

**SMALL AREA STUDY
SOUTH MAINLAND PLANNING AREA
BREVARD COUNTY, FLORIDA**



**Brevard County
Planning & Development Department
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**RECOMMENDATIONS OF THE SOUTH MAINLAND PLANNING AREA
SMALL AREA STUDY**

South Mainland Planning Area Small Area Study

EXECUTIVE SUMMARY

The South Mainland Planning Area Small Area Study (SAS) was initiated at the direction of the Board of County Commissioners in response to proposed major public infrastructure improvements in the transportation network to relieve constrained levels of service (LOS) in some areas. Its purpose was to take an in-depth look at the area, its infrastructure, land uses supported by this infrastructure, and develop a study that would be a tool for planning and growth management.

An analysis of the land uses has shown that there are large areas of existing single family residential subdivisions that have adopted Future Land Use designations that permit land use density that is significantly greater than the developed character of the area. Although rezonings would be required to achieve the densities that are currently adopted on the Future Land Use Map, the study lends support toward revisiting adopted densities so that they align with development patterns in the area. Otherwise, the Future Land Use Map could encourage requests for redevelopment that may not be compatible with the surrounding land-use patterns and be in conflict with the single-family residential nature of the community. Additionally, some administrative rezoning and land use changes were identified for staff to initiate.

The existing infrastructure of the area was found to be adequate for existing development. Modeling was performed to show the effects of the redevelopment of the area using the maximum density allowances under the current Future Land Use Map. Additional modeling was undertaken to show the effects of a major density reduction and transfer of a limited amount of this residential density to areas of proposed public infrastructure improvements. Both of these models showed impacts to desired service levels of service infrastructure, particularly transportation and evacuation times during storm events. Some of these impacts would cause the infrastructure to exceed the adopted level of service standards.

The South Mainland Planning Area Small Area Study proposes these recommendations:

- Recommendation 1: Brevard County should initiate Comprehensive Plan amendments to the Future Land Use Map to reduce residential densities on developed residential properties in the study areas to reflect established residential densities on developed parcels. These parcels are located in areas of public infrastructure near LOS capacity where the expansion of capacity is not feasible. The recommended densities would reduce the adopted Residential 15 Future Land Use to Residential 6 for approximately 1,894 acres.
- Recommendation 2: Brevard County should initiate Comprehensive Plan amendments to amend the Future Land Use on approximately 23 acres of

Neighborhood Commercial to Residential 6 for parcels that have been developed as residential single family dwellings in existing platted subdivisions.

- Recommendation 3: Brevard County should initiate Comprehensive Plan amendments to amend the Future Land Use on approximately 5.8 acres from adopted Residential 4 to Residential 6 for single family residential lots located in existing subdivisions where the surrounding land uses are Residential 6.
- Recommendation 4: Brevard County should initiate Comprehensive Plan amendments to amend the Future Land Use for the transfer of 3,000 residential single family dwelling units to the Platt Ranch where future public infrastructure improvements have been planned and funded along the proposed St. John's Heritage Parkway.
- Recommendation 5: The Board of County Commissioners should implement the study recommendations through the Comprehensive Plan amendment process during the spring amendment cycle of 2010.

These amendments are reflected in the Prospective Future Land Use Maps at the end of this study.

STUDY AREA AND BOUNDARIES

The South Mainland Planning Area study area is bounded by Wickham Road and Suntree Boulevard to the north; to the southern County boundary; east by the Indian River and west by the County boundary. The Small Area study is only being conducted for the unincorporated area, it does not include areas within the municipalities.

INTRODUCTION

Purpose of the Study:

The Small Area Study (SAS) is a planning and growth management tool. It is used to take an in-depth look at a particular area that has certain characteristics that distinguishes the area as a “community”. These may be physical boundaries such as a river or a lake, a planned development of subdivisions or neighborhoods, or even an area that is affected in common by changes around them. The Brevard County Comprehensive Plan directs transportation related small area studies to be performed by established planning areas.

This assessment includes not only growth and development issues for South Mainland Planning Area, such as land use and zoning, but also addresses different community aspects such as changing population demographics, public school demand, utility usage, and other factors that all contribute to the community environment. After completion, the Small Area Study will be utilized to develop recommendations for consideration by the Local Planning Agency and the Board of County Commissioners. These recommendations may include amendments to the Future Land Use Map, Comprehensive Plan and other planning issues.

Origin of the South Mainland Planning Area Small Area Study:

The South Mainland Planning Area SAS was initiated by the Brevard County Board of County Commissioners on December 15, 2009 in response to the St. John’s Heritage Parkway capital improvements program project. Through public participation and staff assistance, an SAS is the mechanism to address concerns over public infrastructure level of service, future growth pressures and identify other planning issues such as redevelopment in existing residential areas.

Community Background:

The contemporary City of Melbourne was established in 1969 by a merger of the City's of Melbourne and Eau Gallie. At that time the surrounding unincorporated areas were mainly agricultural in nature. With the development of Kennedy Space Center, the areas largest employer, a number of KSC related companies were established in the Melbourne area. During the 1960's and 1970's, the mainstay of community businesses and services for the south Brevard Area as well as major employers located in the South Mainland Planning Area.

Currently in the southern portion of the planning area, there are pockets of unincorporated areas intermingled with the municipalities. Some of these are true enclaves, surrounded on all sides by municipalities, and others are unincorporated areas with municipalities adjacent to them on two or three sides.

The northern portion of the South Mainland Planning Area contains a number of subdivisions that were constructed as part of the Viera Development of Regional Impact (DRI) or in close proximity to the DRI. These subdivisions are in an unincorporated area, but are commonly referred to as Viera and Suntree. The mixture of residential, professional office, and retail services developed between the 1980's through the housing boom of the early 2000's.

These communities in the northern portion of the planning area comprise large continuous tracts of unincorporated area.



City of Melbourne circa 1969

Historic Aspects:

The South Mainland Planning Area was originally home to many of Brevard County's agricultural pursuits. Crops included oranges, grapefruit, row crops such as watermelon and cabbage, and pasture land for cattle grazing.

Over time, the use of the land as agriculture gave way to residential expansion from the developing cities. As Kennedy Space Center was established, more residential development and supporting commercial services came into being.

Space Center related industries began to develop in the 1960's with accelerated expansion in the 1970's and 1980's as technology related to the Space Center was turned into manufacturing opportunities for the area. Corporations such as Harris Corp., Rockwell-Collins, and Northrop fueled the housing demand and the continued transfer of agriculture land to urban uses. Non-space industry related employers and colleges came to provide services to the new residents, such as Florida Institute of Technology.



In 1992, as the nation celebrates its 500th anniversary of the discovery of America, replicas of Christopher Columbus's ships sail past the Space Shuttle Endeavor on Pad 39B. Photo Credit: NASA/KSC

Ecological and Environmental Factors

South Mainland Planning Area is a unique community where urban development intertwines and interfaces with sensitive and valuable ecological resources.



*Green Tree frog resting on Pickerel weed
Photo by: Raleigh Berry, Brevard County NRM*

The Environment:

Ecotones – description of surrounding ecosystems

During the 1950's and 60's many of the existing marshes were impounded or ditched for mosquito control purposes. Impounded salt marshes are very susceptible to degradation due to restricted water movement. Furthermore, pollutants that enter into these impoundments often remain there for extended periods of time. These influences create a need to proactively manage these critically sensitive areas.

Even with the historically intense development on South Mainland Planning Area, the remaining natural marsh and swamp systems have been resilient. These systems rely heavily upon the limited yet essential transition zones buffering the urban boundary. Similarly, the waterways rely upon the connection to the adjoining marsh and swamp systems to sustain their unique and diverse ecological and economically productivity. This interconnectivity between the community and the ecology creates a unique sense of place seldom found within the urban environment.

Geology/Hydrogeology

Coastal Florida has a complex geologic history with repeated periods of deposition, when the Florida Plateau was submerged, and erosion, when the seas receded.

The geology and the development within the study area play a significant part in the quality and quantity of water available to the surrounding aquatic systems. Increased impervious areas and channelized drainage systems result in a short circuiting of the natural recharge and filtration of the groundwater. The study area exhibits many urbanized areas where the recharge has been limited and the natural filtration bypassed do to untreated stormwater systems. This scenario results in reduced volumes of surficial groundwater and significantly lower quality of the water discharged into the surrounding marshes, canals and waterways.

The Indian River

The Indian River Lagoon is America's most diverse estuary. There are over 400 species of fish, 260 species of mollusks and 479 species of shrimp and crabs.

Habitat

The Indian River estuary is long, narrow, shallow estuary that is bordered on the east by a barrier island and on the west by the mainland. The major community types are mangrove dominated marshes or swamps, salt marshes, marine grass beds, drift algae, oyster bars, tidal flats, deep-water areas, and spoil islands. There are several community types that border the aquatic preserve: coastal strand, secondary dunes, floodplain forest, hydric hammock and urban areas. During the 1950's and 1960's most marshes were impounded for mosquito control purposes. Impounded marshes restrict tidal movement making them very susceptible to human impacts. Pollutants that enter this water body often remain there for extended periods of time without the aid of proper flushing.

Ecological Importance

The Indian River Lagoon generates over \$800 million in revenue annually to the local economy. The reconnected mangrove marshes and seagrass beds act as nursery grounds to recreationally and commercially important species, such as snook, grouper, snapper, seatrout, tarpon, and lobster. These are just a few of the many species that spend a portion of their life cycle in the lagoon.

The Indian River Lagoon is also a wintering home to many species of migratory waterfowl.

The Pollution Concern

Stormwater Background and Retrofit Projects

Prior to 1978, rainfall runoff was allowed to flow freely flooding low areas and discharging into the Lagoon. Local regulations were changed in 1978 to assure that all subdivisions and commercial sites developed within Brevard County treat stormwater runoff to reduce pollutants carried to surface waters and to store runoff volumes to reduce flooding of downstream properties. However, some of South Mainland Planning Area was developed prior to this time and had little or no stormwater treatment facilities. To prevent flooding in these areas and address stormwater-related pollution problems, additional measures were required. In September 1990, Brevard County adopted an ordinance that created a Stormwater Utility, providing a dedicated source of funding to address these concerns.



The program has numerous projects planned for the next several years that will help alleviate flooding issues in identified areas and provide treatment to stormwater before it reaches the Indian River Lagoon or St. Johns River. In 2007, the Stormwater Program became part of the Brevard County Natural Resources Management Office, as a principal part of the Watershed Management Program. The Watershed Management Program is responsible for the implementation of the Stormwater Utility, Total Maximum Daily Load requirements and the County's National Pollution Discharge Elimination System Permit.

*Cleaning out sediment and debris from the storm drain
Photo by: Greg Jones, Brevard County NRMCO*

TMDL's

The Clean Water Act required EPA to establish Total Daily Maximum Loads (TMDL's) for various pollutants which has been delegated to the states. States must determine how much pollution a water body can handle and still meet designated use (fishing, swimming, etc.). Currently, states are focusing on polluted runoff from stormwater, septic tanks, agricultural lands and residential/urban developed areas.

Some of the pollution loadings reduction efforts will become a part of the County's Stormwater National Pollutant Discharge Elimination System (NPDES) program while others may become part of a State Basin Management Action Plan (BMAP) implemented by the Florida Department of Environmental Protection.

Because this is such a large program, basins or watersheds requiring a TMDL are divided into 5 groups with a staggered rotating schedule provided for 5 phases in the development process for each group.

The next step will be the development of the Basin Management Action Plan (BMAP) which will delineate how these reductions will be accomplished. The BMAP is scheduled to start in the fall of 2008 and will be developed with FDEP and all potential contributors and local governments within the basin. Reductions of this magnitude will require a significant commitment of resources, and increased stormwater treatment retrofit project construction. Some of the additional efforts necessary to reduce pollutant loads will likely include:

- expanded business and public education efforts,
- programs promoting low impact development and re-development,
- potential development of new local regulations,
- increased enforcement to more adequately address illegal discharges,
- reduction of residential and commercial fertilizer use, and
- reduction of discharges from construction sites.

Because some of South Mainland Planning Area's development occurred prior to stormwater requirements, some areas do not receive any form of treatment to reduce pollutants prior to discharge to the river. The land available to allow construction of treatment systems is also limited and increasingly more expensive. The County has therefore installed numerous small projects such as baffle boxes and street inlet devices to help remove some of the pollutant loadings by collecting sediment, grass and leaves. These baffle boxes are the first step toward meeting the required load reductions.



Installing a Baffle Box to reduce sediment and nutrients entering the Lagoon

Photo by: Greg Jones, Brevard County NRMO

Good Citizen Stewardship: Non-point Pollution Source Reduction

Non-point pollution is a major contributor to the overall pollution of the water bodies in South Mainland Planning Area. Non-point pollutants are those that can not be attributed to a single source such as a waste water treatment plant. Examples of non-point pollution include oils and fluids from cars and trucks, sediments, fertilizers, herbicides and pesticides runoff, and pet wastes that are not properly disposed.

Addressing non-point pollution in South Mainland Planning Area will require a partnership between the homeowners, business owners and the County. The homeowners and business owners have the opportunity to minimize contamination of waterways by implementing several best practices to include:

- ***Preventing lawn clippings from being blown into the street or being dumped down the storm drain.*** Once it rains, those leaves and grass clippings and yard waste are washed into adjacent water bodies. The nutrients contained in the waste can cause algae blooms that decrease the amount of light and oxygen in the water and sometimes result in fish kills and declines in seagrass beds.
- ***Closely monitoring and managing fertilizer and pesticide application.*** If pesticide or fertilizer application is required, the best fertilizers for use in Florida contain at least 30 percent slow-release nitrogen. The three numbers on the front of the bag should be selected for the type of plant you are fertilizing. The numbers represent the fertilizer's nitrogen (first number), phosphorus (second number) and potassium (third number) contents. High nitrogen fertilizers on a plant that does not need it is a waste of money and will eventually be washed into waterways by stormwater where it will fertilize algal blooms. Homeowners and business owners should use environmentally friendly alternatives to pesticides, including insecticidal soaps and horticultural oils which both can be made easily at home.

- **Maximizing Mulching.** Mulching is another method of reducing stormwater runoff in yards. Because mulch is porous, it allows rainwater to seep into the ground but forms a firm ground cover that filters pollutants and holds soil in its place. Homeowners can get free mulch at the county landfills in Cocoa, Titusville and Melbourne. It is recommended that the homeowner call first to ensure availability. The phone numbers are 633-1888 for the Cocoa and Titusville landfills and 255-4365 for the Sarno Road complex in Melbourne.
- **Conserving Water.** Periodically check to make sure sprinklers are not watering the streets and driveways instead of the plants. Rain and irrigation water that fall on paved areas wash pollutants into the storm drains.
- **Re-using Rain Water** Homeowners and business owners should redirect downspouts of rain gutters away from paved surfaces such as driveways and into landscaped areas. Rain barrels are an excellent choice to collect rain water for re-use.



Colorful Rain barrel in collecting downspout run-off
 Photo by: Diane Dougherty, Homeowner

The Solution



South Mainland Planning Area is a unique place with unique challenges and opportunities. Effective management of the existing developed areas, sound conservation strategies for the remaining natural environment, and proactive partnerships for pollution prevention are key to sustaining and improving its character and sense of place. This relationship necessitates a community that plans, partners and participates in the solutions to maintain the ecological, economic and recreation balance.

Juvenile Green Heron
 Stock photo

DATA BASICS

Land Area:

The South Mainland Planning Area consists of a large geographic area, much of which is unincorporated land interspersed between municipal boundaries or along the County borders. For the purposes of this study, developed parcels of Residential 15 Future Land Use with zoning suitable for a lower residential land use will be examined. This amendment area includes scattered undeveloped lots remaining in these established subdivisions and neighborhoods will also be included. In this manner, those parcels with the greatest potential impact to public infrastructure will be studied.

Table 1.
Amendment Area Future Land Use Map Designations

Adopted Future Land Use	Acres
Neighborhood Commercial – NC	23
Residential 4 – RES 4	6
Residential 15 – RES 15	1,894
Total under County Jurisdiction	1,922
<i>Acreage is approximate</i>	

Source: Brevard County Planning & Zoning Office

The majority of the property examined has a Residential 15 Future Land Use Map designation. However, this designation is not indicative of the existing land use pattern which is single family detached residential (SFR) dwellings with typical densities ranging from 4 to 5.5 units per acre. There are also some small areas of Neighborhood Commercial (NC) and Residential 4 acreage that are interspersed in these existing subdivisions. The potential effects of the higher density land use designations with the existing land use pattern and character of the area will be discussed in the following Scenarios for Managing Growth section.

Population:

As shown in Table 2 below, population growth in the area has been the highest in Brevard County. Several of the areas that previously were in the unincorporated area were developed and annexed into a municipality, and therefore the additional density is not reflected in the unincorporated total. Had the boundaries remained static, that actual population increase shown for the unincorporated area would be even more dramatic.

Table 2.
Historical Population Trends

Study Area	Census Tract #	1990 Pop.	2000 Pop.	% Change
Brevard County	All	399,330	476,230	+19.25
S. Mainland Totals	Various	24,852	36,944	+48.6%

Source: U.S. Census Bureau

Age Trends:

Population trends reflect the changes national demographics. Our median age is rising, and the longevity of our senior population continues to increase. With these changes, different community issues must be examined. Also evidenced is the influx of young professionals to live in closer proximity of the major employment centers located in the South Mainland Planning Area.

Table 3.
Brevard County
School Aged Children and Retirees

Description	1990	2000	2025 Projections	% Change 1990 – 2000
Total Pop.	399,330	476,230	692,500	+19.2%
Under 18	92,131	95,246		+3.3%
Over 65	66,382	94,769		+42.7%

Source: U.S. Census Bureau

Home Ownership:

One measurement of a community's stability is the amount of housing that is owner occupied. This generally implies a strong vested interest in the community and residents to take pride in their properties which is outwardly reflected by ongoing upkeep and maintenance of the neighborhoods.

Nonetheless, a rental component is an essential aspect of a vital housing market. There are many reasons why individuals need or desire to rent, such as younger couples saving for a first home, individuals without children or working professionals with a preference for a management company to be responsible for building and outdoor maintenance.

Table 4.
Brevard County
Housing Units and Owner-Occupied/Rental Ratios

Occupancy Type	1990	2000	% Change
Total Housing Units	185,150	222,072	+19.94%
Occupied Housing	161,365	198,195	+22.82%
Owner	111,742	147,923	
Renter	49,623	50,272	

Source: U.S. Census Bureau

The number of non-homesteaded single family houses in the amendment area may be indicative of second home ownership, and not necessarily a large number of rental housing units.

Table 5
Homestead Exemptions by Dwelling Units

Amendment Area Dwelling Units	Homestead Exemptions	Non-Homestead Exempt	% of Homeownership
3,343	2,462	881	64%

AMENDMENT AREA INFRASTRUCTURE & SERVICE DEMAND ANALYSIS

Transportation Network:

For the study area the existing Average Daily Trips (ADT) on the roadways were modeled. By using the maximum density allowed by the FLU, the greatest impact is demonstrated by a second model.

The transportation network includes numerous roadways and several arterial roadways. The data below demonstrate the cumulative impacts of existing trips on a sample of three of the affected roadway segments. As shown in Table 6, below, the existing road segments meet the allowable Level of Service (LOS).

**Table 6.
Existing Scenario for Study Area Road Segments**

Study Area Transportation Facility Road Segments					
Segment	Max Volume	Current ADT	Current Volume	Current LOS	Adopted LOS
025A	15,600	8,955	57%	C	E
365B	36,000	25,735	71%	F C	D
250	12,600	4,850	38%	D	E
Segment	Segment Description				
025A	Aurora from John Rodes to Wickham				
365B	US 192 (New Haven) from I-95 to Wickham				
250	Pineda from Estuary Blvd to Wickham				

Reflects change after Traffic Eng review & comment

Transportation Network and Redevelopment

In the Transportation Network section above, the existing traffic generation is evaluated. A second and different modeling examines what happens to the transportation network when the existing developed properties are redeveloped pursuant to their adopted Future Land Use.

