

CITY OF SATELLITE BEACH, FLORIDA

565 CASSIA BOULEVARD 32937-3116
(321) 773-4407
(321) 779-1388 FAX



INCORPORATED 1957

AGENDA

AD HOC GREEN COMMITTEE REGULAR MEETING

SATELLITE BEACH COUNCIL CHAMBERS
565 CASSIA BOULEVARD, SATELLITE BEACH, FL 32937

**JUNE 29, 2015
6:00 P.M.**

1. CALL TO ORDER BY MAYOR CATINO
2. PLEDGE OF ALLEGIANCE
3. INTRODUCTION OF COMMITTEE MEMBERS AND STAFF
4. PUBLIC COMMENT
5. PRESENTATION OF CITY BOARD HANDBOOK BY CITY CLERK LEONOR OLEXA
6. ELECT CHAIR AND VICE-CHAIR
7. DETERMINE DAY OF WEEK COMMITTEE WILL MEET AND FREQUENCY OF MEETINGS
8. PRESENTATION OF THE GREEN INITIATIVES OF THE CITY BY PUBLIC WORKS DIRECTOR ALLEN POTTER
9. DISCUSS/MAKE RECOMMENDATIONS OF COMMITTEE INITIATIVES ON SUSTAINABILITY FOR FUTURE REVIEW
10. ADJOURNMENT

(One or more Council members may be present at this meeting)

**CITY OF SATELLITE BEACH
APPLICATION TO SERVE ON CITY AD HOC GREEN COMMITTEE**

Name _____ Home Phone _____

Address _____ E-mail _____

Business _____ Business Phone _____

Address _____

Education _____

Relevant Experience _____

(Use additional sheets if necessary, or attach resume.)

Are you a registered voter in Brevard County? Yes ____ No ____
Are you a resident of the City of Satellite Beach? Yes ____ No ____
Do you hold public office? Yes ____ No ____
Do you serve on a City board now? Yes ____ No ____

DESCRIPTION OF CITY AD HOC GREEN COMMITTEE

Purpose: To make recommendations on a local action plan for climate change and environmental sustainability initiatives.

Membership: 5 primary members, serving from June to August 2015
Meetings: Dates and Times to be determined. Location: Council Chamber

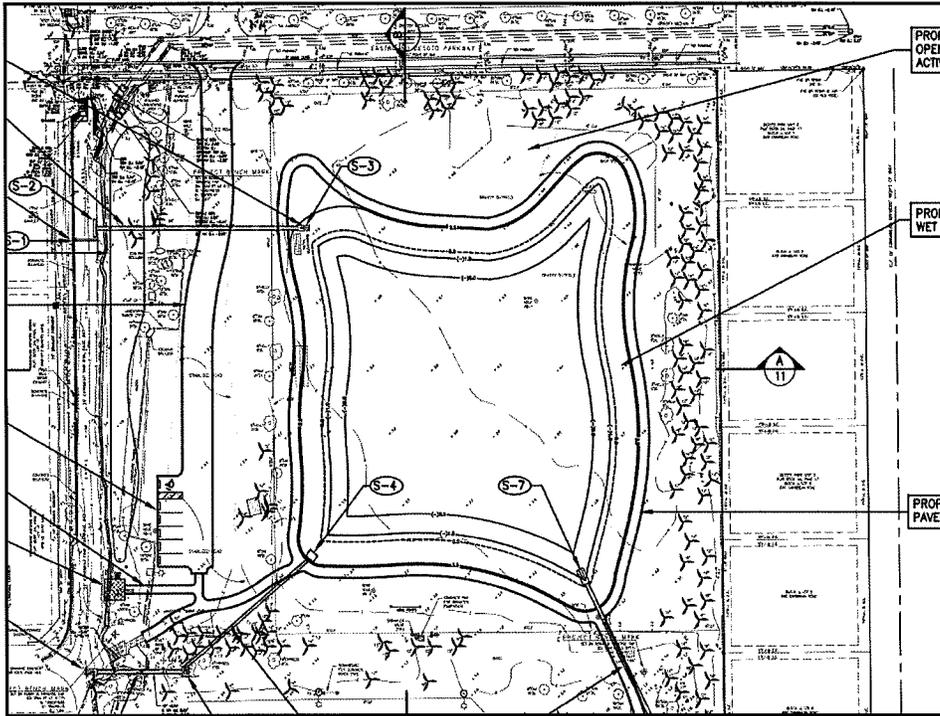
**See reverse for additional information.*

WHY DO YOU THINK YOU ARE QUALIFIED TO SERVE ON THE COMMITTEE?

