



# Coastal Protection Act Update on Regulations

PRESENTATION TO THE MUNICIPAL DEVELOPMENT OFFICERS ASSOCIATION OF NOVA SCOTIA

NOVA SCOTIA ENVIRONMENT AND CLIMATE CHANGE

MAY 11<sup>TH</sup>, 2022

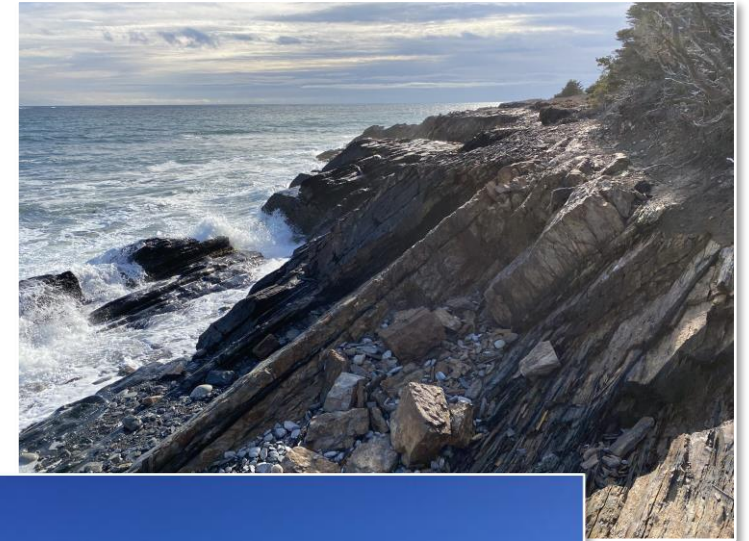
**For discussion only. All proposed provisions subject to change.**

## Today's Presentation

- ▶ About the Coastal Protection Act
- ▶ Public Consultation Highlights
- ▶ Update on Current Work
- ▶ Discussion

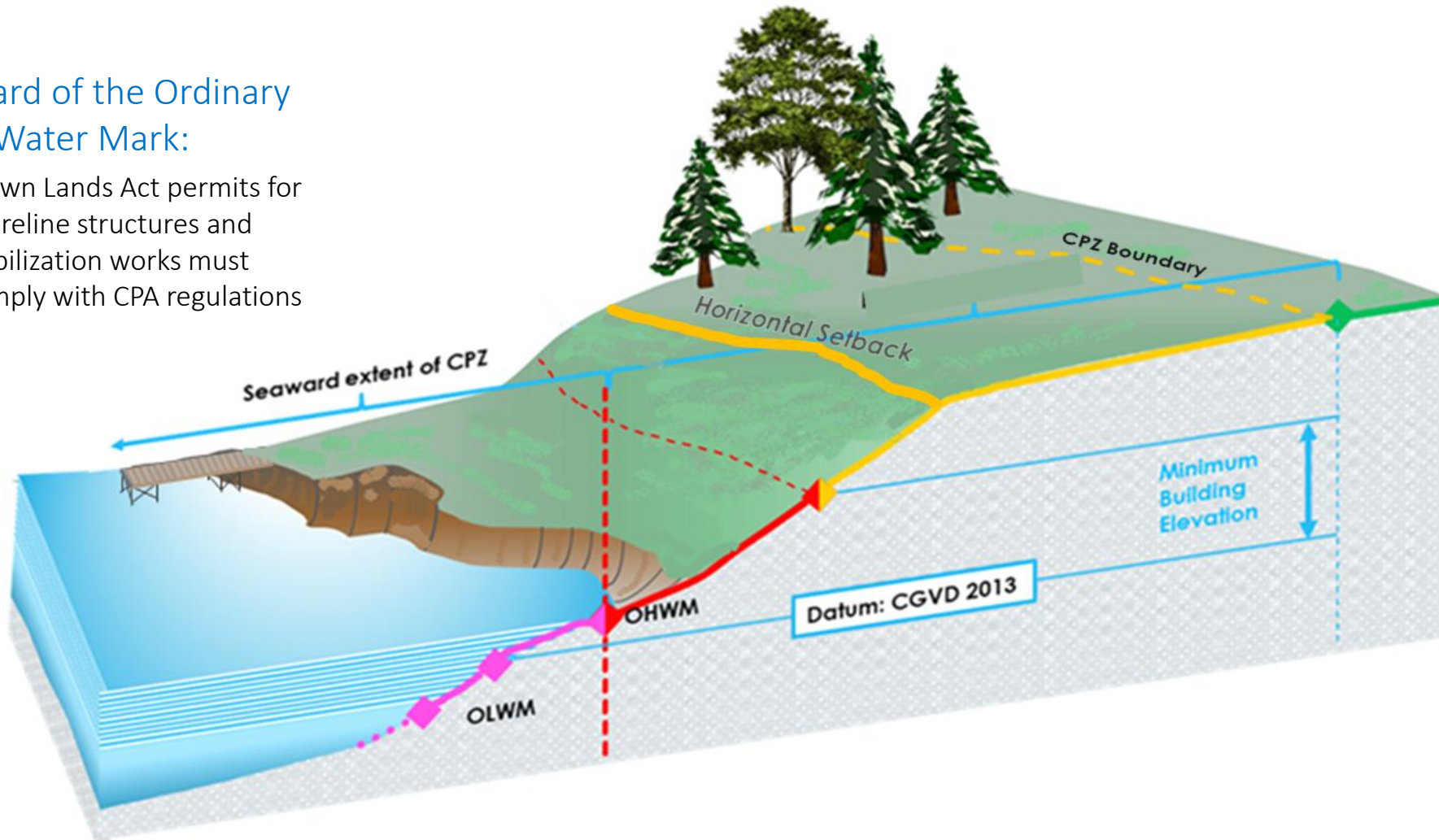
## Bill 106 - The Coastal Protection Act

- ▶ The Coastal Protection Act was passed in 2019 to prevent or restrict development and related activity in places where it will:
  - ▶ Damage sensitive coastal ecosystems.
  - ▶ Put property at risk from coastal flooding and erosion.
- ▶ The Act will come into effect once regulations are approved.



