shall cooperate and coordinate with the applicable agencies to assure that solid and hazardous wastes generated within the Town are properly managed to protect the environment and near shore waters. The Town shall report any hazardous waste violation they may become aware of to the appropriate jurisdictional agency.

Policy 2.5~~7~~ – The Town shall adhere to the National Pollution Discharge Elimination System-Municipal Separate Storm Sewer System (NPDES-MS4) Permit and shall implement the permit conditions including monitoring of outfalls and improving stormwater management practices.

**Objective 3 – Water quantity:** Conserve, appropriately use, and protect the quality and quantity of current and projected water sources.

Policy 3.1 – The Town shall maintain or improve an emergency water conservation ordinance based on both the South Florida Water Management District model ordinance and any specific South Florida Water Management District requirements of the emergency in question.

Policy 3.2 – The Town shall assess projected water needs and sources for the 20-year planning period by creating and maintaining a 20-Year Water Supply Facilities Work Plan. Future water supply planning shall emphasize the efficient use of water resources and where possible and financially feasible, utilize alternative water sources.

Policy 3.3 – The Town shall submit a Water Conservation Plan to the County’s Water and Sewer Department’s Water Use Efficiency Section, pursuant to the Miami-Dade County Code Section 32-83.1. The Plan shall be updated for the County’s approval every five years following submittal, and Conserve Florida Guide generated reports shall be filed annually at the close of the fiscal year.

Policy 3.4 – The Town shall participate in the development of the Regional Water Supply Plan in conjunction with the South Florida Water Management District.

Policy 3.5 – The Town shall conserve potable water resources and implement reuse programs and potable water conservation strategies and techniques consistent with the Miami Dade County 20-Year Water Supply Facilities Work Plan.

Policy 3.6 – The Town shall ensure coordination between land use and future water supply planning by implementation of the 15 20-Year Water Supply Facilities Work Plan ~~within 18 months of the adoption of the Lower East Coast Water Supply Plan, as required by Chapter 163, Florida Statutes.~~

Policy 3.7 – The Town shall work towards the further education of the public regarding various methods of water conservation at the household and small business level.

Policy 3.8 – The Town shall support water conservation goals through the support and enforcement of landscape and irrigation ordinances, inclusive of all applicable Miami-Dade Ordinances.

**Objective 4 – Vegetative communities and soils, wildlife habitat and wildlife:** Conserve, appropriately use and protect native vegetative communities for their own sake and to protect soils, wildlife habitat and wildlife.

Policy 4.1 – The Town shall encourage and educate the public in the planting and maintenance of trees.

Policy 4.2 – The Town shall require the owner/applicant to remove all Class I and II invasive exotic vegetation, as recognized by the Florida Exotic Pest Plant Council, from the subject site as a condition for new development or redevelopment.

Policy 4.3 – The Town shall maintain a survey of vegetation on property for which it has maintenance responsibility. The Town administration shall make recommendations for enhancing native vegetation.

Policy 4.4 – The Town shall evaluate the feasibility of incorporating recommendations derived from the implementation of Policy 4.3 above into the Capital Improvements Budget or the operating budget.

Policy 4.5 – The Town shall strictly enforce the adopted landscape standards which require the preservation of existing native species, the removal of invasive species and the promotion of native plant materials.

Policy 4.6 – The Town shall continue to coordinate and cooperate with the County, the State and the U.S. Fish and Wildlife Service on the protection of the beach dune system which is nesting habitat for marine turtles.

**Objective 5 – Floodplain protection:** Protect and conserve the natural functions of existing floodplains.

Policy 5.1 – The Town shall maintain and improve land development code provisions governing floodplain protection. *Floodplain protection regulations* shall be consistent with applicable standards promulgated by the South Florida Water Management District, the South Florida Regional Planning Council, the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, and/or other agencies with relevant jurisdiction and/or information. The Town shall revise as necessary and enforce flood hazard reduction regulations. ~~In addition, the Town shall participate in the Community Rating System of the National Flood Insurance Program.~~

Policy 5.2 - The Town shall continue to participate in the National Flood Insurance Program's Community Rating System to protect the Town's floodplain; and by 2020 explore and identify the path to achieve a better rating score in the program, and require development be consistent with, or more stringent, than the flood-resistant construction requirements in the Florida Building Code and applicable floodplain management regulations set forth in 44C.F.R. part 60.

Policy 5.3 - ~~By 2020~~ The Town shall continue to explore and identify feasible higher standards the Town could adopt site development techniques and best practices that may reduce losses due to flooding and claims made under flood insurance policies and implement these techniques and best practices through the Community Rating System to increase resiliency.

**Objective 6 – Community Resiliency:** Increase community resiliency by reducing heat island effect, increasing carbon sequestration, managing stormwater runoff and conserving freshwater.

Policy 6.1 - To reduce heat island effect and encourage carbon sequestration, the Town shall continue to maintain and enhance its tree canopy through such efforts as implementation and periodic updates of the zoning code and land development regulations, urban forestry grants, and other actions.

Policy 6.2 - By 2020, the Town shall explore and report on feasible options to increase the number of new street trees planted, and increase the tree canopy coverage by at least a 20% between 2020 and 2025.

Policy 6.3 - The Town shall encourage and accommodate the use of Low Impact Development (LID) where feasible to preserve open space.

Policy 6.4 - The Town of Surfside shall evaluate stormwater management operations in the context of sea level rise to improve the ability of these systems to adapt.

Policy 6.5 - The Town shall encourage and accommodate the use of green roofs to contribute to reduced heat island effect and enhanced stormwater management.

Policy 6.6 - When source water is available, the Town shall support the use of reclaimed water for irrigation and other uses, with the goal of reducing demands on the Biscayne Aquifer.

Policy 6.7 - The Town of Surfside shall continue to participate in regional water conservation initiatives in coordination with the South Florida Water Management District, Miami-Dade County and other agencies.

~~**9J-5.013 Objective and policy requirements not applicable to the Town of Surfside:** Rule 9J-5 of the Florida Administrative Code requires communities to adopt as part of their Conservation Element objectives and policies which address various issues, except where those issues are not reasonably applicable to a particular community. The following objective and policy provisions of Rule 9J-5 are deemed by the Town of Surfside to be inapplicable:~~

~~9J5.013 (2) (b) 3 Conserve, appropriately use and protect minerals and native vegetative communities.~~

~~9J5.013 (2) (c) 2 Conservation, appropriate use and protection of areas suitable for extraction of minerals.~~

~~9J5.013 (2) (c) 6 Protection and conservation of the natural functions of existing [soils], fisheries, wildlife habitats, rivers, bays, lakes, [floodplains], harbors, wetlands including estuarine marshes, freshwater beaches and shores, and marine habitats.~~

~~9J5.013 (2) (c) 7 Protection of existing natural reservations identified in the recreation and open space element.~~

~~9J5.013 (2) (c) 8 Continuing cooperation with adjacent local governments to conserve, appropriately use, or protect unique vegetative communities located within more than one local jurisdiction.~~

~~9J5.013 (2) (c) 9 Designation of environmentally sensitive lands for protection.~~

~~9J5.013 (3) (a) Protection and conservation of wetlands.~~

~~9J5.013 (3) (b) Protection and conservation of wetlands.~~

**Appendix 6-A. List of Federal State and County Endangered, Threatened, Rare, and Special Concern Fauna in Miami Dade County**

| <b>Scientific Name</b>                      | <b>Name Common</b>          | <b>State</b> | <b>Federal</b> | <b>County</b> |
|---|-----------------------------|--------------|----------------|---------------|
| <b>FISH</b>                                 |                             |              |                |               |
| <i>Acipenser brevirostrum</i>               | Shortnose sturgeon          | FE           | E              | Y             |
| <i>Acipenser oxyrinchus desotoi</i>         | Gulf sturgeon               | FT           | T              | Y             |
| <i>Acipenser oxyrinchus oxyrinchus</i>      | Atlantic sturgeon           | FE           | E              | Y             |
| <i>Etheostoma olmstedii maculatiiceps</i>   | Southern tessellated darter | SSC          | NL             | Y             |
| <i>Fundulus jenkinsi</i>                    | Saltmarsh topminnow         | SSC          | N              | Y             |
| <i>Menidia conchorum</i>                    | Key silverside              | ST           | NL             | Y             |
| <i>Pristis pectinata</i>                    | Smalltooth sawfish          | FE           | E              | Y             |
| <i>Rivulus marmoratus</i>                   | Mangrove rivulus            | SSC          | NL             | Y             |
| <b>AMPHIBIANS AND REPTILES</b>              |                             |              |                |               |
| <i>Alligator mississippiensis</i>           | American alligator          | FT(S/A)      | T(S/A)         | Y             |
| <i>Caretta caretta</i>                      | Loggerhead sea turtle       | FT           | T              |               |
| <i>Chelonia mydas</i>                       | Green sea turtle            | FE           | E              |               |
| <i>Crocodylus acutus</i>                    | American crocodile          | FT           | E              | Y             |
| <i>Dermochelys coriacea</i>                 | Leatherback sea turtle      | FE           | E              |               |
| <i>Drymarchon corais couperi</i>            | Eastern indigo snake        | FT           | T              | Y             |
| <i>Elaphe guttata guttata</i>               | Red rat snake               | NL           | NL             | Y             |
| <i>Eretmochelys imbricata</i>               | Hawksbill sea turtle        | FE           | E              |               |
| <i>Eumeces egregieus egregioeus</i>         | Florida Keys mole skink     | SSC          | NL             | Y             |
| <i>Gopherus polyphemus</i>                  | Gopher tortoise             | ST           | C              | Y             |
| <i>Kinosternon baurii</i>                   | Striped mud turtle          | ST           | NL             | Y             |
| <i>Lepidochelys kempii</i>                  | Kemp's ridley sea turtle    | FE           | E              |               |
| <i>Malaclyemys terrapin</i>                 | Mangrove terrain turtle     | NL           | Y              |               |
| <i>Neoseps reynoldsi</i>                    | Sand skink                  | FT           | T              |               |
| <i>Nerodia clarkii taeniata</i>             | Atlantic salt marsh snake   | FT           | T              | Y             |
| <i>Pituophis melanoleucus mugitus</i>       | Florida pine snake          | SSC          | NL             | Y             |
| <i>Pseudemys concinna suwanniensis</i>      | Suwannee cooter             | SSC          | NL             | Y             |
| <i>Lithobates capito</i>                    | Gopher frog                 | SSC          | NL             | Y             |
| <i>Sitilosima extenuatum</i>                | Short-tailed snake          | ST           | NL             | Y             |
| <i>Tantilla oolitica</i>                    | Rim rock crowned snake      | ST           | NL             | Y             |
| <i>Thamnophis sauritus sackeri</i>          | Florida ribbon snake        | NL           | NL             | Y             |
| <b>BIRDS</b>                                |                             |              |                |               |
| <i>Accipiter cooperii</i>                   | Cooper's hawk               | NL           | NL             | Y             |
| <i>Aimophila aestivalis</i>                 | Bachman's sparrow           | NL           | NL             | Y             |
| <i>Ammodramus maritimes pennisulae</i>      | Scott's seaside sparrow     | SSC          | NL             | Y             |
| <i>Ammodramus maritimus mirabilis</i>       | Cape sable seaside sparrow  | FE           | E              | Y             |
| <i>Aphelocoma coerulescens coerulescens</i> | Florida scrub jay           | FT           | T              |               |
| <i>Aramus guarauna</i>                      | Limpkin                     | SSC          | NL             | Y             |
| <i>Ardea herodias</i>                       | Great blue heron            | NL           | NL             | Y             |
| <i>Athene cunicularia</i>                   | Florida burrowing owl       | SSC          | NL             | Y             |
| <i>Botaurus lentiginosus</i>                | American bittern            | NL           | NL             | Y             |
| <i>Buteo brachyurus</i>                     | Short-tailed hawk           | NL           | NL             | Y             |
| <i>Calidris canutus rufa</i>                | Red knot                    | NL           | C              | Y             |
| <i>Campephilus principalis principalis</i>  | Ivory-billed woodpecker     | FE           | E              | Y             |
| <i>Charadrius melodus</i>                   | Piping plover               | FT           | T              | Y             |

| Scientific Name                       | Name Common                          | State | Federal | County |
|---------------------------------------|--------------------------------------|-------|---------|--------|
| <i>Charadrius alexandrinus</i>        | Southeastern (Cuban)<br>snowy plover | ST    | NL      | Y      |
| <i>Chordeiles minor</i>               | Antillean nighthawk                  | NL    | NL      | Y      |
| <i>Circus cyaneus</i>                 | Northern harrier                     | NL    | NL      | Y      |
| <i>Cistothorus palustris griseus</i>  | Worthington's marsh wren             | SSC   | NL      | Y      |
| <i>Cistothorus palustris marianae</i> | Marian's marsh wren                  | SSC   | NL      | Y      |
| <i>Coccyzus minor</i>                 | Mangrove cuckoo                      | NL    | NL      | Y      |
| <i>Dendroica kirtlandii</i>           | Kirtland's warbler                   | FE    | E       |        |
| <i>Dendroica petechia gundlachi</i>   | Cuban yellow throated warbler        | NL    | NL      | Y      |
| <i>Egretta caerulea</i>               | Little blue heron                    | SSC   | NL      | Y      |
| <i>Egretta rufescens</i>              | Reddish egret                        | SSC   | NL      | Y      |
| <i>Egretta thula</i>                  | Snowy egret                          | SSC   | NL      | Y      |
| <i>Egretta tricolor</i>               | Tricolored heron                     | SSC   | NL      | Y      |
| <i>Elanoides forficatus</i>           | Swallow-tailed kite                  | NL    | NL      | Y      |
| <i>Elanus leucurus</i>                | White-tailed kite                    | NL    | NL      | Y      |
| <i>Eudocimus albus</i>                | White ibis                           | SSC   | NL      | Y      |
| <i>Falco columbarius</i>              | Merlin                               | NL    | NL      | Y      |
| <i>Falco peregrinus</i>               | Peregrine falcon                     | NL    | NL      | Y      |
| <i>Falco sparverius paulus</i>        | Southeastern American kestrel        | ST    | NL      | Y      |
| <i>Frigata magnificens</i>            | Magnificent frigate bird             | NL    | NL      | Y      |
| <i>Grus canadensis pratensis</i>      | Florida sandhill crane               | ST    | NL      | Y      |
| <i>Grus americana</i>                 | Whooping crane                       | FE/XN | E/XN    |        |
| <i>Haematopus palliatus</i>           | American oyster catcher              | SSC   | NL      | Y      |
| <i>Haliaeetus leucocephalus *</i>     | Bald eagle                           | NL*   | NL      | Y      |
| <i>Ixobrychus exilis</i>              | Least bittern                        | NL    | NL      | Y      |
| <i>Laterallus jamaicensis</i>         | Black rail                           | NL    | NL      | Y      |
| <i>Mycteria americana</i>             | Wood stork                           | FE    | E       | Y      |
| <i>Nyctanassa violacea</i>            | Yellow-crowned night heron           | NL    | NL      | Y      |
| <i>Nycticorax nycticorax</i>          | Black-crowned night heron            | NL    | NL      | Y      |
| <i>Pandion haliaetus</i>              | Osprey                               | NL    | NL      | Y      |
| <i>Passerina ciris</i>                | Painted bunting                      | NL    | NL      | Y      |
| <i>Patagioenas leucocephala</i>       | White crowned pigeon                 | ST    | NL      | Y      |
| <i>Pelecanus occidentalis</i>         | Brown pelican                        | SSC   | NL      |        |
| <i>Picoides borealis</i>              | Red-cockaded woodpecker              | FE    | E       | Y      |
| <i>Picoides villosus</i>              | Hairy woodpecker                     | NL    | NL      | Y      |
| <i>Platalea ajaja</i>                 | Roseate spoonbill                    | SSC   | NL      | Y      |
| <i>Polyborus plancus audubonii</i>    | Audobon's crested caraca             | FT    | T       | Y      |
| <i>Pterodroma hasitata</i>            | Black-capped petrel                  | NL    | NL      | Y      |
| <i>Rallus longirostris insularum</i>  | Mangrove clapper rail                | NL    | NL      | Y      |
| <i>Rostrhamus sociabilis plumbeus</i> | Everglade snail kite                 | FE    | E       | Y      |
| <i>Rynchops niger</i>                 | Black skimmer                        | SSC   | C       | Y      |
| <i>Setophaga discolor</i>             | Prairie warbler                      | NL    | NL      | Y      |
| <i>Sterna antillarum</i>              | Least tern                           | ST    | NL      | Y      |
| <i>Sterna dougallii douglallii</i>    | Roseate tern                         | FT    | T       | Y      |
| <i>Thalasseus sandvicensis</i>        | Sandwich tern                        | NL    | NL      | Y      |
| <i>Vermivora bachmanii</i>            | Bachman's warbler                    | FE    | E       | Y      |
| <i>Vireo altiloquus</i>               | Black-whisked vireo                  | NL    | NL      | Y      |

**MAMMALS**

| <b>Scientific Name</b>                    | <b>Name Common</b>         | <b>State</b> | <b>Federal</b> | <b>County</b> |
|---|----------------------------|--------------|----------------|---------------|
| <i>Balaenoptera borealis</i>              | Sei whale                  | FE           | E              |               |
| <i>Balaenoptera physalus</i>              | Finback whale              | FE           | E              |               |
| <i>Eubalaena glacialis</i>                | North Atlantic right whale | FE           | E              |               |
| <i>Eumops glaucinus floridanus</i>        | Florida mastiff bat        | ST           | C              | Y             |
| <i>Lutra canadensis</i>                   | River otter                | NL           | NL             | Y             |
| <i>Megaptera novaeangliae</i>             | Humpback whale             | FE           | E              |               |
| <i>Monachus tropicalis</i>                | Caribbean monk seal        | NL           | NL             | Y             |
| <i>Neotoma floridana smalli</i>           | Key Largo woodrat          | FE           | E              | Y             |
| <i>Neovision vision evergladensis</i>     | Everglades mink            | ST           | NL             | Y             |
| <i>Peromyscus gossypinus allapaticola</i> | Key Largo cotton mouse     | FE           | E              | Y             |
| <i>Peromyscus polionotus niveiventris</i> | Southeastern beach mouse   | FT           | T              | Y             |
| <i>Physeter catodon</i>                   | Sperm whale                | FE           | E              |               |
| <i>Plecotus rafinesquii</i>               | Rafinesque's big eared bat | NL           | NL             | Y             |
| <i>Podomys floridanus</i>                 | Florida mouse              | SSC          | NL             | Y             |
| <i>Puma (= Felis) concolor coryi</i>      | Florida panther            | FE           | E              | Y             |
| <i>Sciurus niger avicennia</i>            | Big Cypress fox squirrel   | ST           | NL             | Y             |
| <i>Sciurus niger shermani</i>             | Sherman's fox squirrel     | SSC          | NL             | Y             |
| <i>Trichechus manatus latirostris</i>     | Florida manatee            | E            | E              | Y             |
| <i>Ursus americanus floridanus</i>        | Florida black bear         | NL*          | NL             | Y             |

**INVERTEBRATES/CRUSTACEANS**

|                             |                       |    |    |   |
|-----------------------------|-----------------------|----|----|---|
| <i>Crangonyx gradimanus</i> | Florida cave amphipod | NL | NL | Y |
|-----------------------------|-----------------------|----|----|---|

**CORALS**

|                                  |                         |    |    |   |
|----------------------------------|-------------------------|----|----|---|
| <i>Acropora cervicornis</i>      | Staghorn coral          | FT | T  | Y |
| <i>Acropora palmata</i>          | Elkhorn coral           | FT | T  | Y |
| <i>Agaricia lamarcki</i>         | Lamarck's sheet coral   | NL | NL | Y |
| <i>Agaricia spp</i>              | Lettuce corals          | NL | NL | Y |
| <i>Colpophyllia natans</i>       | Boulder brain coral     | NL | NL | Y |
| <i>Dendrogyra cylindrus</i>      | Pillar coral            | ST | NL | Y |
| <i>Diploria cilvosa</i>          | Knobby brain coral      | NL | NL | Y |
| <i>Diploria labyrinthiformis</i> | Grooved brain coral     | NL | NL | Y |
| <i>Dipolria strigosa</i>         | Symmetrical brain coral | NL | NL | Y |
| <i>Eusmilia fastigiata</i>       | Smooth flower coral     | NL | NL | Y |
| <i>Meandrina meandrites</i>      | Maze coral              | NL | NL | Y |
| <i>Montastrea annularis</i>      | Boulder star coral      | NL | NL | Y |
| <i>Montastrea cavernosa</i>      | Great star coral        | NL | NL | Y |
| <i>Montastera faveolata</i>      | Mountainous star coral  | NL | NL | Y |
| <i>Montastrea franksi</i>        | Star coral              | NL | NL | Y |
| <i>Mussa angulosa</i>            | Spiny flower coral      | NL | NL | Y |
| <i>Mycetophyllia aliciae</i>     | Knobby cactus coral     | NL | NL | Y |
| <i>Mycetophyllia ferox</i>       | Rough cactus coral      | NL | NL | Y |
| <i>Mycetophyllia lamarckiana</i> | Lamarck's cactus coral  | NL | NL | Y |
| <i>Siderastera siderea</i>       | Elliptical star coral   | NL | NL | Y |



## INSECTS

| Scientific Name                         | Name Common   | State | Federal | County |
|---|---|-------|---------|--------|
| <i>Anaea troglodyta floridalis</i>      | Florida leafwing butterfly                              | NL    | C       | Y      |
| <i>Aphodius troglodytes</i>             | Scarab beetle, a Gopher tortoise<br>aphopdius commensal | NL    | NL      | Y      |
| <i>Atrytone agros argos</i>             | Eastern beard-grass skipper                             | NL    | NL      | Y      |
| <i>Ceraclea floridana</i>               | Florida ceraclea<br>long horn caddishfly                | NL    | NL      | Y      |
| <i>Cyclargus thomasi bethunebakeri</i>  | Miami blue butterfly                                    | FE    | E       | Y      |
| <i>Cyclophala miamiensis</i>            | Miami roundhead<br>scarab beetle                        | NL    | C       | Y      |
| <i>Eumaeus atala floridana</i>          | Florida atala butterfly                                 | NL    | C       | Y      |
| <i>Heraclides aristodemus ponceanus</i> | Schaus swallowtail butterfly                            | FE    | E       | Y      |
| <i>Micronaspsis floridana</i>           | Florida intertidal firefly                              | NL    | Y       |        |
| <i>Mixogaster delongi</i>               | Delong's mixogaster<br>flower fly                       | NL    | NL      | Y      |
| <i>Mycotrupes pedester</i>              | Scrub island burrowing<br>scarab beetle                 | NL    | NL      | Y      |
| <i>Oxyethira florida</i>                | Florida oxeythiran<br>microcaddishfly                   | NL    | NL      | Y      |
| <i>Photuris brunnipennis floridana</i>  | Everglades brownwing firefly                            | NL    | NL      | Y      |
| <i>Strymon acis bartrami</i>            | Bartram's scrub-hairstreak<br>butterfly                 | NL    | C       | Y      |

## MOLLUSCS

|                               |                         |     |    |   |
|-------------------------------|-------------------------|-----|----|---|
| <i>Liguus fasciatus</i>       | Florida tree snail      | SSC | NL | Y |
| <i>Orthalicus reses reses</i> | Stock Island tree snail | FT  | T  | Y |
| <i>Strombus gigas</i>         | Queen conch             | NL  | C  | Y |

### Key:

NL = Not Listed

### 1) Federal Listings:

E = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.

T(S/A) = Listed only because of similarity in appearance to the American crocodile.

FE/FX = Experimental population in Florida.

T = Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

C = Candidate Species for addition to the List of Endangered and Threatened Wildlife and Plants. Includes taxa for which: the US Fish and Wildlife Service (USFWS) currently has substantial information on hand to support the biological appropriateness of proposing to list the species as endangered or threatened; or the USFWS currently possesses information indicating that proposing to list the species as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat(s) are not currently available to support proposed rules at this time.

## **2) State Listings:**

FE/FT= Listed as Federally-designated Endangered and Threatened Species. Defined as species of fish or wild animal life, subspecies or isolated populations of species or subspecies, whether vertebrate or invertebrate, that are native to Florida and are classified as Endangered and Threatened under the Fish and Wildlife Conservation Commission (Commission) rule by virtue of designation by the United States Departments of Interior or Commerce as endangered or threatened under the Federal Endangered Species Act, 16 U.S.C. §1531 et seq. and rules thereto; the definition of Federally-designated Endangered and Threatened Species does not include species that are not within the Commission's constitutional authority.

FT(S/A) = Listed only because of similarity in appearance to the American crocodile.

FE/FX = Experimental population in Florida

ST= Listed as State-designated Threatened Species by the Fish and Wildlife Conservation Commission (Commission). Defined as species of fish or wild animal life, subspecies, or isolated population of a species or subspecies, whether vertebrae or invertebrate, that are native to Florida and are classified as Threatened as determined by paragraph (a), (b), (c), (d), or (e) in accordance with Rule 68A-27.0012, F.A.C. The designation of a species as threatened shall include all subspecies unless stated otherwise in Commission rule.

SSC= Listed as a Species of Special Concern by the Fish and Wildlife Conservation Commission under an earlier listing process. Either the species is being evaluated for listing as a State-designated Threatened species or not enough data currently exist to make a listing determination.

C= A species of fish or wild animal life, subspecies, or isolated populations of species or subspecies, whether invertebrate or vertebrate, that the Fish and Wildlife Conservation Commission (Commission) has determined warrants listings as a State-designated Threatened Species in accordance with Rule 68A-27.0012, F.A.C., and is awaiting final Commission action to be added to the list of Florida Endangered and Threatened Species in Rule 68A-27.003, F.A.C.

\* = The Fish and Wildlife Conservation Commission has delisted these species; however, the bald eagle continues to be under the protection of the state in accordance to rule 68A-16.002, F.A.C., and its Bald Eagle Management Plan, adopted on April 9, 2008, and the bear is protected under rule 68A-4.009, F.A.C., and the Florida Black Bear Management Plan, approved on June 27, 2012.

## **3) County Listings:**

Y = Miami-Dade County endangered, threatened, rare or special concern fauna species as updated from previously adopted CDMP lists, due to low population numbers or limited/localized population; impacts resulting from habitat destruction or environmental contamination; or nesting destruction/disturbance/failures.

