



EXTREME WEATHER IMPACTS & DAMAGES

UPDATE

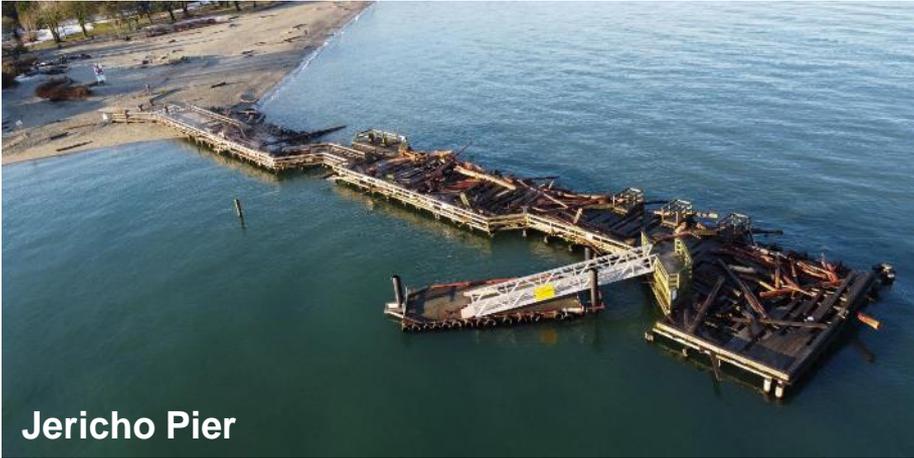
Regular Board Meeting
Monday, April 11, 2022



Purpose:

- Recap of January 2022 King Tide and Storm Event
- Update on Recovery Progress
- Kitsilano Pool and Seawall
- Ongoing and Future Planning: Coastal Adaptation

January 7, 2022 King Tide & Storm



Response and Recovery Process

Immediate Response

- Safety Protocols – Staff and Public
- Rapid Damage Assessment & Triage

Assessment & Options

- Detailed Damage Assessments & Prioritization
- Repair Concepts & Preliminary Cost Estimates

Design & Construction

- Detailed Repair Designs & Contract Documents
- Internal & External Procurement
- Construction & re-opening

