Task Force on Harbourfront Developments on Hong Kong Island

For discussion
on 25 April 2023

TFHK/03/2023

Development of Airport Railway Extended Overrun Tunnel (ARO)

PURPOSE

This paper seeks Members' views on the proposed development of the Airport Railway Extended Overrun Tunnel (ARO) project by the MTR Corporation Limited (MTR).

BACKGROUND

2. The ARO project consists of the construction of an underground tunnel of around 460 metres long to be built beneath Lung Wo Road at the East of Hong Kong Station (HOK), which will enable trains running on the Tung Chung Line (TCL) and Airport Express Line (AEL) to turn around at the back of the Hong Kong Station by installing scissor crossing east of Hong Kong Station and to attain the maximum train frequency[1].

3. The project also comprises the construction of an above-ground ventilation building (ARB) providing emergency access to the eastern end of the new tunnel. The layout plan of ARO is shown in **Appendix A.** MTR commenced the planning and preliminary design for ARO in March 2022.

PROPOSED VENTILATION BUILDING (ARB)

4. The ARB under the ARO project is a new ventilation building at the eastern end of the underground tunnels to support

[1] Upon completion of the ARO, TCL (Hong Kong Station to Tsing Yi Station section) and AEL would be able to achieve the carrying capacity at maximum frequencies of 24 trains per hour per direction (tphpd) and 8 tphpd respectively.

the train operation needs. The ARB will house the tunnel ventilation systems, and the tunnel evacuation system, in compliance with the associated Fire Strategy requirements. To serve these purposes, the ARB shall be located very close to the end of the ARO tunnel and therefore it is proposed to be located at the far southeast corner of Site 4 of the New Central Harbourfront. Permanent land occupation will be required with a footprint area of about 55 m x 40 m for the above-ground structure, vehicular access road and fire rescue access. The above-ground structure is designed as a two-storey structure with a structural height of approximately 18 m above the existing ground level. The initial exterior design is shown in **Appendix B**.

LAND OCCUPATION IN THE HARBOURFRONT AREA

5. In order to facilitate the implementation of the proposed ARO scheme, certain areas in the Central Harbourfront and Wan Chai North will be required as temporary work sites and work areas as shown in **Appendix C**, for works such as the construction of the tunnel and ventilation building, temporary traffic management scheme (TTMS), utility diversion, loading and unloading of construction materials and material storage for temporary stockpiling. The temporary work sites and work areas will be occupied tentatively starting from the first quarter of 2025 until the completion of works in 2032.

6. The temporary work sites and work areas will be reinstated and returned to the Government after the completion of the ARO project. In general, reinstatement works will be conducted on a "like-for-like" principle to reinstate the areas to their original conditions in close communications with relevant parties to cater for the latest planned uses in the Harbourfront area.

HARBOUR PLANNING PRINCIPLES

7. The proposed scheme of the ARO project is considered in line with the Harbour Planning Principles in the following aspects:

a) Preserving Victoria Harbour

The proposal will not involve any reclamation nor disruption to the Harbour. The new ARB facade design imitates the genre of the existing waterfront promenades, running tracks, boardwalks, and facilities. This preserves the existing visual characters of Victoria Harbour in order to maintain its economic and social values.

b) Stakeholder Engagement

Engagement meetings with the nearby stakeholders along the ARO proposed alignment have commenced since 2022. Close communication has also been established with the Site 3 Development Project for works coordination and integrated planning. Liaison on ARO design and construction had also been extended to neighbouring facilities including City Hall and Central Harbourfront Event Space. MTR will prudently arrange and implement site control measures to minimize as much as possible any impacts to the community.

c) Sustainable Development

The position of the ARB also takes into consideration the land use planning in the Harbourfront area with the goal to minimize the potential impact on the surrounding environment. Therefore the planning of the ARB embraces the principle of sustainable development by balancing the

economic and environmental needs in the vicinity.

d) Integrated Planning, Vibrant Harbour and Public Enjoyment

The ARB building has been designed to minimise its massing and maximize permeability with the adoption of "the gradation of building height profiles" in order to integrate with adjacent waterfront promenades, running tracks, boardwalks, and facilities. The design of ARB follows the design principle with respect to the Harbour Planning Guidelines for Victoria Harbour and its Harbourfront Areas. The initial exterior design, as shown in **Appendix B**, has been proposed to harmonize and complement the existing and future waterfront developments.

e) Accessible Harbour

The new promenade on Hong Kong Island North is being developed in stages with more leisure space along the waterfront of Victoria Harbour which will enrich the experience and enjoyment of the general public. The ARO will enhance the train operation efficiency for both TCL and AEL, adding an incentive for the general public from Lantau and Kowloon to visit the Harbour and enjoy the Victoria Harbour for recreation and relaxation.

