

BUILDING A WORLD OF DIFFERENCE

22 January 2013

HARBOURFRONT COMMISSION TASK FORCE ON HARBOURFRONT DEVELOPMENTS IN KOWLOON, TSUEN WAN AND KWAI TSING

CONCEPTUAL DESIGN OF A DRY WEATHER FLOW INTERCEPTOR
AT CHERRY STREET BOX CULVERT



BLACK & VEATCH
Building a world of difference.

CONTENT

1. BACKGROUND
2. DESIGN CONSIDERATION
3. CONCEPTUAL DESIGN



BACKGROUND



BACKGROUND

The Need of DWFI

➤ *“Review of West Kowloon and Tsuen Wan Sewerage Master Plan”* by Environmental Protection Department (EPD)

- Poor Water Quality in stormwater drainage system
- Eventually discharge into New Yau Ma Tei Typhoon Shelter (NYMTTS)



Poor circulation
→ Odour problem



BACKGROUND

Recommended Solution

- ➔ Construct a Dry Weather Flow Interceptor (DWFI) near the outfall of Cherry Street Box Culvert (CSBC)

Upon completion of works

- Estimated **70%** of polluted flow will be **intercepted**
- Odour problem **significantly improved**
- **Improve environment** near NYMTTS



BACKGROUND

➤ Project

**Agreement No: CE1/2012 (DS) –
Construction of Dry Weather Flow Interceptor at Cherry
Street Box Culvert and Other Works – Investigation,
Design and Construction**

➤ Consultants

- **Black & Veatch Hong Kong Limited**
- **A-Lead Architects Limited**



BACKGROUND

Major Components of DWFI:

- **Pumping station**

—————→ (above ground structure occupy 8% of total site area)

- **Underground emergency bypass culvert**

- **Penstocks (water gates)**

—————→ mostly underground



PROGRAMME

➤ Progress

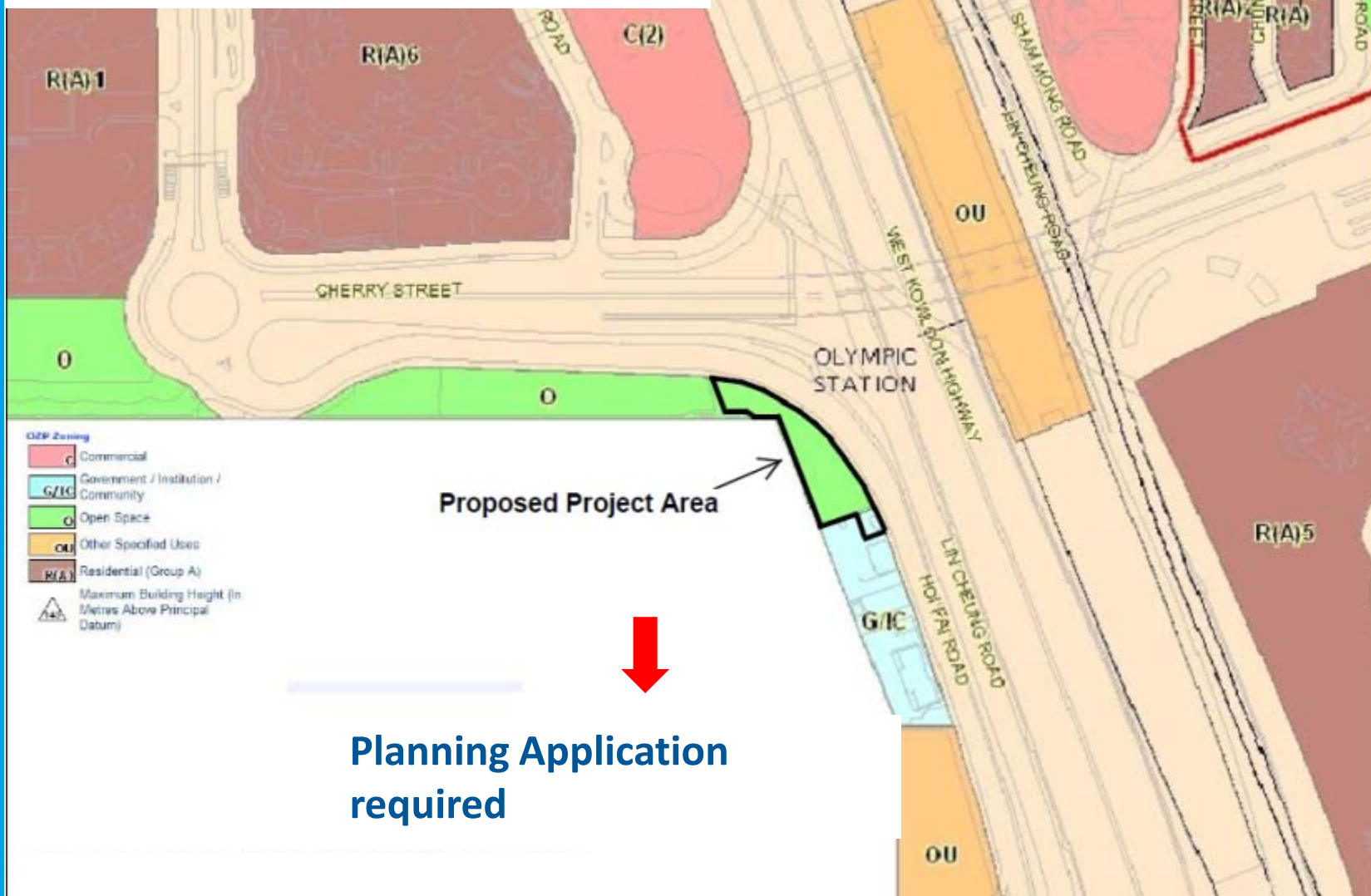
Investigation and Preliminary Design Stage

