COASTAL HIGH HAZARD AREA (CHHA)

iCAR

October 29, 2019

st.petersburg
www.stpete.org

Definitions: CHHA, Evac Zone, SFHA

COASTAL HIGH HAZARD AREA (CHHA) F.S. 163.3178

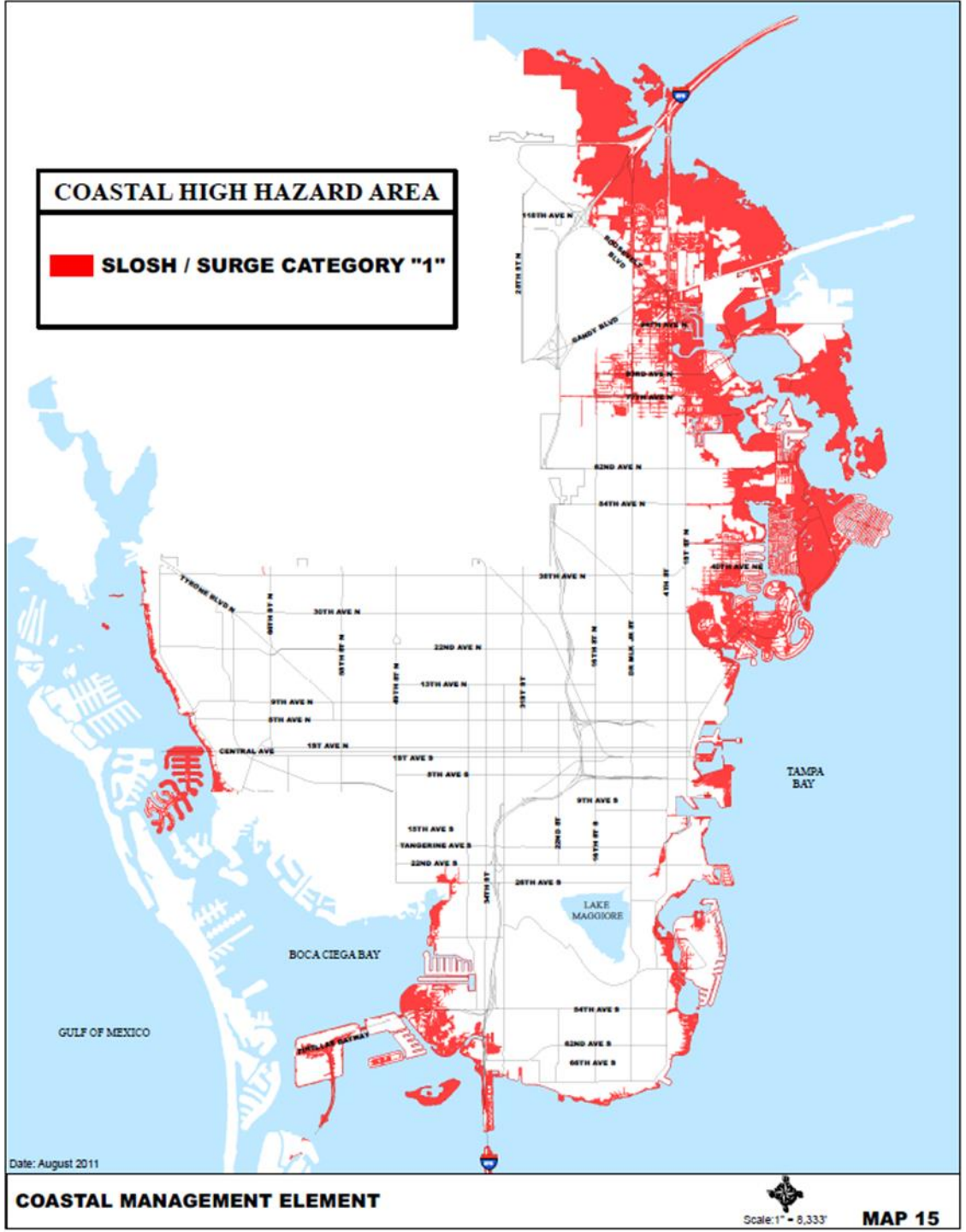
Area below the elevation of the Category 1 storm surge line as established by a Sea, Lake and Overland Surges from Hurricanes ("SLOSH") computerized storm surge model. (Required in Comp Plan)

HURRICANE EVACUATION ZONES

Hurricane evacuation zones (A to E) reflect storm surge vulnerability and the appropriate evacuation level for Category 1 to 5 storm (hurricane) events.

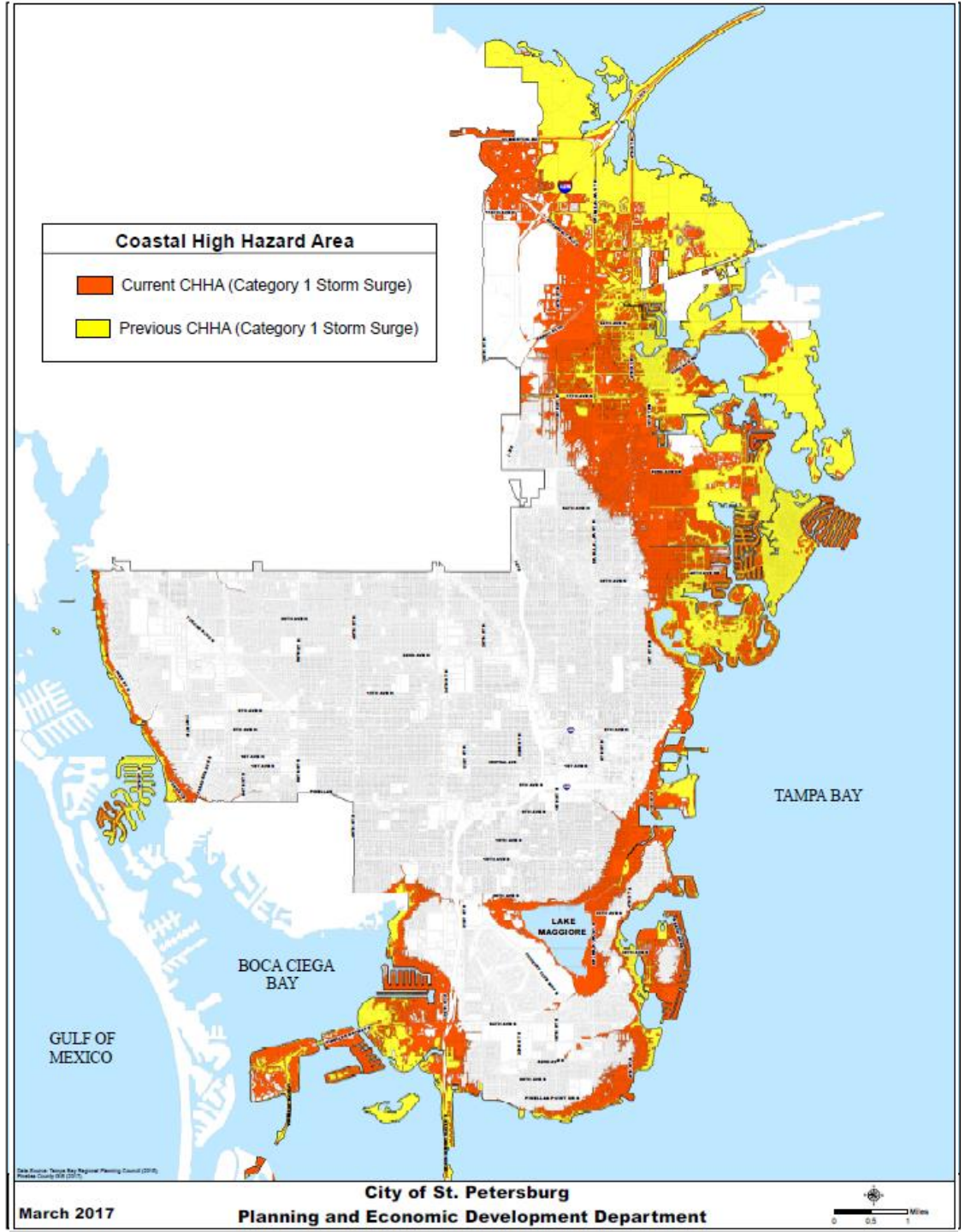
SPECIAL FLOOD HAZARD AREAS (SFHA)