## Seaward of the Ordinary High-Water Mark:

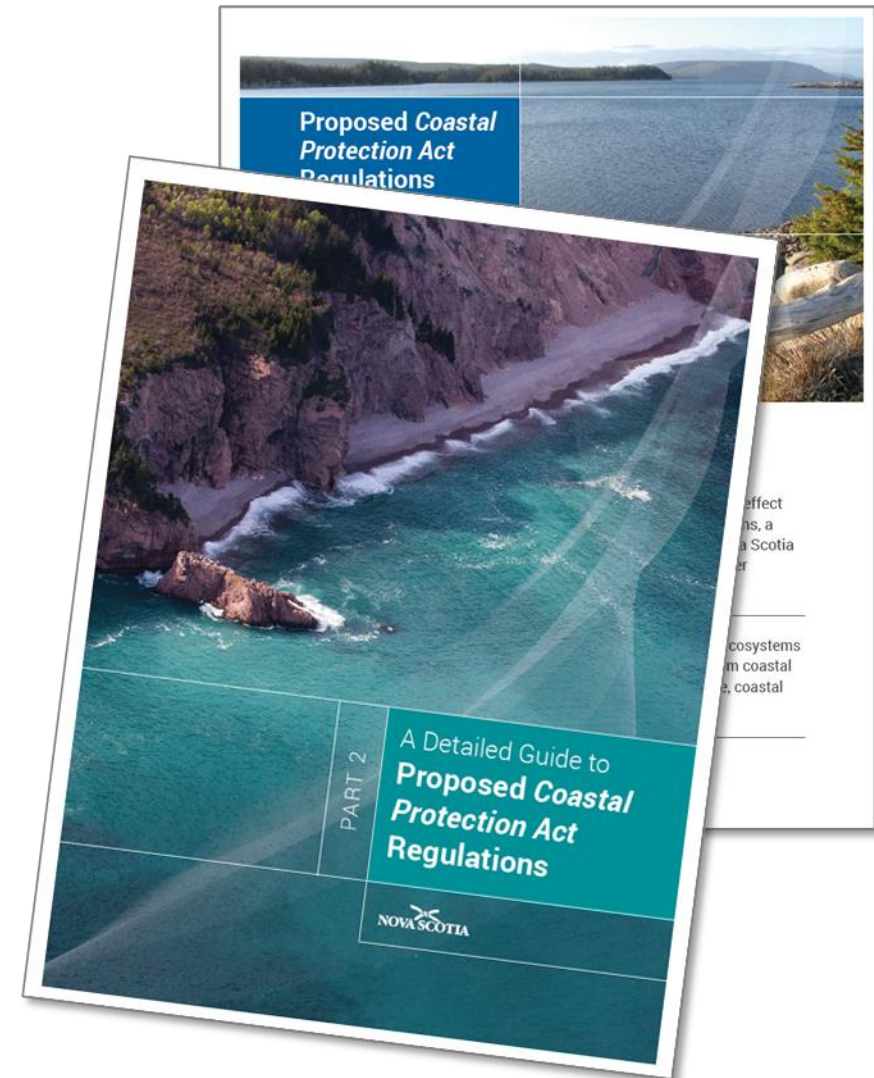
- ▶ Crown Lands Act permits for shoreline structures and stabilization works must comply with CPA regulations



## Upland of the Ordinary High-Water Mark:

- ▶ CPA applies to municipal building and development permits.
- ▶ New structures or existing structures being expanded must be:
  - ▶ Above the Minimum Building Elevation.
  - ▶ Upland of site-specific setback determined by a designated professional.

- ▶ The recent consultations focused on the proposed content of the regulations and were held from July 17th to September 30th, 2021:
  - ▶ Online documents for general public and sector organizations.
  - ▶ Terms of reference consultation with the Mi'kmaq.
  - ▶ Live sessions with municipalities and professional groups.
- ▶ Previously, consultation in 2018 informed the development of legislation.



# What we Heard – Highlights

- ▶ Most respondents recognize that climate change and development in vulnerable areas of our coast pose significant challenges for Nova Scotia.
- ▶ There is a diverse range of short and long-term interests in our coast, and opinions differ significantly according to individual and institutional perspectives.
- ▶ Some feel the Coastal Protection Act needs to go further in terms of protecting ecosystems and feel there are too many exemptions for certain types of construction or structures in coastal areas.
- ▶ Many municipalities are concerned about their capacity to implement the act as it pertains to building permits and/or feel the Province should implement the Act directly through its own permitting system, rather than integrate with municipal building permit processes.
- ▶ Other municipal respondents agree with the idea of the act in principle but have questions about the details and want the Province to ensure the level of support from the Province is sufficient.
- ▶ Many are concerned about how the timing of the Act may impact development plans that are already in motion.