➤ Programme

	Commencement Date	Completion Date
investigation and detailed design	Aug 2012	Aug 2013
Construction Works	Feb 2014 (Tentative)	Sep 2018 (Tentative)



Draft South West Kowloon Outline Zoning Plan (OZP)



DESIGN CONSIDERATIONS

➤ Technical Considerations

- Functional needs
- Operation and Maintenance needs

➤ Land Use Planning Considerations

- Open Space
- Minimum footprint

➤ Harbourfront Objectives

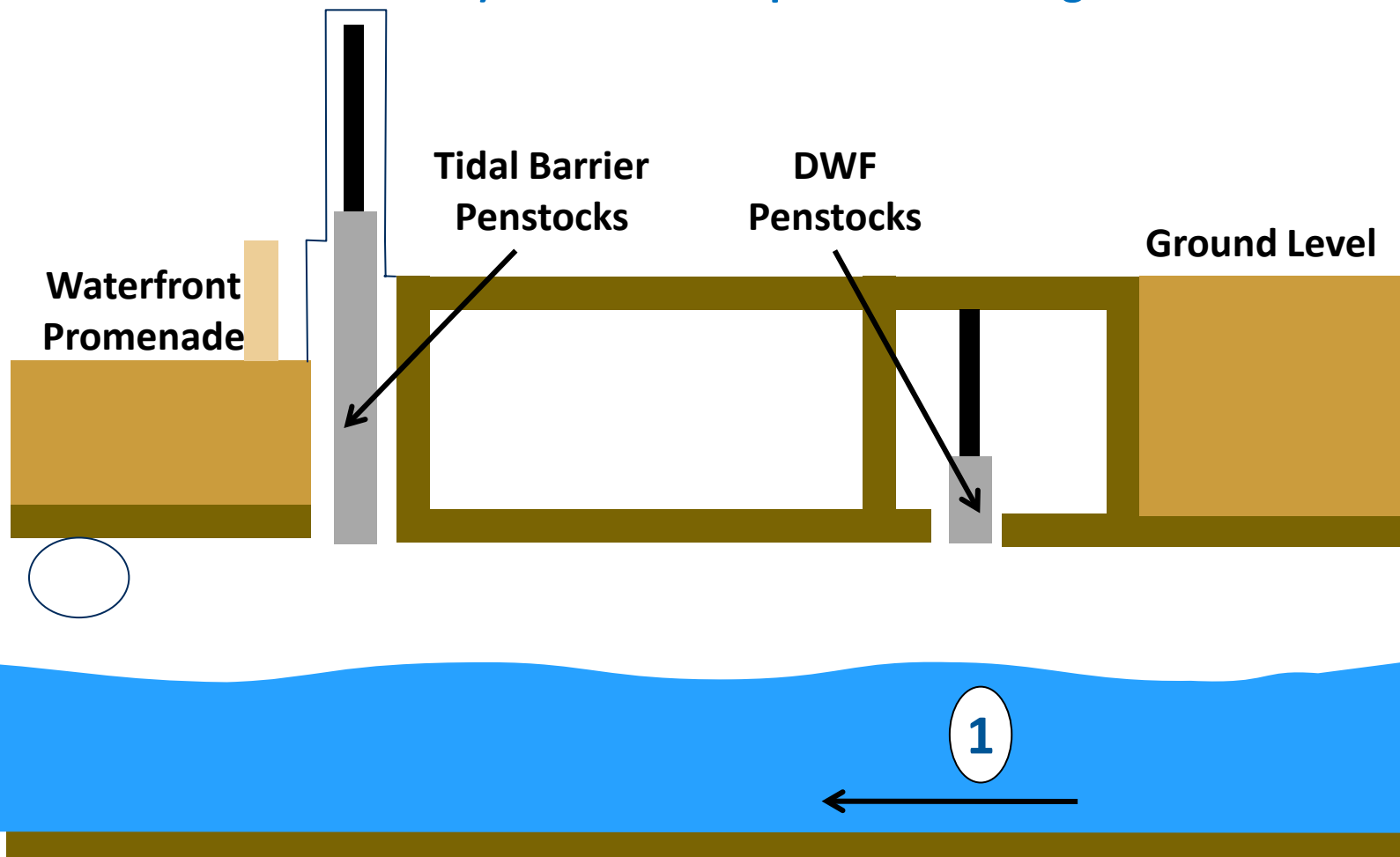
- Accessible Harbour
- Vibrant Harbour
- Public Enjoyment
- Integration with other Infrastructures
(Tai Kok Tsui Advance Promenade)



