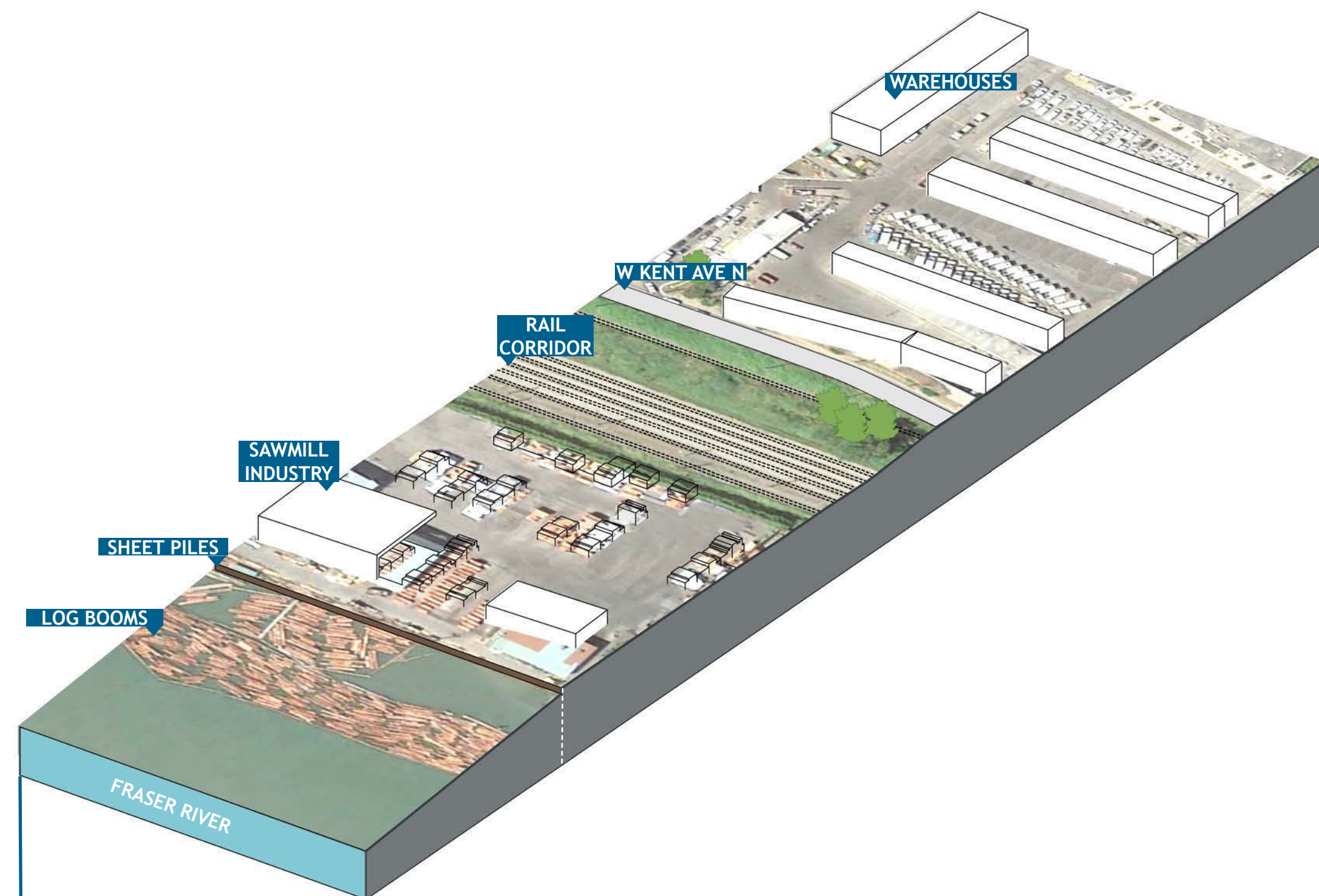


# FRASER RIVER EAST CURRENT CONDITIONS

The eastern portion of Vancouver's Fraser River foreshore is a diverse, mixed use area featuring a range of industrial, commercial, warehousing, manufacturing and office uses. The area is home to the South Vancouver Transfer Station, a City works yard, a large recycling depot, and the Vancouver Transit Centre. Towards Vancouver's eastern boundary, the Fraserlands area is predominantly a multi-family residential neighbourhood with river front parks and a mix of housing types. The area is also home to a major natural gas facility operated by Fortis.



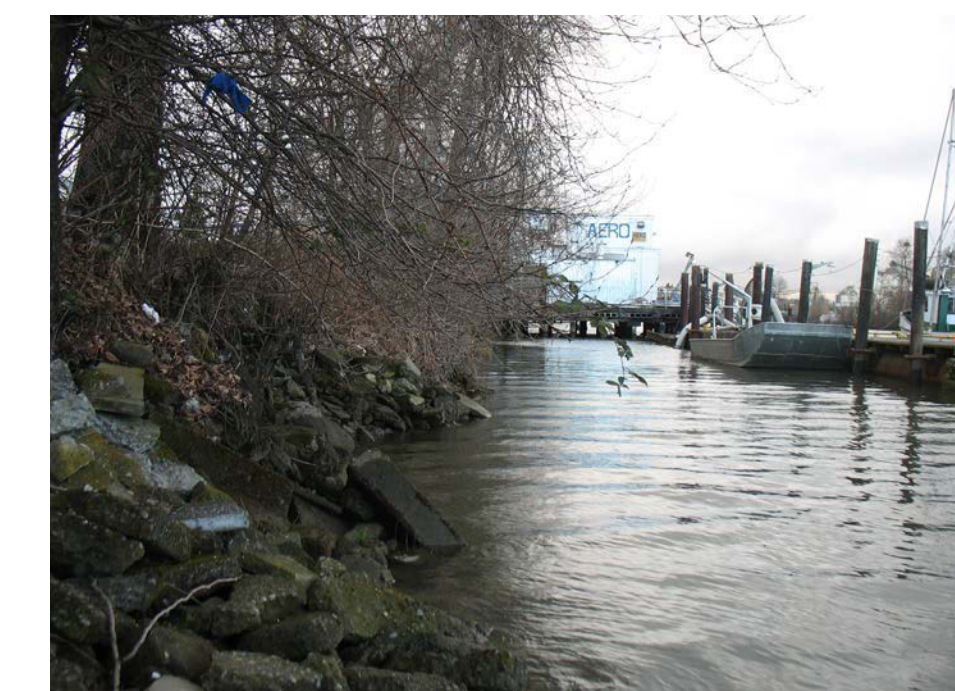
Gradually eroding bankline with lock-block wall about to be undermined (G.F. 2014)



