Volusia County

Environment and Natural Resources Committee



November 2, 2022

- I. The Volusia County Comprehensive Plan
- II. The Volusia County Charter
- III. Land use, zoning and land development
- IV. Environmental Minimum Standards and Implementing Ordinance
- v. Low Impact Development
- vi. Goal Setting
- VII. Annual Workplan

Regulatory Hierarchy

Comprehensive Plan including
Future Land Use

Environmental Minimum Standards

Land Development
Code including Zoning
and Environmental

Permits/compliance

I. Comprehensive Plan

The Volusia County Comprehensive Plan consists of maps, text, data and support documents which form the foundation of the County's planning program. The Comprehensive Plan provides guidance for the County's physical growth through its various elements and related goals, objectives, and policies. The Comprehensive Plan fulfills the growth management requirements of the State of Florida's "Local Government Comprehensive Planning and Land Development Regulation Act".

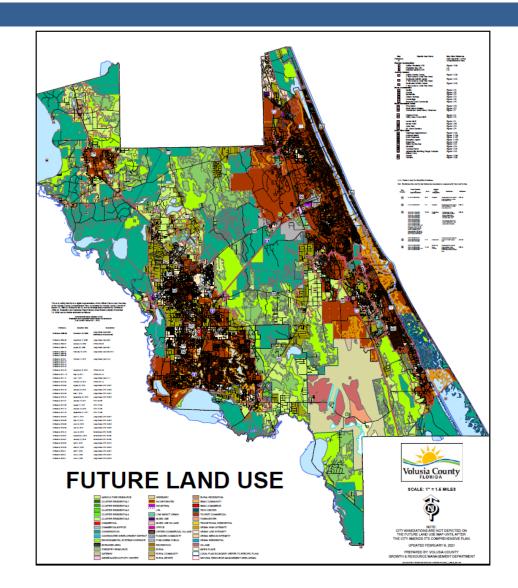
Comp Plan elements



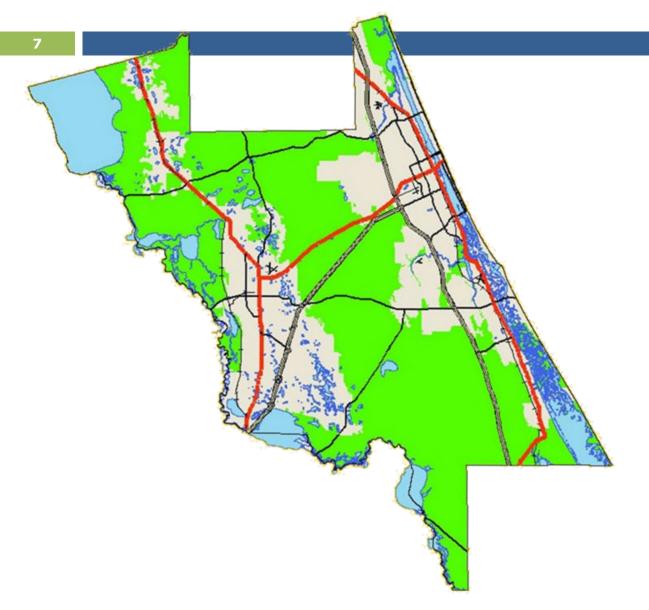
- Conservation
- Recreation and OpenSpace
- IntergovernmentalCoordination
- Capital Improvements
- ☐ Historic Preservation
- Cultural Element
- □ Property Rights

Future Land Use (FLU)

- The FLU identifies how a parcel can develop including uses, densities and intensities
- 19 FLU designations, 16 local area plans,
 15 Rural Communities, and 3 overlays
- FLU lists the zoning categories that are compatible
- Zoning categories dictate dimensions requirements (setbacks, building height, lot coverage)
- There are also special zoning overlays (Indian River Lagoon, airport, etc.) that have additional development standards.