For example, this approach evaluates traffic impacts if the platted lots in an existing single family home subdivision were assembled and redeveloped under its higher Future Land Use density. The single family homes could be replaced by townhouses or apartments. The tables below demonstrate the cumulative effects on study area properties being redeveloped under the highest density as allowed by the adopted FLU. From these calculations, the value of “right-sizing” future land uses on developed property can be determined. With the adoption of a Future Land Use, rezoning options would be limited to those that are more in character with surrounding land uses.

The redevelopment scenario for the amendment area evaluated below assumes that all Residential 15 Future Land Use will be redeveloped at its maximum allowable density.

**Table 7.
Redevelopment Scenario for Study Area Road Segments**

Study Area Transportation Facility Road Segments					
Segment	Max Volume	Potential ADT	Potential Volume	Potential LOS	Adopted LOS
025A	15,600	11,353	73%	C	E
365B	36,000	27,979	79%	F <u>C</u>	D
250	*33,915	13,962	111% 12%	F <u>C</u>	E
Segment	Segment Description				
025A	Aurora from John Rodes to Wickham				
365B	US 192 (New Haven) from I-95 to Wickham				
250	Pineda from Estuary Blvd to Wickham				

Reflects change after Traffic Eng review & comment

*Includes programmed road widening, otherwise volume capacity would decrease.

As shown in Table 7. above, the redevelopment of the existing Residential 15 acreage would cause the Level of Service of the roadways to decrease.

When a roadway exceeds its level of service, any future development approvals such as site plans, rezonings, and subdivision approvals, are restricted due to concurrency considerations. With the results of this modeling, the justification for selectively right-sizing adopted land uses within the study area is evident. Proposed solutions will be discussed under Scenarios for Managing Growth later in this report.

Public Schools:

The number of school-aged children has risen the most in the study area when compared to the County as a whole. This reflects the younger families moving into the area. The average utilization of permanent capacity in the study area is approximately 85%, with some pockets of greater utilization that the School Board is currently addressing through re-districting. Although some public schools may be within city limits, they also serve the surrounding unincorporated area.

**Table 8.
Brevard County
School Aged Children Projections**

Description	FY 2008/09	2018 Projections	2028 Projections
Brevard County Student Pop.	64,267	69,816	78,149

Source: State of Florida COFTE Projections

The generation of additional school aged children is shown in Table 9. The student generation rates are based upon the generation tables in the Interlocal Agreement between the Brevard County School Board and the Board of County Commissioners and the local municipalities. The student generation is based upon housing types and depicts the total additional students based upon a redevelopment scenario under the adopted Future Land Uses.

**Table 9.
Amendment Area
School Aged Children Generation**

School Type	Existing	Redevelopment	% Change
	3,343 d.u. Single Family Residences	14,000 d.u. Multi-Family Units	
Elementary	669	2,660	+297%
Middle	201	700	+248%
High	401	980	+144%
Total	1,271	4,340	+241%

Source: Brevard County School Board

Public Water and Wastewater (Sewer) Service:

Drinking water and wastewater disposal service in the unincorporated area is provided by either individual wells and septic tanks or centralized services provided by the Cities of Cocoa, Melbourne, West Melbourne, Palm Bay, Brevard County and the Barefoot Bay Water & Sewer District.

Under the existing Residential 15 land use, the build out of the subject properties at their fullest potential would require upgrading of the public infrastructure. Under the proposed Residential 6 land use, which is the reflective of the density actually developed for the properties, the existing public infrastructure meets the required levels of service.

**Table 10.
Wastewater Generation**

Description	# of Units	Avg. GPD	Generation Total
Amendment Area			
Current Single Family Residential Units	3,343	200	668,600
Potential Generation			
Multi-Family Units	14,000	200	2,800,000
	Current SFR	Potential MF	Change
Amendment Area	668,600	2,800,000	+318%

Source: Brevard County Comprehensive Plan LOS Rates

**Table 11.
Potable Water Consumption**

Description	# of Units	Avg. GPD	Usage Total
Amendment Area			
Current Single Family Residential Units	3,343	265	885,895
Potential Generation			
Multi-Family	14,000	265	3,710,000
	Current SFR	Potential MF	Change
Amendment Area	885,895	3,710,000	+318%

Source: Brevard County Comprehensive Plan LOS Rates



Little League at Rodes Park Source: Brevard County Parks & Recreation Dept.

Parks and Recreation:

The Brevard County Parks and Recreation South Parks Operations maintain the park facilities in the South Mainland Planning Area. The northern study area utilizes Viera Regional Park and the southern study area includes the South Mainland Community Center and Micco Park. There are a total of 84 parks within South Area Parks & Recreation which range from big regional sport complex parks to small community beach access parks.

The South area parks are heavily patronized by local residents and tourists alike. Popular activities include soccer, baseball, boating, tennis, softball, flag football, beach Volleyball, camping, Frisbee golf, surfing, fishing, basketball as well as a myriad of special events and youth programs put on by the department.

Although there are currently no plans for additional land acquisitions, the Parks and Recreation Department is constructing a 133 acre regional park in West Melbourne which will include multipurpose fields for soccer and football, baseball fields, nature trail and community center and a new community center at Wickham Park.

Public participation opportunities are provided by the Parks and Recreation South Area Advisory Board along with various user groups and Recreational Partners such as the Viera Suntree Little League and Space Coast United Soccer. Valuable input from these groups helps form future plans such as the expansion of the Football programs at Viera Regional Park.



Viera Regional Park - Soccer Leagues are Recreational Partners to provide sporting activities for kids Source: Brevard County Parks & Recreation Dept.



Fire Rescue Engine fully engaged at a house fire

Fire Rescue

Brevard County Fire Rescue (BCFR) is the largest fire and emergency medical services (EMS) provider in the County. The department operates 28 ambulances, staffed with firefighter-paramedics, providing advanced life support (ALS) pre-hospital emergency care. For fire suppression, BCFR operates 21 fire engines countywide, all with ALS paramedic capability.

The South Mainland Planning Area study area is served by BCFR Engines 80,81,82,83,86,87. Within the study area, Rescues 80, 81, 66, 67, 68, 82, 83, 84, 85, 86, 88 and 89 are the primary rescues to transport emergency medical patients to area hospitals.

Table 12.
Engines 80,81,82,83,86,87
Calls for Service

Types of Call	Date Range 1/1/09 – 12/31/09
Total Medical Calls	6,626
Total Fire Calls	1,434
Activated Fire Alarms	616
Brush Fires	62
Electrical Fires	65
HAZMAT	58
Miscellaneous Fires	252
Structure Fires	259
Vehicle Fires	102
Average Response Time	0:05:23
Total Time On Call	0:21:16
Average Time Out	0:01:33
Average Total Time on Scene	0:23:05

Source: Brevard County Fire Rescue

The Brevard County Comprehensive Plan sets the Level of Service for Fire Protection and Emergency Medical as a 6 minute average response time. Any increase in population density may affect Fire Rescue demand for service.



Fire Fighter and Fire Lieutenant at a structural fire

In addition to the services previously described, BCFR also provides the following services throughout the County:

Special Operations Team (SOT) – BCFR’s Special Operations Team responds to hazardous materials emergencies and emergencies that requiring specialized technical rescue skills (structural collapse, cave-ins, elevated rescue, heavy vehicle extrications). BCFR’s hazardous materials team is one of 27 regional haz-mat units in the state and is subject to deployment to emergency events outside the county.

Fire Prevention - BCFR’s Fire Prevention Bureau is staffed with 10 Fire Inspectors who conduct fire inspections on existing buildings, review plans for new construction and perform on-site inspections of buildings under construction. The Fire Prevention Bureau assists the State Fire Marshal’s with arson investigation on fires that are of a suspicious origin. Fire Inspectors also provide public education on general fire safety and the use portable fire extinguishers.

911 Dispatch – BCFR operates the only dedicated Fire and EMS 911 Dispatch Center in the County. Dispatchers are Emergency Medical Dispatcher (EMD) certified to provide life saving instructions to citizens who call 911.

Ocean Rescue – While not in the South Mainland Planning Area, BCFR operates 26 seasonal and 5 year around lifeguard towers on the County’s beaches. The towers are located in both municipal and unincorporated areas. BCFR lifeguards are trained to the standards established by the United States Lifeguard Association (USLA). Information regarding ocean conditions at the beach is available to the public at (321) 637-5777; the information is updated daily.

Law Enforcement

The Brevard County Sheriff's Office South Precinct provides the majority of the south area unincorporated law enforcement services. The Precinct is located at 1515 Sarno Road in Melbourne. The South Precinct covers zones 71-75 which has the service responsibility of Post Road, south to the Indian River County line. The West Precinct covers other zones for the central portion of the County but for this South Mainland Study, the West Precinct coverage is limited to Wickham Road south to Post Road (zone 44). The West Precinct is located at 2725 Judge Fran Jamison Way in Viera.

Six patrol zones comprise the study area. The southern portion of the county area includes zone 71-75 (South Precinct) and zone 44 (West Precinct). Table 13 will cover the years of 2007, 2008, and 2009, calls for service for Zone 44 (West Precinct).

Table 14 will also cover the years 2007, 2008, and 2009, calls for service but are limited to the South Precinct that will cover Zones 71-75. Table 15 shows these zones combined.

Table 13.
West Precinct Calls for Service

South Mainland Study Area – Zones 44			
Type of Call	2007	2008	2009
Assault Battery	74	53	44
Burglary Business	19	17	16
Burglary Res.	55	47	31
Burglary Vehicle	128	118	95
Drunk Driver	21	21	15
Fraud	90	91	55
Injured/Ill Persons	1023	83	97
Motorists Assist	404	245	336
Narc./Gamb./Prostitution	64	66	58
Reckless Driving	782	335	543
Robbery	8	4	8
Sexual Battery	6	8	3
Shooting In Area	18	17	9
Stolen Property	144	126	103
Stolen Vehicle	20	27	9
Traffic Enforcement	575	603	435
Traffic Stop	3230	2681	2910

Source: Brevard County Sheriff's Office

These do not represent all of the calls for service, but many of the categories that directly affect the residents of the area. The residents' complaints about speeding vehicles and traffic violations are also reflected in the number of citations and traffic stops performed by the Sheriff's Office in the area.

Table 14.
South Area Portion Calls for Service

South Mainland Study Area – Zone 71-75			
Type of Call	2007	2008	2009
Assault Battery	331	205	189
Burglary Business	58	46	26
Burglary Res.	223	138	141
Burglary Vehicle	204	176	126
Drunk Driver	181	135	97
Fraud	118	117	93
Ill/Injured Persons	2935	232	259
Motorist Assist	1276	798	1126
Narc./Gamb./Prostitution	373	297	289
Reckless Driving	2321	754	1259
Robbery	15	16	13
Sexual Battery	28	23	21
Shooting In Area	188	162	121
Stolen Property	371	267	231
Stolen Vehicle	132	43	35
Traffic Enforcement	501	801	804
Traffic Stop	9764	9887	11698

Source: Brevard County Sheriff's Office

Table 15.
South Mainland Calls for Service

South Mainland Study Area – Combined Zones 44, 71-75			
Type of Call	2007	2008	2009
Assault Battery	405	258	233
Burglary Business	77	63	42
Burglary Res.	278	185	172
Burglary Vehicle	332	294	221
Drunk Driver	202	156	112
Fraud	208	208	148
Ill/Injured Persons	3958	315	356
Motorist Assist	1680	1043	1462
Narc./Gamb./Prostitution	437	363	347
Reckless Driving	3103	1089	1802
Robbery	23	20	21
Sexual Battery	21	31	24
Shooting In Area	206	179	130
Stolen Property	515	393	224
Stolen Vehicle	152	70	240
Traffic Enforcement	1076	1404	1239
Traffic Stop	12994	12568	14608

Source: Brevard County Sheriff's Office

The South Precinct has taken an active role in reducing the amount of crime while also taking in consideration to need to assist the public in their needs no matter what the event may be. An example of that is the increase in calls for assisting disabled vehicles and handling traffic concerns and a 65% increase of calls for Reckless Driving. In 2009, there was an increase in traffic crashes along I-95 especially within the construction sites. The South Precinct along with the Motor Units had taken an active role in reducing those accidents by conducting traffic enforcement in these areas. This is why there has been an increase of 16% in traffic citations.

The Sheriff's Office once transferred motorist assist calls to Florida Highway Patrol but the Agency in an attempt to assist the public to a greater degree has been taking these calls for the deputies to handle. This is why there is a 40% increase in Motorists Assists.

The South Precinct's General Crime Unit has been exemplary in the ability to solve business, residential and vehicle burglaries. The percentage drop in all burglaries showed a decrease in crime. Table 16 reflectss the Increase/Decrease in Calls for Service.



Crime Scene Unit Supports Investigations

Table 16.
Percent of Increase/Decrease in Calls for Service
South Study Area – Zone 44, 71-75

Type of Call	2007	2007 - 2008	2008 - 2009
Assault Battery	405	258 - 36%	233 - 10%
Burglary Business	77	63 - 18%	42 - 33%
Burglary Res.	278	185 - 33%	172 - 07%
Burglary Vehicle	332	294 - 11%	221 - 25%
Drunk Driver	202	156 - 23%	112 - 28%
Fraud	208	208 0%	148 - 29%
Ill/Injured Persons	3958	315 - 92%	356 + 13%
Motorist Assist	1680	1043 - 38%	1462 + 40%
Narc./Gamb./Prostitution	437	363 - 17%	347 - 04%
Reckless Driving	3103	1089 - 65%	1802 + 65%
Robbery	23	20 - 78%	21 + 05%
Sexual Battery	34	31 - 09%	24 - 23%
Shooting In Area	206	179 - 13%	130 - 27%
Stolen Property	515	393 - 37%	224 - 43%
Stolen Vehicle	152	70 - 54%	44 - 37%
Traffic Enforcement	1076	1404 + 30%	1239 - 12%
Traffic Stop	12994	12568 - 03%	14608 +16%

Source: Brevard County Sheriff's Office

In addition to Uniform Patrol duties, the South Precinct has a General Crimes Investigative Unit; provides School Resource Officers to two Public Schools; has Desk Officer services that include fingerprinting for permitting and backgrounds, and supplies Crime Prevention services such as Neighborhood Watch, Business Watch, and Project Lifesaver (GPS tracking of Alzheimer and medical patients).



Sheriff Parker and the PAL kids



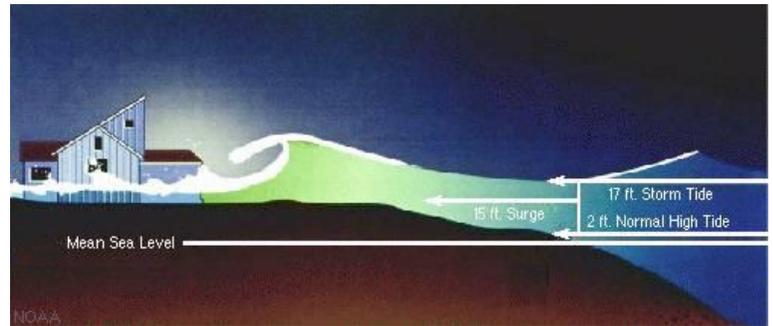
The Citizen Academy allows residents to learn about law enforcement

Emergency Management

The Brevard County Emergency Management Department is responsible for the coordination of emergency operations and maintaining the Comprehensive Emergency Management Plan which addresses disasters including hurricanes and their storm surges.

Hurricanes

Hurricanes are the most likely natural disaster to affect Brevard County. Damage from hurricanes takes two primary forms, wind damage and flooding from the storm surge. Of the two, the storm surge is the most dangerous resulting in the majority of deaths associated with hurricanes. Storm surge is the water pushed toward the shore by the force of the hurricane winds. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more. In addition, wind driven waves ride on top of the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. Because much of the County's coastline lie less than 10 feet above mean sea level, the danger from storm tides is tremendous.



One of the most crucial aspects of emergency management is the calculation of a hurricane's storm surge and its effect on people, evacuation routes, and property. One tool used to evaluate the threat from storm surge is the SLOSH model. Emergency managers use this data from SLOSH to determine which areas must be evacuated for storm surge. Storm surge also affects rivers and inland lakes, potentially increasing the area that must be evacuated.

Evacuation Routes

The study area has one roadway westbound to evacuate the South Mainland Planning Area, U.S. 192. Other inter-County westbound evacuation routes must be reached by first driving north or south on Interstate 95 or U.S. 1.

The limited transportation routes increase the time necessary for residents to evacuate prior to a storm event. Any additional increase in residential density may further degrade the evacuation times for the area. A recent change in state law also now requires local governments to adopt and maintain a Level of Service for evacuation times.

Infrastructure - General Conclusions

The existing public infrastructure meets the level of service requirements for the demand placed upon it by the dwelling units constructed at a lesser density than the adopted Future Land Use.

LAND-USE FACTORS

General Pattern of Land Use:

The northern portion of the study area is predominately post – 1980 single family residential subdivisions in the Suntree vicinity. The residential housing follows a general pattern of platted subdivision development. Commercial land uses in the study area generally parallel collector and arterial roadways and include professional office, retail commercial, and neighborhood commercial uses.

The southern portion of the study area has been affected by municipal annexations, resulting in unincorporated areas adjacent to municipal boundaries on several sides or along the County's boundaries. It is not unlikely that municipalities will continue to seek annexation of properties suitable for development that require municipal services.

Future Land Use and Zoning:

Each parcel of land in Brevard County has two separate designations assigned, a Future Land Use designation and a Zoning classification. The Future Land Use is a broad designation that may include a range of intensities of development. For example, the Residential 15 Future Land Use designation allows multi-family residential density of up to 15 units per acre as well as single family residential development. The Neighborhood Commercial land use designation allows certain residential zoning, and BU-1A and RP zoning.

Map Inconsistencies:

The Comprehensive Plan and the Land Development Regulations specify which zoning classifications are consistent with each Future Land Use designation, included as Appendix A. This is commonly referred to as a Consistency Matrix.

Future Land Uses and Zoning Districts that are not consistent and do not meet the regulations of the consistency matrix and other relevant policies or codes do occasionally occur. In many cases, this was the result of limited mapping capabilities prior to the advent of GIS. Current GIS technology is assisting staff in identifying such inconsistencies which may be remedied by administrative rezonings or owner initiated requests..

These administrative actions are provided for in Policy 15.1 of the Future Land Use Element of the Comprehensive Plan. Through the implementation of this SAS, these inconsistencies have been evaluated and will be addressed as appropriate in the future.

Future Land Use Map Right-Sizing

Previous sections modeled what could happen if properties were redeveloped to the maximum potential of their adopted land uses. To ensure that the integrity of existing neighborhoods are maintained, the small area study allows the County Commission to reexamine the adopted Future Land Use map for consistency with the community's vision.

When the Future Land Use is changed to match the existing land use pattern we refer to it as "right-sizing." In the amendment area of this study, right-sizing would result in a change to the FLU designation from Residential 15 to Residential 6. As a result the existing single family lots would be conforming but a higher density residential project could not be attained without further amendments to the Comprehensive Plan.

Land Use Amendment Conclusions

Future Land Use Map designations for many developed properties within the South Mainland Planning Area Small Area Study permit densities in excess of existing development patterns. These circumstances may allow for redevelopment of existing single family residential subdivisions at higher densities than currently exist-in the study area.

The study area has a transportation network with near to constrained segments in certain areas where redevelopment occurs. It also contains underutilized lands along planned public infrastructure improvements. The expansion of municipal boundaries and the subsequent development has created a highly urbanized area surrounding those tracts of land still within the unincorporated area.

In conclusion, land use compatibility, infrastructure limitations and planned infrastructure improvements support the rationale for right sizing the Future Land Use Map in the South Mainland Planning Area.

COMMUNITY INPUT AND DISCUSSION

Background:

A community meeting will be held for input into the study itself, and public hearings before the Local Planning Agency and the Board of County Commissioners will be held regarding the proposed land use amendments.

Community Assessment Methods for this Small Area Study:

The assessment of the South Mainland Planning Area community began with the collection of the baseline data to determine public infrastructure and level of service capabilities. The data collection included coordination with various service providers, including several Brevard County agencies. This data was utilized to produce build-out and redevelopment models for the area.

Results of Community Input

The results of the March 4, 2010 public community meeting are attached in the Appendices.