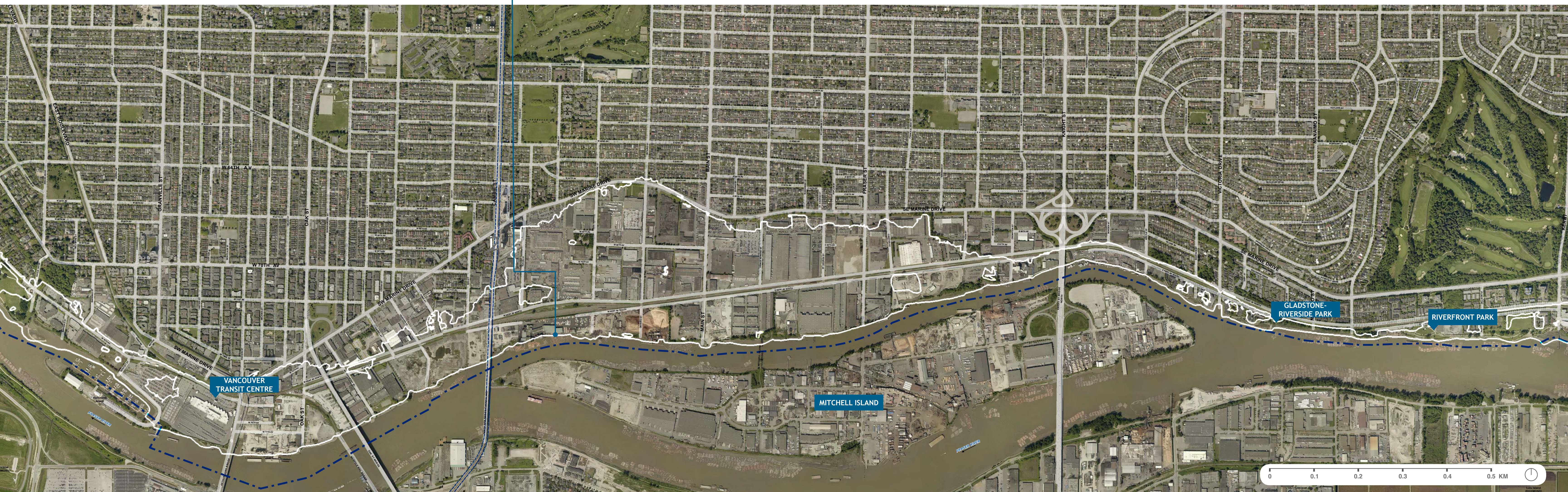
View north along Main Street with floodplain limit in background at Marine Drive (G.F. 2014)