OPERATION

Scenario - Raining

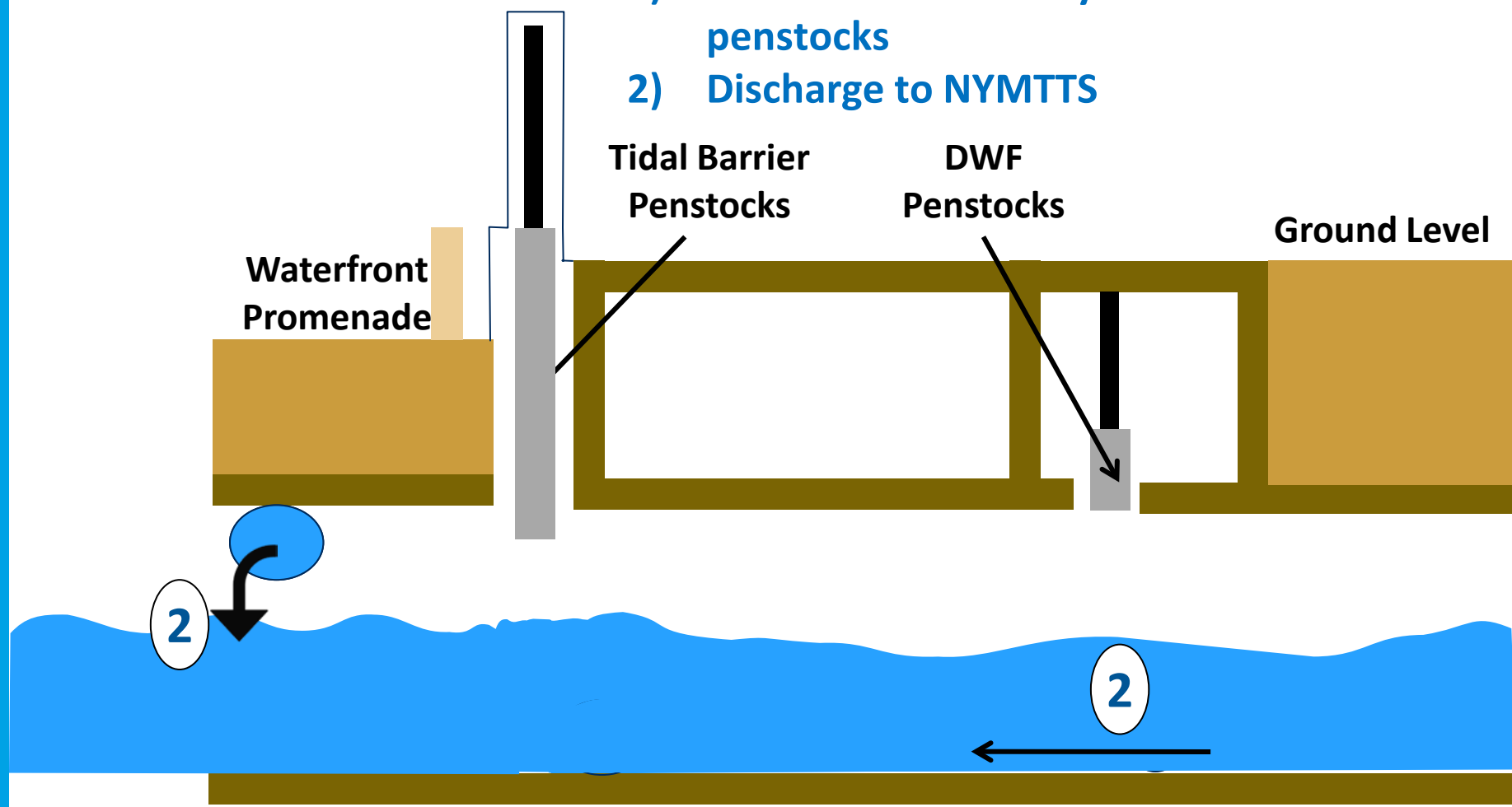
1) Penstocks open for discharge



OPERATION

Scenario – Restart after raining