NEXT STEPS IN IMPLEMENTING THE SMALL AREA STUDY AND ITS RECOMMENDATIONS

The SAS's recommendations will be presented to the Local Planning Agency in a public hearing. Following public discussion the LPA will make a recommendation to the Board of County Commissioners regarding the SAS's analysis. The Board of County Commissioners will also accept public comment during its deliberations on the SAS. Upon acceptance by the Board, the recommendations will be implemented in the formal Comprehensive Plan amendments.

A large part of implementation will involve amendments to reduce density in those areas of limited public infrastructure and transfer a limited amount of that density to those areas of planned public infrastructure.

RECOMMENDATIONS OF THE SOUTH MAINLAND PLANNING AREA SMALL AREA STUDY

The South Mainland Planning Area Small Area Study proposes these recommendations:

- **Recommendation 1:** Brevard County should initiate Comprehensive Plan amendments to the Future Land Use Map to reduce residential densities on developed residential properties in the study areas to reflect established residential densities on developed parcels. These parcels are located in areas of public infrastructure near LOS capacity where the expansion of capacity is not feasible. The recommended densities would reduce the adopted Residential 15 Future Land Use to Residential 6 for approximately 1,894 acres.
- **Recommendation 2:** Brevard County should initiate Comprehensive Plan amendments to amend the Future Land Use on approximately 23 acres of Neighborhood Commercial to Residential 6 for parcels that have been developed as residential single family dwellings in existing platted subdivisions.
- **Recommendation 3:** Brevard County should initiate Comprehensive Plan amendments to amend the Future Land Use on approximately 5.8 acres from adopted Residential 4 to Residential 6 for single family residential lots located in existing subdivisions where the surrounding land uses are Residential 6.
- **Recommendation 4:** Brevard County should initiate Comprehensive Plan amendments to amend the Future Land Use for the transfer of 3,000 residential single family dwelling units to the Platt Ranch where future public infrastructure improvements have been planned and funded along the proposed St. John's Heritage Parkway.
- **Recommendation 5:** The Board of County Commissioners should implement the study recommendations through the Comprehensive Plan amendment process during the spring amendment cycle of 2010.

These amendments are reflected in the Prospective Future Land Use Maps at the end of this study.

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South Mainland Planning Area
Small Area Study

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Map - 2	Adopted Future Land Use Map
Map - 3	Homestead Exemptions/Owner Occupancy
Map - 4	Existing Transportation Network Map
Map - 5	Transportation Network Redevelopment Scenario
Map - 6	Transportation Network Right Sizing Scenario
Map - 7	Transportation Network Right Sizing with Density Transfer
Map - 8	Bicycle/Pedestrian Sidewalk Inventory
Map - 9	Fire Rescue Unit Map
Map - 10	Sheriff Patrol Zone Map
Map - 11	Evacuation Routes
Map - 12	Prospective Future Land Use Map
Map - 13	1958 Historical Aerial – Suntree Area
Map - 14	1958 Historical Aerial – Suntree Area
Map - 15	2009 Aerial – Suntree Area

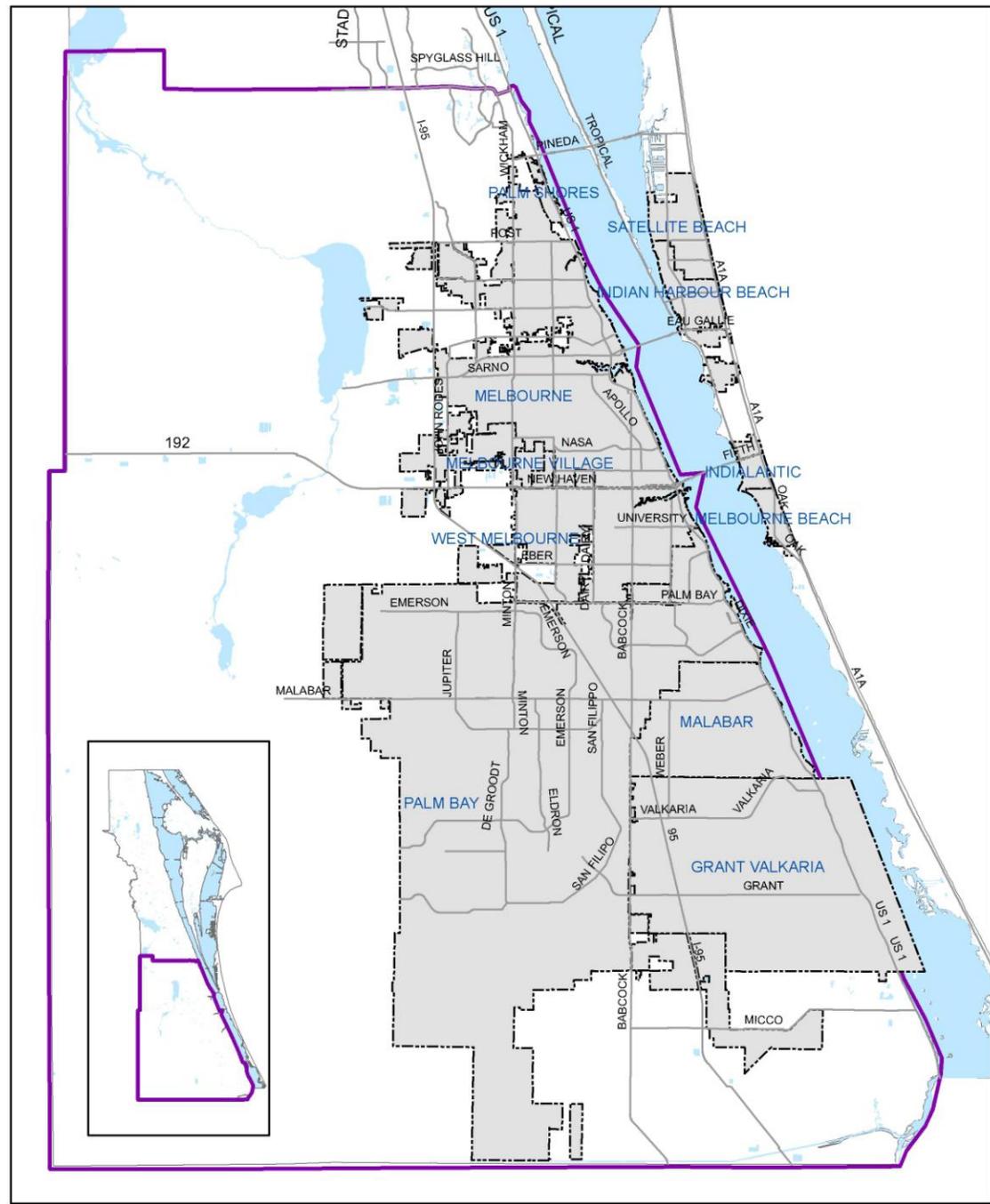
Table Index

Table 1.	Amendment Area Future Land Uses
Table 2.	Historical Population Trends
Table 3.	School Aged Children & Retirees
Table 4.	Housing Units & Owner-Occupied/Rental Ratios
Table 5.	Homestead Exemptions by Dwelling Unit
Table 6.	Existing Scenario for Study Area Road Segments
Table 7.	Redevelopment Scenario for Study Area Road Segments
Table 8.	School-aged Children Population
Table 9.	School Aged Children Generation
Table 10.	Wastewater Generation
Table 11.	Potable Water Consumption
Table 12.	Fire Rescue Calls for Service
Table 13.	Sheriff West Precinct Calls for Service
Table 14.	Sheriff South Precinct Calls for Service
Table 15.	Sheriff Combined Calls for Service
Table 16.	Sheriff Percent of Increase/Decrease Calls for Service

Appendices Index

Localized Amendment Area Exhibits
Yellow Gold Brochure
Historical Photographs

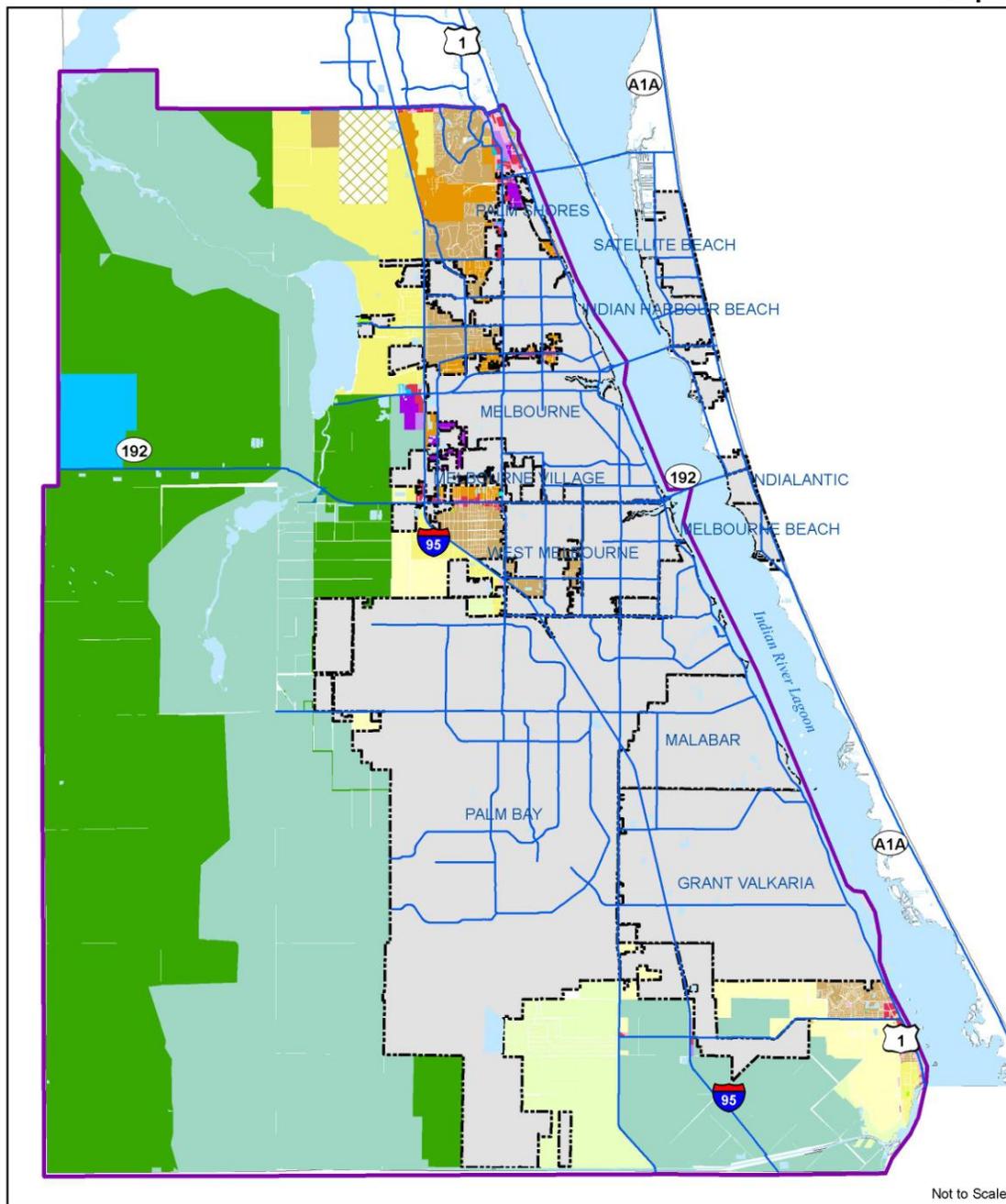
STUDY AREA MAPS



Legend
- - - Cities not part of Small Area Study
- - - South Mainland Planning Area



South Mainland Planning Area - Boundary Map

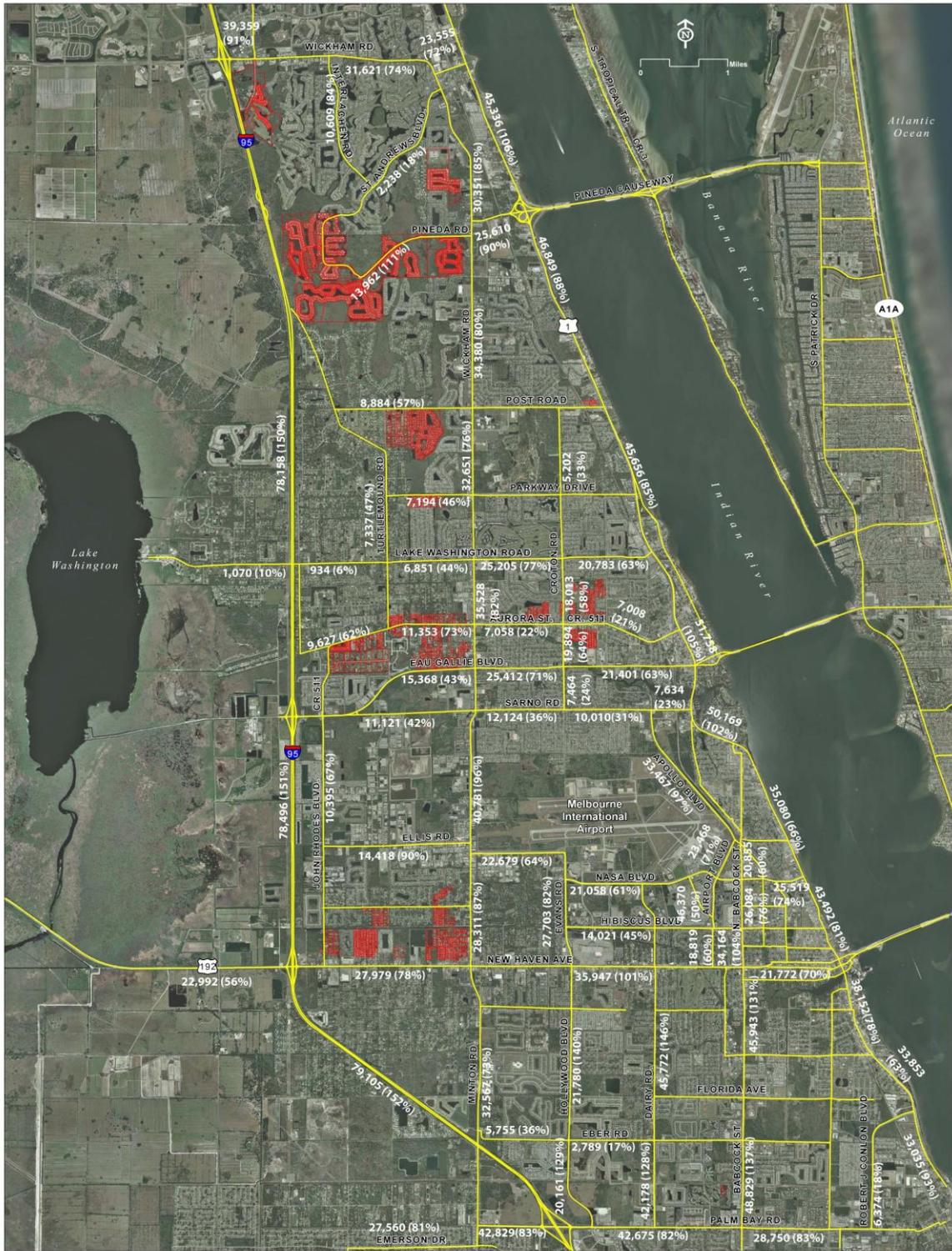


Not to Scale

- | | | | |
|---------------------------------------|-------------------------|--|--------------------|
| South Mainland Planning Area | COMMERCIAL | DEVELOPMENT OF REGIONAL IMPACT PUBLIC | RESIDENTIAL 2 |
| Cities not a part of Small Area Study | COMMUNITY COMMERCIAL | Viera | RESIDENTIAL 4 |
| SPA_Adopted_FLU | NEIGHBORHOOD COMMERCIAL | INDUSTRIAL | RESIDENTIAL 6 |
| AGRICULTURAL | CONSERVATION | INDUSTRIAL | RESIDENTIAL 10 |
| AGRICULTURAL | PRIVATE-CONSERVATION | PLANNED INDUSTRIAL PARK | RESIDENTIAL 15 |
| | PUBLIC-CONSERVATION | | RESIDENTIAL 1 |
| | | | PUBLIC |
| | | | RECREATION |
| | | | RESIDENTIAL |
| | | | RESIDENTIAL 1:2.5 |



South Mainland Planning Area Adopted Future Land Use



Legend

- Volume 0.000
- % of MAV (00%)
- Major Roadways

South Mainland Planning Area
Redevelopment Scenario

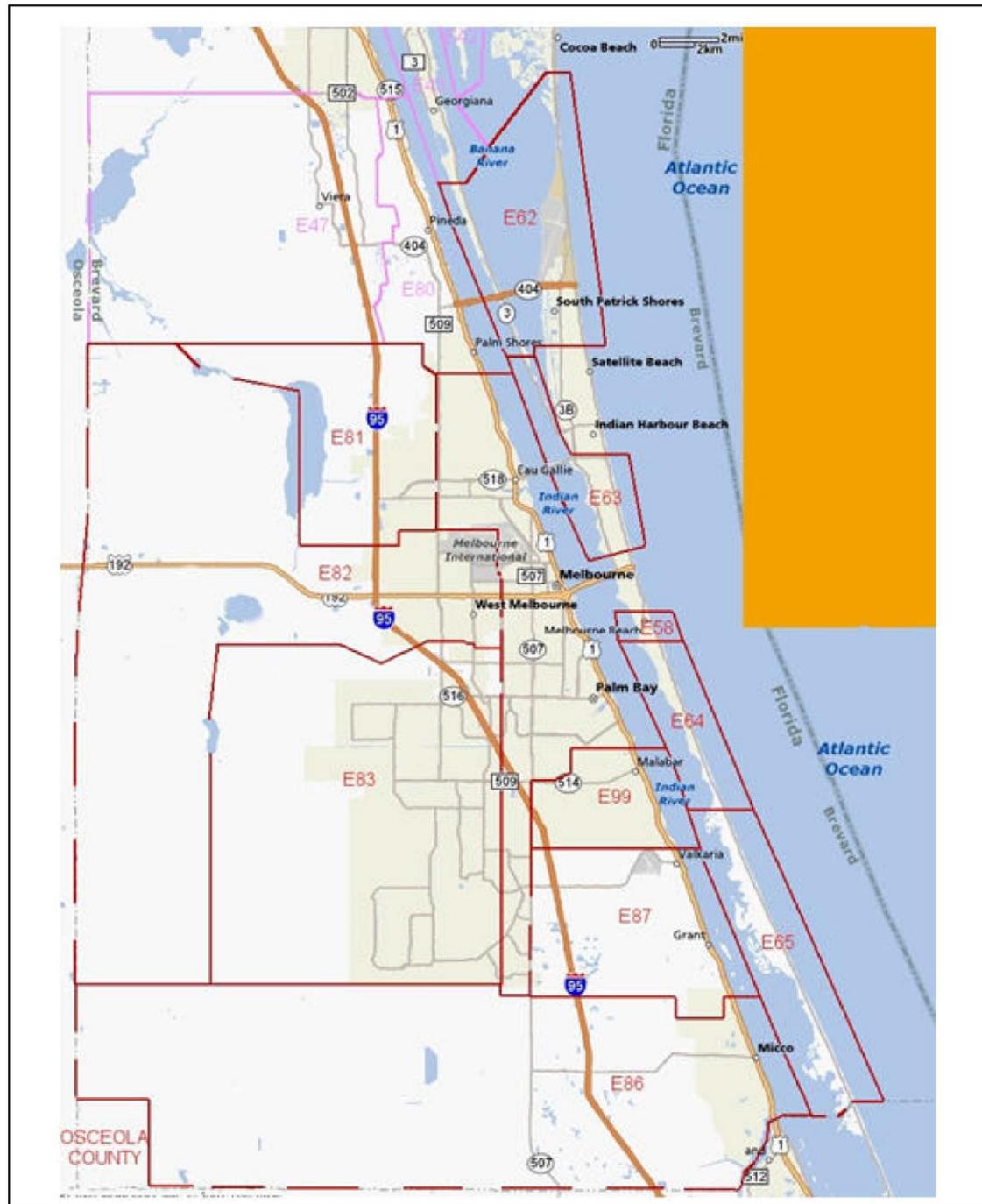


Z:\Projects\2010\10145_Plan_Roads_Annex_CPI\GIS\Map\Project\TAZ_Analysis\Map\Map6.mxd