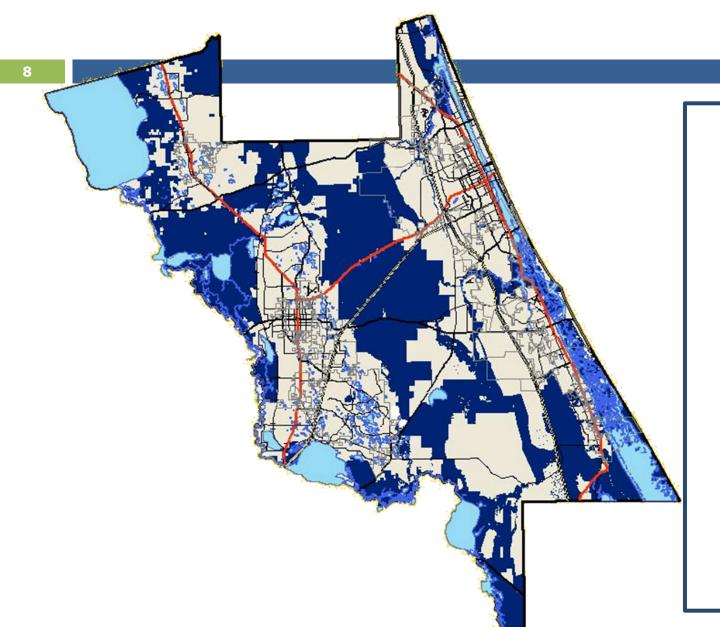


Natural Resource Management Area Overlay



- expanses of relatively uninterrupted environmentally sensitive areas, which need to be managed as part of a system
- support a wide range of wildlife species; continually help recharge the County's groundwater supply; ensure high quality surface waters; and provide recreation, aesthetic and open space areas
- Development activities within NRMA are intended to be more restrictive than for the same activities outside of NRMA

Environmental Corridor Overlay



- An area of interconnected natural systems of environmentally sensitive lands, including public and private conservation areas and lands linking these areas
- Intended to achieve wildlife and habitat connectivity
- Represents land areas that should receive the greatest degree of protection and suffer the least impacts from development.

II. Volusia County Charter

- Charters are formal written documents that confer powers, duties, or privileges on the county. They resemble state or federal constitutions and they must be approved, along with any amendments, by the voters of a county.
- According to several Florida constitutional scholars, the establishment of charter government was designed to remove the resolution of local problems from the state legislature's busy agenda and to grant the county electorate greater control over their regional affairs.
- To date, there are 20 charter counties in Florida. Collectively these counties are home to more than 75 percent of Florida's residents

Source: Florida Association of Counties

III. Land use, zoning and land development

1. Comp Plan

Does the proposed development have the appropriate future land use? If not, need FLU amendment (public hearing).

2. Zoning

Does the property have the appropriate zoning? If not, need rezoning or special exception (public hearing).

3. Site Plan or Subdivision

Site plans are for development of a property without subdivision of land. Subdivision is the legal creation of three or more lots for development

4. Building Permits

Building permits require compliance to the Florida Building Code and local land development regulations.

IV. Countywide Environmental Minimum Standards

Volusia County Charter Section 202.4



Establishes minimum standards, procedures, requirements and regulations for the protection of the environment, including, but not limited to:

- Tree protection
- Water quality
- Stormwater
- Wetlands
- Beaches and dunes
- Pollution control

Chapter 50 – Environment, Minimum Standards for Environmental Protection

- Pollution Control
- Indian River Lagoon Overlay (Class II)
- Trees
- Wetlands
- Sea Turtles
- Potable Water Wellfields
- Water Conservation and Water Wise

Landscaping

- Beaches and Dunes
- Hazardous Materials
- Wastewater Residual Management
- Noise and Light
- Stormwater
- Fertilizer



Options for Implementation of Minimum Standards

County-wide ordinance – enforcement by county

- Sea Turtle Lighting
- Beaches and Dunes
- Water-Wise Landscaping

Adoption of implementing ordinance by county and by each municipality – enforcement by governing jurisdiction

- Wetlands
- Trees
- Indian River Lagoon Overlay

Adoption of implementing ordinance by county and by each municipality – enforcement by both city and county

- Water Conservation
- Fertilizer

Why are minimum standards important?

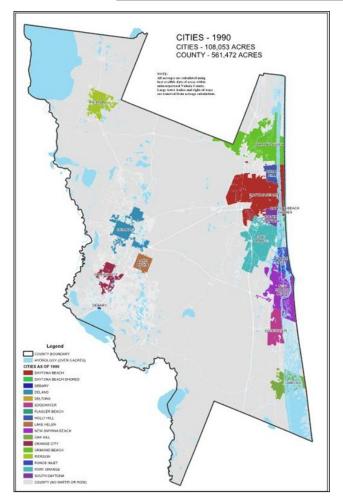
From 1990 to 2020 Volusia County's population grew from **370,712** to **553,543**.