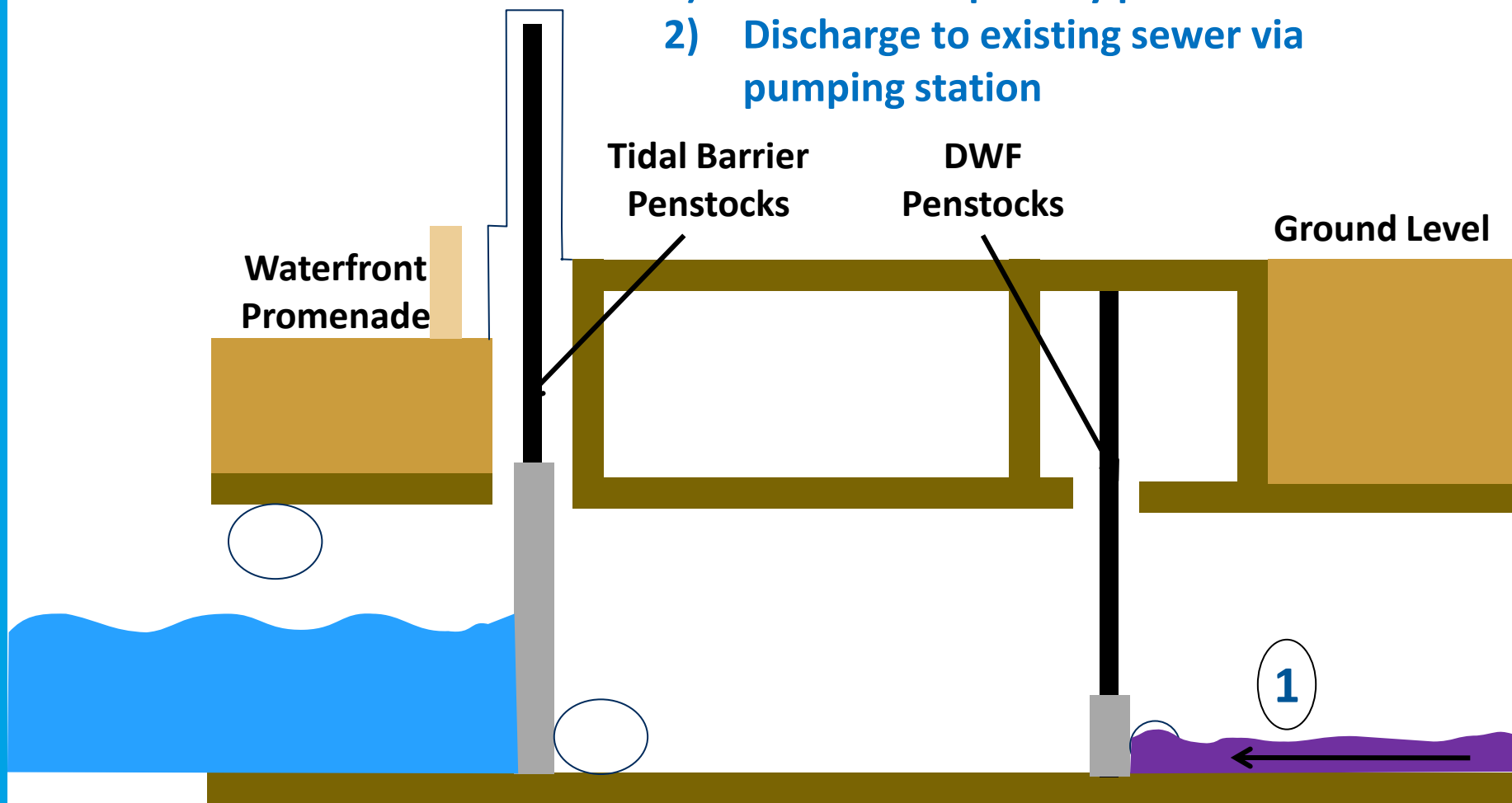
- 1) Sea water blocked by tidal barrier penstocks
- 2) Discharge to NYMTTS