**Table from the Conservation, Aquifer Recharge and Drainage Element of the Miami-Dade Comprehensive Development Master Plan including amendments adopted up through November 18, 2015**

**Appendix 6-B. List of Federal, State and County Endangered, Threatened, Rare, and Special Concern Flora in Miami-Dade County**

| <b>Scientific Name</b>                                | <b>Common Name</b>                     | <b>State</b> | <b>Federal</b> | <b>County</b> |
|---|--|--------------|----------------|---------------|
| <i>Acacia choriophylla</i>                            | Tamarindillo; cinnecord                | E            | NL             | Y             |
| <i>Acanthocereus tetragenus</i>                       | Triangle cactus                        | T            | NL             | Y             |
| <i>Acoelorrhaphe wrightii</i>                         | Everglades palm                        | T            | NL             | Y             |
| <i>Acrostichum aureum</i>                             | Golden leather fern                    | T            | NL             | Y             |
| <i>Adiantum capillus-veneris</i>                      | Venus hair fern;                       |              |                |               |
|   | southern maidenhair fern               | NL           | NL             | Y             |
| <i>Adiantum melanoleucum</i>                          | Fragrant maidenhair fern               | E            | NL             | Y             |
| <i>Adiantum tenerum</i>                               | Brittle maidenhair fern                | E            | NL             | Y             |
| <i>Aeschynomene pratensis</i>                         | Meadow joint-vetch                     | E            | NL             | Y             |
| <i>Agalinis filifolia</i>                             | Seminole false fox glove               | NL           | NL             | Y             |
| <i>Aletris bracteata</i>                              | White colic root                       | E            | NL             | Y             |
| <i>Alvaradoa amorphoides</i>                          | Mexican alvaradoa                      | E            | NL             | Y             |
| <i>Amorpha herbacea</i> var. <i>crenulata</i>         | Crenulate (=Miami) leadplant           | E            | E              | Y             |
| <i>Amphitecna latifolia</i>                           | Black calabash                         | NL           | NL             | Y             |
| <i>Anemia wrightii</i>                                | Wright's pineland fern                 | E            | NL             | Y             |
| <i>Angadenia berteroi</i>                             | Pineland golden trumpet                | T            | NL             | Y             |
| <i>Argusia gnaphalodes</i>                            | Sea rosemary                           | E            | NL             | Y             |
| <i>Argythamnia blodgettii</i>                         | Blodgett's silverbush                  | E            | C              | Y             |
| <i>Aristolochia pentandra</i>                         | Marsh's dutchmans pipe                 | E            | NL             | Y             |
| <i>Asplenium abscissum</i>                            | Cutleaf spleenwort                     | NL           | NL             | Y             |
| <i>Asplenium dentatum</i>                             | Toothed spleenwort                     | E            | NL             | Y             |
| <i>Asplenium serratum</i>                             | Wild bird nest fern                    | E            | NL             | Y             |
| <i>Asplenium verecundum</i>                           | Modest spleenwort                      | E            | NL             | Y             |
| <i>Asplenium x biscayanianum</i>                      | Biscayne spleenwort                    | NL           | NL             | Y             |
| <i>Asteraea lobata</i>                                | Lobed croton; Florida treefern         | NL           | NL             | Y             |
| <i>Baccharis dioica</i>                               | Broombush falsewillow                  | E            | NL             | Y             |
| <i>Basiphyllaea corallicola</i>                       | Carter's orchid                        | E            | NL             | Y             |
| <i>Bletia patula</i>                                  | Flor de Pesmo                          | NL           | NL             | Y             |
| <i>Bletia purpurea</i>                                | Pinepink orchid                        | T            | NL             | Y             |
| <i>Bourreria cassinifolia</i>                         | Smooth strongback                      | E            | NL             | Y             |
| <i>Bourreria succulenta</i>                           | Bahama strongback                      | E            | NL             | Y             |
| <i>Brassia caudata</i>                                | Spider orchid                          | E            | NL             | Y             |
| <i>Brickellia eupatorioides</i> var. <i>floridana</i> | Brickell-brush; Mosier's false boneset |              |                |               |
|   |  | E            | C              | Y             |
| <i>Byrsonima lucida</i>                               | Locustberry                            | T            | NL             | Y             |
| <i>Caesalpinia major</i>                              | Yellow nickerbean                      | E            | NL             | Y             |
| <i>Calopogon multiflorus</i>                          | Many-flowered grass pink               | E            | NL             | Y             |
| <i>Calyptanthus pallens</i>                           | Spicewood; pale lid flower             | T            | NL             | Y             |
| <i>Calyptanthus zuzygium</i>                          | Myrtle-of-the-river                    | E            | NL             | Y             |
| <i>Campyloneurum angustifolium</i>                    | Narrow strap fern                      | E            | NL             | Y             |
| <i>Campyloneurum costatum</i>                         | Tailed strap fern                      | E            | NL             | Y             |
| <i>Campyloneurum latum</i>                            | Broad strap fern                       | E            | NL             | Y             |
| <i>Canella winterana</i>                              | Pepper cinnamon bark                   | E            | NL             | Y             |
| <i>Catopsis berteroniana</i>                          | Powdery strap airplant                 | E            | NL             | Y             |
| <i>Catopsis floribunda</i>                            | Florida strap airplant                 | E            | NL             | Y             |
| <i>Cayaponia americana</i>                            | American melonleaf                     | NL           | NL             | Y             |

| Scientific Name                                       | Common Name                   | State | Federal | County |
|---|-------------------------------|-------|---------|--------|
| <i>Ceropteris pteridoides</i>                         | Water horn fern               | NL    | NL      | Y      |
| <i>Celosia nitida</i>                                 | West Indian cock's comb       | E     | NL      | Y      |
| <i>Chamaesyce deltoidea</i> ssp. <i>adherens</i>      | Gould's wedge sandmat         | E     | NL      | Y      |
| <i>Chamaesyce deltoidea deltoidea</i>                 | Wedge sandmat;                |       |         |        |
|   | rockland spurge               | E     | E       | Y      |
| <i>Chamaesyce deltoidea garberi</i>                   | Garber's sandmat;             |       |         |        |
|   | Garber's spurge               | E     | T       | Y      |
| <i>Chamaesyce deltoidea pinetorum</i>                 | Pineland sandmat              | E     | C       | Y      |
| <i>Chamaesyce pergamena</i>                           | Southern Florida sandmat      | T     | NL      | Y      |
| <i>Chamaesyce porteriana</i>                          | Porter's sandmat              | E     | NL      | Y      |
| <i>Chaptalia albicans</i>                             | White sunbonnets              | T     | NL      | Y      |
| <i>Cheilanthes microphylla</i>                        | Southern lip fern             | E     | NL      | Y      |
| <i>Chrysophyllum oliviforme</i>                       | Satin leaf                    | T     | NL      | Y      |
| <i>Cissampelos pareira</i>                            | Velvet leaf; pareira brava    | E     | NL      | Y      |
| <i>Clitoria mariana</i>                               | Butterfly pea;                |       |         |        |
|   | Atlantic pigeonwings          | NL    | T       | Y      |
| <i>Coccothrinax argentata</i>                         | Florida silver palm           | T     | NL      | Y      |
| <i>Colubrina cubensis</i> var. <i>floridana</i>       | Cuban nakedwood               | E     | NL      | Y      |
| <i>Colubrina elliptica</i>                            | Soldierwood                   | E     | NL      | Y      |
| <i>Conradina grandiflora</i>                          | Large flowered false rosemary | T     | NL      | Y      |
| <i>Cordia globosa</i>                                 | Curacao bush                  | E     | NL      | Y      |
| <i>Cranichis muscosa</i>                              | Cypress knee helmet orchid;   |       |         |        |
|   | moss orchid                   | E     | NL      | Y      |
| <i>Crossopetalum ilicifolium</i>                      | Christmas berry               | T     | NL      | Y      |
| <i>Crossopetalum rhacoma</i>                          | Rhacoma maidenberry           | T     | NL      | Y      |
| <i>Croton humilis</i>                                 | Pepperbush                    | E     | NL      | Y      |
| <i>Ctenitis sloanei</i>                               | Red-hair comb fern            | E     | NL      | Y      |
| <i>Ctenitis submarginalis</i>                         | Brown-hair comb fern          | E     | NL      | Y      |
| <i>Cupania glabra</i>                                 | Florida toadwood              | E     | NL      | Y      |
| <i>Cuscuta americana</i>                              | American dodder               | NL    | NL      | Y      |
| <i>Cynanchum blodgettii</i>                           | Blodgett's swallowwort        | T     | NL      | Y      |
| <i>Cyperus pendunculatus</i>                          | Beach star                    | E     | NL      | Y      |
| <i>Cyrtopodium punctatum</i>                          | Cow-horn orchid; cigar orchid | E     | NL      | Y      |
| <i>Dalbergia brownei</i>                              | Browne's Indian rosewood      | E     | NL      | Y      |
| <i>Dalea carthagenensis</i> var. <i>floridana</i>     | Florida prairie clover        | E     | C       | Y      |
| <i>Dendrophylax lindenii</i>                          | Ghost orchid                  | E     | NL      | Y      |
| <i>Desmodium floridanum</i>                           | Florida ticktrefoil           | NL    | NL      | Y      |
| <i>Desmodium strictum</i>                             | Pinebarren ticktrefoil        | NL    | NL      | Y      |
| <i>Digitaria filiformis</i> var. <i>dolichophylla</i> | Caribbean crabgrass           | T     | NL      | Y      |
| <i>Digitaria pauciflora</i>                           | Two-spike crabgrass;          |       |         |        |
|   | Florida pineland crabgrass    | E     | C       | Y      |
| <i>Drypetes diversifolia</i>                          | White wood; milkbark          | E     | NL      | Y      |
| <i>Drypetes lateriflora</i>                           | Guiana plum                   | T     | NL      | Y      |
| <i>Eleocharis albida</i>                              | White albida                  | NL    | NL      | Y      |
| <i>Eleocharis rostellata</i>                          | Beaked spikerush              | E     | NL      | Y      |
| <i>Eltroplectris calcarata</i>                        | Long-clawed orchid;           |       |         |        |
|   | spurred neottia               | E     | NL      | Y      |
| <i>Encyclia tampensis</i>                             | Butterfly orchid              | CE    | NL      | Y      |

| Scientific Name                             | Common Name   | State | Federal | County |
|---|---|-------|---------|--------|
| <i>Epidendrum anceps</i>                    | Dingy-flowered star orchid;<br>dingy-flowered epidendrum                        | E     | NL      | Y      |
| <i>Epidendrum floridense</i>                | Umbrella star orchid;<br>umbrella epidendrum                                    | E     | NL      | Y      |
| <i>Epidendrum nocturnum</i>                 | Night scented epidendrum  | E     | NL      | Y      |
| <i>Epidendrum rigidum</i>                   | Stiff-flowered star orchid;<br>rigid epidendrum                                 | E     | NL      | Y      |
| <i>Erithalis fruticosa</i>                  | Black torch   | T     | NL      | Y      |
| <i>Ernodea cokeri</i>                       | Coker's beach creeper;<br>one nerved ernodea                                    | E     | NL      | Y      |
| <i>Eugenia confusa</i>                      | Redberry stopper;<br>redberry Eugenia   | E     | NL      | Y      |
| <i>Eugenia rhombea</i>                      | Red stopper   | E     | NL      | Y      |
| <i>Eupatorium compositifolium</i>           | Yankeeweed  | T     | NL      | Y      |
| <i>Evolvulus convolvuloides</i>             | Bindweed dwarf morning glory;<br>dwarf bindweed                                 | E     | NL      | Y      |
| <i>Exostema caribaeum</i>                   | Caribbean princewood  | E     | NL      | Y      |
| <i>Galactia smallii</i>                     | Small's milkpea   | E     | E       | Y      |
| <i>Galeandra bicarinata</i>                 | Helmet orchid;<br>two keeled hooded orchid                                      | E     | NL      | Y      |
| <i>Glandularia maritima</i>                 | Coastal mock vervain  | E     | NL      | Y      |
| <i>Gossypium hirsutum</i>                   | Upland cotton; wild cotton  | E     | NL      | Y      |
| <i>Govenia floridana</i>                    | Gowen's orchid;<br>Florida govenia  | E     | NL      | Y      |
| <i>Guaiacum sanctum</i>                     | Hollywood lignumvitae   | E     | NL      | Y      |
| <i>Guzmania monostachia</i>                 | Fuch's bromeliad;<br>West Indian tufted airplant                                | E     | NL      | Y      |
| <i>Gyminda latifolia</i>                    | West Indian false box   | E     | NL      | Y      |
| <i>Gymnopogon ambiguus</i>                  | Bearded skeleton grass  | NL    | NL      | Y      |
| <i>Gymnopogon brevifolius</i>               | Shortleaf skeleton grass  | NL    | NL      | Y      |
| <i>Habenaria nivea</i>                      | Snowy orchid  | T     | NL      | Y      |
| <i>Halophila johnsonii</i>                  | Johnson's seagrass  | T     | T       | Y      |
| <i>Harrisia fragrans</i>                    | Caribbean apple cactus;<br>Indian River prickly-apple;<br>Simpson's applecactus | E     | E       | Y      |
| <i>Harrisela porrecta</i>                   | Needleroot airplant   | T     | NL      | Y      |
| <i>Helenium flexuosum</i>                   | Purple sneeze weed  | NL    | NL      | Y      |
| <i>Hibiscus poeppigii</i>                   | Poeppig's rosemallow  | E     | NL      | Y      |
| <i>Hippomane mancinella</i>                 | Manchineel  | E     | NL      | Y      |
| <i>Hypelate trifoliata</i>                  | White ironwood  | E     | NL      | Y      |
| <i>Hypericum myrtifolium</i>                | Myrtle leaf St. John's wort   | NL    | NL      | Y      |
| <i>Ilex krugiana</i>                        | Krug's holly  | T     | NL      | Y      |
| <i>Indigofera trita ssp.Scabra keyensis</i> | Florida Keys indigo   | E     | C       | Y      |
| <i>Ipomoea microdactyla</i>                 | Bejuco colorado;<br>man-in-the-ground<br>wild potato morning glory;             | E     | NL      | Y      |
| <i>Ipomoea tenuissima</i>                   | Rockland morning glory  | E     | NL      | Y      |
| <i>Isoetes flaccida</i>                     | Florida quillwort   | NL    | NL      | Y      |
| <i>Jacquemontia curtisii</i>                | Pineland jacquemontia   | T     | NL      | Y      |
| <i>Jacquemontia havanensis</i>              | Havana clustervine  | E     | NL      | Y      |

| Scientific Name                                  | Common Name                                      | State | Federal | County |
|--|--|-------|---------|--------|
| <i>Jacquemontia pentanthos</i>                   | Skyblue clustervine                              | E     | NL      | Y      |
| <i>Jacquemontia reclinata</i>                    | Beach clustervine;<br>Beach jacquemontia         | E     | E       | Y      |
| <i>Jacquinia keyensis</i>                        | Joewood  | T     | NL      | Y      |
| <i>Koanophyllon villosum</i>                     | Florida shrub thoroughwood                       | E     | NL      | Y      |
| <i>Lantana canescens</i>                         | Hammock shrub verbena                            | E     | NL      | Y      |
| <i>Lantana depressa</i>                          | Rockland shrub verbena                           | E     | NL      | Y      |
| <i>Lactuca floridana</i>                         | Woodland lettuce                                 | NL    | NL      | Y      |
| <i>Lechea divaricata</i>                         | Drysand pinweed;<br>spreading pinweed            | E     | NL      | Y      |
| <i>Leptochloa fusca</i> var. <i>uninervia</i>    | Mexican sprangletop                              | NL    | NL      | Y      |
| <i>Leptochloa virgata</i>                        | Tropical sprangletop                             | NL    | NL      | Y      |
| <i>Licaria triandra</i>                          | Pepper leaf sweetwood                            | E     | NL      | Y      |
| <i>Linum arenicola</i>                           | Sand flax  | E     | C       | Y      |
| <i>Linum carteri</i>                             | Everglades flax                                  | E     | C       | Y      |
| <i>Linum carteri</i> var. <i>carterii</i>        | Carter's Everglades flax                         | E     | C       | Y      |
| <i>Linum carteri</i> var. <i>smallii</i>         | Small's flax                                     | E     | NL      | Y      |
| <i>Linum floridanum</i>                          | Florida yellow flax                              | NL    | NL      | Y      |
| <i>Lippia stoechadifolia</i>                     | Southern fogfruit;<br>southern matchsticks       | E     | NL      | Y      |
| <i>Liparis nervosa</i>                           | Pantropical widelip orchid;<br>tall twayblade    | E     | NL      | Y      |
| <i>Lomariopsis kunzeana</i>                      | Hollyvine fern;<br>climbing holly fern           | E     | NL      | Y      |
| <i>Macradenia lutescens</i>                      | Long-gland orchid;<br>Trinidad macradenia        | E     | NL      | Y      |
| <i>Manilkara jaimiqui</i> ssp. <i>emarginata</i> | Wild dilly                                       | T     | NL      | Y      |
| <i>Matelea floridana</i>                         | Florida milkvine;<br>Florida spiny pod           | E     | NL      | Y      |
| <i>Maytenus phyllanthoides</i>                   | Florida mayten                                   | T     | NL      | Y      |
| <i>Melanthera parvifolia</i>                     | Small leaved cat-tongue                          | T     | NL      | Y      |
| <i>Microgramma heterophylla</i>                  | Climbing vine fern                               | E     | NL      | Y      |
| <i>Mosiera longpipes</i>                         | Mangrove berry                                   | T     | NL      | Y      |
| <i>Myrcianthes fragrans</i>                      | Simpson's stopper                                | T     | NL      | Y      |
| <i>Nephrolepis biserrata</i>                     | Giant swordfern                                  | T     | NL      | Y      |
| <i>Nevrodium lanceolatum</i>                     | Ribbon fern                                      | E     | NL      | Y      |
| <i>Nymphaea mexicana</i>                         | Yellow waterlily                                 | NL    | NL      | Y      |
| <i>Ocimum campechianum</i>                       | Wild sweet basil;<br>wild mosquito plant         | E     | NL      | Y      |
| <i>Odontosoria clavata</i>                       | Wedgelet fern                                    | E     | NL      | Y      |
| <i>Okenia hypogaea</i>                           | Burrowing four-o'clock;<br>beach peanut          | E     | NL      | Y      |
| <i>Oncidium ensatum</i>                          | Florida dancing lady orchid;<br>Florida oncidium | E     | NL      | Y      |
| <i>Ophioglossum palmatum</i>                     | Hand fern  | E     | NL      | Y      |
| <i>Ophioglossum nudicaule</i>                    | Slender adders tongue                            | NL    | NL      | Y      |
| <i>Opuntia corallicola</i>                       | Semaphore cactus<br>pricklypear cactus           | E     | NL      | Y      |
| <i>Opuntia stricta</i>                           | Erect or shellmound<br>pricklypear               | T     | NL      | Y      |

| Scientific Name   | Common Name   | State | Federal | County |
|---|---|-------|---------|--------|
| <i>Osmunda cinnamomea</i>                                 | Cinnamon fern   | CE    | NL      | Y      |
| <i>Osmunda regalis</i>                                    | Royal fern  | CE    | NL      | Y      |
| <i>Paspalidium chapmanii</i>                              | Coral panicum;<br>coral panicgrass  | E     | NL      | Y      |
| <i>Passiflora multiflora</i>                              | White-flower passionflower;<br>Whiteflowered passionvine                              | E     | NL      | Y      |
| <i>Passiflora pallens</i>                                 | Pineland passionflower;<br>pineland passionvine                                       | E     | NL      | Y      |
| <i>Passiflora sexflora</i>                                | Goats foot  | E     | NL      | Y      |
| <i>Pavonia paludicola</i>                                 | Swampbush   | E     | NL      | Y      |
| <i>Pectuma dispersa</i>                                   | Widespread polypody   | E     | NL      | Y      |
| <i>Pectuma plumula</i>                                    | Plume polypody  | E     | NL      | Y      |
| <i>Pectuma ptilodon</i> var. <i>bourgeanuana</i>          | Comb polypody; swamp plume<br>polypody; plumed rockcap fern;<br>palmleaf rockcap fern | E     | NL      | Y      |
| <i>Pelexia adnata</i>                                     | Hachuela pelexia  | E     | NL      | Y      |
| <i>Peperomia amplexicaulis</i>                            | Jackie's saddle;<br>clasping peperomia  | E     | NL      | Y      |
| <i>Peperomia humilis</i>                                  | Low peperomia   | E     | NL      | Y      |
| <i>Peperomia magnoliifolia</i>                            | Spoonleaf or<br>spatulate peperomia   | E     | NL      | Y      |
| <i>Peperomia obtusifolia</i>                              | Florida peperomia;<br>baby rubberplant  | E     | NL      | Y      |
| <i>Phoradendron rubrum</i>                                | Mahogany mistletoe  | E     | NL      | Y      |
| <i>Physalis cordata</i>                                   | Heartleaf ground cherry   | NL    | NL      | Y      |
| <i>Picramnia pentandra</i>                                | Florida bitterbush  | E     | NL      | Y      |
| <i>Pithecellobium keyense</i>                             | Florida Keys blackbead  | T     | NL      | Y      |
| <i>Poinsettia pinetorum</i>                               | Pineland spurge;<br>Everglades poinsettia   | E     | NL      | Y      |
| <i>Polygala polygama</i>                                  | Racemed milkwort  | NL    | NL      | Y      |
| <i>Polygala smallii</i>                                   | Small's milkwort; tiny polygala   | E     | E       | Y      |
| <i>Polygonella gracilis</i>                               | Tall jointweed  | NL    | NL      | Y      |
| <i>Polygonum setaceum</i>                                 | Bog smartweed   | NL    | NL      | Y      |
| <i>Polystachya concreta</i>                               | Greater yellow spike orchid   | E     | NL      | Y      |
| <i>Ponthieva brittoniae</i>                               | Britton's shadowwitch   | E     | NL      | Y      |
| <i>Prescotia oligantha</i>                                | Small prescott orchid;<br>small flowered orchid                                       | E     | NL      | Y      |
| <i>Prosthechea boothiana</i> var.<br><i>Erythronoides</i> | Dollar orchid   | E     | NL      | Y      |
| <i>Prosthechea cochleata</i>                              | Clamshell orchid;<br>Florida cockleshell orchid                                       | E     | NL      | Y      |
| <i>Prunus myrtifolia</i>                                  | West Indian cherry  | T     | NL      | Y      |
| <i>Pseudophoenix sargentii</i> Seargants                  | cherry palm; buccaneer palm   | E     | NL      | Y      |
| <i>Psidium longipes</i>                                   | Mangrove berry  | T     | NL      | Y      |
| <i>Psychotria ligustrifolia</i>                           | Bahama wild coffee;<br>smooth wild coffee   | E     | NL      | Y      |
| <i>Pteris bahamensis</i>                                  | Bahama ladder brake   | T     | NL      | Y      |
| <i>Pteroglossaspis encristata</i> <i>ecristata</i>        | Giant orchid  | T     | NL      | Y      |
| <i>Remirea maritima</i>                                   | Beach star  | E     | NL      | Y      |

| Scientific Name   | Common Name                                      | State | Federal | County |
|---|--|-------|---------|--------|
| <i>Reynosia septentrionalis</i>                               | Darling plum                                     | T     | NL      | Y      |
| <i>Rhipsalis baccifera</i>                                    | Mistletoe cactus                                 | E     | NL      | Y      |
| <i>Rhynchosia parvifolia</i>                                  | Small leaf snoutbean                             | T     | NL      | Y      |
| <i>Rhynchosia swartzii</i>                                    | Swartz's snoutbean                               | E     | NL      | Y      |
| <i>Rhynchospora pusilla</i>                                   | Fairy beaksedge                                  | NL    | NL      | Y      |
| <i>Nasturtium floridanum</i>                                  | Florida watercress                               | NL    | NL      | Y      |
| <i>Roystonea regia</i>  | Florida royal palm                               | E     | NL      | Y      |
| <i>Sachsia polycephala</i>                                    | Bahama sachsia                                   | T     | NL      | Y      |
| <i>Sacoila lanceolata</i>                                     | Leafless beaked ladiestresses                    | T     | NL      | Y      |
| <i>Sacoila lanceolata</i> var. <i>paludicola</i>              | Leafy beaked ladiestresses                       | T     | NL      | Y      |
| <i>Salvia misella</i>   | Southern river sage; river sage                  | NL    | NL      | Y      |
| <i>Scaevola plumieri</i>                                      | Beachberry; inkberry; gullfeed                   | T     | NL      | Y      |
| <i>Schaefferia frutescens</i>                                 | Florida boxwood                                  | E     | NL      | Y      |
| <i>Schizaea pennulata</i>                                     | Ray fern   | E     | NL      | Y      |
| <i>Scleria ciliata</i> var. <i>curtissii</i>                  | Fringed nutrush                                  | NL    | NL      | Y      |
| <i>Scleria lithosperma</i>                                    | Florida Keys nutrush                             | E     | NL      | Y      |
| <i>Scutellaria havanensis</i>                                 | Havana scullcap                                  | E     | NL      | Y      |
| <i>Selaginella armata</i> var. <i>eatonii</i>                 | Eaton's spike-moss;<br>pygmy spike-moss          | E     | NL      | Y      |
| <i>Senna mexicana</i> var. <i>chapmanii</i>                   | Chapman's sensitive plant                        | T     | NL      | Y      |
| <i>Sericarpus tortifolius</i>                                 | White top aster                                  | NL    | NL      | Y      |
| <i>Smilax havanensis</i>                                      | Everglades greenbrier                            | T     | NL      | Y      |
| <i>Sideroxylon reclinatum</i> ssp.<br><i>Austrofloridense</i> | Everglades bully                                 | NL    | C       | Y      |
| <i>Solanum donianum</i>                                       | Mullein nightshade                               | T     | NL      | Y      |
| <i>Solanum chenopodioides</i>                                 | Black nightshade                                 | NL    | NL      | Y      |
| <i>Spermacoce terminalis</i>                                  | False buttonwood                                 | T     | NL      | Y      |
| <i>Spiranthes brevilabris</i>                                 | Texas or small ladiestresses                     | E     | NL      | Y      |
| <i>Spiranthes costaricensis</i>                               | Costa Rican ladiestresses                        | E     | NL      | Y      |
| <i>Spiranthes elata</i> Tall neottia;                         | tall ladiestresses                               | E     | NL      | Y      |
| <i>Spiranthes laciniata</i>                                   | Lace lip ladiestresses                           | T     | NL      | Y      |
| <i>Spiranthes longilabris</i>                                 | Long lip ladiestresses                           | T     | NL      | Y      |
| <i>Spiranthes lucayana</i>                                    | Gray ladiestresses                               | E     | NL      | Y      |
| <i>Spiranthes torta</i>                                       | Southern ladiestresses                           | E     | NL      | Y      |
| <i>Sporobolus compositus</i> var.<br><i>Clandestinus</i>      | Hidden dropseed                                  | NL    | NL      | Y      |
| <i>Stylosanthes calicicola</i>                                | Everglades Key pencilflower                      | E     | NL      | Y      |
| <i>Swietenia mahagoni</i>                                     | Mahogany   | T     | NL      | Y      |
| <i>Tectaria coriandrifolia</i>                                | Hairy halberd fern;<br>Hattie Bauer halberd fern | NL    | NL      | Y      |
| <i>Tectaria fibriata</i>                                      | Least halberd fern                               | E     | NL      | Y      |
| <i>Tectaria heracleifolia</i>                                 | Broad halberd fern                               | T     | NL      | Y      |
| <i>Tephrosia angustissima</i>                                 | Narrowleaf hoarypea                              | E     | NL      | Y      |
| <i>Tephrosia angustissima</i> var.<br><i>Corallicola</i>      | Coral hoarypea                                   | E     | NL      | Y      |
| <i>Tephrosia spicata</i>                                      | Spiked hoarypea                                  | NL    | NL      | Y      |
| <i>Tetrazygia bicolor</i>                                     | Florida clover ash                               | T     | NL      | Y      |
| <i>Thelypteris augescens</i>                                  | Abrupt tipped maiden fern                        | T     | NL      | Y      |
| <i>Thelypteris hispidula</i> var. <i>versicolor</i>           | Hairy maiden fern                                | NL    | NL      | Y      |
| <i>Thelypteris patens</i>                                     | Grid-scale maiden fern                           | E     | NL      | Y      |



| Scientific Name                                      | Common Name   | State | Federal | County |
|--|---|-------|---------|--------|
| <i>Thelypteris reptans</i>                           | Creeping star-hair fern                                   | E     | NL      | Y      |
| <i>Thelypteris reticulata</i>                        | Lattice vein fern   | E     | NL      | Y      |
| <i>Thelypteris sclerophylla</i>                      | Stiff star-hair fern                                      | E     | NL      | Y      |
| <i>Thelypteris serrata</i>                           | Toothed lattice-vein fern                                 | E     | NL      | Y      |
| <i>Thrinax morissii</i>                              | Brittle thatch palm;<br>Silver thatch palm                | E     | NL      | Y      |
| <i>Thrinax radiata</i>                               | Florida thatch palm                                       | E     | NL      | Y      |
| <i>Tillandsia balbisiiana</i>                        | Northern needleleaf                                       | T     | NL      | Y      |
| <i>Tillandsia fasciculata</i>                        | Cardinal airplant;<br>common wildpine                     | E     | NL      | Y      |
| <i>Tillandsia fasciculata</i> var. <i>clavispica</i> | Clubspike cardinal airplant                               | E     | NL      | Y      |
| <i>Tillandsia fasciculata</i> var. <i>densispica</i> | Mez stiff-leaved wild pine                                | E     | NL      | Y      |
| <i>Tillandsia flexuosa</i>                           | Twisted air plant   | T     | NL      | Y      |
| <i>Tillandsia utriculata</i>                         | Giant airplant; giant wild pine                           | E     | NL      | Y      |
| <i>Tillandsia variabilis</i>                         | Leatherleaf airplant                                      | T     | NL      | Y      |
| <i>Tournefortia hirsutissima</i>                     | Chiggery grapes   | E     | NL      | Y      |
| <i>Tragia saxicola</i>                               | Rockland noseburn   | T     | NL      | Y      |
| <i>Trema lamarckiana</i>                             | West Indian trema;<br>Lamarck's trema                     | E     | NL      | Y      |
| <i>Trichomanes krausii</i>                           | Kraus' bristle fern                                       | E     | NL      | Y      |
| <i>Trichomanes lineolatum</i>                        | Lined bristle fern  | E     | NL      | Y      |
| <i>Trichomanes punctatum</i> ssp. <i>Floridanum</i>  | Florida bristle fern                                      | E     | C       | Y      |
| <i>Tricocentrum undulata</i>                         | Mule-eared oncidium;<br>Cape Sable<br>dancing lady orchid | E     | NL      | Y      |
| <i>Tridens flavus</i>                                | Tall redtop; purple tridens                               | NL    | NL      | Y      |
| <i>Triplasis americana</i>                           | Perennial sandgrass                                       | NL    | NL      | Y      |
| <i>Tripsacum floridanum</i>                          | Florida gamagrass   | T     | NL      | Y      |
| <i>Tropidia polystachya</i>                          | Young palm orchid   | E     | NL      | Y      |
| <i>Utricularia juncea</i>                            | Southern bladderwort                                      | NL    | NL      | Y      |
| <i>Vallesia antillana</i>                            | Tearshrub   | E     | NL      | Y      |
| <i>Vanilla barbellata</i>                            | Worm-vine orchid  | E     | NL      | Y      |
| <i>Vanilla dilloniana</i>                            | Leafless vanilla;<br>Dillon's vanilla                     | E     | NL      | Y      |
| <i>Vanilla mexicana</i>                              | Mexican vanilla; unscented<br>vanilla; Fuch's vanilla     | E     | NL      | Y      |
| <i>Voyria parasitica</i>                             | Parasitic ghostplant                                      | E     | NL      | Y      |
| <i>Warea carteri</i>                                 | Carter's pinelandcress;<br>Carter's mustard               | E     | E       | Y      |
| <i>Zamia pumila</i>                                  | Florida arrowroot; coontie                                | CE    | NL      | Y      |
| <i>Zanthoxylum coriaceum</i>                         | Biscayne pricklyash;<br>leathery pricklyash               | E     | NL      | Y      |
| <i>Zaphranthes atamasca</i>                          | Atamasco lily   | T     | NL      | Y      |
| <i>Zornia bracteata</i>                              | Viperina  | NL    | NL      | Y      |

**Key:**

NL = Not Listed

### **1) Federal Listings:**

E = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species which is in danger of extinction throughout all or a significant portion of its range.