Previously known as the 100-year flood plain. Areas are identified on FEMA's Flood Insurance Rate Map. Designations include the V-Zone and A- or AE Zone



2010 CHHA Acreage

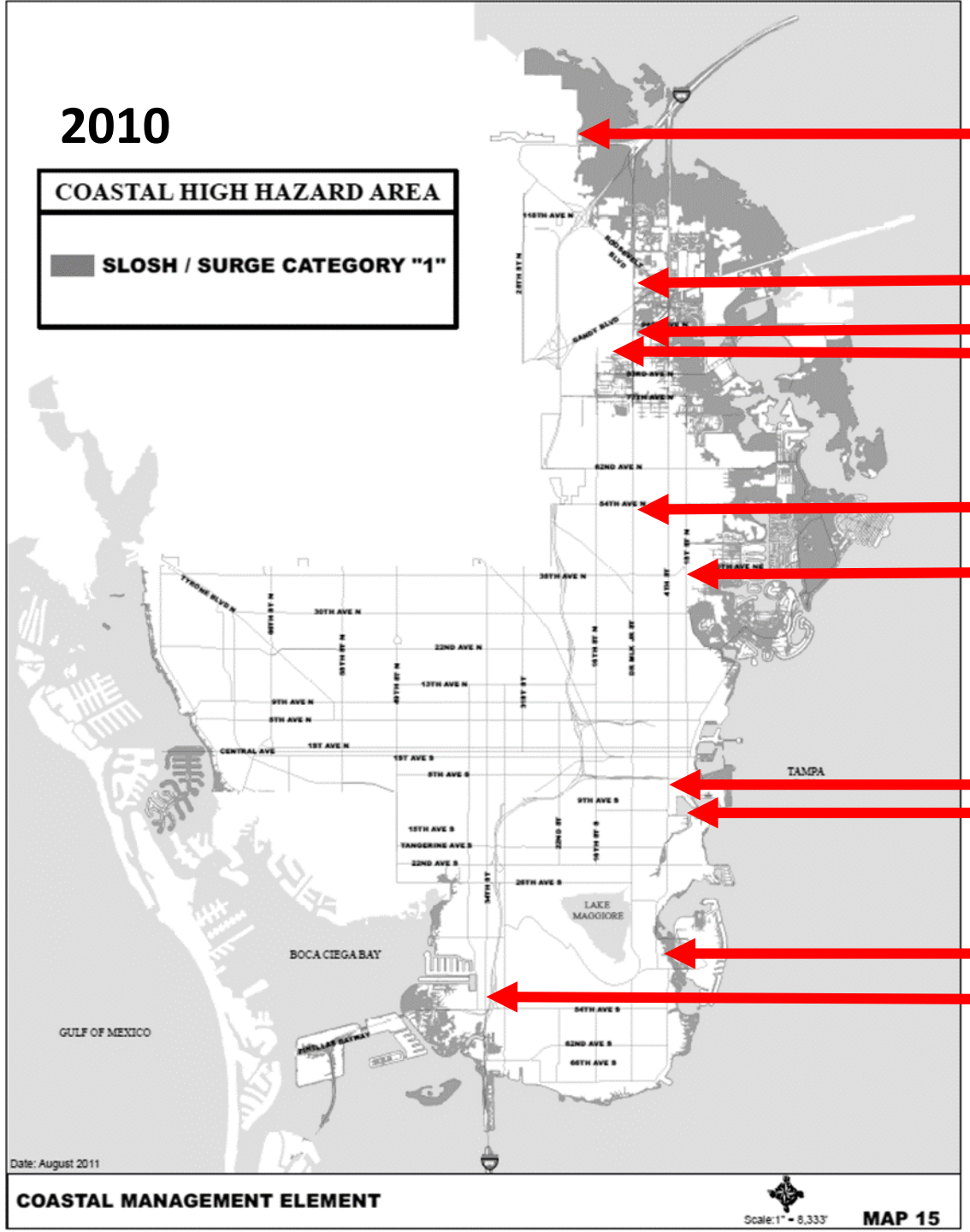
7,705 Acres



2016 CHHA Acreage

2010: 7,702
2016: 8,623

16,325 Acres



Gateway and Carillon Town Center

Jabil Headquarters Campus

Baypoint Commerce Center

ASI / Progressive Insurance HQ

Dr. ML King Jr. St. No. (62nd Ave. No.)

4th Street No. (54th Ave. No.)