Legend

- Volume 0.000
- % of MAV (00%)
- Major Roadways

South Mainland Planning Area
Proposed Amendment Scenario

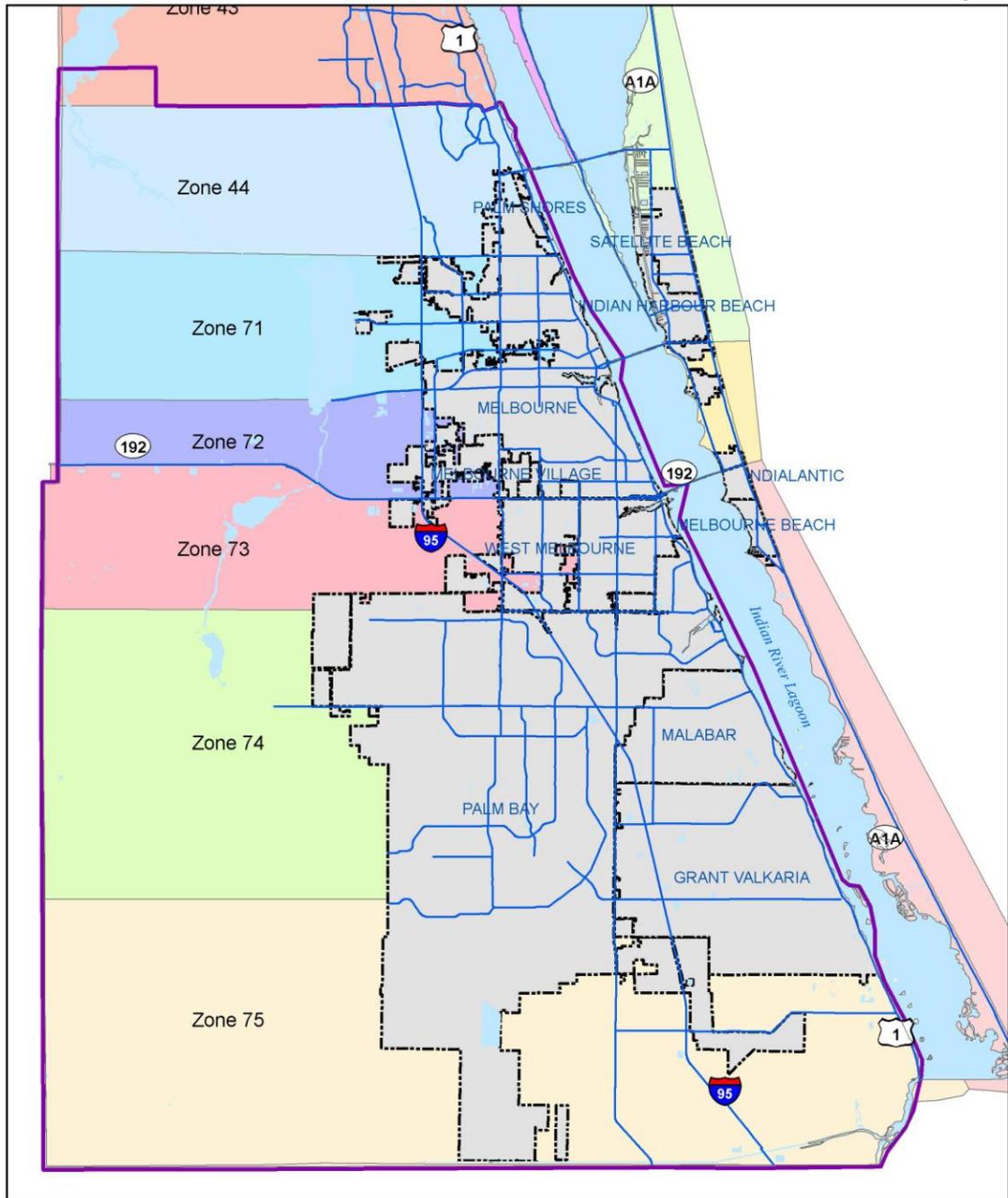


Source: Brevard County Fire Rescue



Not to Scale

South Mainland Planning Area Fire Rescue Unit Map



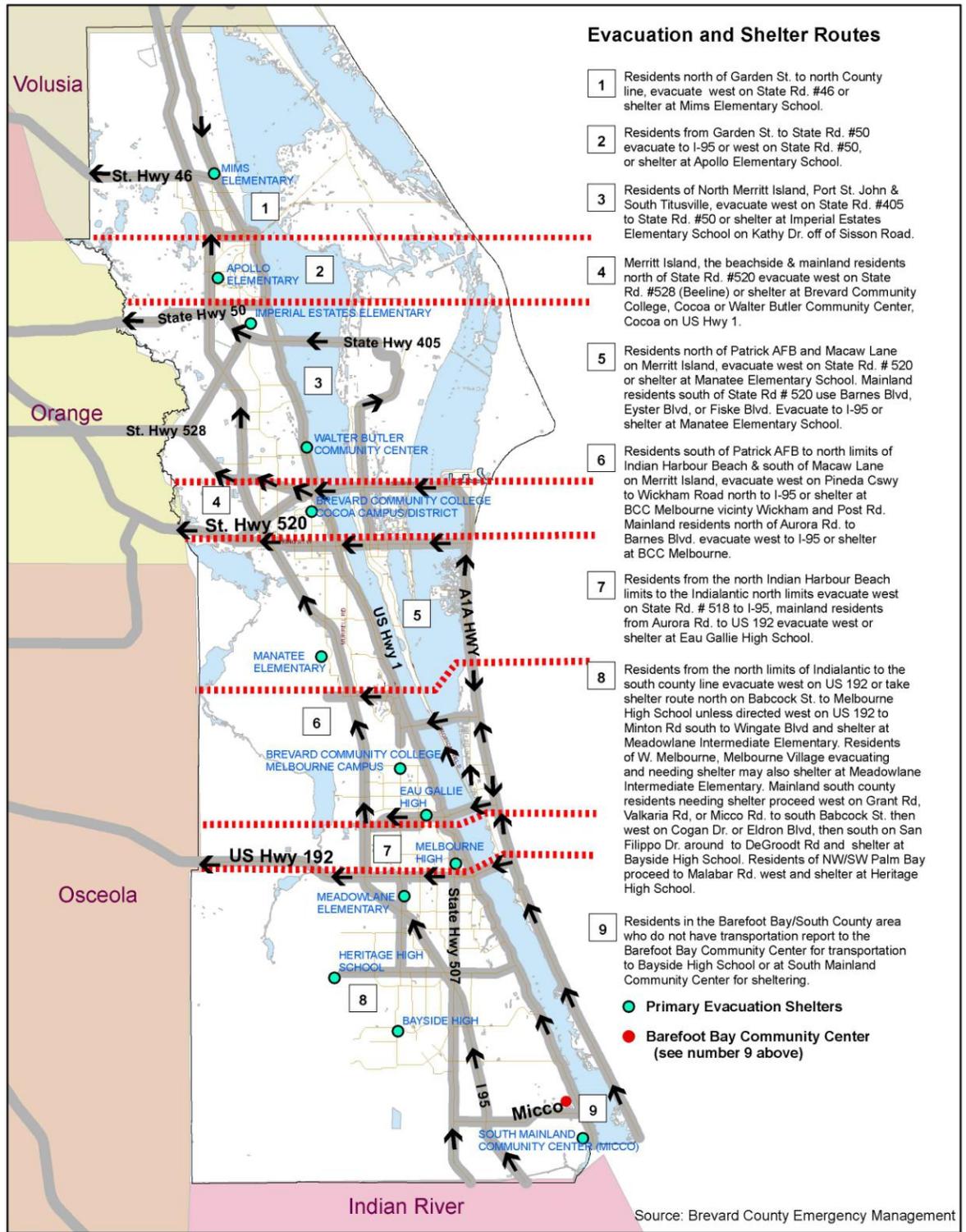
Source: Brevard County Sheriff Department



Not to Scale

-  South Mainland Planning Area
-  Cities not a part of Small Area Study

South Mainland Planning Area Sheriff Patrol Zone Map



Evacuation and Shelter Routes

- 1 Residents north of Garden St. to north County line, evacuate west on State Rd. #46 or shelter at Mims Elementary School.
- 2 Residents from Garden St. to State Rd. #50 evacuate to I-95 or west on State Rd. #50, or shelter at Apollo Elementary School.
- 3 Residents of North Merritt Island, Port St. John & South Titusville, evacuate west on State Rd. #405 to State Rd. #50 or shelter at Imperial Estates Elementary School on Kathy Dr. off of Sisson Road.
- 4 Merritt Island, the beachside & mainland residents north of State Rd. #520 evacuate west on State Rd. #528 (Beeline) or shelter at Brevard Community College, Cocoa or Walter Butler Community Center, Cocoa on US Hwy 1.
- 5 Residents north of Patrick AFB and Macaw Lane on Merritt Island, evacuate west on State Rd. # 520 or shelter at Manatee Elementary School. Mainland residents south of State Rd # 520 use Barnes Blvd, Eyster Blvd, or Fiske Blvd. Evacuate to I-95 or shelter at Manatee Elementary School.
- 6 Residents south of Patrick AFB to north limits of Indian Harbour Beach & south of Macaw Lane on Merritt Island, evacuate west on Pineda Cswy to Wickham Road north to I-95 or shelter at BCC Melbourne vicinity Wickham and Post Rd. Mainland residents north of Aurora Rd. to Barnes Blvd, evacuate west to I-95 or shelter at BCC Melbourne.
- 7 Residents from the north Indian Harbour Beach limits to the Indianlantic north limits evacuate west on State Rd. # 518 to I-95, mainland residents from Aurora Rd. to US 192 evacuate west or shelter at Eau Gallie High School.
- 8 Residents from the north limits of Indianlantic to the south county line evacuate west on US 192 or take shelter route north on Babcock St. to Melbourne High School unless directed west on US 192 to Minton Rd south to Wingate Blvd and shelter at Meadowlane Intermediate Elementary. Residents of W. Melbourne, Melbourne Village evacuating and needing shelter may also shelter at Meadowlane Intermediate Elementary. Mainland south county residents needing shelter proceed west on Grant Rd, Valkaria Rd, or Micco Rd. to south Babcock St, then west on Cogan Dr. or Eldron Blvd, then south on San Filippo Dr. around to DeGroot Rd and shelter at Bayside High School. Residents of NW/SW Palm Bay proceed to Malabar Rd. west and shelter at Heritage High School.
- 9 Residents in the Barefoot Bay/South County area who do not have transportation report to the Barefoot Bay Community Center for transportation to Bayside High School or at South Mainland Community Center for sheltering.

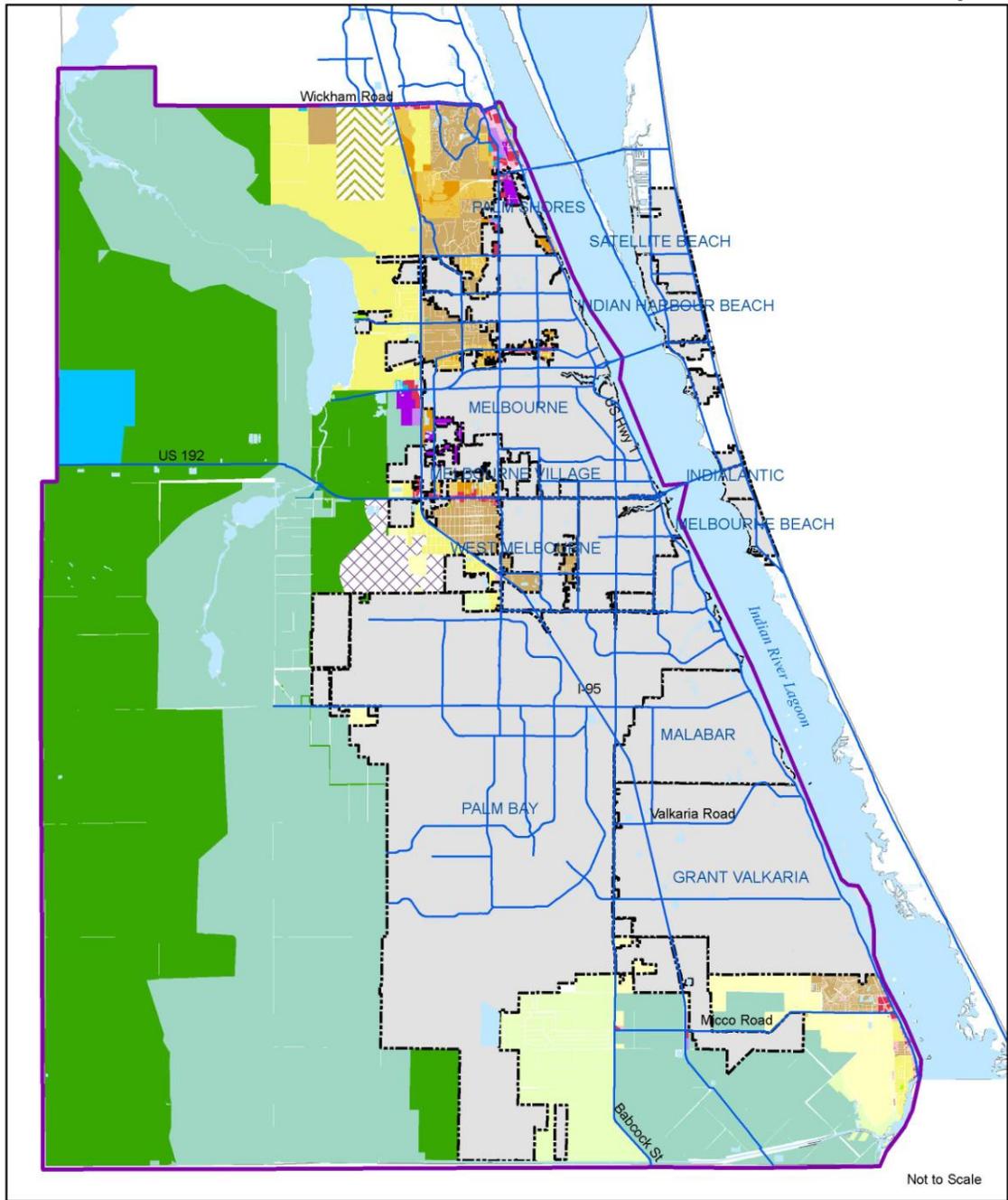
- Primary Evacuation Shelters
- Barefoot Bay Community Center (see number 9 above)

Source: Brevard County Emergency Management

Prepared by: Brevard County Planning & Zoning GIS

South Mainland Planning Area - Small Area Study





Not to Scale

Prospective Future Land Use - South Planning Area

- | | | | | |
|---|--|---|---|--|
| <ul style="list-style-type: none"> South Mainland Planning Area Cities not in Small Area Study SPA_Adopted_FLU AGRICULTURAL | <ul style="list-style-type: none"> COMMERCIAL COMMUNITY COMMERCIAL NEIGHBORHOOD COMMERCIAL CONSERVATION PRIVATE-CONSERVATION PUBLIC-CONSERVATION | <ul style="list-style-type: none"> DEVELOPMENT OF REGIONAL IMPACT Viera INDUSTRIAL INDUSTRIAL PLANNED INDUSTRIAL PARK | <ul style="list-style-type: none"> PUBLIC PUBLIC RECREATION RESIDENTIAL RESIDENTIAL 1,2,5 RESIDENTIAL 1 | <ul style="list-style-type: none"> RESIDENTIAL 2 RESIDENTIAL 4 RESIDENTIAL 6 RESIDENTIAL 10 RESIDENTIAL 15 PLATT RANCH MIXED USE |
|---|--|---|---|--|

