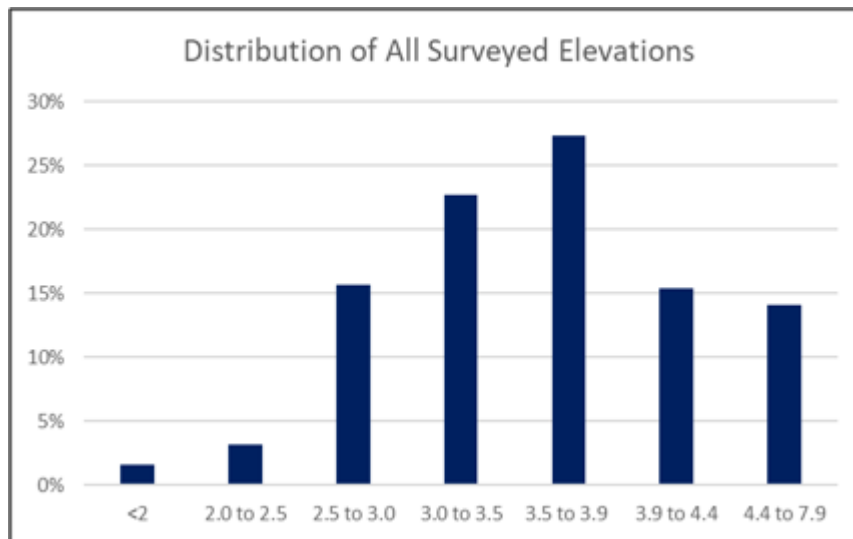


SEAWALL VULNERABILITY STUDY

Study Goals and Objectives

- Intracoastal Waterway (ICW) Water Level and Infrastructure Vulnerability Study completed October 2018
- Presented findings to commission February 2019
- Study
 - Area
 - 1 Mile of Public Seawalls & 20 Miles of Private Seawalls
 - Assessed vulnerability to future seasonal flooding along ICW
 - Water level prediction & current conditions of seawalls
 - Identified options to protect infrastructure and citizen's property
 - Compared current conditions against water level predictions

Seawall Findings and Recommendations



	Good	Satisfactory	Fair	Poor	Serious	Critical
Public	1	16	9	3	0	0
Private	48	170	450	152	41	7
Total %	4%	19%	53%	18%	5%	1%

Implementation Strategies

- Public
50% of seawalls either already raised or under way
Remainder will be planned in future projects
- Private Implementation Strategies
Ordinances to Protect City and Residents from Projected Sea Level Rise:
 1. Public/Private Partnership – Uses Existing Code of Ordinance
 2. Ordinance with Minimum Elevation and Timeline Requirement
 3. Ordinance with Elevation Requirement only
 4. City Implementation – Assess Significant Fees, Take Ownership

Public/Private Partnership Option

Responsibility to maintain, raise, repair and replace private seawalls remains with private owners, enforced through existing City Code of Ordinances.

- Section 100.04 Seawalls
- “Construction of a seawall or repair or maintenance of an existing seawall shall be deemed necessary when the lack of seawall...causes a situation that threatens or endangers the public health, safety and welfare...”
- Seawalls that cause flooding during elevated tidal waters could be in violation

PROS	CONS
Ease of implementation	Timeline to improve resiliency is indefinite
	Burden on Code Enforcement & City Attorney's Office
	Implementation difficult for properties with no seawalls

Ordinance with Elevation and Timeline Requirements Options

City enacts ordinance requiring seawall elevation standards be implemented on a timeline to ensure Citywide goals are met.

PROS	CONS
City determines when seawall will be raised, therefore, improvements in resiliency are time certain	Residents with low seawall elevations could be required to act years before their seawall needs repair or replacement
	Some residents may not choose to do repairs or may not be able to afford the seawall improvements within the timeframe
	Burden on Code Enforcement & City Attorney's Office

Ordinance and Elevation Requirements Option

City adopts seawall elevation standards that all new seawalls and seawall repairs would be required to meet.

- No timeline, private owner determines when to perform improvements
- Only triggered when private resident submits permit application for seawall improvement, or when improvements to upland property exceed 50% of the existing value
- Citation if tidal waters are entering property and impacting other properties or public right-of-way

PROS	CONS
City determines seawall elevation	Timeline to improve resiliency is indefinite
Resiliency improvements are triggered by resident's actions	

City Implementation of Seawall Improvement Option

City assumes maintenance responsibilities of both public and private seawalls through the creation of a special assessment district. Funded by public funds collected as annual assessments from affected residents.

PROS	CONS
City will control seawall elevation and standards	Coordination of the removal and replacement of private docks that are on public seawalls may be difficult
Residents may experience homeowner's insurance decrease due to City ownership	City staffing will increase to manage construction and maintenance program
City may receive economy of scale for construction activities	City liability exposure increases with City ownership
Seawalls will be maintained on a regular schedule	Resident's will lose the ability to choose aesthetics of seawall construction
	To keep program costs and assessments low, resiliency improvements may be stretched out over a longer term

Other Municipal Implementations

- Ordinance with Elevation Requirements – included language putting a timeline on repairs once a property is cited
- City of Miami Beach - Elevation guidelines of 5.7 ft NAVD
Interim elevation of 4.0 ft NAVD where raising the seawall would cause negative consequences to private views for low lying homes
- City of Fort Lauderdale - Elevation guidelines of 3.9 ft NAVD
Ordinance contains two provisions under which a property owner may receive a code violation
 - Failing to maintain a seawall in good repair
 - Requiring owners to prevent tidal water entering their property from impacting other properties or the public right-of-way
- City Implementation
City of Punta Gorda
City assumes maintenance responsibilities for all seawalls
Developed a Municipal Service Taxing Unit (MSTU)

Staff Recommendation

- Ordinance with Elevation Requirements
Elevation guidelines of 4.2 ft NAVD
Ordinance similar to Fort Lauderdale
- Ordinance contains two provisions under which a property owner may receive a code violation
 - Failing to maintain a seawall in good repair
 - Prevent tidal water entering on their property from impacting other properties or the public right-of-way
- If cited, the property owner has 60 days to demonstrate progress toward making a repair and 365 days to fully remedy the situation
- The ordinance also states that if there is any required seawall repair that meets the substantial repair threshold, it must be constructed to meet the minimum elevation requirements