



## DISTRICT OF NORTH SAANICH

### BYLAW NO. 1439

#### A BYLAW TO MITIGATE COASTAL FLOODING HAZARDS

##### WHEREAS:

- A. If a flood plain has been designated in a District bylaw, the *Local Government Act* requires that the underside of any floor system or the top of any pad supporting any habitable floor area be above the flood level specified in the bylaw, and that any landfill required to support a floor system or pad not extend within any applicable setback specified in the bylaw; and
- B. Parcels of land in the District that abut the sea are subject to the coastal flooding hazard, exacerbated by sea level rise, indicated generally on the Flood Hazard Key Map and Flood Hazard Maps 1 through 10 attached to and forming part of this Bylaw; and
- C. The Council has considered Sections 3.5 and 3.6 of the Province of British Columbia Flood Hazard Area Land Use Management Guidelines, as amended, which deal with coastal flooding and sea level rise; and
- D. *The Local Government Act* authorizes the Council to approve an exemption to the building requirements in the *Act* on the application of an owner, if the exemption is consistent with provincial guidelines published under the *Environmental Management Act* or an engineer or geoscientist experienced in geotechnical engineering certifies that the owner's land may be safely used for the intended use, despite the flooding hazard.

**THE MUNICIPAL COUNCIL** of the District of North Saanich, in open meeting assembled, enacts as follows pursuant to s. 524 of the *Local Government Act*:

##### APPLICATION

- 1. This Bylaw does not apply to any construction if the scope of work authorized by the building permit is limited to an addition of habitable floor area to an existing building that does not comply with s. 524(6) of the *Local Government Act* and this Bylaw, provided that:
  - a. the addition comprises not more than 25% of the total floor area of the existing building, calculated in accordance with the Zoning Bylaw, considered either independently or in combination with any other floor area added to the building after the date of first reading of this Bylaw;

- b. no additional habitable floor area is constructed below the lowest elevation of existing habitable floor area in the building; and
- c. no portion of any additional building area is nearer to the natural boundary of the sea than any portion of the existing building.

### **FLOOD CONSTRUCTION LEVEL AND SETBACK**

- 2. For the purposes of Sections 2 and 4, a parcel is deemed to abut the natural boundary of the sea if its location is such that any portion of the parcel would be inundated to any degree by a coastal flood that reaches the flood construction level indicated in respect of the parcel on Map 11 or Map 12 attached to and forming part of this Bylaw, as applicable to the parcel according to Section 6.
- 3. The flood level specified for the flood plain for any particular parcel of land, for the purposes of s. 524(6)(a) of the *Local Government Act*, is the level specified in respect of the relevant reach of the sea on Map 11 or Map 12 that the parcel abuts, depending on the type of building permit application that has been made for the parcel, and for that purpose the reach demarcation lines indicated on the map are determinative of the applicable flood level, despite any indication to the contrary on the map legend. If Map 11 or Map 12 specifies a flood level in respect of a portion of a parcel, the portion to which the flood level applies shall be located by scaling from the map.
- 4. If a parcel abuts, or is deemed to abut, 2 or more reaches of the sea indicated on Map 11 or Map 12, the applicable flood level is the highest level indicated in respect of any portion of the parcel.
- 5. For the purposes of this Bylaw:
  - a. Map 11 applies in respect of all buildings and structures for which a building permit is required under the Building Bylaw, other than buildings described in subsection (b); and
  - b. Map 12 applies in respect of the construction of new principal buildings as defined in the Zoning Bylaw, whether or not the principal building is replacing a principal building that existed on the date of first reading of this Bylaw.
- 6. The minimum horizontal setback from the natural boundary of the sea of any landfill required to achieve the building elevation required by Section 6 is 15.0 m.
- 7. If the location of the natural boundary of the sea in relation to any parcel is such that the setback rule in Section 7 does not permit the construction on the parcel of a building supported by landfill, the flood level may be achieved with another type of structural support provided that the structural support has been authorized by any

required development permit and complies with the District’s zoning bylaw, or the zoning bylaw as varied to permit the siting of the structural support.

## **INTERPRETATION**

8. Sketches in the Appendix to this Bylaw are intended to illustrate generally the application of the Bylaw and do not modify any regulation contained in the Bylaw.

9. In this Bylaw,

“Building Bylaw” means District of North Saanich Building and Plumbing Bylaw No. 1150, 2007 as amended or replaced from time to time.

“Building permit” means a building permit for which an application is made pursuant to the Building Bylaw.

“Habitable floor area” means any space or room, including a manufactured home, that is used for dwelling purposes, business or the storage of goods that are susceptible to damage by floodwater.

“Natural boundary of the sea” means the estimated natural boundary associated with the sea level rise scenario depicted on Map 11 or Map 12 that is applicable to the parcel according to Section 6, determined in accordance with the Flood Hazard Area Land Use Management Guidelines as published and amended from time to time by the Province of British Columbia.

“Zoning Bylaw” means District of North Saanich Zoning Bylaw No. 1255 as amended or replaced from time to time.

## **CITATION**

10. This Bylaw may be cited for all purposes as “North Saanich Coastal Flooding Mitigation Bylaw No. 1439 (2018)”.

READ A FIRST TIME the xxx day of xxx, 2018.

READ A SECOND TIME the xxx day of xxx, 2018.

READ A THIRD TIME the xxx day of xxx, 2018.

FINALLY PASSED AND ADOPTED the xxx day of xxx, 2018.

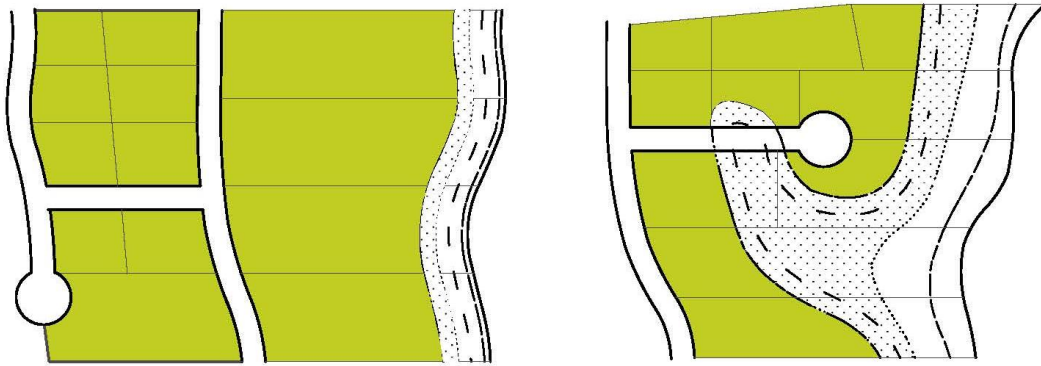
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MAYOR

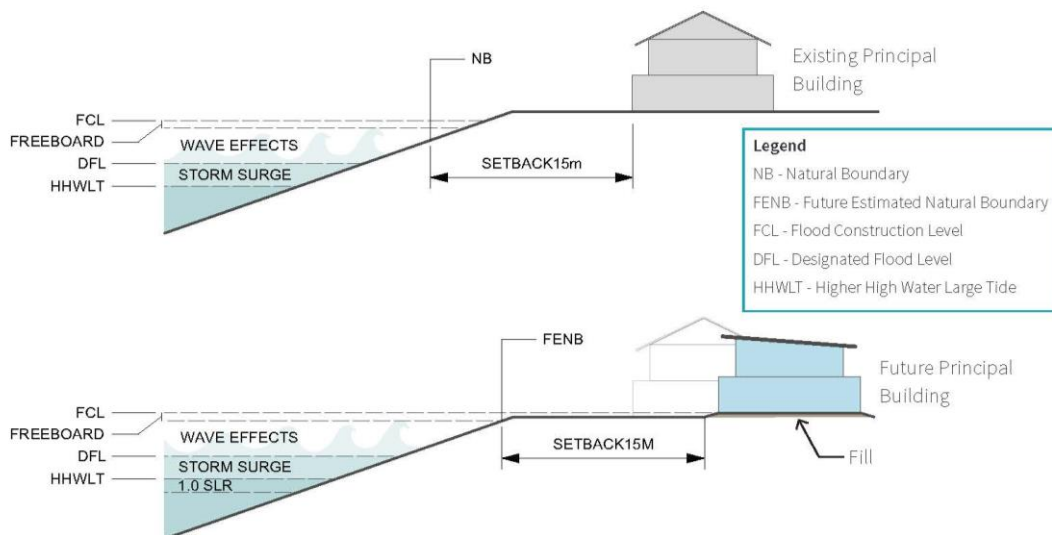
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CORPORATE OFFICER