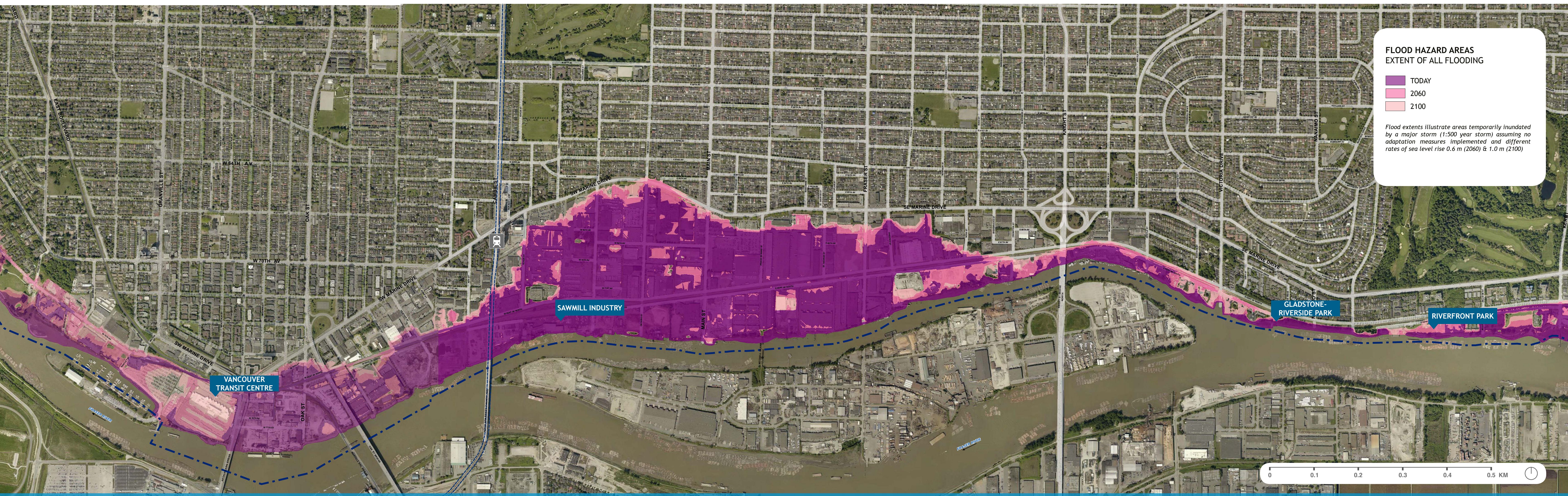
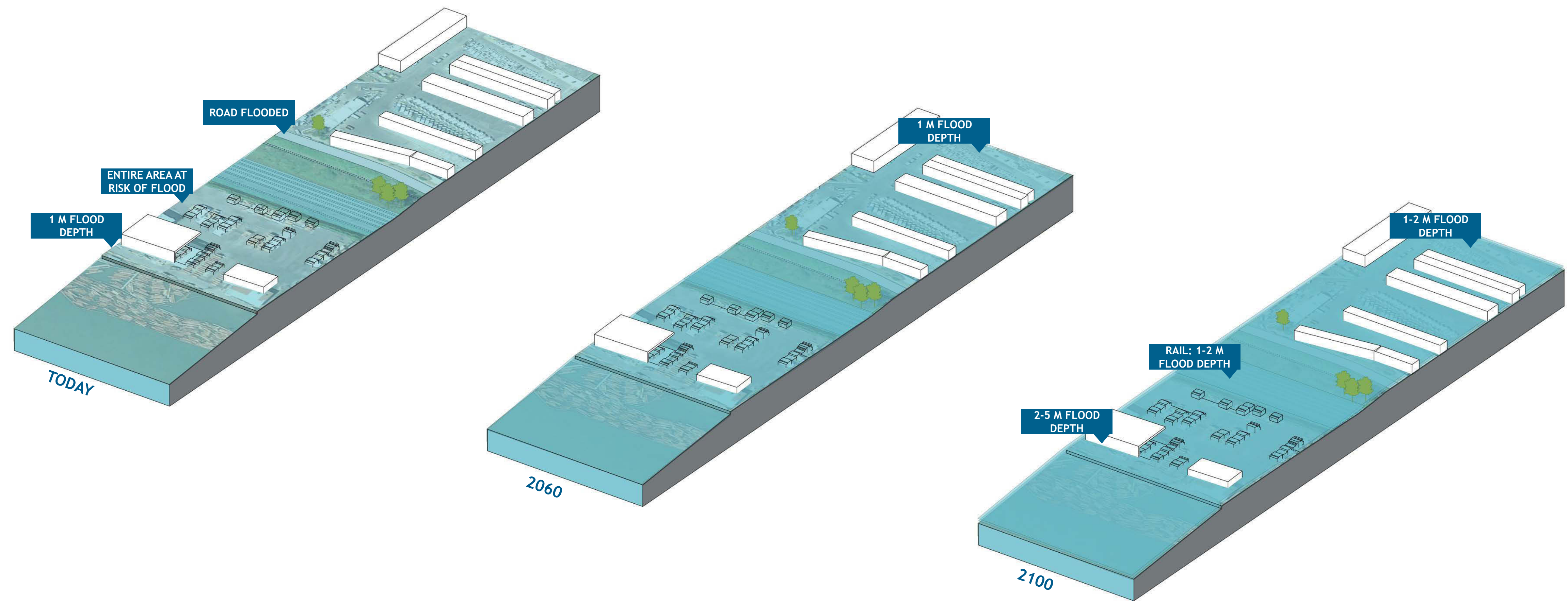
Rock revetment along heavy industrial marine use west of Knight Street Bridge (G.F. 2014)



Concrete rubble along marine industrial use east of Fraser Street (G. Farstad, March 2014)



# FRASER RIVER EAST FLOOD HAZARD AREAS



# FRASER RIVER EAST ADAPTATION OPTIONS: RESIST

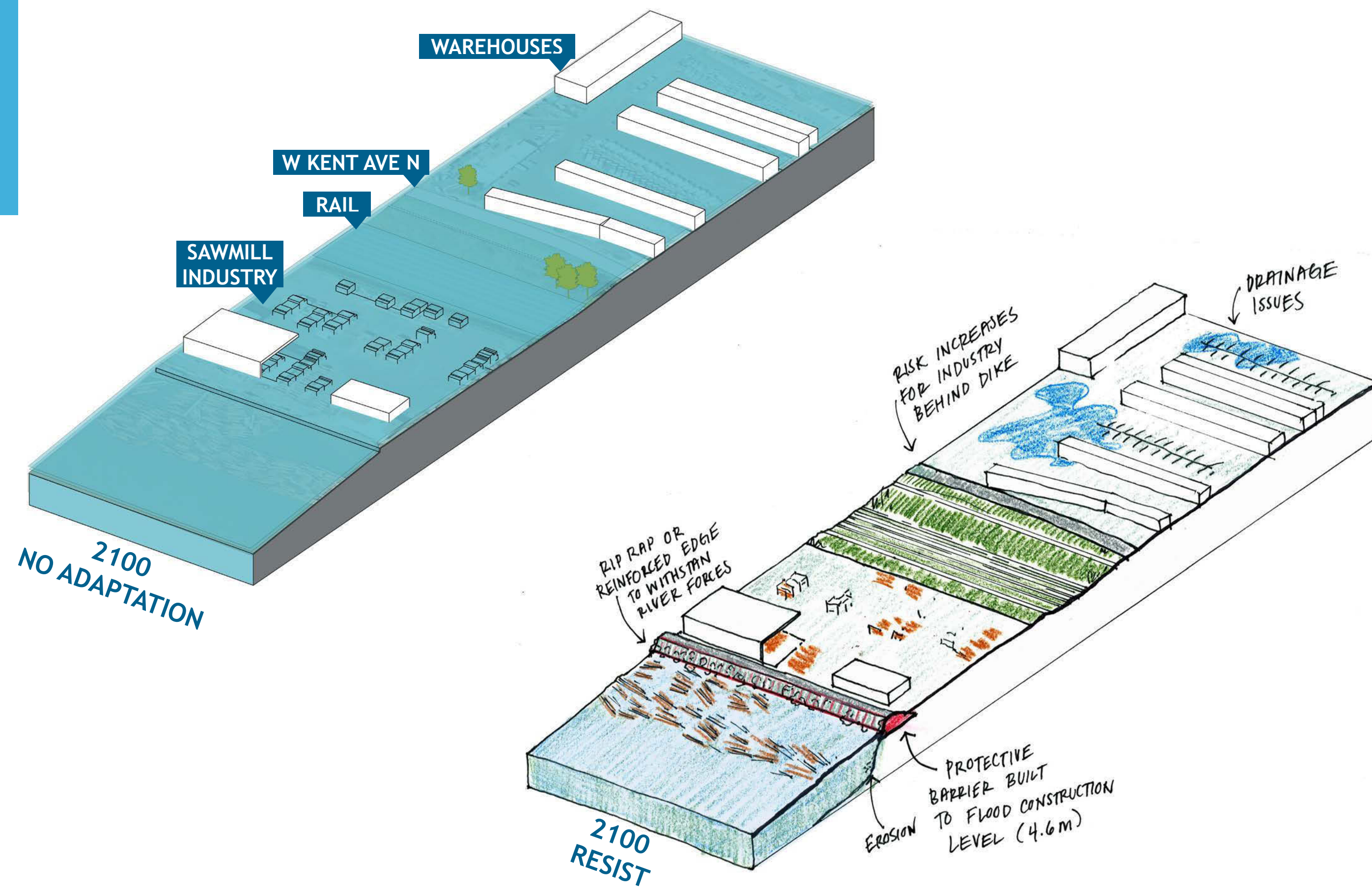
**WHAT:**  
Shoreline dike. Protective barrier built to flood construction level (4.6m) with reinforced edge to withstand river forces. Alignment to be determined.

