COASTAL HIGH HAZARD AREA (CHHA)

iCAR
October 29, 2019
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
Proposed

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
City:
LDRs

City:
Comprehensive Plan
Official Zoning Map &
Future Land Use Map

County:
Countywide Plan Rules
Countywide Plan Map

State:
Florida Statutes Ch. 163

Planning and Zoning Framework
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
Requests for residential density increases within the Coastal High Hazard Zone shall not be approved.
**CHHA Amendment History:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2015</td>
<td>Innovation District Visioning Plan</td>
</tr>
<tr>
<td>June 2016</td>
<td>2016 CHHA Map update issued by FDEM</td>
</tr>
<tr>
<td>March 2017</td>
<td>Innovation District Streetscape &amp; Connectivity Plan</td>
</tr>
<tr>
<td>August 2017</td>
<td>Comp Plan public hearing: amend CHHA policy deferred</td>
</tr>
<tr>
<td>September 2017</td>
<td>Comp Plan public hearing: amend CHHA policy, canceled (Hurricane Irma)</td>
</tr>
<tr>
<td>July 2018</td>
<td>Comp Plan public hearing: amend CHHA policy APPROVED by LPA 4 to 3</td>
</tr>
<tr>
<td>August 2018</td>
<td>Comp Plan public hearing: amend CHHA policy, deferred by Council (Hurricane Michael)</td>
</tr>
<tr>
<td>January 2019</td>
<td>Council Committee of the Whole to discuss CHHA</td>
</tr>
<tr>
<td>February 2019</td>
<td>ULI Tampa grant process</td>
</tr>
<tr>
<td>March 2019</td>
<td>Innovation District (minus CHHA parcels) approved by Council</td>
</tr>
</tbody>
</table>
2018 Hurricane Michael: Mexico Beach
Habitat Strong (FORTIFIED) Homes
ULX: Technological Ingenuity features: “Saltmeadow” Multifamily Development
Balancing Review Criteria – Countywide Rules

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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.
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
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

Relative Sea Level Change Projections -
Gauge 8726520, St. Petersburg, FL

Year

2000 2010 2020 2030 2040 2050 2060 2070 2080 2090 2100

RSLC in feet (LMSL)

8.5'

4.0'

2.0'

NOAA Int. Low - NOAA Intermediate - NOAA High
### ULI Report: Sea Level Rise

<table>
<thead>
<tr>
<th>Year</th>
<th>NOAA Int-Low (feet)</th>
<th>NOAA Intermediate (feet)</th>
<th>NOAA High (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2030</td>
<td>0.56</td>
<td>0.79</td>
<td>1.25</td>
</tr>
<tr>
<td>2040</td>
<td>0.72</td>
<td>1.08</td>
<td>1.77</td>
</tr>
<tr>
<td>2050</td>
<td>0.95</td>
<td>1.44</td>
<td>2.56</td>
</tr>
<tr>
<td>2060</td>
<td>1.15</td>
<td>1.87</td>
<td>3.48</td>
</tr>
<tr>
<td>2070</td>
<td>1.35</td>
<td>2.33</td>
<td>4.56</td>
</tr>
<tr>
<td>2080</td>
<td>1.54</td>
<td>2.82</td>
<td>5.71</td>
</tr>
<tr>
<td>2090</td>
<td>1.71</td>
<td>3.38</td>
<td>7.05</td>
</tr>
<tr>
<td>2100</td>
<td>1.90</td>
<td>3.90</td>
<td>8.50</td>
</tr>
</tbody>
</table>

**Table 1.** Sea Level Change Relative to the Year 2000 for St. Petersburg, Florida in Feet above Local Mean Sea Level (LMSL)
### 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.)*
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
Replace prohibition on density increases with a policy which allows for consideration of increases, evaluating all applications on specific criteria

County balancing criteria

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
COASTAL HIGH HAZARD AREA (CHHA)

iCAR
October 29, 2019
18,490
Pre-FIRM Structures
# Future Land Use Map (FLUM) Categories Within CHHA