## APPENDIX



- |  |   |
|--|---|
|  Accessory Building or Additions<br><25% of Principal Building Area |  New Principal Building Area |
|  Existing Natural Boundary  |  Lot Line                    |
|  FENB 0.5m SLR  |   |
|  FENB 1.0m SLR   |   |
|  15m Setback from FENB 0.5m SLR                                   |   |
|  15m Setback from FENB 1.0m SLR                                   |   |





## Glossary for Appendix

**Higher High Water Large Tide (HHWLT)** is an existing high water level that often occurs during ‘winter spring tides’. These tides happen several times a month, and are associated with the occurrence of a full moon or a new moon, approximately every two weeks.

**Storm Surge** occurs during a coastal storm as the result of the strong winds and low air pressure, which can bring the water above HHWLT or any other simultaneously occurring tide level.

**The Designated Flood Level (DFL)** is the anticipated still water level that considers both HHWLT and Storm Surge.

**Flood Construction Level (FCL)** is the required minimum elevation for the base of a floor structure for habitable floors or for the storage of valuable goods. FCL includes the Designated Flood Level, plus Wave Effects, and a Freeboard allowance.

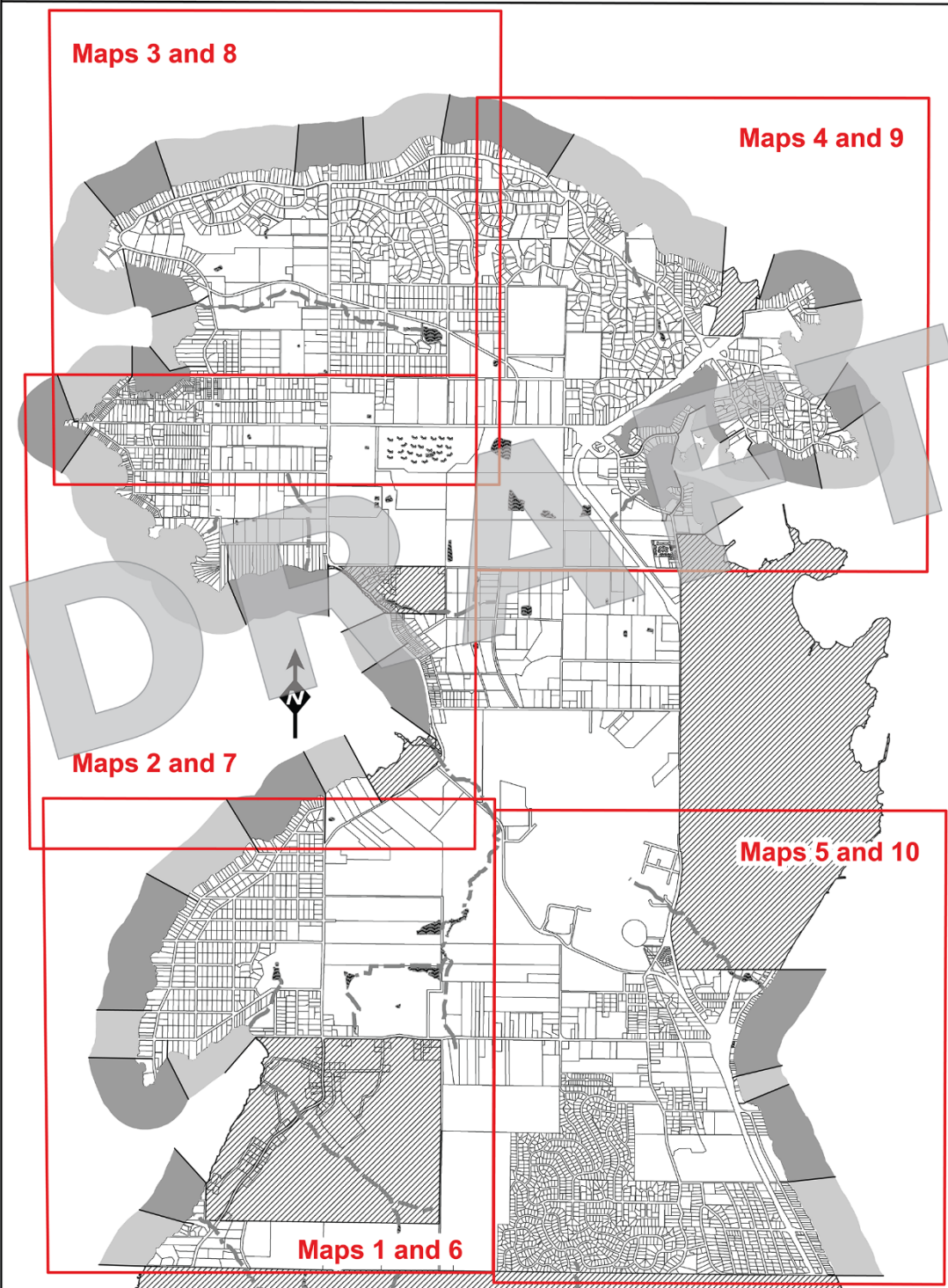
**Freeboard** is a vertical distance between the anticipated Wave Effects and the Flood Construction Level. It allows for unknowns including a more rapid SLR than anticipated, specific details of an individual land parcel and particulars of the waters immediately offshore of a property.

**Wave Effects** considers the actions and effects of waves along the shoreline that causes water to rise above the DFL. These effects vary considerably depending on the shoreline exposure, its character and the presence of coastal structures including seawalls or steep shorelines. These effects drive the spray and debris that may affect a building located close to the shoreline.

**Natural Boundary (NB)** defines the seaward boundary of a property where the prolonged presence of water creates a change in vegetation and the character of the land itself (see Land Title Act). The foreshore and water seaward of the Natural Boundary are Crown property.

**The Future Estimated Natural Boundary (FENB)** is the predicted location of the future Natural Boundary as the result of sea level rise. Setbacks for future new buildings should move inland with the Future Estimated Natural Boundary to preserve the protection that exists at the shoreline. Provincial guidelines suggest that calculation of the Future Estimated Natural Boundary can be based on the Flood Construction Level minus the Freeboard allowance.