T = Listed as Threatened Species. Defined as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

C = Candidate Species for addition to the List of Endangered and Threatened Wildlife and Plants. Includes taxa for which: the US Fish and Wildlife Service (USFWS) currently has substantial information on hand to support the biological appropriateness of proposing to list the species as endangered or threatened; or the USFWS currently possesses information indicating that proposing to list the species as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat(s) are not currently available to support proposed rules at this time.

### **2) State Listings:**

E = Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the State that are in imminent danger of extinction within the State, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.

T = Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the State that are in rapid decline in the number of plants within the State, but which have not so decreased in such number as to cause them to be endangered.

CE = Listed as a Commercially Exploited Plant in the Preservation of Native Flora of Florida Act. Defined as species native to the State, which are subject to being removed in significant numbers from native habitats in the State and sold or transported for sale.

### **3) County Listings:**

Y = Miami-Dade County endangered, threatened, rare or special concern flora species as updated from previously adopted CDMP lists, due to low population numbers or limited/localized population; impacts resulting from habitat destruction or environmental contamination; or nesting destruction/disturbance/failures.

**Table from the Conservation, Aquifer Recharge and Drainage Element of the Miami-Dade Comprehensive Development Master Plan including amendments adopted up through November 18, 2015**

## Appendix 6-C. Invasive Pest Plant Species: Florida Exotic Pest Plant Council's 2017 List of Invasive Plant Species

**CATEGORY I:** Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.

| Scientific Name  | Common Name                  | Gov. List      | Zone    |
|--|------------------------------|----------------|---------|
| <i>Abrus precatorius</i>   | rosary pea                   | F              | C, S    |
| <i>Acacia auriculiformis</i>   | earleaf acacia               |                | C, S    |
| <i>Albizia julibrissin</i>   | mimosa, silk tree            |                | N, C    |
| <i>Albizia lebbek</i>  | woman's tongue               |                | C, S    |
| <i>Ardisia crenata</i>   | coral ardisia                | F              | N, C, S |
| <i>Ardisia elliptica</i> shoebutton  | ardisia                      | F              | C, S    |
| <i>Asparagus aethiopicus</i><br>( <i>A. sprengeri</i> , <i>A. densiflorus</i> )                      | asparagus-fern               |                | N, C, S |
| <i>Bauhinia variegata</i>  | orchid tree                  |                | C, S    |
| <i>Bischofia javanica</i>  | bishopwood                   |                | C, S    |
| <i>Calophyllum antillanum</i><br>( <i>C. calaba</i> )  | Santa Maria, mast wood       |                | S       |
| <i>Casuarina equisetifolia</i>   | Australian-pine              | F              | N, C, S |
| <i>Casuarina glauca</i> suckering  | Australian-pine              | F              | C, S    |
| <i>Cinnamomum camphora</i>   | camphor tree                 |                | N, C, S |
| <i>Colocasia esculenta</i>   | wild taro                    |                | N, C, S |
| <i>Colubrina asiatica</i>  | lather leaf                  | F              | S       |
| <i>Cupaniopsis anacardioides</i>   | carrotwood                   | F              | C, S    |
| <i>Deparia petersenii</i>  | Japanese false spleenwort    |                | N, C    |
| <i>Dioscorea alata</i>   | winged yam                   | F              | N, C, S |
| <i>Dioscorea bulbifera</i>   | air-potato                   | F              | N, C, S |
| <i>Eichhornia crassipes</i>  | water-hyacinth               | F              | N, C, S |
| <i>Eugenia uniflora</i>  | Surinam cherry               |                | C, S    |
| <i>Ficus microcarpa</i><br>( <i>F. nitida</i> and <i>F. retusa</i> var. <i>nitida</i> ) <sup>1</sup> | laurel fig                   |                | C, S    |
| <i>Hydrilla verticillata</i>   | hydrilla                     | F, U           | N, C, S |
| <i>Hygrophila polysperma</i>   | green hygro                  | F, U           | N, C, S |
| <i>Hymenachne amplexicaulis</i>  | West Indian marsh grass      |                | N, C, S |
| <i>Imperata cylindrica</i>   | cogon grass                  | F, U           | N, C, S |
| <i>Ipomoea aquatica</i>  | water-spinach                | F, U           | C       |
| <i>Jasminum dichotomum</i>   | Gold Coast jasmine           |                | C, S    |
| <i>Jasminum fluminense</i>   | Brazilian jasmine            |                | C, S    |
| <i>Lantana camara</i><br>( <i>L. strigocamara</i> )  | lantana, shrub verbena       |                | N, C, S |
| <i>Ligustrum lucidum</i>   | glossy privet                |                | N, C    |
| <i>Ligustrum sinense</i>   | Chinese privet               | F <sup>3</sup> | N, C, S |
| <i>Lonicera japonica</i>   | Japanese honeysuckle         |                | N, C, S |
| <i>Ludwigia hexapetala</i>   | Uruguay waterprimrose        |                | N, C    |
| <i>Ludwigia peruviana</i>  | Peruvian primrosewillow      |                | N, C, S |
| <i>Lumnitzera racemosa</i>   | black mangrove               |                | S       |
| <i>Luziola subintegra</i>  | tropical American watergrass |                | S       |

| Scientific Name   | Common Name                             | Gov. List | Zone    |
|---|---|-----------|---------|
| <i>Lygodium japonicum</i>   | Japanese climbing fern                  | F         | N, C, S |
| <i>Lygodium microphyllum</i>  | Old World climbing fern                 | F,U       | N, C, S |
| <i>Macfadyena unguis-cati</i><br>( <i>Dolichandra unguis-cati</i> )             | catclawvine                             |           | N, C, S |
| <i>Manilkara zapota</i>   | sapodilla                               |           | S       |
| <i>Melaleuca quinquenervia</i>  | melaleuca, paper bark                   | F,U       | C, S    |
| <i>Melinis repens</i><br>( <i>Rhynchelytrum repens</i> )                        | Natal grass                             |           | N, C, S |
| <i>Microstegium vimineum</i> *  | Japanese stiltgrass,                    |           | N       |
| <i>Mimosa pigra</i> catclaw   | mimosa                                  | F,U       | C, S    |
| <i>Nandina domestica</i> nandina,   | heavenly bamboo                         |           | N, C    |
| <i>Nephrolepis brownii</i><br>( <i>N. multiflora</i> )                          | Asian sword fern                        |           | C, S    |
| <i>Nephrolepis cordifolia</i>   | sword fern                              |           | N, C, S |
| <i>Neyraudia reynaudiana</i>  | Burma reed                              | F         | S       |
| <i>Nymphoides cristata</i>  | crested floating heart                  | F         | C, S    |
| <i>Paederia cruddasiana</i>   | sewer vine                              | F         | S       |
| <i>Paederia foetida</i>   | skunk vine                              | F         | N, C, S |
| <i>Panicum repens</i>   | torpedo grass                           |           | N, C, S |
| <i>Pennisetum purpureum</i>   | Napier grass, elephant grass            |           | N, C, S |
| <i>Phymatosorus scolopendria</i><br>( <i>Microsorium grossum</i> )              | serpent fern, wart fern                 |           | S       |
| <i>Pistia stratiotes</i>  | water-lettuce                           | F         | N, C, S |
| <i>Psidium cattleianum</i><br>( <i>P. littorale</i> )                           | strawberry guava                        |           | C, S    |
| <i>Psidium guajava</i>  | guava                                   |           | C, S    |
| <i>Pueraria montana</i> var. <i>lobata</i>                                      | kudzu                                   | F         | N, C, S |
| <i>Rhodomyrtus tomentosa</i>  | downy rose-myrtle                       |           | C, S    |
| <i>Ruellia simplex</i> <sup>2</sup>   | Mexican-petunia                         |           | N, C, S |
| <i>Salvinia minima</i>  | water spangles                          |           | N, C, S |
| <i>Sapium sebiferum</i><br>( <i>Triadica sebifera</i> )                         | popcorn tree,<br>Chinese tallow tree    |           | N, C, S |
| <i>Scaevola taccada</i><br>( <i>S. sericea</i> , <i>S. frutescens</i> )         | half-flower, beach naupaka              |           | N, C, S |
| <i>Schefflera actinophylla</i><br>( <i>Brassaia actinophylla</i> )              | schefflera, Queensland<br>umbrella tree |           | C, S    |
| <i>Schinus terebinthifolius</i>   | Brazilian-pepper                        | F         | N, C, S |
| <i>Scleria lacustris</i>  | Wright's nutrush                        |           | C, S    |
| <i>Senna pendula</i> var. <i>glabrata</i><br>Christmas senna                    | Christmas cassia,                       |           | C, S    |
| <i>Solanum tampicense</i>   | wetland nightshade                      | F,U       | C, S    |
| <i>Solanum viarum</i>   | tropical soda apple                     | F,U       | N, C, S |
| <i>Sporobolus jacquemontii</i><br>( <i>S. indicus</i> var. <i>pyramidalis</i> ) | West Indian dropseed                    |           | C, S    |
| <i>Syngonium podophyllum</i>  | arrowhead vine                          |           | N, C, S |
| <i>Syzygium cumini</i>  | Java-plum                               |           | C, S    |
| <i>Tectaria incisa</i>  | incised halberd fern                    |           | S       |

| Scientific Name  | Common Name           | Gov. List | Zone    |
|--|-----------------------|-----------|---------|
| <i>Thelypteris opulenta</i> *                          | jeweled maiden fern   |           | S       |
| <i>Thespesia populnea</i>                              | seaside mahoe         |           | C, S    |
| <i>Tradescantia fluminensis</i>                        | small-leaf spiderwort |           | N, C    |
| <i>Urena lobata</i>                                    | Caesar's weed         |           | N, C, S |
| <i>Urochloa mutica</i><br>( <i>Brachiaria mutica</i> ) | para grass            |           | N, C, S |
| <i>Vitex rotundifolia</i>                              | beach vitex           |           | N       |

**CATEGORY II:** Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. These species may become ranked Category I if ecological damage is demonstrated.

| Scientific Name  | Common Name                               | Gov. List | Zone    |
|--|---|-----------|---------|
| <i>Adenantha pavonina</i>                                      | red sandalwood                            |           | S       |
| <i>Agave sisalana</i>  | sisal hemp                                |           | C, S    |
| <i>Aleurites fordii</i><br>( <i>Vernicia fordii</i> )          | tung-oil tree                             |           | N, C    |
| <i>Alstonia macrophylla</i>                                    | devil tree                                |           | S       |
| <i>Alternanthera philoxeroides</i>                             | alligator-weed                            | F         | N, C, S |
| <i>Antigonon leptopus</i>                                      | coral vine                                |           | N, C, S |
| <i>Ardisia japonica</i>  | Japanese ardisia                          |           | N       |
| <i>Aristolochia littoralis</i><br>( <i>A. elegans</i> )        | elegant Dutchman's pipe,<br>calico flower |           | N, C, S |
| <i>Asystasia gangetica</i>                                     | Ganges primrose                           |           | C, S    |
| <i>Begonia cucullata</i>                                       | wax begonia                               |           | N, C, S |
| <i>Broussonetia papyrifera</i>                                 | paper mulberry                            |           | N, C, S |
| <i>Bruguiera gymnorhiza</i>                                    | large-leaved mangrove                     |           | S       |
| <i>Callistemon viminalis</i><br>( <i>Melaleuca viminalis</i> ) | bottlebrush                               |           | C, S    |
| <i>Callisia fragrans</i>                                       | inch plant, spironema                     |           | C, S    |
| <i>Casuarina cunninghamiana</i>                                | Australian-pine                           | F         | C, S    |
| <i>Cecropia palmata</i>  | trumpet tree                              |           | S       |
| <i>Cestrum diurnum</i>   | day jessamine                             |           | C, S    |
| <i>Chamaedorea seifrizii</i>                                   | bamboo palm                               |           | S       |
| <i>Clematis terniflora</i>                                     | Japanese clematis                         |           | N, C    |
| <i>Cocos nucifera</i>  | coconut palm                              |           | S       |
| <i>Crassocephalum crepidioides</i>                             | redflower ragleaf,<br>Okinawa spinach     |           | C, S    |
| <i>Cryptostegia madagascariensis</i>                           | rubber vine                               |           | C, S    |
| <i>Cyperus involucratus</i><br>( <i>C. alternifolius</i> )     | umbrella plant                            |           | C, S    |
| <i>Cyperus proliifer</i>                                       | dwarf papyrus                             |           | C, S    |
| <i>Dactyloctenium aegyptium</i>                                | Durban crowfoot grass                     |           | N, C, S |
| <i>Dalbergia sissoo</i>  | Indian rosewood, sissoo                   |           | C, S    |
| <i>Elaeagnus pungens</i> silverthorn,                          | thorny olive                              |           | N, C    |

| Scientific Name  | Common Name                                  | Gov. List | Zone    |
|--|--|-----------|---------|
| <i>Elaeagnus umbellata</i>   | silverberry, autumn olive                    |           | N       |
| <i>Epipremnum pinnatum</i><br>cv. <i>Aureum</i>                        | pothos                                       |           | C, S    |
| <i>Eulophia graminea</i>   | Chinese crown orchid                         |           | C, S    |
| <i>Ficus altissima</i>   | false banyan, council tree                   |           | S       |
| <i>Flacourtia indica</i>   | governor's plum                              |           | S       |
| <i>Hemarthria altissima</i>  | limpo grass                                  |           | C, S    |
| <i>Heteropterys brachiata</i>  | red wing, Beechey's withe                    |           | S       |
| <i>Hyparrhenia rufa</i>  | jaragua                                      |           | N, C, S |
| <i>Ipomoea carnea</i> ssp. <i>fistulosa</i><br>( <i>I. fistulosa</i> ) | shrub morning-glory                          | F         | C, S    |
| <i>Kalanchoe x houghtonii</i> *  | mother-of-millions                           |           | N, C, S |
| <i>Kalanchoe pinnata</i><br>( <i>Bryophyllum pinnatum</i> )            | life plant                                   |           | C, S    |
| <i>Koelreuteria elegans</i>  | flamegold tree                               |           | C, S    |
| <i>Landoltia punctata</i>  | spotted duckweed                             |           | N, C, S |
| <i>Leucaena leucocephala</i>   | lead tree                                    | F         | N, C, S |
| <i>Limnophila sessiliflora</i>   | Asian marshweed                              | F,U       | N, C, S |
| <i>Livistona chinensis</i>   | Chinese fan palm                             |           | C, S    |
| <i>Macroptilium lathyroides</i>  | phasey bean                                  |           | N, C, S |
| <i>Melia azedarach</i>   | Chinaberry                                   |           | N, C, S |
| <i>Melinis minutiflora</i>   | molasses grass                               |           | C, S    |
| <i>Merremia tuberosa</i>   | wood-rose                                    |           | C, S    |
| <i>Mikania micrantha</i>   | mile-a-minute vine                           | F,U       | S       |
| <i>Momordica charantia</i>   | balsam apple                                 |           | N, C, S |
| <i>Murraya paniculata</i>  | orange-jessamine                             |           | S       |
| <i>Myriophyllum spicatum</i>   | Eurasian water-milfoil                       | F         | N, C, S |
| <i>Panicum maximum</i><br>( <i>Urochloa maxima</i> )                   | Guinea grass                                 |           | N, C, S |
| <i>Passiflora biflora</i>  | two-flowered passion vine                    |           | S       |
| <i>Pennisetum setaceum</i>   | green fountain grass                         |           | S       |
| <i>Pennisetum polystachion</i> *<br>( <i>Cenchrus polystachos</i> )    | mission grass,<br>West Indian Pennisetum     |           | C, S    |
| <i>Phoenix reclinata</i>   | Senegal date palm                            |           | C, S    |
| <i>Phyllostachys aurea</i>   | golden bamboo                                |           | N, C    |
| <i>Pittosporum pentandrum</i>  | Taiwanese cheesewood                         |           | S       |
| <i>Platycerium bifurcatum</i> *  | common staghorn fern                         |           | S       |
| <i>Praxelis clematidea</i>   | praxelis                                     |           | C       |
| <i>Pteris vittata</i>  | Chinese brake fern                           |           | N, C, S |
| <i>Ptychosperma elegans</i>  | solitaire palm                               | S         |         |
| <i>Richardia grandiflora</i>   | large flower Mexican clover                  |           | N, C, S |
| <i>Ricinus communis</i>  | castor bean                                  |           | N, C, S |
| <i>Rotala rotundifolia</i>   | roundleaf toothcup,<br>dwarf Rotala, redweed |           | S       |
| <i>Ruellia blechum</i><br>( <i>Blechnum brownei</i> )                  | green shrimp plant<br>Browne's blechnum      |           | N, C, S |

| Scientific Name   | Common Name              | Gov. List | Zone    |
|---|--------------------------|-----------|---------|
| <i>Sansevieria hyacinthoides</i>  | bowstring hemp           |           | C, S    |
| <i>Sesbania punicea</i>   | rattlebox                |           | N, C, S |
| <i>Sida planicaulis</i> *   | mata-pasto               |           | C, S    |
| <i>Solanum diphyllum</i>  | two-leaf nightshade      |           | N, C, S |
| <i>Solanum torvum</i>   | turkeyberry              | F,U       | N, C, S |
| <i>Spermacoce verticillata</i>  | shrubby false buttonweed |           | C, S    |
| <i>Sphagneticola trilobata</i> wedelia<br>( <i>Wedelia trilobata</i> )              | creeping oxeye           |           | N, C, S |
| <i>Stachytarpheta cayennensis</i><br>( <i>S. urticifolia</i> )                      | nettle-leaf porterweed   |           | S       |
| <i>Syagrus romanzoffiana</i><br>( <i>Arecastrum romanzoffianum</i> )                | queen palm               |           | C, S    |
| <i>Syzygium jambos</i>  | Malabar plum, rose-apple |           | N, C, S |
| <i>Talipariti tiliaceum</i> mahoe,<br>( <i>Hibiscus tiliaceus</i> )                 | sea hibiscus             |           | C, S    |
| <i>Terminalia catappa</i>   | tropical-almond          |           | C, S    |
| <i>Terminalia muelleri</i>  | Australian-almond        |           | C, S    |
| <i>Tradescantia spathacea</i><br>( <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i> ) | oyster plant             |           | C, S    |
| <i>Tribulus cistoides</i>   | puncture vine, burr-nut  |           | N, C, S |
| <i>Vitex trifolia</i>   | simple-leaf chaste tree  |           | C, S    |
| <i>Washingtonia robusta</i>   | Washington fan palm      |           | C, S    |
| <i>Wisteria sinensis</i>  | Chinese wisteria         |           | N, C    |
| <i>Xanthosoma sagittifolium</i>   | malanga, elephant ear    |           | N, C, S |

**Government List (Gov. List):** Possession, propagation, sale, and/or transport of these plants is regulated by: F=Florida Department of Agriculture and Consumer Services;  
U=United States Department of Agriculture

**Zone:** refers to each species' general distribution in regions of Florida (not its potential range in the state).  
N = north  
C = central,  
S = south

<sup>1</sup> Does not include *Ficus microcarpa* subsp. *fuyuensis*, which is sold as "Green Island Ficus"

<sup>2</sup> Many names are applied to this species in Florida because of a complicated taxonomic and nomenclatural history. Plants cultivated in Florida, all representing the same invasive species, have in the past been referred to as *Ruellia brittoniana*, *R. tweediana*, *R. caerulea*, and *R. simplex*.

<sup>3</sup> Chinese privet is a FLDACS Noxious Weed except for the cultivar 'Variegatum'

\* Added to the FLEPPC List of Invasive Plant Species in 2017

\*\* Plant names are those published in "Guide to Vascular Plants of Florida Third Edition." Richard P. Wunderlin and Bruce F. Hansen, University of Florida Press, 2011. Plant names in parentheses are synonyms or misapplied names that have commonly occurred in the literature or indicate a recent name change. Not all synonyms are listed.

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## RECREATION AND OPEN SPACE ELEMENT

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### DATA INVENTORY AND ANALYSIS

#### PURPOSE

The purpose of the Recreation and Open Space Element as set forth in Section 163.3177(6)(e), Florida Statutes (F.S.), is to plan for a comprehensive system of public and private sites for recreation, including, but not limited to, natural reservations, parks and playgrounds, parkways, beaches and public access to beaches, open spaces, waterways, and other recreational facilities. ~~Although Section 163.3177, F.S., lists the Recreation and Open Space Element as a required element within comprehensive plans, the data and analysis requirements have been deleted from Chapter 9J-5, Florida Administrative Code.~~

An assessment of current and projected levels of service and recreation needs provides a basis for standards defining the level of services desired by the Town. Statements of a goal, objectives, and policies for guiding the Town's implementation actions conclude the element. These statements provide direction for the municipal recreation programs and maintenance of parks, open space, and recreation facilities to assure that the needs of Surfside residents will be met in the future.

#### EXISTING FACILITIES

As shown in Map 7-1, the Town is served by ~~five~~ four Town-owned recreation facilities. These include (1) Hawthorne Park Tot Lot on Hawthorne Avenue and 90<sup>th</sup> Street, (2) Veterans Park/Surfside Tennis Center on 87<sup>th</sup> Terrace between Collins and Harding Avenues, (3) 96<sup>th</sup> Street Park on Bay Drive and 96<sup>th</sup> Street, ~~and~~ (4) the Surfside Community Center on the ocean at 93<sup>rd</sup> Street, ~~and~~ (5) Paws Up Dog Park on 93<sup>rd</sup> Street and Byron Avenue. A description of these facilities is provided below.

*Hawthorne Park Tot Lot:* This facility serves as a neighborhood tot lot. In addition, the park has one playground, ~~three~~ two picnic tables, and ~~four~~ two benches.

*Veterans Park/Surfside Tennis Center:* This park includes three tennis courts (with six court lights), six benches, Veterans memorial, three flag poles, an office, a restroom, and a WWII cannon.

*96<sup>th</sup> Street Park:* Facilities provided at this site include a ball field (with six field lights), two basketball courts, two raquetball courts, a tot lot, a playground, restrooms, six benches, an office, and an irrigation system. The 5-Year Parks Improvement Plan is proposing improvements to 96<sup>th</sup> Street Park over the next several years. Through a grant, the Town is slated to purchase the home immediately south of the park. In addition to a swimming pool, this acquisition may also provide for the addition of a boat launch for kayaks and other non motorized boats. The property may ultimately serve as a possible nature center or Surfside historic museum.

*Surfside Community Center:* In 1962, the Town of Surfside built a community center on the ocean at 93<sup>rd</sup> Street. In 2008, that building was demolished due to building and safety concerns. The current Community Center was completed in 2011 and houses the Aquatic Facility which includes a recreation pool with lap lanes, plunge pool and slide, children's activity pool, and a jacuzzi pool. Additional amenities include two multipurpose rooms which can host a variety of activities and programs for all



~~ages. The Community Center also includes locker room facilities, restrooms, administrative offices, an outdoor green area, and a snack bar and grill. In 1962, Surfside built the Community Center, on the ocean at 93<sup>rd</sup> Street. For years this unique multi purpose facility housed the Surf Bal Bay Library, the Tourist Bureau and Recreation Department, an Olympic size swimming pool, a toddlers' pool, public beach access, a snack bar, meeting rooms and an auditorium for shows, special events and receptions. In 2008 due to growing safety concerns regarding a number of elements of the structure, the complex was demolished. The Town is currently evaluating financing for the new Community Center, which will be built on the same site, along with an additional parcel just south of the former complex. In the interim, the site will continue to offer limited recreational opportunities.~~

*Paws Up Dog Park: This facility is a fenced in area for residents' pets to enjoy active play time. Several benches are also included.*

*Other Recreation Facilities:* In addition to these facilities, other public recreation and open space lands in Surfside include the State-owned beachfront which comprises approximately 38 acres and stretches for just over a mile along the Atlantic Ocean, a community garden at 89<sup>th</sup> Street and Dickens Avenue, and several existing street ends and associated rights-of-way allowing for beach access. Private recreation facilities include the Surf Club on Collins Avenue between 90<sup>th</sup> and 92<sup>nd</sup> Streets, and beachfront property west of the erosion control line, paralleling the State owned beach. Moreover, additional public recreational opportunities can be found within a three mile radius of the Town including Haulover Beach Park and Oleta River State Park.

## ANALYSIS OF THE NEED FOR FACILITIES

The Surfside Parks and Recreation Department operates a number of Town facilities and a wide range of community programs. Facilities include the aforementioned Hawthorne Park Tot Lot, 96<sup>th</sup> Street Park, Veterans Park/Surfside Tennis Center, Paws Up Dog Park, ~~temporary Modular Community Center with Aquatic facilities~~, as well as the Administrative Offices and 93<sup>rd</sup> Street Beach Lifeguard Stand. The Parks and Recreation Department sponsors adult education classes, holiday celebrations, youth programs and sports, and special events designed to provide entertainment, education, and recreation for all Town residents and visitors.

The Town, recognizes that parks and recreation are vital components of the overall community. Following is an acreage inventory of Surfside's public recreation facilities.