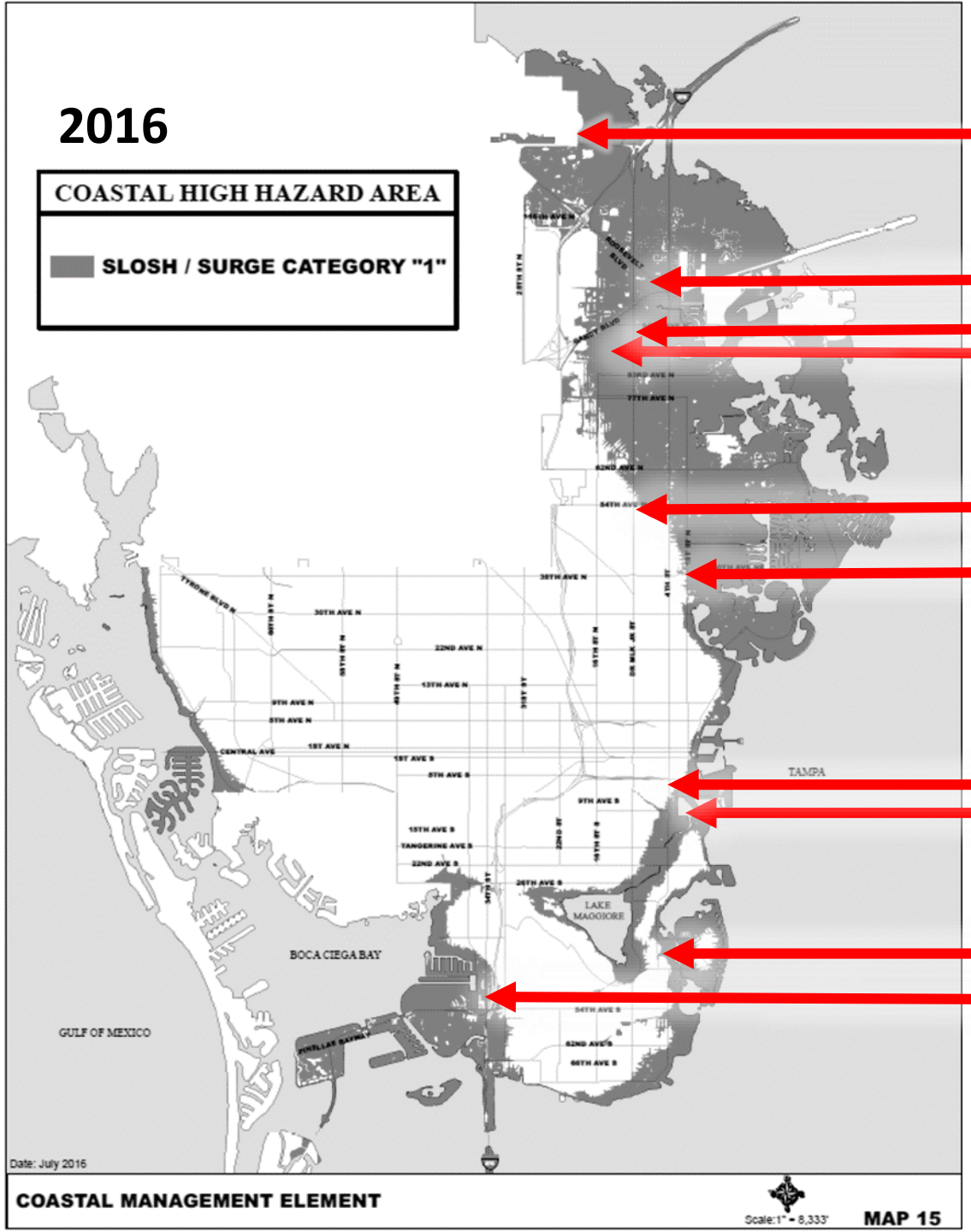
Innovation District

USFSP Campus

Coquina Key Shopping Center

Skyway Marina District

10 Mobile Home Parks



Gateway and Carillon Town Center

Jabil Headquarters Campus
Baypoint Commerce Center
ASI / Progressive Insurance HQ
Dr. ML King Jr. St. No. (62nd Ave. No.)
4th Street No. (54th Ave. No.)