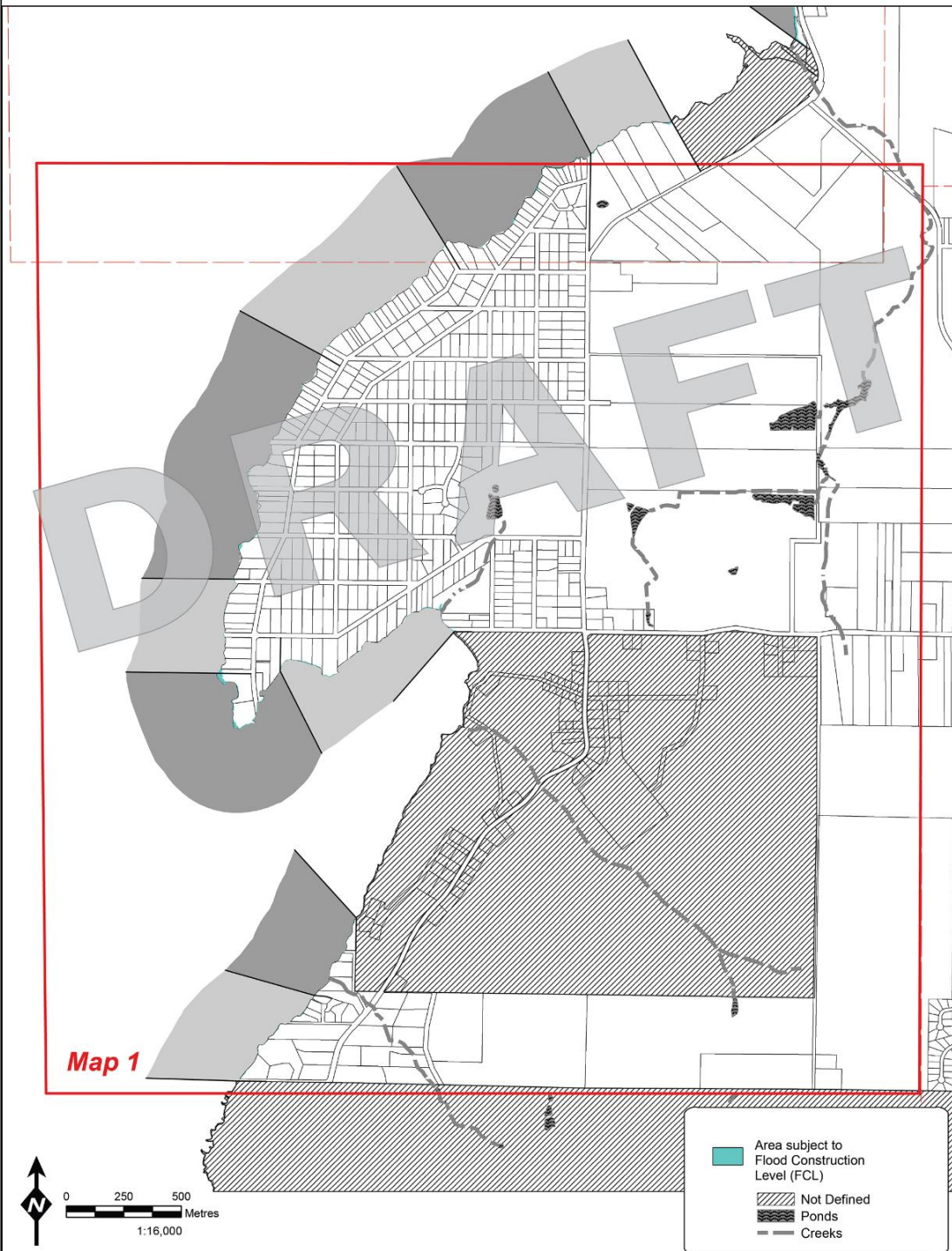
**Setback** is the required minimum horizontal distance between the Natural Boundary (or Future Estimated Natural Boundary) and any FCL-related structural fill that would be vulnerable to erosion if sited too close to the sea.



This Map provides the key to detailed mapping showing the extent of coastal flooding expected over existing ground in the District of North Saanich.

August 15, 2018

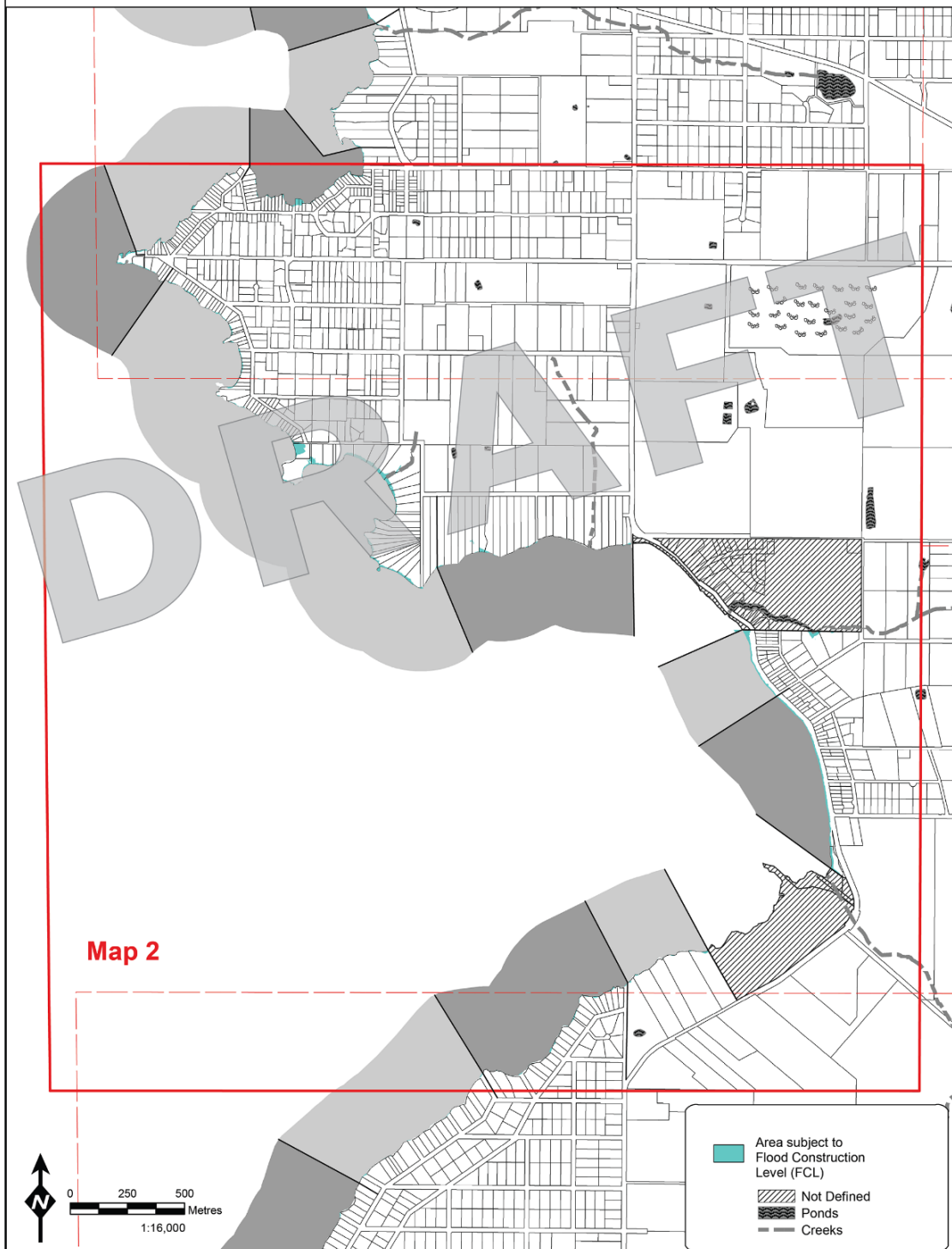
# Flood Hazard Map 1 0.5 m Sea Level Rise



This Map shows the extent of coastal flooding expected over existing ground in the District of North Saanich.