**PROS:**

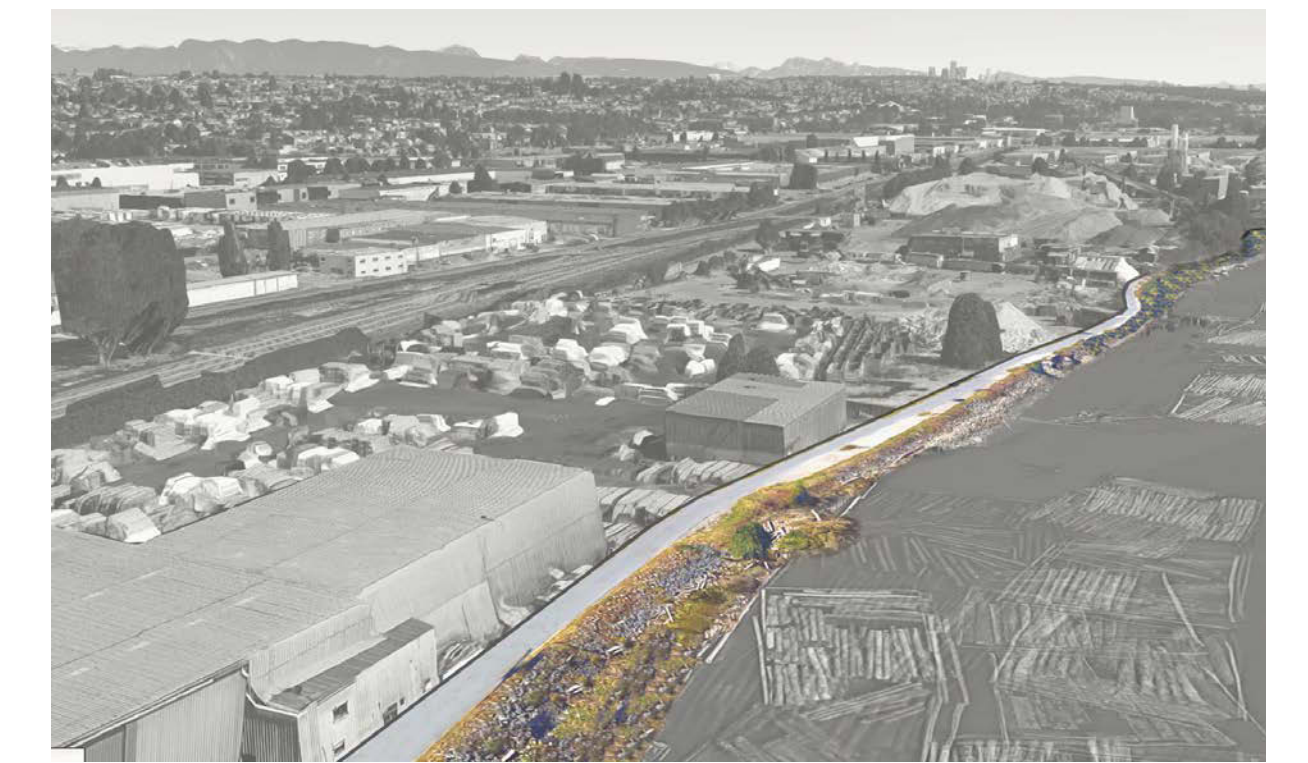
- Will protect people and land
- Opportunities for co-benefits

**CONS:**

- Requires significant drainage infrastructure
- Could be technically unviable due to soils and seismic concerns
- Might impede water access for some businesses.
- Riprap edge would have negative impacts on the environment and fish habitat
- With sea level rise, the risks from a dike breach become more consequential
- City does not have right-of-way along whole length of Fraser
- Requires on-going maintenance and must be raised and upgraded over time as sea level rise continues



## WHAT THIS COULD LOOK LIKE



Raised Dike Trail  
Concept rendering



Middle Arm Dike  
"A time with nature"