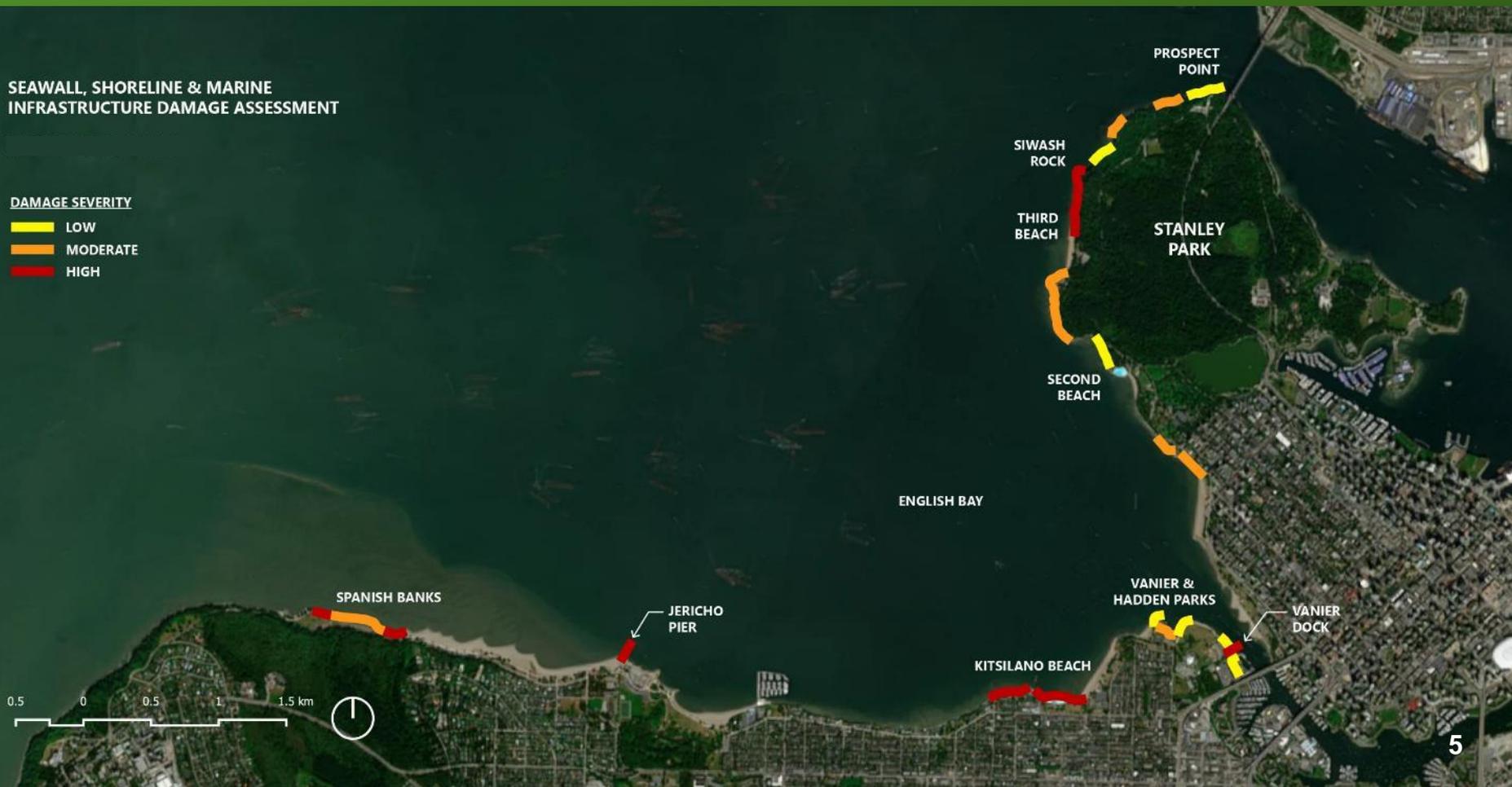


Damage Overview

SEAWALL, SHORELINE & MARINE INFRASTRUCTURE DAMAGE ASSESSMENT

DAMAGE SEVERITY

- LOW
- MODERATE
- HIGH