Signature _____ Date _____

**Submit completed applications to: City Clerk, 565 Cassia Boulevard, Satellite Beach, FL 32937
PHONE: 773-4407 FAX: 779-1388 E-Mail: lolexa@satellitebeach.org**

Notice: Under Florida law, any written information you provide to the City, including any email address, is a public record. If you do not want your email address released in a public records request, do not: (i) send email to the City or (ii) include your email address in any application or correspondence to the City. Instead, contact the City by phone or in writing (but do not include your email address).



Satellite Beach Green Initiatives

Allen Potter
Public Works Director
June 22, 2015

Purpose

- Introduction to what has been done and tried
- Possible source of ideas (“priming the pump”)

Topics

- Successes
- Disappointments
- Of Interest
- Challenges

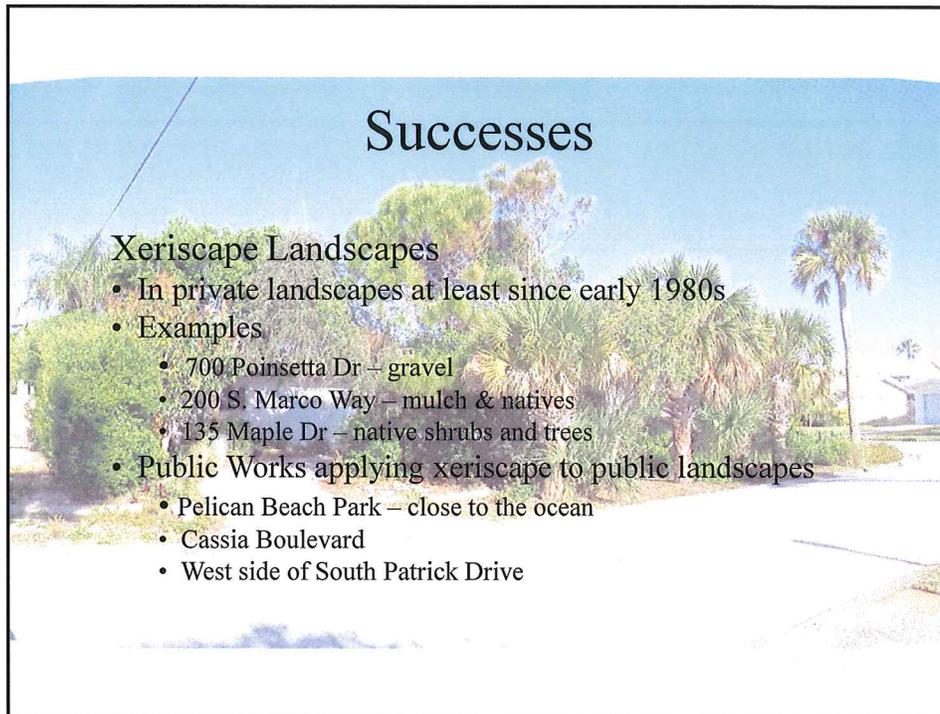
Successes

Oceanfront	Invasive Exotic Ordinance
Xeriscape Landscapes	Energy Assessment
Samsons Island	Sustainability Articles
Library Scrub	Civic Center Retrofits
Gopher Tortoises	Fertilizer Ordinance
Stormwater	Manatee Refuges
Schechter Center	Invasive Exotics Ordinance
Schechter Center Recycling	Curbside Recycling
Coastal Armoring	Public Works Vehicles
Native Trees	Quiet Heroes
Native Plant Seed Harvest	