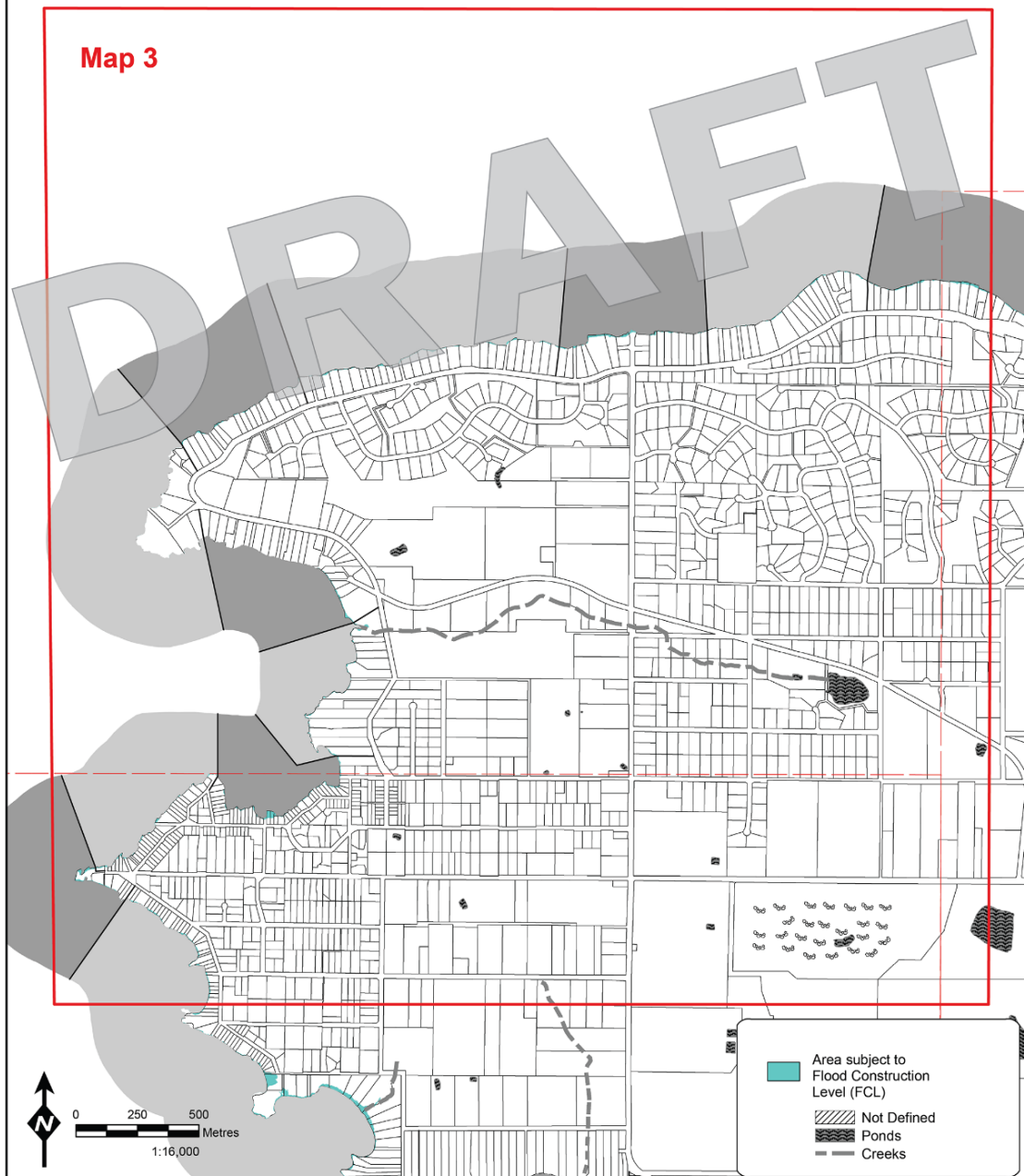
August 15, 2018





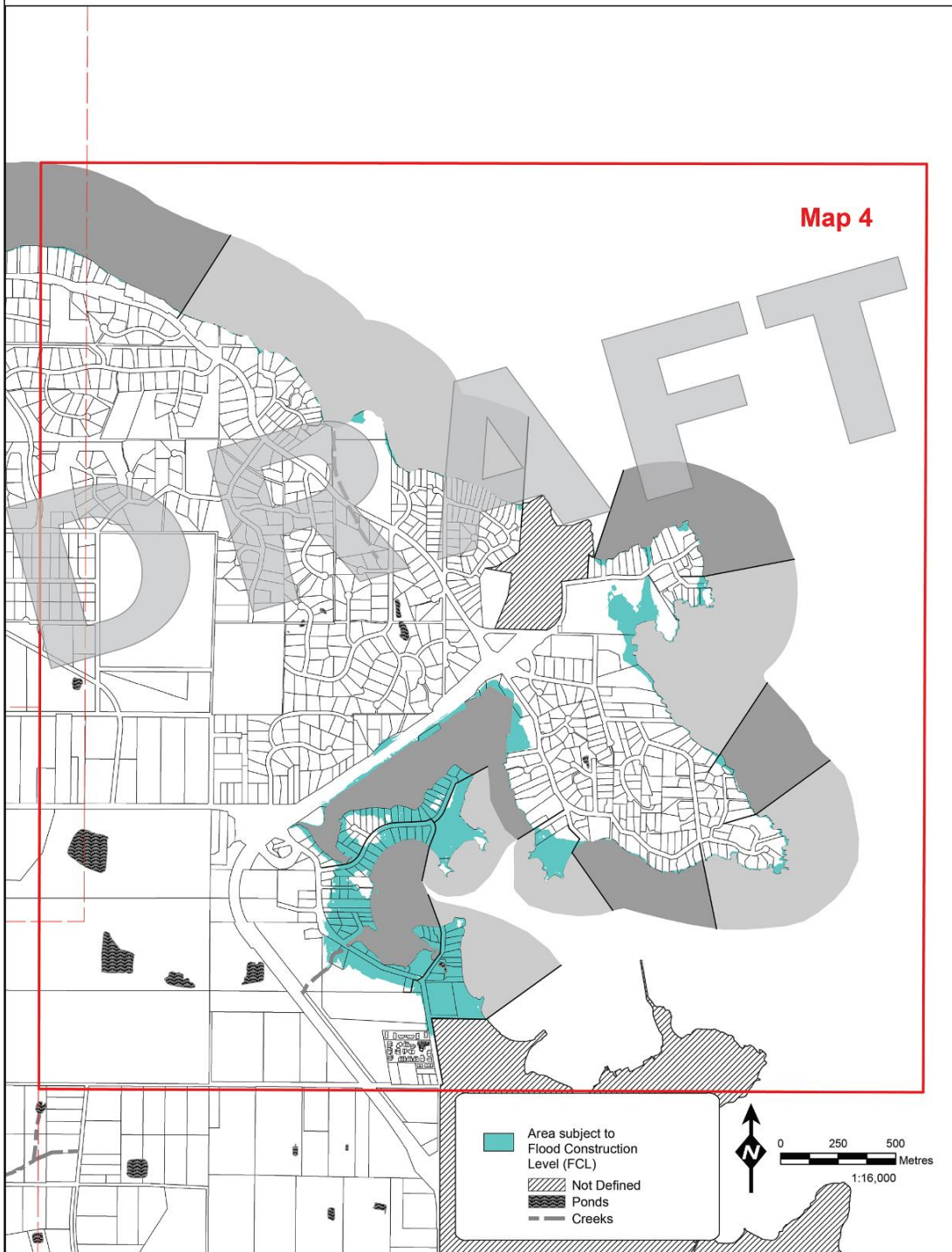
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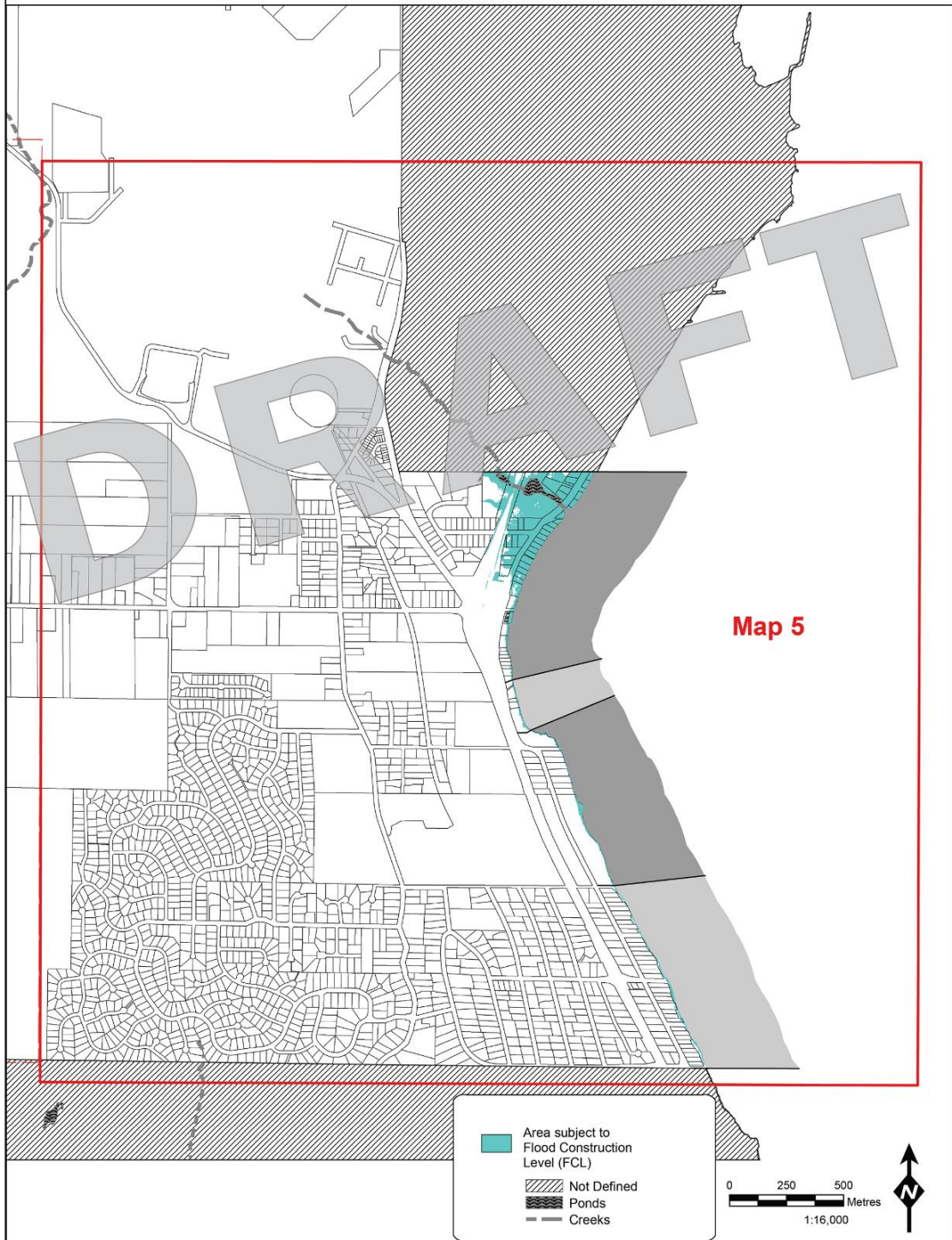
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August 15, 2018