South Mainland Planning Area - Prospective Future Land Use



1958 Historical Aerial – Suntree Area



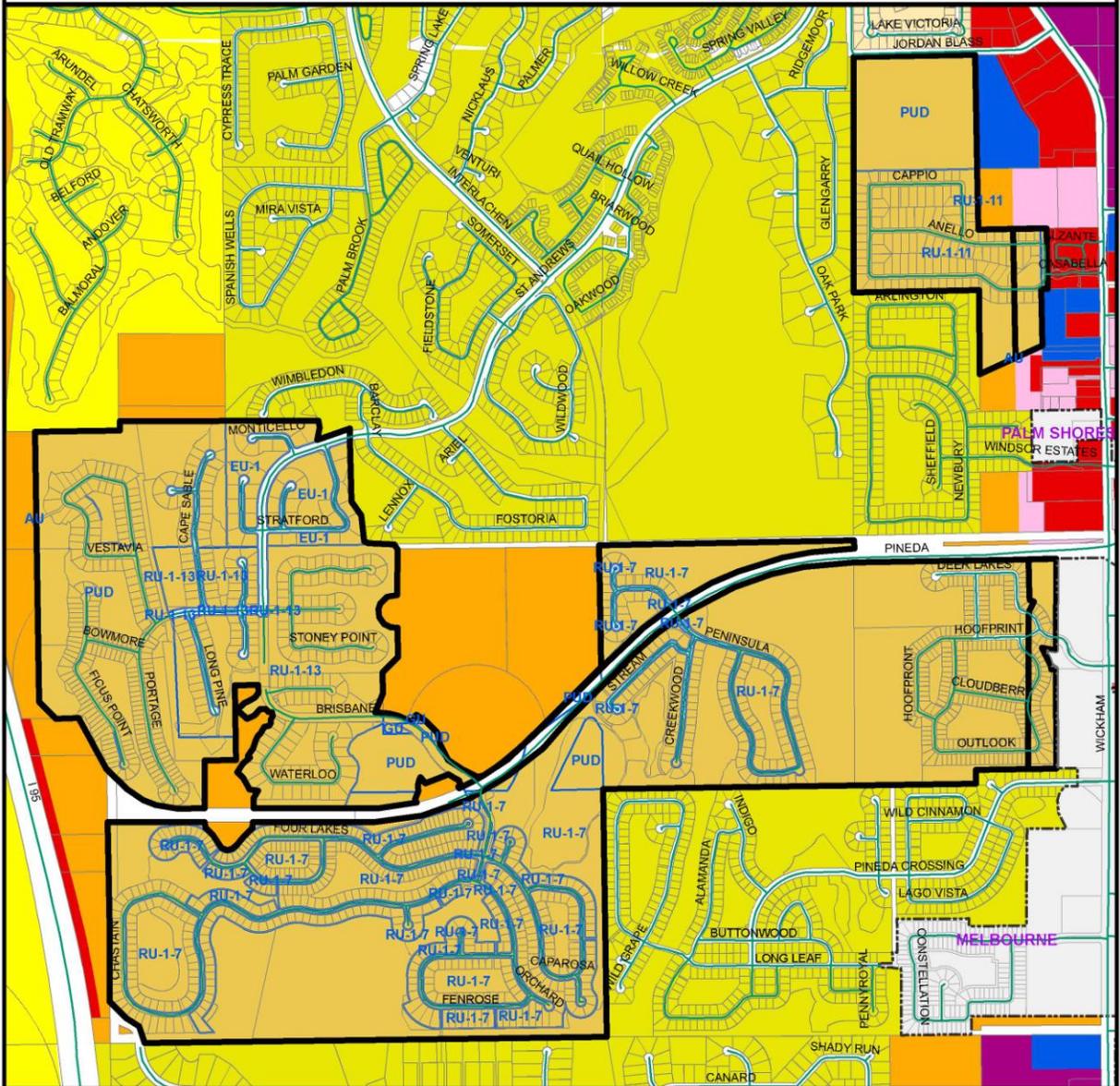
1958 Historical Aerial – Suntime Area

APPENDICES

LOCALIZED AMENDMENT AREA EXHIBITS

PROPOSED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area

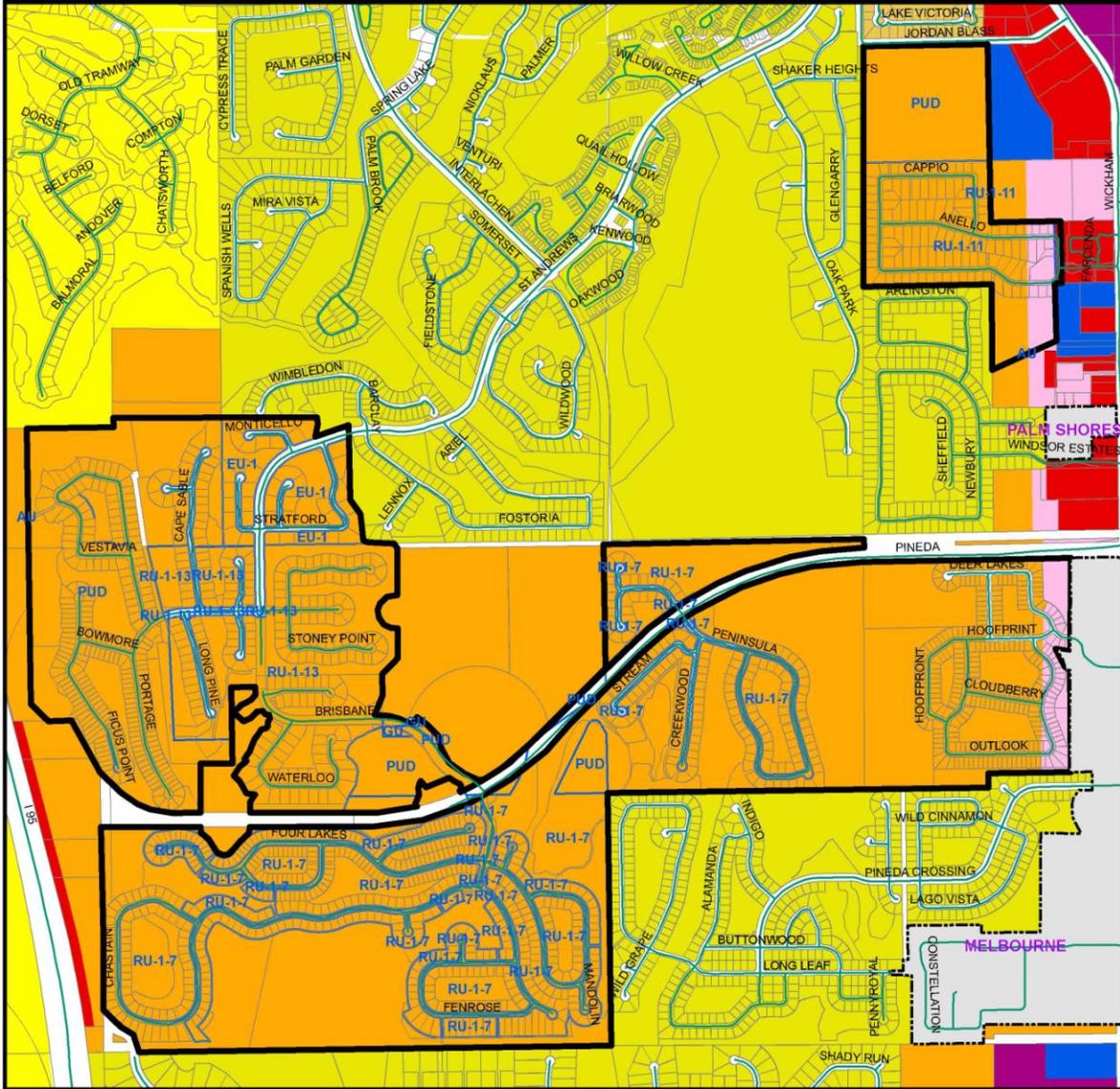


The existing zoning classifications of RU1-7, RU1-13, EU-1 and PUD are consistent with the proposed Residential 6 Future Land Use.

The proposed Residential 6 is compatible with the surrounding land uses.

ADOPTED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area



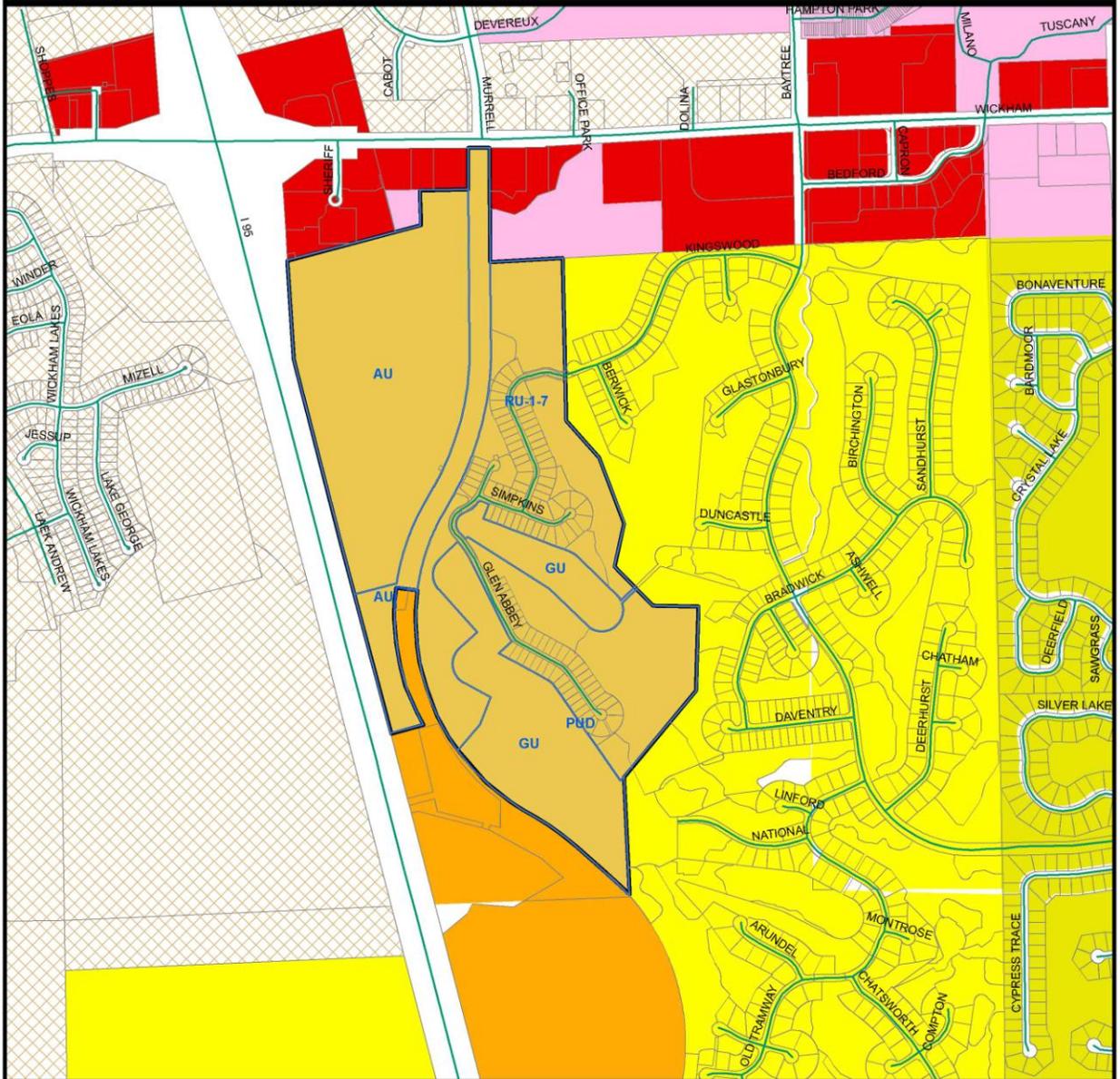
	SUBJECT PROPERTY		ZONING		CITY
	COMMERCIAL		INDUSTRIAL		RESIDENTIAL
	Community Commercial		Industrial		Residential 2
	Neighborhood Commercial		Planned Industrial Park		Residential 4
			Public		Residential 6
					Residential 15

1 inch equals 1,500 feet

Produced by: Brevard County Planning & Zoning Office - GIS 2/23/2010

PROPOSED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area



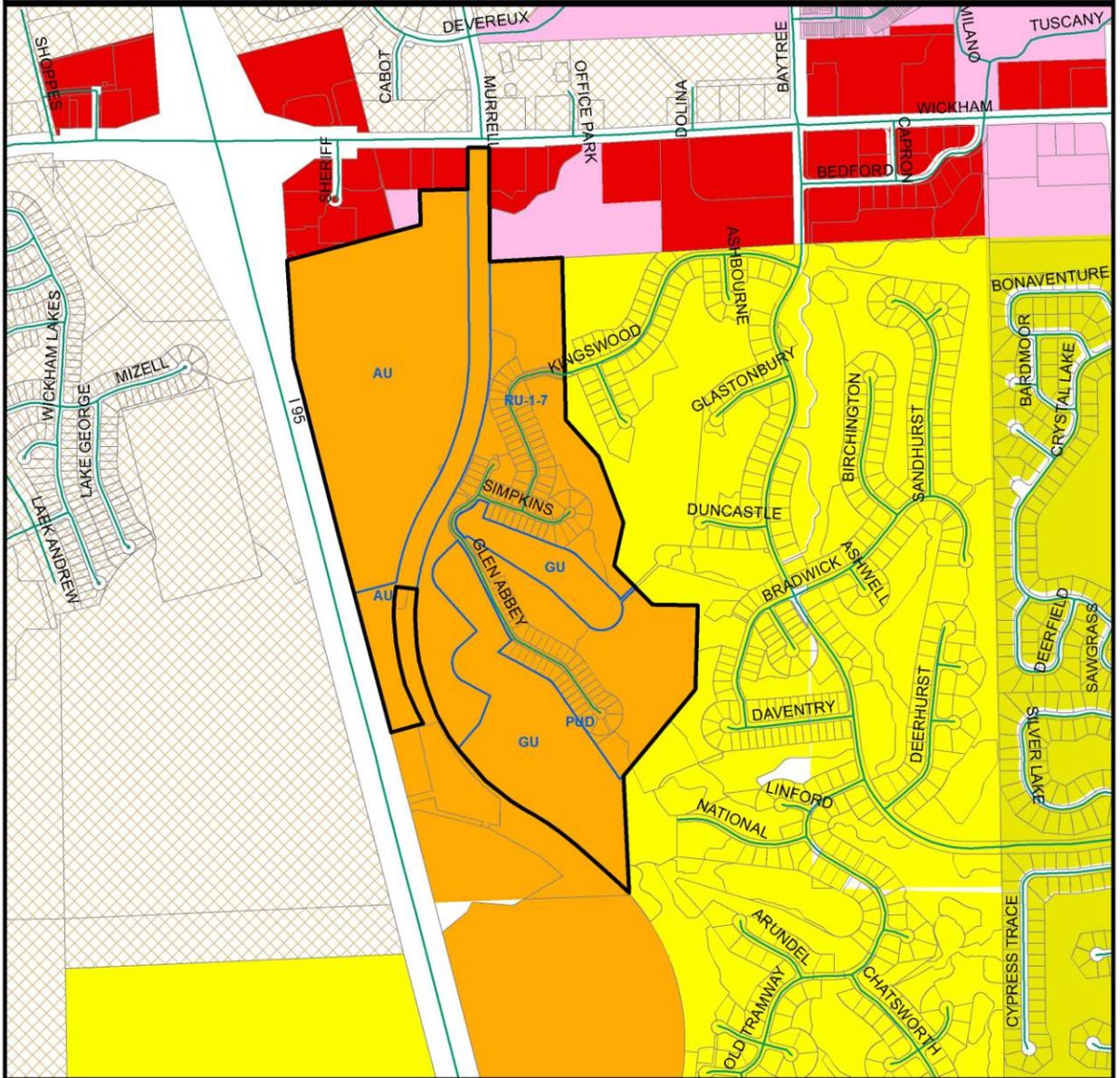
The existing zoning classifications of AU, GU, PUD and RU-1-7 are consistent with the proposed Residential 6 Future Land Use.

The proposed Residential 6 is compatible with the surrounding land uses.

Produced by: Brevard County Planning & Zoning Office - GIS 2/23/2010

ADOPTED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area





1 inch equals 1,000 feet

SUBJECT PROPERTY
 ZONING

COMMERCIAL

Community Commercial
 Neighborhood Commercial

RESIDENTIAL

Residential 2
 Residential 4
 Residential 15
 Residential 6

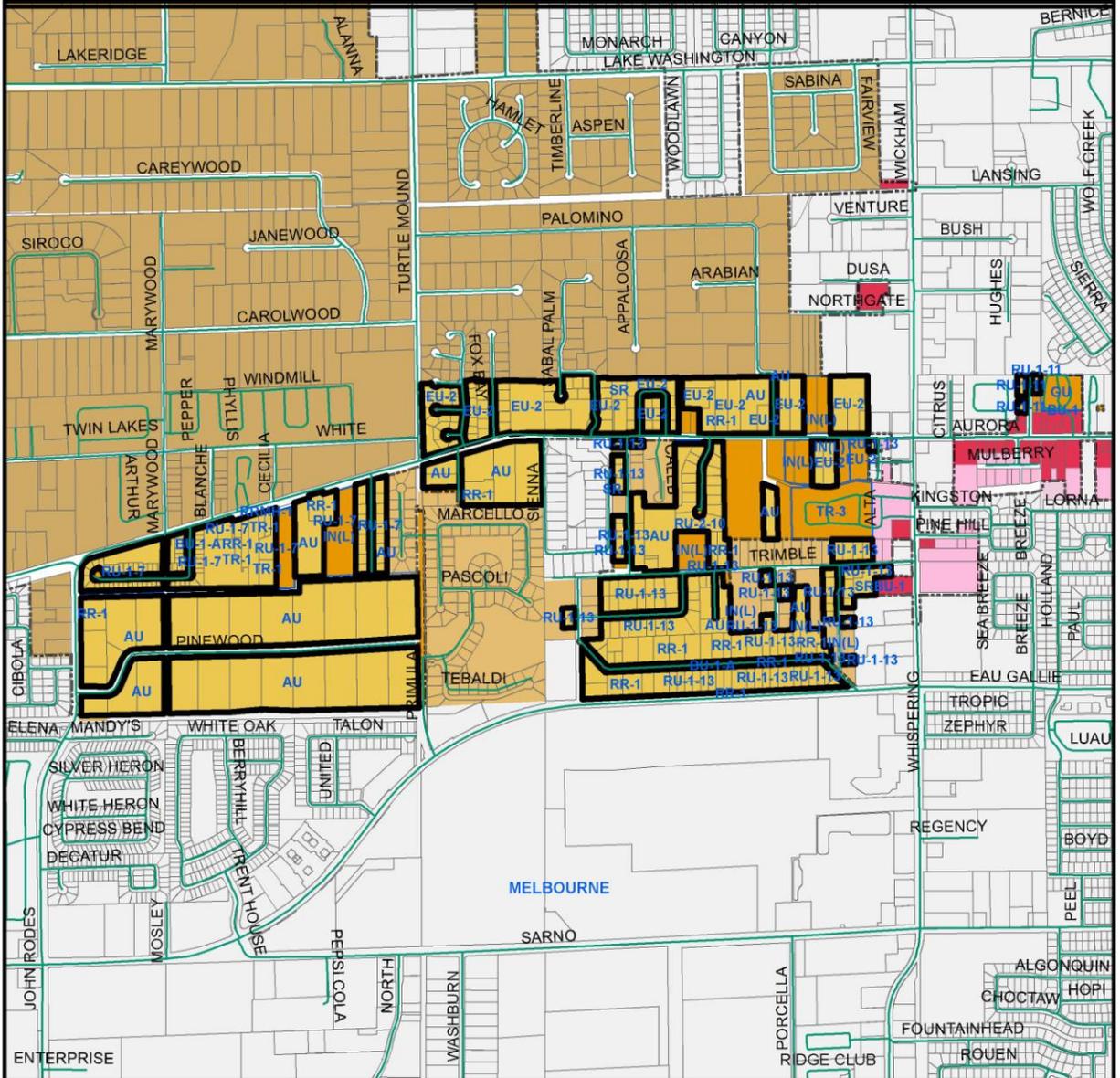
DEVELOPMENT REGIONAL IMPACT

Viera

Produced by: Brevard County Planning & Zoning Office - GIS 2/23/2010

PROPOSED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area



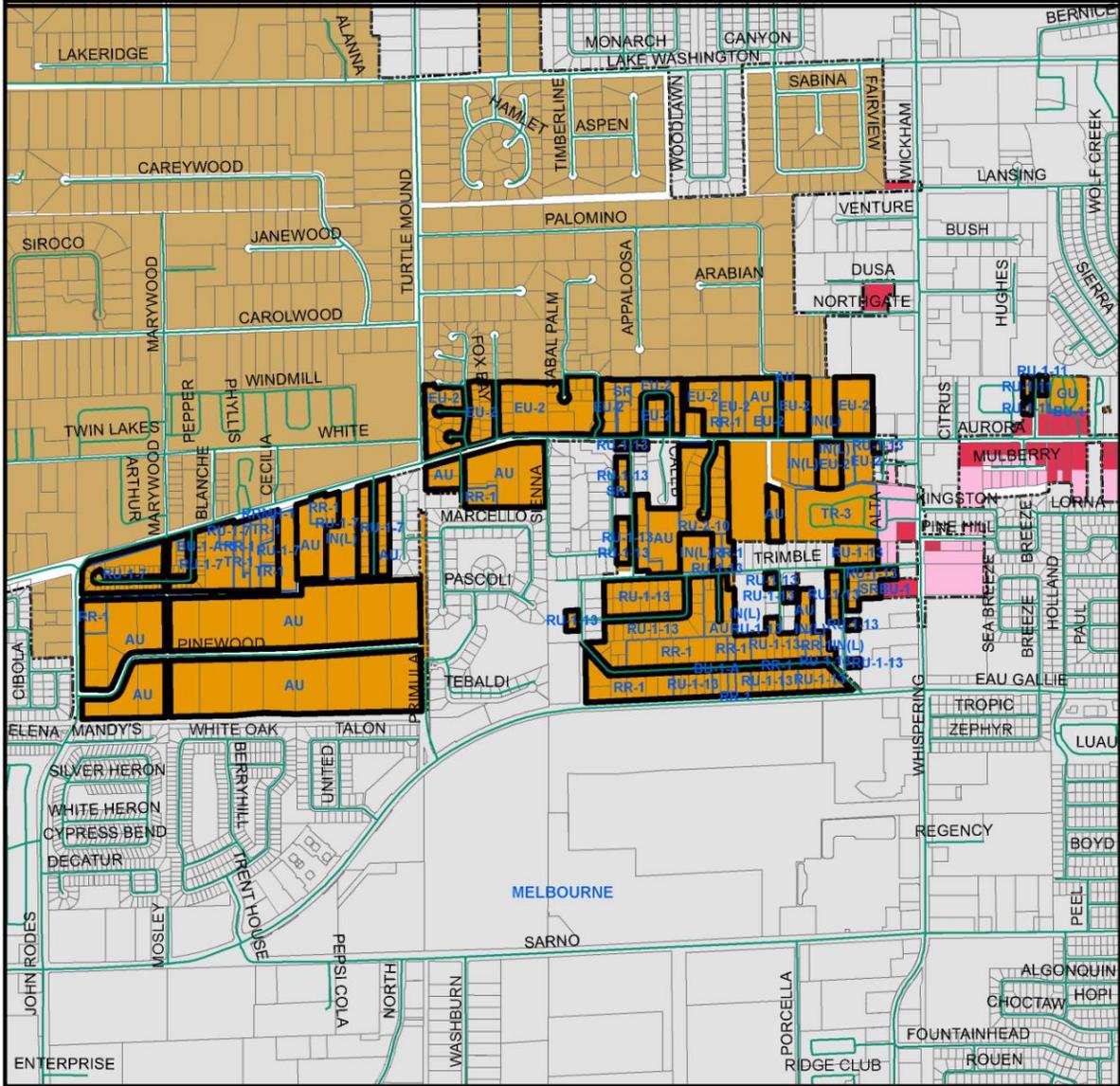
The existing zoning classifications of AU, EU-2 and various residential zoning districts are consistent with the proposed Future Land Use of Residential 6.

The proposed Residential 6 is compatible with the surrounding municipal land uses.