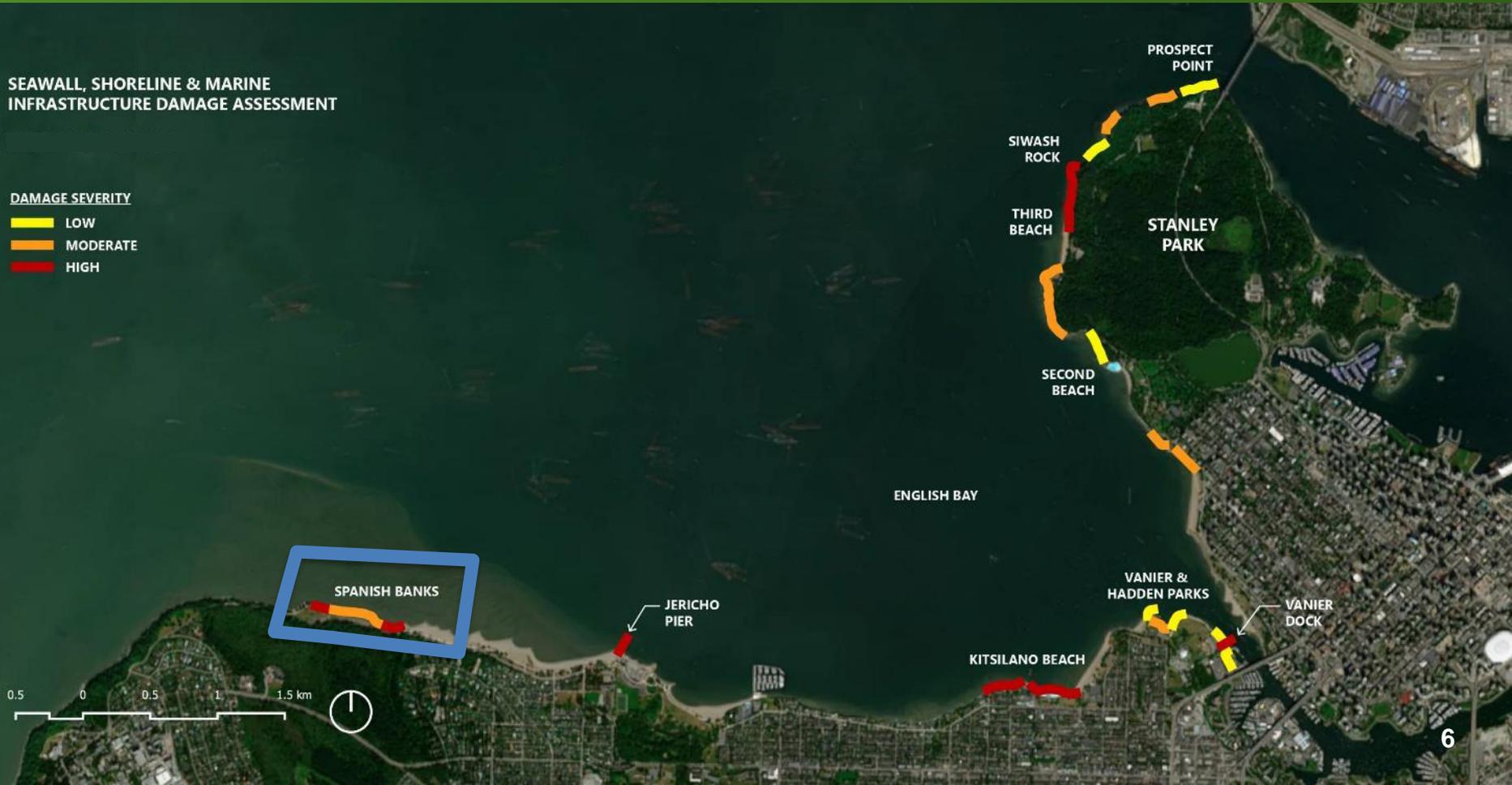


Spanish Banks

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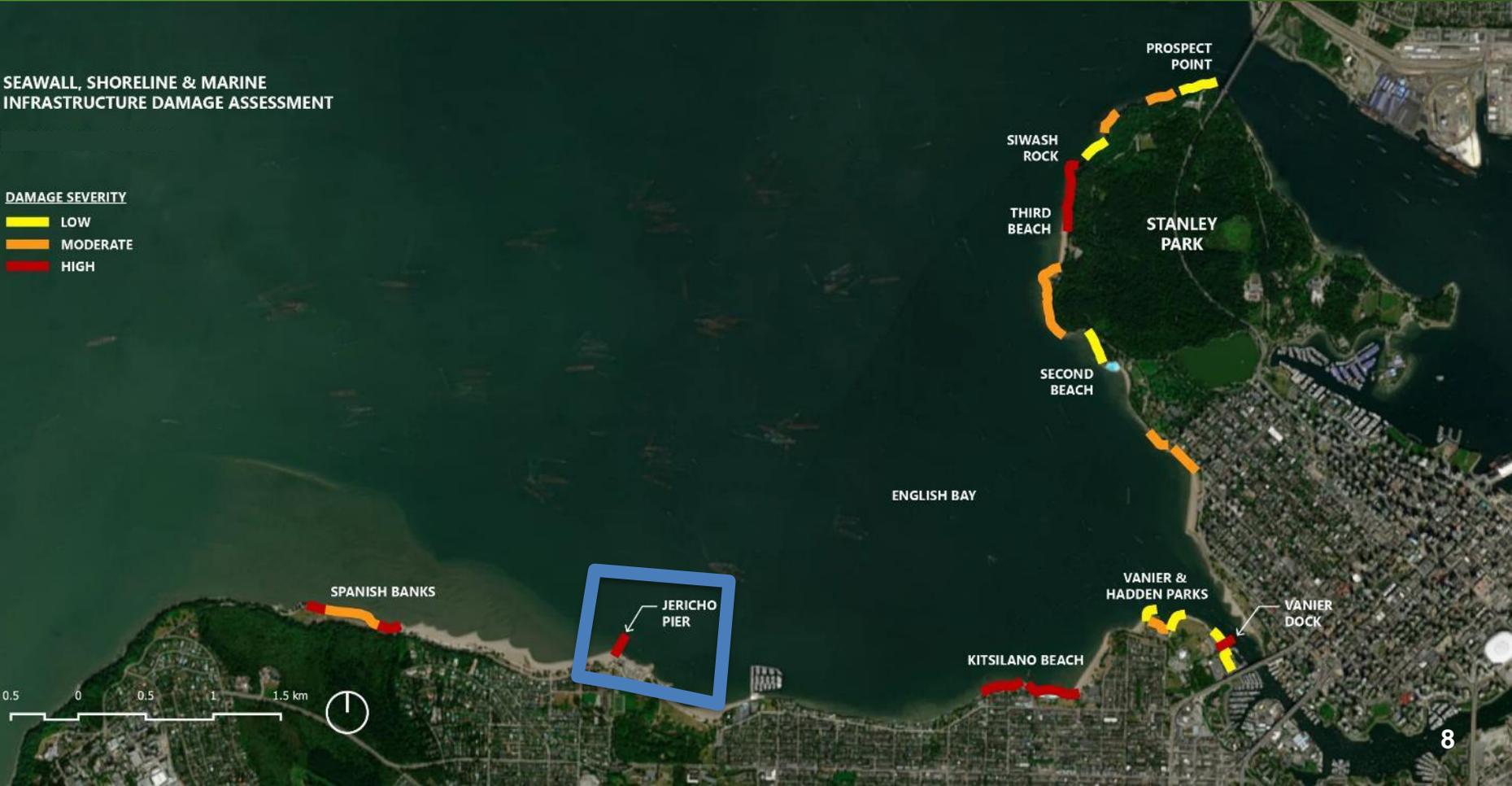
Spanish Banks