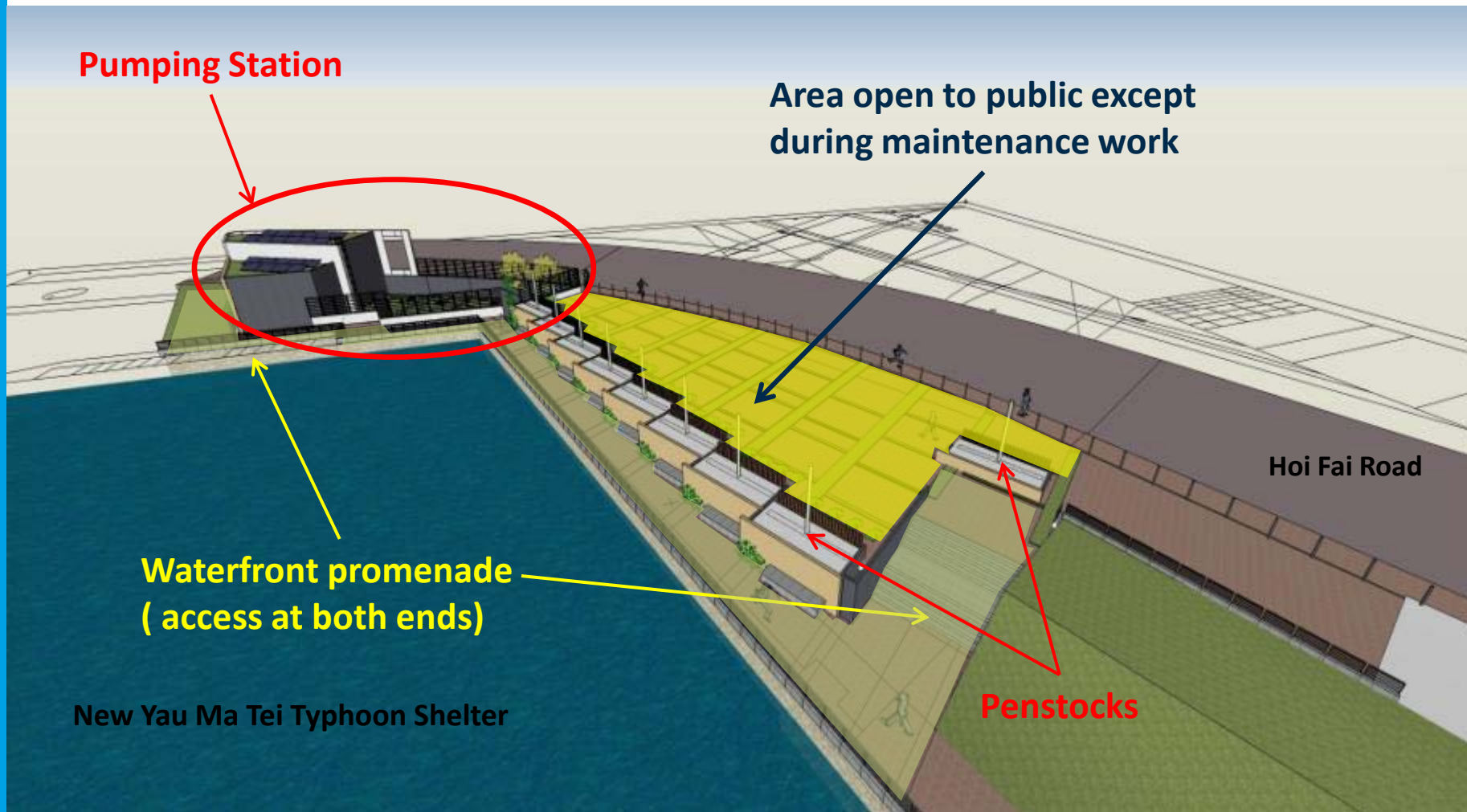
OPERATION

Scenario – Sewage interception

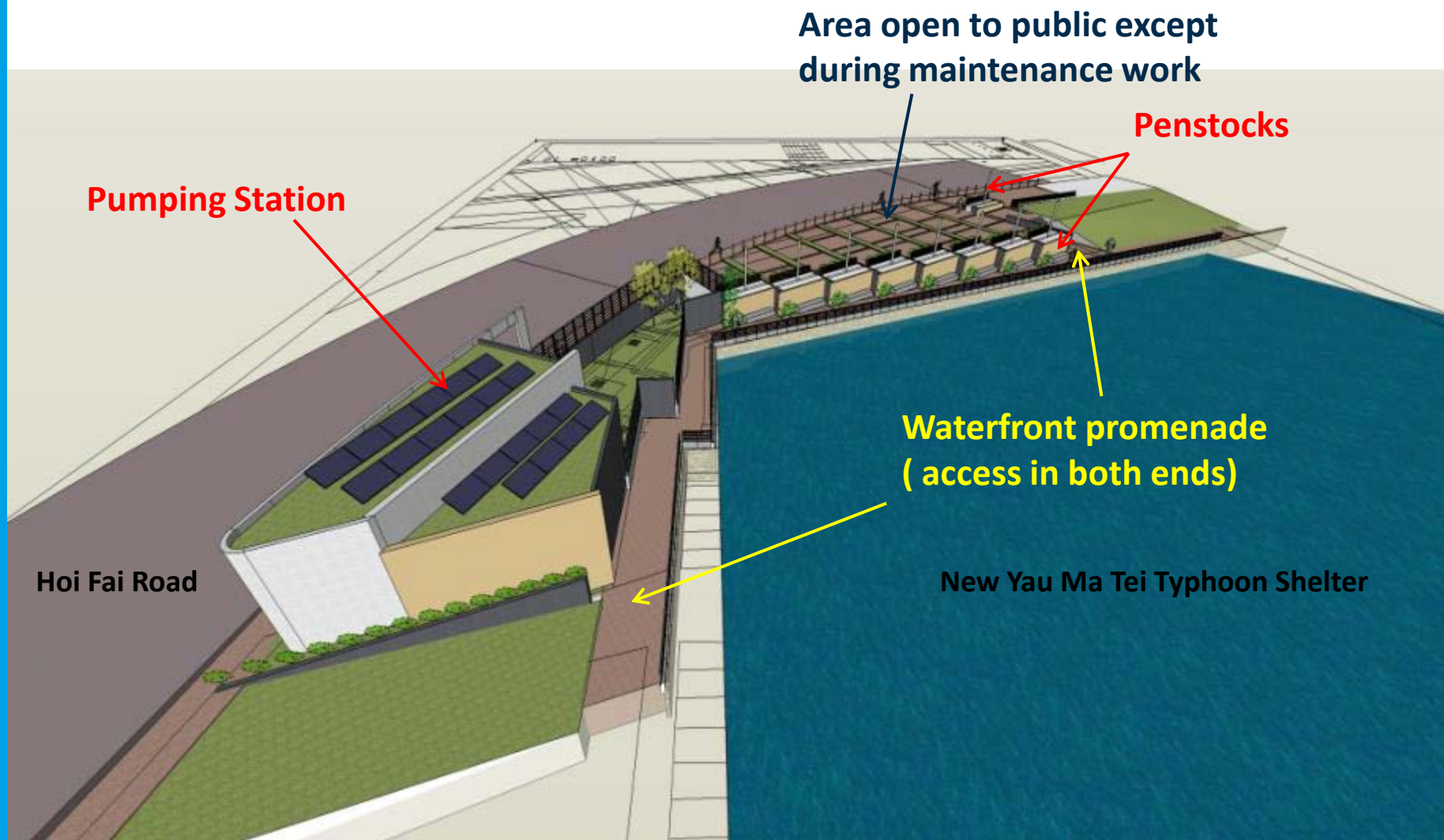
- 1) DWF intercepted by penstocks
- 2) Discharge to existing sewer via pumping station