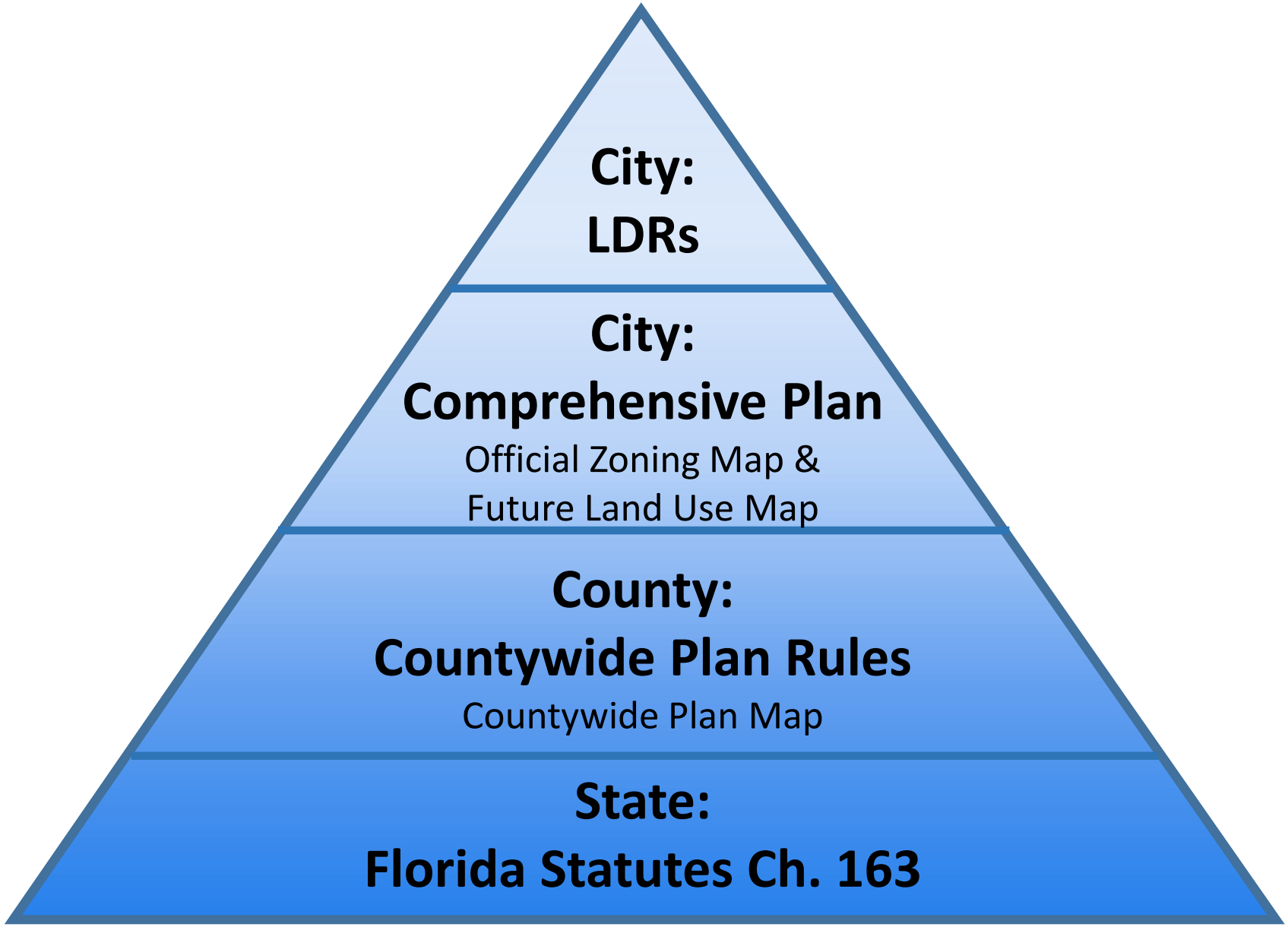
Innovation District
USFSP Campus

Coquina Key Shopping Center
Skyway Marina District

10 Mobile Home Parks

Proposal

1. Comprehensive Plan Text Amendment
    - Currently precludes any plan amendments which result in density changes in the CHHA
    - Introduce evaluation criteria, consistent with the county, with a few additional criteria specific to the city
2. Amend the Land Development Regulations
    - Multi-family design standards in the CHHA



Planning and Zoning Framework

State Statute 163.3178(8)

A proposed comprehensive plan amendment shall be found in compliance with state coastal high-hazard provisions if:

a. The adopted level of service (16 hours) for out-of-county hurricane evacuation is maintained for a category 5 storm; or

b. A 12-hour evacuation time to shelter is maintained for a category 5 storm event and shelter space is available; or

c. Appropriate mitigation is provided that will satisfy subparagraph 1 or subparagraph 2. Appropriate mitigation shall include, without limitation, payment of money, contribution of land, and construction of hurricane shelters and transportation facilities.

Balancing Review Criteria – Countywide Rules

A. Access to Emergency Shelter Space & Evacuation Routes
B. Utilization of Existing and Planned Infrastructure
C. Utilization of Existing Disturbed Area
D. Maintenance of Scenic Qualities / Improve Public Access
E. Water Dependent Uses
F. Part of Community Redevelopment Area
G. Overall Reduction of Density or Intensity
H. Clustering of Uses
I. Integral Part of Comprehensive Planning Process

St. Petersburg Land Use Policy 7.1

Requests for residential density increases within the Coastal High Hazard Zone shall not be approved.

CHHA Amendment History:

September 2015	Innovation District Visioning Plan
June 2016	2016 CHHA Map update issued by FDEM
March 2017	Innovation District Streetscape & Connectivity Plan
August 2017	Comp Plan public hearing: amend CHHA policy deferred
September 2017	Comp Plan public hearing: amend CHHA policy, canceled (Hurricane Irma)
July 2018	Comp Plan public hearing: amend CHHA policy APPROVED by LPA 4 to 3
August 2018	Comp Plan public hearing: amend CHHA policy, deferred by Council (Hurricane Michael)
January 2019	Council Committee of the Whole to discuss CHHA
February 2019	ULI Tampa grant process
March 2019	Innovation District (minus CHHA parcels) approved by Council

2018 Hurricane Michael: Mexico Beach


Habitat Strong (FORTIFIED)
Homes

ULX: Technological Ingenuity features:

“Saltmeadow” Multifamily Development

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I. Integral Part of Comprehensive Planning Process
J. Location within an Activity Center or Target Employment Center
K. Implement Specific ISAP or Priority Sustainability Actions (to be listed specifically and related to innovation, natural system and realizing resilience)
L. Reduction of Storm Vulnerable Population / Structures

Land Development Regulations

A. Mitigation requirements

Construction of multi-family (resulting from a map amendment to increase density within CHHA) shall provide for mitigation: payment of money, contribution of land, construction of hurricane shelter(s).

B. Hurricane Evacuation and Re-entry Plan

Construction of new hotels and residential units (multi-family) shall require hurricane evacuation and re-entry plan, incorporated into legal documents, such as lease.

C. Establish CHHA design standards, resiliency quotient

Comprehensive list of stricter building standards based on a model from Norfolk, Virginia.

CHHA Design Standards Process

1. **County-wide Working Group established**
   County and City Emergency Management agencies, Forward Pinellas, County and other municipal Planning staff met several times working towards a mitigation solution.
2. **St. Pete Ocean Team – April 23rd**
3. **Public Stakeholder Meeting – May 21st**
4. **ULI Technical Advisory Panel – June 18-19th**
5. **City Council, Committee of the Whole Workshop – July 25th**
6. **Public Stakeholder Meeting – October 15 , 2019**
7. **City Council, Committee of the Whole Workshop – October 24, 2019**

ULI Technical Advisory Panel

NICK HERRING
Vice President, Development
Framework Group (Tampa Bay)

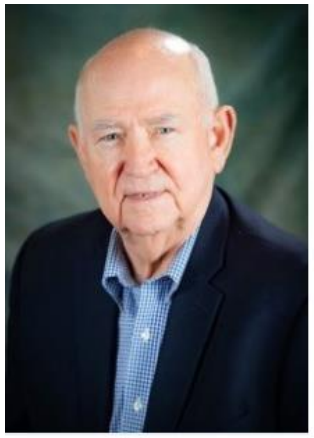
CHRIS AHERN
Associate Principal
Applied Technology (Tampa Bay)

MICHAEL ANTINELLI
Co-Founder, Director of Projects
Engineering
Brizaga (Fort Lauderdale)

LEIGH FLETCHER
Partner
Fletcher & Fischer (Tampa Bay)

TARYN SABIA
Director, Florida Center for Community
Design and Research, USF

BARRY KARPAY
Vice President
Lennar Homes (Tampa Bay)