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Jericho Pier



Kitsilano Beach

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Kitsilano Beach Park: Balsam to Trafalgar



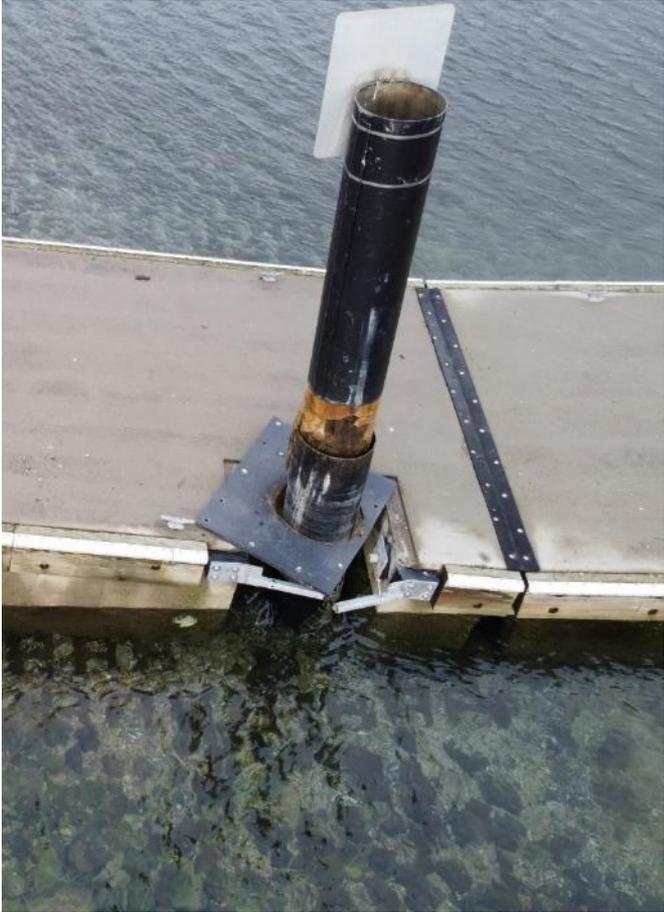
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Vanier Park