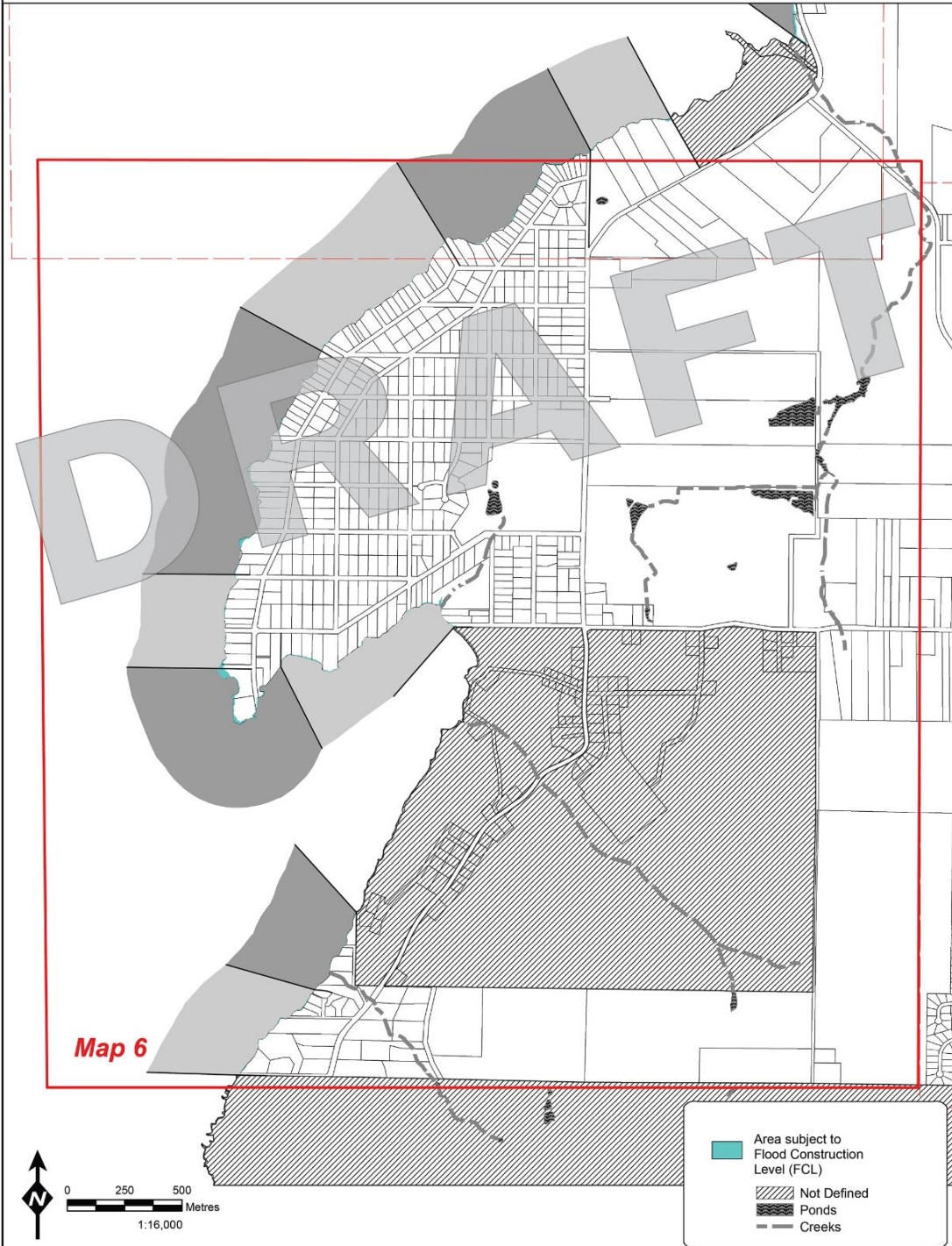
Flood Hazard  
Map 5  
0.5 m Sea Level Rise



This Map shows the extent of coastal flooding expected over existing ground in the District of North Saanich.