Successes

Preserving Oceanfront

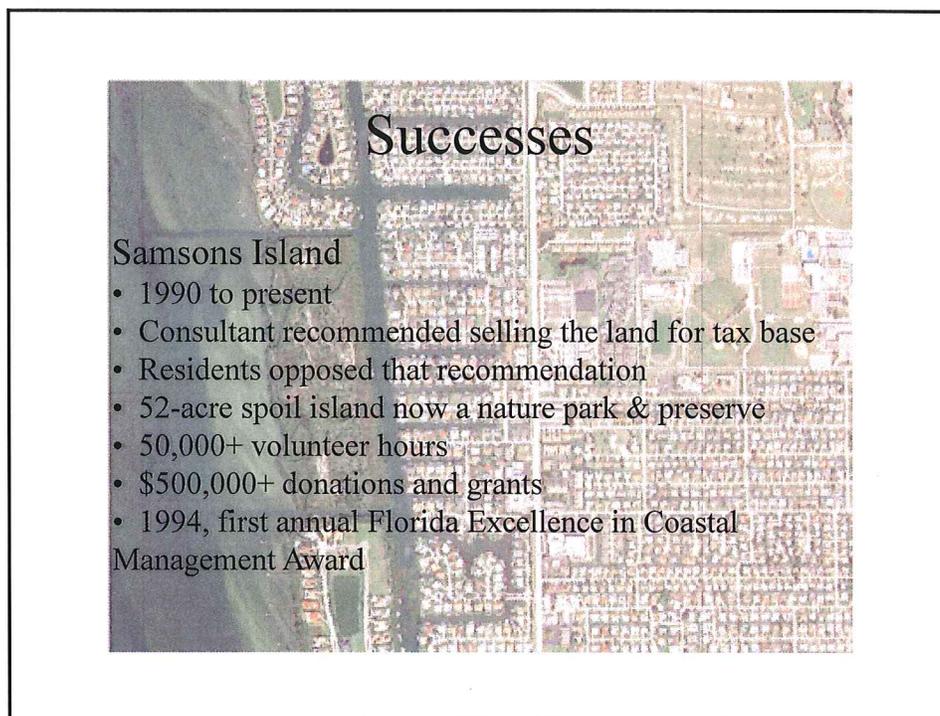
- City has solicited donations of beach access since the 60s
- 1967 – City attempts to buy small oceanfront park
- 1971 – County purchases land for Pelican Beach Park
- 1981 – residents pass referendum to buy oceanfront
- 1998 – Grant application expands Hightower Beach Park
- 2015 – 40% of City's oceanfront in public ownership



Successes

Xeriscape Landscapes

- In private landscapes at least since early 1980s
- Examples
 - 700 Poinsetta Dr – gravel
 - 200 S. Marco Way – mulch & natives
 - 135 Maple Dr – native shrubs and trees
- Public Works applying xeriscape to public landscapes
 - Pelican Beach Park – close to the ocean
 - Cassia Boulevard
 - West side of South Patrick Drive



Successes

Samsons Island

- 1990 to present
- Consultant recommended selling the land for tax base
- Residents opposed that recommendation
- 52-acre spoil island now a nature park & preserve
- 50,000+ volunteer hours
- \$500,000+ donations and grants
- 1994, first annual Florida Excellence in Coastal Management Award

Successes

Library scrub habitat

- Eight acres of natural scrub
- Hosted scrub jay family into the 1990s
- City set it aside for preservation in the mid-1990s
- Contains a population of protected gopher tortoises
- Traversed by a mulched nature trail

Successes

Gopher Tortoises

- Latter 1990s
- Relocated about 40 gopher tortoises to Samsons Island
- From development site in Indianantic
- Alternative to their being buried and killed
- Augmented small number of tortoises already on island

Successes

Stormwater retrofit projects

- Since 1998 Jackson Avenue exfiltration project
- DeSoto, Cassia, Glenwood, Roosevelt projects followed
- Combine flood relief with water quality improvement
- Include street sweeping
- Remove 2,507 pounds of nitrogen
 - 23% of state mandate
- Remove 605.5 pounds of phosphorus
 - 31% of state mandate
- \$6 million invested so far