# FRASER RIVER EAST

## ADAPTATION OPTIONS: RESIST

### WHAT:

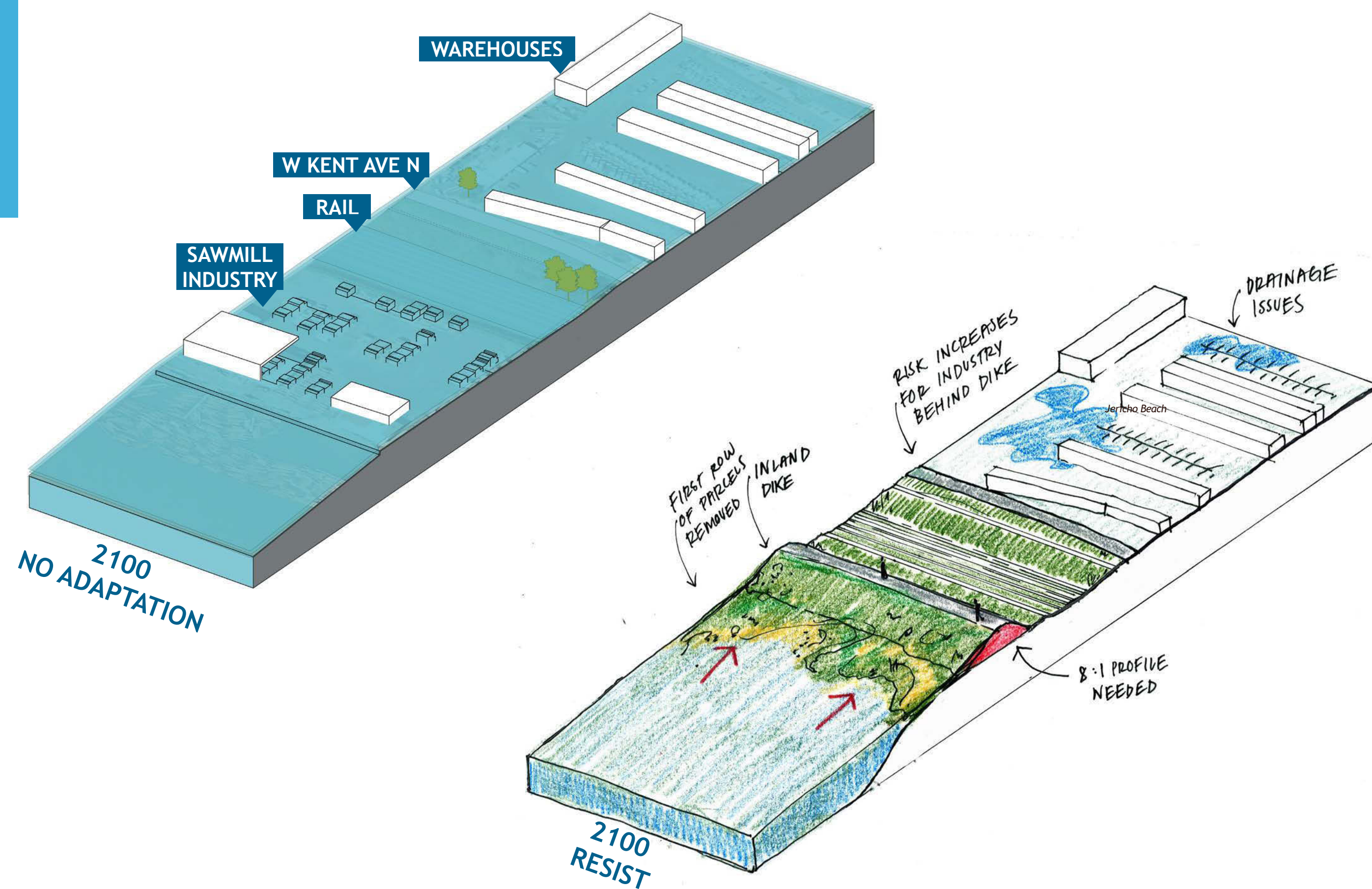
Inland dike. Protective barrier built to flood construction level (4.6m) with reinforced edge to withstand river forces. Does not protect all foreshore properties and alignment to be determined. Additional land creates opportunity for gradually sloped dike and habitat restoration along shoreline.

### PROS:

- Will protect people and land
- Opportunities for co-benefits
- Works with natural processes and reduces erosion
- Depending on alignment, distance of dike construction could be reduced

### CONS:

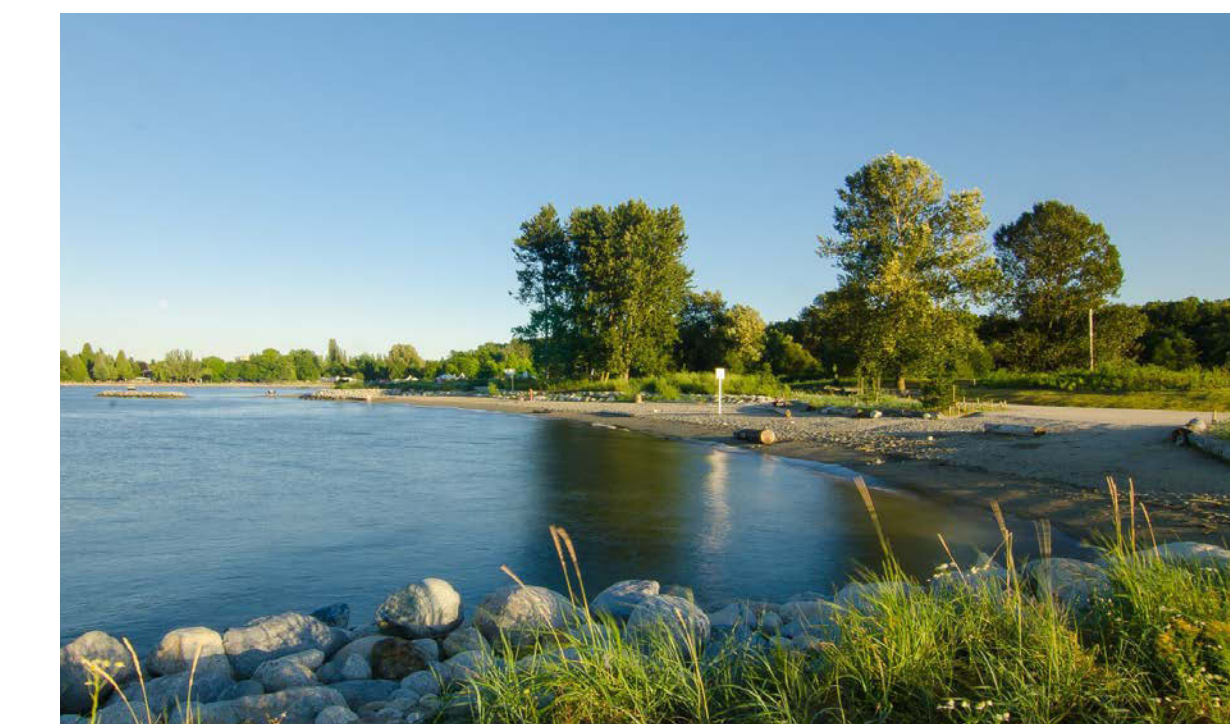
- Requires significant drainage infrastructure
- Could be technically unviable due to soils and seismic concerns
- Might impede water access for some businesses.
- With sea level rise, the risks from a dike breach become more consequential
- City does not have right-of-way along whole length of Fraser
- Loss of land
- Requires on-going maintenance and must be raised and upgraded over time as sea level rise continues