**Table 7-1  
Parks and Recreation Inventory**

| <b>FACILITY</b>                      | <b>ACREAGE</b>                       |
|--------------------------------------|--------------------------------------|
| Hawthorne Park Tot Lot               | 0.22                                 |
| Veterans Park/Surfside Tennis Center | <u>0.99</u> <del>0.75</del>          |
| 96 <sup>th</sup> Street Park         | <u>0.99</u> <del>0.92</del>          |
| Surfside Community Center            | <u>1.27</u> <del>1.26</del>          |
| <u>Paws Up Dog Park</u>              | <u>0.10</u>                          |
| public beach                         | <u>34.76</u> <del>38.17</del>        |
| pocket parks and r-o-w dead ends     | <u>1.44</u> <del>0.45</del>          |
| <b>TOTAL:</b>                        | <b><u>39.77</u> <del>41.77</del></b> |

Source: Calvin, Giordano & Associates, Inc. 2017 ~~2009~~

While the public beach does not generally offer Parks and Recreation Department programming, this acreage will be included for the level of service (LOS) analysis because it is an integral part of the Town. Using the 39.77 ~~41.77~~ acres of public recreation, along with ~~the Miami Dade Planning and Zoning's~~

population projections, Surfside's LOS for recreation can be projected through 2035 ~~2030~~. The LOS standard for publicly-owned recreation lands in Surfside is six (6) acres per one thousand (1,000) permanent population. As the following table shows, this standard will be met through 2035 ~~2030~~.

**Table 7-2  
Projected Park LOS**

| <u>Year</u> | <u>Population<br/>(Projected)</u> | <u>LOS Standard</u> | <u>Acres Needed</u> | <u>Town Park<br/>Acreage</u> | <u>Surplus<br/>Acreage</u> |
|-------------|-----------------------------------|---------------------|---------------------|------------------------------|----------------------------|
| <u>2010</u> | <u>5,744*</u>                     | <u>6.0/1,000</u>    | <u>34.46</u>        | <u>39.77</u>                 | <u>5.31</u>                |
| <u>2015</u> | <u>5,705**</u>                    | <u>6.0/1,000</u>    | <u>34.23</u>        | <u>39.77</u>                 | <u>5.54</u>                |
| <u>2020</u> | <u>5,952**</u>                    | <u>6.0/1,000</u>    | <u>35.71</u>        | <u>39.77</u>                 | <u>4.06</u>                |
| <u>2025</u> | <u>6,181**</u>                    | <u>6.0/1,000</u>    | <u>37.08</u>        | <u>39.77</u>                 | <u>2.69</u>                |
| <u>2030</u> | <u>6,398**</u>                    | <u>6.0/1,000</u>    | <u>38.39</u>        | <u>39.77</u>                 | <u>1.38</u>                |
| <u>2035</u> | <u>6,556**</u>                    | <u>6.0/1,000</u>    | <u>39.34</u>        | <u>39.77</u>                 | <u>0.43</u>                |

Sources: \* 2010 U.S. Census; \*\* Florida Housing Data Clearinghouse (FHDC), 2016

| <u>Year</u>                         | <u>2007</u> | <u>2010</u> | <u>2014<br/>(short term planning<br/>timeframe)</u> | <u>2015</u> | <u>2020</u> | <u>2025</u> | <u>2030<br/>(long term planning<br/>timeframe)</u> |
|-------------------------------------|-------------|-------------|---|-------------|-------------|-------------|--|
| Projected population                | 5,159       | 5,280       | 5,442   | 5,483       | 5,680       | 5,680       | 5,680  |
| Total park acreage                  | 41.8        | 41.8        | 41.8  | 41.8        | 41.8        | 41.8        | 41.8   |
| Park acreage needed to maintain LOS | 31.0        | 31.7        | 32.7  | 32.9        | 34.1        | 34.1        | 34.1   |
| Surplus/deficit acreage             | +10.8       | +10.1       | +9.1  | +8.9        | +7.7        | +7.7        | +7.7   |

Source: Calvin, Giordano & Associates, Inc. 2009

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## Recreation and Open Space Element Goals, Objectives and Policies

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**Goal 1: Provide adequate recreation and open space facilities to serve the Town's residents.**

**Objective 1 – Access to recreation sites:** In general, ensure public access to identified recreation sites by creating a pedestrian and bicycle network that links the Town's parks, recreational, and natural amenities into an "emerald necklace." This objective shall be measured by implementing its supporting policies.

Policy 1.1 – The Town shall give priority to maintaining and upgrading existing public access sites, but it shall acquire new sites when resources are available. Priority shall be given to sites which offer the potential for: 1) creating natural area greenways consisting of environmentally sensitive lands or lands in which plant species characteristic of and/or compatible with environmentally sensitive lands predominate or can be cultivated; and 2) removing invasive or otherwise undesirable plant species including those listed in Conservation Element Policy 4.2.

Policy 1.2 – All beach access facilities shall be accessible from public roads. The Town shall map all road rights-of-way that dead-end at the Atlantic beach and shall provide benches, picnic tables or other improvements at these sites to create "pocket parks."

Policy 1.3 – The Town shall continue to support the existing and explore the feasibility of enhancing each of the street-ends east of Collins Avenue to create "pocket parks" where appropriate.

Policy 1.4 – The Town shall provide barrier-free access for the handicapped to all public recreation facilities.

Policy 1.5 – The Town shall continue to support ~~By December 2010,~~ bicycle parking facilities ~~shall be provided~~ at strategic beach access points and at public parks.

**Objective 2 – Public-private coordination:** In general, coordinate public and private resources to meet recreation demand. This objective shall be measured by implementing its supporting policies.

Policy 2.1 – The Town of Surfside shall work with public agencies, such as Miami-Dade County Department of Environmental Resources Management, the Army Corps of Engineers, the Florida Department of Environmental Protection and private sector organizations and corporations, through the zoning process, to enhance and improve existing recreation/open space facilities in the Town.

~~Policy 2.2 – The Town shall explore the financial feasibility of a Beachwalk Master Plan, including the associated sustainable landscaping~~

~~Policy 2.3 – By December 2010, the Town shall consider and evaluate the establishment of a cooperative interlocal agreement with Indian Creek Village to convert the empty lot at the 91<sup>st</sup> Street bridge into a park for general use by both communities, providing additional recreational opportunities along the bay.~~

**Objective 3 – Adequate and efficient provision of public recreation facilities and open space:** In general, ensure that parks and recreation facilities are adequately and efficiently provided. In particular, maintain a system of public park and recreation lands which provides at least 6.0 acres per 1,000 people permanent population together with an appropriate range of facilities. This standard is based on existing resources and the anticipated population.

Policy 3.1 – The Town shall reserve for recreation use all of the Town-owned land designated for recreation on the Future Land Use Map, including the following specific facilities: 1) Hawthorne Park Tot Lot, 2) Veterans Park/Surfside Tennis Center, 3) 96<sup>th</sup> Street Park, and 4) Surfside Community Center, and 5) Paws Up Dog Park. These facilities shall remain as public recreation facilities unless comparable facilities are provided to replace them.

Policy 3.2 – The Town shall continue to seek State and Federal grant funds for Town park enhancements.

Policy 3.3 – The Town shall give priority to upgrading existing public recreation lands, but it shall acquire new sites when resources are available.

Policy 3.4 – For public recreational sites, a minimum level of service standard shall be set at six (6) acres per one thousand (1,000) permanent population.

Policy 3.5- The Town shall continue to ensure high quality and safe recreational facilities for Town residents.

~~Policy 3.6 – The Town shall continue to implement the current 5-Year Parks Improvement Plan. By December 2011 the Town shall consider the financial feasibility of a “Park Enhancement Study” to evaluate the development of under utilized park land and Town owned land including street end parks, as identified in the November 2006 Charrette.~~

**Objective 4 – Provision of private open space:** Assure the provision of open space by private enterprise. This objective shall be measured by implementing its supporting policy.

Policy 4.1 – The Town shall maintain and improve land development code standards and incentives to achieve open space and landscaping requirements. Open space and landscaping requirements shall specify above average quantities of plant and other landscaping material and extensive use of xeriscape plant materials and design techniques for non-residential uses. Landscaping regulations shall include, but not necessarily be limited to, establishing a minimum number of trees based on lot size and/or lot frontage, establishing minimum requirements for other plant material, and establishing irrigation restrictions which minimize water loss due to evaporation. Regulations shall address site perimeters, parking lots and residential buffers.

**Objective 5 – Provision of open space:** Assure the provision and preservation of open space to aid in community resiliency to climate change. This objective shall be measured by implementing its supporting policy.

Policy 5.1 – The Town shall maintain and improve land development code standards and incentives to achieve and maintain open space. Regulations shall address site perimeters, parking lots and buffers related to open space.








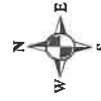
# Surfside Comprehensive Plan

Map: REC 1

Town Parks and Recreation Facilities

## Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Public Beach
-  Municipal Parks
-  Water



Print: 6-7-2017

Source: Miami Dade GIS Services



Produced and maintained by the CMA Geographic Information Systems Section



Atlantic Ocean

Village of Bal Harbour

Town of Bay Harbor Islands

Indian Creek Village

City of Miami Beach

96th Street Park/  
Surfside Park

Paws Up  
Dog Park

Surfside  
Community  
Center

Veterans Park &  
Tennis Center

Hawthorne  
Tot Lot

97TH ST  
95TH ST  
94TH ST  
93RD ST  
91ST ST

HARDING AVE  
COLLINS AVE  
ABBOTT AVE  
CARLYLE AVE  
DICKENS AVE  
EMERSON AVE  
GARLAND AVE  
HAWTHORNE AVE

93RD ST  
92ND ST  
90TH ST  
89TH ST  
88TH ST

SURFSIDE BLVD

W DR

INDIAN CREEK DR

BAY DR

BAY DR

FROUDE AVE

BAY DR

BAY DR

BAY DR

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## INTERGOVERNMENTAL COORDINATION ELEMENT

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### DATA INVENTORY AND ANALYSIS

#### PURPOSE

The purpose of the Intergovernmental Coordination element is to identify and resolve incompatibilities between Surfside's comprehensive planning processes and those of other governmental entities with interests in or related to the Town's area of concern. The areas of concern for Surfside include adjacent municipalities, Miami-Dade County, Miami-Dade County Public Schools Board, the South Florida Water Management District, South Florida Regional Planning Council, state government, federal government, and utility companies.

Specific coordination needs within each of the elements of the Surfside comprehensive plan that would benefit from improved or additional intergovernmental coordination and mechanisms for satisfying these needs are also identified, as appropriate.

#### EXISTING DATA AND CONDITIONS

Surfside currently has either formal or informal coordination agreements, or interacts through standard operating procedures under statutory authority, with the following agencies or jurisdictions:

##### **Municipal Government**

Bal Harbour Village  
Town of Bay Harbor Islands  
Indian Creek Village  
City of Miami Beach  
Miami Shores Village  
Various other Municipalities

##### **Miami-Dade County Departments**

Biscayne Bay Shoreline Development Review Committee  
Fire Rescue Department (FRD)  
Office of Emergency Management (EM)  
Miami Dade Property Appraiser (MDPA)  
Parks, Recreation and Open Spaces Department (PROSD)  
Police Department (PD)  
Public Housing and Community Development (PHCD)  
Regulatory and Economic Resources Department (RERD)  
Environmental Resource Management Division (DERM)  
Planning Division (Plan)  
Office of Historic Preservation (HP)  
Solid Waste Management Department (SWMD)  
Transportation and Public Works Department (TPWD)  
Miami Dade Transit (MDT)  
Transportation Planning Organization (TPO)  
Water and Sewer Department (WASD)

~~Department of Emergency Management (DEM) and Homeland Security (HS)~~  
~~Department of Environmental Resources Management (DERM)~~  
~~Fire Department~~  
~~Housing Agency (MDHA)~~  
~~Metropolitan Planning Organization (MPO)~~  
~~Miami Dade Transit (MDT)~~  
~~Parks and Recreation Department~~  
~~Property Appraiser~~  
~~Public Works~~  
~~Solid Waste Management~~  
~~Water and Sewer Department (WASD)~~

**Schools**

Miami-Dade County Public Schools

**Other**

Miami-Dade League of Cities

**Florida Departments and Agencies**

~~Community Affairs, Division of Emergency Management~~  
Department of Business and Professional Regulation  
Department of Children and Family Services  
Department of Economic Opportunity  
Department of Environmental Protection (DEP)  
Department of Transportation  
Division of Historic Resources  
Fish and Wildlife Conservation Commission  
South Florida Regional Planning Council  
South Florida Water Management District

**United States Departments and Agencies**

Army Corps of Engineers  
Commerce, Census Bureau  
Environmental Protection Agency  
Federal Emergency Management Agency  
U.S. Fish and Wildlife Service  
U.S. Postal Service  
Transportation

**Regulated Utilities**

AT&T  
Comcast  
Florida Power & Light

**EVALUATION OF EXISTING COORDINATION MECHANISMS**

For each agency listed above, Table 8-1 briefly describes the existing coordination mechanisms indicating the subject, nature of the relationship and the office with primary responsibility for coordination.

## **JOINT PLANNING AREAS**

### **Comparison with Regional Policy Plan**

The Strategic Regional Policy Plan for South Florida (2004) has been reviewed and considered during the process of writing this Comprehensive Plan. The Comprehensive Plan conforms to the Regional Policy Plan.

### **Specific Coordination Issues in Each Element**

Following is a summary the interagency coordination needs associated with each element of this Comprehensive Plan.

#### **Future Land Use**

Within this element interagency coordination includes communicating development projections with the Miami-Dade Department of Emergency Management (DEM) and Homeland Security (HS) in order to assist in their hurricane evacuation planning. Further, the Town requires development along the bulkheads to be in accordance with State and County regulations. In particular the Town continues to work with the Florida Department of Environmental Protection and Miami-Dade Department of Environmental Resource Management (DERM) for review of permits within the bulkhead areas.

#### **Coastal Management**

This element's efforts are largely related to the management of the Biscayne Bay Aquatic Preserve. Coordinating agencies for this include the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, the National Park Service and the Biscayne Bay Shoreline Development Review Committee. Additionally, the Town is working with the Florida Department of Transportation (FDOT) to ensure the installation of the improvements to the DOT stormwater systems currently discharging into Biscayne Bay waters. When applicable, the Town shall provide development proposal information to the Biscayne Bay Shoreline Development Review Committee for review. Regarding coastal management law enforcement, Town police shall maintain communications with County and State marine police in order to report any violations of the boat speed limits in the adjacent waters which are a manatee protection area. The Town shall contact DERM if any adverse impact is observed relative to the sea grass beds in adjacent waters.

Beach maintenance and restoration requires intergovernmental coordination efforts. To that end, the Town shall cooperate with U.S. Army Corps of Engineers for beach renourishment as needed. Similarly, the Town shall continue to coordinate and cooperate with the Florida Department of Environmental Protection's Bureau of Beaches and Coastal Systems and with the Miami-Dade County Park and Recreation Department regarding access to and the appropriate maintenance of the beach area seaward of the erosion control line. The Town will also coordinate with relevant agencies on planning for sea level rise.

#### **Transportation**

The Town coordinates with the Miami-Dade Metropolitan Planning Organization (MPO) and the Florida Department of Transportation on capital improvements and level of service for SR AIA/Harding Avenue and SR 922/96<sup>th</sup> Street. Miami-Dade County Transit (MDT) provides six routes through the Town connecting residents and employees to Miami Beach, downtown Miami, and the MetroRail. As needed, the Town will also coordinate with the Southeast Florida Transportation Council.

#### **Housing**

The Town shall monitor the housing and related activities of the Miami-Dade County Housing Within Reach Taskforce, Miami-Dade Housing Agency (MDHA), South Florida Regional Planning Council and



nearby local jurisdictions. The Town shall work with the US Department of Commerce to ensure accurate population and housing information is provided for the ~~2020~~ 2010 Census. Additionally, the Town shall dialogue with the Florida Department of Children and Family Services to ensure an accurate inventory for any subsidized rental housing, and group homes, ~~or mobile home parks~~ that may exist within the Town. An inventory of historically significant housing is required for the Comprehensive Plan, and therefore periodic coordination and communication with the State's Division of Historic Resources, Florida Master Site File is necessary.

### **Infrastructure**

The Town of Surfside purchases its water directly from the Miami-Dade County Water and Sewer Department (WASD). The Town's Water Supply Facilities Work Plan was adopted in December 2015 and coordinated with the Miami-Dade County Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014 – 2033) and the South Florida Water Management District's 2013 Lower East Coast Water Supply Plan Update. Further coordination with the Florida Department of Environmental Protection (DEP) will be important to ensure stormwater quality and impacts on the Biscayne Bay.

### **Recreation and Open Space**

There ~~is approximately 35~~ are 38.2 acres of state-owned beach seaward of the erosion control line, which runs approximately along the crest of the dune. This beach is maintained under an agreement with the State by the Miami-Dade Park and Recreation Department. ~~Additionally, the Town shall consider and evaluate the establishment of an interlocal agreement with Indian Creek Village to convert the empty lot on the north side of the 91<sup>st</sup> Street bridge into a park for general use by both communities, providing additional recreational opportunities along the bay.~~

### **Conservation**

The Florida DEP's Bureau of Beaches and Coastal Systems considers Surfside's beach to be "critically eroded". As part of the beach renourishment program coordination efforts with this and other agencies are required. Land use, as it relates to the discharge of stormwater and to the use of natural drainage, is regulated through the South Florida Water Management District (SFWMD).

The Town of Surfside purchases their potable water supply directly from Miami-Dade WASD. The Town is also working with WASD's Water Use Efficiency Section to identify the water conservation best management practices (BMPs) applicable to the Town, which is a water wholesaler, and to develop the Town's Water Conservation Plan as required by Miami-Dade County Ordinance 06-177.

### **Capital Improvements**

The Town shall coordinate with Miami-Dade County Public Schools, WASD, the MPO, and FDOT to ensure projects affecting level of service are included in the annual update of the Capital Improvements Element.

### **Areas of Critical State Concern**

There are no areas of critical state concern in the Town of Surfside.

The following abbreviations are used in Table 8-1.

- AE - Advise and Encourage
- CA - Town Agency
- FN - Formal Notice
- OA - Outside Agencies
- TA - Technical Assistance

- AP - Approval Permit
- FA - Formal Agreement
- IN - Informal Notice

PM - Periodic Meetings to Coordinate Programs

**TABLE 8-1  
COORDINATING AGENCIES**

| Agency  | Subject Coordination                            | Nature of Relations | Existing and Anticipated Coordination Mechanisms | Effectiveness of Existing Coordination Mechanisms | Surfside Office with Primary Responsibility For Coordination |
|---|---|---------------------|--|---|--|
| <b>MUNICIPALITIES:</b>  |   |                     |  |   |  |
| Bal Harbour <u>Village</u>  | Comprehensive planning                          | AE                  | Informal coordination                            | Effective   | Planning, Town Manager                                       |
| <u>Town of Bay Harbor Islands</u>                                   | Comprehensive planning                          | AE                  | Informal coordination                            | Effective   | Planning, Town Manager                                       |
| <u>Indian Creek Village</u>   | Comprehensive planning                          | AE                  | Informal coordination                            | Effective   | Planning, Town Manager                                       |
| <u>City of Miami Beach</u>  | Comprehensive planning                          | AE                  | Informal coordination                            | Effective   | Planning, Town Manager                                       |
| <u>Miami Shores Village</u>   | Aquatic Center                                  | FA                  | Interlocal Agreement                             | Effective   | Parks and Recreation   |
| <u>Various Other Municipalities</u>                                 | <u>Police Assistance</u>                        | <u>FA</u>           | <u>Responsive upon Requests</u>                  | <u>Effective</u>                                  | <u>Police Department</u>                                     |
| <b>MIAMI-DADE COUNTY DEPARTMENTS AND AGENCIES:</b>                  |   |                     |  |   |  |
| Biscayne Bay Shoreline Development Review Committee                 | Shoreline environmental and conservation issues | AE, TA              | Informal coordination                            | Effective   | Public Works, Town Manager                                   |
| Department of Emergency Management (DEM) and Homeland Security (HS) | Emergency management planning                   | PM, AE              | Informal coordination                            | Effective   | Town Manager   |

| Agency  | Subject Coordination   | Nature of Relations | Existing and Anticipated Coordination Mechanisms | Effectiveness of Existing Coordination Mechanisms | Surfside Office with Primary Responsibility For Coordination |
|---|--|---------------------|--|---|--|
| Department of Environmental Resources Management (DERM) | Water quality, air quality, noise impact, septic tanks, water use permits, wastewater management | IN, PM              | Interlocal Agreement                             | Effective   | Public Works, Town Manager                                   |
| Fire Rescue Department                                  | Fire-rescue services   | FA                  | Interlocal Agreement                             | Effective   | Surfside Police Department                                   |
| Office of Emergency Management (EM)                     | Emergency Management Planning  | PM, AE              | Informal Coordination                            | Effective   | Town Manager   |
| Miami-Dade Property Appraiser                           | Tax revenues   | PM, TA              | Interlocal Agreement                             | Effective   | Town Manager, Finance  |
| Parks, Recreation and Open Spaces Department            | Beach Maintenance, Open space areas, regional plans  | PM, AE              | Informal coordination                            | Effective   | Parks and Recreation   |
| Police Department                                       | Police Resources   | FA                  | Responsive upon Requests                         | Effective   | Police Department  |
| Public Housing and Community Development                | Affordable housing   | AE                  | Informal coordination                            | Effective   | Town Manager   |
| Regulatory and Economic Resources Department            |  |                     |  |   |  |
| Environmental Resources Management (DERM) Division      | Water quality, air quality, noise impact, septic tanks, water use permits, wastewater management | IN, PM              | Interlocal Agreement                             | Effective   | Public Works, Town Manager                                   |
| Planning Division                                       | Comprehensive Planning   | AE                  | Informal coordination                            | Effective   | Planning Director  |
| Office of Historic Preservation                         | Historic Preservation  | AE, FN              | Informal coordination                            | Effective   | Town Manager, Planning                                       |

| Agency                                     | Subject Coordination  | Nature of Relations | Existing and Anticipated Coordination Mechanisms  | Effectiveness of Existing Coordination Mechanisms | Surfside Office with Primary Responsibility For Coordination |
|--|---|---------------------|---|---|--|
| Housing Agency (MDHA)                      | Affordable housing  | AE                  | Informal coordination                             | Effective   | Town Manager   |
| Metropolitan Planning Organization (MPO)   | Transportation planning   | PM, AE              | Informal coordination                             | Effective   | Planning   |
| Miami-Dade Transit (MDT)                   | Transit   | AE                  | Informal coordination with Surfside Mini-Bus      | Effective   | Town Manager   |
| Parks and Recreation Department            | Beach maintenance, open space areas, regional plans                         | PM, AE              | Informal coordination                             | Effective   | Parks and Recreation   |
| Property Appraiser                         | Tax revenues  | PM, TA              | Interlocal Agreement                              | Effective   | Town Manager, Finance  |
| Public Works                               | Highway construction, right of way, alignments, access control transit      | PM, TA              | Informal coordination                             | Effective   | Public Works   |
| Solid Waste Management                     | Waste management  | FA                  | Interlocal Agreement – Curbside Recycling Program | Effective   | Public Works   |
| Transportation Public Works Department     | Highway construction, right of way, alignments, access control transit      | PM, TA              | Informal coordination                             | Effective   | Public Works   |
| Miami-Dade Transit (MDT)                   | Transit   | AE                  | Informal coordination with Surfside Mini-Bus      | Effective   | Town Manager   |
| Transportation Planning Organization (TPO) | Transportation planning   | PM, AE              | Informal coordination                             | Effective   | Planning   |
| Water and Sewer Department (WASD)          | Water quality, water facility development, wastewater treatment, wastewater | AP, TA              | Interlocal Agreement                              | Effective   | Public Works   |

| Agency  | Subject Coordination   | Nature of Relations | Existing and Anticipated Coordination Mechanisms                          | Effectiveness of Existing Coordination Mechanisms | Surfside Office with Primary Responsibility For Coordination |
|---|--|---------------------|---|---|--|
|   | management   |                     |   |   |  |
| <b>SCHOOLS:</b>                                     |  |                     |   |   |  |
| Miami-Dade County Public Schools                    | School facilities and concurrency  | FA                  | Interlocal Agreement  | Effective   | Town Manager, Finance  |
| <b>OTHER:</b>                                       |  |                     |   |   |  |
| Miami-Dade League of Cities                         | Intergovernmental issues   | AE, PM              | Monthly meetings  | Effective   | Town Mayor   |
| <b>FLORIDA DEPARTMENTS AND AGENCIES:</b>            |  |                     |   |   |  |
| Community Affairs, Division of Emergency Management | Mutual Aid Agreement   | OA, TA              | Informal coordination   | Effective   | Town Manager   |
| Department of Business and Professional Regulation  | Various licenses   | AP                  | Informal coordination   | Effective   | Planning   |
| Department of Children and Family Services          | Group homes, foster care facilities  | FN, OA              | Informal coordination   | Effective   | Building and Zoning  |
| Department of Economic Opportunity                  | Comprehensive Plan   | AP, TA              | Oversight of Comprehensive Plan, EAR, Regulation of Land Development Code | Effective   | Planning   |
| Department of Environmental Protection              | Water management, water quality, air quality, beaches/land, solid waste, septic tanks, water facility development, water use permits, wastewater | AP                  | Permitting, informal coordination   | Effective   | Public Works, Town Manager                                   |

| Agency   | Subject Coordination  | Nature of Relations | Existing and Anticipated Coordination Mechanisms | Effectiveness of Existing Coordination Mechanisms | Surfside Office with Primary Responsibility For Coordination |
|--|---|---------------------|--|---|--|
|  | management  |                     |  |   |  |
| Division Of Historic Resources                 | Historic lands and buildings  | TA, AE              | Informal coordination                            | Effective   | Planning   |
| Department of Transportation                   | Transportation planning, highway construction, right of way, alignments, access control transit | AE, TA              | Informal coordination                            | Effective   | Public Works   |
| Fish and Wildlife Conservation Commission      | Conservation issues   | AE, TA              | Permitting, informal coordination                | Effective   | Town Manager   |
| South Florida Regional Planning Council        | Comprehensive planning  | TA, AE, AP          | Review of Comprehensive Plan and EAR             | Effective   | Planning   |
| South Florida Water Management District        | Stormwater management, wetlands mitigation, water use   | TA, AE, AP          | Quarterly meetings                               | Effective   | Public Works   |
| <b>UNITED STATES DEPARTMENTS AND AGENCIES:</b> |   |                     |  |   |  |
| Army Corps of Engineers                        | Beach erosion control   | AE, PM, TA, AP      | Informal coordination                            | Effective   | Public Works   |
| Commerce, Census Bureau                        | Decennial Census  | TA                  | Informal coordination                            | Effective   | Planning   |
| Environmental Protection Agency                | Hazardous waste sites   | TA, AP              | Informal coordination                            | Effective   | Public Works   |
| Federal Emergency Management Agency            | Hurricane mitigation  | AE, PM, TA          | Informal coordination                            | Effective   | Public Works, Planning                                       |
| U.S. Fish and Wildlife                         | Coastal conservation  | AE, TA              | Informal coordination                            | Effective   | Public Works   |

| <b>Agency</b>                   | <b>Subject Coordination</b>           | <b>Nature of Relations</b> | <b>Existing and Anticipated Coordination Mechanisms</b> | <b>Effectiveness of Existing Coordination Mechanisms</b> | <b>Surfside Office with Primary Responsibility For Coordination</b> |
|---------------------------------|---------------------------------------|----------------------------|---|--|---|
| Service                         |                                       |                            |   |  |   |
| U.S. Postal Service             | Address development, mail delivery    | OA                         | Informal coordination                                   | Effective  | Town Manager, Planning  |
| Transportation                  | Transportation planning               | AE, AP, PM, TA             | Informal coordination                                   | Effective  | Public Works, Planning  |
| <b>REGULATED UTILITIES:</b>     |                                       |                            |   |  |   |
| AT&T                            | Telephone service                     | OA                         | Informal coordination                                   | Effective  | Public Works  |
| Comcast Cable Television        | Cable services, underground utilities | OA                         | Informal coordination                                   | Effective  | Public Works  |
| Florida Power and Light Company | Underground utilities                 | OA                         | Informal coordination                                   | Effective  | Public Works  |

Source: Town of Surfside

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## Intergovernmental Coordination Element Goals, Objectives, and Policies

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**Goal 1:** *Establish and maintain processes to help assure coordination with other governmental entities where necessary to implement this plan.*

**Objective 1.1 – Coordination with Miami-Dade County and other agencies:** In general, coordinate the Town of Surfside Comprehensive Plan with the plans of the Miami-Dade County School Board, Miami-Dade County and adjacent municipalities. In particular, achieve maximum feasible levels of consistency between the plans for Surfside, the Miami-Dade County School Board, Miami-Dade County, City of Miami Beach, Bal Harbour Village, Indian Creek Village, and Town of Bay Harbor Islands. This objective shall be measured by implementing its implementing policy. ~~{9J-5.015 (3) (b) 1}~~

Policy 1.1.1 – The Town shall monitor the Miami-Dade County Comprehensive Plan process as the County Plan is updated and revised in conjunction with its Evaluation and Appraisal Report. The Town will also review the comprehensive plans of Miami Beach, Bal Harbour, Indian Creek, and Bay Harbor Islands. ~~{9J-5.015 (3) (c) 5}~~

Policy 1.1.2 – The Town of Surfside and Miami-Dade County Public Schools shall follow the procedures established in the adopted “Amended and Restated Interlocal Agreement for Public Schools Facilities Planning in Miami-Dade County” (Interlocal Agreement) and the Comprehensive Land Use Plan’s Educational Element and Capital Improvements Element for coordination and collaborative planning and decision making of land uses, public school facilities siting, decision making on population projections, and the location and extension of public facilities subject to concurrency. The Town shall implement the Interlocal Agreement with Miami-Dade County Public Schools, Miami-Dade County, and other nonexempt municipalities pursuant to Section 163.3177, Florida Statutes, and the Comprehensive Plan’s Public School Facilities Element, Intergovernmental Coordination Element, and Capital Improvements Element. Coordination of the Interlocal Agreement, and the Town’s obligations therein, shall be achieved via participation in the established Working Group of the Interlocal Agreement.