Sunset Beach to Third Beach

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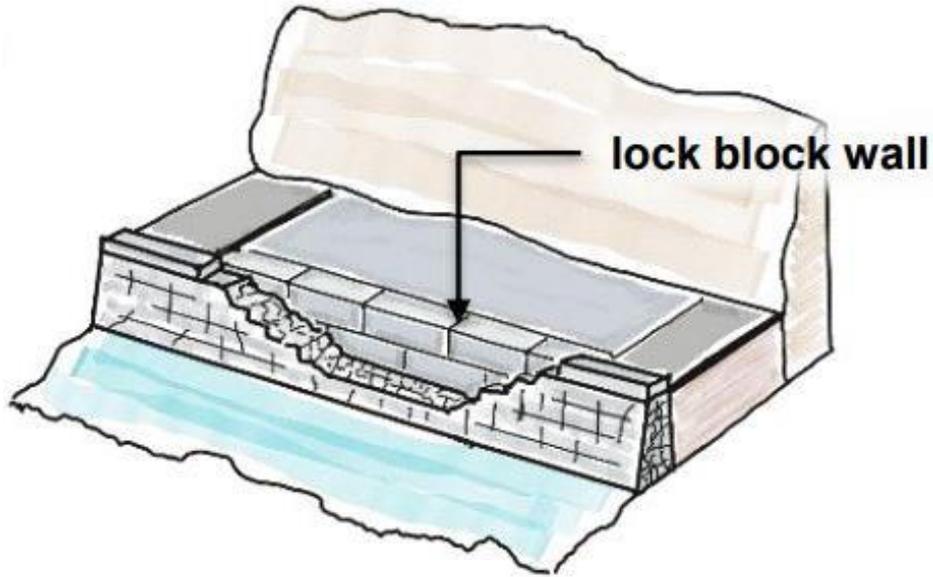


Illustration of proposed retaining wall repairs



Retaining wall near Sylvania Hotel

Third Beach to Prospect Point

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Stanley Park Seawall – Third Beach to Prospect Point



Seawall immediately after the storm (left) and repair work in progress (right).



Stanley Park Seawall – Repairs in Progress





Park Board equipment operator preparing accumulated logs for removal by log salvage boat at Second Beach