Produced by: Brevard County Planning & Zoning Office - GIS 2/24/2010

ADOPTED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area





1 inch equals 1,500 feet

SUBJECT PROPERTY

COMMERCIAL

- COMMUNITY COMMERCIAL
- NEIGHBORHOOD COMMERCIAL

ZONING

RESIDENTIAL

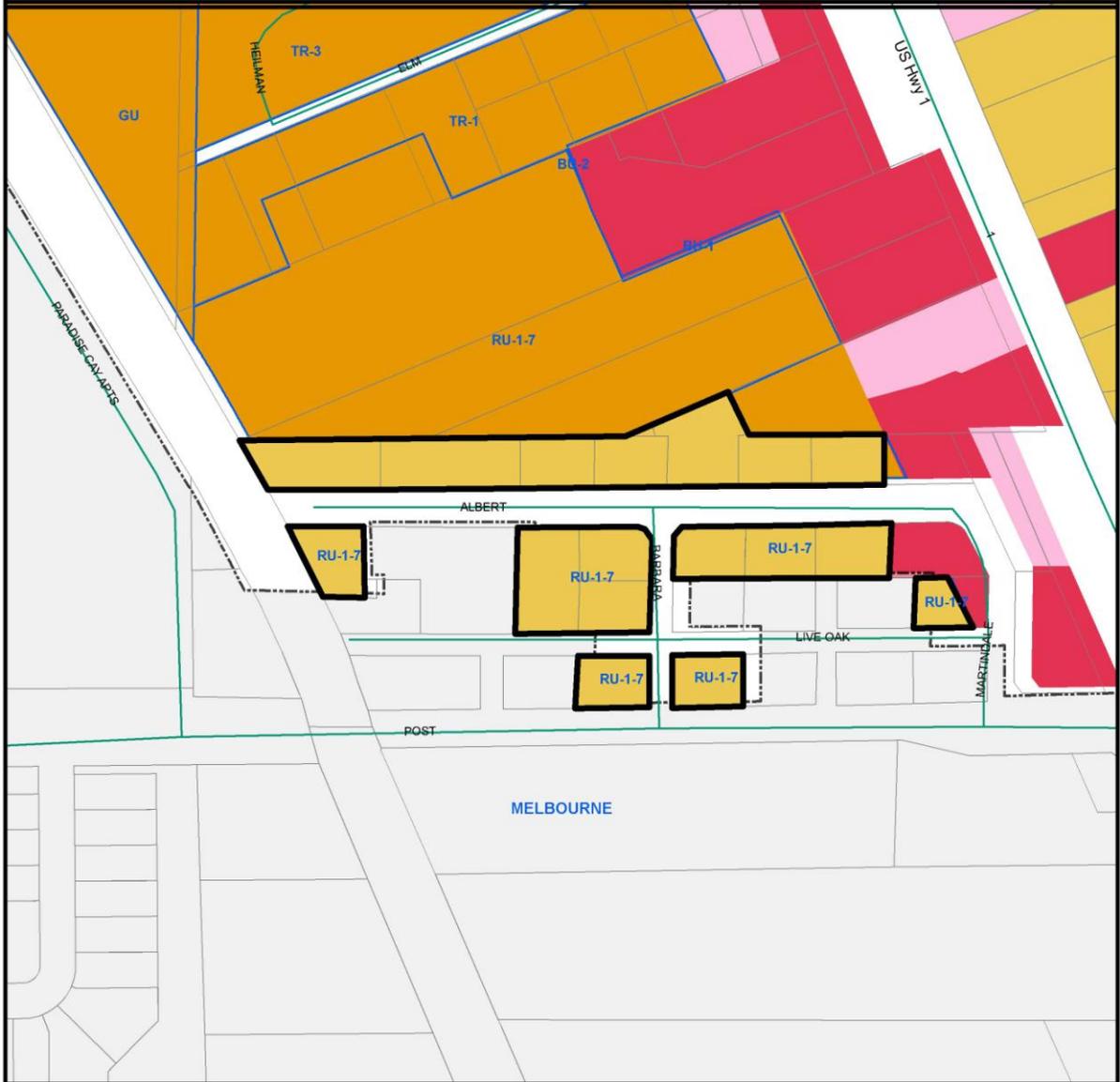
- RESIDENTIAL 4
- RESIDENTIAL 6
- RESIDENTIAL 15

CITY

Produced by: Brevard County Planning & Zoning Office - GIS 2/24/2010

PROPOSED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area

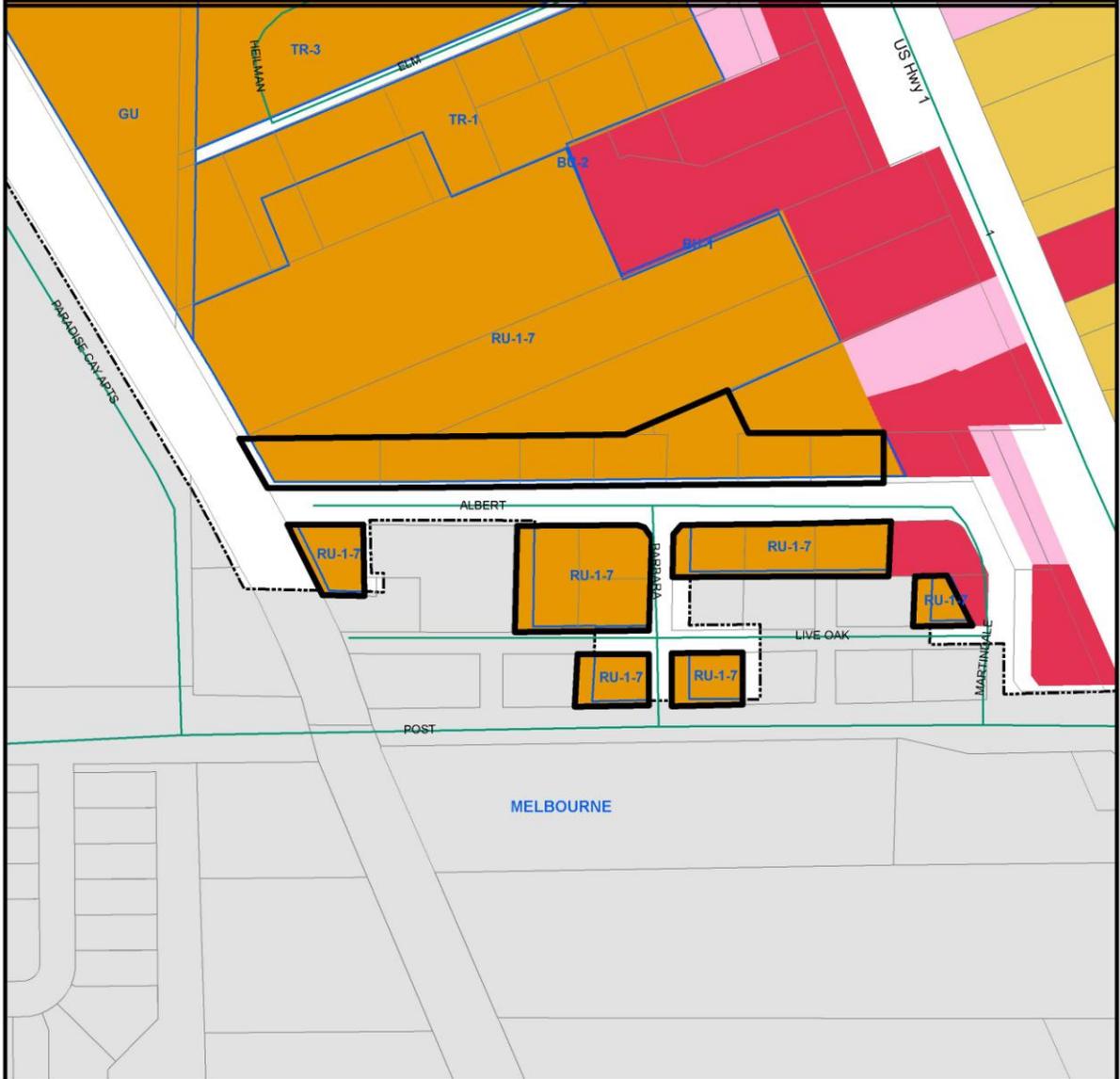


The existing zoning classification of RU1-7 is consistent with the proposed Residential 6 Future Land Use.

The proposed Residential 6 is compatible with the surrounding land use.

ADOPTED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area



1 inch equals 200 feet

SUBJECT PROPERTY

ZONING

CITY

COMMERCIAL

COMMUNITY COMMERCIAL

NEIGHBORHOOD COMMERCIAL

RESIDENTIAL

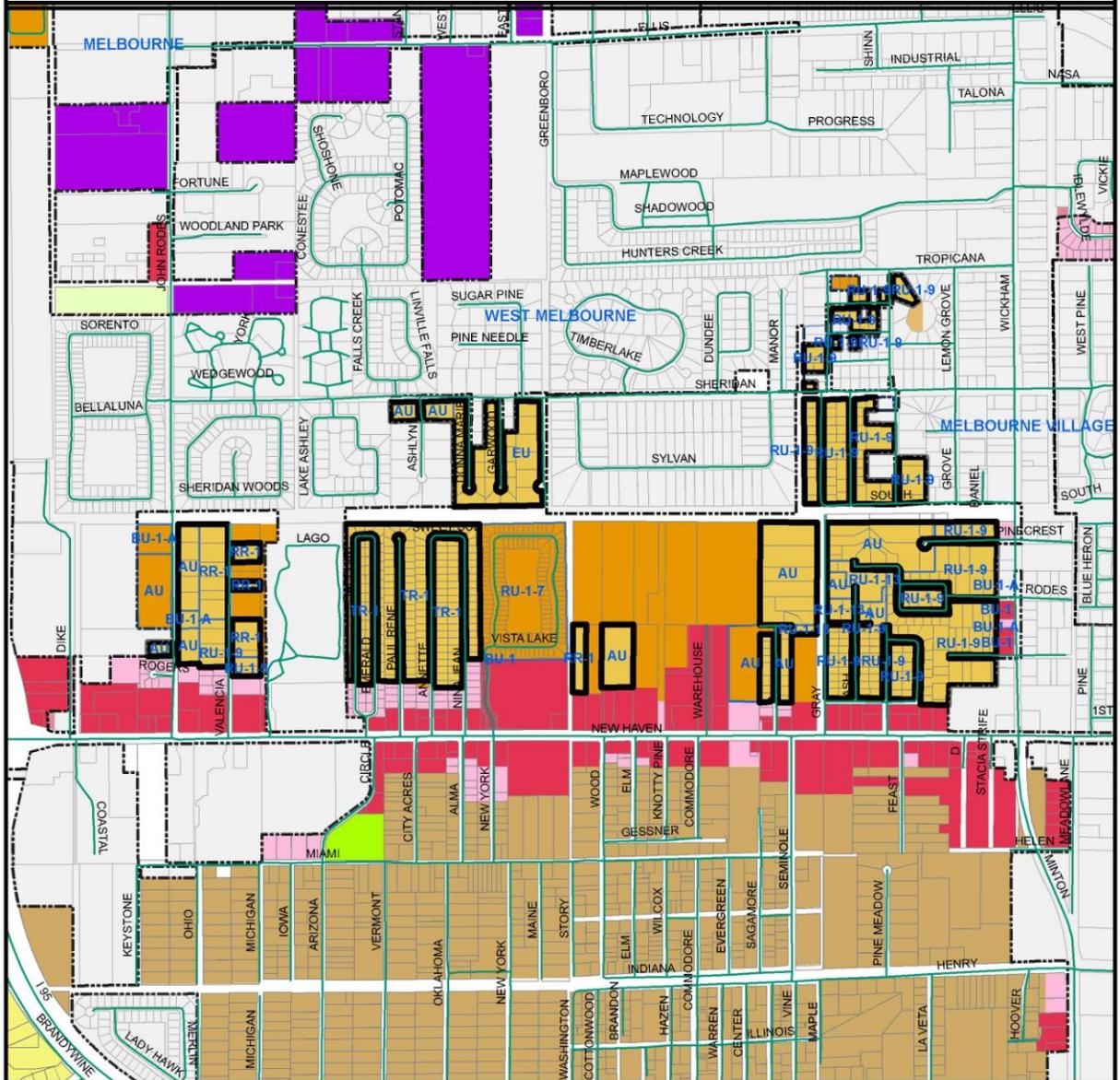
RESIDENTIAL 6

RESIDENTIAL 15

Produced by: Brevard County Planning & Zoning Office - GIS 2/23/2010

PROPOSED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area



The existing zoning classifications of TR-1, AU and various single family residential zoning districts are consistent with the proposed Future Land Use of Residential 6.

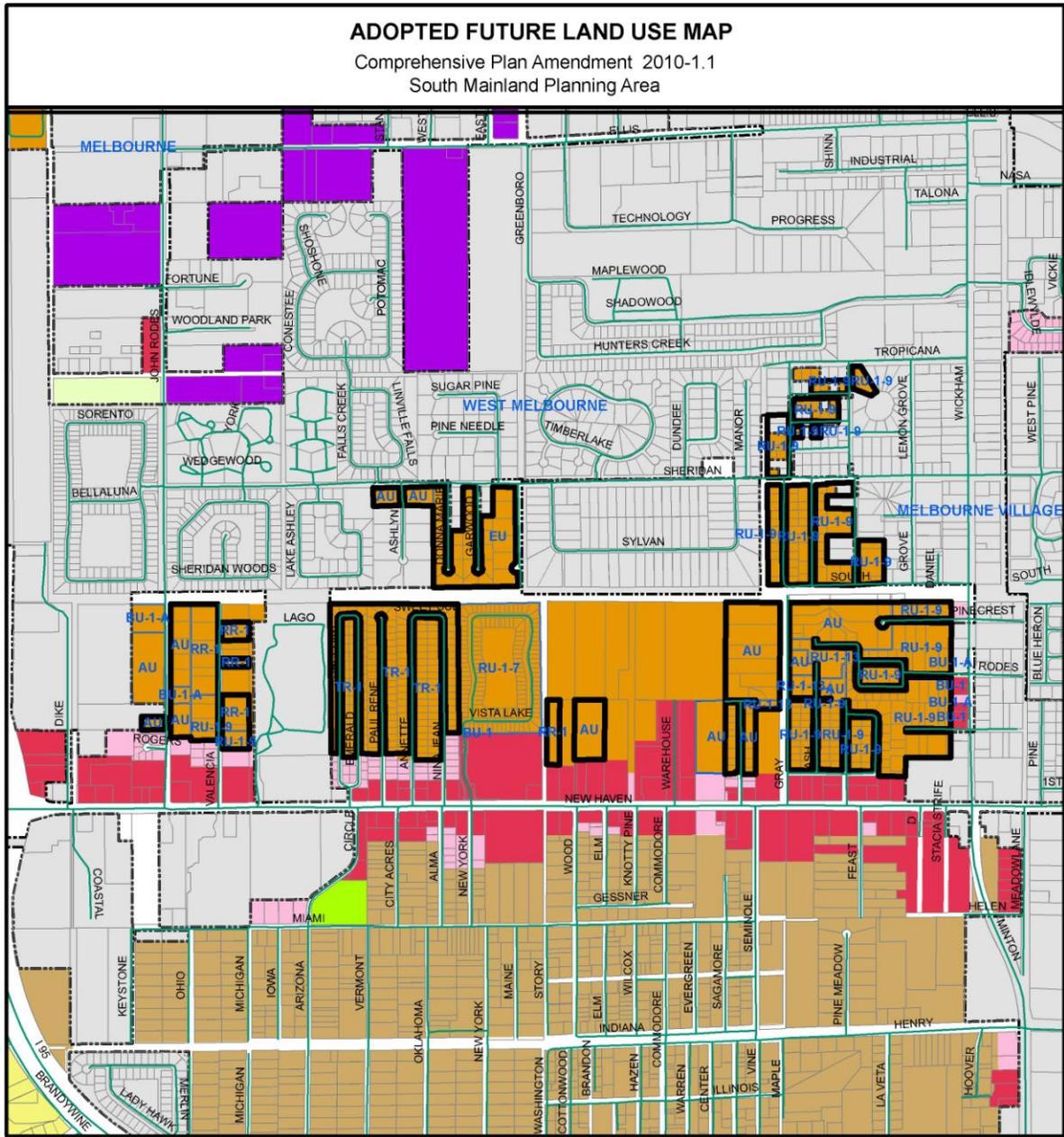
There are some zoning inconsistencies of BU-1-A on residential properties that will be addressed separately from this study.

The proposed Residential 6 is compatible with the surrounding municipal land uses.

Produced by: Brevard County Planning & Zoning Office - GIS 2/24/2010

ADOPTED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area





1 inch equals 1,500 feet

<p>COMMERCIAL</p> <ul style="list-style-type: none"> COMMUNITY COMMERCIAL NEIGHBORHOOD COMMERCIAL 	<p>INDUSTRIAL</p> <ul style="list-style-type: none"> INDUSTRIAL <p>PUBLIC</p> <ul style="list-style-type: none"> RECREATION 	<p>RESIDENTIAL</p> <ul style="list-style-type: none"> RESIDENTIAL 1:2.5 RESIDENTIAL 2 RESIDENTIAL 4 RESIDENTIAL 6 RESIDENTIAL 15
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Subject Property

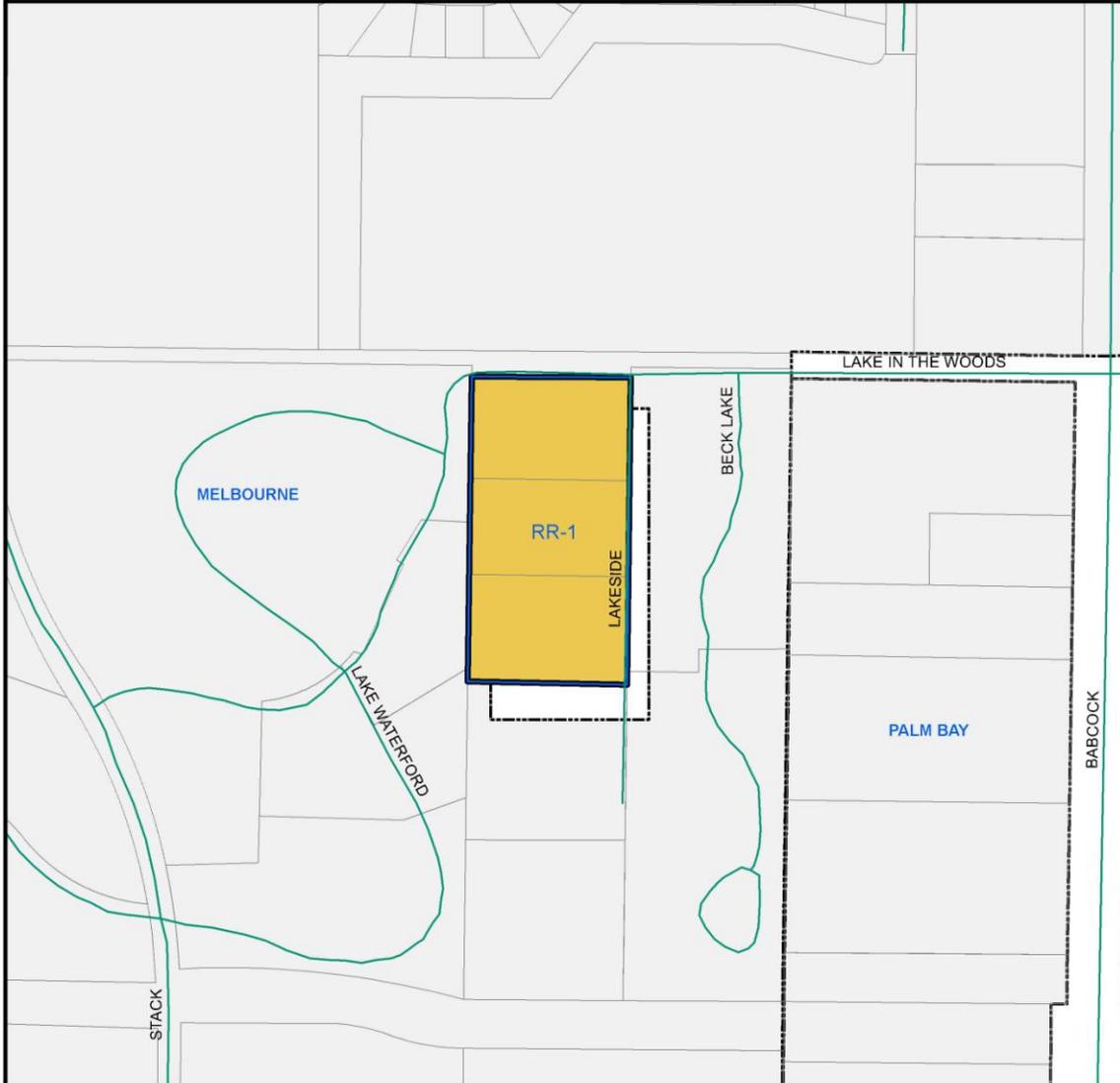
Zoning

Cities

Produced by: Brevard County Planning & Zoning Office - GIS 2/24/2010

PROPOSED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area



The existing zoning classification of RR-1, is consistent with the proposed Residential 6 Future Land Use.