JAMES CLOAR
President
Downtown Development Strategies
TAP Chair

JEREMY SHARP
Zoning Administrator
City of Norfolk

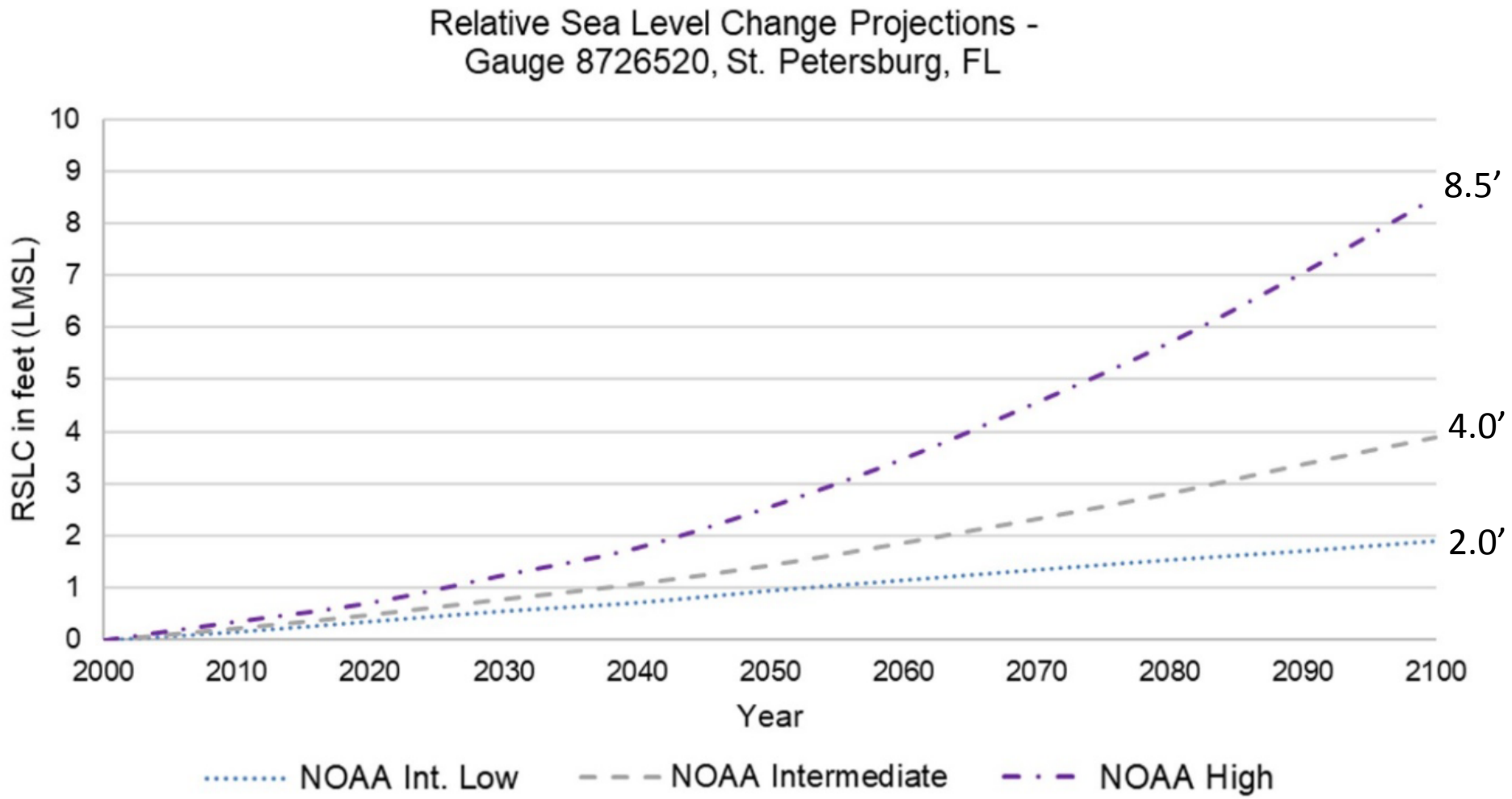
MANUELA POWIDAYKO
City of New York
Urban Designer

WHIT REMER
Counsel and Director of Public Policy
Insurance Institute for Business & Home
Safety (Tampa Bay)

ULI Report: Stakeholder Feedback

- **Opportunities**
  - Higher CHHA standards sets example for the rest of the City
  - Opportunity for preparedness education and outreach
  - Risk reduction through replacement of older vulnerable structures with new
  - Existing institutions in CHHA need nearby housing
  - Increases likelihood that residents will have a home to return to post storm
  - Return on investment (ROI) for mitigation is strong
- **Constraints**
  - Draft code is not flexible enough or apply well to large-scale projects
  - Possibility of disinvestment in the CHHA because of increased development cost
  - Less development in the CHHA could slow City's economic development efforts
  - Increased density will place more people in harms way and burden shelters further
  - Missed opportunity to focus development in less vulnerable areas
  - Utilize coastal land for preservation/mitigation

ULI Report: Sea Level Rise



ULI Report: Sea Level Rise

Year	NOAA Int-Low (feet)	NOAA Intermediate (feet)	NOAA High (feet)
2000[3]	0	0	0
2030	0.56	0.79	1.25
2040	0.72	1.08	1.77
2050	0.95	1.44	2.56
2060	1.15	1.87	3.48
2070	1.35	2.33	4.56
2080	1.54	2.82	5.71
2090	1.71	3.38	7.05
2100	1.90	3.90	8.50

Table 1. Sea Level Change Relative to the Year 2000 for St. Petersburg, Florida in Feet above Local Mean Sea Level (LMSL)

Draft Design Standards Menu

Component 1: Risk Reduction
Elevate the finished floor with 2 feet of additional freeboard above the required design flood elevation, for a total of 4 feet of freeboard above the BFE (Base Flood Elevation)
Construct building to meet design requirements of next higher classification of Risk Category, per ASCE 7. *(e.g. increase from 145 to 155 mph standard, Category 2 to 3 storm event)*
Component 2: Recovery
On-site battery storage of solar generated power to keep critical functions working in the event of power failure
Install a cool/high-reflectance roof (coating that is white or has special reflective pigments that reflect sunlight) on at least 75% of the total roof area of the development, with a minimum SRI (solar reflectance index value) of 39 and in accordance with the standards set by the HVWZ
Install a geothermal energy heating & cooling system that serves as least 75% of the project's residential units
Pre-wire all units to accept power provided by on-site solar panels and/or wind turbines
Install a 20+ SEER HVAC system in each dwelling unit
Install a 16-19 SEER HVAC system in each dwelling unit
Install efficient, zone-controlled heating and cooling systems in each residential unit (mini-splits, or smart thermostats, etc.)
Install a solar or tank-less water heating system in each residential unit
Install no fewer than 2 operable windows on no fewer than two exterior walls in each unit
Install a generator for power generation to keep critical functions working in the event of power failure
Install highly-reflective blinds/shades, low-E window film/tint, external/structural shade to reduce solar gain
Provide for a Resilient Common Area with back-up power source to provide air-conditioning and power, food, water and emergency supplies to support residents after a storm event
Provide for a Neighborhood Resilience Hub to provide on-site and neighborhood residents point of distribution of services before and after storm events
Contribute to the Emergency Shelter Fund
Utilize mold-resistant building materials in all kitchens and baths, such as fiberglass-faced drywall, mold-resistant drywall tape, tile, ceramic, terrazzo, or stained concrete, rated "resistant" or "highly resistant" according to UL 2824 and in compliance with ASTM D 3273 standard
Protect coastal property with a living shoreline (LSL) per the US Army Corps of Engineers (USACE) Living Shoreline Permit Standard. *(LSLs use natural materials to stabilize the shoreline and maintain valuable fish and wildlife habitat; LSLs utilize a variety of materials such as wetland plants, oyster shell, coir fiber logs, sand, wood, and native rock.)*

