



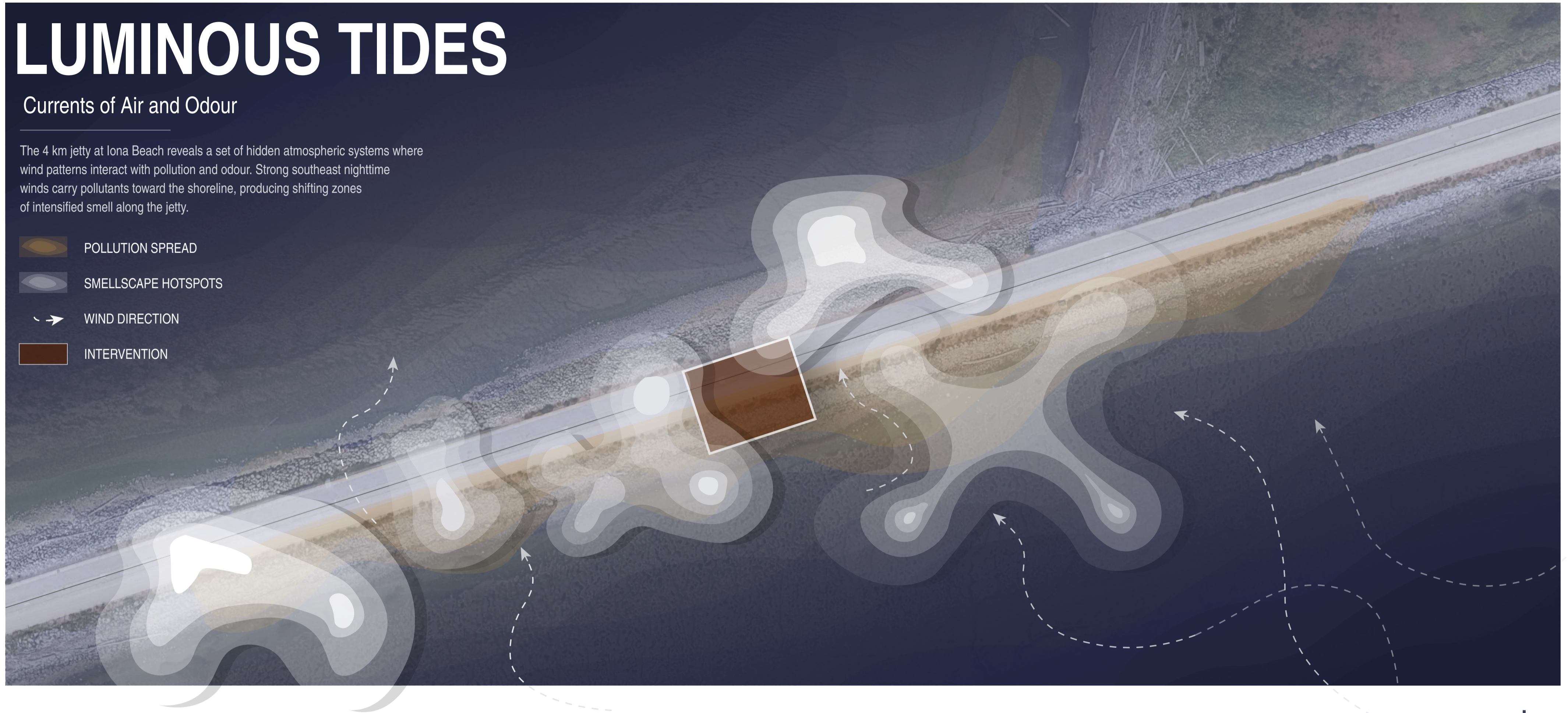


# LUMINOUS TIDES

## Currents of Air and Odour

The 4 km jetty at Iona Beach reveals a set of hidden atmospheric systems where wind patterns interact with pollution and odour. Strong southeast nighttime winds carry pollutants toward the shoreline, producing shifting zones of intensified smell along the jetty.

-  POLLUTION SPREAD
-  SMELLSCAPE HOTSPOTS
-  WIND DIRECTION
-  INTERVENTION



## From Infrastructure to Habitat

The Iona Beach, a 4km jetty that serves two purposes: a pedestrian walkway for the public and the outfall pipe that displaces treated wastewater into the Strait of Georgia. This dual identity helps shape the experience of the space. While walking down the path, the pungent smell of waste and the surrounding infrastructure masks the ocean's presence, making it feel distant even though it is situated right by the path. The water continues to be an area that is inaccessible to reach, separated by elevation, rocks, and deposited debris. Thus, a landscape is born where the ocean is present but rarely engaged with or acknowledged.