Successes

David R. Schechter Community Center

- Replaces structurally compromised 1960s building
- 1999 purchase
- Opened in 2002
- Originally planned as new building in Sports Park
 - Original concept failed in referendum – too expensive
 - Saved open space at the Sports Park
- Repurposes a long-derelict commercial property
- Includes a then-state-of-the-art cooling system

Successes

Schechter Center Recycling

- Sponsored by the Recreation Department
- Cardboard & paper bins behind since opening in 2002
- Variety of items in lobby since 2004
 - Cell phones
 - Greeting cards
 - Batteries
 - Soap
 - Eyeglasses
 - Books

Successes

Coastal Armoring Ordinance

- Adopted in 2004
- Protects City from “taking” due to former ban on armor
- Limits extent of new oceanfront coastal armoring
 - Protect primary structure only
 - Must be close to the protected structure (within 22 feet)
- Requires new armoring to remain covered with sand

Successes

Native Trees Grants

- Two grants in 2005
- Grants offered due to tree loss from 2004 hurricanes
- Planted native trees at a discount on private property
- Planted native trees on City's landscapes, including:
 - Sports & Recreation Park
 - DeSoto Parkway
- Combined, added 2,615 trees to the City's landscape

Successes

Harvesting Sea Oats

- Sponsored by the Recreation Department since 2006
- Aquatic Plants of Florida uses seed to grow plants for habitat restoration around the state
- Provides free plants to the City in exchange for seed
- 2015 used plant credit for sea oat seedlings following dune repair.

Successes

Invasive Exotic Trees Ordinance

- Adopted in 2007
- Requires removal of the following invasive exotic trees
 - Brazilian pepper
 - Australian pine
 - Melaleuca
- City has eradicated the species on City property.

Successes

Energy Assessment

- By Florida Solar Energy Center in 2009
- Five buildings
 - City Hall
 - Civic Center
 - Police Station
 - Fire Station
 - David R. Schechter Community Center
- Also addressed solar energy feasibility

Successes

Beachcaster Sustainability Articles

- By FIT student intern in 2011
- Four full-page discussions
 - General introduction
 - In businesses
 - In the home
 - International
- Focused on energy conservation

Successes

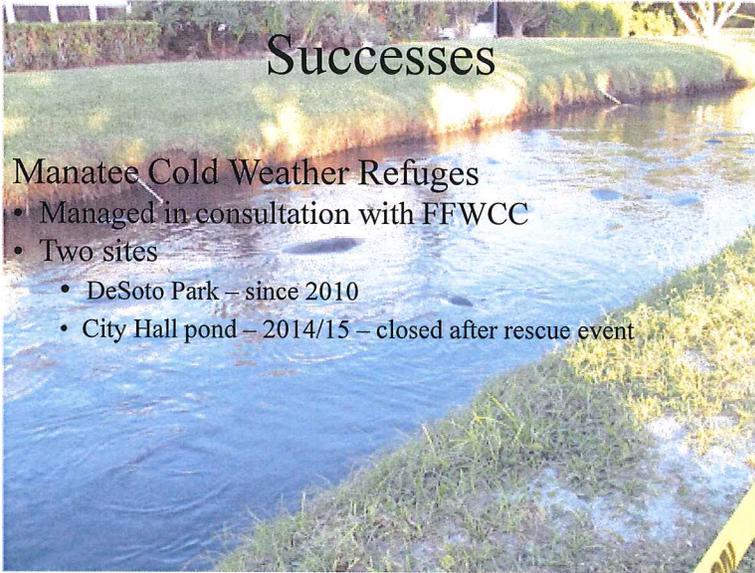
Civic Center Energy Retrofits

- Funded by grant in 2011
- Replaced antiquated air conditioning and lighting

Successes

Fertilizer Ordinance

- Adopted in 2013
- To improve IRL water quality
- Requires at least 50% slow release nitrogen
- Creates no-fertilizer buffer along shoreline
- Rainy season prohibition on fertilizing landscapes (June-September)



Successes

Manatee Cold Weather Refuges

- Managed in consultation with FFWCC
- Two sites
 - DeSoto Park – since 2010
 - City Hall pond – 2014/15 – closed after rescue event