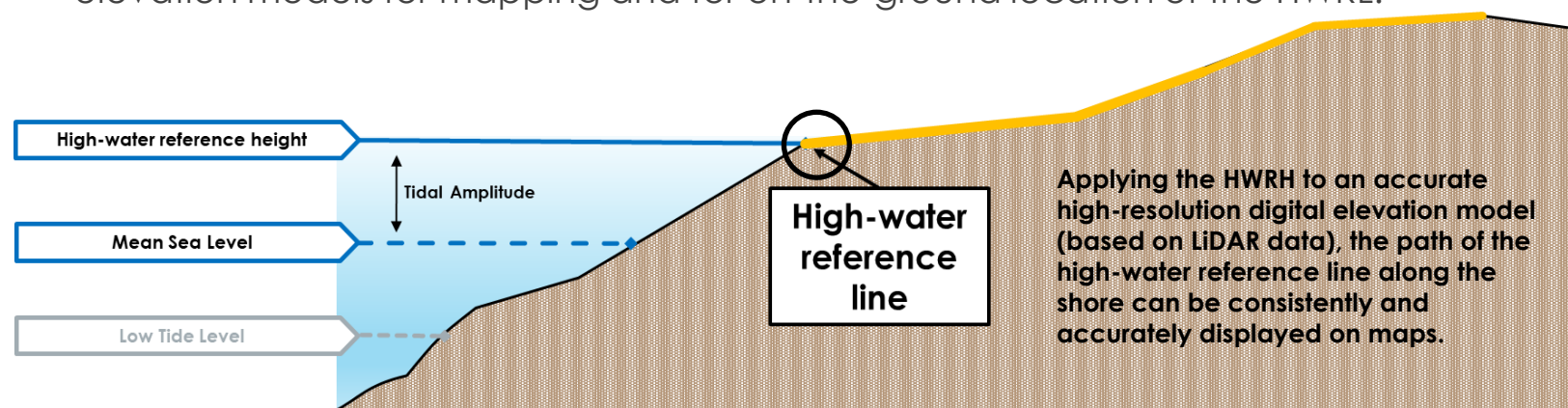


- ▶ High-water reference line
- ▶ Coastal Protection Zone sub-zones
- ▶ Time-limited reductions in horizontal setbacks in early years of the Act
- ▶ Integration with municipal permits
- ▶ Developed waterfront areas
- ▶ Minimum Building Elevations
- ▶ Improvements to CERFA tool
- ▶ Web-based map resources



# High-Water Reference Line

- ▶ As proposed, *Schedule A* in the CPA regulations will prescribe a *specific high-water reference height* (HWRH) representing a tidal amplitude for each of 82 sections of coast.
- ▶ The CPA's *high-water reference line* (HWRL) is the path along which the HWRH intersects the incline of the seashore.
- ▶ The HWRH is based on DFO projections of *higher-high water large tide* (HHWLT), a 19-year average of each year's highest tides. The current data is based on a 2015 data set.
- ▶ Using a prescribed height for determining the high-water reference line results in a consistent tidal amplitude to be used in conjunction with LiDAR based digital elevation models for mapping and for on-the-ground location of the HWRL.



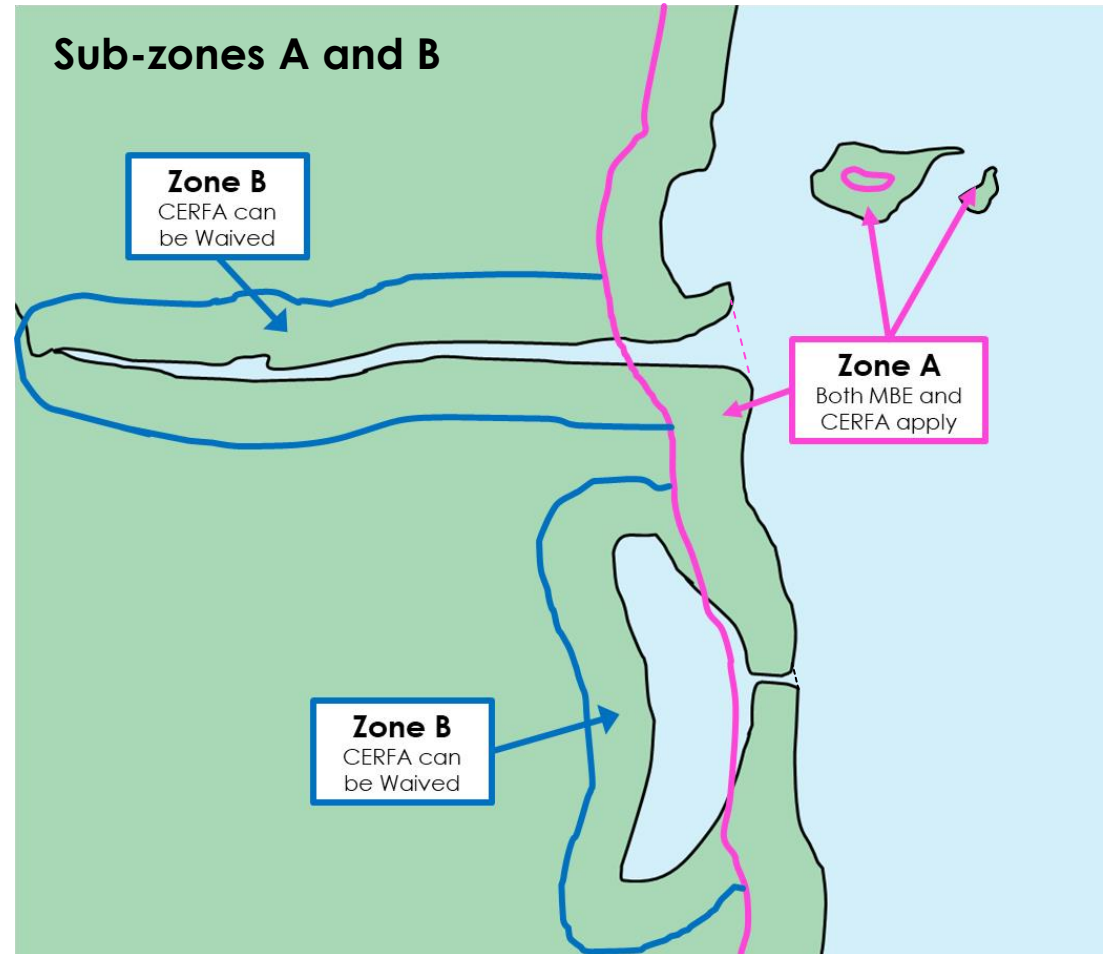
Creating a HWRH for the CPA regulations could provide a repeatable, accurate means for locating CPZ reference lines on the ground using GPS equipment and Nova Scotia's network of active control stations.