Debris Removal – Beaches – Seawall

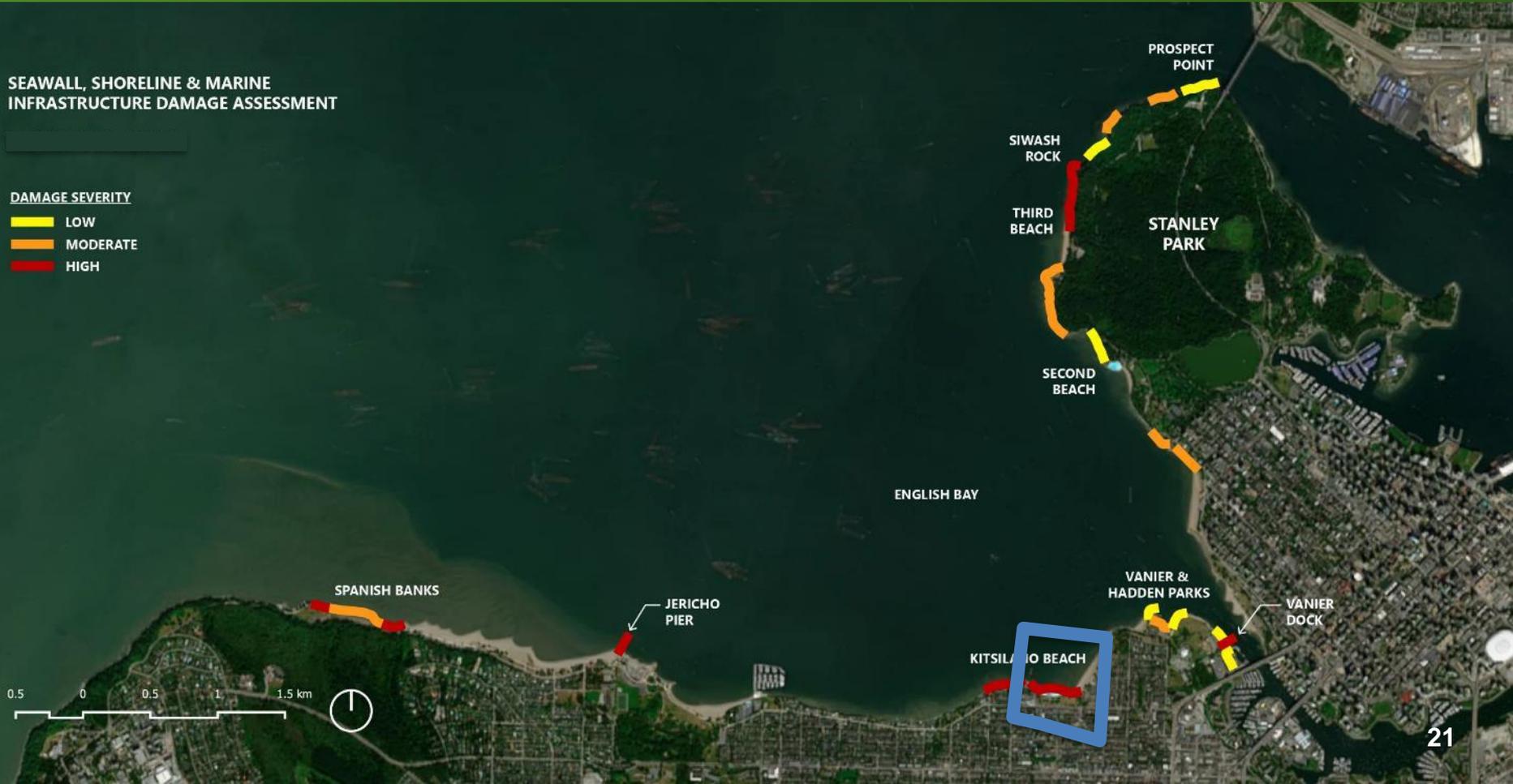


Kitsilano Pool and Seawall

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Kitsilano Pool and Seawall



Kitsilano Seawall – Damage adjacent to pool chambers



- Initial review in January from Pool Flooding
- Engineer's inspection on March 18
- Inspections have continued over the past 12 days
- Significant engineering review required prior to opening