Successes

Curbside Recycling

- Separate bins starting in 2006
- Single-stream carts starting in 2011
- City receives \$12,000 annually

Successes

Public Works Equipment

- Utility vehicle small jobs since 2005
- Trailer to haul mowers instead of driving them around town since the late 90's
- Planning for electric utility carts for ball-field and park maintenance in FY 2015-2016

Successes

Quiet Heroes (Examples)

- Bill Killen: Self-taught naturalist
 - Advocate for xeriscape landscapes using natives in the 1980s
 - Designed most Samsons Island habitats
- John Baker: Pepper Buster
 - At it over 20 years
 - Over 1,000 properties cleared
- Ethan Shoda: Eleven years old
 - Manages monthly beach cleanup at Pelican Beach Park
 - Being doing so for two years

Disappointments

Reuse Water Distribution
LED Lighting
LEED Certification
Rooftop Solar

Disappointments

Reuse Water Distribution

- 2004 *ad hoc* committee
- Technical study paid for by SJRWMD
- Pipe South Beaches effluent to the City for private use
 - Replace use of deteriorating groundwater for lawn irrigation
- Committee considered \$20 million price too high

Disappointments

LED Lighting for Schechter Center

- 2005 Lighting Sciences Partnership
- Replace existing high electric demand lighting
 - Gymnasium
 - Parking
- Reduce lighting electric costs by more than 75%
- Effort never gained traction, then Lighting Sciences left
- ROI was 5 years or less including 5% financing

Disappointments

Schechter Center LEED Certification

- 2011 student intern project
- Adjust operation to meet established standards for existing construction
- Encountered changing requirements for certification
- Student took a job overseas before the application was completed

Disappointments

Rooftop Photovoltaic Panels

- 2011 project with commercial vendor
- Install 4kW-to-18kW PV arrays on six rooftops
 - City Hall
 - Civic Center
 - Police Department
 - Public works
 - Fire Department
 - David R. Schechter Community Center
- Estimated at least \$100,000 savings over 5 years
- Systems to be donated to the City at end of 5-year lease
- Program folded with the bankruptcy of Solyndra

Of Interest

Muck Removal
Reduced Lawn Irrigation
Rooftop/Standalone Solar
Reduced Lawn Fertilizer Use
Low Impact Development

Of Interest

Muck Removal from City's Canals

- 1996 survey
 - 180,000 cubic yards of muck in City
 - 500,000 cubic yards in Grand Canal and river
- SJRWMD budgeted for muck removal in outyears
 - Turkey Creek and Eau Gallie River first (done and beginning)
 - Disappeared from budget as years passed
- County pursuing demucking the Grand Canal system
 - Contingent on getting state funds
 - In early planning stage

Of Interest

Reducing lawn irrigation water use

- Since mandated stormwater improvements in 2009
 - City is using stormwater from pond to irrigate SBSRP
- Most irrigation wells tap the artesian Upper Floridan
- Irrigation causes saltwater intrusion under the City
 - 1984 SJRWMD report cites City by name for impact
 - Well water will eventually kill lawn and landscape due to elevated salinity
- Contains nitrogen, a nutrient harmful to the IRL
- Upper Floridan is 44% of surficial aquifer water
- Upper Floridan is 15%-30% of City's discharge to IRL

Of Interest

Rooftop/Stand-Alone Solar

- Since failed rooftop project in 2011
- Two vendors considered and rejected
 - Carport roofs and pole-mounted
 - Payback period too long (greater than 10 years)
 - Requirement the City purchase or remove equipment at end of lease
- 10-year payback period requires:
 - <\$1.32/Wdc installed & O&M cost without outside funds
 - <\$1.90/Wdc installed & O&M cost with 30% investment tax credit

Of Interest

Reducing lawn fertilizer use

- Since passage of fertilizer ordinance in 2013
- Lawn fertilizer is primary source of nutrients into the IRL from the City
- Removing nutrients from stormwater is expensive
 - >\$4,000 to remove 1 pound of nitrogen per year
 - >\$17,000 to remove 1 pound of phosphorus per year
 - >\$400 to remove \$1 worth of nitrogen per year
 - >\$2,000 to remove \$1 worth of phosphorus per year