August 15, 2018

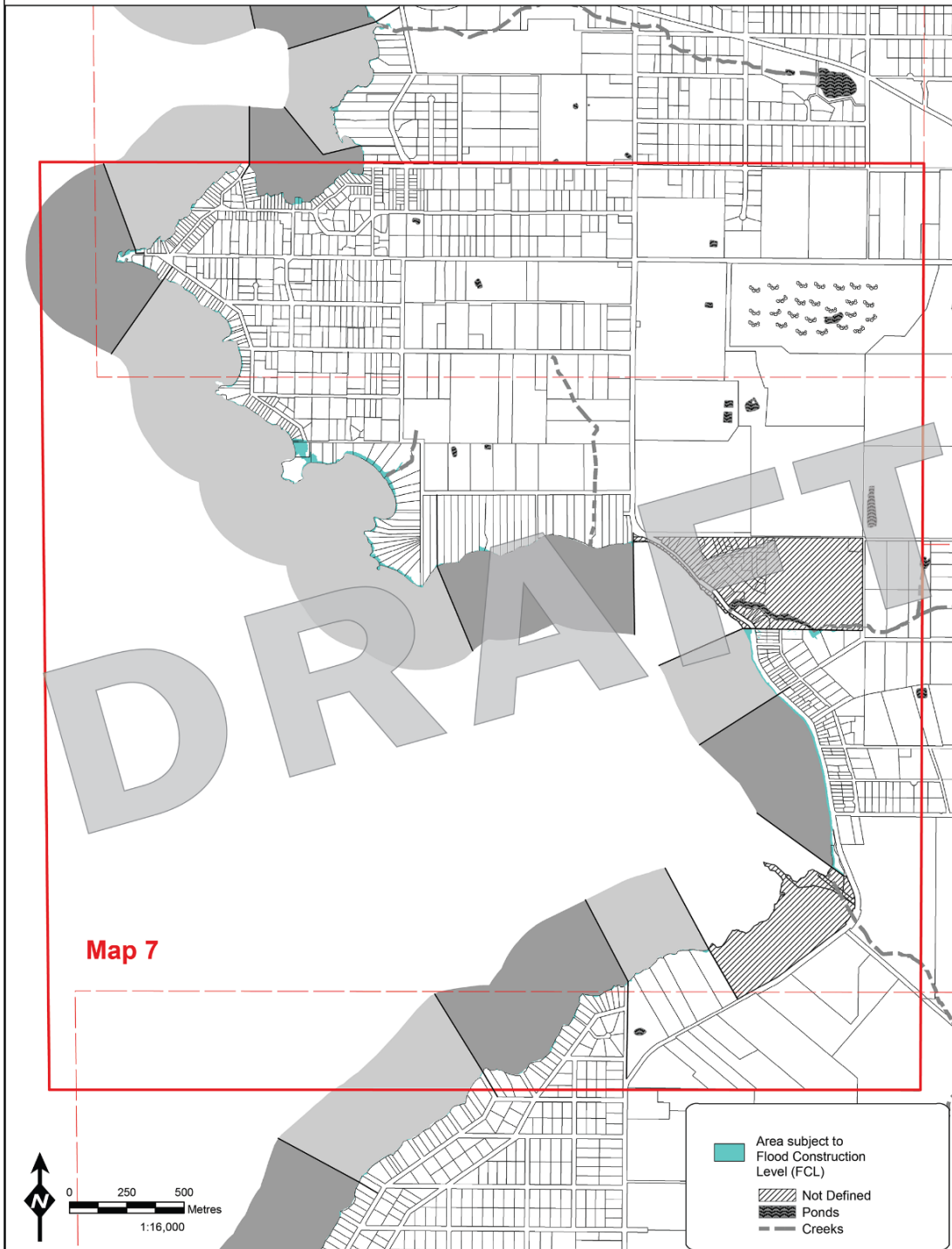
# Flood Hazard Map 6 1.0 m Sea Level Rise



This Map shows the extent of coastal flooding expected over existing ground in the District of North Saanich.

August 15, 2018

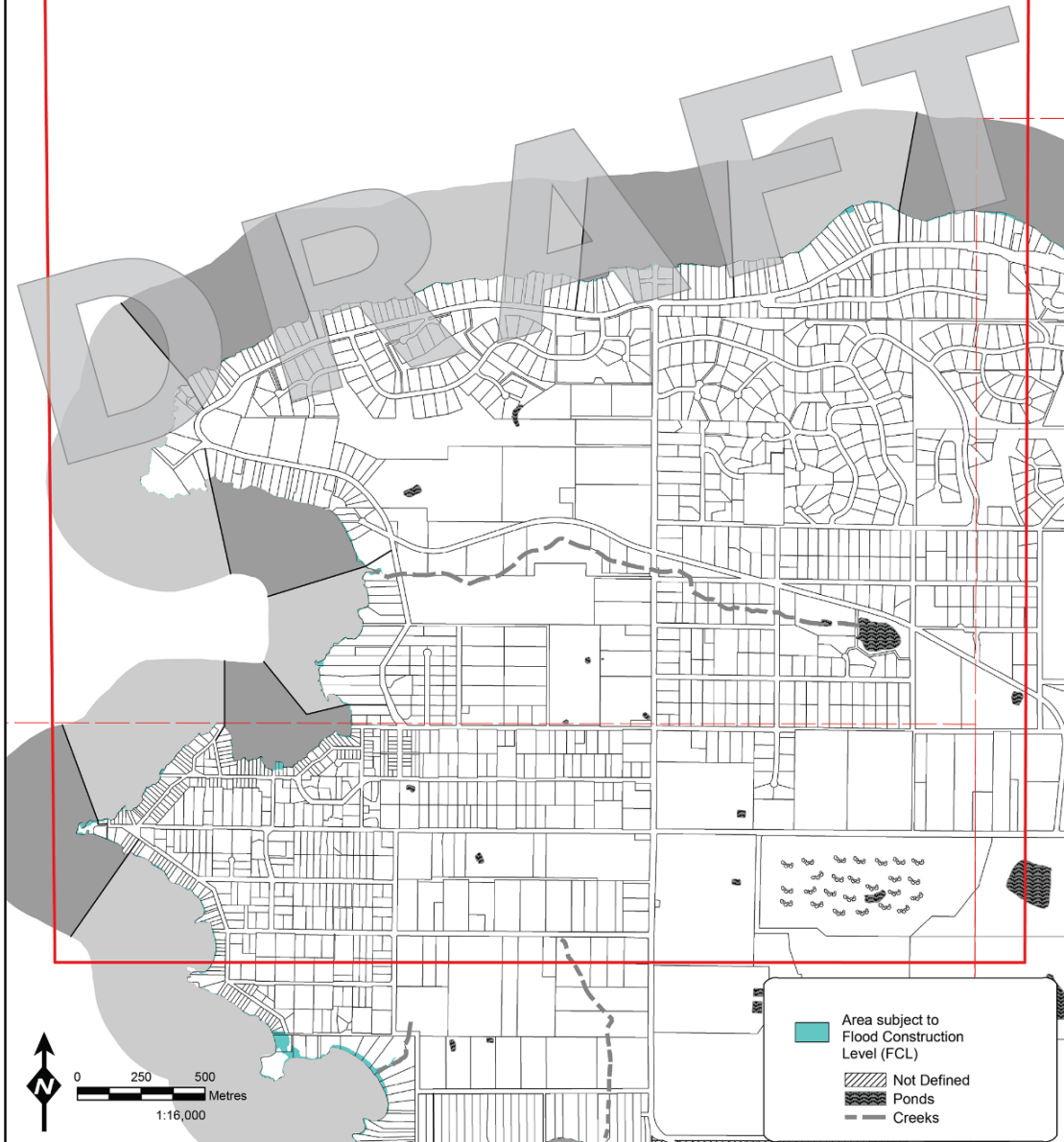




This Map shows the extent of coastal flooding expected over existing ground in the District of North Saanich.

