

PUBLIC WORKS DEPARTMENT



April 5, 2016



CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT

In City's Infrastructure Cylinder, we have a goal to be a Sustainable and Resilient Community

INFRASTRUCTURE



We do this, in part, by:

- Reducing flooding and adapting to sea level rise through multiple efforts related to stormwater management and resilience planning



Sea Level and King Tides in the Venice of America



Strategic Connections

**WE ARE
FORT LAUDERDALE,
A COMMUNITY
OF CHOICE, THE
CITY YOU NEVER
WANT TO LEAVE.**



GOAL 2: Be a sustainable and resilient community. FY 2016 Commission Priority Initiatives:

- Stormwater Management Plan \$CIP
- Wastewater Infiltration and Inflow \$CIP

GOAL 7: Be a well-positioned City within the global economic and tourism markets of the South Florida region, leveraging our airports, port, and rail connections. FY 2016 Commission Priority Initiatives:

- » Beach Renourishment (Vision Idea #383)
- Beach Community Redevelopment Area \$CIP



Neighbor Survey

2015 Neighbor
Survey

Level of Agreement with Various Aspects of Sustainability - 2012 to 2015

Helping organizations make better decisions since 1982

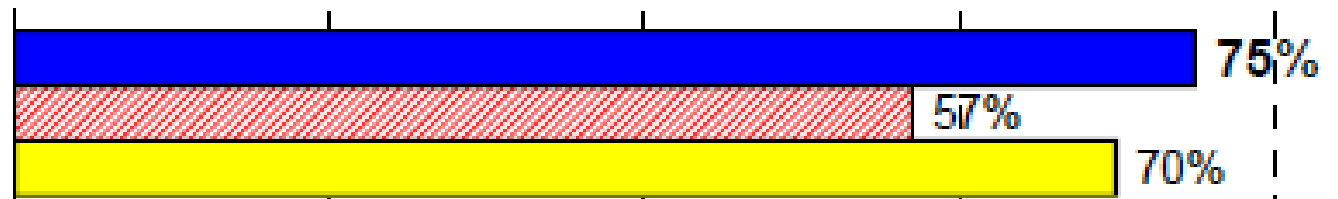
Final Report

Submitted to the City of Fort Lauderdale, Florida
by:
ETC Institute
753 W. Broward Lane,
Davie, Florida
33317
February 2016

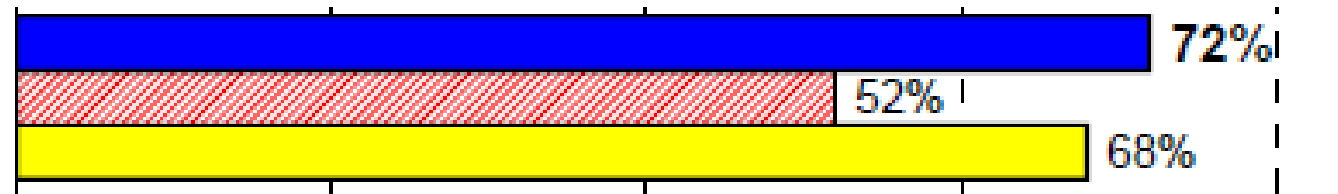


■ 2015 ■ 2014 ■ 2012

I have observed
coastal water level
increases



I have observed
increased flooding



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Neighbor Survey

2015 Neighbor
Survey

Q22. Satisfaction with Water, Wastewater, Waterways, Flooding, and Sanitation

by percentage of respondents (excluding "don't know")

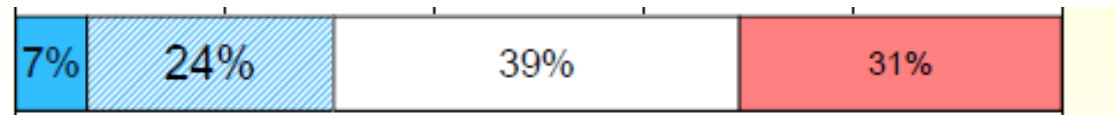
Helping organizations make better decisions since 1982