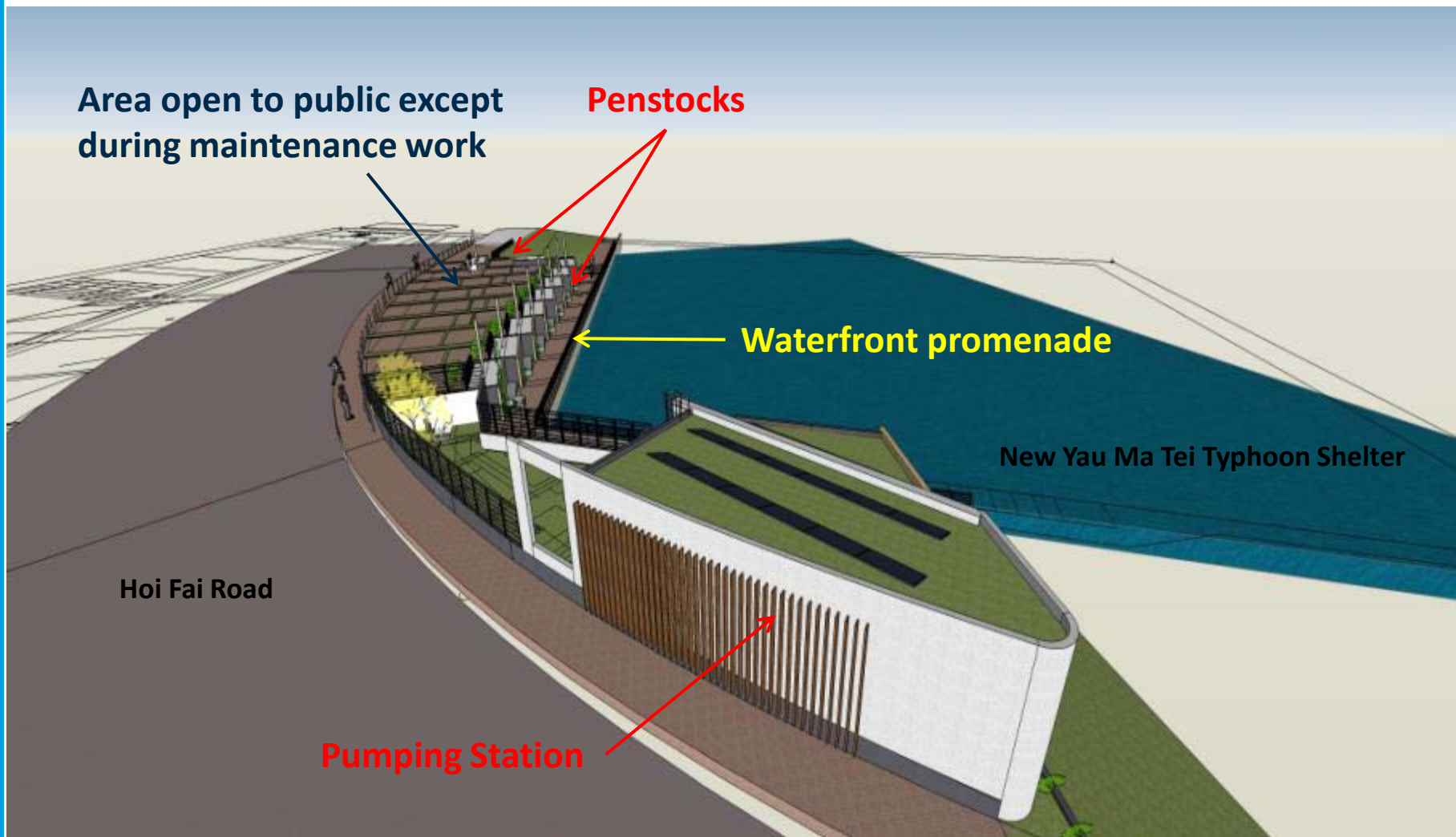
CONCEPTUAL DESIGN



CONCEPTUAL DESIGN



CONCEPTUAL DESIGN



CONCEPTUAL DESIGN



CONCEPTUAL DESIGN

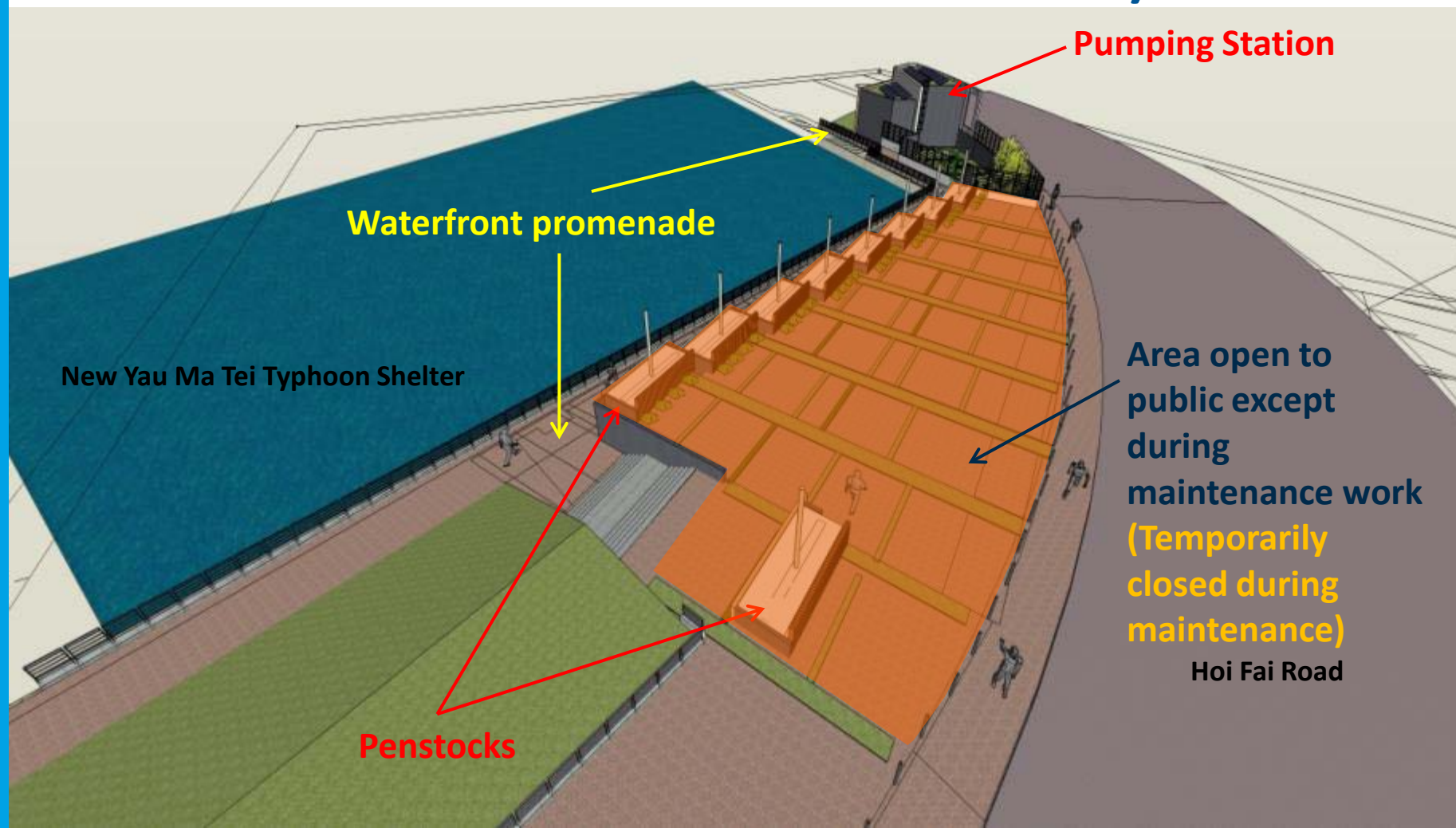


A LEAD architects Ltd.
新達建築師事務所有限公司
ARCHITECTURE INTERIOR LANDSCAPE

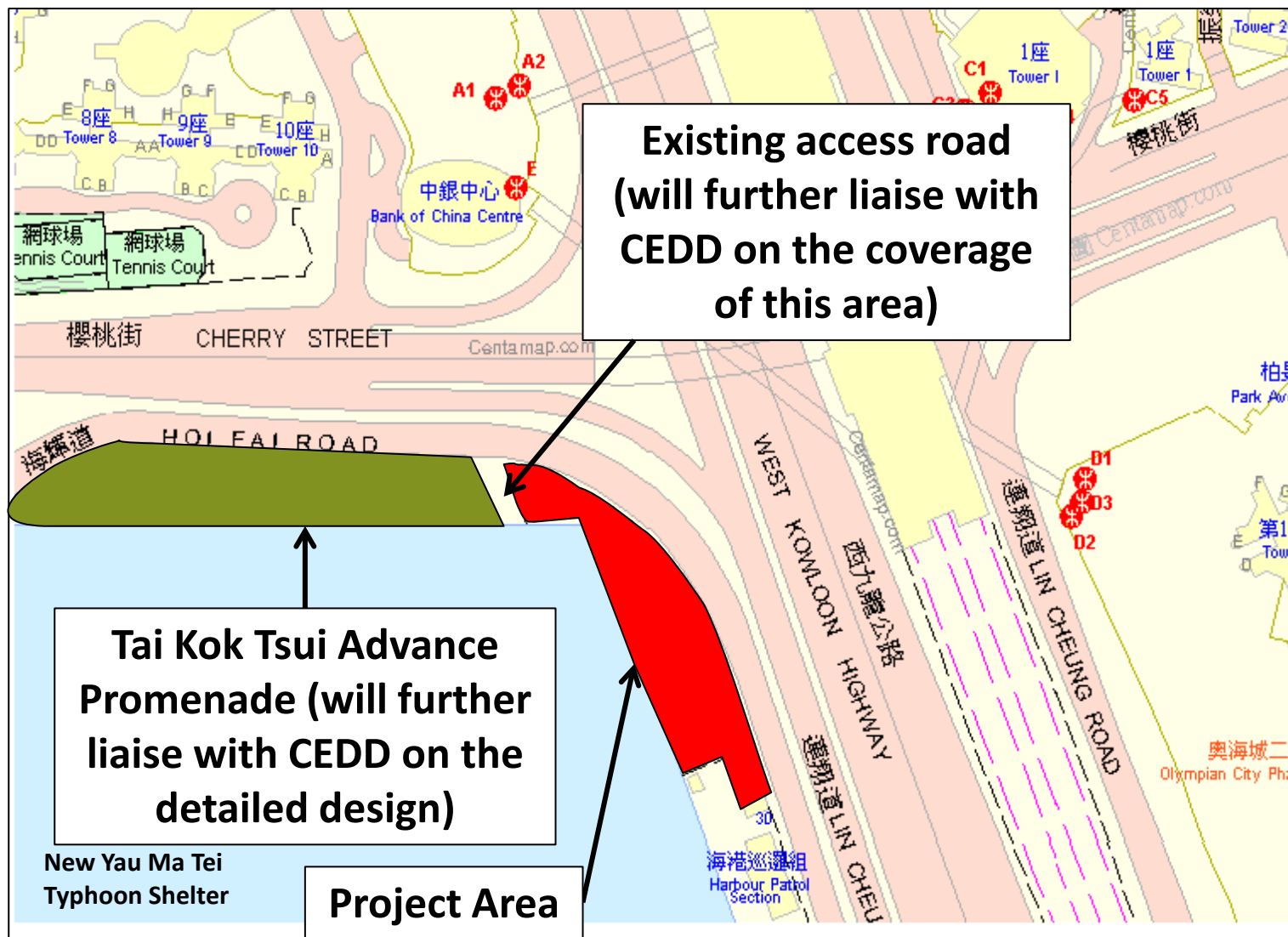
A LEAD architects HQ
8/F., The Phoenix
33 Legend Road,
Wanchai,
Hong Kong
T 852 2543 3223
F 852 2543 3281
E info@aleadarchitect.com
W www.aleadarchitect.com



DURING MAINTENANCE (3-4 MONTHS BETWEEN NOVEMBER AND MARCH)



Integration with Other Infrastructures (Tai Kok Tsui Advance Promenade)



Q & A





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