

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT**

#### **Transport – Roads**

#### **873TH – Boardwalk underneath the Island Eastern Corridor**

Members are invited to recommend to the Finance Committee the upgrading of **873TH** to Category A at an estimated cost of \$1,682.0 million in money-of-the-day prices.

### **PROBLEM**

We need an innovative solution to overcome the physical constraints along the waterfront from Fortress Hill to Quarry Bay in order to realise the vision of a linked-up and easily accessible harbourfront along the northern shore of Hong Kong Island.

### **PROPOSAL**

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development, proposes to upgrade **873TH** to Category A, at an estimated cost \$1,682.0 million in money-of-the-day (MOD) prices, for the construction of a boardwalk underneath Island Eastern Corridor (IEC) (the proposed Boardwalk) linking up the planned promenade at Oil Street and the existing Quarry Bay Promenade, via the North Point Promenade.

### **PROJECT SCOPE AND NATURE**

3. The proposed scope of works under **873TH** comprises –

- (a) construction of a boardwalk of about 2.2 kilometres (km) long and at least 10 metres (m) wide (including a passage of about 0.4 km within the existing North Point Promenade) for different users, the access points to the hinterland, viewing platforms, and fishing platform;
- (b) construction of movable bridges;
- (c) provision of ancillary facilities with architectural features such as shelters, glass balustrades, seating, water dispensers, toilets, kiosks, as well as a management office and a function room at Hoi Yu Street;
- (d) implementation of beautification, modification and revitalisation works of existing facilities to be affected along the proposed Boardwalk, such as the North Point Promenade, Tong Shui Road Pier, North Point Vehicular Ferry Pier, Hoi Yu Street and IEC structures;
- (e) implementation of associated road, drainage, sewerage, electrical and mechanical (E&M), waterworks, landscaping works and other ancillary works; and
- (f) implementation of environmental mitigation measures and an environmental monitoring and audit (EM&A) programme for the works mentioned in items (a) to (e) above.

— A general layout plan and artist impressions of the proposed works are at **Enclosure 1**.

4. We plan to commence the proposed works upon obtaining funding approval from the Finance Committee (FC) for completion in phases between end 2024 and end 2025. We have invited tenders in parallel to enable early commencement of the proposed works to meet the programme. The contract will only be awarded upon obtaining FC's funding approval.

## **JUSTIFICATION**

5. It has long been the common aspiration of the Government, Harbourfront Commission (HC) and the community to make our harbourfront more accessible, connected and enjoyable. The Government aims to extend the total length of both sides of the harbourfront of Victoria Harbour from the current 24 kilometres to 34 kilometres in 2028.

6. The harbourfront along the northern shore of Hong Kong Island from Fortress Hill to Quarry Bay of over 2 km long is currently occupied by residential and commercial developments, public facilities, operating piers and IEC, with most parts not being accessible to the public. To overcome the existing physical constraint and realise the vision of a linked-up and easily accessible harbourfront, an innovative solution is required. Based on years of discussion and public engagement results, it has been widely accepted by the community that building a pedestrian walkway mainly underneath the existing IEC structure along the harbourfront is the best way forward.

7. The proposed Boardwalk comprises two sections. The western section (approximately 0.7 km long) will run from Oil Street to Tong Shui Road. The eastern section (approximately 1.1 km long) will run from Tin Chiu Street to Hoi Yu Street. These two sections will be connected by the existing North Point Promenade (approximately 0.4 km long). With the completion of the proposed Boardwalk, the harbourfront of the northern shore of Hong Kong Island stretching from Shek Tong Tsui in Western District to Aldrich Bay in Shau Kei Wan will be fully connected, providing a continuous promenade of some 12 km long for public enjoyment.