# Coastal Protection Zone Sub-zones A and B

## Aligning building restrictions and risk levels

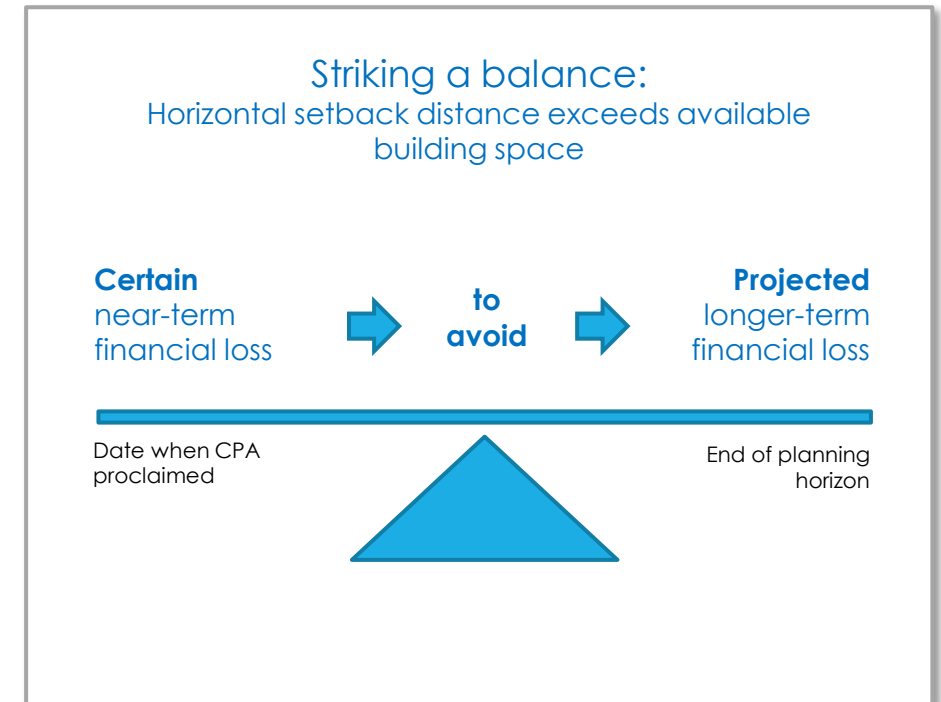
- ▶ Default CPZ upland boundary will be a single fixed distance (TBD: range under consideration is 80 – 100 meters) from the nearest point on the high-water reference line (HWRL) WRL
- ▶ Other delineation rules apply to water control structures, large estuaries and barrier beaches.
- ▶ Dividing CPZ into sub-zones A and B would allow for different risk levels
- ▶ Proposed that municipalities can waive the CERFA for sheltered areas in zone B
- ▶ Minimum building elevation applies throughout.





## Time-limited horizontal setback reductions

- ▶ In many cases, lots may be rendered undevelopable because of the horizontal setback determined by DP exceeds the available building space.
- ▶ Undevelopable land represents a stranded asset for landowners; potentially a significant short-term financial consequence of any new building setback.
- ▶ This short-term loss can be weighed against a less certain loss in the future.
- ▶ Time-limited reductions in the horizontal setback are proposed only for first few years following the Act's proclamation and only for low to medium risk scenarios where a certain short-term loss is difficult to justified against a more distance *potential* loss.
- ▶ No reduction in minimum building elevation restrictions are recommended because of the potential for unexpectedly intense weather events and storm surges which could threaten to public safety.