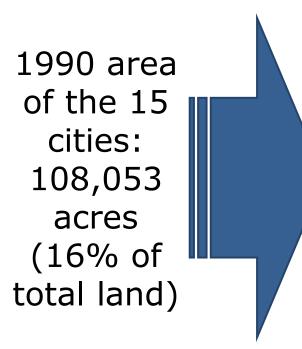
This is an increase of:

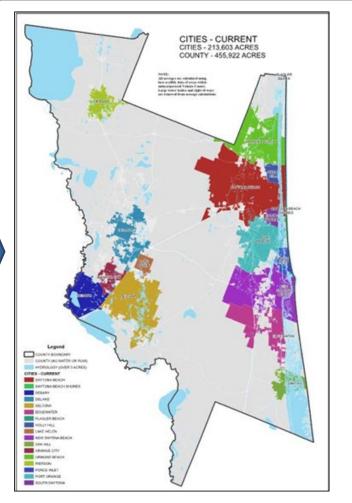
- √ 182,831 people,
- Approximately 81,000 homes
- Approximately 18 million gallons of water per day and 15 million gallons of wastewater, and
- Approximately 730,000 new trips on the roads.

Why are minimum standards important?

Where we are living has changed - a move to the cities.





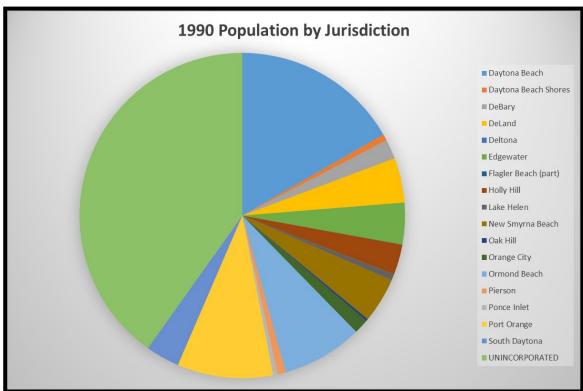


2020 area of the 16 cities: 215,467 acres (32% of total land)

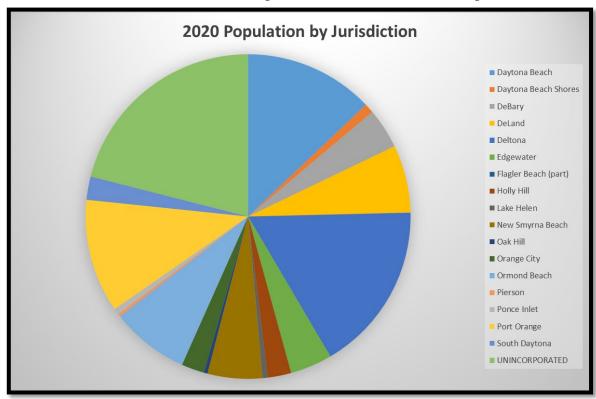
Why are minimum standards important?

Where we are living has changed - a move to the cities.

1990 Population of all 15 cities: 221,857 (60% of total)



2020 Population of all 16 cities: 437,146 (79% of total)



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IV. Environmental Minimum Standards and Implementing Ordinance

Keith Abrahamson, Environmental Permitting Manager, County Forester

Indian River Lagoon Overlay Minimum Standards

- Adopted in 1988 and revised in 1990 and 1993
- Consistent with state laws for class II waters, as defined by DEP
- Goal is improved water quality for waters used for harvesting of shell fish
- Focus on standards that maintain the natural environment:
 - Preservation of 35% of the property in open space/native vegetation
 - Capture specified amount of stormwater over the entire site
 - Private package plants transformed into lift stations when sewer is available
 - Single family lots septic systems in the front yard, and 200 feet away from any waterbody or canal