Final Report

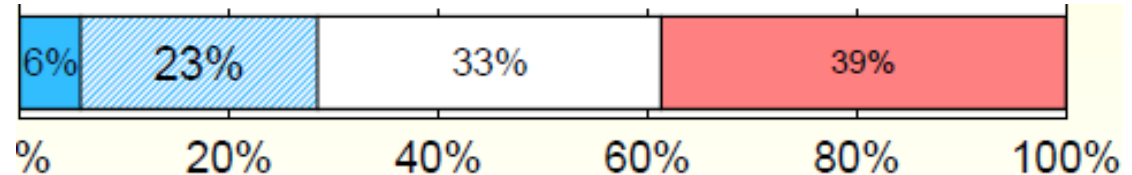
Submitted to the City of Fort Lauderdale, Florida
by:
ETC Institute
723 W. Windsor Lane,
Gainesville, Florida
32601
February 2016



Prevention of tidal-
related flooding



Prevention of storm
water-related flooding



■ Very Satisfied (5) ■ Satisfied (4) □ Neutral (3) ■ Dissatisfied (2,1)



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Sea Level Rise Impacts: Tidal Flooding



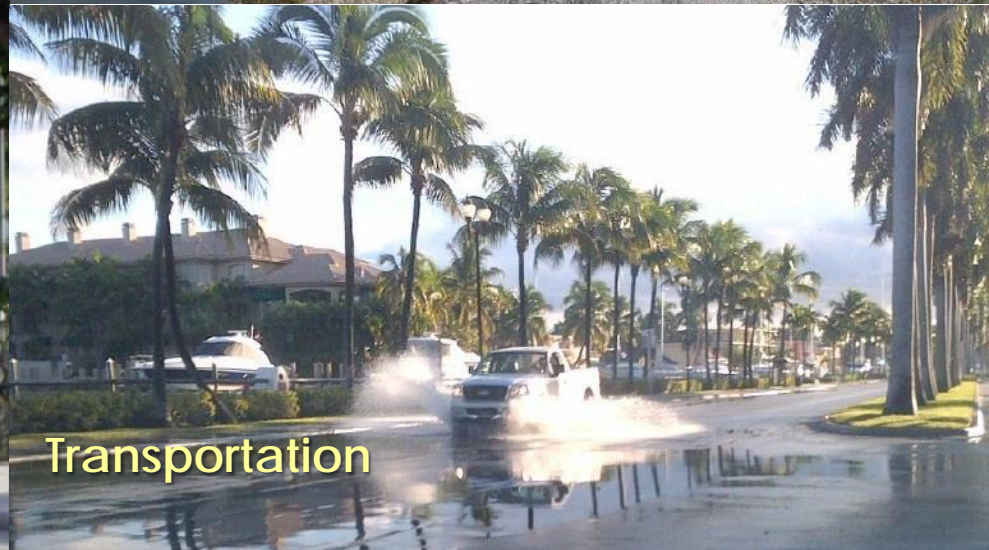
Recreational/Educational



Historical/Cultural



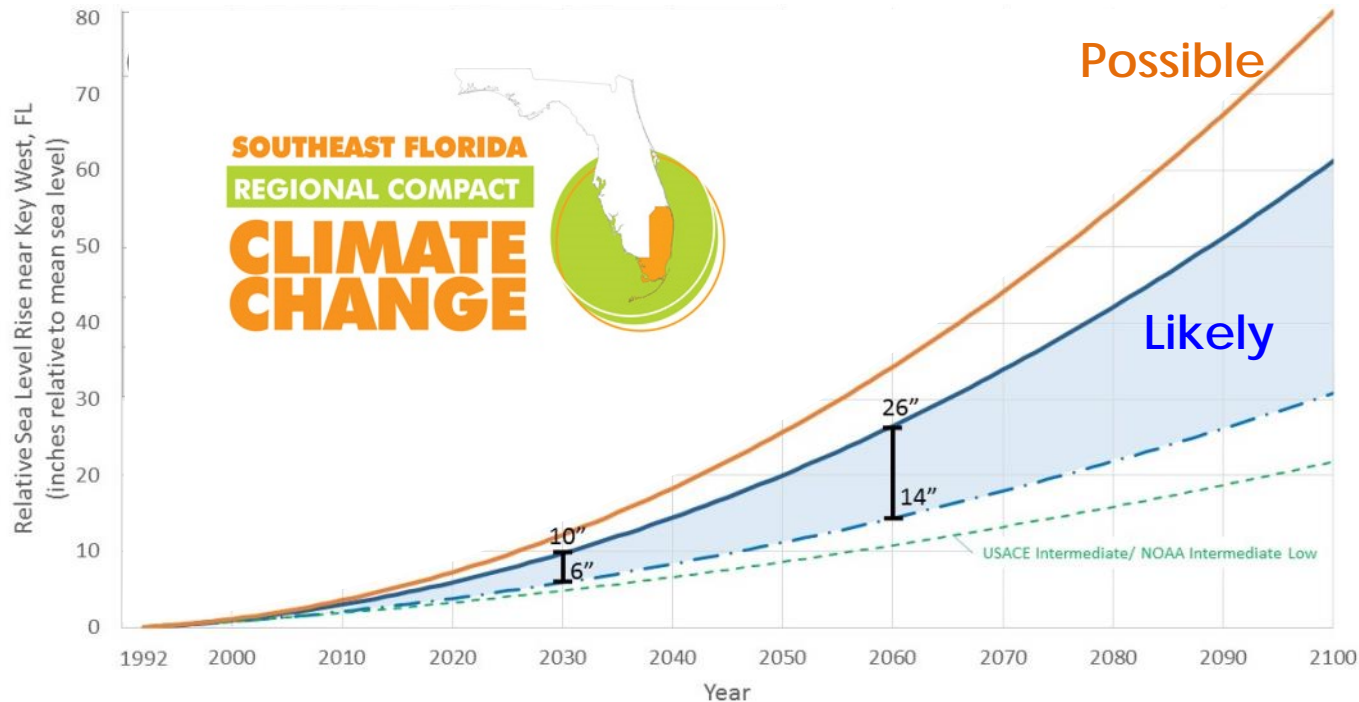
Residential/Community



Transportation



2015 Unified Sea Level Rise (SLR) Projection for SE Florida

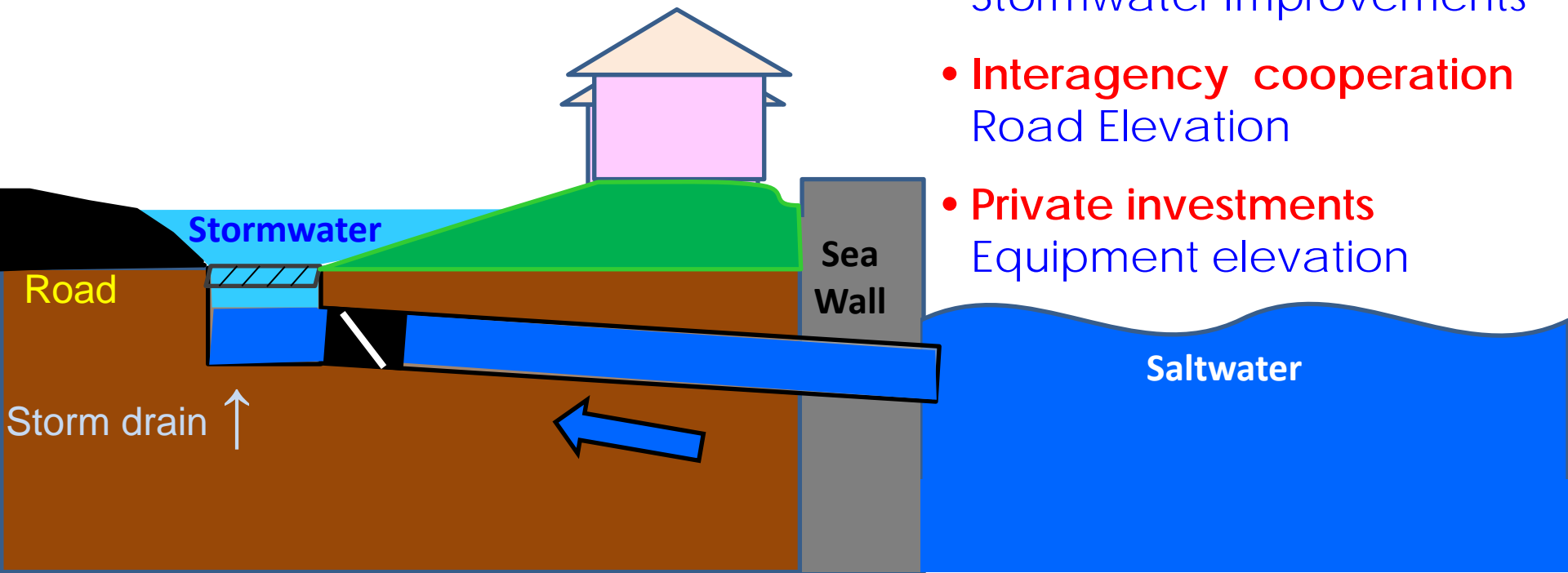