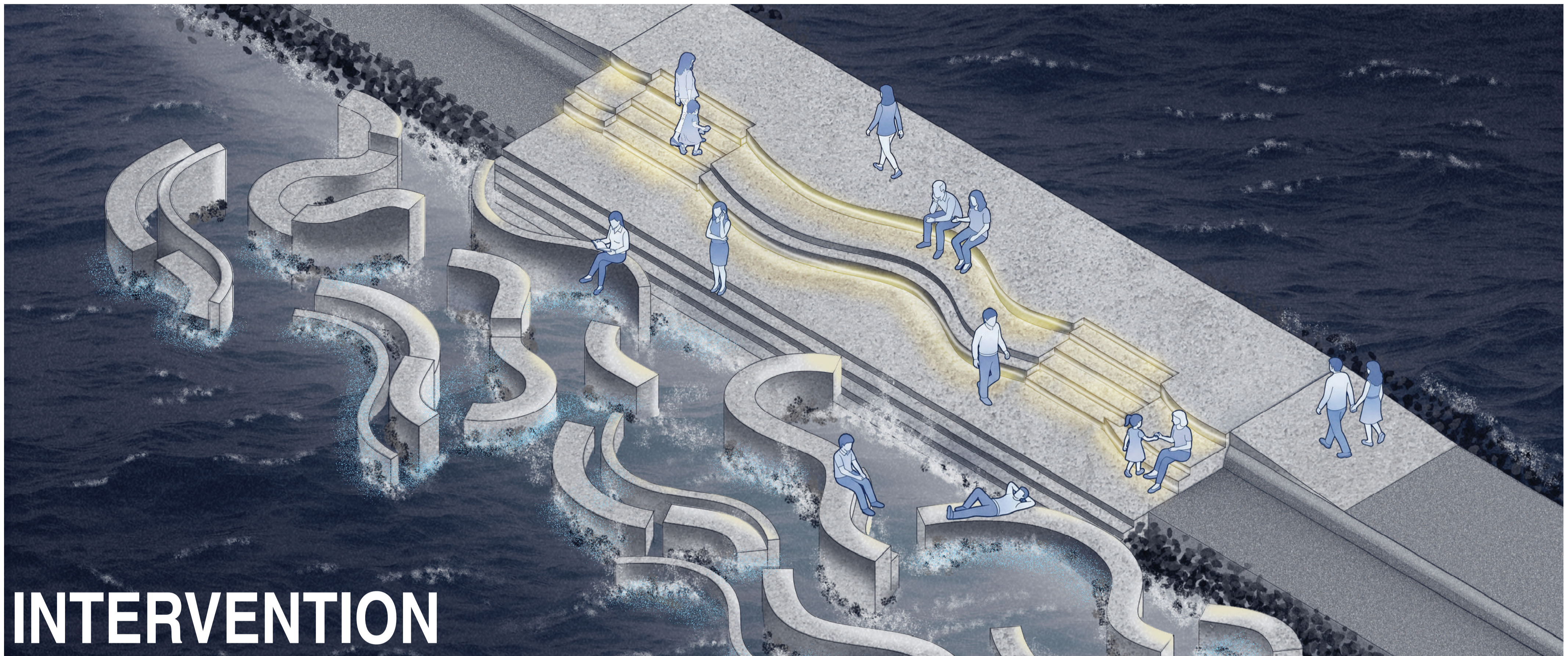
Luminous Tides, by bringing pedestrians closer to the water while implementing ecological filtration, re-envisions the jetty's edge. A set of tidal basins are designed to extend from the walkway and create textured surfaces for native species, such as Pacific blue mussels (*Mytilus trossulus*) and bull kelp (*Nereocystis luetkeana*), to attach and grow. Kelp is researched to absorb excess nutrients while mussels filter suspended particles, therefore, gradually constructing a new marine habitat while improving the water conditions.

The curved wall dividers shape tidal activity into narrow pathways and basins. When interacted with during seasonal blooms, the crashing waves activate bioluminescent dinoflagellates such as *Noctiluca scintillans*. During the night-time, subtle interactions with the water against the chambers reveal flashes of blue light and dynamics of biological dynamics that are often unseen or missed. The tide then becomes an on-going, changing, and luminous experience that is recreated with every current and movement.