Policy 1.1.3 – The Town shall consider as appropriate the informal mediation process of the South Florida Regional ~~Planning~~ Council in order to try to resolve annexation and other conflicts with other governmental entities; the Town will enter into mediations on a nonbinding basis. ~~{9J-5.015 (3) (e) 2 and 4}~~

Policy 1.1.4 – The Town will thoroughly review and compare proposed development in Miami-Dade County, City of Miami Beach, Bal Harbour Village, Indian Creek Village, and Town of Bay Harbor Islands with proposed development in the Surfside Comprehensive Plan for consistencies and conflicts between identical elements and between plans as a whole. Where appropriate, Surfside will respond at public hearings, through memoranda, or through the regional planning council’s mediation process. ~~{9J-5.015 (3) (e) 7}~~



Policy 1.1.5 – The Town shall continue to ensure coordination of activities in its Comprehensive Plan with the plans of Miami-Dade County ~~Public Schools Board~~, Miami-Dade County, and other state or regional entities through regular exchange of information. This information shall include, but not be limited to, building permits, zoning cases, planned land use amendments, engineering plans, demographics, proposed annexation areas, socio-economic information, and utility service areas and capacity. ~~[9J-5.015 (3)(e)-7]~~

Policy 1.1.6 – The Town will continue participation in the Miami-Dade Planner’s Technical Committee in order to coordinate local comprehensive planning issues and processes.

Policy 1.1.7- The Town shall coordinate with relevant agencies on planning for sea level rise considering the best available and credible data.

**Objective 1.2 – Comprehensive Plan Impact and Implementation Coordination:** Establish mechanisms to coordinate the impact of development proposed in the Surfside Comprehensive Plan with other jurisdictions. ~~[9J-5.015 (3)(b)-2]~~

Policy 1.2.1 – Surfside shall maintain and revise where appropriate interlocal agreements generally of the type described below:

Potable Water: An agreement with Miami-Dade Water and Sewer Department for potable water service.

Sewers: An agreement with Miami-Dade Water and Sewer Department for wastewater treatment.

Solid Waste: An agreement to cooperate and coordinate with the County Solid Waste Management Department for the disposal of solid waste generated in the Town. ~~[9J-5.015 (3)(e)-1]~~

Transit: Miami-Dade Transit bus schedules for routes within the Town.

Schools: “Amended and Restated Interlocal Agreement for Public School Facility Planning in Miami-Dade County” – pursuant to Section 163.3177 FS and Section 163.3180(g) F.S.

Policy 1.2.2 – The Town shall assist the County in providing information to the residents of the Town about services provided directly or indirectly by the County, e.g., solid waste, potable water, sewers, transit and hurricane response planning. Such information may be disseminated through a Town newsletter, Town Hall counter handouts, notices posted at the Town Hall, and/or other appropriate means. ~~[9J-5.015 (3)(e)-3]~~

Policy 1.2.3 – The Town shall contribute to the improvement of the water quality of Biscayne Bay through implementation of outfall improvements described in the Infrastructure Element. ~~[9J-5.015 (3)(e)-6]~~

Policy 1.2.4 – The Town shall cooperate with the regulatory functions of the Florida Department of Environmental Protection. ~~[9J-5.015 (3)(e)-6]~~

Policy 1.2.5 – As required by the Interlocal Agreement, The Town shall notify ~~the~~ Miami-Dade Public Schools Board of all new residential development projects or modifications to existing residential developments which increase density as part of the review process for school concurrency.

Policy 1.2.6 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection and enhancement of the Biscayne Bay Aquatic Preserve.

Policy 1.2.7 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection of Atlantic Ocean coastal waters and beach renourishment projects.

Policy 1.2.8 – The Town will utilize the following procedures to identify and implement joint planning areas (JPAs) for the purpose of addressing issues related to joint infrastructure service areas:

- a) Use the South Florida Regional Planning Council’s informal mediation process to resolve conflicts with other local governments, when agreed to by all affected parties;
- b) Siting of facilities with county-wide significance including locally unwanted land uses;
- c) Making demographic and social-economic information and services available for county, school board and municipal planning activities.

Policy 1.2.9 – The Town shall consider and evaluate the establishment of a cooperative interlocal agreement with Indian Creek Village to convert the empty lot on the north side of the 91<sup>st</sup> Street bridge into a park for general use by both communities, providing additional recreational opportunities along the bay.

~~Policy 2.10 – The Town shall coordinate with FDOT and neighboring municipalities in its study of reestablishing a two-way traffic flow on Harding Avenue and Collins Avenue.~~

~~Policy 1.2.10 – The Towns shall continue coordination with Miami-Dade Transit on energy efficient modes of transportation.~~

~~Policy 1.2.11 – The Town shall coordinate with neighboring jurisdictions and the South Florida Regional Planning Council in regards to affordable housing.~~

**Objective 1.3 – Level of service standards coordination:** Ensure coordination with Miami-Dade County in establishing level-of-service standards for sewage, and potable water. ~~{9J-5.015 (3) (b) 3}~~

Policy 1.3.1 – The Town shall monitor changes to the adopted level-of-service standards of Miami-Dade County, the Florida Department of Transportation, and Miami-Dade Public Schools, and appropriately adjust its own level-of-service standards accordingly. ~~{9J-5.015 (3) (e) 7}~~

**Objective 1.4 –** The Town shall coordinate with all applicable local, State and Federal agencies regarding implementation of the 20-Year Water Supply Facilities Work Plan.

Policy 1.4.1 – The Town shall review the most recently published Lower East Coast Water Supply Plan and coordinate with the South Florida Water Management District staff in projecting

the future supply and demand of potable water and alternative sources and preparing amendments to the Water Supply Facilities Work Plan on an as-needed basis by sharing and updating information.

Policy 1.4.2 – The Town shall participate in continuing and on-going collaborative efforts with the Miami-Dade Water and Sewer Department and other governments and agencies regarding water supply needs, long-term alternative water supply projects, sharing of information and establishing level of service standards. The Town shall participate in, at a minimum, annual meetings with water providers and the South Florida Water Management District to discuss population projections, land use changes and implementation of conservation reuse programs and alternative water supplies.

Policy 1.4.3 – The Town shall coordinate with Miami-Dade County Water and Sewer Department in the implementation of alternative water supply projects, establishment of level-of-service standards and resource allocations.

Policy 1.4.4 – The Town shall coordinate land uses and future land use changes with the availability of water supplies and water supply facilities.

Policy 1.4.5 – The Town shall coordinate with Miami-Dade County in the implementation of alternative water supply projects, establishment of level-of-service standards and resource allocations and changes in service areas.

Policy 1.4.6 – The Town shall coordinate with the Miami-Dade County Water and Sewer Department's Water Use Efficiency Section in the implementation of water conservation efforts and preparation of a Water Conservation Plan through regular and on-going communication and information sharing.

**Goal 2: Community Resiliency: Increase community resiliency through continued coordination and cooperation.**

**Objective 2.1 – The Town shall strive to make sustainability and climate resiliency decisions on the most current, applicable and credible information available; and through coordination and cooperation make sustainability and climate resiliency efforts more impactful.**

Policy 2.1.1: The Town of Surfside shall coordinate with Miami-Dade County and other appropriate agencies in the implementation of adaptive management strategies to improve the climate change resiliency of water and wastewater infrastructure and resources.

Policy 2.1.2: The Town shall continue to coordinate with local, County, regional, State and federal agencies and other non-governmental entities and academic institutions in the ongoing assessment of climate change and sea level rise, and continue to collaborate in the identification and implementation of appropriate mitigation, protection, accommodation and adaptation strategies.

Policy 2.1.3: The Town shall coordinate with Miami-Dade County and other participating counties in the Southeast Florida Regional Climate Change Compact in the identification of modeling resources and development of initiatives and goals to address climate change.

Policy 2.1.4: The Town shall continue to coordinate regionally with southeast Florida counties and municipalities, academia, and local, regional, State and federal agencies in the analysis of sea level rise, drainage, storm surge and hurricane impacts and the planning of mitigation and adaptation measures.

Policy 2.1.5: The Town shall continue to actively monitor the Southeast Florida Regional Climate Change Compact, and shall coordinate with neighboring municipalities to share technical expertise, assess regional vulnerabilities, advance agreed upon mitigation and adaptation strategies and develop policies and programs.

Policy 2.1.6: The Town shall seek to and support cooperative efforts to engage the support of federal agencies, such as National Oceanic and Atmospheric Administration, U.S. Geological Survey, Federal Emergency Management Agency, Environmental Protection Agency, the U.S. Department of Interior, U.S. Department of Energy, and the U.S. Army Corps of Engineers, that can provide technological and logistical support to further state, regional, county, and local planning efforts in the assessment of climate change vulnerabilities and adaptation strategies.

Policy 2.1.7: The Town shall promote partnerships between local government agencies, universities, professionals and practitioners, to foster an environment for connecting scientific research and education with practical applications that will contribute to the resiliency and adaptation within the built and natural environments to the impacts of climate change.

~~9J-5.0015 Objective and policy requirements not applicable to the Town of Surfside: Rule 9J-5 of the Florida Administrative Code requires communities to adopt as part of their Intergovernmental Coordination Element objectives and policies which address various issues, except where those issues are not reasonably applicable to a particular community. The following objective and policy provisions of Rule 9J-5 are deemed by the Town of Surfside to be inapplicable:~~

~~9J5.015 (3) (b) 4 Ensure coordination in the designation of new dredge spoil disposal sites for counties and municipalities located in the coastal area.~~

~~9J5.015 (3) (c) 4 Resolving annexation issues.~~

~~9J5.015 (3) (e) 8 Involving ...[a variety of agencies and the public] ... in providing for and identifying dredge spoil disposal sites through the Coastal Resources Interagency Management Committee's dispute resolution process.~~

~~9J5.015 (3) (e) 9 Resolving conflicts between a coastal local government and a public agency seeking a dredge spoil disposal site through the Coastal Resources Interagency Management Committee's dispute resolution process.~~

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## CAPITAL IMPROVEMENTS ELEMENT

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### DATA INVENTORY AND ANALYSIS

#### PURPOSE

The purpose of the Capital Improvements Element is to evaluate the need for public facilities as identified in the other comprehensive plan elements and as defined in the applicable definitions for each type of public facility, to estimate the cost of improvements for which the local government has fiscal responsibility, to analyze the fiscal capability of the local government to finance and construct improvements, to adopt financial policies to guide the funding of improvements and to schedule the funding and construction of improvements in a manner necessary to ensure that capital improvements are provided when required based on needs identified in the other comprehensive plan elements. The element shall also include the requirements to ensure that an adequate concurrency management system will be implemented by the Town local governments pursuant to Rule 9J-5.0055, F.A.C.

#### PLANNING TIMEFRAMES

The Town of Surfside Comprehensive Plan provides guidance on development and redevelopment over two planning periods: a 5-Year period ending FY ~~2022~~ 2014 (short term) and a long term planning period ending FY ~~2035~~ 2030. ~~The Capital Improvement Element updated for FY2011 provides for facility improvements for the FY2011-15 period.~~

#### Public Facility Needs

#### TRANSPORTATION

The Town is responsible for maintaining the local network program. The regional road network is under the State of Florida's jurisdiction. Collins Avenue and Harding Avenue are the major north-south corridors through the Town, while 96<sup>th</sup> Street is the main east-west roadway.

The Town of Surfside comes under the Miami-Dade County's Transportation Concurrency Exception Area (TCEA) to promote urban infill and redevelopment in the area. The Level of Service for major, state roadways in Surfside is LOS E+20, meaning that where mass transit service having headways of 20 minutes or less is provided within a ½ mile distance, roadways shall operate at no greater than 120 percent of their capacity.

State arterial roadways include Collins Avenue, Harding Avenue and 96th Street which are all functioning at Level of Service Standard D and are meeting level of service standards. There are no FIHS or SIS facilities within the Town of Surfside.

Roadway performance conditions are measured by Level of Service (LOS) which is represented by letters "A" or most favorable through "F" or least favorable conditions. Roadway LOS standards are the ratio of the number of vehicles to the road capacity during peak time periods. The Town monitors roadway concurrency and currently all roadways are meeting level of service standards.

Currently, the only roadway capital improvements planned in the Surfside area by ~~are~~ FDOT is the Indian Creek Bridge Rehabilitation Project ~~resurfacing projects that do not affect level of service.~~

To accommodate the impacts of new development, alternative modes of transportation are required to reduce traffic congestion. Six bus routes from Miami-Dade Transit travel through the Town; all the routes run along Collins Avenue and Harding Avenue. The Town has its own bus system which complements the Miami-Dade County Transit. The Town's mini buses circulate between the business district and residential areas.

#### *De Minimis Impacts*

The Town does not allow for exceptions for de minimis impacts. Also, the Town lies completely within a Transportation Concurrency Exception Area.

#### *Gas Tax Projects*

Per F.S. 336.025 (1)(a)3 municipal governments shall use local option gas taxes for transportation expenditures to meet the requirements of the capital improvements element of an adopted comprehensive plan or for expenditures needed to meet immediate local transportation problems and for other transportation-related expenditures that are critical for building comprehensive roadway networks by local governments. Such expenditures are required to be included in the Comprehensive Plan.

The Schedule of Capital Projects to be partially ~~Improvements includes the Downtown Improvements Master Plan, the Traffic Management Program and the Mobility Fee Study~~ funded by gas taxes are identified in Table 9-10D. The related projects are not planned to alleviate level of service issues, but are included to meet statutory requirements for listing local option gas tax projects in the Capital Improvement Element.

## **POTABLE WATER**

The Town of Surfside's potable water is provided by the Miami-Dade County Water and Sewer Department (MDWASD) which provides service for approximately 2.6 million customers in Miami Dade County. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County.

The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. Primary mains feeding the system run under the Town's streets and vary in size from 6-inch to 16-inches in diameter, which feed three-inch and four-inch water lines located along the rear property lines.

#### *Water Source*

The source water for Hialeah Water Treatment Plant (WTP) is from the Hialeah Miami Springs Wellfields, supplemented by the Northwest Wellfield. There are three active wells located in the Hialeah Wellfield constructed in 1936. Each well is 14 inches in diameter, 115 feet deep and have casing depths of 80 feet. The total wellfield capacity is 12.54 mgd or 8,700 gpm (2,900 gpm for each well). The twenty active wells located in the Miami Springs Wellfield were constructed between 1924 and 1954. These wells are 14 inches and 30 inches in diameter, 80 to 90 feet deep and have casing depths of 80 feet. The total wellfield capacity is 79.30 mgd or 55,070 gpm (ranging between or 2,500 and 5,000 gpm for each well). The Northwest Wellfield has fifteen active wells that were constructed in 1980. The wells are 40 inches and 48 inches diameter and 80 to 100 feet deep, with casing depths ranging from 46 to 57 feet. These wells have two-speed motors. The total nominal capacity of the wells at the low speed flow rate is

149.35 mgd. The capacity of each well, except well No. 10, is 10 mgd at the low speed flow rate. Well 10 has a low speed capacity of 9.35 mgd. The total nominal capacity for the wells at the high speed flow is 220.94 mgd.

The seven active wells located in the John E. Preston Wellfield were constructed in 1966 and 1972. Each well is 42 inches in diameter, 107 feet deep and have casing depths of 66. The capacity of wells No. 1 through No. 6 is 5,000 gallons per minute (gpm) each and the capacity of well No. 7 is 7,000 gpm. The total wellfield capacity is 53.28 mgd.

*Water Treatment Plants (WTPs)*

The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant’s capacity totaled 40 mgd. In 1946, capacity was increased to 60 mgd. Air strippers with a capacity of 84 mgd were added to the treatment process in 1991 to remove volatile organics from the finished water. A 3.2 MG storage reservoir for both the Hialeah and John E. Preston WTPs was also added in 1991. The Hialeah WTP has a current rated capacity of 60 mgd and there are plans to rerate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The treatment process for this WTP includes lime softening with sodium silicate activated by chlorine, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The plant site is relatively small, and is surrounded by residential areas.

The John E. Preston WTP was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was re-rated to a total capacity of 130 mgd in 1984. The plant reached its present capacity of 165 mgd with another addition in 1988. In 1991, the plant was modified with an air stripping capacity of 185 mgd to remove VOCs. In 2005, plant process modifications to provide enhanced softening for reduction of color and total organic carbon came on line. The main source of water for the Preston WTP is from the Northwest Wellfield. The current rated capacity is 165 mgd with a treatment process similar to that of the Hialeah WTP. This includes lime softening with ferric and other coagulant and chemicals added to prior to lime for enhanced softening, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The Preston plant is also located in a residential area of Hialeah.

*Potable Water Level of Service*

The Town of Surfside currently coordinates with MDWASD and the South Florida Water Management District to meet existing and projected demands based on level of service (LOS). The Town’s projected water demands shown in Table 9-1 below were developed utilizing the Town’s average per capita value of 148.04 gallons per capita per day.

**Table 9-1  
Town of Surfside Water Demand Projection**

| Year | Population | Per Capita Consumption | Projected Consumption | Projected Consumption |
|------|------------|------------------------|-----------------------|-----------------------|
|      |            | GPCD                   | GPD                   | MGD                   |
| 2015 | 5,866      | 148.04                 | 868,399               | .87                   |
| 2020 | 6,019      | 148.04                 | 891,073               | .89                   |
| 2025 | 6,173      | 148.04                 | 913,747               | .91                   |
| 2030 | 6,326      | 148.04                 | 936,421               | .94                   |

Source: MDWASD’s 20 year water supply plan (2014-2033)

Figure 4.1 in the Town of Surfside 15 Year Water Supply Facilities Work Plan indicates that there will be no deficit of finished water through 2030.

The existing LOS for the Town of Surfside based on MDWASD goals for potable water is as follows:

- (a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent 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.
- (b) 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 Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

| Land Use  | Min. Fire Flow (gpm) |
|---|----------------------|
| Single Family Residential Estate                                  | 500                  |
| Single Family and Duplex; Residential on minimum lots of 7,500 sf | 750                  |
| Multi-Family Residential  | 1,500                |
| Semiprofessional Offices  |                      |
| Hospitals; Schools  | 2,000                |
| Business and Industry   | 3,000                |

*Storage Capacity*

The finished water storage facilities for the Hialeah-Preston subarea consist of both “in-plant” and remote storage facilities. The total combined storage capacity between both plants inclusive of all potable water 56.0 MG.

**SANITARY SEWER**

The sanitary sewer system is defined as structures or systems designed for the collection, transmission, treatment, or disposal of sewage and may include trunk mains, interceptors, treatment facilities, and disposal systems. The Town’s sanitary sewer system is interconnected with the Miami-Dade County Water and Sewer Department (MDWASD) system. Surfside maintains its own sewer collection system and two pumping stations. By agreement, the Town of Surfside and Bal Harbour share a sanitary force main that connects to the City of Miami Beach transmission system. The tri-party agreement provides for the transmission of sewage via force mains to the MDWASD system and eventually to the treatment plant and disposal.

*Geographic Service Area*

The Town’s system is coextensive with the Town’s boundaries, while the County system includes unincorporated and incorporated areas of Miami-Dade County inside the 2005 Urban Development Boundary that have an agreement with MDWASD. The system also incorporates a small number of facilities, mostly State or County owned, outside of the Urban Development Boundary.

*Treatment Facilities and Capacity*

There has been a significant reduction in average flow into the regional system as a result of extensive infiltration and inflow (groundwater and rainwater) prevention projects conducted by MDWASD in recent years. Infiltration and inflow within the sewer system should be kept at a minimum to avoid hydraulic overload to the receiving treatment plant. It is pertinent for an operation and maintenance plan to be part of the county’s sanitary sewer system. As a result, the regional wastewater treatment plants operating capacity can remain in compliance with Miami-Dade County MDWASD and Florida Department of Environmental Protection (FDEP) standards.

The Town of Surfside is located in the MDWASD Central District Sanitary sewer system; however, as noted in the MDWASD’s 2007 Water Supply Facilities Work Plan, MDWASD operates two additional regional wastewater treatment plants in the North and South Districts. Because the system is



interconnected, the service districts have flexible boundaries, and some flows from one district can be diverted to other plants in the system.

Surfside’s sewer system is treated by a secondary treatment facility on Virginia Key owned and operated by the Miami-Dade County Water and Sewer Department (MDWASD). The Town’s sanitary sewer collection system is divided into two basins. Sanitary sewer pipes range in size from 8 to 15 inches with flows directed to two pump stations. Pump Station 1 receives sewage from the area of Surfside north of 91<sup>st</sup> Street, which includes the Business District and a majority of the high rise buildings. Pump Station 2 serves the remainder of the Town, including most of the waterfront lots. The sewage is pumped via the force main which runs along 89<sup>th</sup> Street, 93<sup>rd</sup> Street, Collins ~~Byron~~ Avenue and connects to the City of Miami Beach’s system near 74<sup>th</sup> street. Sewage continues under pressure through MDWASD force mains to Virginia Key.

*Current Facility Demand*

According to the Town of Surfside Consumption Analysis, in 2014/2015 MDWASD 2006 Comprehensive Annual Financial Report, approximately ~~258,689~~ million gallons of wastewater were treated by the County system from the Town of Surfside and ~~260,814~~ million in ~~2015/2016~~ 2007.

In FY08, the Town began mapping all sewer and potable water lines within the municipal boundary to enhance maintenance. Also in FY09, the Town identified infiltration issues to the sanitary sewer system and has completed a program to seal manholes to identify and inventory broken lines. ~~In FY09, existing pump stations were rehabilitated in order to ensure levels of service standards are maintained.~~ Table 9-2 shows projected sewage flow demands for the Town of Surfside and Table 9-2B show current and projected wastewater capacity for the entire county.

In 2010 to 2014, the Town completed a sanitary sewer rehabilitation plan. All existing gravity sewer mains and laterals were lined or reconstructed in accordance with the approved plan. All sanitary manholes were rehabilitated. The Town also completed rehabilitation of the existing sanitary sewer pump stations, and construction of 12” Force Mains along 93<sup>rd</sup> Street and 89<sup>th</sup> Street. The Force Mains were tied-in to the newly constructed 16” Force Main along Collins Avenue. The existing Force Main that runs along Byron Avenue is not currently in use and only remains as a stand-by facility.

Since the Town completed the sanitary sewer rehabilitation plan of the existing system in the recent past, there are currently no additional level of service projects required or needed for the Town’s sanitary sewer system.

**Table 9-2A  
Projected Sewage Flows**

| <b>PROJECTED SEWAGE FLOWS</b>                |                 |                            |                 |
|--|-----------------|----------------------------|-----------------|
| <b>Year</b>                                  | <b>2010</b>     | <b>2020</b><br><b>2015</b> | <b>2030</b>     |
| Population                                   | <u>5,744</u>    | <u>5,952</u>               | <u>6,398</u>    |
| Per Capita (gallons per day finished sewage) | 155             | 155                        | 155             |
| (all potable volumes are finished sewage)    | <b>MGD</b>      | <b>MGD</b>                 | <b>MGD</b>      |
|  | <u>0.89</u>     | <u>0.92</u>                | <u>0.99</u>     |
| Sewage Total Flow (daily average annual)     | <del>0.82</del> | <del>0.85</del>            | <del>0.88</del> |

Source: Calvin, Giordano & Associates, Inc. ~~2017~~ 2009

**Table 9-2B  
Miami-Dade County Current and Projected Wastewater System Capacity 2016-2026 2005-2020**

| County WWTP Capacities |                           | Actual County Flow (mgd) | Total Permitted Capacity / Projected County Flows (mgd) |                          |                          |
|------------------------|---------------------------|--------------------------|---|--------------------------|--------------------------|
|                        | 2016 Plant Capacity (mgd) | Dec. 2015                | 2022  | 2024                     | 2026                     |
| <b>North</b>           | 120.0                     | 89.3                     | 120.0 / N/A <sup>1</sup>                                | 120.0 / N/A <sup>1</sup> | 85.0 / N/A <sup>1</sup>  |
| <b>Central</b>         | 143.0                     | 120.0                    | 143.0 / N/A <sup>1</sup>                                | 143.0 / N/A <sup>1</sup> | 83.0 / N/A <sup>1</sup>  |
| <b>South</b>           | 112.5                     | 97.1                     | 121.0 / N/A <sup>1</sup>                                | 131.0 / N/A <sup>1</sup> | 131.0 / N/A <sup>1</sup> |
| <b>West</b>            | N/A                       | N/A                      | N/A   | N/A                      | 102.0 / N/A <sup>1</sup> |
| <b>Total</b>           | 375.5                     | 306.4                    | 384.0 / 321.1   | 394.0 / 326.3            | 401.1 / 331.6            |

Source: Miami-Dade Water and Sewer Department, 2016; <sup>1</sup>County only has projected data for total regional system

| County WWTP Capacities |                      | Actual County Flow (mgd) | Projected County Flows (mgd) |       |       |
|------------------------|----------------------|--------------------------|------------------------------|-------|-------|
|                        | Plant Capacity (mgd) | 2005                     | 2010                         | 2015  | 2020  |
| <b>North</b>           | 112.5                | 84.3                     | 83.8                         | 88.5  | 92.3  |
| <b>Central</b>         | 143.0                | 135.3                    | 132.5                        | 139.6 | 146.4 |
| <b>South</b>           | 112.5                | 75.1                     | 76.5                         | 82.6  | 87.4  |
| <b>Total</b>           | 368.0                | 294.7                    | 292.8                        | 310.7 | 326.0 |

—Source: Miami-Dade Water and Sewer Department, 2009

## DRAINAGE

In 2013, the Town completed a major retrofit of the existing drainage systems. The existing storm drainage system consisted of a network of underground storm sewers and outfalls discharging directly into the Indian Creek and Biscayne Bay. An existing pumping station at the western end of 92<sup>nd</sup> Street assisted the drainage of water from that street by pumping to an outfall. Storm sewers in the existing system ranged in diameter from 10 inches to 36 inches.