The proposed Residential 6 is compatible with the surrounding municipal land uses.

Produced by: Brevard County Planning & Zoning Office - GIS 2/24/2010

ADOPTED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area



1 inch equals 300 feet

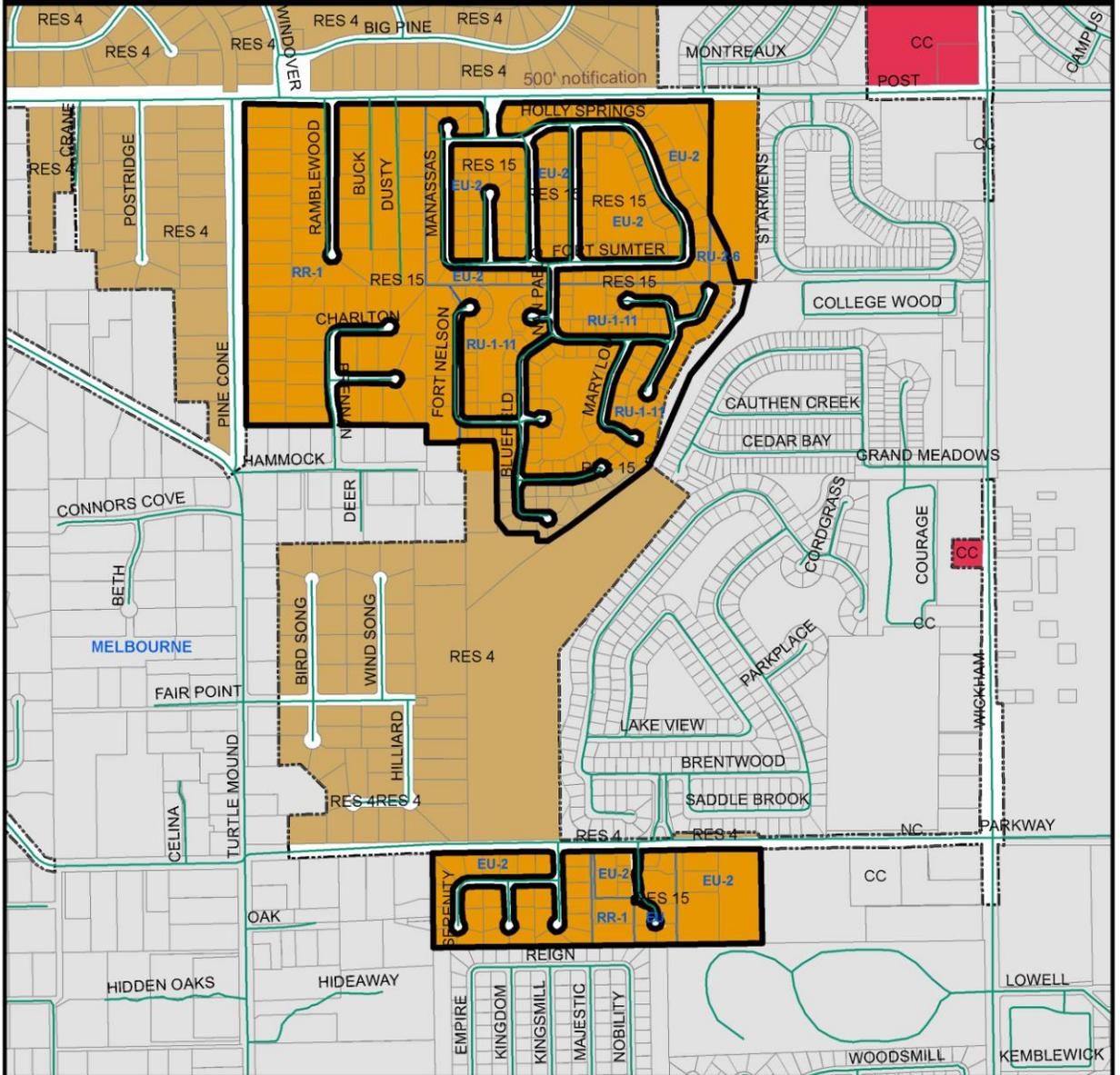
This map was compiled from recorded documents and does not reflect an actual survey. The Brevard County Board of Commissioners does not assume responsibility for errors or omissions contained hereon.

-  SUBJECT PROPERTY
-  CITIES
-  ZONING
-  RESIDENTIAL 6
-  RESIDENTIAL 15

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ADOPTED FUTURE LAND USE MAP

Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area



1 inch equals 1,000 feet

SUBJECT PROPERTY

CITY

ZONING

COMMERCIAL

COMMUNITY COMMERCIAL

RESIDENTIAL

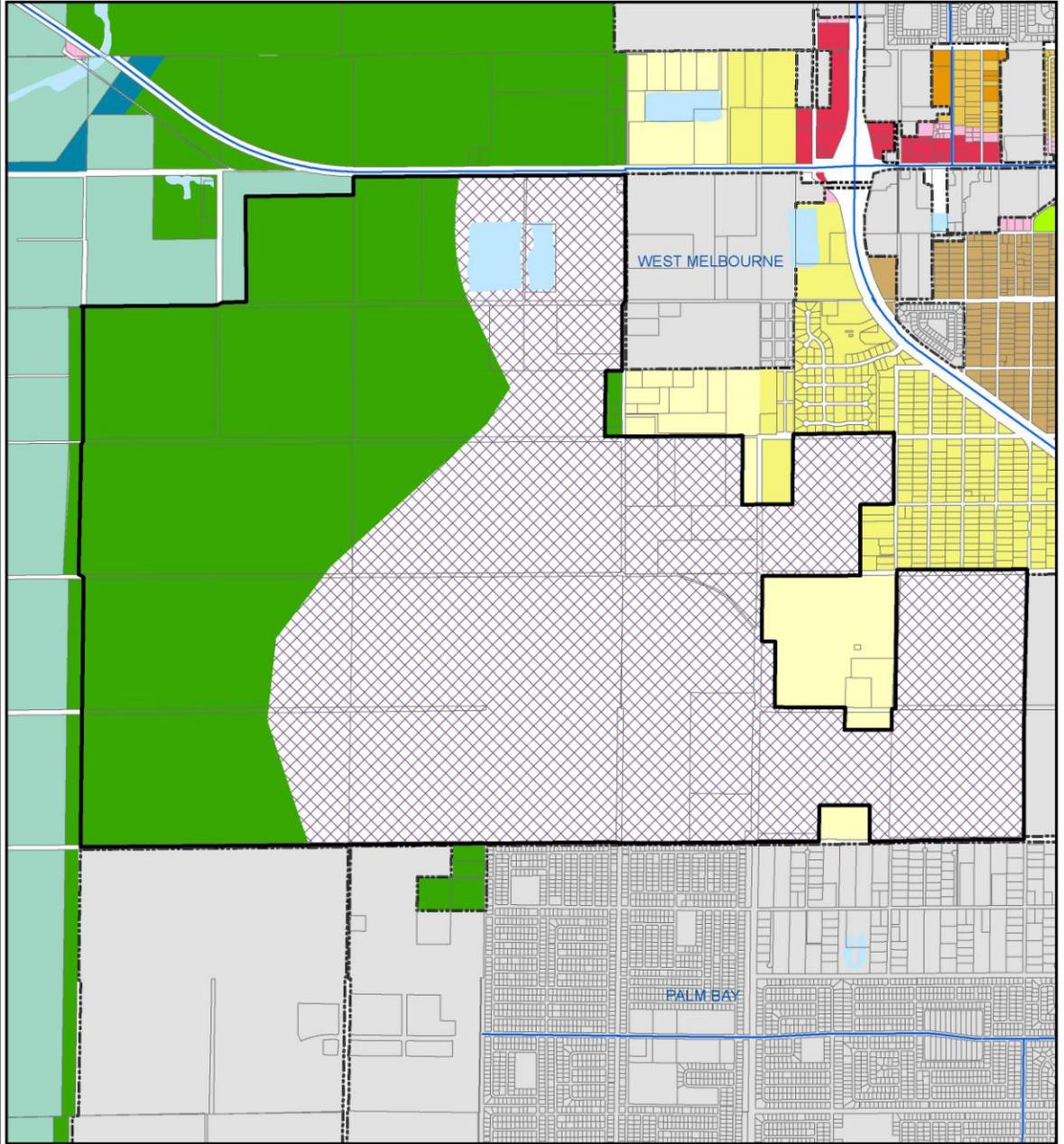
RESIDENTIAL 4

RESIDENTIAL 6

RESIDENTIAL 15

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**PROPOSED FUTURE LAND USE MAP
Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area**

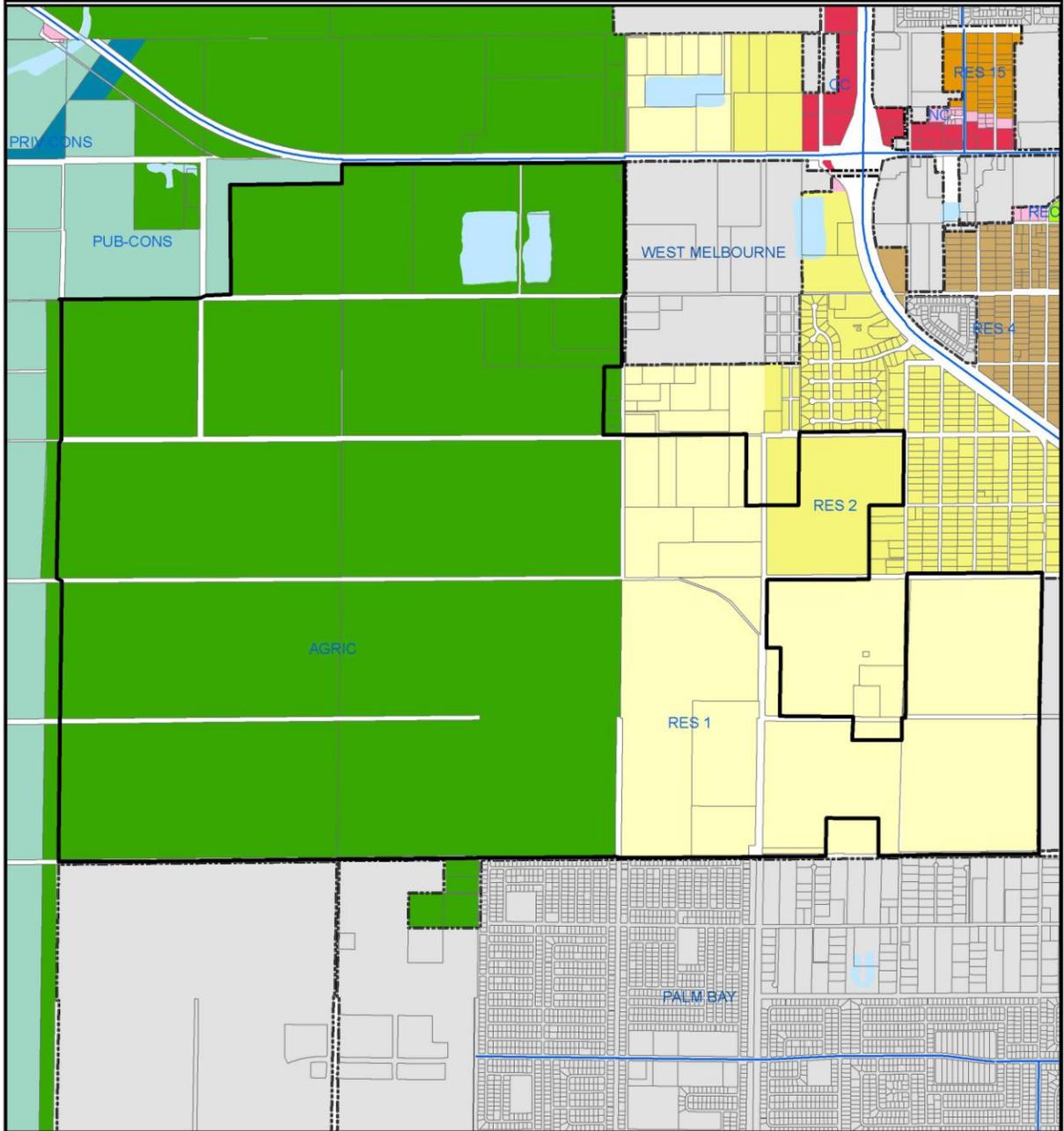


The existing zoning classifications of AU and GU are consistent with the proposed Future Land Use of Platt Ranch Mixed Use.

 PLATT RANCH MIXED USE

The proposed Platt Ranch Mixed Use is compatible with the surrounding municipal land uses.

**ADOPTED FUTURE LAND USE MAP
Comprehensive Plan Amendment 2010-1.1
South Mainland Planning Area**



Not to Scale

Platt Boundary	South Mainland Planning Area	AGRICULTURAL	CONSERVATION	PUBLIC	RESIDENTIAL
Parcels	Cities not a part of Small Area Study	AGRICULTURAL	PRIVATE-CONSERVATION	PUBLIC	RESIDENTIAL 1,2,5
SPA Adopted FLU		COMMERCIAL	PUBLIC-CONSERVATION	RECREATION	RESIDENTIAL 1
		COMMUNITY COMMERCIAL			RESIDENTIAL 2
		NEIGHBORHOOD COMMERCIAL			RESIDENTIAL 4
					RESIDENTIAL 6
					RESIDENTIAL 10
					RESIDENTIAL 15

Yellow Gold

from

The Heart of
The Indian River Country

FLORIDA



A STORY

Of the Citrus Industry in Florida
and of the famous Oranges and
Grapefruit of the Indian River
Country in Brevard County.

FOREWORD

This story is dedicated to the Indian River Country and the pioneers in the Citrus Industry of Florida. They literally "hewed" their way through the original forests, clearing the land and setting out those early orange groves of seedling trees, that later were used in producing the many varieties of citrus now marketed throughout the world. A steady flow of Golden Fruit from Florida via train, boat and truck November through May.

THE AUTHOR.

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Brevard County, Florida Is Half of The Indian River Country

Seventy-two miles of Atlantic Ocean frontage every mile of which lends to surf bathing with an average temperature of 72 degrees the year round. The Indian River parallels the ocean front, at no point more than three miles inland.

Brevard County was established in 1855 long before the Civil War days and originally extended much farther south and from which was created two other large counties. Brevard County still has 1,000 square miles of territory.

Brevard County is the yardstick from which many of the famous Blue Ribbon Indian River brands of Citrus were created and production adjusted, and from which is shipped millions of boxes annually. The original Dummet Groves unit still bear and are nearly one hundred years old.

The county seat at Titusville except for Mims is the most northern point of contact. To the south lie Indian River City, Sharpes, City Point, Cocoa, Rockledge, Eau Gallie, Melbourne, Palm Bay and Micco, smart up-to-date municipalities where tourists, for the last fifty years, have spent the winter months in comfort and enjoyment.

THE INDIAN RIVER COUNTRY

Figuratively speaking the Indian River Country was carved out of the very earliest period of American settlement. Ponce de Leon named Cape Canaveral, meaning, a cape of currents. This cape juts out into the Atlantic Ocean just east of Cocoa and Titusville, Florida, and is a sharp point shown on all maps. On this point of land in 1853 was built the lighthouse, oldest on the south Atlantic coast. Using the lighthouse as a measuring point for eighty miles south and seventy miles north with an average width of twenty-five miles along the Indian River and to the west one hundred miles on the St. Johns River, embracing 2,800 square miles, the authentic Indian River Country is as large as some of the principalities of Europe. A land of rich soil and sub-tropical climate, traversed in parallel lines by five modern means of transportation, the F. E. C. Ry., U. S. Highway No. 1, Inland Waterways New York to Miami, coastwise ocean traffic, and for the 150 miles served by the Pan-American Airways. This transportation is not duplicated anywhere in the world.

A land whose climate is governed by the Gulf Stream just off shore paralleling 150 miles of ocean bathing and driving beaches, the Riviera of America.

The Indian River Country is best known for its celebrated oranges, tangerines and grapefruit, each year some 8,000 cars being shipped to the markets of the world, where it commands a premium price. Fish, crab meat, shrimp, and vegetables are shipped in carload lots the year round.

The Indian River Country is a mecca for tourists as all East Coast traffic to and from New York, Miami and Key West passes through it, with natural advantages not found otherwise in America. Where the sun shines better than 210 days a year and for twenty years has not reached above 97 degrees, the average being 72 degrees, with the result the Indian River section of Florida is world-famed.

Titusville

(County seat of Brevard)

The friendly city, where southbound visitors and tourists first sight the world famous Indian River. County seat of Brevard County, and home of the Indian River orange. Rich, productive soil and on the upward trend. Excellent fresh and salt water fishing, from a distance of half a mile from the city's center to ten miles west of the St. Johns River. Becoming noted as a retreat for northern visitors. Excellent schools, churches, civic and other organized groups.

Indian River City

Just south of Titusville, and adjoining the junction of U. S. No. 1 with Highway No. 22, the main central route from the Atlantic to the Gulf of Mexico, passing through Orlando 38 miles to the west. Indian River City is also Florida Motor Lines dining point and junction for the West Coast.

North Brevard County

Lying between the Atlantic Ocean and the St. Johns River, traversed by the Florida East Coast Railway and the U. S. Highway No. 1 from Jacksonville to Miami. A gateway to the Indian River section, and one of the East Coast's most noted fishing paradises. Home of famous Turnbull Hammocks, and the thousands of acres of the finest varieties of the Indian River orange, tangerine and grapefruit. Towns include Mims, Scotts-moor, and Shiloh.



Orange Grove 100 years old, North Brevard

Rockledge

Rockledge in the heart of the famous Indian River citrus belt, is one of the oldest and prettiest tourist centers in Florida. Half way between Jacksonville and Miami, Rockledge is so named because of the rocky cliffs that jutt out over the mile wide stretch of level inland sea that is called the Indian River. Across the river is Merritt Island. Portions of Rockledge are built upon some of the highest ground on the East Coast and some of her pretty homes overlook the Island to the beach and the sea to the eastward, and to the west the headwaters and lakes of the St. Johns.

Fine homes and groves under seldom clouded skies. Constant sunshine in Rockledge is unsurpassed by sunshine records in any of the more highly publicized sections of the state, as may be seen by the records kept for 57 years at the U. S. Weather Bureau Station just across the river at Georgiana.

Sunshine is the essence of life. Seventy per cent of the population of the United States live in a region totaling from 30% to 60% of yearly sunshine. Florida is blessed with a yearly average of 80 to 90% sunshine.

The same data will attest that periods of twenty years passed with temperatures no lower than 26 degrees in winter nor higher than 97 in the summer. Winters whose icy blasts lose their sting as they cross the balmy waters of the lakes and the river. Summers whose heat is tempered by the cool southeast trade winds that blow across the southern seas.



Night-Blooming
Cereus ...

Cocoa adjoins Rockledge on the north and ships more private orders than any Indian River fruit express station and much of that famous fruit is grown in groves adjacent to Rockledge. As far back as 1878 Indian River oranges were hauled three miles to the St. Johns River landing, from there by boat to Jacksonville and points north, since when Rockledge has ever kept her early reputation.