# Time-limited horizontal setback reductions

## Time-limited reductions in the site-specific horizontal setback for lower erosion risk scenarios:

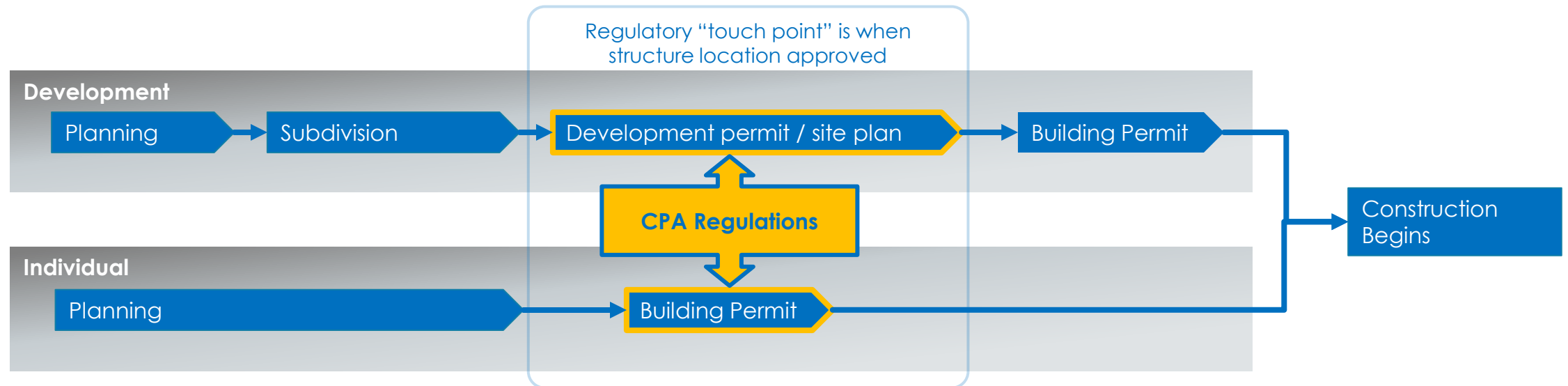
- ▶ Applicable only in the early years of the Act for lots that would otherwise be rendered undevelopable because of horizontal setback.
- ▶ No reduction proposed for:
  - ▶ high-risk scenarios (high erosion risk combined with a shallow lot).
  - ▶ lots on which there is already room to build with an unreduced CERFA setback.
  - ▶ lots that were subdivided after the Act came into effect.

Proposed format for Time-limited Setback Reduction Schedule					
<i>Draft – All values subject to change.</i>					
Erosion risk level based on site-specific horizontal Setback from CERFA	Building Space Available (Distance in meters between HWRL and furthest upland property boundary)				
	< 20	20 - 40	40 – 100	> 100 - 110	> 110
Extreme Erosion Risk	<b>No Reduction</b>	<b>No Reduction</b>	<b>No Reduction</b>	Reduced Setback Possible	<b>No Reduction</b>
High Erosion Risk	<b>No Reduction</b>	<b>No Reduction</b>	Reduced Setback Possible	<b>No Reduction</b>	<b>No Reduction</b>
Medium Erosion Risk	<b>No Reduction</b>	Reduced Setback Possible	Reduced Setback Possible	<b>No Reduction</b>	<b>No Reduction</b>
Low Erosion Risk	<b>No Reduction</b>	Reduced Setback Possible	<b>No Reduction</b>	<b>No Reduction</b>	<b>No Reduction</b>