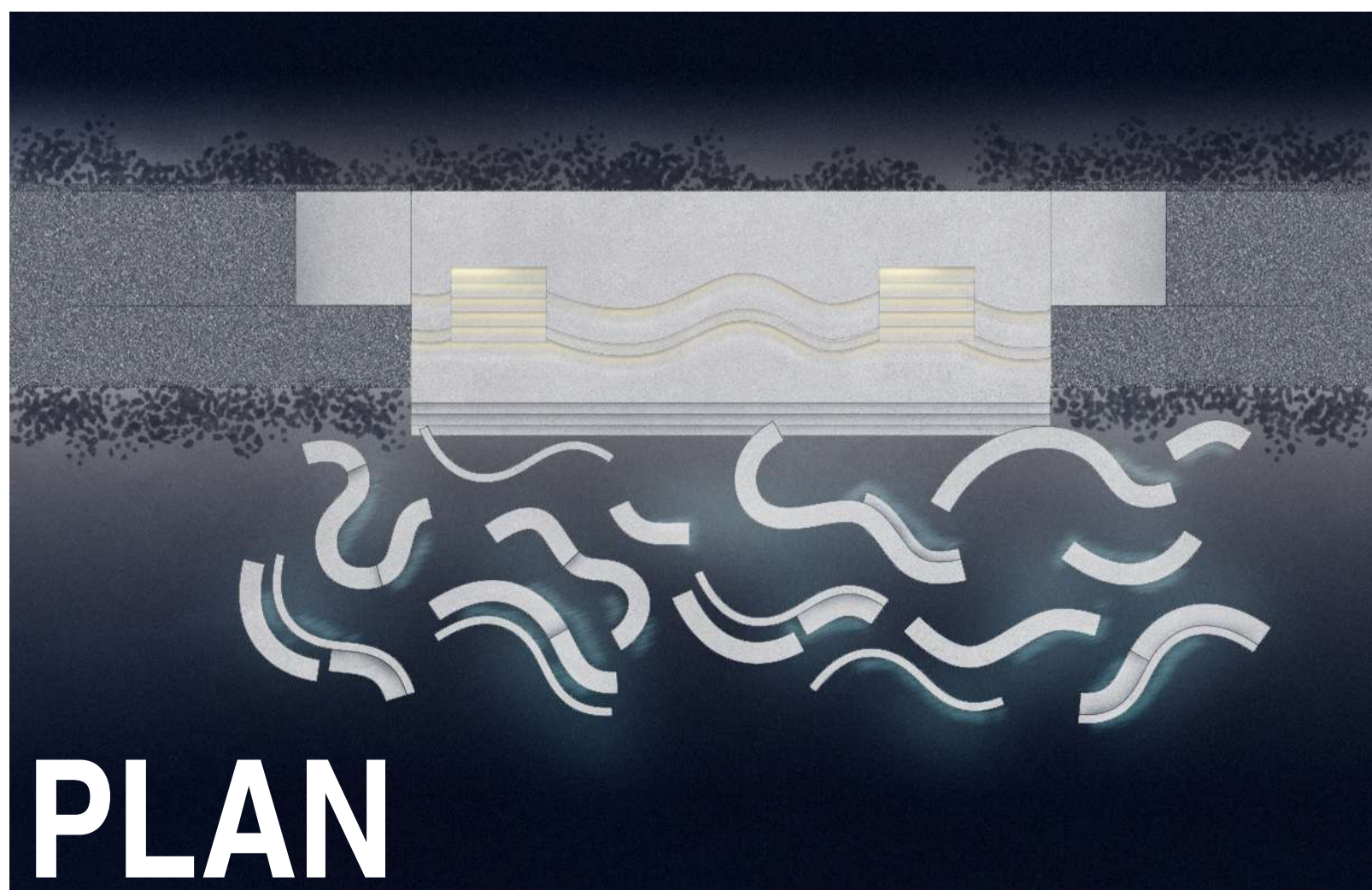
Situated on the unceded territories of the Musqueam, Squamish, and Tsleil-Waututh Nations, Luminous Tides acts as a transition towards a deeper ecological sense of appreciation towards the land and waters that were unrecognized, once masked by the site's infrastructural edge.



REGIONAL MAP OF VANCOUVER, BC



# INTERVENTION



# PLAN



Pacific Blue Mussel



Bull Kelp



Bioluminescent Algae

# ECOLOGICAL SYSTEMS

The intervention uses coastal species already common in British Columbia to support natural filtration and create conditions for bioluminescent algae to thrive. Pacific Blue Mussels act as filter feeders, removing suspended particles and excess nutrients from the water. Bull Kelp slows water movement and provides vertical habitat where marine organisms can attach and grow. Together, the mussels and kelp help stabilize the water conditions and improve clarity, creating a healthier environment where bioluminescent algae can flourish. As tides move through the structures, the algae respond to disturbance in the water and produce light, making the changing movement of the tide visible at night.