Of Interest

Low Impact Development

- Since 2014
- Using natural processes to reduce stormwater impacts
- Reduce runoff at/near the source
 - Swales
 - Rain gardens
 - Green roofs
- Landscaping with plants requiring little or no irrigation
- Reducing impervious surface
- Reducing directly-connected impervious surface

Challenges

95+% built-out
Low Topographic Profile
Waters of the State
Public Inertia
Finances
Staff Time
Science

Challenges

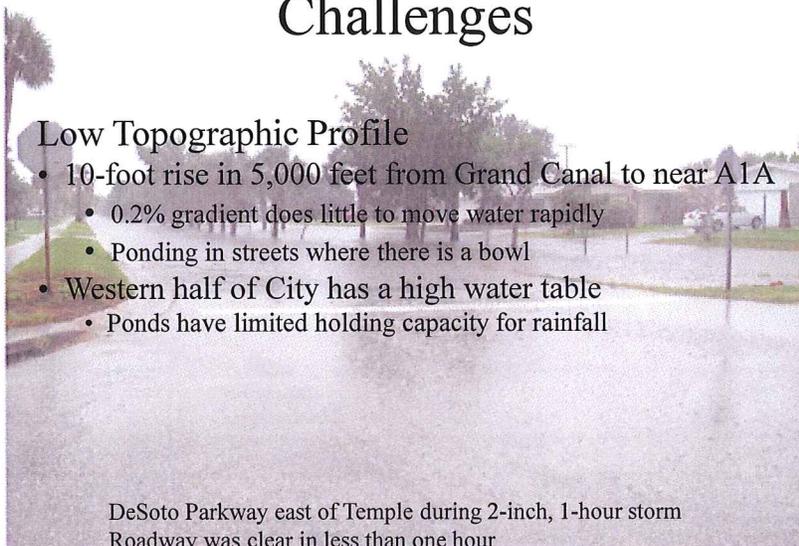
Satellite Beach is 95+% built-out

- “What you see is what you have to work with”
- Most constructed before stormwater concerns
 - Flooding
 - Water quality
- Lack open land for stormwater treatment
- Aging infrastructure
 - A problem (repairs/replacement)
 - An opportunity (upgrades)

Challenges

Low Topographic Profile

- 10-foot rise in 5,000 feet from Grand Canal to near AIA
 - 0.2% gradient does little to move water rapidly
 - Ponding in streets where there is a bowl
- Western half of City has a high water table
 - Ponds have limited holding capacity for rainfall



DeSoto Parkway east of Temple during 2-inch, 1-hour storm
Roadway was clear in less than one hour

Challenges

Waters of the State

- The Grand Canal is off-limits for stormwater treatment
- Permitting for muck removal will be challenging

Challenges

Public Inertia

- Most residents are comfortable with the status quo
 - Example: Green St Augustine grass lawns
- Focus on short-term issues versus long-term vision
 - Example: Fertilizer on the lawn despite concern for the IRL
- “NIMBY” – Not In My Back Yard
 - Example: Initial reaction to DeSoto Park stormwater pond
- Swales misunderstood

Challenges

Finances

- Limited ability to increase revenue
 - Property tax provides less than 60% of revenue
 - State revenue sharing declined from 30% in 1989 to 7% in 2014
- City prioritizes services
 - “Must have” (life safety) vs “Nice to have” (recreation)
- City is recovering from 2007-2011 economic downturn
 - Deferred capital projects
 - Cancelled one stormwater project due to lack of grant match \$s

Challenges

Staff Time

- City staff has decreased while workload has increased
- Volunteers provide 10s of thousands of hours per year
- Student interns are a transient resource

Challenges

Science

- Stormwater mandates based on flawed data and analysis
 - Costing Brevard hundreds of thousands to rectify
 - Suggests caution in spending on projects that may not help
- Coastal dynamics imperfectly understood
 - Beach loss
 - Ocean shoreline erosion
 - Rate of sea level rise
- “Simple” issues open to debate
 - Transport, fate, and impact of lawn fertilizer

Challenges

Management is the art of making decisions based on incomplete information.

QUESTIONS?/COMMENTS!