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Cocoa

A modern up-to-date East Coast City with a population of around 3,000, situated directly on the Indian River midway between Jacksonville and Miami, also on the Intracoastal Waterway and a popular docking place for pleasure craft cruising in Florida waters. The dock immediately joins the business district. Of particular interest is the further fact of its location on Indian River Drive, acclaimed by those who have seen it, a scenic drive second to none in the State. It has an abundant supply of pure, clear, soft water from nearby spring lakes; grade and high schools fully accredited by the state and regional accrediting agencies; churches of all principal denominations; an outstanding community newspaper; a strong well-managed national bank; a thoroughly modern picture theatre; good hotels, restaurants and shops; progressive merchants and professional men and women; civic and fraternal organizations, including the Tourist Club, Woman's Club, Garden Club, Music Club, Parent-Teacher Association, Rotary, Kiwanis, Masons, Elks and American Legion.

Cocoa is a progressive city. Now nearing the final stages of construction is the half-million dollar causeway linking Cocoa with Merritt Island. A new \$70,000 postoffice will be serving residents of the community within a few months. Cocoa boasts of one of the finest new docks on the Inland Waterways.



A Private Yacht Basin at Cocoa

Eau Gallie

Eau Gallie (pop. 1500) with its well-kept streets and beautiful water-front homes, offers a variety of attractions to Florida visitors seeking pleasant and congenial surroundings amid tropical beauty.

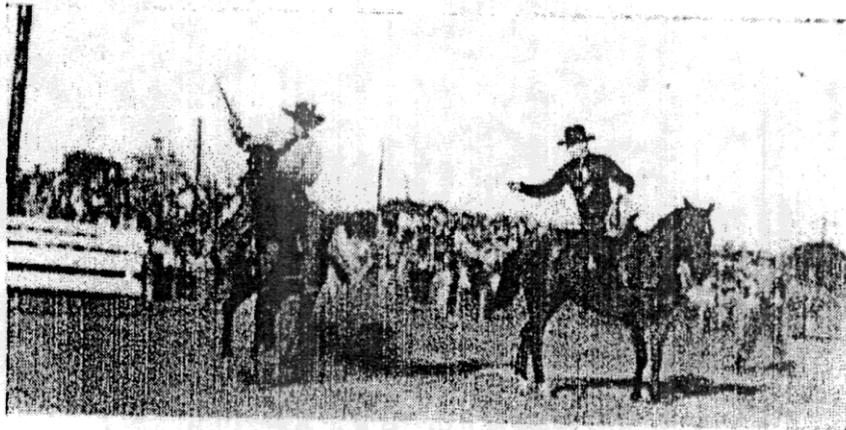
Yachtsmen find at Eau Gallie the finest landlocked harbor in Florida so that over 400 yachts make Eau Gallie a port of call each season. The Eau Gallie Yacht Club, one of the oldest clubs in the State, extends a cordial welcome to visiting yachtsmen, and is an important center for social gatherings all through the Winter season.

Fishermen at Eau Gallie have the choice of fishing in either of four rivers, in the ocean, or at nearby Lake Washington, and in either fresh or salt water.

Popular motor trips near Eau Gallie include the famous scenic drive through the orange groves of Merritt Island; the rich cattle country of the St. Johns River valley to the west, where some of the largest ranches in Florida are now established, and to the bird rookeries at Lake Washington where in the nesting season over 25,000 tropical birds may be observed at close range. The National Audubon Society protects these rookeries and here are seen rare tropical birds unknown in other parts of the world.

Championship tennis courts, playgrounds for the children, extensive parks, with a fine pier into Indian River and good schools, together with unexcelled accommodations in hotels, cottages, and private homes make Eau Gallie a desirable place in which to spend a vacation or make a Winter home.

Eau Gallie invites you.



Annual Rodeo at Eau Gallie

Melbourne

Melbourne is located on the east bank of the Indian River and is the center of the famous Indian River Orange District. Its expansive beach, with two casinos and swimming pools with the usual recreational facilities, makes Melbourne outstanding from a tourist standpoint.

Melbourne is a year-round resort. The proximity of the Gulf Stream and the prevailing trade winds make the climate mild in Winter and cool in Summer.

Civic spirit manifests itself through well organized Kiwanis, Rotary, Woman's Club, and many other groups.

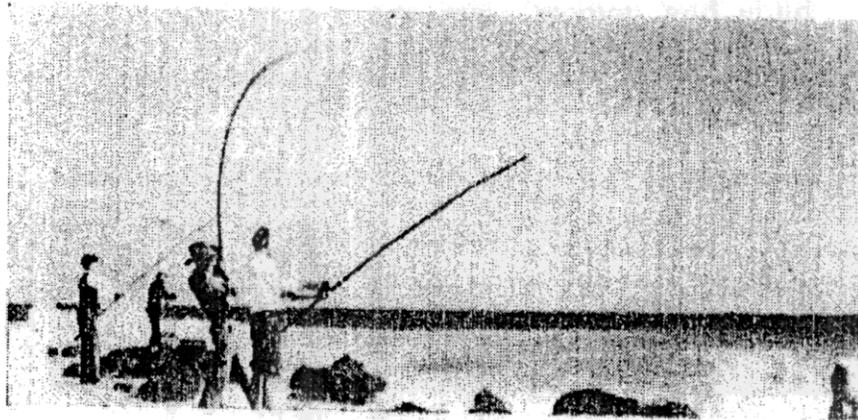
Golf, tennis, shuffleboards and many other types of amusement for the visitor. Melbourne might well be called "The City of Homes and Gardens" surrounded by tropical plants and palms. The average home has its own orange and grapefruit trees.

Churches, of practically every denomination, schools bearing the highest of ratings.

There are few places which can equal Melbourne for good fishing. Nowhere can be found the variety of fishing that is available here. Melbourne furnishes both salt and fresh water, deep sea, lakes and river fishing. Sebastian Inlet which is nationally known as a "fisherman's paradise" is located at this point.

Melbourne Beach located opposite Melbourne on the Indian River on the west, Atlantic Ocean on the east. Swimming pools and casino; also Woman's Club, tennis and other amusements to entertain the visitor, surrounded by beautiful homes and cottages makes Melbourne Beach a desirable location to spend the vacation or for permanent residence.

For information address Chamber of Commerce.



Jetty Fishing at Sebastian Inlet

Merritt Island and Canaveral Peninsula

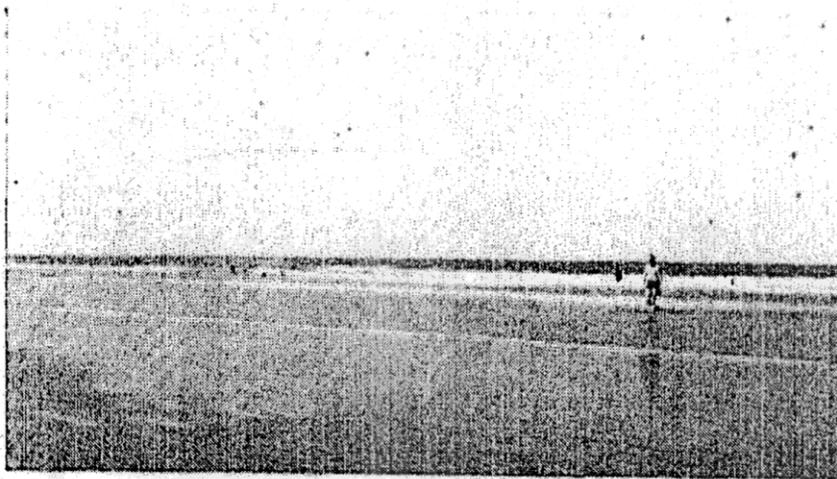
To the east of the Indian River and bordering on the Banana River lies the Merritt Island and Canaveral Peninsula section of Brevard County, extending approximately 50 miles north and south and fronting on the Indian River and on the Atlantic Ocean for its entire length.

This section can be reached from U. S. No. 1 at Cocoa, Titusville, Eau Gallie and Melbourne.

The Indian River Orange was originally developed here.

Here you will find the thriving communities of Merritt Island, Indianola, Courtenay, Audubon, Orsino, Wilson, Allenhurst, Shiloh, Cocoa Beach, Artesia, Canaveral Harbor, Georgiana, Lotus and Tropic.

Nowhere else in Florida can be found the combination of conditions, making for happy and prosperous living, that abound in this section—Delightful Climate, Scenic Beauty, an abundant soil producing tropical and subtropical fruits and vegetables—large and picturesque citrus groves—a veritable paradise for salt-water hook and line fishing and shrimping, enjoyable for the sportsman and a source of profit for the commercial fisherman and shrimper.



Cocoa Beach — No Beach Offers Greater Safety

The Citrus Family

THE commonly known varieties of the Citrus family are divided into major and minor classifications. The first includes Oranges, Grapefruit, Lemons and Tangerines, the minor are Satsumas (orange), Limes, Kumquats and Tangelos.

Location and Historical Background

Oranges are grown in Florida, California, Spain, Egypt, Islands of Italy and South Africa.

Grapefruit is grown in Florida, Texas, Arizona, Brazil, South Africa and Porto Rico. Nowhere in the world but in Central Florida are all grown at the same time with the different varieties of each and within the radius of a hundred-mile circle.

Orlando, the center of the state, is also the center of this Florida Citrus Culture, while Cocoa, Brevard County, Florida, is the center of the famous Indian River brands of the East Coast.

Tradition

The American Orange really started in Florida from seed brought from Spain by way of the West Indies. In Florida at present there are more than 340,000 acres of growing Citrus. Twenty-seven million trees, old and new, with a minimum production of thirty-five million boxes annually, which may not be comprehended thus computed, but when one realizes that this amount of fruit, if equally distributed, would give every man, woman and child in the United States a dozen and a half oranges, ten grapefruit, with a double handful of tangerines on the side, it really means a tremendous industry for one state.

It is also a matter of interest that the annual consumption of citrus has reached thirty-five pounds per person, compared with seven pounds that were consumed thirty-five years ago and seems incredible, an increase of 500 percent.

Florida oranges were first raised on seedling trees that grew tall and spiral and

now they are almost entirely a budded or "grafted" tree, somewhat low, short stem and round top, with eighty trees and less to the acre.

An orange tree should yield after five years from one to three boxes, later eight boxes; the grapefruit tree from one to six boxes and on up to fifteen boxes at maturity; many trees reach the age of fifty years. So many young groves are now set out that the present number of boxes produced does not compare favorably with the number of trees set out. Another interesting estimate of the production of Florida Citrus — visualize if you may, nine hundred trains, each train a mile long of one hundred cars, or one solid train 900 miles long, raised each normal year in Florida. Gross citrus shipments are computed in carload lots, whether by boat or truck. A car unit thus quoted is four hundred boxes, a maximum car is four hundred and forty boxes. So much for production.

Citrus Technique

At present, since seedlings are used no more, the root stock has no relation as to variety the tree produces. The graft or bud branch inserted is the variety wished and the age of stock so budded averages eighteen months at budding. In the west and middle sections of Florida most root stock is a rough lemon, it matures better in ridge soil. On the eastern shore or Indian River section, with a milder climate, the sour orange or wild orange is used, this being the original native orange stock, naturally produces (proven by test), the higher quality of orange, bringing approximately one dollar per box more on the northern markets.

Oranges are of several varieties, early to late, December to May (using Florida as an example). Satsuma, Hamlin, Parson Brown, Navel, Pineapple, Temple, Leu Gim Gong, Valencia, each coming into production in order named. Science is constantly creating new varieties.

The United States produces the largest

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quantity of oranges in the world, and four-fifths of the grapefruit, one-half of which is raised in Florida.

The Tangerine, of several varieties, is ripe in mid-winter months. A new delicious fruit propagated within the last twenty years is the Tangelo, a cross in the budding (grafting) of the common tangerine with the pomelo (grapefruit), creating a delicious citrus fruit not commonly known, "Tangelo" Tangerine-Pomelo, combining the two words — Tangelo.

Grapefruit varieties are the Duncan, Triumph, Common Marsh Seedless, and Foster (Pink Grapefruit) the latter now raised in quantities. There are several minor varieties in fancy brands with no steady market, as have the above mentioned brands.

The story of the Grapefruit (Pomelo) is interesting. It is propagated from the Shaddock, named after the man who first attempted to bring them to Florida from the West Indies. He was shipwrecked, the ungainly pumpkin-shaped, coarse, bitter fruit came ashore, many seeded naturally, some were planted as a curiosity. The fruit was abnormal in size, many two feet in circumference, the meat coarse and pink. Horticulturists started experimenting, to the end that in fifty years we have what is commonly known as Grapefruit, whose real name is Pomelo, the name grapefruit being substituted later because the fruit grows in clusters similar to grapes, sometimes in the Indian River country over thirty to a cluster or branch. The grapefruit trees grow to enormous size—one tree in the well-known Sunset Grove on Merritt Island, across the Indian River from Cocoa, Florida, has over two thousand fruit at one time and twenty people can assemble under this tree and not a person would be able to reach a fruit. Another tree on this same Island produced thirty-seven boxes of fruit (size eighty to the box) in one season.

Industrial Side

Citrus Culture is not a poor man's game, a well-known axiom "It takes money to

make money" holds true in Citrus culture. The smallest paying unit minimum is ten acres, from that up to one thousand acres constitute a grove. One hundred acres is a large producing grove.

Packing plants and groves are separately considered. Several or many groves may use one packing plant jointly, generally built on a sidetrack with a capacity of from four to fifteen cars a day. All graded citrus passes through these packing plants; highly specialized automatic machinery handles the orange or grapefruit from the time it is dumped into the great washing and scrubbing vats until it is dried, polished and packed by employees, wearing white cotton gloves. In this process over half an hour elapses, and when it comes out and is shipped, sold and finally unwrapped by you, it is absolutely a sanitary product beyond any question of doubt. A visit to any packing plant in Florida will be the proof of this statement.

The cultivation is highly specialized; fertilizer of certain ingredients, cover crops in the groves to retain ground moisture, spraying to reduce insect life all hold for a great industry whose output should be more universally used. Remember an orange has half the vitamins of an ordinary meal.

Citrus Consumption

Those who cannot handle the sugar content of the orange may have direct recourse to the grapefruit without sugar content and highly recommended by all physicians during epidemics where the common cold is the starting point.

The pure unadulterated orange juice has not reached the perfect canning stage as yet. Grapefruit has been successfully canned only for out-of-season uses, or for parts of the world where it is not practical to ship fresh fruit.

One successful canned drink is a combination of orange and grapefruit juice called "Pomorang," e left off, to be used off season and chilled in ice box. Do not add

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ice directly to a citrus juice drink, this is an unwritten law where juice is used instead of eating from the hand.

Citrus Marketing

The forty million boxes of Citrus fruit raised in Florida are marketed through the great auction markets of New York and Chicago, Boston, Philadelphia, Pittsburgh, Detroit, Cleveland and Cincinnati, and jobbers in every fair-sized town throughout the United States, together with many thousands of boxes expressed to private consumers. This latter is known as a mail order business. New York clears the major shipments of fruit to foreign ports, England using the bulk, though Florida Citrus fruit consumption is fast spreading to continental Europe. To reach these markets, three avenues are used: First, by rail in solid trains through Jacksonville, breaking into smaller units at Waycross, Ga., and the Potomac yards near Washington, D. C. In many cases these trains are mostly iced cars and are rerouted direct to inland cities, under direction of the Sales Departments of the different shipping organizations.

Water transportation is through Tampa, Fort Pierce and Jacksonville, all of which goes directly to the seaport centers of the northeast Atlantic Coast. The old unit of three hundred boxes to a car is still used in estimating a shipment by boat; in train lots four hundred boxes constitute a minimum car.

Truck transportation is comparatively new and now under control of central units and the Interstate Commerce Commission, succeeding a rather free-for-all method in operation prior to 1936. The major portion of truck movements in the past has been bulk fruit unpacked and unclassified and which fruit in former years was practically a loss. Under the Interstate Commerce, all classes of Citrus may be and are moved by truck, dividing the responsibility with rail and water. One of the interesting branches of the citrus industry is the private order or mail order shipments, particularly the

Indian River brands. From Cocoa, Brevard County, Florida, alone in 1939, over sixty thousand packages were moved by express to private consumers ordering by mail one or more boxes at a time. A very satisfactory method of distribution. This is an increase of 100% in three years. In most cases the shippers are the real growers of this fruit.

In Conclusion

Ninety-five percent of the Florida oranges are used east of the Mississippi where 80% of the consuming public of this country shops. Remember, your portion of Citrus is thirty-five pounds a year; see that you get it. Plenty of oranges and grapefruit means plenty of days of good health for you.

USE INDIAN RIVER ORANGES

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Yellow Gold

from

The Heart of
The Indian River Country

FLORIDA



THE INDIAN RIVER

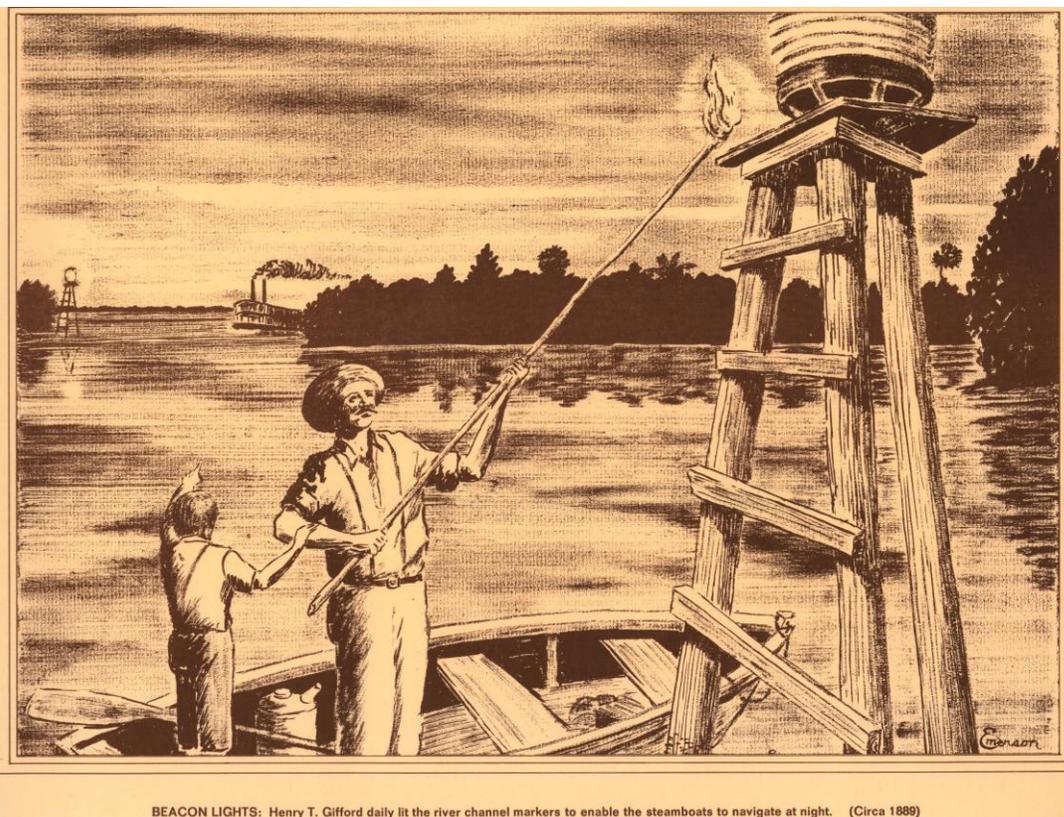
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1940

HISTORICAL PHOTOS



BEACON LIGHTS: Henry T. Gifford daily lit the river channel markers to enable the steamboats to navigate at night. (Circa 1889)

Lighting the River Beacons - From the Weona Cleveland Collection



Punt sailing along the Indian River - From the Weona Cleveland Collection



Florida Institute of Technology Crew Team – From the Weona Cleveland Collection



The Goode family – From the Baby Kutz Collection



Agriculture was part of South Mainland's past - From the Weona Cleveland Collection



The establishment of Kennedy Space Center and the Apollo Program brought change -
From the Weona Cleveland Collection



City of Melbourne circa 1969 - From the Weona Cleveland Collection