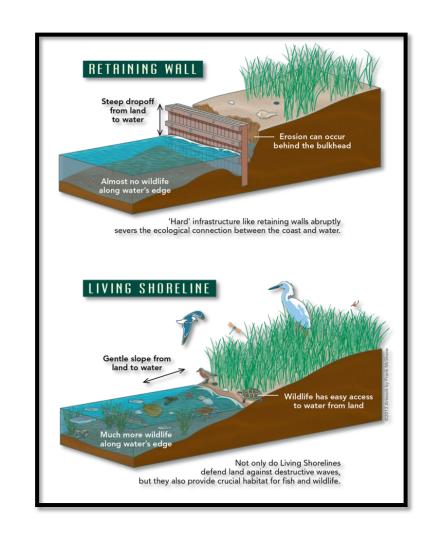
Indian River Lagoon Overlay in the Land Development Code

- Septic systems must be designed to connect to central sewer when it is available
- Requires aerobic or alternative systems on lots based on distance to the shoreline of the Mosquito Lagoon or with certain well drained soil types
- Removal of any native vegetation is prohibited unless it is performed in conjunction with the development of the building premises



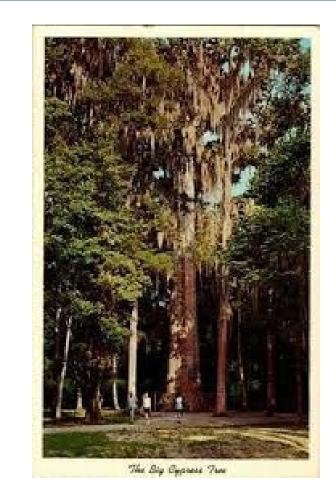
Indian River Lagoon Overlay Potential Improvements

- Better define hardening of the shoreline, move waiver requests for vertical seawalls from council to Development Review Committee, subject to specific criteria
- Establish specific standards to reduce the issuance of waivers, especially for ancillary or accessory structures (minimum necessary to achieve the primary use of the property)
- Change the code definition of the boundary (not the southern boundary of New Smyrna Beach)



Tree Minimum Standards

- Adopted in 1988 and revised in 1998
- Requires a tree removal permit to cut, move, remove, or damage any tree
- Sets a minimum quantity of trees per lot (1 tree per 2,500 square feet of lot area)
- Requires designation of 15% of a development for tree preservation
- Requires replacement of trees removed
- Establishes standards for retention of specimen trees, including historic trees



Source: Ebay vintage postcard

Tree Minimum Standards Exemptions

- Residential owner-occupied property (homestead)
- Property with agricultural uses (agricultural assessment)
- Trees determined by local government to be deteriorated
- Trees in rights-of-way or easements
- Trees planted and grown for sale
- Nuisance species (camphor, citrus, Brazilian pepper, etc.)



Tree Protection Standards in the Land Development Code

- Requires that tree removed be replaced based on 15% of the total cross-sectional area of the trunk of the tree removed
- Replacement can include protection of existing small trees on site or payment into the Tree Replacement Trust Account
- Clearing of lots as part of a subdivision review is limited to 20% of the lots within one calendar year
- Provides standards for protection of trees from damage during the development process
- Allows for a separate process for single family lot clearing –
 only the trees within the zoning setbacks are protected

Tree Protection Potential improvements

- Allow for flexibility in modification of the specimen tree requirements based on site conditions
- Increase the tree retention area requirement in environmentally sensitive areas (NRMA and ECO)
- Require additional tree replacement if developer proposes to clear lots in a subdivision
- Expand the definition of historic trees
- Update the definition for specimen trees (species and sizes)
- Eliminate the exemption for historic trees for single-family owner-occupied lots and/or agricultural lots without a bona fide ag. use

Wetland Minimum Standards

- Adopted in 1989 and revised in 1996 and in 1999
- Establishes a policy of no net loss of wetland acreage or function
- Requires a wetland alteration permit for alteration of any wetland on single family residential lots, and nonresidential if not permitted by a state agency
- Establishes mitigation requirements including avoidance and minimization of impacts
- Requires a minimum 25-foot upland buffer

Wetland Minimum Standards Exemptions

There are exemptions to the wetland standard that include:

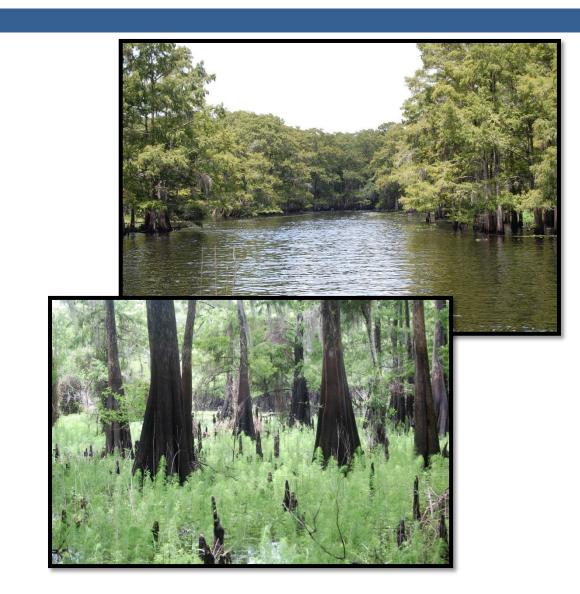
- Cleared walking trails having no structural components
- Timber catwalks and docks four feet wide or less
- Bona fide agricultural uses
- Utility crossings
- Maintenance in ditches, retention and detention areas, public road and other rights-of-way, and other related drainage systems
- Bona fide mosquito control activities
- Wetlands one-half acre or smaller





Wetland Standards in the LDC

- Eliminates the exemption for state permitted impacts
- All wetland and buffer impacts (unless specifically exempted) require a wetland alteration permit and mitigation
- Mandates avoidance and minimization of impacts
- Buffers are increased to 50 feet in NRMA, ECO and adjacent to Outstanding Florida Waters



Wetland Protection Potential Improvements

- Require avoidance and minimization of impacts in minimum standard and establish guidelines to better define minimization
- Require permitting and mitigation upon conversion of agricultural land to another use within a certain timeframe (10 years?)
- Increase buffers to better protect wetlands and wildlife graduated protection in NRMA and ECO?
- Update to include current mitigation assessment method
- Clarify that impacts to surface waters and buffers require mitigation
- Strengthen regulations for disturbance to buffers

Beaches and Dunes Minimum Standards

- Adopted in 1988, updated 2021
- Regulates coastal construction activities that affect the beach and dune system
- Requires permits for any excavation, erosion control activities, sand placement, dune restoration, armoring, and maintenance, repair, replacement, improvement, or construction activities related to any structure on the beach or beach approach
- Establishes standards for dune walkovers, restoration and armoring projects
- Requires the creation of a planted dune in front of all armoring projects



Beach and Dune Minimum Standards Exemptions

- Planting native coastal vegetation on property or lots abutting the Atlantic Ocean
- Removal of debris, unpermitted structures or non-functioning coastal armoring
- Any maintenance, repair, replacement, improvement or construction activities performed by the county on the beach or on or adjacent to any Volusia County beach approach



Stormwater Minimum Standards

- Adopted 1988, amended in 1997
- Establishes minimum standards to be implemented for new development or major redevelopment
- Required to ensure the pre-development conditions remain in postdevelopment condition
- Coordinated with other permits from St. Johns River Water Management
 District (SJRWMD) and Florida Department of Environmental Protection (DEP)
- Exemptions include:
 - Agricultural pursuits,
 - Single-family and duplex residences, and
 - Maintenance activities

Stormwater in the LDC

- Exemption criteria for one-time construction is 1,000 sf
- For closed (landlocked) basins, discharge from a developed or redeveloped site may not exceed predevelopment conditions for peak flow and total volume for a 100-year, 24-hour storm event





Stormwater Potential Improvements

- Incorporate Low Impact Development (LID) stormwater methods, either as an option or requirement
 - Further discussion of LID towards the end of this presentation
- Add stormwater treatment performance standards to reduce nutrient loading for offsite discharge?
 - Increased reduction for Outstanding Florida Waters and/or waters subject to a regulatory reduction requirement?
 - Would require additional data to determine if this is warranted

Fertilizer Minimum Standards

- Adopted in 2014
- Requires 50% slow-release nitrogen
- Fertilizer containing nitrogen or phosphorus shall not be applied to turf or landscape plants June 1 through September 30 of each year
- Fertilizer containing phosphorous can only be applied if a soil test determines the need
- Establishes a 15-foot fertilizer free zones adjacent to waterbodies
- Establishes application practices and prohibits grass clippings from being deposited in storm drains or water bodies
- Requires training and licensing of commercial applicators



Source: istockphoto.com

Fertilizer Minimum Standards Exemptions

- Bona fide farm operations as defined in F.S. § 823.14,
 "Florida Right to Farm Act."
- Any lands used for bona fide scientific research, including, but not limited to, research on the effects of fertilizer use on stormwater, water quality, agronomics, or horticulture.
- Golf courses, athletic fields and turf managed for active recreation, whose owners implement best management practices as described in Rule 5E-1.003(2)(d). Florida Administrative Code, "Fertilizers Labeled, for Sports Turf at Golf Courses, Parks and Athletic Fields."