LDR Synopsis

1. **Prepare Hurricane Evacuation and Re-entry Plan**
2. **Reduce Risk for Water**: elevate an additional 2-feet above the required design flood elevation, for a total of 4-feet above Base Flood Elevation (addresses both Sea Level Rise and Storm Surge)
3. **Reduce Risk for Wind**: construct the building to meet design requirements of next higher classification of Risk Category, e.g. increase from 145 to 155 mph standard, Category 2 to 3 storm event
4. **Enhance Recovery:** through selection of a Resiliency option: such as provision of on-site storage of solar generated power, increased efficiency HVAC systems, or providing solar or tank-less water heating systems. Projects up to 199 units select one option, projects over 200 units select two.
5. **Hurricane Evacuation Shelter:** Projects which increase density must mitigate

CPA Synopsis

Replace prohibition on density increases with a policy which allows for consideration of increases, evaluating all applications on specific criteria

<u>County balancing criteria</u>

1. Utilization of Existing and Planned infrastructure
2. Utilization of Existing Disturbed Areas
3. Maintenance of Scenic Qualities and Improvement of Public Access to Water
4. Water Dependent Use
5. Part of Community Redevelopment Plan
6. Overall Reduction of Density or Intensity
7. Clustering of Uses
8. Integral Part of Comprehensive Planning Process

CPA Synopsis

Additional City Criteria

1. Location within an Activity Center, Target Employment Center, Special Area Plan
2. Implements the Goals and Policies of the Integrated Sustainability Action Plan (ISAP), Complete Streets and Health in All Policies (HIAP)
3. Reduction of Storm Vulnerable Structures

Must mitigate for Hurricane Evacuation Shelter space

Next Steps

Adoption Public Hearings – November - February

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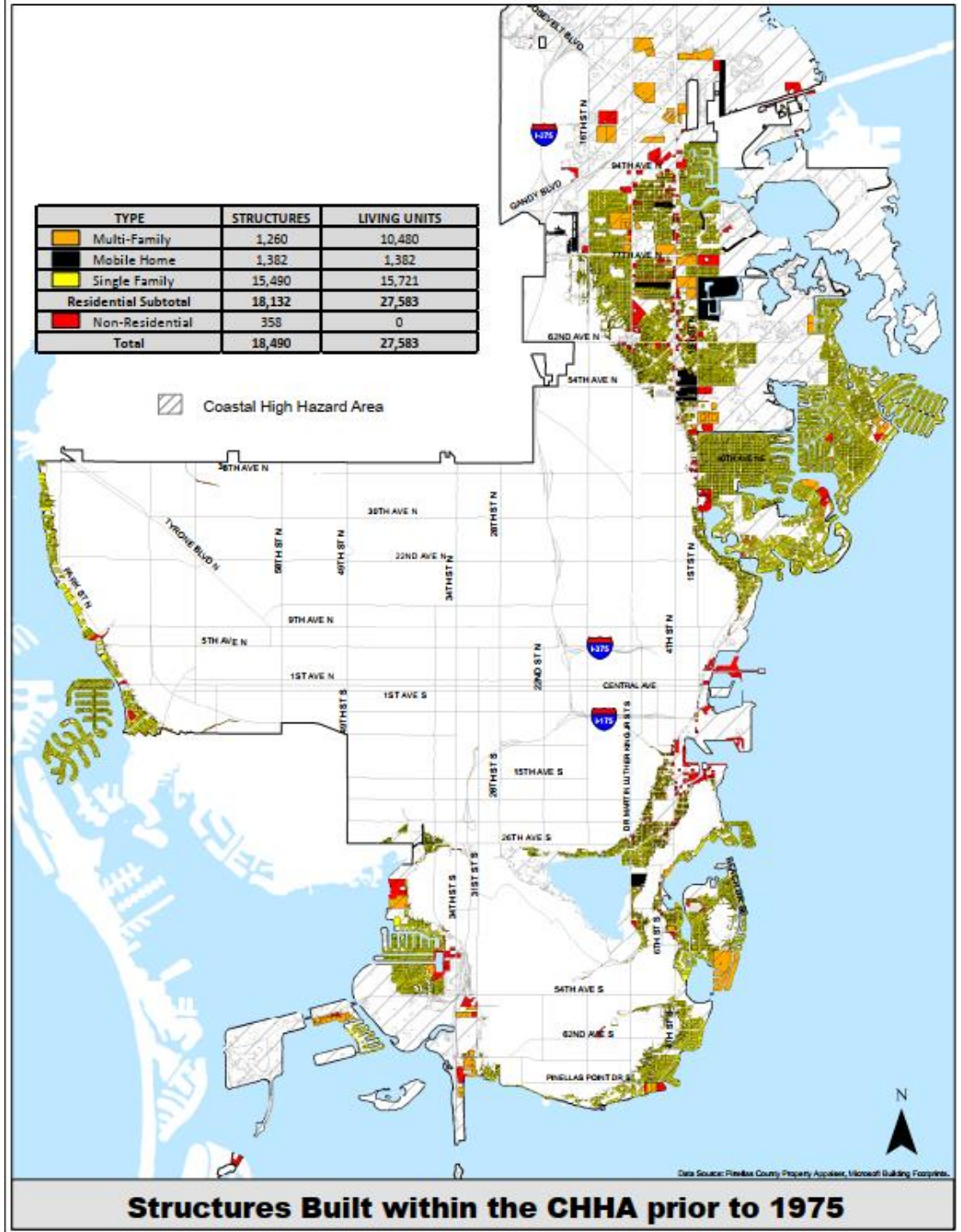
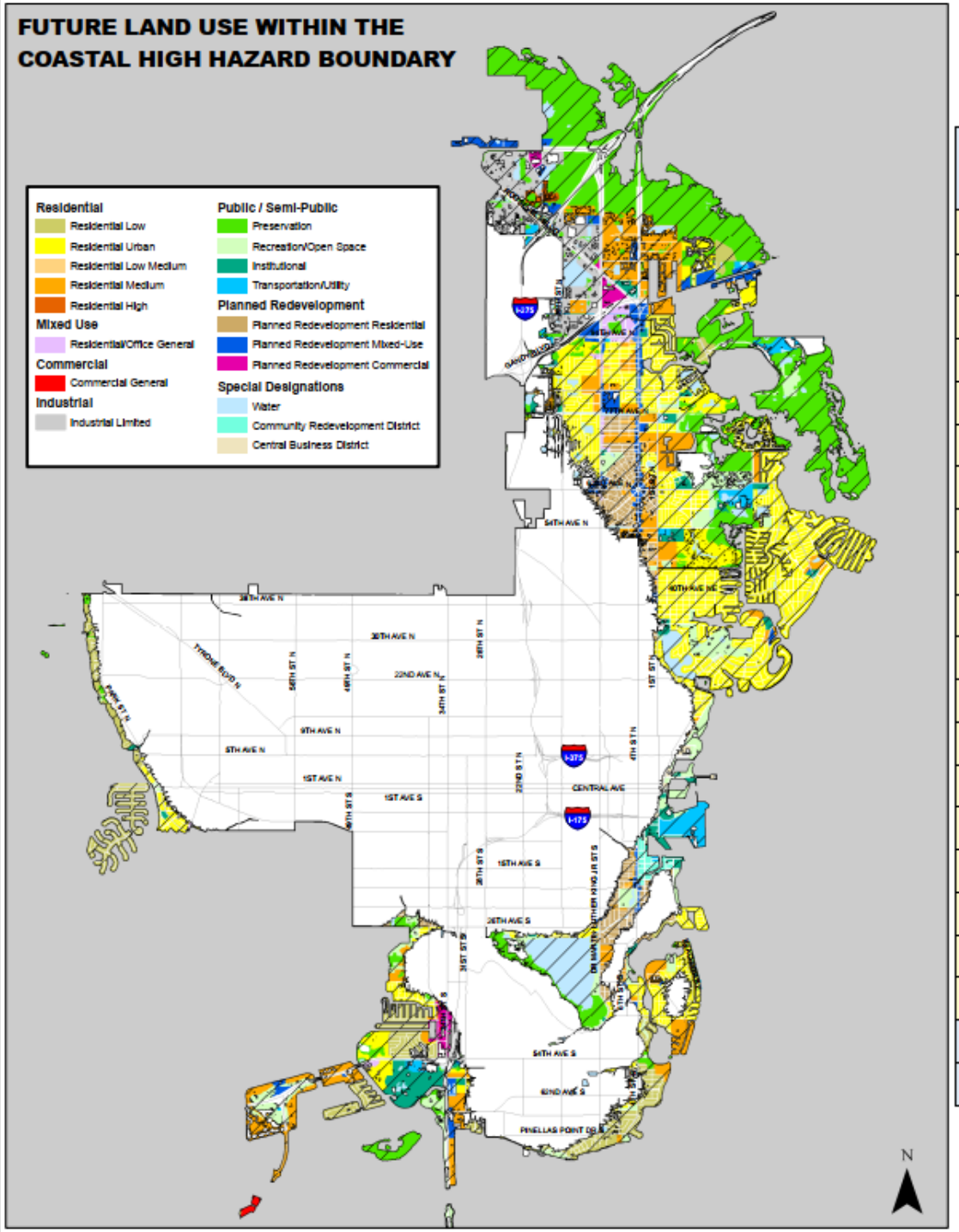