August 15, 2018

Map 8

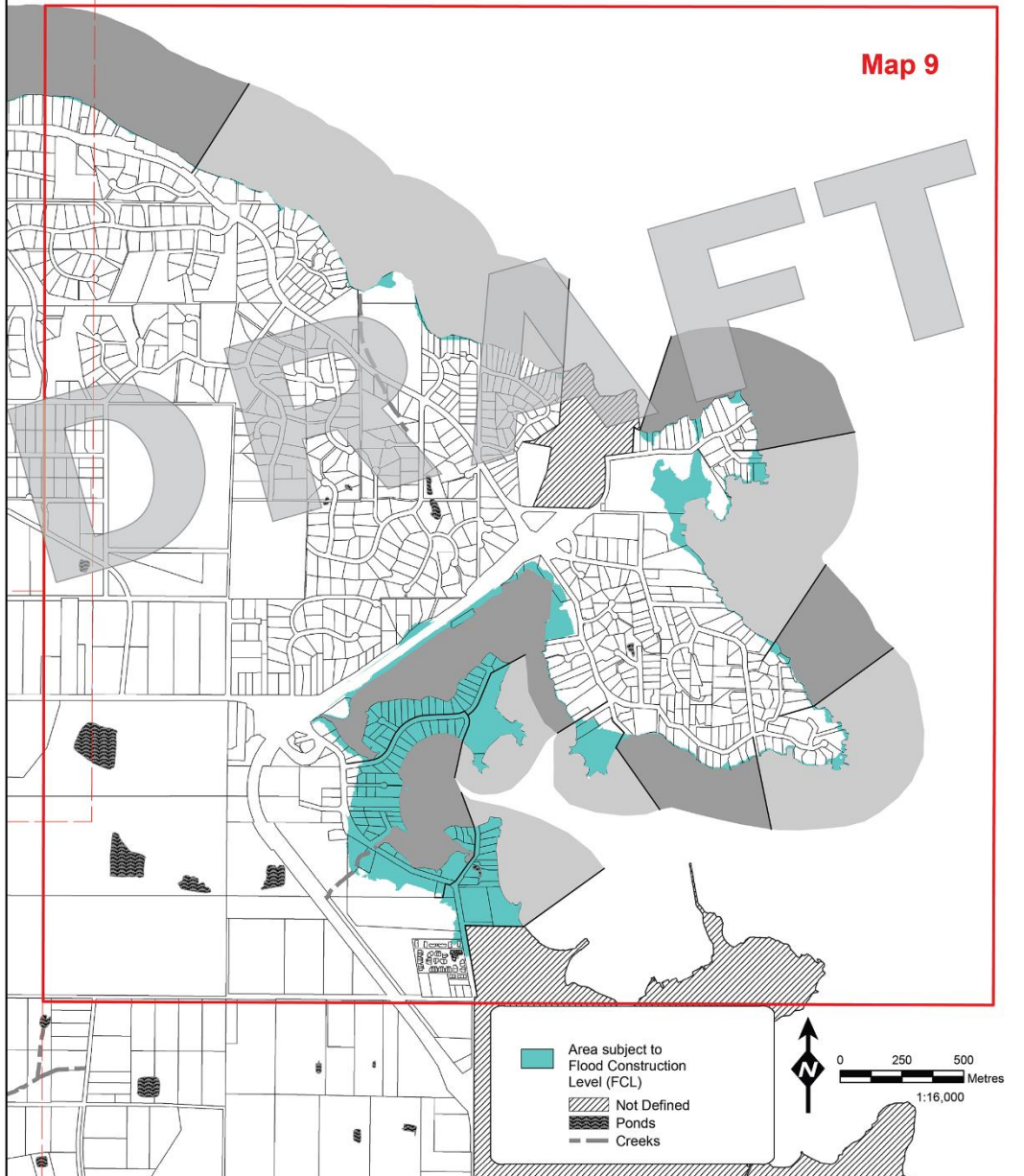


This Map shows the extent of coastal flooding expected over existing ground in the District of North Saanich.

August 15, 2018



Flood Hazard  
Map 9  
1.0 m Sea Level Rise

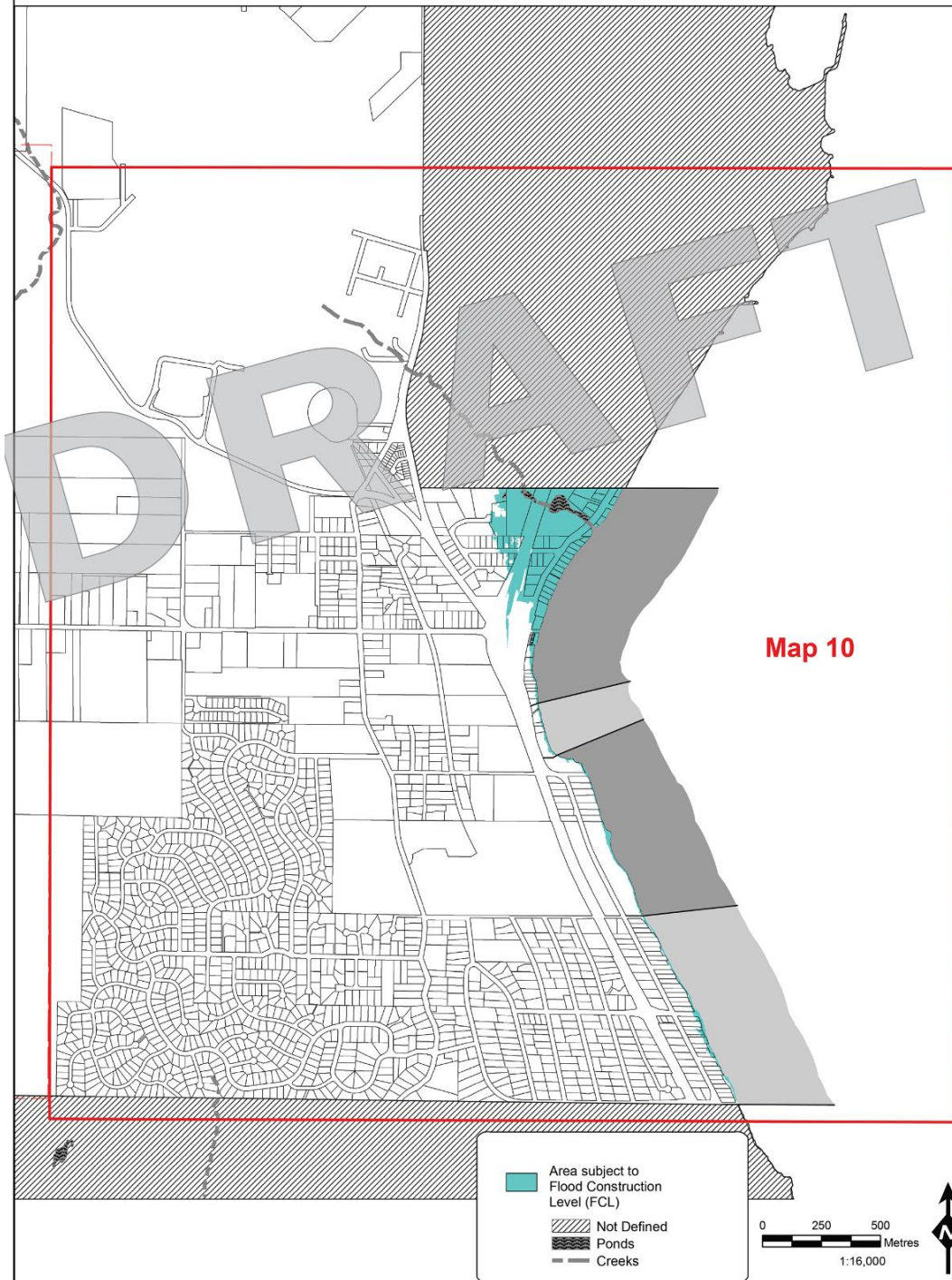


This Map shows the extent of coastal flooding expected over existing ground in the District of North Saanich.