To facilitate the underground tunnel construction, underground utilities will have to be diverted. The utility diversions and tunnel construction beneath Lung Wo Road would require temporary traffic diversion. As part of the preliminary design, MTRCL is conducting a temporary traffic impact assessment to develop TTMS which aims to give sufficient room for construction works while keeping all

traffic directions and pedestrian footpaths operational throughout different stages of works as far as possible. MTR will maintain close liaison with relevant government departments and the local community on the implementation of TTMS, and efforts will be made to reduce and mitigate any inconvenience or nuisances to the general public and road users for the accessibility to the Harbourfront.

To construct the ARO, TTMS will be implemented on Lung Wo Road and Yiu Sing Street. The operation of Hong Kong City Hall, the Hong Kong Observation Wheel and the Central & Western District Promenade at the Central Harbourfront will not be affected.

PROGRAMME

8. According to the latest programme, main works construction will commence in 2025 for completion by 2032.

WAY FORWARD

9. After consulting Harbourfront Commission, MTR will continue to develop the planning and design of ARO and proceed with the relevant statutory processes, such as the application for the railway scheme's gazettal under the Railways Ordinance.

ADVICE SOUGHT

10. Members are invited to provide comments on the above proposal.

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ATTACHMENTS

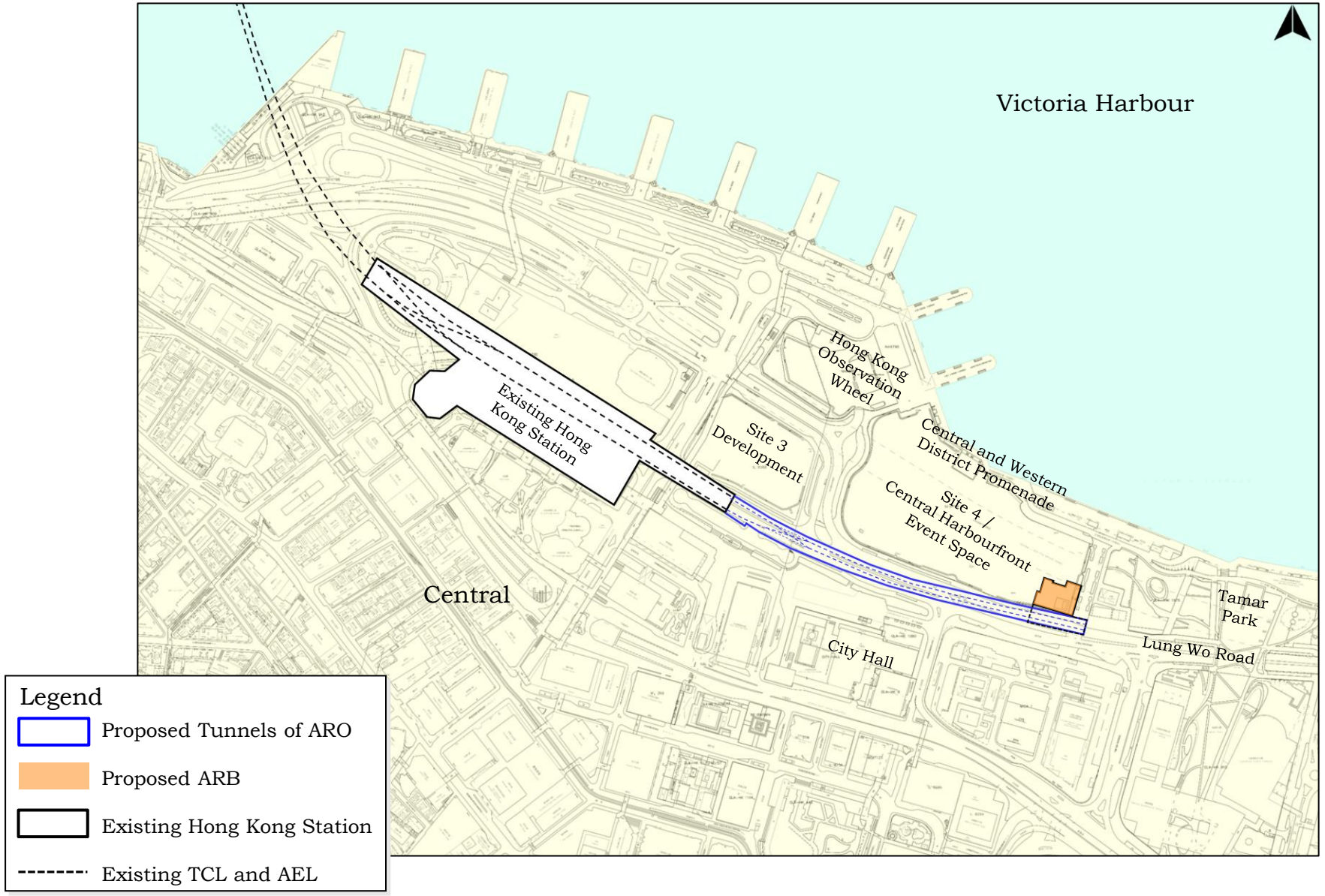
Appendix A: Layout Plan of ARO

Appendix B: Initial Exterior Design of ARB (View from the North)

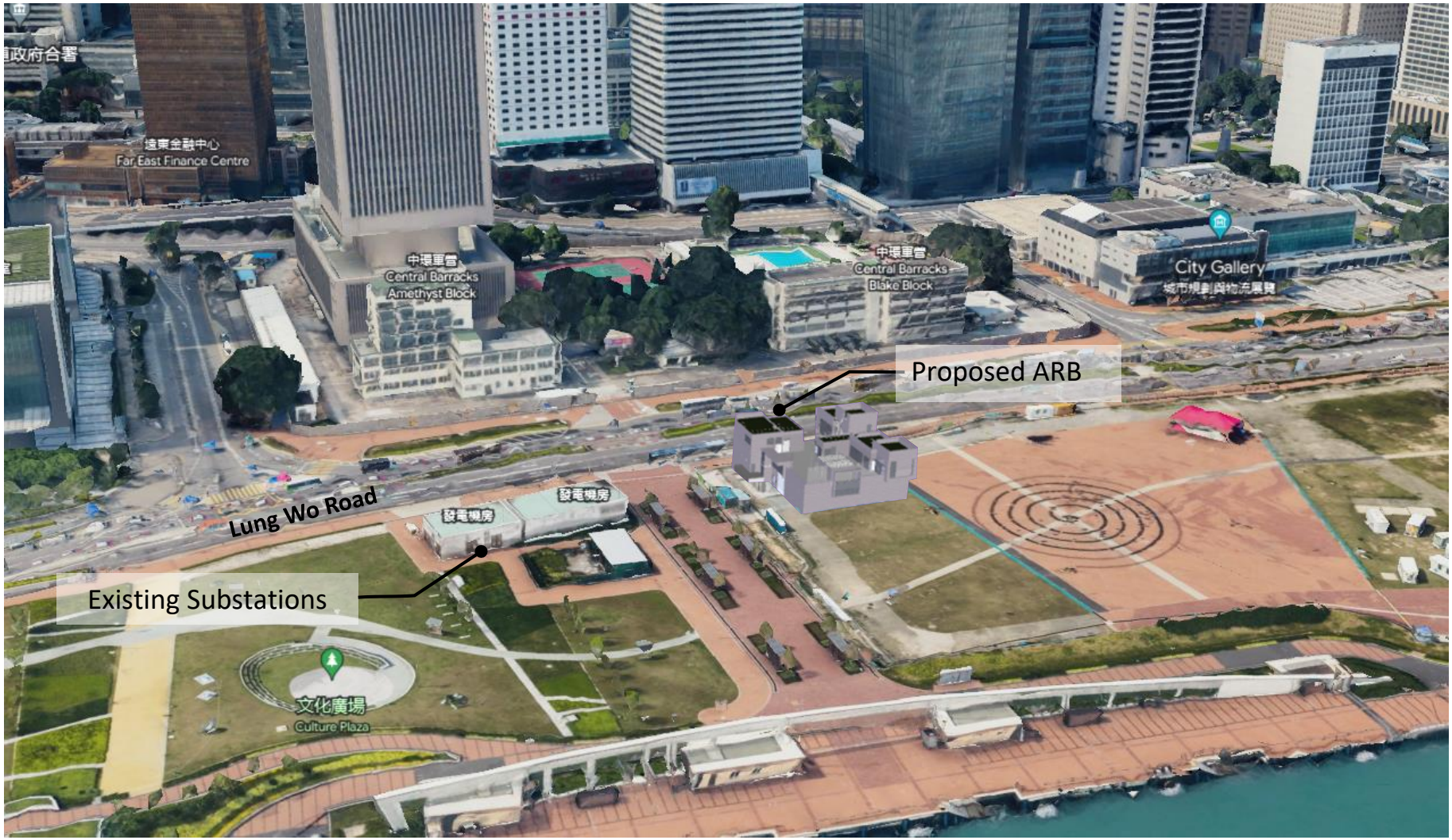
Appendix C: Temporary Works Sites and Works Areas for ARO