8. The alignment of the proposed Boardwalk will utilise the space underneath the IEC as far as possible, so as to reduce the construction cost by utilising the existing foundations of IEC and to minimise the impact on the Victoria Harbour. The proposed Boardwalk will maintain a width of at least 10 m to provide sufficient space for the safe and shared use among different users including pedestrians, joggers, cyclists and other user groups. Besides the four ends of the two proposed Boardwalk sections, there will be five more access points to enhance the connectivity with the hinterland<sup>1</sup> based on the current design. The proposed Boardwalk will include three movable bridges to allow vessels to access the coastal waters bounded by the proposed Boardwalk when necessary. The level of the proposed Boardwalk will also be kept close to water level, so as to offer a more pleasant and water-friendly experience to users. In addition, water supply, drainage, sewerage and utilities will be provided to support the provision of ancillary facilities such as toilets, water dispensers and kiosks. There will be viewing platforms for public enjoyment of the panoramic views of Victoria Harbour. A fishing platform will also be constructed to facilitate angling by the public.

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<sup>1</sup> The nine proposed access points from west to east are at or near 1) Oil Street; 2) Provident Centre; 3) Tong Shui Road Pier; 4) Pet Garden of North Point Promenade; 5) Tin Chiu Street; 6) North Point Ferry Concourse Promenade; 7) Man Hong Street; 8) Healthy Street East; and 9) Hoi Yu Street.

**FINANCIAL IMPLICATIONS**

9. We estimate the capital cost of the proposed works to be \$1,682.0 million in MOD prices, broken down as follows –

	<b>\$ million</b>
	<b>(in MOD prices)</b>
(a) Boardwalk	755.1
(b) Movable Bridges	142.6
(c) Ancillary facilities with architectural features	250.5
(d) Beautification, modification and revitalization works of existing facilities to be affected	86.8
(e) Associated road, drainage, sewerage, E&M, waterworks, landscaping works and other ancillary works	70.1
(f) Environmental mitigation measures and EM&A programme	53.9
(g) Consultants' fees for	12.4
(i) Contract administration	6.5
(ii) Management of resident site staff (RSS)	2.9
(iii) EM&A programme and independent environmental checker	3.0
(h) Remuneration of RSS	159.6
(i) Contingencies	151.0
Total	1,682.0

10. We propose to engage consultants to undertake contract administration and site supervision of the proposed works. A breakdown of the estimate for consultants' fees and RSS costs by man-months is at **Enclosure 2**.

11. Subject to funding approval, we plan to phase the expenditure as follows –

Year	\$ million (MOD)
2021 - 2022	18.6
2022 - 2023	324.3
2023 - 2024	428.6
2024 - 2025	440.5
2025 - 2026	223.5
2026 - 2027	111.8
2027 - 2028	94.3
2028 - 2029	40.4
	<hr style="width: 50%; margin: auto;"/> 1,682.0 <hr style="width: 50%; margin: auto;"/>

12. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2021 to 2029. Subject to funding approval, we will deliver the construction works under the New Engineering Contract (NEC)<sup>2</sup> form with provision for price adjustment.

13. We estimate the annual recurrent expenditure arising from the proposed works to be \$43.53 million.

## **PUBLIC CONSULTATION**

14. Since 2015, we have been engaging key stakeholders proactively in developing and refining the alignment of the proposed Boardwalk and ancillary facilities. Three rounds of community engagement exercises were held from 2016 to 2019 to solicit public views on the proposed Boardwalk. We consulted the Task Force on Harbourfront Developments on Hong Kong Island (TFHK) of the HC, the Planning, Works and Housing Committee (PWHC) under

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<sup>2</sup> New Engineering Contract is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasizes cooperation, mutual trust and collaborative risk management between contracting parties.

the Eastern District Council (EDC), professional institutes<sup>3</sup>, green groups, cyclist groups as well as local residents. We reached general consensus between the public and the relevant groups on the proposed alignment, width and ancillary facilities of the Boardwalk, and we have received clear support for early implementation of the proposed works.