### WHAT THIS COULD LOOK LIKE



East Fraser Lands  
City of Vancouver



Jericho Beach

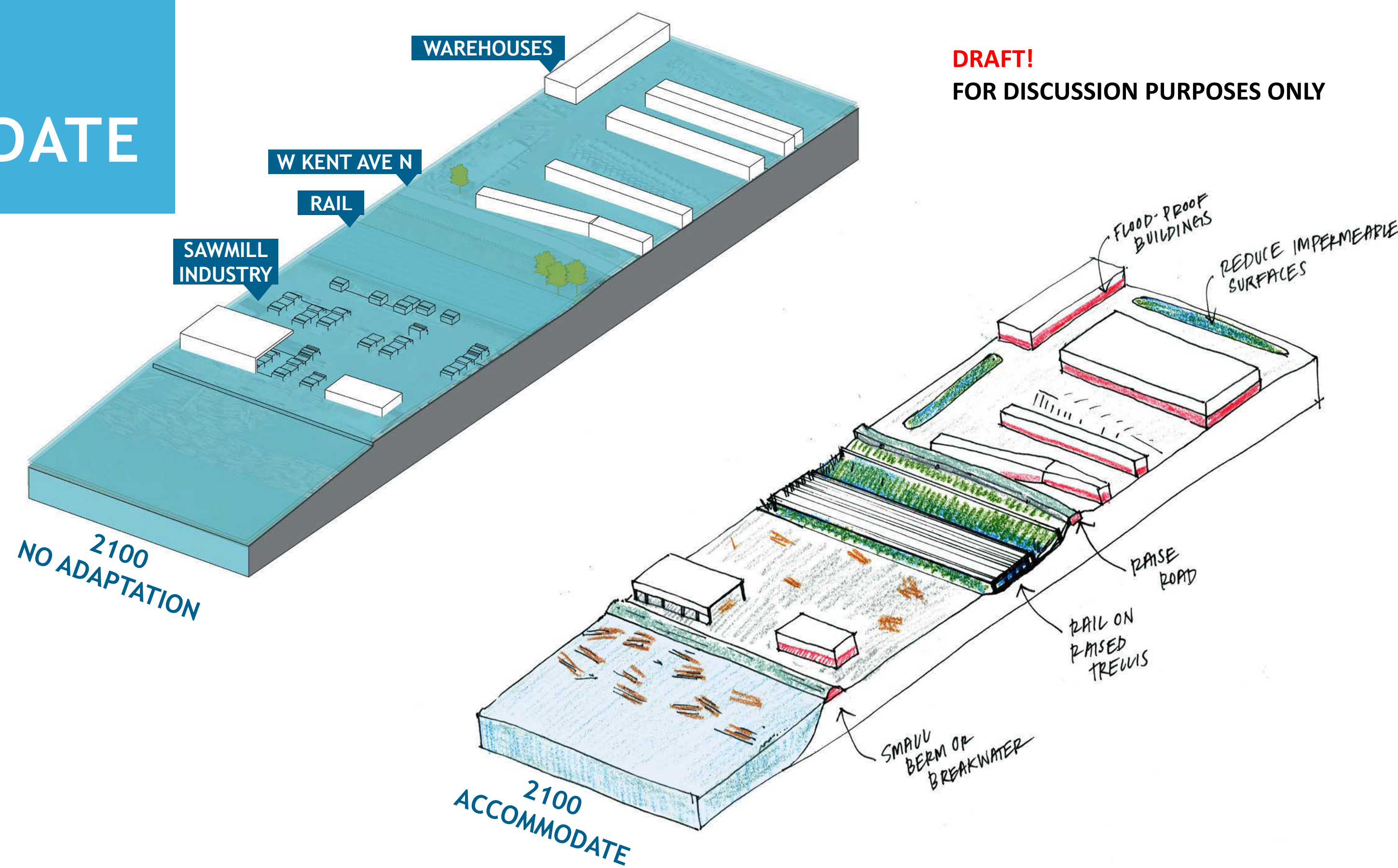


# FRASER RIVER EAST ADAPTATION OPTIONS: ACCOMMODATE

**WHAT:**  
Works with the idea that coastal communities can accommodate occasional flooding. Infrastructure, buildings and communities are retrofitted or slowly changed over time to be more resilient.