# Integration with Municipal Permits

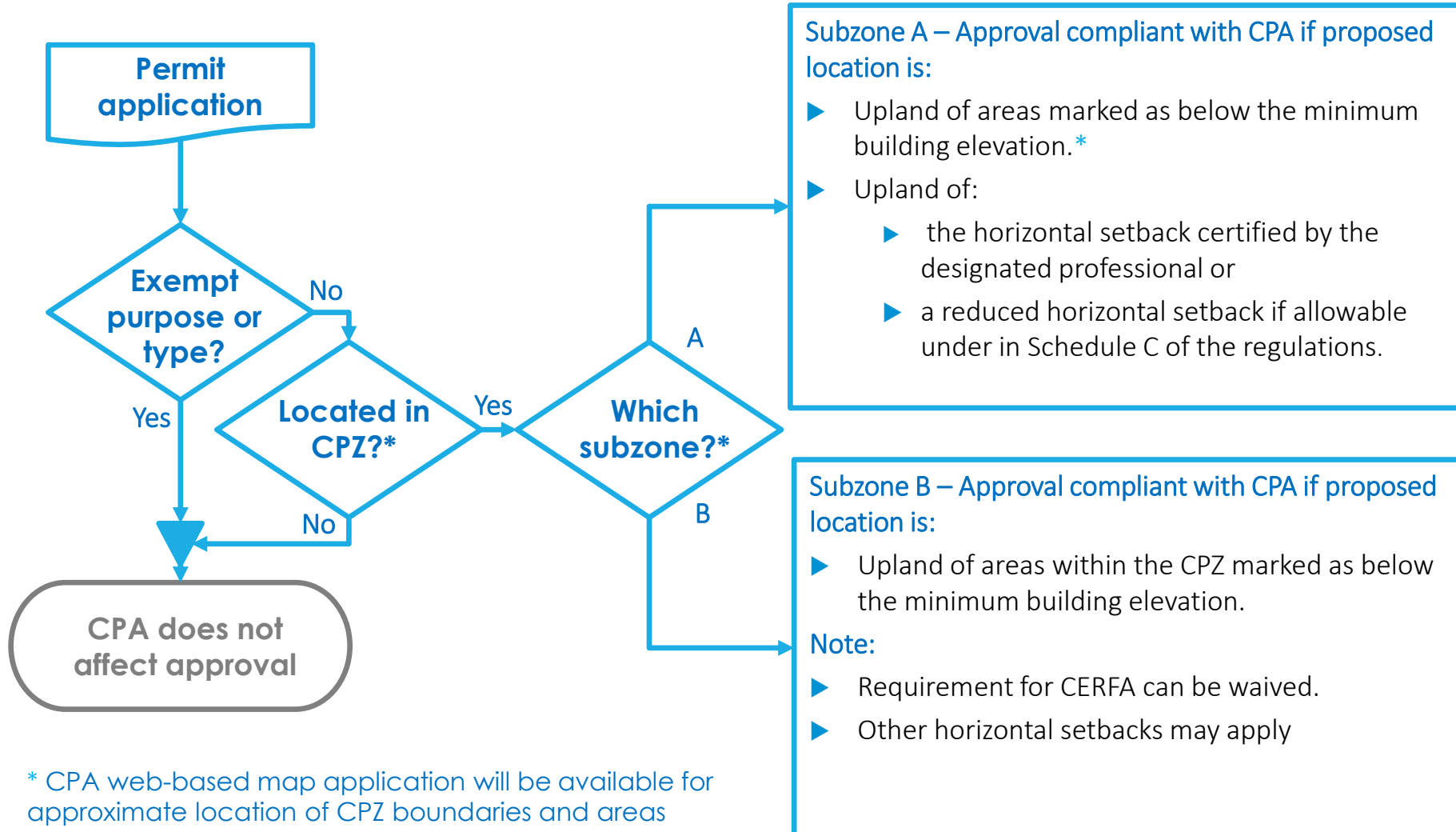
## Refining CPA regulatory touch points

- ▶ The CPA intersects with municipal permits when a permit application is approved or an extension to an existing permit is being approved.
- ▶ The proposed regulations are structured to apply to development permits or building permits (and/or agreements), whichever results in an approval of the location of construction first. In some cases, the CPA could impact occupancy permits.
- ▶ This means a developer may need to have a CERFA completed for one or more parts of a development prior to receiving an approval from a municipality for a site plan that forms part of a development agreement.
- ▶ There does not appear to be a practical *regulatory* touch point that intersects with subdivision regulations. Building awareness of the CPA will be critical to avoiding costly planning processes for land that cannot be developed in the manner anticipated by the owner.



# Integration with Municipal Permits

Possible process flow



\* CPA web-based map application will be available for approximate location of CPZ boundaries and areas below the minimum building elevation

## Compliance:

- ▶ Many municipalities already have minimum setbacks in some form
- ▶ Includes minimum yard sizes and setbacks from adjacent buildings
- ▶ Inspection and compliance with CPA setbacks become integrated in with municipalities' other building inspection / compliance processes.

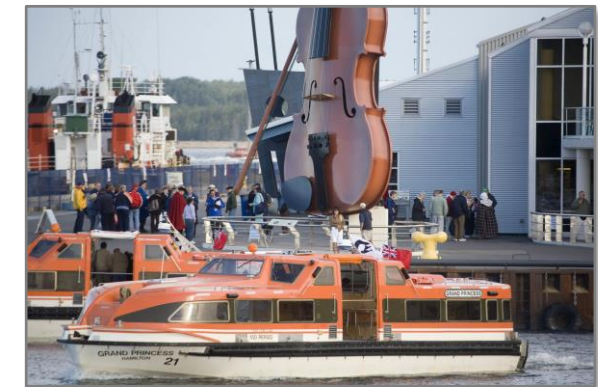
# Developed Waterfronts Areas

Ministerial exemptions may be the best process for modifying rules in existing developed water fronts.

- ▶ Consultation documents proposed modified rules for existing developed waterfront areas.
- ▶ Section 28 of the Act gives Governor in Council regulation-making authority for setting conditions under which the Minister may grant exemptions.

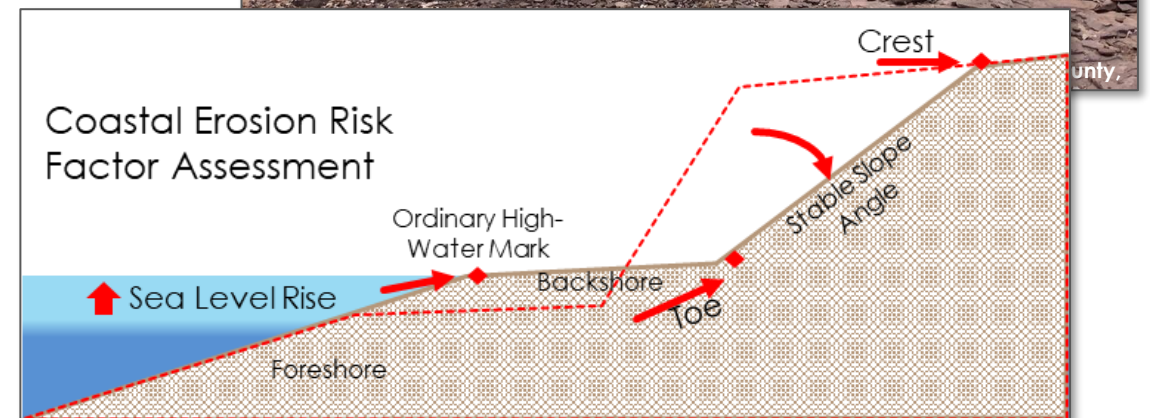
*(e) authorizing the Minister to grant exemptions for areas of land, structures or activities and setting out the criteria under which such exemptions may be granted;*

- ▶ Proposed: Regulations allow municipalities to request a ministerial exemption to waive some requirements of the CPA through a process prescribed in the regulations:
  - ▶ Municipalities could waive site-specific horizontal setback for mixed-use structures in an existing downtown waterfront area based on a request to the minister.
  - ▶ The minimum building elevation only applies to living space.
  - ▶ Appropriate criteria will apply.
  - ▶ Does not apply to single unit homes.
  - ▶ The originally proposed maximum 75-meter may need adjustment.