~~Surfside's existing storm drainage system consists of a network of underground storm sewers that collect and direct stormwater to Indian Creek and Biscayne Bay. A pumping station at the western end of 92<sup>nd</sup> Street assists the drainage of water from that street by pumping to an outfall. Storm sewers in the system range in diameter from 10 inches to 36 inches.~~

Town of Surfside has two state roadways within the Town; a north-south pair SR A1A/Collins Ave (northbound) and Harding Avenue (southbound); and one east-west SR-922/96<sup>th</sup> Street. The Florida Department of Transportation (FDOT) provided storm drainage improvements on Harding and Collins Avenue in the early 1990's. Equipment which currently serves the 92<sup>nd</sup> Street pump station were replaced by FDOT and will be maintained by the Town; however, even with these modifications, water may still reach curb level in various locations due to tidal fluctuations. The water level of Biscayne Bay is higher than normal during high- high tide, creating a back up in the outfall pipes. The Harding and Collins storm drainage improvements utilize on-site wells and control structures to provide additional capacity.

In 2002 FDOT completed the Stormwater Pump Station System Operational Evaluation and Recommended Improvements (OERI) Report which provided three alternatives to improve stormwater pump systems along Harding. It was determined that the most feasible alternatives are those that have an appropriate overflow capacity, once the wells reach capacity. This was achieved by introducing an emergency gravity bypass in the event that the pumps fail. The alternative consists of new pump stations at the existing vault locations. These new stations required the existing gravity system to be extended to the Intracoastal Waterway seawalls (at 88<sup>th</sup> Street and 94<sup>th</sup> Street), a new 36-inch force main to connect to existing wells; new pumps, structures, controls, and a new gravity bypass drainage pipe.

In 2006, the Town of Surfside initiated another stormwater project, which consists of retrofitting the Town's outfall pipes to reduce pollutants entering Biscayne Bay. The ~~proposed~~ facilities at each location consists of three new stormwater pump stations which pump water into ~~new~~ drainage wells. In order to address pollution concerns for a Florida Department of Environmental Protection (FDEP) drainage well permit, the Town ~~will installed~~ Nutrient Separating Baffle Boxes upstream of the pump station to provide treatment before the runoff enters the groundwater which ~~was~~ is included in this retrofit project.

The recently constructed retrofitted stormwater management system of the Town consists of a network of underground storm sewers along with outfall control structures discharging into the Indian Creek and Biscayne Bay, and three additional pump stations discharging into 9 drainage wells. The newly constructed control structures facilitate well discharge before discharging to Biscayne Bay. The project addressed long-term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town's shores. The project directly addressed The Trust for Public Land's Biscayne Bay Accessibility report, supported the SFWMD's Biscayne Bay Partnership Initiative (BBPI), and enhanced the level of service.

In 2015, the Town completed drainage improvements for Biscaya Island along 88<sup>th</sup> Street. The Town constructed new check valves to prevent back flow into the existing roadways and upsized one 12-inch outfall to a 24-inch diameter outfall. Since the Town completed the retrofit of the existing drainage system in the recent past, there are currently not additional level of service projects required or needed for the Town's drainage system.

~~The project will addresses long term concerns regarding water backing into the streets and poor water quality that discharges into Biscayne Bay. The project directly addresses The Trust for Public Land's Biscayne Bay Accessibility report, supports the SFWMD's Biscayne Bay Partnership Initiative (BBPI), and enhances level of service.~~

## **SOLID WASTE**

The Town's Public Works Department has three garbage trucks which collect trash and garbage on a weekly basis and haul it to Miami-Dade County's Resource Recovery Plant west of Miami International Airport and other Miami-Dade County landfills. ~~Last Each year (FY15/16) Surfside deposited s~~ approximately 4,932 ~~6,048~~ tons of waste material at the county's facility. Based on ~~the 2010 U.S. Census an estimated 2007~~ population of 5,744 ~~5,159~~, approximately 4.7 ~~6~~ pounds per person per day was collected. ~~The Town, as of June 2, 2016, discontinued recycling services with Miami-Dade County for residential properties. The Town now collects recycling. Between June 2, 2016 and December 29, 2016 the Town collected a total of 218.9 tons of recycling. Since 2007, the Town is recycling over 500 tons per year. An increase involvement of private firms in the development of solid waste disposal facilities led to an oversupply of disposal capacity and a reduction in disposal fees. As a result, Based on information supplied by the Miami-Dade County Department of Solid Waste Management (Table 9-2C), the existing disposal capacity at the North Dade Landfill and the South Dade Landfill and the Resource Recovery Plan appear to have adequate to meet Surfside's needs for the foreseeable future.~~

**Table 9-2C  
Miami-Dade County Solid Waste Facility Capacity**

|   | <u>South Dade Landfill</u> | <u>North Dade Landfill</u> | <u>Resources Recovery Facility and Ashfill</u> |
|---|----------------------------|----------------------------|--|
| <b>Built out Capacity in Tons</b>                       | 23,208,000                 | 13,526,000                 | 8,060,000                                      |
| <b>Tons in Place (June 30, 2016)</b>                    | 17,547,000                 | 11,984,000                 | 5,765,000                                      |
| <b>Remaining Capacity in Tons</b>                       | 1,261,000                  | 1,541,000                  | 2,295,000                                      |
| <b>Last Year's Disposal Tonnage (7/1/15 – 6/30/16)</b>  | 390,626                    | 190,478                    | 160,879  |
| <b>Estimated Average Disposal Rate per Year in Tons</b> | 400,800                    | 183,900                    | 168,500  |

Source: Miami-Dade County Department of Solid Waste Management, 2016; Landfill Capacity Analysis for DSWM Active Landfills, July 1, 2016.

| Data Item / Landfill ID                         | South Dade Landfill | North Dade Landfill | Resources Recovery Ashfill | Total      |
|---|---------------------|---------------------|----------------------------|------------|
| <b>Acreage Data:</b>                            |                     |                     |                            |            |
| FDEP Landfill Type                              | Class I (Garbage)   | Class III (Trash)   | Class I (Ash)              | N/A        |
| Total Area (Acre)                               | 300                 | 218                 | 80                         | 598        |
| Disposal Area (Acre)                            | 180                 | 180                 | 66                         | 426        |
| Stormwater Management Area + Offices (Acre)     | 120                 | 38                  | 14                         | 172        |
| Formally Closed Area (Acre)                     | 45                  | 96                  | 26                         | 167        |
| Cell filled in & Closure in progress (Acre)     | 45                  | 0                   | 20                         | 65         |
| Active Area (Acre)                              | 45                  | 84                  | 10                         | 139        |
| Future Area (Acre)                              | 45                  | 0                   | 10                         | 55         |
| Landfill peak elevation at closure (Feet)       | 150                 | 138                 | 125                        | N/A        |
| Landfill average Bottom elevation (Feet)        | 10                  | 12                  | 10                         | N/A        |
| Landfill Maximum Depth (+/-Feet)                | 140                 | 126                 | 115                        | N/A        |
| <b>Capacity Information</b>                     |                     |                     |                            |            |
| Tons in Place (June 30, 2006)                   | 13,799,000          | 10,328,000          | 4,077,000                  | 28,204,000 |
| Built out capacity in tons                      | 21,184,000          | 12,581,000          | 6,582,000                  | 40,347,000 |
| Remaining Capacity in tons                      | 7,385,000           | 2,253,000           | 2,505,000                  | 12,143,000 |
| Last year's disposal tonnage (7/1/05-6/30/06)   | 1,042,000           | 641,000             | 159,000                    | 1,842,000  |
| Estimated average disposal rate per year        | 550,000             | 360,000             | 155,000                    | 1,065,000  |
| Years of remaining life at normal disposal rate | 13                  | 6                   | 16                         | N/A        |

Source: Miami-Dade County, 2009

There is sufficient capacity Miami-Dade County landfills to meet the Town's needs for solid waste disposal for the short term and long term planning horizons.

**PARKS**

The following is an acreage inventory of Surfside's public recreation facilities:

**Table 9-3  
Park Inventory**

| <b>FACILITY</b>                      | <b>ACREAGE</b>     |
|--------------------------------------|--------------------|
| Hawthorne Park Tot Lot               | 0.22               |
| Veterans Park/Surfside Tennis Center | 0.99 0.75          |
| 96 <sup>th</sup> Street Park         | 0.99 0.92          |
| Surfside Community Center            | 1.27 1.26          |
| Paws Up Dog Park                     | 0.10               |
| Public beach                         | 34.76 38.17        |
| Street ends                          | 1.44 0.45          |
| <b>TOTAL:</b>                        | <b>39.77 41.77</b> |

Source: Calvin, Giordano & Associates, Inc., 2017 2009

While the public beach does not generally offer Parks and Recreation Department programming, this acreage will be included for the level of service (LOS) analysis because it is an integral part of the Town. Using the 39.77 ~~41.77~~ acres of public recreation, along with ~~the Miami-Dade Planning and Zoning's~~ population projections, Surfside's LOS for recreation can be projected through 2035 ~~2030~~. The LOS standard for publicly-owned recreation lands in Surfside is six (6) acres per one thousand (1,000) permanent population. As the following table shows, this standard will be met through 2035 ~~2030~~.

**Table 9-4  
Projected Park LOS**

| <u>Year</u> | <u>Population (Projected)</u> | <u>LOS Standard</u> | <u>Acres Needed</u> | <u>Town Park Acreage</u> | <u>Surplus Acreage</u> |
|-------------|-------------------------------|---------------------|---------------------|--------------------------|------------------------|
| <b>2010</b> | 5,744*                        | 6.0/1,000           | 34.46               | 39.77                    | 5.31                   |
| <b>2015</b> | 5,705**                       | 6.0/1,000           | 34.23               | 39.77                    | 5.54                   |
| <b>2020</b> | 5,952**                       | 6.0/1,000           | 35.71               | 39.77                    | 4.06                   |
| <b>2025</b> | 6,181**                       | 6.0/1,000           | 37.08               | 39.77                    | 2.69                   |
| <b>2030</b> | 6,398**                       | 6.0/1,000           | 38.39               | 39.77                    | 1.38                   |
| <b>2035</b> | 6,556**                       | 6.0/1,000           | 39.34               | 39.77                    | 0.43                   |

Sources: \* 2010 U.S. Census; \*\* Florida Housing Data Clearinghouse (FHDC), 2016

| <b>Year</b>                         | <b>2007</b> | <b>2010</b> | <b>2011</b> | <b>2014<br/>(5-yr<br/>planning<br/>timeframe)</b> | <b>2015</b> | <b>2019</b> | <b>2020</b> | <b>2025</b> | <b>2030</b> |
|-------------------------------------|-------------|-------------|-------------|---|-------------|-------------|-------------|-------------|-------------|
| Projected population                | 5,159       | 5,280       | 5,320       | 5,442   | 5,483       | 5,641       | 5,680       | 5,878       | -6,076      |
| Total park acreage                  | 41.8        | 41.8        | 41.8        | 41.8  | 41.8        | 41.8        | 41.8        | 41.8        | 41.8        |
| Park acreage needed to maintain LOS | 31.0        | 31.0        | 31.9        | 32.7  | 32.9        | 33.8        | 34.1        | 35.3        | 36.5        |
| Surplus/ deficit acreage            | +           | +10.1       | +9.88       | +9.1  | +8.9        | +7.9        | +7.7        | +6.5        | +5.3        |

Source: Calvin, Giordano & Associates, Inc., 2010.

It should be noted this analysis does not take into account private recreation facilities such as the Surf Club and private beach frontage west of the erosion control line.

## SCHOOLS

Surfside is within District 3 of the Miami-Dade County School District. ~~Although there are no public schools within the Town limits of Surfside, there is one elementary schools, one middle school and one high school in which students residing in Town of Surfside may attend.~~

The following table shows student enrollment and capacity in 2016 ~~2009~~ for the schools serving Surfside. Each school is operating at or above ~~below~~ capacity.

**Table 9-5  
Public Schools Serving Surfside  
Capacity and Enrollment (2016 2009)**

| School   | Enrollment                    | Capacity                      | Percent Capacity Utilized    |
|--|-------------------------------|-------------------------------|------------------------------|
| <b>Elementary Schools</b>                      |                               |                               |                              |
| Ruth K. Broad Bay Harbor <del>K-8 Center</del> | <u>1,385</u> <del>895</del>   | <u>990</u> <del>979</del>     | <u>140%</u> <del>91.4%</del> |
| <b>Middle School</b>                           |                               |                               |                              |
| Nautilus                                       | <u>1,028</u> <del>947</del>   | <u>1,050</u> <del>1047</del>  | <u>98%</u> <del>90.4%</del>  |
| <b>High School</b>                             |                               |                               |                              |
| Miami Beach Senior High                        | <u>2,469</u> <del>2,023</del> | <u>2,110</u> <del>2,100</del> | <u>117%</u> <del>96.3%</del> |

Source: Miami-Dade Public Schools, 2016 2009

~~The School District adopted their Five Year Facilities Work Program for 2010-11 through 2014-15 on September 7, 2010, which is incorporated by reference. Per the Town of Surfside Public School Facilities Element, the schools that serve Surfside students will remain under capacity.~~

**PUBLIC HEALTH SYSTEM**

Capital Improvement Element must also include the location of public health systems within the local jurisdiction. There are no major public health facilities within Surfside. The hospitals and public health centers located nearby and accessible to Surfside residents are as follows:

Aventura Hospital & Medical Center  
20900 Biscayne Blvd, Aventura

The Miami-Dade Health Department (Florida Department of Health) has offices in various location in Miami-Dade County with the following offices closest to Surfside:

Miami-Dade County Health Department  
Main Complex  
1350 NW 14th St.  
Miami, FL 33125

~~North Miami Center  
Women, Infants & Children (WIC)  
14101 NW 8th Ave.  
Miami, FL 33168.~~

~~North Miami Sr. High School  
(Pioneer Health Center)  
Contact: Joan Christopher, ARNP  
800 NE 137 St.  
Miami, FL 33161~~

~~PET Center  
615 Collins Avenue  
Miami Beach, FL 33139~~

## LOCAL POLICIES AND PRACTICES

The Town annually prepares and adopts operating budgets for its various departments. Through the budget process, capital improvement needs are considered and funds are allocated.

Timing and location of public facilities is determined by needs projected by the various departments of the Town, and in the case of multi-jurisdictional facilities such as state roads or potable water, by coordination with the affected agencies. Capital facilities will be planned and constructed in accordance with the established Schedule of Capital Improvements. This program is a five year schedule of improvements which is supported by a projection of revenues to ensure its feasibility. Improvements included in the 5-year program include those items called for by the various departments of the Town.

There are four stimuli which prompt Town departments to call for capital improvements; demand created from outside the Town as well as within the Town:

- Anticipated demand through growth
- Coordination of Town plans with those of State agencies and water management districts, and other outside agencies
- Demand for improvements created by facility breakdown or by life expectancy of the facility
- Maintenance of level of service standards

## FUNDING SOURCES

### Existing Revenue Sources

#### *Ad Valorem Tax*

The Miami-Dade County Property Appraiser's Office sets the Town's assessed and taxable values of property. Ad valorem translates from Latin, "according to value." This is the property tax paid based upon the appraised value of one's property and it is calculated by a millage rate. Each mill generates \$1 of tax revenue for every \$1,000 of taxable property value. Taxable value may differ from assessed value because of exemptions, the most common of which is the \$25,000 homestead exemption, and another \$50,000 in exemption for homeowners aged 65 or greater, subject to income requirements. The maximum millage a Town may levy is 10 mils, but this can only be accomplished through a unanimous vote of all Commissioners (not just those present).

#### *Sales and Use Taxes*

This category of taxes includes the local option sales tax and resort taxes. These are taxes generated by local jurisdictions under authorization by the State of Florida.

#### *Franchise & Utility Taxes*

The Town collects three types of franchise and utility taxes: electric utility taxes, gas utility taxes, and Surfside Occupational License Taxes. Since Fiscal Year 2002, the Town has been prohibited from collecting taxes on telephone franchises, telephone utility taxes, and cable television franchise taxes. These taxes are now collected by the State of Florida's Department of Revenue and re-distributed to municipalities according to use records at a rate of 5.22%.

#### *Permits/licenses/and inspections*

Licenses, permits and inspection fees are collected for services performed at specific properties for the benefit of particularly property owners. Building permit categories include: structural, electrical, plumbing, roofing and mechanical permits. As the Town is substantially at build out, little revenue is generated above a base level unless there is commercial development underway.

*Intergovernmental Revenue*

The Town receives recurring revenues from revenue sharing programs with the State of Florida. The Town receives periodic intergovernmental revenues from the federal government in the form of assistance grants for specific projects. All disbursements of State revenues are based on receipts by the State and the Town's population.

*Services Revenues*

This category includes all fees generated from services provided by the Town. This includes recreation fees, solid waste collection fees, stormwater collection fees, lien search services, stormwater utility fees, and similar items.

*Fines and Forfeitures*

Funds to promote public safety and other projects are received by the Town from fines, forfeitures, and/or seizures connected with illegal behavior in the community. Those funds are restricted to, and accounted for, in the Town's fines and forfeiture fund. Fines for the general fund derive from parking violations.

*Miscellaneous Revenues*

Any revenues that the Town receives which do not reasonably conform to any of the above identified categories is included in this category. This category includes interest earnings, receipts from the disposition of assets by sale, and similar items. Interfund Transfers between other funds may also be captured here.

**Revenue and Expense Projections**

The Town of Surfside develops operating costs based on a zero-based budget model. Departments are encouraged to review prior spending as a way of reminding themselves of on-going obligations. Each request for funding must, however, be accompanied by a detailed justification. The practice of incremental budgeting (identifying operational budgets by increasing/decreasing the prior years' expenditures by a percentage) is an option which the Town has rejected. The following tables illustrate the Town's projected revenue and expense. Projections for FY2017-FY2021 based upon a projected 1% increase in property values and an overall 3% increase of revenues and expenditures. The projections assume that ad valorem taxes will remain flat for FY 12 and FY 13 and increase 3% in FY14 and FY15. Franchise and Utility Taxes will remain flat for FY12, then are expected to increase 5% every year. Fine and Forfeitures will increase will increase 5% each year. Miscellaneous revenues are expected to inereae just 1% each year. All other revenues are expected to increase 3% every year.

**Table 9-6  
Projected General Fund Revenues (FY17-FY21 FY11-FY15)**

| <b>Department</b>               | <b>FY 2017</b>    | <b>FY 2018</b>    | <b>FY 2019</b>    | <b>FY 2020</b>    | <b>FY 2021</b>    |
|---------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Property Tax                    | 8,047,948         | 8,289,386         | 8,538,068         | 8,794,210         | 9,058,036         |
| Sales and Use Taxes             | 1,411,477         | 1,453,821         | 1,497,436         | 1,542,359         | 1,588,630         |
| Franchise and Utility Tax       | 1,364,515         | 1,405,450         | 1,447,614         | 1,491,042         | 1,535,773         |
| Permits/Licenses/Inspection     | 70,700            | 72,821            | 75,006            | 77,256            | 79,574            |
| Intergovernmental-Federal/State | 601,812           | 619,866           | 638,462           | 657,616           | 677,344           |
| Services Revenues               | 486,100           | 500,683           | 515,703           | 531,174           | 547,109           |
| Fines & Forfeitures             | 712,000           | 733,360           | 755,361           | 778,022           | 801,363           |
| Misc. Revenues                  | 31,525            | 32,471            | 33,445            | 34,448            | 35,481            |
| Transfers - In                  | 446,116           | 459,499           | 473,284           | 487,483           | 502,108           |
| <b>Total General Fund</b>       | <b>13,172,193</b> | <b>13,567,357</b> | <b>13,974,379</b> | <b>14,393,610</b> | <b>14,825,419</b> |

Source: Calvin, Giordano and Associates, Inc. (Based upon Town of Surfside Adopted Budget Fiscal Year 2017)



| Department                      | FY 2011<br>(Projected) | FY 2012          | FY 2013          | FY 2014          | FY 2015          |
|---------------------------------|------------------------|------------------|------------------|------------------|------------------|
| Property Tax                    | 5,322,156              | 5,322,156        | 5,322,156        | 5,481,821        | 5,646,275        |
| Sales and Use Taxes             | 277,900                | 286,237          | 294,824          | 303,669          | 312,779          |
| Franchise and Utility Tax       | 1,273,360              | 1,273,360        | 1,337,028        | 1,403,879        | 1,474,073        |
| Permits/Licenses/Inspection     | 168,150                | 173,195          | 178,390          | 183,742          | 189,254          |
| Intergovernmental-Federal/State | 389,088                | 400,761          | 412,783          | 425,167          | 437,922          |
| Services Revenues               | 184,800                | 190,344          | 196,054          | 201,936          | 207,994          |
| Fines & Forfeitures             | 142,000                | 149,100          | 156,555          | 164,383          | 172,602          |
| Misc. Revenues                  | 238,005                | 240,385          | 242,789          | 245,217          | 247,669          |
| <b>Total General Fund</b>       | <b>7,995,459</b>       | <b>8,035,537</b> | <b>8,140,580</b> | <b>8,409,813</b> | <b>8,688,569</b> |

Source: Calvin, Giordano and Associates, Inc., Town of Surfside Finance Department)

**Table 9-7  
Projected General Fund Expenditures (FY17-FY21 FY11-FY15)**

| Department                | FY 2017           | FY 2018           | FY 2019           | FY 2020           | FY 2021           |
|---------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Personnel                 | 8,257,679         | 8,505,409         | 8,760,571         | 9,023,388         | 9,294,090         |
| Operating Expenses        | 3,985,657         | 4,105,227         | 4,228,384         | 4,355,236         | 4,485,893         |
| Capital Outlay            | 99,500            | 102,485           | 105,560           | 108,727           | 111,989           |
| Debt Service              | 50,669            | 52,187            | 53,753            | 55,366            | 57,027            |
| Non-Operating Expenses    | 8,000             | 8,240             | 8,487             | 8,742             | 9,004             |
| Transfers - Out           | 770,688           | 793,809           | 817,623           | 842,152           | 867,417           |
| <b>Total General Fund</b> | <b>13,172,193</b> | <b>13,567,357</b> | <b>13,974,379</b> | <b>14,393,610</b> | <b>14,825,419</b> |

Source: Calvin, Giordano and Associates, Inc. (Based upon Town of Surfside Adopted Budget Fiscal Year 2017)

| Department                | FY 2011<br>(Projected) | FY 2012          | FY 2013          | FY 2014          | FY 2015          |
|---------------------------|------------------------|------------------|------------------|------------------|------------------|
| Personnel                 | 5,841,198              | 5,861,830        | 5,894,002        | 5,942,521        | 6,008,292        |
| Operating Expenses        | 2,078,161              | 2,127,503        | 2,207,127        | 2,427,407        | 2,639,946        |
| Capital Outlay            | 14,600                 | 14,308           | 14,451           | 14,885           | 15,331           |
| Debt Service              | 0                      | 0                | 0                | 0                | 0                |
| Non-Operating Expenses    | 61,500                 | 31,896           | 25,000           | 25,000           | 25,000           |
| <b>Total General Fund</b> | <b>7,995,459</b>       | <b>8,035,537</b> | <b>8,140,580</b> | <b>8,409,813</b> | <b>8,688,569</b> |

Source: Calvin, Giordano and Associates, Inc., Town of Surfside Finance Department

## Debt Capacity

The Town is expecting to pay debt service on State revolving loans for stormwater, wastewater, and potable water projects

### *Stormwater Utility Fund*

Table 9-8 The Town's FY11 budget shows the available revenue funds for the Stormwater Pollution Control Projects shown in the Schedule of Capital Improvements and the ability to manage debt service for the projects. As a result of the rate increases, the Storm Water Fund for period forecasted 2018 through 2022 provides net positive results, and both debt coverage ratios will be well above the required 110% (Senior Debt – 2011 Utility Bonds) and 115% (Subordinate Debt – SRF Loan).

**Table 9-8  
Stormwater Utility Fund Budget and projected (FY18 – FY 22 FY11)**

|                           | <u>2018</u>        | <u>2019</u>        | <u>2020</u>       | <u>2021</u>       | <u>2022</u>       |
|---------------------------|--------------------|--------------------|-------------------|-------------------|-------------------|
| <b>Annual Growth Rate</b> | <u>21.50%</u>      | <u>11.50%</u>      | <u>11.50%</u>     | <u>11.50%</u>     | <u>1.50%</u>      |
| <b>Revenue</b>            | <u>\$ 613,575</u>  | <u>\$ 684,136</u>  | <u>\$ 762,812</u> | <u>\$ 850,535</u> | <u>\$ 863,293</u> |
| <b>Expenses</b>           | <u>\$ 691,106</u>  | <u>\$ 711,839</u>  | <u>\$ 733,194</u> | <u>\$ 755,190</u> | <u>\$ 777,846</u> |
| <b>Operating Margin</b>   | <u>\$ (77,531)</u> | <u>\$ (27,703)</u> | <u>\$ 29,618</u>  | <u>\$ 95,345</u>  | <u>\$ 85,447</u>  |
| <b>Operating Margin %</b> | <u>-12.5%</u>      | <u>-4.05%</u>      | <u>3.88%</u>      | <u>11.21%</u>     | <u>9.90%</u>      |

Source: Town of Surfside Finance Department

| <b>FY 2011 Budget Summary</b>                          |                         |
|--|-------------------------|
| <b>Projected Revenues</b>                              |                         |
| Service Revenues                                       | 487,000                 |
| Loan Proceeds for Stormwater Pollution Control Project | 1,353,442               |
| Appropriated Unrestricted Retained Earnings            | 0                       |
| <b>Total Revenues</b>                                  | <u><u>1,840,442</u></u> |
| <br><b>Proposed Expenditures</b>                       |                         |
| Personnel Costs  | 67,191                  |
| Operating Items  | 77,683                  |
| Capital Outlay   | 1,353,442               |
| Debt Service   | 240,468                 |
| Non-Operating Expenses                                 | 101,658                 |
| <b>Total Expenditures</b>                              | <u><u>1,840,442</u></u> |

Source: Town of Surfside Finance Department

*Water and Sewer Fund*

Table 9-9 shows the current and projected revenues and expenditures for the the Water and Sewer Fund. The Water, Stormwater, and Wastewater Facilities Plan shows projected revenues, expenditures, and debt service through the FY 15 budget year. It shows the Town's ability to fund wastewater and potable water improvements as shown in the Schedule of Capital Improvements and the ability to manage debt service payments.