MTR Corporation Limited
April 2023

Airport Railway Extended Overrun Tunnel (ARO)
Layout Plan of ARO

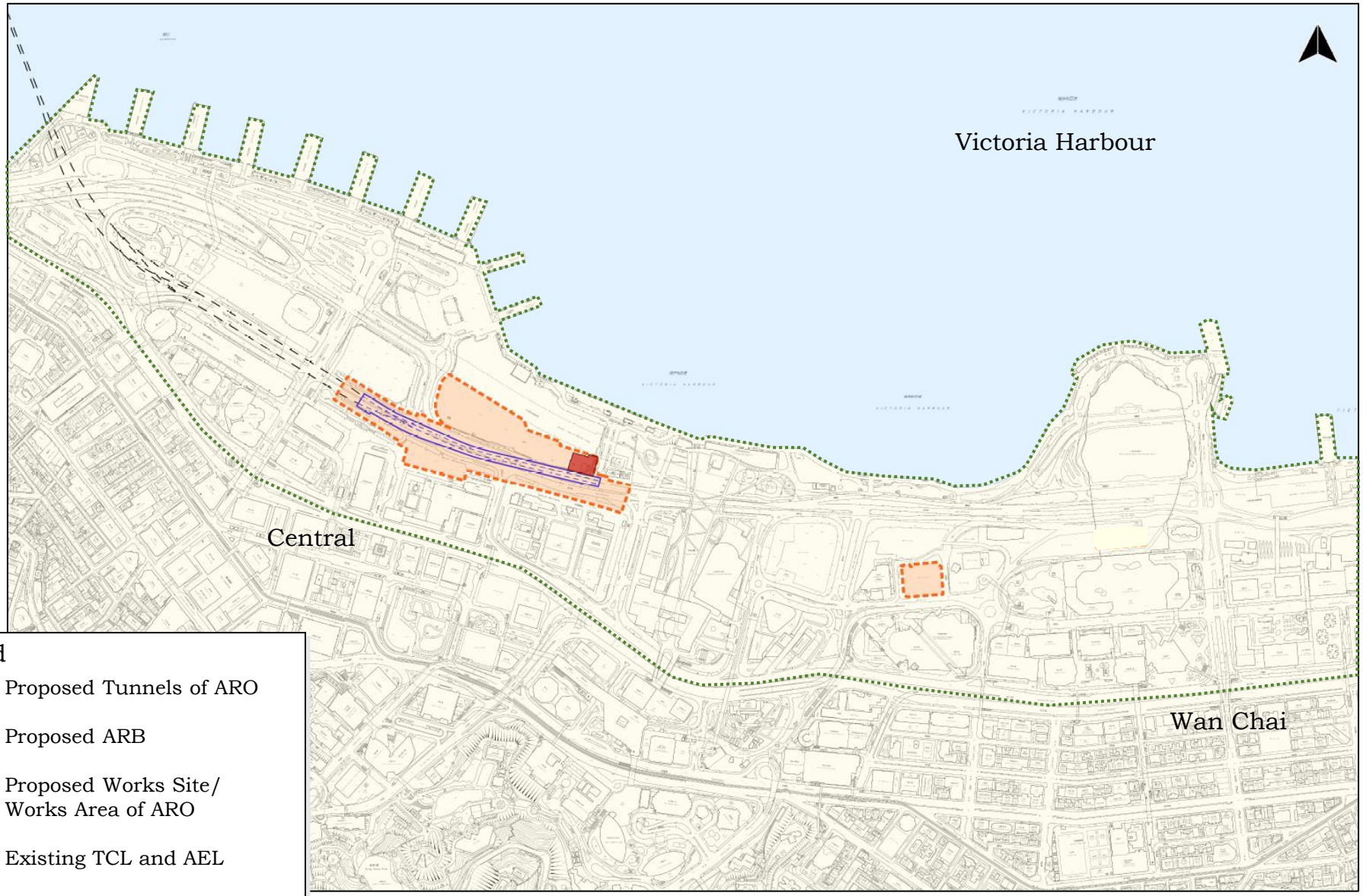


Airport Railway Extended Overrun Tunnel (ARO)
Initial Exterior Design of ARB (View from the North)



**The appearance of proposed ARB is subject to further change.*

Airport Railway Extended Overrun Tunnel (ARO)
Temporary Works Sites and Works Areas for ARO



**The above Works Site / Works Area of ARO would be subject to availability.*