18,490
Pre-FIRM Structures

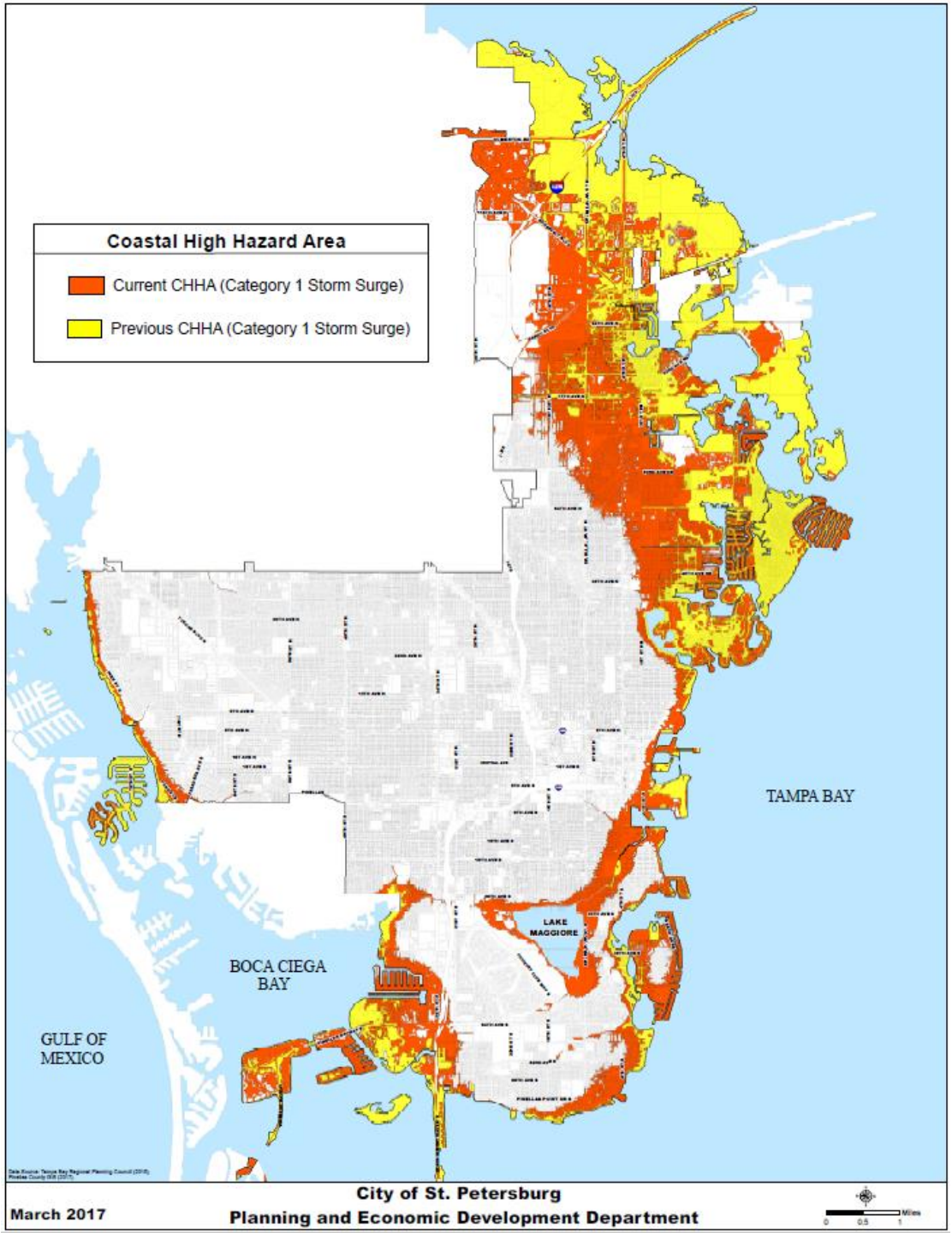


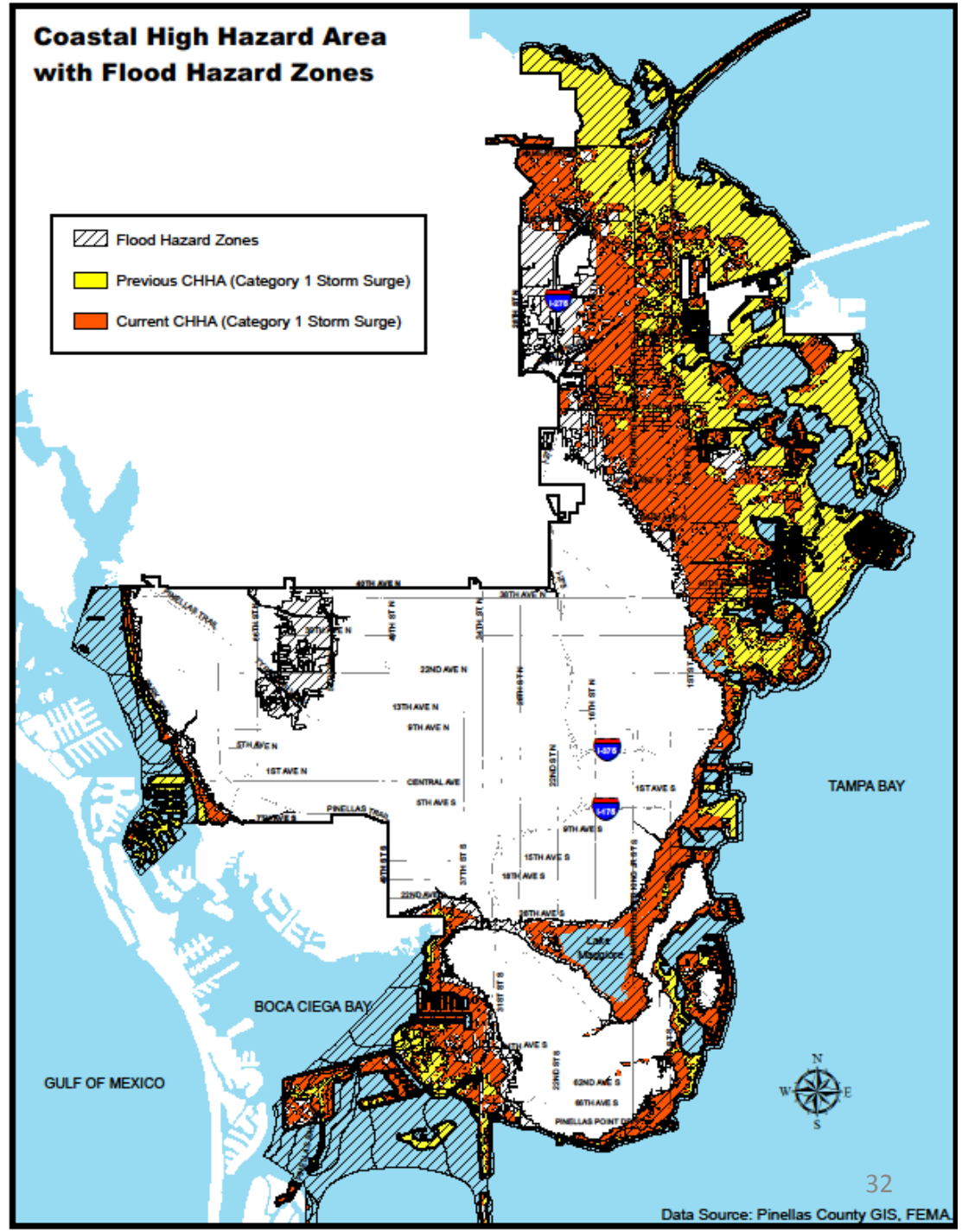
FUTURE LAND USE MAP (FLUM) CATEGORIES WITHIN CHHA		
FLUM CATEGORY	**ACRES**	**PERCENT**
Preservation (P)	3,474	25.10
Residential Urban (RU)	3,213	23.21
Water	1,470	10.62
Residential Medium (RM)	1,470	10.62
Recreation/Open Space (R/OS)	984	7.11
Residential Low (RL)	824	5.95
Industrial Limited (IL)	515	3.72
Planned Redevelopment-Mixed Use (PR-MU)	424	3.07
Planned Redevelopment-Residential (PR-R)	420	3.03
Institutional (I)	411	2.97
Transportation/Utility (T/U)	296	2.14
Planned Redevelopment-Commercial (PR-C)	106	0.77
Residential/Office General (R/OG)	104	0.75
Community Redevelopment District (CRD)	61	0.44
Residential High (RH)	34	0.24
Central Business District (CBD)	18	0.13
Commercial General (CG)	17	0.12
Residential Low Medium (RLM)	2	0.01
TOTAL	**13,841**	**100.00**

Note: The land boundary for the CHHA is estimated to be 16,328 acres, including right of-way.

Applications for Construction (2008-2019)

Multi-family Development / Hotel	Units
Tortuga Points Apartments	102
Elan Gateway Apartments	240
Westminster Shores Retirement Community	36
Aura at 4th Apartments	150
Peridot Palms Apartments	381
4130 34th Avenue South*	8
Enclave*	8