**Table 9-9  
Water and Sewer Fund Budget and Projected (FY 2018 – FY 2022 FY11-FY 15)**

|                 | <b>2018</b>         | <b>2019</b>        | <b>2020</b>         | <b>2021</b>         | <b>2022</b>         |
|-----------------|---------------------|--------------------|---------------------|---------------------|---------------------|
| <b>Revenue</b>  | <b>\$ 3,677,158</b> | <b>\$3,777,158</b> | <b>\$ 3,877,158</b> | <b>\$ 3,977,158</b> | <b>\$ 4,077,158</b> |
| <b>Expenses</b> | <b>\$ 3,677,158</b> | <b>\$3,777,158</b> | <b>\$ 3,877,158</b> | <b>\$ 3,977,158</b> | <b>\$ 4,077,158</b> |

Source: Town of Surfside Finance Department

| Description                                  | Base Year [----- Projected -----] |                   |                   |                   |                   |
|--|-----------------------------------|-------------------|-------------------|-------------------|-------------------|
|  | FY 10/11                          | FY 11/12          | FY 12/13          | FY 13/14          | FY 14/15          |
| <b>Operating Revenue</b>                     |                                   |                   |                   |                   |                   |
| Sewer Service Charges (before increase)      | \$ 1,407,825                      | \$ 1,411,344      | \$ 1,414,873      | \$ 1,418,410      | \$ 1,421,955      |
| Penalties                                    | 870                               | 870               | 870               | 870               | 870               |
| <b>Total Operating Revenue</b>               | <b>1,408,695</b>                  | <b>1,412,214</b>  | <b>1,415,743</b>  | <b>1,419,280</b>  | <b>1,422,825</b>  |
| <b>Additional Rate Revenue Required</b>      |                                   |                   |                   |                   |                   |
| Year   | Revenue Increase                  | Months Effective  |                   |                   |                   |
| 2010/11                                      | 12.00%                            | 12                | 211,174           | 211,702           | 212,231           |
| 2011/12                                      | 9.00%                             | 12                | -                 | 148,074           | 148,439           |
| 2012/13                                      | 7.00%                             | 12                | -                 | -                 | 124,148           |
| 2013/14                                      | 5.00%                             | 12                | -                 | -                 | 95,122            |
| 2014/15                                      | 5.00%                             | 12                | -                 | -                 | 100,128           |
| <b>Total Additional Sewer Charge Revenue</b> |                                   |                   | <b>211,174</b>    | <b>357,778</b>    | <b>482,818</b>    |
| <b>Total Required Revenue</b>                |                                   |                   | <b>1,619,869</b>  | <b>1,769,990</b>  | <b>1,898,561</b>  |
| <b>O&amp;M Expenses</b>                      |                                   |                   |                   |                   |                   |
| Personnel                                    | 157,051                           | 160,590           | 163,792           | 167,068           | 170,409           |
| Operations                                   | 103,670                           | 138,245           | 143,983           | 148,091           | 153,274           |
| Sewage Disposal (City of Miami Beach)        | 725,959                           | 634,197           | 658,327           | 1,103,226         | 1,298,710         |
| <b>Total O&amp;M Expenses</b>                | <b>1,016,670</b>                  | <b>1,133,022</b>  | <b>1,266,202</b>  | <b>1,418,385</b>  | <b>1,592,393</b>  |
| <b>Net Operating Income</b>                  | <b>603,858</b>                    | <b>636,968</b>    | <b>632,359</b>    | <b>580,042</b>    | <b>511,155</b>    |
| <b>Debt Service</b>                          |                                   |                   |                   |                   |                   |
| Annual Debt Service (Estimated)              | 377,151                           | 377,151           | 377,151           | 377,151           | 377,151           |
| <b>Total Debt Service</b>                    | <b>377,151</b>                    | <b>377,151</b>    | <b>377,151</b>    | <b>377,151</b>    | <b>377,151</b>    |
| Calculated Debt Coverage Ratio               | 160%                              | 169%              | 168%              | 154%              | 136%              |
| Targeted Debt Coverage Ratio                 | 125%                              | 125%              | 125%              | 125%              | 125%              |
| <b>Non-Operating Revenue</b>                 |                                   |                   |                   |                   |                   |
| Interest Income                              | 1,064                             | 1,064             | 1,064             | 1,064             | 1,064             |
| <b>Total Non-Operating Revenue</b>           | <b>1,064</b>                      | <b>1,064</b>      | <b>1,064</b>      | <b>1,064</b>      | <b>1,064</b>      |
| <b>Non-Operating Expenses</b>                |                                   |                   |                   |                   |                   |
| Capital Outlay (excl Improvements)           | 5,980                             | 6,278             | 6,593             | 6,923             | 7,289             |
| Rate Funded Capital Projects                 | -                                 | -                 | -                 | -                 | -                 |
| <b>Total Non-Operating Expenses</b>          | <b>5,980</b>                      | <b>6,278</b>      | <b>6,593</b>      | <b>6,923</b>      | <b>7,289</b>      |
| <b>Net Income (Loss) <sup>1</sup></b>        | <b>\$ 221,792</b>                 | <b>\$ 254,602</b> | <b>\$ 249,679</b> | <b>\$ 197,033</b> | <b>\$ 127,799</b> |

1. Positive net income to be applied to fund balances.

Source: Town of Surfside Water, and Sewer Rate Study, 2010

## Finacial Feasibility Analysis

~~Florida Statutes now require that local government comprehensive plan be financially feasible. Financial feasibility is defined by s. 163.3164(32), Florida Statutes (F.S.) as follows:~~

~~“Financial feasibility” means that sufficient revenues are currently available or will be available from committed funding sources for the first 3 years, or will be available from committed or planned funding sources for years 4 and 5, of a 5-year capital improvement schedule for financing capital improvements, such as ad valorem taxes, bonds, state and federal funds, tax revenues, impact fees, and developer contributions, which are adequate to fund the projected costs of the capital improvements identified in the comprehensive plan necessary to ensure that adopted level of service standards are achieved and maintained within the period covered by the 5-year schedule of capital improvements.~~

The Town’s Schedule of Capital Improvements is financially feasible with funds committed throughout the five year period.

The Town’s scheduled projects and related funding sources show a positive or zero balance. The purpose of this comparison is to test and demonstrate the financial feasibility of the Comprehensive Plan. The Plan has been determined to be financially feasible because this comparison demonstrates the ability of the Town to finance capital improvements necessitated by the anticipated population and revenues.

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## Capital Improvement Element Goals, Objectives and Policies

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*Goal 1: Undertake capital improvements necessary to provide adequate infrastructure and a high quality of life within sound fiscal practices.*

**Objective 1 – In general, use the capital improvements element as a means to meet the needs for capital facilities necessary to meet existing deficiencies, accommodate desired future growth and replace obsolete or worn-out facilities.** In particular achieve annual Town Commission use of this element as the framework to monitor public facility needs as a basis for annual capital budget and five-year program preparation. [9J-5.016(3)(b)1]

Policy 1.1 – In setting priorities, the following kinds of criteria shall be used by the Town Commission; in all cases, financial feasibility or budget impact will be assessed:

Public safety projects: any project to ameliorate a threat to public health or safety.

Quality of life projects: any project that would enhance the quality of life, such as a public streetscape improvement project.

Level of service or capacity projects: any project needed to maintain an adopted or otherwise desirable Level of Service.

Redevelopment projects: any project that would assist in the revitalization of deteriorated non-residential properties.

Environmental enhancement projects: any project which would enhance the environmental quality of the Atlantic Ocean, the Atlantic Ocean beach and dune system, Biscayne Bay or other natural resources. [9J-5.016(3)(c) 1 and 3]

Potable water projects:

Update the capital improvements schedule to maintain consistency with its 20-Year Water Supply Facilities Work Plan.

Use funds for the expansion, enhancement, and upgrade of the water supply facilities in accordance with the 15 20-Year Water Supply Facilities Work Plan.

Coordinate planning for the Town's infrastructure improvements related to water supply with the plans of state agencies, the South Florida Water Management District and Miami-Dade County.

Revision of priorities for the replacement of facilities, correction of existing water supply and facility deficiencies, and provision for future water supply and facility needs.

The Capital Improvement Element shall be reviewed and revised, as necessary, on an annual basis. The annual update shall demonstrate that the level of service standards will be maintained during the next five-year planning period.

In order to coordinate land uses with available and projected fiscal resources and a financially feasible schedule of capital improvements for water supply and facility projects, the Town shall include in its annual update of the its financially feasible five (5) year capital improvement project listing the first five (5) years of Water Supply Facilities Work Plan to ensure consistency between the Potable Water Sub-Element of the Infrastructure Element and the Capital Improvements Element.

The Town hereby incorporates by reference into its Comprehensive Plan the Miami-Dade 20-Year Water Supply Facilities Work Plan (2014-2033) adopted November 2014 inclusive of all potable water projects.

Policy 1.2 – The Town shall prudently limit the amount of debt it assumes for capital improvements or other purposes. At a minimum, the Town shall not assume debt obligations which would result in the Town exceeding the debt ratios established by state law. ~~{9J-5.016(3)(e)2}~~

Policy 1.3 – The Town shall maintain a current inventory of all Town-owned capital facilities, to include information on type, capacity, location and condition. ~~{9J-5.016(3)(e)3}~~

Policy 1.4 – The Town shall regularly schedule inspections of all capital facilities to monitor and record the condition of each. ~~{9J-5.016(3)(e)3}~~

Policy 1.5 – The Town shall use designated funding mechanisms such as the sewer assessments thereby freeing up general funds (and general obligation bonds) for such Town-wide projects identified in the policies of other Comprehensive Plan elements. ~~{9J-5.016(3)(e)9}~~

Policy 1.6 – The Town shall prepare and adopt each year a five year capital improvements program and a one-year capital budget, to include all projects which entail expenditures of at least \$10,000 and a life of at least three years. Staff studies, engineering studies and other appropriate studies shall form the basis for preparation of a five-year capital improvement program, including one year capital budget. Among items which are specifically authorized and encouraged by this policy are the following: sidewalk repair and replacement; roadway and right-of-way drainage; street lighting; traffic signs, traffic engineer, signalization, and pavement markings; parking improvements serving the Harding Avenue Business District, and debt service and current expenditures for transportation capital projects in the foregoing program areas (including construction or reconstruction of roads). The preceding list is intended to be illustrative of appropriate expenditure categories. Other capital expenditures in related and different projects are hereby authorized. ~~{9J-5.016(3)(e)7}~~

Policy 1.7 – The Town shall utilize the following implementation schedule to aid state requirements for annual updates and to ensure level of service standards are maintained.

- Preliminary meetings in April with the Building, Public Works, and Finance department to discuss capital improvement planning and revenues
- Capital improvement plan/budget workshop in July with the Town Commission for discussion of proposed projects and financing
- Prepare capital improvement plan in coordination with Town budget for approval in June.
- Public hearing on capital improvement plan/budget in September.

- Revise Schedule of Capital Improvements and update Capital Improvement Element in October.

Policy 1.8 – The Town will implement the projects listed in the capital improvement program and in the Implementation Schedule of this capital improvements element according to the schedule listed in this Element. ~~[9J-5.016(3)(e)7]~~

Policy 1.9 –Capital improvements associated with the construction of educational facilities are not addressed in the Town’s Capital Improvement Plan or Schedule of Capital Improvements, but rather are the responsibility of the Miami-Dade County Public Schools. To address financial feasibility associated with school concurrency, the current Miami-Dade County Public School Facilities Work Program, ~~dated September 7, 2010~~, for educational facilities is incorporated by reference into the CIE.

Policy 1.10 – The Town, in conjunction with Miami-Dade County and ~~the~~ Miami-Dade County Public Schools Board, has the responsibility for providing school concurrency related to capital improvements and should continually seek to expand funding sources available to meet those requirements.

Policy 1.11 – For public school facilities, a proportionate share mitigation agreement, is subject to approval by Miami-Dade County Public Schools Board and the Town and must be identified in the adopted Miami-Dade County Public School Facilities Work Program.

Policy 1.12 – The Town shall update its Capital Improvements Element and Program annually, to include the annual update of the Miami-Dade County Public Schools 5-Year District Facilities Work Plan.

Policy 1.13 – The annual update of the Capital Improvement Element shall include reflect proportionate fair-share contributions for transportation projects if applicable.

Policy 1.14 – The Town shall evaluate the costs and benefits of adaptation alternatives in the location and design of new infrastructure as well as the fortification or retrofitting of existing infrastructure.

Policy 1.15 – The Town shall commit funding to climate change adaptation and resiliency projects.

**Objective 2 – In general, coordinate land use decisions and available or projected fiscal resources with a schedule of capital improvements which maintains adopted level of service standards and meets existing and future facility needs.** In particular, achieve coordinated Town use of: 1) existing and already approved development; 2) the Future Land Use Plan; 3) the financial analyses in this Element, and 4) the established Level of Service Standards in both reviewing development applications and in preparing the annual schedule of capital improvements.

Policy 2.1 – The following Level of Service (LOS) standards shall be maintained:

***Streets:***

*Local roads:* D

*Collector roads:* D

*State Roadways*

A Level of Service of LOS E+20 shall be established (where mass transit service having headways of 20 minutes less is provided within 1/2-mile distance, roadways shall operate at no greater than 120 percent of their capacity.)

**Sanitary Sewers:** The County-wide “maximum day flow” of the preceding year shall not exceed 102 percent of the County treatment system’s rated capacity. The sewage generation standard shall be 155 average gallons per capita per day.

**Potable Water:**

- (a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent 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.
- (b) 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 Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

| Land Use  | Min. Fire Flow (gpm) |
|---|----------------------|
| Single Family Residential Estate                                  | 500                  |
| Single Family and Duplex; Residential on minimum lots of 7,500 sf | 750                  |
| Multi-Family Residential  | 1,500                |
| Semiprofessional Offices  | 1,500                |
| Hospitals; Schools  | 2,000                |
| Business and Industry   | 3,000                |

Sources: Miami-Dade County Adopted 2014, Water, Sewer and Solid Waste Element

**Drainage:** All nonresidential development and redevelopment shall adequately accommodate runoff to meet all Federal, state and local requirements. Stormwater shall be treated in accordance with the provisions of Chapter 17-25, FAC in order to meet receiving water standards in Chapter 17-302.500, FAC. One inch runoff shall be retained on site. Post-development runoff shall not exceed peak pre development runoff.

**Solid Waste:** The County solid waste disposal system shall maintain a minimum of five years’ capacity. For Town planning purposes, a generation rate of 5.6 pounds per person per calendar day shall be used.

**Parks:** The Town shall achieve and maintain a Level of Service standard of at least 6 acres of public recreation sites per 1,000 permanent population. [9J-5.016(3)(e)4]

**Public Schools:** The adopted level of service (LOS) standard for all public school facilities is 100% utilization of Florida Inventory of School Houses (FISH) Capacity (with Relocatable Classrooms). This LOS standard, except for Magnet Schools, shall be applicable in each public school concurrency service area (CSA), defined as the public school attendance boundary established by the Miami-Dade County Public Schools. The



adopted LOS standard for Magnet Schools is 100% of FISH (with Relocatable Classrooms), which shall be calculated on a districtwide basis. Level of Service standards for public school facilities apply to those traditional educational facilities, owned and operated by the Miami-Dade County Public Schools, that are required to serve the residential development within their established Concurrency Service Area. Levels of Service standards do not apply to charter schools. However, the capacity of both charter and magnet schools will be credited against the impact of development.

Policy 2.2 – The concurrency management system formulas shall include the public facility demands to be created by “committed” development and the capital improvement schedule shall include the project implications of such committed development to assure facilities are provided concurrent with the impact of development. ~~9J-5.016(3)(e)-5~~

Policy 2.3 – The Town shall not give development approval to any new construction, redevelopment, or renovation project which creates a need for new or expanded public capital improvement unless the project pays a proportional share of the costs of these improvements. ~~{9J-5.017(3)(b) 4 and (e) 8}~~

Policy 2.4 – The Town shall maintain and improve as part of the land development code a concurrency management system which meets the requirements of state statutes 9J-5.0055. The concurrency management system shall specify that no development permit shall be issued unless the public facilities necessitated by a development (in order to meet level of service standards specified in the Transportation, Recreation and Open Space, Infrastructure and Public School Facilities) will be in place concurrent with the impacts of the development or the permit is conditional to assure that they will be in place. The requirement that no development permit shall be issued unless public facilities necessitated by the project are in place concurrent with the impacts of development shall be effective immediately and shall be interpreted pursuant to the provisions of Policy 1.4 of the Future Land Use Element. ~~{9J-5.016(3)(e)6}~~

~~**9J-5.0016 Objective and Policy Requirements Not Applicable to Surfside:** Rule 9J-5 of the Florida Administrative Code requires communities to adopt as part of their Future Land Use Element objectives and policies which address various issues, except where those issues are not reasonable applicable to a particular community. The following objective and policy provisions of Rule 9J-5 are deemed by the Town of Surfside to be inapplicable:~~

~~9J5.016(3)(b)2 – The limitation of public expenditures that subsidize development in high hazard coastal areas.~~

#### **CAPITAL IMPROVEMENT ELEMENT IMPLEMENTATION SYSTEMS ~~{9J-5.016(4)(a)}~~**

Five-Year Schedule of Capital Improvements: See schedule nearby in this element. ~~{9J-5.016(4)(a) 1 and 2}~~

Other Programs: The other principal programs needed to implement this Element are as follows:

- Continue the annual capital programming and budgeting including use of the project selection criteria contained on Policy 1.1; related thereto will be the annual review of the Element.
- Amendments to the existing land development code to assure conformance to the “concurrency” requirements relative to development orders, levels of service and public facility timing as outlined in C below. ~~{9J-5.016(4)(b)}~~

Monitoring and Evaluation: The Town Manager or designee shall annually prepare a status report on this Capital Improvement Element for submittal to the Town Commission. The primary purpose is to update the five-year schedule including the basis for next year's capital budget. The project evaluation criteria shall be used in the project list review and special attention shall be devoted to maintenance of the level of service standards. This entire evaluation process shall be integrated into the Town's annual budget process. ~~{9J-5.016(5)}~~

Concurrency Management: Concurrency management shall be implemented as articulated in Future Land Use Element and the Capital Improvement Element. ~~{9J-5.016(4)(b) and 9J-5.0055}~~

**MONITORING, UPDATING AND EVALUATION PROCEDURES ~~as required by 9J-5.005(7), F.A.C.~~**

Annual Monitoring: In conjunction with one of the plan amendment cycles, the Local Planning Agency may annually conduct a public workshop on the Comprehensive Plan. A status report shall be provided by the Town Manager or designee and then citizen comment shall be solicited. This meeting shall be publicized by a legal notice in the newspaper plus efforts to have a news story in the Miami Herald and flyer announcements at the Town Hall. The LPA will then submit a report on the status of the Plan to the Town Commission. This report may be accompanied by recommended amendments, using the normal amendment process.

Evaluation and Appraisal ~~Review Report~~ (EAR): , the Town Manager or designee shall prepare an Evaluation and Appraisal ~~Review Report~~ in conformance with statutory requirements and with special emphasis on the extent to which the Comprehensive Plan objectives and policies have been achieved. The report will pinpoint obstacles to plan implementation and update baseline data.

Revised Objectives and Policies: As part of this EAR process, amendments to the goals, ~~measurable~~ objectives and policies based upon the above review, focusing short and long term community objectives. The citizen participation procedures used in preparing the Comprehensive Plan (plus any future modifications thereto) shall be used in amending the Plan.

### ***Concurrency Management System Standards***

***Facility Capacity Determinations:*** The determination that there is adequate facility capacity for a proposed project shall be based on a formulation such as (A+B) *minus* (C+D+E) shall be greater than zero, where

“A” equals the total *design capacity* of existing facilities;

“B” equals the total *design capacity* of any *planned new facilities* that will become available concurrent with the impact of the proposed development;

“C” equals existing demand on facilities measured as traffic volumes, sewer and water flows, utilization of FISH capacity (for schools) or population;

“D” equals committed demand from approved projects that are not yet constructed; and

“E” equals the demand anticipated to be created by a proposed project.

***Criteria for Measuring the Design Capacity of Existing and Planned New Facilities:*** The design capacity of existing and planned new facilities shall be determined as follows:

Sewage: the capacity of the County sewage treatment system.

Water: the capacity of the County water treatment and storage system.

Solid Waste: the capacity of the County disposal system.

Drainage: the on-site detention capability and/or storm sewer capacity.

Roadways: The standard for measuring highway capacities shall be the Florida DOT Table of Generalized Two-Way Peak Hour Volumes for Urbanized Areas or other techniques that are compatible to the maximum extent feasible with FDOT standards and guidelines. The measurement of capacity may also be determined by engineering studies provided that analysis techniques are technically sound and acceptable to the Town engineer.

Recreation: Measurement shall be based on recreation data in the Comprehensive Plan plus the latest Town population estimate with any necessary interpretation provided by the Town Manager or designee thereof.

Transit: The County Transit Agency bus schedules for routes within the Town.

***Criteria for Counting the Capacity of Planned New Facilities:*** The capacity of planned new facilities may be counted only if the following timing requirements to ensure that adequate public facilities are available to meet level of service standards with the impact of development:

- (a) Sanitary sewer, solid waste, drainage, adequate water supplies, and potable water facilities shall be in place and available to serve new development no later than the issuance by the local government of a certificate of occupancy or its functional equivalent. Prior to approval of a building permit or its functional equivalent, the Town shall determine whether adequate water supplies to serve the new development will be available no later than the anticipated date of issuance by the Town of a certificate of occupancy or its functional equivalent.
- (b) Parks and recreation facilities to serve new development shall be in place or under actual construction no later than 1 year after issuance by the local government of a certificate of occupancy or its functional equivalent. However, the acreage for such facilities shall be dedicated or be acquired by the Town prior to issuance of a certificate of occupancy or its functional equivalent, or funds in the amount of the developer's fair share shall be committed no later than the local government's approval to commence construction.

- (c) Transportation facilities needed to serve new development shall be in place or under actual construction within 3 years after the Town approves a building permit that results in traffic generation.

**Responsibility for Concurrency Monitoring System:** The manager or designee thereof shall be responsible for monitoring facility capacities and development activity to ensure that the concurrency management system data base is kept current, i.e., includes all existing and committed development. This data base shall be used to systematically update the formulas used to assess projects. An annual report shall be prepared.

**Capacity Reservation:** Any development permit application which includes a specific plan for development, including densities and intensities, shall require a concurrency review. Compliance will be finally calculated and capacity reserved at time of final action on a **design review** or **building permit** if no **design review** is required or enforceable developers agreement. Phasing of development is authorized in accordance with Rule 9J-5.0055. Applications for development permits shall be chronologically logged upon approval to determine rights to available capacity. A capacity reservation shall be valid for a time to be specified in the land development code; if construction is not initiated during this period, the reservation shall be terminated.

**Public School Concurrency Review :** Prior to the issuance of any development order for new residential development or redevelopment, public school facilities needed to support the development at adopted school LOS standards must meet the following requirements:

1. The necessary public school facilities and services are in place or under actual construction within three years after issuance of final subdivision or site plan approval, or the functional equivalent.
2. The necessary facilities and services are guaranteed in an enforceable development agreement, pursuant to Section 163.3220, F.S., or an agreement or development order issued pursuant to Chapter 380, F.S., to be in place or under actual construction not more than three years after issuance of a certificate of occupancy or its functional equivalent.

School concurrency approval for the development and anticipated students shall be valid for up to two (2) years, beginning from the date the application received final approval from the Town.

**Project Impact or Demand Measurement:** The concurrency management user's procedural guide (a supplement to the land development code) will contain the formulas for calculating compliance plus tables which provide generation rates for water use, sewer use, solid waste and traffic, by land use category. Alternative methods are acceptable to the Town Manager or designee thereof may also be used by the applicant. For example, traffic generation may be based upon the Institute of Transportation Engineer's "Trip Generation" manual.

#### **Schedule of Capital Improvements by Category and Funding Sources**

Tables 9-10 A-D make up the Town's schedule of Capital Improvements. Funding sources are shown where applicable.

**Table 9-10A  
Stormwater Projects**

**No Projects**

| <b>Town Stormwater Projects</b>   |                                      |                    |                  |                  |                  |                    |                  |
|---|--------------------------------------|--------------------|------------------|------------------|------------------|--------------------|------------------|
| <b>Project</b>  | <b>Location</b>                      | <b>FY2011</b>      | <b>FY2012</b>    | <b>FY2013</b>    | <b>FY2014</b>    | <b>FY2015</b>      | <b>Total</b>     |
| <b>Stormwater Pollution Control Project</b>                             | <b>Townwide</b>                      | \$2,771,190        |                  |                  |                  |                    | \$2,771,190      |
| -   | -                                    | -                  | -                | -                | -                |                    | -                |
| <b>Total Cost of Stormwater Projects</b>                                | -                                    | \$2,771,190        |                  |                  |                  |                    | \$2,771,190      |
| <b>Funding Sources</b>  | <b>FDEP LP6787 Approved 12/31/08</b> | \$125,000          | -                | -                | -                |                    | <u>125,000</u>   |
|   | <b>FDEP S0374 Approved 2/30/10</b>   | \$873,500          | -                | -                | -                |                    | <u>873,500</u>   |
|   | <b>State Revolving Loan Fund</b>     | <u>\$1,772,690</u> | -                | -                | -                |                    | <u>3,010,092</u> |
|   | <b>Previous Year Carryover</b>       |                    | <u>\$286,990</u> | <u>\$573,980</u> | <u>\$860,700</u> | <u>\$1,147,960</u> | \$2,869,630      |
|   |                                      | -                  | -                | -                | -                |                    |                  |
| <b>Total Funding Available for Stormwater Pollution Control Project</b> | -                                    | <u>\$2,771,190</u> | <u>\$286,990</u> | <u>\$573,980</u> | <u>\$860,700</u> | <u>\$1,147,960</u> | \$5,640,820      |

Source: Town of Surfside, Calvin, Giordano and Associates, Inc.

Note: The Town Commission approved a stormwater service rate increases to provide debt service for the fund balances for FY11. Funding sources for FY11 result in a carryover/reserve for each year FY12-FY15.

**Table 9-10B  
Wastewater and Potable Water Projects**

No projects

| <b>Town Wastewater and Potable Water Projects</b> |  |                  |                  |                |                |                |                   |
|---|--|------------------|------------------|----------------|----------------|----------------|-------------------|
| <b>Project Name</b>                               | <b>Location</b>  | <b>FY 2011</b>   | <b>FY2012</b>    | <b>FY2013</b>  | <b>FY2014</b>  | <b>FY2015</b>  | <b>Total</b>      |
| <b>Wastewater System Rehabilitation Program</b>   | <b>Town-wide</b>   | <u>3,987,100</u> | <u>1,049,123</u> | -              | -              | -              | <u>5,036,223</u>  |
| <b>Water System Program</b>                       | <b>Town-wide</b>   | <u>4,241,200</u> | <u>1,797,371</u> | -              | -              | -              | <u>6,038,571</u>  |
| <b>Total Cost of Projects</b>                     | -  | <u>8,228,300</u> | <u>2,846,494</u> | -              | -              | -              | <u>11,074,794</u> |
| <b>Funding Sources</b>                            | <b>Miami-Dade County Building Better Communities Bond</b>                    | <u>829,000</u>   |                  | -              | -              | -              | <u>829,000</u>    |
| <b>Funding Sources</b>                            | <b>Water and Sewer Fund</b>  | <u>336,690</u>   | <u>1,165,690</u> | -              | -              | -              | <u>1,502,380</u>  |
|   | <b>State Revolving Fund with non-ad valorem pledge from rate adjustment.</b> | <u>7,807,947</u> | <u>1,855,636</u> | -              | -              | -              | <u>9,663,583</u>  |
| -   | <b>FDEP LP8978 - 3/31/09</b>   | <u>100,000</u>   | -                | -              | -              | -              | <u>100,000</u>    |
| -   | <b>FDEP LP8978 - 3/31/09</b>   | <u>33,000</u>    | -                | -              | -              | -              | <u>33,000</u>     |
| -   | <b>Previous year carryover</b>   |                  | -                | <u>351,056</u> | <u>351,056</u> | <u>351,056</u> |                   |
| <b>Total Funding</b>                              | -  | <u>9,106,637</u> | <u>3,021,326</u> |                |                |                | <u>12,127,963</u> |

Source: Town of Surfside, Calvin Giordano and Associates, Inc.

Notes: Description of Wastewater Rehabilitation Program: The Wastewater Rehabilitation Plan consists of three phases. Phase I required the placement of full dish gaskets on manhole openings and brings the Town in partial compliance with the mandates from DERM. Phase II requires the repair or lining of sanitary sewer lines as detected by the recent cleaning and video project. Phase III (renovating pump stations) will complete the requirements as outlined in the Sanitary Sewer Evaluation Study (SSES).

Description of Water System Program: This project provides for the replacement of about 11 miles of water system pipe known to be in particularly poor condition.

The Miami-Dade County Building Better Communities Bond was approved on July 20, 2004.

The Town Commission approved water and sewer service rate increases to provide debt service and state revolving loan repayment for FY10 and FY11. Funding Sources for FY10 and FY11 result in a carryover of \$351,056 for each year FY12-FY15.