- PROS:**
- Promotes recovery after an event
  - Could be a complimentary measure
  - Will continue to allow boat and river access

- CONS:**
- Implementation challenges
  - Expensive to raise infrastructure and buildings to flood construction levels
  - Relatively expensive, but the cost could be part of regular building replacement cycles

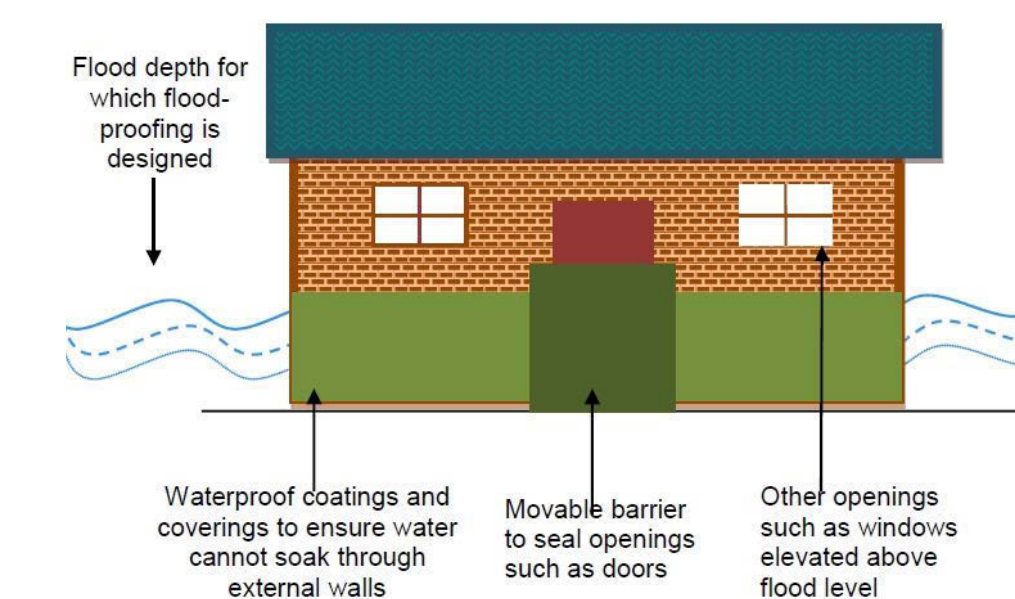


**DRAFT!**  
FOR DISCUSSION PURPOSES ONLY

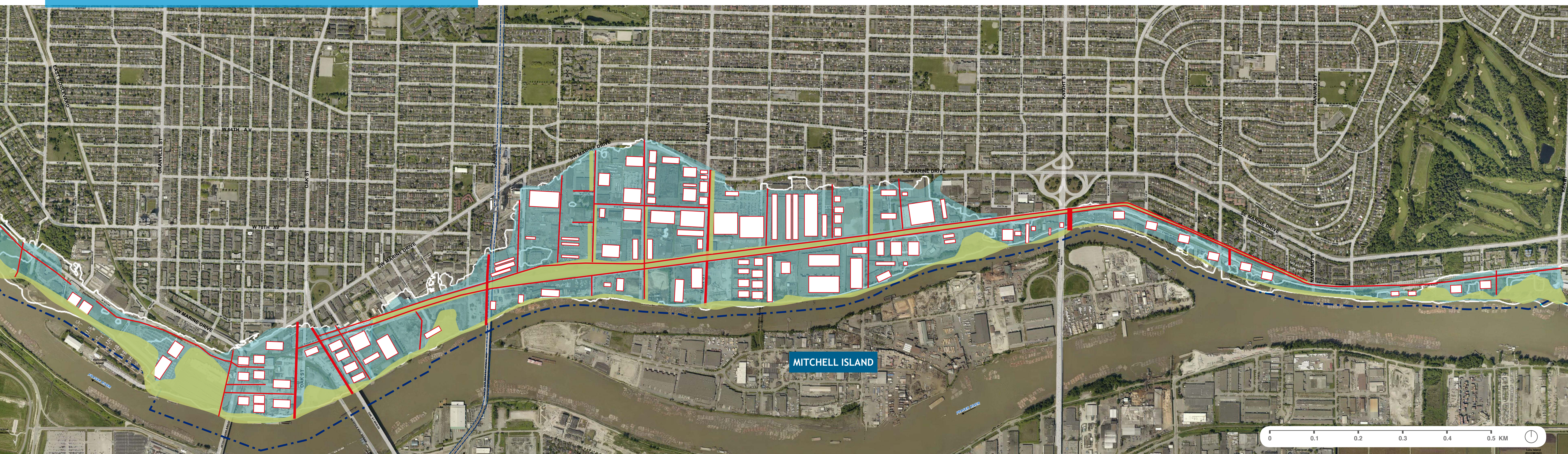
## WHAT THIS COULD LOOK LIKE



Lower Don Lands Concept  
Michael Van Valkenberg



Flood Proof Buildings  
Linham and Nicholls

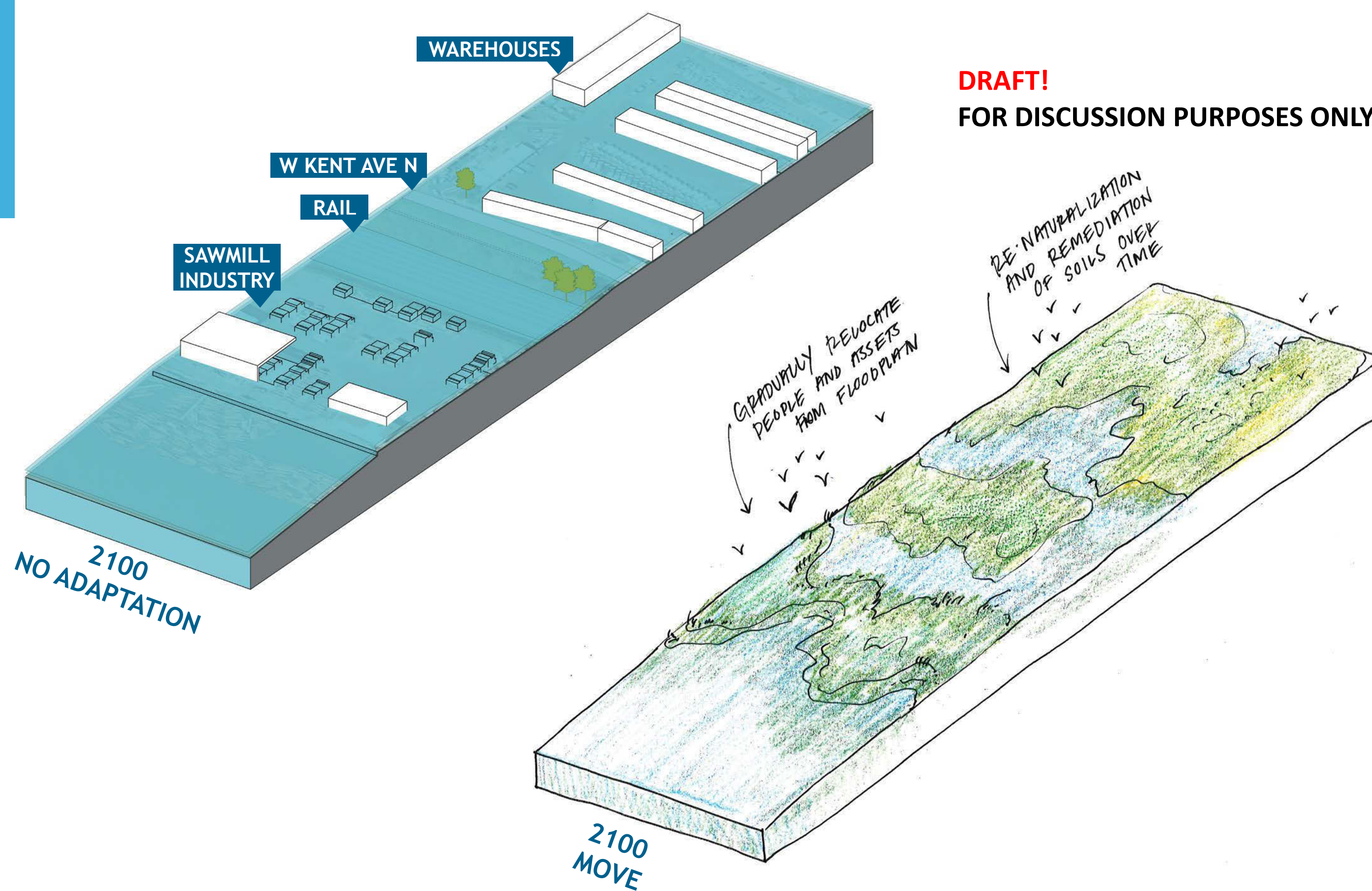