Kitsilano Pool – Cracks in pool basin

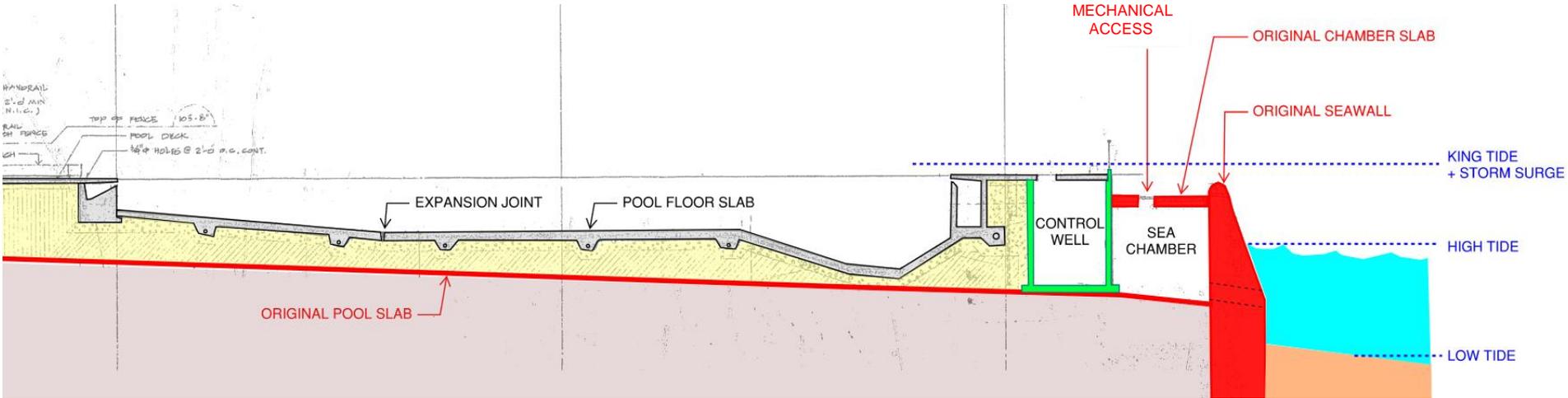


Kitsilano Pool – Heaving at Expansion Joints



Uplift at expansion joints at Kits Pool

Kitsilano Pool – Interfacing Components



Kitsilano Seawall – Sea Chambers

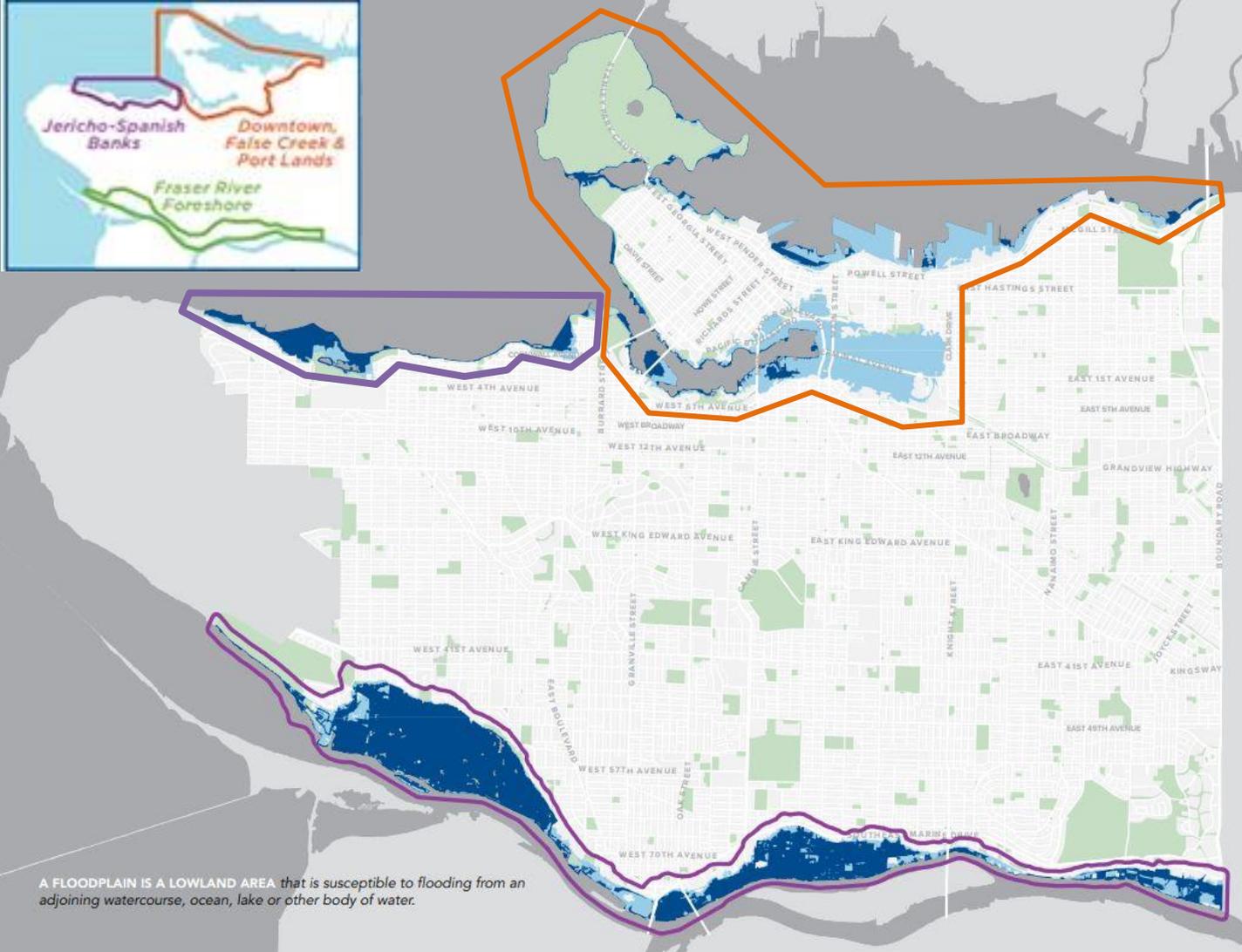




- Further detailed assessment is required
- Repairs to the pool lining coating and expansion joints

- Seawall and shorelines: ~\$1.5M
- Jericho Pier: ~\$20M (TBD)
- Vanier Dock: ~ \$0.5M
- Kitsilano Pool: TBD

- Map of flood extents
- Complexity of coastal processes
- Increased frequency & severity of storm events
- Next steps for coastal adaptation



The Path Forward: Coastal Adaptation Planning Process



Now

0) Incident Response & Like-for-like Repair

Medium term

1) Current State & Hazard mapping

Describe current coastal conditions e.g. form, sediment transport, coastal squeeze

2) Vulnerability assessment

What is at risk?

3) Design Principles and Approaches

What do we care about? What do we want to see in future?

Long term

4) Refine

What options will work for us?

5) Solution seeking

How can we implement?

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**West End Waterfront
Master Plan**



Sea2City Design Challenge