Fertilizer Minimum Standards Potential improvements

- Require fertilizer informational signage at retailers
- Increase the fertilizer free zone from 15 feet

Other topics discussed by County Council

- Moratorium on increased density and intensity
- Low impact development (LID) standards
- Ordinance that protects habitat of State and Federal Threatened and Endangered species
- Standards related to adaptation to sea level rise
- Require septic system inspections, and require hook up for faulty systems when sewer is available
- Incorporate Wildlife Corridor into Comp Plan and ordinances (incorporate into NRMA Overlay?)

Questions?

V. Low Impact Development

Katrina Locke, Sustainability and Resilience Manager

Low Impact Development (LID)

- LID includes a variety of practices that mimic or preserve natural drainage processes to manage stormwater. "LID practices typically retain rain water and encourage it to soak into the ground rather than allowing it to run off into ditches and storm drains where it would otherwise contribute to flooding and pollution problems."
- "LID includes site planning and overall design to promote the use of natural systems for infiltration, evapotranspiration, and the harvesting and use of rainwater" as close to its source as possible.



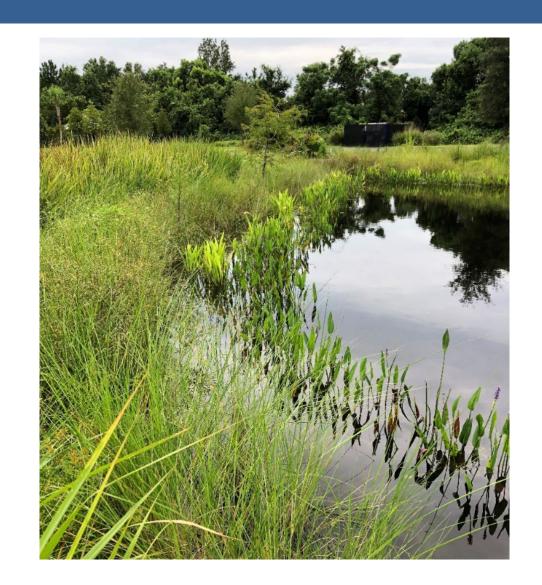
Figure 1. When roads, rooftops and parking lots cover much of the land, more than half of the rainfall runs off and flows directly into surface waters. In highly developed areas, such as in Seattle, Washington (above left), only 15 percent of rain water has the opportunity to soak into the ground.



Figure 2. When vegetation and natural areas cover most of the land, such as in Oregon's Upper Tillamook Bay watershed (above left), very little water (only 10 percent) runs off into surface waters. Nearly half of the rainfall soaks into the soil. The remaining water evaporates or is released into the air by vegetation.

Green Infrastructure

- Green Infrastructure (GI) includes natural or living features (including engineered structures built to mimic natural features in look and functionality) that perform critical natural processes.
- Grey Infrastructure includes human engineered or designed infrastructure, assets and technology that provide one or multiple services required by society.



Examples of LID and GI

- Conserving green spaces on site
- Reducing impervious surfaces
- Clustering homes
- Permeable paving
- Bioswales
- Rain gardens
- Green roofs and vegetated walls

- Rain barrels and cisterns for water capture
- Exfiltration
- Curb alternatives
- Living shorelines
- Tree box filters

Benefits of Green Infrastructure

- Water quality manages stormwater on site, slows down the speed of the water,
- Water quantity reduces runoff
- Aquifer recharge rainwater harvesting and infiltration
- Aesthetics green spaces, reduced impervious surfaces
- Air quality from planting vegetation
- Resiliency to climate changes
- Small to large scale application
- Habitat for wildlife
- Reduces urban heat island effect
- Economic

LID Projects

Sandra Stetson Aquatic Center – Stormwater and Green Infrastructure
 Demonstration