# FRASER RIVER EAST ADAPTATION OPTIONS: MOVE

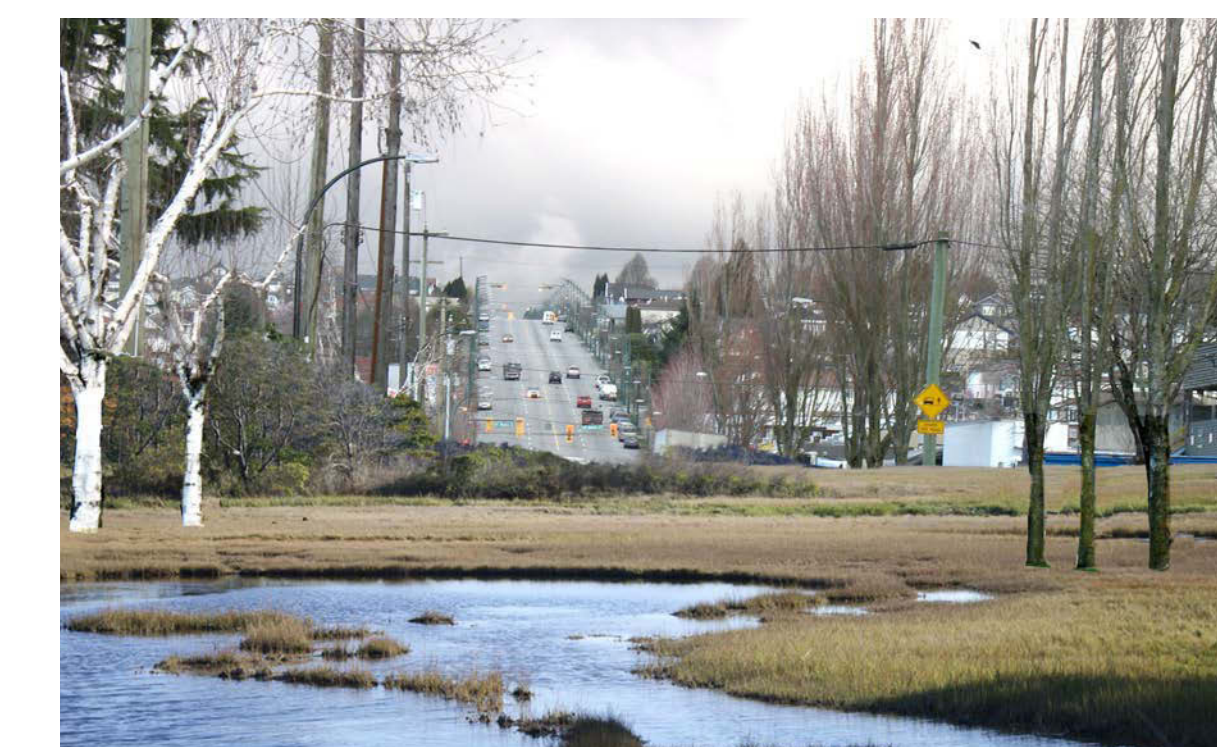
**WHAT:**  
Slowly remove people and vulnerable assets from the floodplain over time followed by re-naturalization.

- PROS:**
- Potential habitat, recreational, and aesthetic gains
  - Would reduce flood risk during an earthquake
  - Long-term strategy would work regardless of rate of sea level rise

- CONS:**
- Implementation challenges
  - Relatively expensive
  - Will likely take decades to be implemented



## WHAT THIS COULD LOOK LIKE



Retreat from Floodplain  
Concept Rendering



Fraser River Marsh  
Larry Pynn, Vancouver Sun