- 3" SLR since 1992
- 2030: 6-10" SLR
- 2060: 14-26"
- **Orange line** for long term projects with low risk tolerance (2060: 34")



Comprehensive and Varied Approach

- **Policy**
Adaptation Action Areas
- **Regulations**
Floor Elevation, Seawalls
- **Infrastructure**
Stormwater Improvements
- **Interagency cooperation**
Road Elevation
- **Private investments**
Equipment elevation





» WE ARE READY

We are a resilient and safe coastal community

Becoming a Resilient Community Requires:

- Adequate resources and a comprehensive, incremental approach
- Traditional and emerging technologies
- Interagency cooperation
- Continuous Neighbor awareness and engagement



Stormwater Management



Storm and Tidal Flooding Challenges:

- High groundwater table
- Low-lying residential streets
- Sea level rise
- Low and deteriorating seawalls
- Aging infrastructure
- Absence of stormwater infrastructure
- Lack of green space



Improvement Features



BIOSWALES



**RECHARGE DRAINAGE
WELL**



EXFILTRATION TRENCH



**TIDAL CONTROL
VALVES**



**PERVIOUS PAVERS
& PAVEDRAIN**



**SEAWALL REPAIRS
& UPGRADES**



**STORMWATER
PRESERVES**



PUMPING STATIONS



Stormwater Master Plan

A three phased approach to address stormwater and tidal flooding:

Phase 1: 37 local projects

Phase 2: Seven neighborhoods with insufficient infrastructure

Phase 3: Citywide long term solutions to sea level/level of service using comprehensive modeling