Marina Bay Condos*	3
Venetian Apartments & Townhomes*	297
Princess K Hotel*	123
Tierra Verde Resort Hotel*	95
Total	**1,443 (218 hotel)** ***534 in new CHHA**


Coastal High Hazard Area
Current CHHA (Category 1 Storm Surge)
Previous CHHA (Category 1 Storm Surge)
TAMPA BAY
LAKE MAGGIORE
BOCA CIEGA BAY
GULF OF MEXICO
March 2017
City of St. Petersburg
Planning and Economic Development Department


Coastal High Hazard Area
with Flood Hazard Zones
Flood Hazard Zones
Previous CHHA (Category 1 Storm Surge)
Current CHHA (Category 1 Storm Surge)
TAMPA BAY
BOCA CIEGA BAY
GULF OF MEXICO
Data Source: Pinellas County GIS, FEMA

Evacuation Level	SRHES OPERATIONAL TARGET @ 20 sq. ft./person	PINELLAS CO. PROJECTED CAPACITY @ 20 sq. ft./person
A	18,246	22,765 (100%)
B	20,844	22,765 (100%)
C	28,577	36,221 (100%)
D	35,611	34,954 (98%)
E	43,827	23,189 (53%)

SRHES: State/Regional Hurricane Evacuation Study (2016)

1989 Comprehensive Plan

Policy CM10.1

The City shall designate the Coastal High Hazard Area as the Velocity or “V” zone, as identified by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM).

Policy LU6.5

Requests for residential density increases beyond the planned densities on the FLUP Map in the coastal high hazard zone shall not be approved.