<table>
<thead>
<tr>
<th>FLUM Category</th>
<th>Acres</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preservation (P)</td>
<td>3,474</td>
<td>25.10</td>
</tr>
<tr>
<td>Residential Urban (RU)</td>
<td>3,213</td>
<td>23.21</td>
</tr>
<tr>
<td>Water</td>
<td>1,470</td>
<td>10.62</td>
</tr>
<tr>
<td>Residential Medium (RM)</td>
<td>1,470</td>
<td>10.62</td>
</tr>
<tr>
<td>Recreation/Open Space (R/OS)</td>
<td>984</td>
<td>7.11</td>
</tr>
<tr>
<td>Residential Low (RL)</td>
<td>824</td>
<td>5.95</td>
</tr>
<tr>
<td>Industrial Limited (IL)</td>
<td>515</td>
<td>3.72</td>
</tr>
<tr>
<td>Planned Redevelopment-Mixed Use (PR-MU)</td>
<td>424</td>
<td>3.07</td>
</tr>
<tr>
<td>Planned Redevelopment-Residential (PR-R)</td>
<td>420</td>
<td>3.03</td>
</tr>
<tr>
<td>Institutional (I)</td>
<td>411</td>
<td>2.97</td>
</tr>
<tr>
<td>Transportation/Utility (T/U)</td>
<td>296</td>
<td>2.14</td>
</tr>
<tr>
<td>Planned Redevelopment-Commercial (PR-C)</td>
<td>106</td>
<td>0.77</td>
</tr>
<tr>
<td>Residential/Office General (R/OG)</td>
<td>104</td>
<td>0.75</td>
</tr>
<tr>
<td>Community Redevelopment District (CRD)</td>
<td>61</td>
<td>0.44</td>
</tr>
<tr>
<td>Residential High (RH)</td>
<td>34</td>
<td>0.24</td>
</tr>
<tr>
<td>Central Business District (CBD)</td>
<td>18</td>
<td>0.13</td>
</tr>
<tr>
<td>Commercial General (CG)</td>
<td>17</td>
<td>0.12</td>
</tr>
<tr>
<td>Residential Low Medium (RLM)</td>
<td>2</td>
<td>0.01</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13,841</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Multi-family Development / Hotel</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tortuga Points Apartments</td>
<td>102</td>
</tr>
<tr>
<td>Elan Gateway Apartments</td>
<td>240</td>
</tr>
<tr>
<td>Westminster Shores Retirement Community</td>
<td>36</td>
</tr>
<tr>
<td>Aura at 4th Apartments</td>
<td>150</td>
</tr>
<tr>
<td>Peridot Palms Apartments</td>
<td>381</td>
</tr>
<tr>
<td>4130 34th Avenue South*</td>
<td>8</td>
</tr>
<tr>
<td>Enclave*</td>
<td>8</td>
</tr>
<tr>
<td>Marina Bay Condos*</td>
<td>3</td>
</tr>
<tr>
<td>Venetian Apartments &amp; Townhomes*</td>
<td>297</td>
</tr>
<tr>
<td>Princess K Hotel*</td>
<td>123</td>
</tr>
<tr>
<td>Tierra Verde Resort Hotel*</td>
<td>95</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,443 (218 hotel)</strong></td>
</tr>
<tr>
<td>*534 in new CHHA</td>
<td></td>
</tr>
<tr>
<td>Evacuation Level</td>
<td>SRHES OPERATIONAL TARGET @ 20 sq. ft./person</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>A</td>
<td>18,246</td>
</tr>
<tr>
<td>B</td>
<td>20,844</td>
</tr>
<tr>
<td>C</td>
<td>28,577</td>
</tr>
<tr>
<td>D</td>
<td>35,611</td>
</tr>
<tr>
<td>E</td>
<td>43,827</td>
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</tbody>
</table>

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.