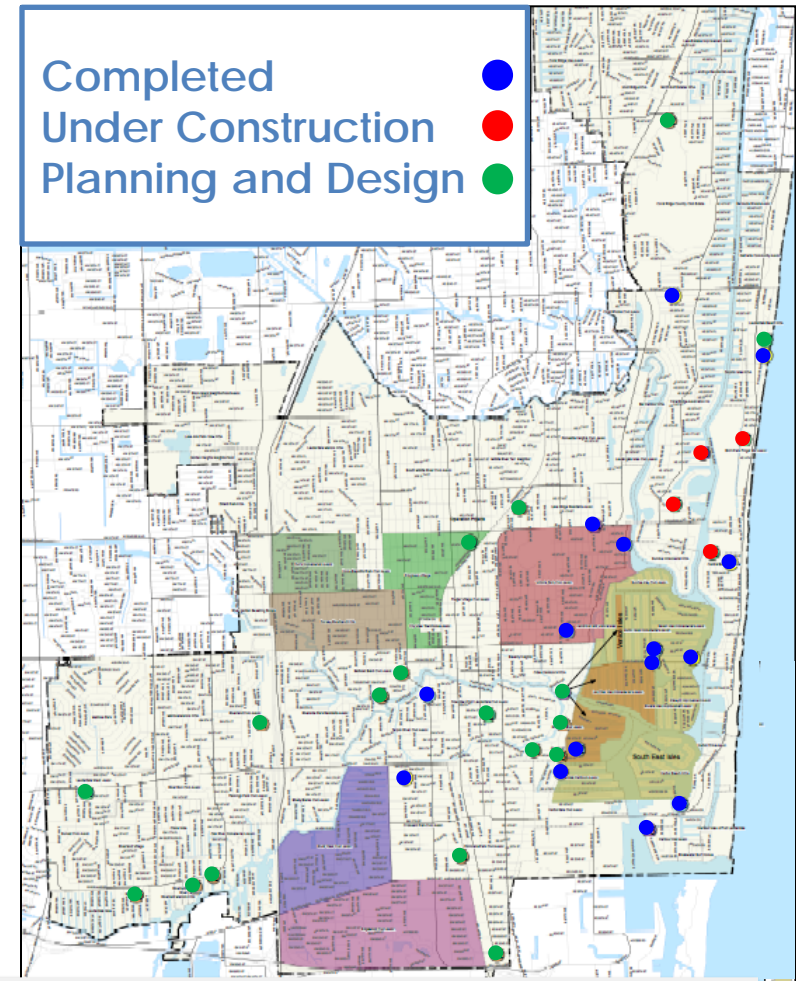


Stormwater Master Plan

Phase 1

PHASE I: Design and construction of 37 localized stormwater projects:

- Previously Completed: 11 Projects
- Projects Completed FY2016 (\$260,000)
 - 1000 North East 17th Way
 - Rio Vista Hemmingway Landing, South East 11th Court at Cordova Road
 - Del Mar Street at South East 23 Avenue
 - 2100 South East 18th Street
- Projects Under Construction (\$1,023,000)
 - 2771 North East 15th Street
 - 3301 North East 16th Street
 - 777 Bayshore Drive
 - 2625 NE 11th Court
- 18 Projects in Planning & Design
 - FY2016: 4 • FY2017: 5 • FY2018: 5 • FY2019: 4