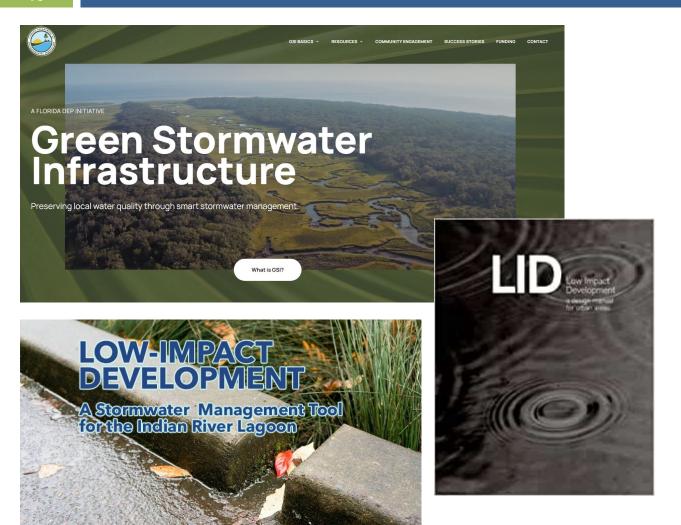
LID Projects

□ Spring Hill – Community Resilience through Green Infrastructure





Resources



- University of Florida Program for Resource Efficient Communities
- Stetson Institute for Water and Environmental Resilience
- VCARD
- Environmental advocacy groups
- Marine Resources Council
- 1000 Friends of Florida
- Other stakeholders

Goal Setting

Workplan

Moratorium?

Council work program

Top 5 committee survey

Council work program – Topics and Issues

Tree Preservation

- Allow for flexibility in modification of the specimen tree requirements based on site conditions (with additional replacement).
- Increase the tree retention area requirement in environmentally sensitive areas (NRMA and ECO).
- Require additional tree replacement if developer proposes to clear lots in a subdivision.
- Expand the definition of historic trees to include other hard wood species.
- Update the definition for specimen trees (species and sizes).
- Eliminate the exemption for historic trees for single-family owner-occupied lots and/or agricultural lots without a bona fide agricultural use.
- □ Change exemption for agricultural use to only those areas that have a bona fide agricultural use, regardless of zoning category.
- The current rules provide for an exemption for the removal of trees for bona fide agricultural use. This can be contested if a land development application is submitted within 3 years of the property being cleared. Investigate an increase the timeline for rebuttable presumption from 3 years to a longer period.
- Add exemptions for airport, public road projects, land management activities, and state and federal land.
- Add waiver to minimum tree coverage standard based on specific conditions.
- Modify replacement requirements for palms.
- Modify tree replacement trust account.
- Modify requirements for residential construction.

Council work program, cont.

Wetlands

- Require avoidance and minimization of impacts in minimum standard and establish guidelines to better define minimization
- Require permitting and mitigation upon conversion of agricultural land to another use within a certain timeframe (10 years?)
- Increase buffers to better protect wetlands and wildlife graduated protection in NRMA and ECO?
- Update to include current mitigation assessment method and mitigation banks as option
- Clarify that impacts to surface waters and buffers require mitigation
- Strengthen regulations for disturbance to buffers
- Add exemptions for fences, public road projects with state permits, land management activities on publicly owned conservation lands

Protected Species

- Protected Species ordinance that protects habitat of Threatened and Endangered species.
- Stormwater and Low Impact Development (LID)
 - Utilize grant funding to hire East Central Florida regional Planning Council and University of Florida to develop recommendations for LID implementation.
 - Modify Conservation Subdivision and Cluster Subdivision regulations to encourage LID.
 - Study the need to add nutrient reduction standards to the stormwater regulations.

Council work program, cont.

□ Indian River Lagoon Overlay

- ■Better define hardening of the shoreline, move waiver requests for vertical seawalls from council to Development Review Committee, subject to specific criteria.
- Establish specific standards to reduce the issuance of waivers, especially for ancillary or accessory structures (minimum necessary to achieve the primary use of the property).
- Change the code definition of the boundary (not the southern boundary of New Smyrna Beach).

□ Sea Level Rise

- ■Standards related to adaptation to sea level rise. The County is pursuing multiple grants to study and implement resiliency.
- Require septic system inspections and require hook up for faulty systems when sewer is available.

Committee Top 5 work plan priorities

□ See handout