August 15, 2018



Flood Hazard  
Map 10  
1.0 m Sea Level Rise



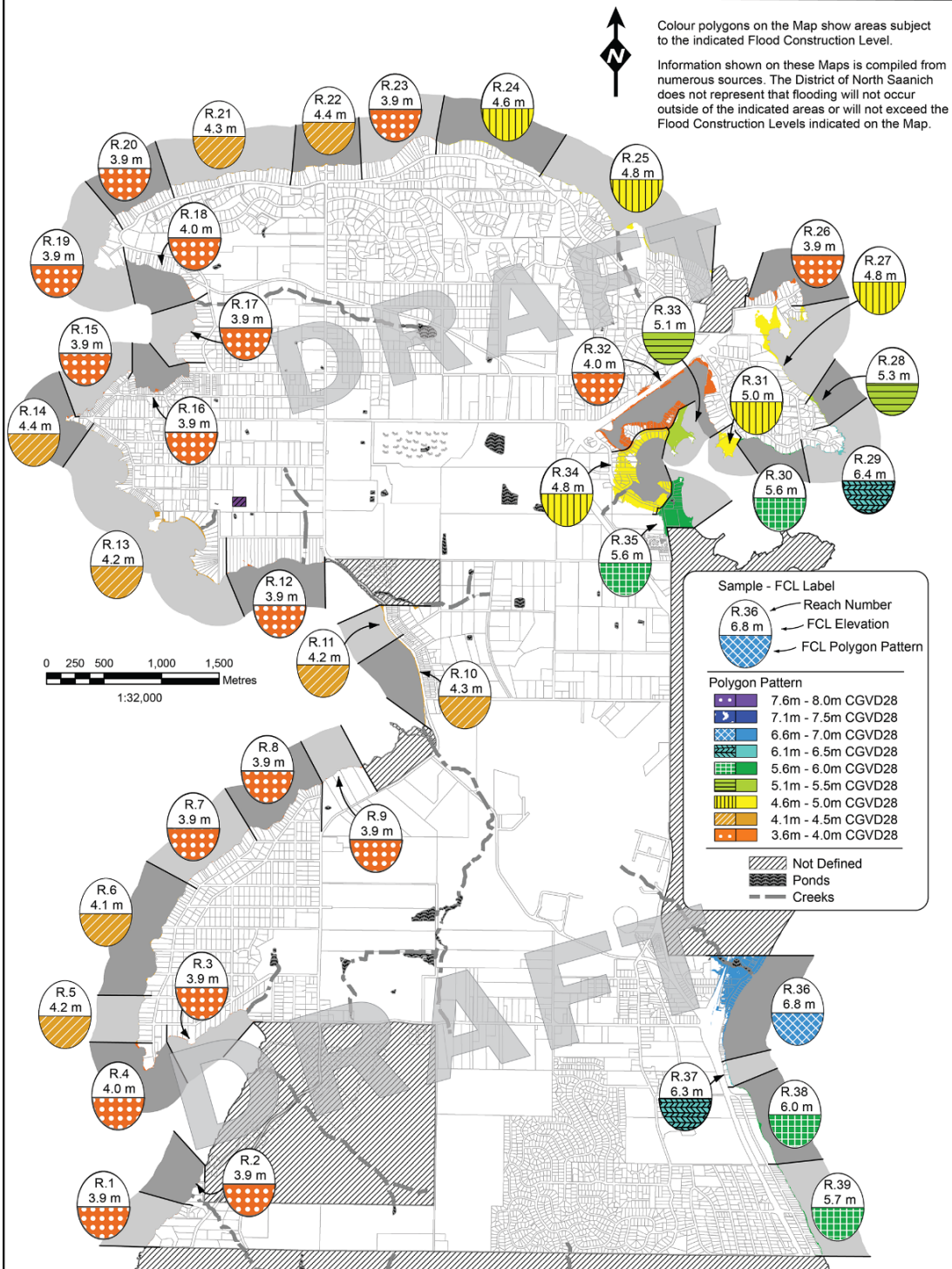
This Map shows the extent of coastal flooding expected over existing ground in the District of North Saanich.

August 15, 2018





**BYLAW 1439 - COASTAL FLOODING MITIGATION BYLAW**  
**MAP 11**  
**FLOOD CONSTRUCTION LEVEL**  
 0.5 m SEA LEVEL RISE

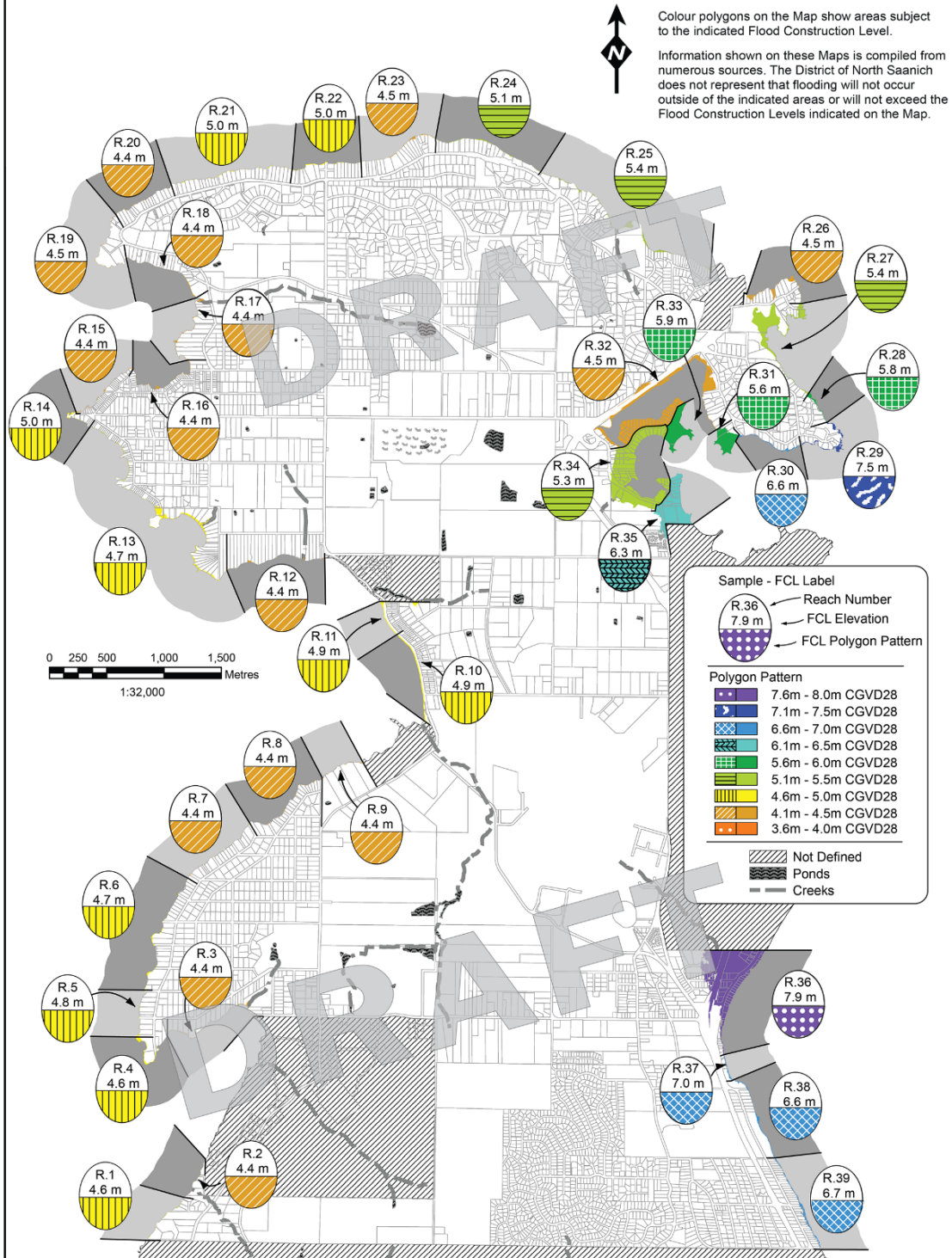


This Map displays the Flood Construction Level (FCL) , by Reach, for Section 5.a of  
*Bylaw 1439 - Coastal Flooding Mitigation Bylaw*

The FCL elevations are referenced to Canadian Geodetic Vertical Datum of 1928 (CGVD28)  
 0 m CGVD28 is equal to + 2.2 m Chart Datum, as measured at Swartz Bay

August 15, 2018

# BYLAW 1439 - COASTAL FLOODING MITIGATION BYLAW MAP 12 FLOOD CONSTRUCTION LEVEL 1.0 m SEA LEVEL RISE



This Map displays the Flood Construction Level (FCL), by Reach, for Section 5.b of  
*Bylaw 1439 - Coastal Flooding Mitigation Bylaw*

The FCL elevations are referenced to Canadian Geodetic Vertical Datum of 1928 (CGVD28)  
 0 m CGVD28 is equal to + 2.2 m Chart Datum, as measured at Swartz Bay

August 15, 2018