1000 North East 17th Way



BEFORE



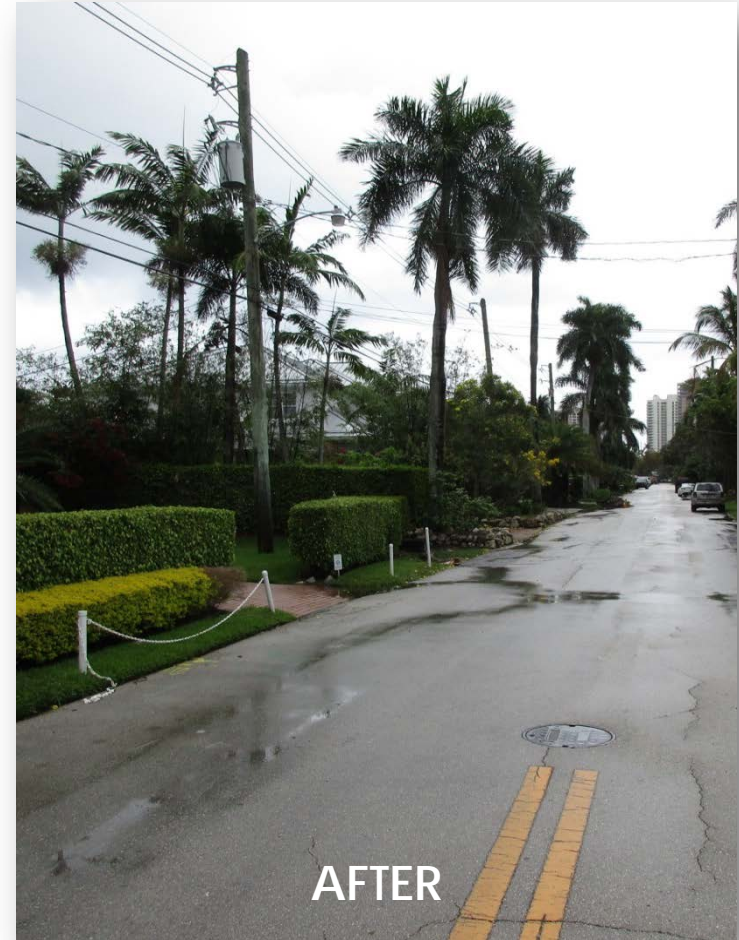
AFTER



Rio Vista Hemmingway Landing, South East 11th Court at Cordova Road



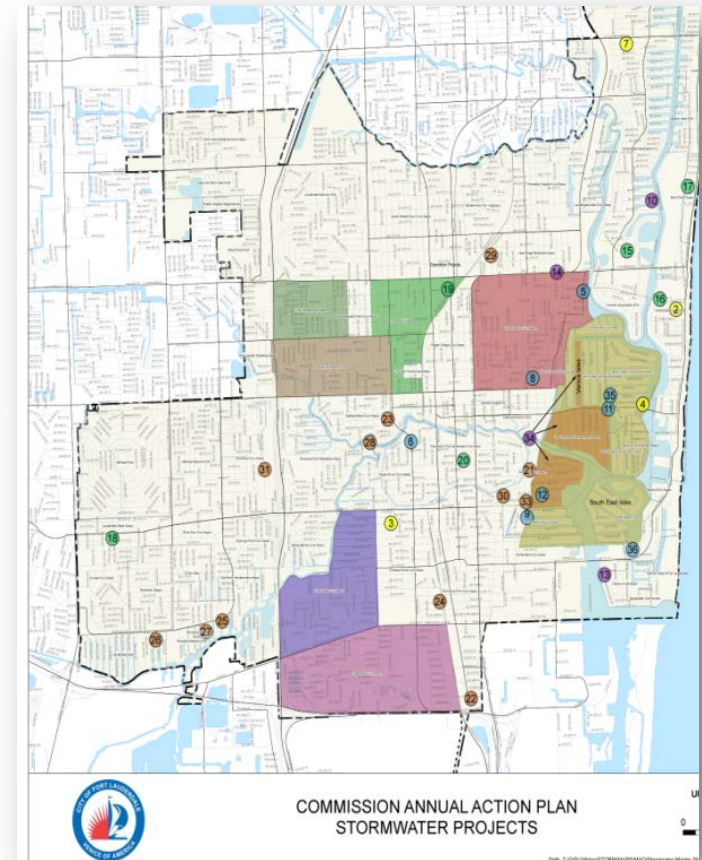
Del Mar Street at South East 23 Avenue



Stormwater Master Plan

Phase 2

- Hydrologic/Hydraulic Model of the City
 - Database of stormwater infrastructure
 - Lidar topographic survey of the City
- Updated and Revised Engineering Stormwater Details and Specifications
- Final Engineering Construction Plans for Phase II Projects in Seven Neighborhoods
- Construction Cost Estimates for Bonding Purposes
- Asset Management Software
- Stormwater Rate Structure Proposal



PUBLIC WORKS WEEK

May 15-21, 2016



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