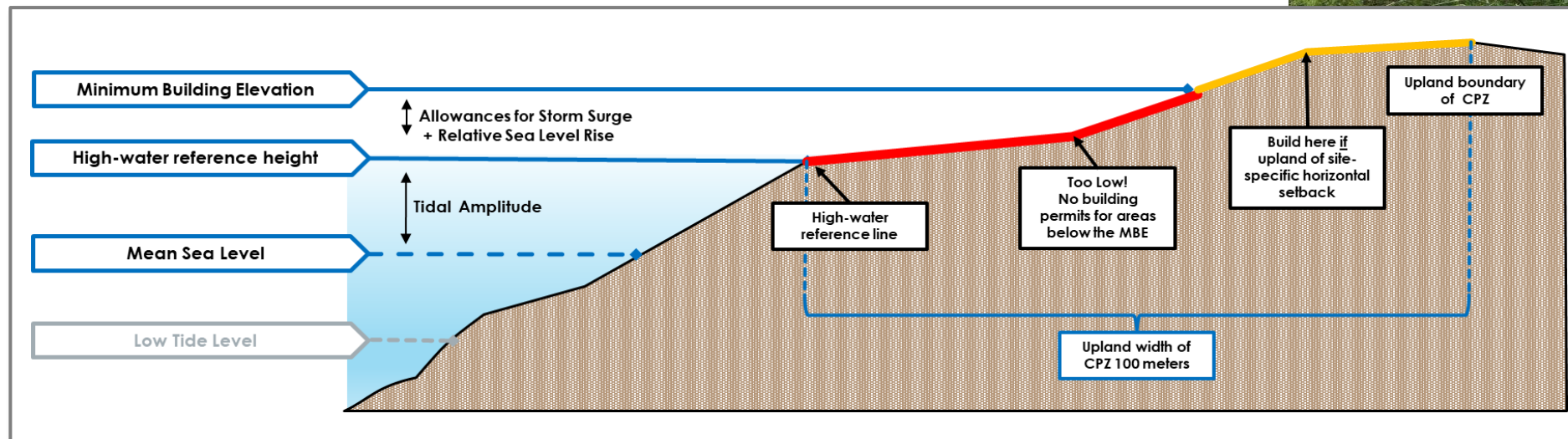
# Modifications to the Coastal Erosion Risk Factor Assessment (CERFA) Tool

- ▶ The CERFA tool's site-specific horizontal setbacks are based on the combination and severity of coastal erosion risk factors.
- ▶ Shoreline cross-section is an important CERFA input used to determine the allowance for a stable angle of slope component of the overall setback.
- ▶ Original version captured shoreline cross section as a series of angles and distances.
- ▶ Next iteration of CERFA tool will accept precise GPS data to reduce the potential for a compounding series of errors from inaccurate angle and distance measurements.
- ▶ Combined with using the high-water reference line (instead of the OHWM) we can expect improvements expected in overall accuracy and repeatability of results.



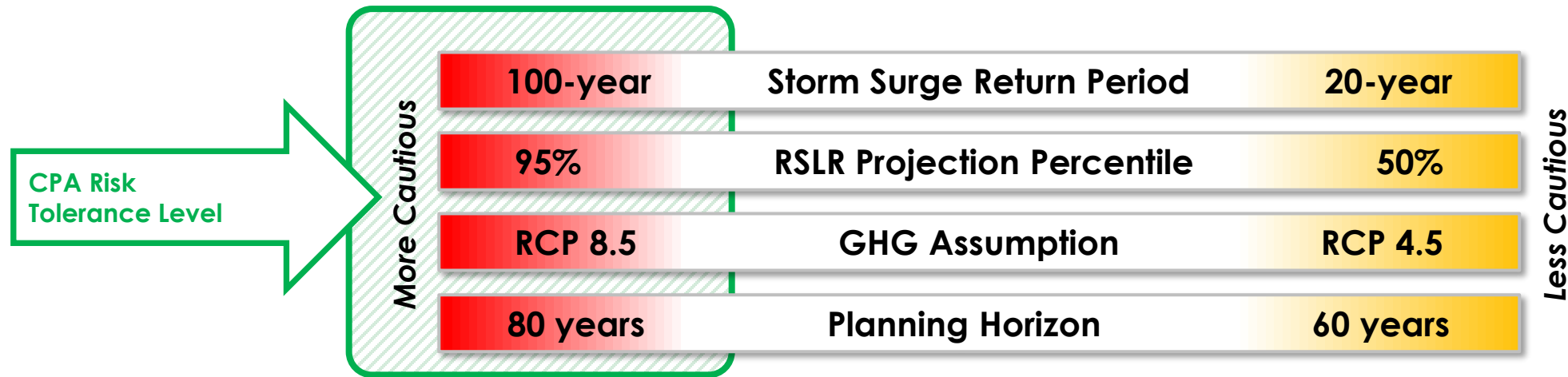
# Minimum Building Elevations (MBEs)

- ▶ MBEs comprise the CPA's province-wide system of vertical setbacks.
- ▶ MBEs are the main risk avoidance strategy against sea level rise and storm surge.
- ▶ MBEs for each of 82 sections of coastline will be set out in Schedule A of the regulations.
- ▶ MBEs will be expressed as a height above mean sea level to the nearest 20 cm.
- ▶ MBEs vary significantly around the province due to large variations in tidal amplitude and smaller variations in relative sea level rise projections and storm surge projections.