**Table 9-10C  
FDOT Projects**

| <b>FDOT Projects</b>                |                                      |                |                |                |                |                |              |
|-------------------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|--------------|
| <u>Project Name</u>                 | <u>Location</u>                      | <u>FY 2017</u> | <u>FY 2018</u> | <u>FY 2019</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>Total</u> |
| Indian Creek Bridge<br>#876100 PD&E | 91 <sup>st</sup> Street/<br>Surfside |                |                |                |                | \$1,515,001    | \$1,515,001  |
| <b>Total Cost of FDOT Projects</b>  |                                      |                |                |                |                | \$1,515,001    | \$1,515,001  |

Source: FY2018-2023 FDOT Work Program

| <b>FDOT Projects</b>  |   |                |                |                |                |                |              |
|---|---|----------------|----------------|----------------|----------------|----------------|--------------|
| <u>Project Name</u>   | <u>Location</u>   | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>Total</u> |
| SRA1A/Collins Avenue<br>Resurfacing<br>FDOT Item No.<br>4198581 | 150-foot<br>north of 75th<br>Street to<br>north of 96 <sup>th</sup><br>Street |                | \$4,820,000    |                |                |                | \$4,820,000  |
| SRA1A/Harding<br>Avenue Resurfacing<br>FDOT Item No.<br>4198231 | From Bal<br>Harbour<br>Shop<br>Entrance to<br>to 94 <sup>th</sup> Street      |                | \$1,315,000    |                |                |                | \$1,315,000  |
| SR922/96 St Kn Con.<br>Resurfacing<br>FDOT Item No.<br>4274211  | From 163 <sup>rd</sup> E.<br>of E. Bay<br>Habr to SR<br>A1A/Collins<br>Avenue | \$105,000      |                | \$694,000      |                |                | \$799,000    |
| <b>Total Cost of FDOT Projects</b>                              |   | \$105,000      | \$6,135,000    | \$694,000      |                |                | \$6,934,000  |

Source: FY2011-2015 Transportation Improvement Program, Miami-Dade Metropolitan Planning Organization

**Table 9-10D  
Gas Tax Projects**

**Forecasted Municipal Transportation Funding (CITT)**

| <b>Capital Projects</b>                              | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>Total</b> |
|--|-------------|-------------|-------------|-------------|-------------|--------------|
| Traffic Signal Loop Detectors                        | \$ 50,000   | \$ -        | \$ -        | \$ -        | \$ -        | \$ 50,000    |
| Harding Avenue Downtown Street Improvements          | \$ 100,000  | \$ -        | \$ -        | \$ -        | \$ -        | \$ 100,000   |
| 91 Street Improvement Project                        | \$ -        | \$ 100,000  | \$ -        | \$ -        | \$ -        | \$ 100,000   |
| West Side Street Improvements                        | \$ -        | \$ -        | \$ 100,000  | \$ -        | \$ -        | \$ 100,000   |
| Traffic & Pedestrian Management Program              |             |             |             | \$ 95,000   | \$ 95,000   | \$ 190,000   |
| <b>Total Annual Municipal Transp. Source Funding</b> | \$ 150,000  | \$ 100,000  | \$ 100,000  | \$ 95,000   | \$ 95,000   | \$ 350,000   |

| <b>Funding Sources</b>  | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>Total</b> |
|-------------------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Transit Surtax Proceeds | \$ 223,000  | \$ 225,230  | \$ 227,482  | \$ 229,757  | \$ 232,055  | \$ 1,137,524 |
| Balance                 | \$ 73,000   | \$ 125,230  | \$ 127,482  | \$ 134,757  | \$ 137,055  | \$ 597,524   |

Note: Transit Surtax Proceeds listed above is only part of total required planned project funding.

Source: Town of Surfside Finance Department

| <b>Gas Tax/ CITT Projects</b>           |                         |                         |                         |                         |                         |                         |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Project Name</b>                     | <b>FY 2011</b>          | <b>FY 2012</b>          | <b>FY 2013</b>          | <b>FY 2014</b>          | <b>FY 2015</b>          | <b>Total</b>            |
| <u>Traffic Management Program</u>       | <u>\$55,000</u>         | <u>\$85,000</u>         | <u>\$80,000</u>         | <u>\$80,000</u>         | <u>\$80,000</u>         | <u>\$380,000</u>        |
| <u>Downtown Improvement Master Plan</u> | <u>\$23,500</u>         |                         |                         |                         |                         | <u>\$23,500</u>         |
| <u>Mobility Fee Study</u>               | <u>\$75,000</u>         |                         |                         |                         |                         | <u>\$75,000</u>         |
| <b>Total Cost</b>                       | <b><u>\$153,500</u></b> | <b><u>\$85,000</u></b>  | <b><u>\$80,000</u></b>  | <b><u>\$80,000</u></b>  | <b><u>\$80,000</u></b>  | <b><u>\$478,500</u></b> |
| <b>Funding Source</b>                   |                         |                         |                         |                         |                         |                         |
| <b>Municipal Transportation Fund</b>    | <b><u>\$258,500</u></b> | <b><u>\$109,181</u></b> | <b><u>\$110,818</u></b> | <b><u>\$112,480</u></b> | <b><u>\$114,168</u></b> | <b><u>\$109,181</u></b> |
| <b>Balance</b>                          | <b><u>\$105,000</u></b> | <b><u>\$24,181</u></b>  | <b><u>\$30,818</u></b>  | <b><u>\$32,480</u></b>  | <b><u>\$34,168</u></b>  | <b><u>\$105,000</u></b> |

Source: Town of Surfside Finance Department.

Note: The Municipal Transportation Fund includes the Second Local Option Gas Tax, funds from the Citizen's Independent Transportation Trust (County gas tax shared with municipalities), The 2011 fund balance includes a balance transfer. FY11-15 projections are based upon a 1.5% increase in revenues years from FY11.

Project Descriptions: The Downtown Improvements Master Plan is a comprehensive study that focuses on Collins Avenue, Harding Avenue, and the surrounding downtown areas. The study is to include analysis and recommendations regarding hard-scape and soft-scape features, way-finding signage, aesthetic entranceways, and other unique elements exclusive to the Town. Additional studies and improvement costs may result from these recommendations.

The Traffic Management Program is a program to implement various traffic calming devices throughout the Town. Traffic calming devices help lower vehicle speed and prevent cut-through traffic on local roads. Traffic calming devices can include but are not limited to speed tables, roundabouts, partial road closures, road narrowing, and chicanes. Included in the funding are traffic engineering analysis and construction costs.

The Mobility Fee Study would prepare Surfside for the adoption of transportation impact fee based upon multi-modal planning (auto, bicycle, pedestrian, mass transit) and the requirements implementing SB360.



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## Public School Facilities Goals, Objectives, and Policies

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**Goal:** *Assist the Miami-Dade County Public Schools in developing, operating, and maintaining a system of quality public education in Surfside through the provision of adequate public educational facilities.*

**Objective 1 - Significantly Reduce Overcrowding:** Work with the Miami-Dade County Public Schools (MDCPS) to reduce overcrowding in schools where overcrowding exists and prevent overcrowding where it does not exist while striving to attain an optimum level of service pursuant to Objective 2.

*Measure: Class enrollment should meet State requirements for class size by September 1, 2010.*

Policy 1.1 - Cooperate with the Miami-Dade County Public Schools in their efforts to continue to provide new student stations through the Capital Outlay program, insofar as funding is available.

Policy 1.2 - Cooperate with the Miami-Dade County Public Schools in their efforts to locate public school facilities.

Policy 1.3 - Miami-Dade County Public Schools Board (~~School Board~~) comments shall be sought and considered in comprehensive plan amendments and other land use and zoning decisions which could impact the school district, in order to be consistent with the terms of the state mandated Amended and Restated Interlocal Agreement for Public School Facility Planning (Interlocal Agreement) pursuant to Sections 1013.33 and 163.31777, Florida Statutes.

Policy 1.4 - Cooperate with the Miami-Dade County Public Schools in their efforts to develop and implement alternative educational facilities, such as primary learning centers, which can be constructed on small parcels of land and relieve overcrowding at elementary schools, in so far as funding and rules permit.

Policy 1.5 - Cooperate with the Miami-Dade County Public Schools in their efforts to provide public school facilities to the students of the Town, ~~which operate at optimum capacity, in so far as funding available.~~ Operational alternatives may be developed and implemented, where appropriate, which mitigate the impacts of overcrowding while maintaining the instructional integrity of the educational programs.

Policy 1.6 - Cooperate with the Miami-Dade County Public Schools in their efforts to maintain and/or improve the established level of service (LOS), for Public Educational Facilities, as established for the purposes of school concurrency.

Policy 1.7 - Cooperate and coordinate with Miami-Dade County and ~~the Miami-Dade County Public Schools School Board~~ through the Staff Working Group of the Interlocal Agreement for Public School Facility Planning to review annually the Public School Facilities Element and school enrollment projections, and the Town will make amendments if necessary.

**Objective 2 - Maintain Level of Service for Public School Concurrency:** Work with Miami-Dade County School Board to coordinate new residential development with the future availability of public school facilities consistent with the adopted level of service standards for public school concurrency, to ensure the inclusion of those projects necessary to address existing deficiencies in the most current 5-year

Public School Facilities Work Program, as referenced, and to meet the future needs based upon achieving and maintaining the adopted level of service standards throughout the planning period.

~~Measure: All public school facilities to achieve 100% utilization of overall FISH (with Relocatable Classrooms) by January 1, 2013.~~

Policy 2.1 - Level of Service standards for public school facilities apply to those traditional educational facilities, owned and operated by the Miami-Dade County Public Schools, that are required to serve the residential development within their established Concurrency Service Area. Level of Service standards do not apply to charter schools. However, the capacity of both charter and magnet schools will be credited against the impact of development.

Policy 2.2 - The adopted level of service (LOS) standard for all public school facilities is 100% utilization of Florida Inventory of School Houses (FISH) Capacity (with Relocatable Classrooms). This LOS standard, except for Magnet Schools, shall be applicable in each public school concurrency service area (CSA), defined as the public school attendance boundary established by the Miami-Dade County Public Schools.

Policy 2.3 - The adopted LOS standard for Magnet Schools is 100% of FISH (With Relocatable Classrooms), which shall be calculated on a district-wide basis.

Policy 2.4 – ~~Support~~ ~~It is~~ the goal of Miami-Dade County Public Schools and the Town, for all public school facilities to achieve 100% utilization of Permanent FISH (No Relocatable Classrooms) by January 2018. To help achieve the desired 100% utilization of Permanent FISH by 2018, Miami-Dade County Public Schools should continue to decrease the number of relocatable classrooms over time. Public school facilities that achieve 100% utilization of Permanent FISH capacity should, to the extent possible, no longer utilize relocatable classrooms except as an operational solution. ~~Beginning January 1, 2013, the Miami Dade County Public Schools will implement a schedule to eliminate all remaining relocatable classrooms by January 1, 2018.~~

~~By December 2010, the Town in cooperation with Miami Dade County Public Schools will assess the viability of modifying the adopted LOS standard to 100% utilization of Permanent FISH (No Relocatable Classrooms) for all CSAs.~~

Policy 2.5 - Relocatable classrooms may be used by the Miami-Dade County Public Schools as an operational solution to achieve the level of service standard during replacement, remodeling, renovation or expansion of a public school facility; and in the event of a disaster or emergency which prevents the School Board from using a portion of the affected school facility.

Policy 2.6 - In the event the adopted LOS standard of a CSA cannot be met as a result of a proposed development's impact, the development may proceed provided at least one of the following conditions is met:

- a) The development's impact can be shifted to one or more contiguous CSAs that have available capacity and is located, either in whole or in part, within the same Geographic Areas (Northwest, Northeast, Southwest, Southeast, see Figure 1A through 1D) as the proposed development; or
- b) The developments' impact is mitigated, proportionate to the demand for public schools it created, through a combination of one or more appropriate proportionate share mitigation options, as defined in Section 163.3180 (13) (e) 1, Florida Statutes. The intent of these options is to provide for the mitigation of residential development impacts on public school facilities, guaranteed by a legally binding agreement, through mechanisms that include, one

or more of the following: contribution of land; the construction, expansion, or payment for land acquisition or construction of a permanent public school facility; or the creation of a mitigation bank based on the construction of a permanent public school facility in exchange for the right to sell capacity credits. The proportionate share mitigation agreement, is subject to approval by Miami Dade County School Board and the Town and must be identified in the most current Miami-Dade County Public School Facilities Work Program.

- c) The development's impacts are phased to occur when sufficient capacity will be available.

If none of the conditions are met, the development shall not be approved.

Policy 2.7 - Concurrency Service Areas (CSA) shall be delineated to: 1) maximize capacity utilization of the facility, 2) limit maximum travel times and reduce transportation costs, 3) acknowledge the effect of court-approved desegregation plans, 4) achieve socio-economic, racial, cultural and diversity objectives, and 5) achieve other relevant objectives as determined by the School Board's policy on maximization of capacity. Periodic adjustments to the boundary or area of a CSA may be made by the School Board to achieve the above stated factors. Other potential amendments to the CSAs shall be considered annually at the Staff Working Group meeting to take place each year no later than April 30 or October 31, consistent with Section 9 of the Interlocal Agreement for Public School Facilities Planning.

Policy 2.8 - The Town through the implementation of the concurrency management system and the most current Miami-Dade County Public School Facilities Work Program for educational facilities, shall ensure that existing deficiencies are addressed and the capacity of schools is sufficient to support residential development at the adopted level of service (LOS) standards throughout the planning period in the 5-year Schedule of Capital Improvements.

Policy 2.9 - The Miami-Dade County Public School Facilities Work Program, which is adopted by reference into the Capital Improvements Element, will be evaluated on an annual basis to ensure that the level of service standards will continue to be achieved and maintained throughout the planning period.

Policy 2.10 - The Miami-Dade County Public School Facilities Work Program shall be amended on an annual basis to: 1) add a new fifth year; 2) reflect changes in estimated capital revenues, planned capital appropriations costs, planned capital facilities projects, CSAs and school usage; and, 3) ensure the Miami-Dade Public School Facilities Work Program continues to be financially feasible for the five-year planning period.

**Objective 3 - Obtain Suitable Public Educational Facility Sites:** Assist ~~the~~ Miami-Dade County Public Schools Board ~~in obtaining~~ suitable sites ~~in which~~ to meet the level-of-service and, facility needs of the public education system.

~~Measure: Through 2015, ensure that new and expanded public local facilities are compatible with existing and projected land uses and adequately served by public utilities.~~

Policy 3.1 - In the selection of sites for future educational facilities development, the Town should encourage Miami-Dade County Public Schools to consider whether a school is in close proximity to residential areas and is in a location that would provide a logical focal point for community activities and be in close proximity to Town neighborhoods.

Policy 3.2 - Where possible, ~~the~~ Miami-Dade County Public Schools should seek sites that are adjacent to existing or planned public recreation areas, community centers, libraries, or other compatible civic uses or the purpose of encouraging joint use facilities.

Policy 3.3 - The Town acknowledges and concurs that, when selecting a site, ~~the~~ Miami-Dade County Public Schools will consider if the site meets the minimum size criteria as recommended by the State Department of Education or as determined to be necessary for an effective educational environment.

Policy 3.4 - When considering a site for possible use as an educational facility, ~~the~~ Miami-Dade County Public Schools should review the adequacy and proximity of other public facilities and services necessary to the site such as roadway access, bus stops for existing and proposed public school facilities, transportation, potable water, sanitary sewers, drainage, solid waste, and police and fire services, and means by which to assure safe access to schools, including sidewalks, bicycle paths, turn lanes, and signalization.

Policy 3.5 - When considering a site for possible use as an educational facility, ~~the~~ Miami-Dade County Public Schools should consider whether the present and projected surrounding land uses are compatible with the operation of an educational facility.

**Objective 4 - Establish Effective Coordination** - ~~The e~~ Establishment of mechanisms for ongoing coordination, communications and implementation between the School Board, Miami-Dade County, and the Town to ensure the adequate provision of public educational facilities.

~~*Measure: Actively participate in joint meetings with Miami-Dade County and the School Board to ensure appropriate coordination of land use and public school facilities planning.*~~

Policy 4.1 - The Town shall coordinate with ~~the~~ Miami-Dade County Public Schools to develop or modify rules and regulations in order to simplify and expedite proposed new educational facility developments and renovations.

Policy 4.2 - Future educational facilities should be located where the capacity of other public facilities and services is available to accommodate the infrastructure needs of the educational facility.

Policy 4.3 - The Town will encourage Miami-Dade County Public Schools to coordinate school capital improvement plans with the planned capital improvement projects of the Town if applicable.

Policy 4.4 - The Town shall coordinate with ~~the~~ Miami-Dade County Public Schools to eliminate infrastructure deficiencies surrounding existing school sites if applicable.

Policy 4.5 - The Town and ~~the~~ Miami-Dade County Public Schools shall coordinate efforts to ensure the availability of adequate sites for the required educational facilities.

Policy 4.6 - The Town will account for the infrastructure needs of new, planned or expanded educational facilities when formulating and implementing the Town's capital improvements plans.

Policy 4.7 - Coordinate the Town land use planning and permitting processes with the Miami-Dade County Public Schools Board's site selection and planning process to ensure future school facilities are consistent and compatible with land use categories and the surrounding land uses.

Policy 4.8 - The Town will notify Miami-Dade County Public Schools of land use and zoning decisions as outlined in the Interlocal Agreement.

Policy 4.9 - The Town and the Miami-Dade County Public Schools Board shall coordinate to prepare projections of future development and public school enrollment growth and to ensure such projections are consistent with the Town's future land use maps and the School Board's Long Range Public School Facilities Map consistent with the procedures and requirements identified in the Interlocal Agreement.

Policy 4.10 - The Town shall coordinate with adjacent local governments and the school district on emergency preparedness issues, including the use of public schools to serve as emergency shelters.

Figure 10A – Northwest Area Educational Facilities

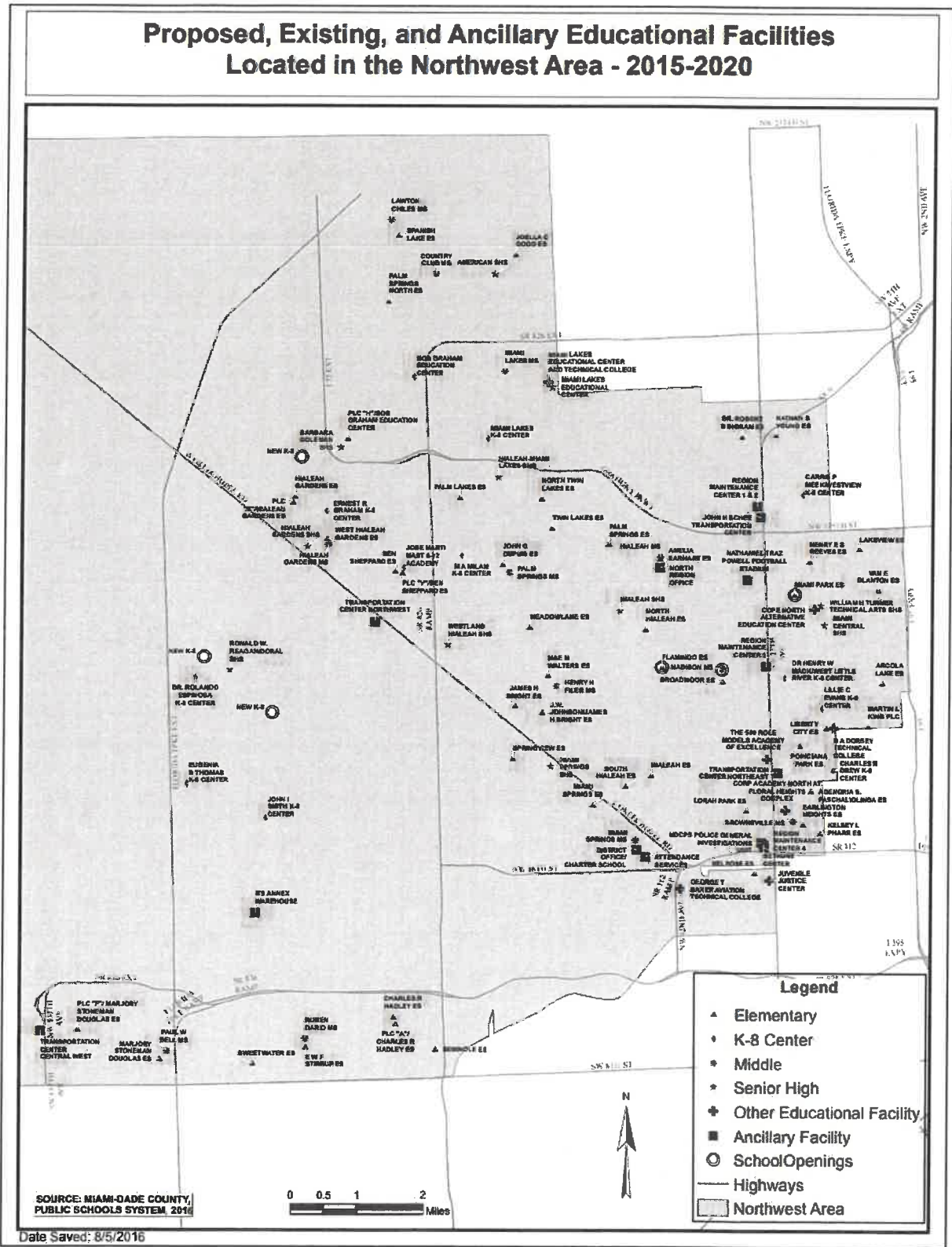


Figure 10B – Northeast Area Educational Facilities

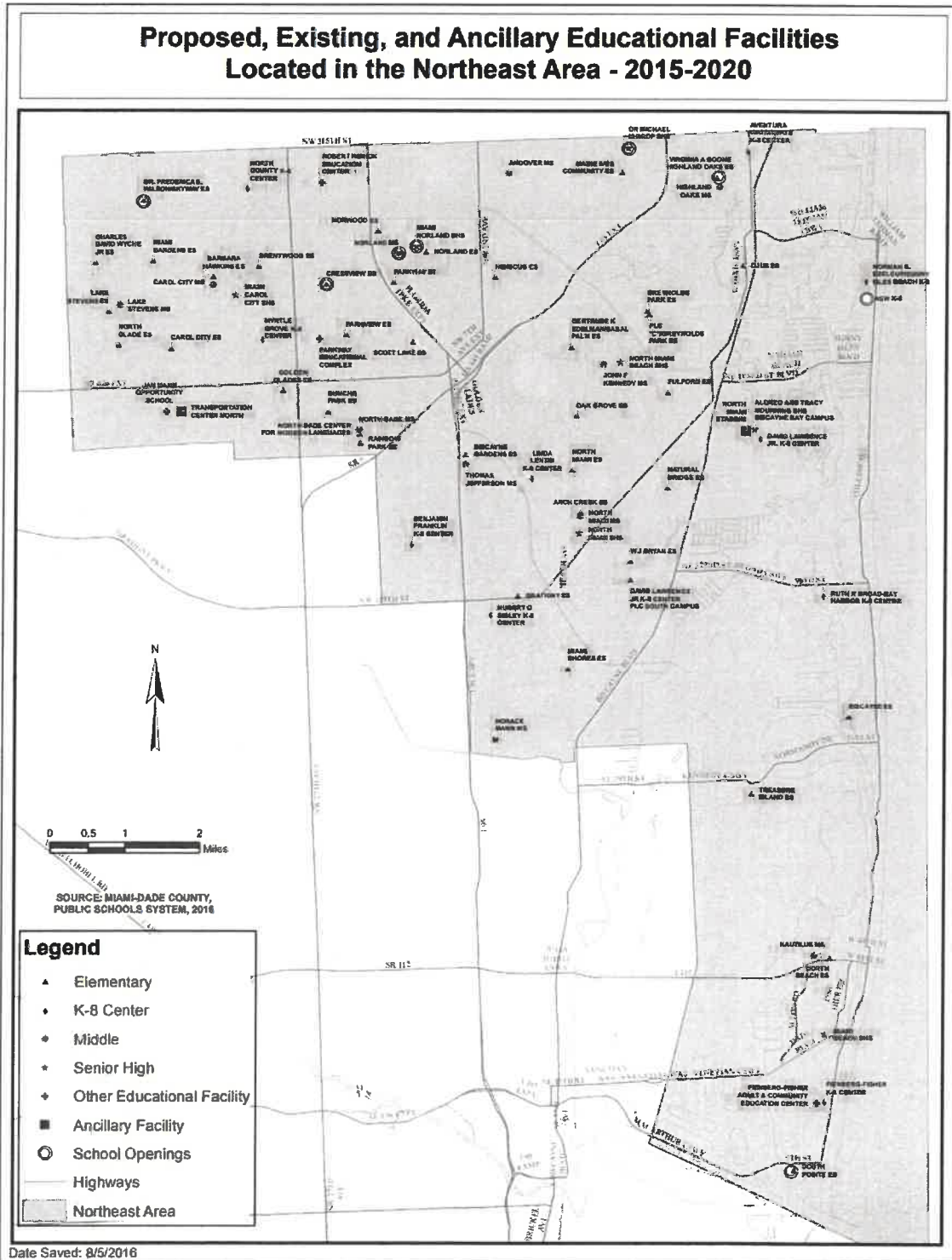


Figure 10C – Southwest Area Education Facilities

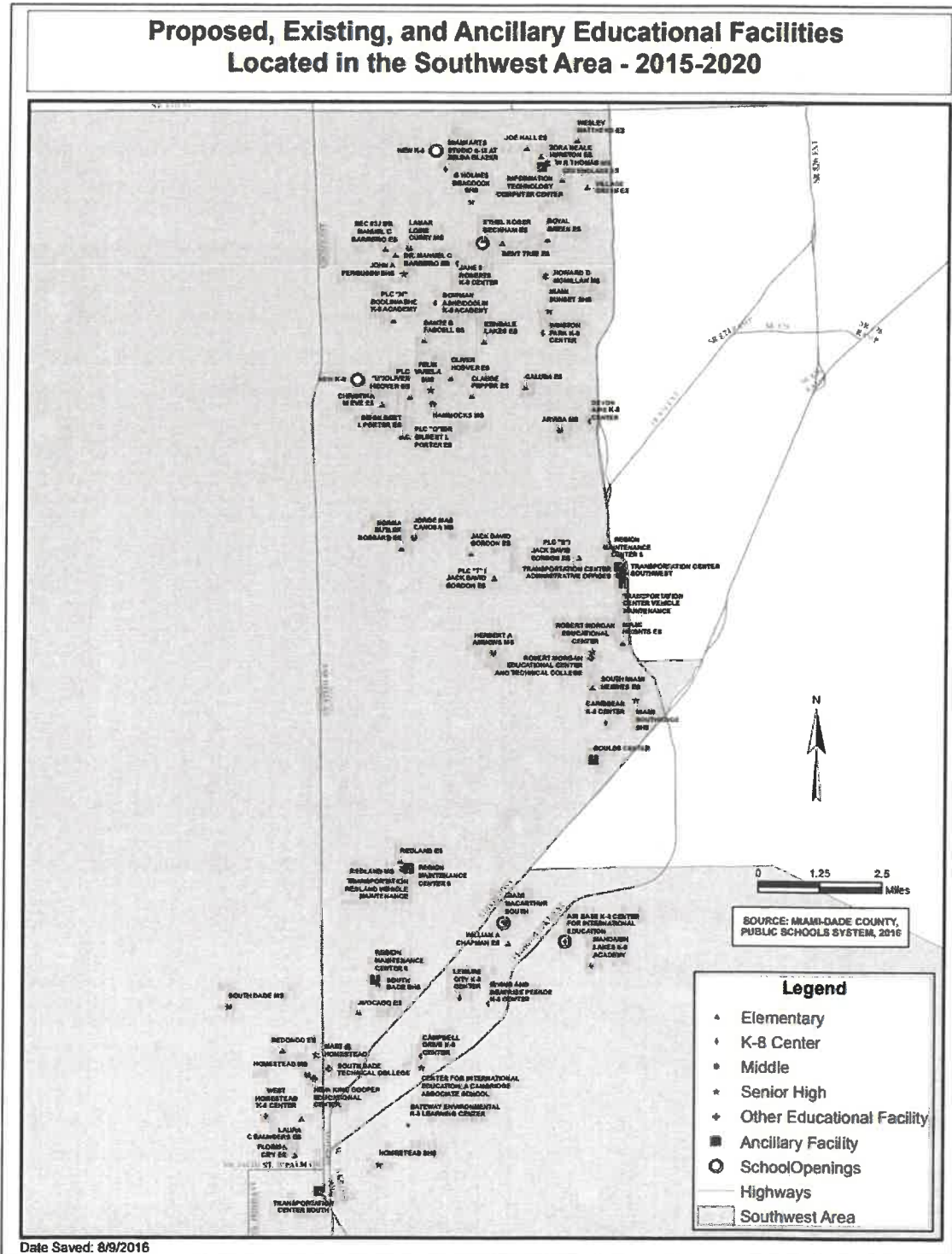




Figure 10D – Southeast Area Educational Facilities