# Minimum Building Elevations

## Data Sources and Risk Tolerance Level



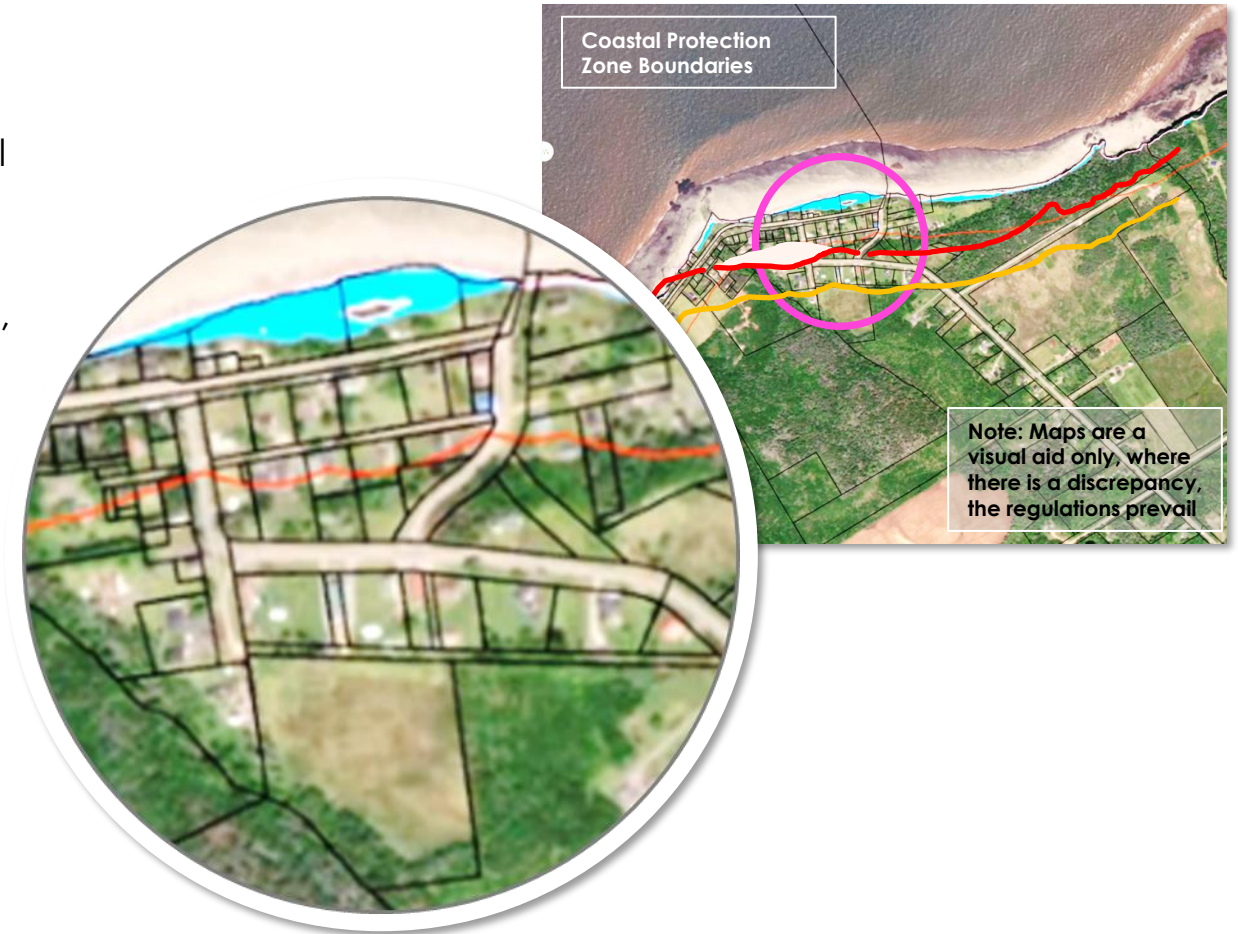
Parameter:	Data Source
Mean sea level	Datum used is Canadian Geodetic Vertical Datum 2013 (CGVD2013)
High-water reference height	Based on DFO HyVSEPS modeled Higher High Water Large tide released 2015 rounded to nearest 20 cm
High-water reference line (HWRL)	Proxy coastline - Where the High Water Reference Height (HWRH) meets incline of the seashore
Allowance for relative sea level rise	ECC adapted from NRCan 2021 95 <sup>th</sup> percentile projection for year 2100 includes global sea level rise + vertical land motion. Allowance is based on an 80-year planning horizon.
Allowance for storm surge	ECC adapted from Bernier et al 2013 rounded to nearest 20 cm.
Minimum building elevation	ECC calculated: high water reference height + allowance for RSLR + allowance for storm surge, rounded to nearest 20 cm.



# Web-Based Mapping Application

Easily accessible mapping applications will be essential for implementing the CPA.

- ▶ Maps are a visual aid only. Where there is a discrepancy, the regulations will prevail. Application will require acknowledgement of legal caveats and disclaimers.
- ▶ Key audiences will be general public municipal officials, designated professionals and industrial / service sectors involved in property transactions and construction.
- ▶ Currently engaged with GeoNOVA to create adapted version of the Nova Scotia Civic Address Finder as a platform for displaying:
  - ▶ High-water reference line
  - ▶ Upland boundaries of CPZ, including sub-zones A&B
  - ▶ Areas below minimum building elevation (MBE)
  - ▶ Other information: coastal section number, and numeric values for high-water reference height (HWRH), allowance for relative sea level rise and MBE.





Thank You!

**For More Information visit:**

[novascotia.ca/coast](https://novascotia.ca/coast)

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