15. We gazetted the proposed road works under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) and the proposed sewerage works under Cap. 370 as applied by section 26 of the Water Pollution Control (Sewerage) Regulation (Chapter 358AL) on 31 December 2020 and 8 January 2021 respectively. During the 60-day statutory objection lodging period, we received 285 objections. Out of the 285 objections, 282 of them were about the necessity of the proposed works, and location of the proposed link bridge connecting the proposed Boardwalk and the existing Provident Garden within Provident Centre. In response, we have explained the needs and considerations taken in providing the proposed link bridge. After receiving our replies, 45 objections were withdrawn unconditionally and were considered resolved. Another objection was about the proposed conversion of the upper deck of the North Point Vehicular Ferry Pier (NPVFP) to form a part of the proposed Boardwalk and was of the view that such design had not taken into account the risk of having objects being thrown from the proposed Boardwalk to the NPVFP. In response, we explained that risk assessment was completed with consultation from professional government departments, which concluded that the relevant potential risks is within a manageable range. An enclosure at suitable location on the NPVFP upper deck and its associated ramp would be erected to provide further protection with a view to preventing throwing objects from the upper deck and effectively safeguarding the pier operation. Another objection concerned that the operation of the proposed movable bridge in the close proximity to a private pier at North Point might affect the safety of the proposed Boardwalk users and vessels. In response, we explained that there would be detailed operation guidelines and protocol for ensuring the safe operation of the proposed movable bridge.

16. The Chief Executive-in-Council authorised the proposed works without modification on 22 June 2021. The notices of authorisation were subsequently gazetted on 9 and 16 July 2021.

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<sup>3</sup> The professional institutes include the Hong Kong Institute of Architects, the Hong Kong Institute of Landscape Architects, the Hong Kong Institute of Planners, the Hong Kong Institute of Urban Design and the Association of Engineering Professionals in Society Ltd.

17. Besides, we consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)<sup>4</sup> on the aesthetic design of the proposed works on 16 March 2021 and 20 April 2021. The Committee accepted the aesthetic design of the proposed works.

18. On 17 and 25 May 2021, we reported to the TFHK of the HC and the PWHC under the EDC respectively on the latest progress as well as the proposed architectural and landscape design of the Boardwalk. Members in general supported the design and urged for the early implementation of the proposed works.

19. We briefed the Legislative Council Panel on Development on 30 April 2019 on the scheme for the proposed Boardwalk. We further consulted the Legislative Council Panel on Development on 24 August 2021 on the project. Members supported the proposed works. As suggested by some Members, we subsequently further communicated with the Hongkong and Yaumati Ferry Company Limited on their concerns about impact of proposed works on the operation of the existing NPVFP. We explained again that the design of the proposed Boardwalk had taken full considerations of the relevant concerns, in addition that a risk assessment had been conducted and an enclosure would be erected to safeguard the pier operation. The Hongkong and Yaumati Ferry Company Limited noted our explanations and it was agreed to continue maintaining close liaison during construction stage between both parties.

## **ENVIRONMENTAL IMPLICATIONS**

20. The proposed works are not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have conducted a Preliminary Environmental Review for the proposed works. The review concluded that the proposed works would not cause long-term adverse environmental impact, and we will implement suitable mitigation measures during construction stage to control short-term environmental impacts caused by the proposed works.

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<sup>4</sup> ACABAS is responsible for vetting the design of bridges and other structures associated with the highway system, from the aesthetic and visual impact points of view. It comprises representatives of the Hong Kong Institute of Architects, Hong Kong Institution of Engineers, Hong Kong Institute of Planners, academic institutions, Architectural Services Department, Highways Department, Housing Department, and Civil Engineering and Development Department.

21. We will implement the mitigation measures and an EM&A programme as recommended in the Preliminary Environmental Review Report. The recommended mitigation measures include the provision of wheel-washing facilities, use of quieter construction equipment and temporary noise barriers, deployment of silt curtains during marine works, and provision of sand/silt removal facilities and implementation of proper treatment of site runoff. We have included the cost of implementing the environmental mitigation measures and EM&A programme in the overall estimate of the proposed works.

22. At the planning and design stages, we have considered the design and the construction sequence of the proposed works to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil and rock fill) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities<sup>5</sup>. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste and the use of non-timber formwork to further reduce the generation of construction waste.

23. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

24. We estimate that the proposed works will generate in total of about 14 500 tonnes of construction waste. Of these, we will reuse about 2 600 tonnes (18%) of inert construction waste on site and deliver about 11 400 tonnes (79%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining about 500 tonnes (3%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at public fill reception facilities and landfill sites is estimated to be about \$0.9 million for the proposed works (based on a unit charge rate of \$71 per tonne for disposal at public fill reception facilities, and \$200 per tonne for disposal at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

/ **HERITAGE**. .....

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<sup>5</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at public fill reception facilities requires a license issued by the Director of Civil Engineering and Development.



## HERITAGE IMPLICATIONS

25. The proposed works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

## TRAFFIC IMPLICATIONS

26. The proposed Boardwalk will provide an alternative route at waterfront for the public to travel along North Point. We have conducted a traffic impact assessment for the proposed works. It is concluded that the proposed works will not cause any significant impact to land traffic during construction. Notwithstanding this, temporary traffic arrangements will be implemented to facilitate the construction works which require temporary road closure. We will display publicity boards on site giving details of the temporary traffic arrangements, and the anticipated completion dates of individual section of works. In addition, we will set up a telephone hotline to respond to public enquires or complaints.

27. For marine traffic, we have conducted a marine traffic impact assessment which concluded that, after the implementation of risk mitigation measures (including the installation of additional marker buoys and deployment of boats to assist marine traffic control), the proposed works will not cause any significant marine traffic impact. We will also closely liaise and arrange interface and coordination meetings among stakeholders during construction stage to ensure effective communication.

## LAND ACQUISITION

28. The proposed works require land resumption and clearance in an area of about 871 square metres (m<sup>2</sup>) in a private land, creation of easements and other permanent rights in an area of about 193 m<sup>2</sup> in a private land, and creation of rights of temporary occupation of land in an area of about 19 m<sup>2</sup> in a private land. The land acquisition cost is estimated at \$56.1 million, and will be charged to **Head 701 – Land Acquisition**. A breakdown of estimated land acquisition cost is at **Enclosure 3**.

**BACKGROUND INFORMATION**

29. We upgraded **873TH** to Category B in October 2017.

30. In December 2019, we commissioned consultants to proceed with the detailed design of the proposed Boardwalk, cost of which is about \$21.5 million. It is funded by block allocation **Subhead 7100CX** “New towns and urban area works, studies and investigations for items in Category D of the Public Works Programme”. The detailed design of the proposed works has been substantially completed.

31. Of the 63 trees within the project boundary, 19 trees will be retained, 37 trees will be transplanted elsewhere and 7 trees, which all are not important trees<sup>6</sup>, will be felled. We will incorporate planting proposals as part of the proposed works, including planting of 11 number of trees and 3 950 number of shrubs.

32. We estimate that the proposed works will create about 400 jobs (320 for labourers and another 80 for professional/technical staff) providing a total employment of 17 000 man-months.

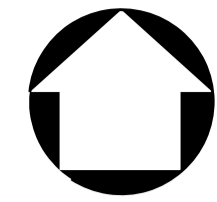
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Development Bureau  
September 2021

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<sup>6</sup> “Important trees” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

- (a) trees of 100 years or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument and trees in memory of important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall tree size, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height or canopy spread equal or exceeding 25 m.



0 100 200 300 米 m

比例尺 Scale Bar

維多利亞港  
VICTORIA HARBOUR

北角海濱花園段  
長約0.4公里  
NORTH POINT  
PROMENADE  
APPROX.  
0.4km LONG

東段  
長約1.1公里  
EASTERN SECTION  
APPROX. 1.1km LONG

西段  
長約0.7公里  
WESTERN SECTION  
APPROX. 0.7km LONG



註釋 NOTES :

1. 除在其他方面指定外，所有量度以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
2. 所有水平均為約數，以米為單位，並在香港主水平基準以上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPLE DATUM.

圖例 LEGEND :

- 擬議行人板道  
PROPOSED BOARDWALK
- 擬議行人板道水平  
PROPOSED BOARDWALK LEVEL
- 擬議連接點  
PROPOSED ACCESS POINT

擬議東岸公園(由其他工程項目負責建造)  
PROPOSED EAST COAST PARK  
(TO BE CONSTRUCTED BY OTHER PROJECT)

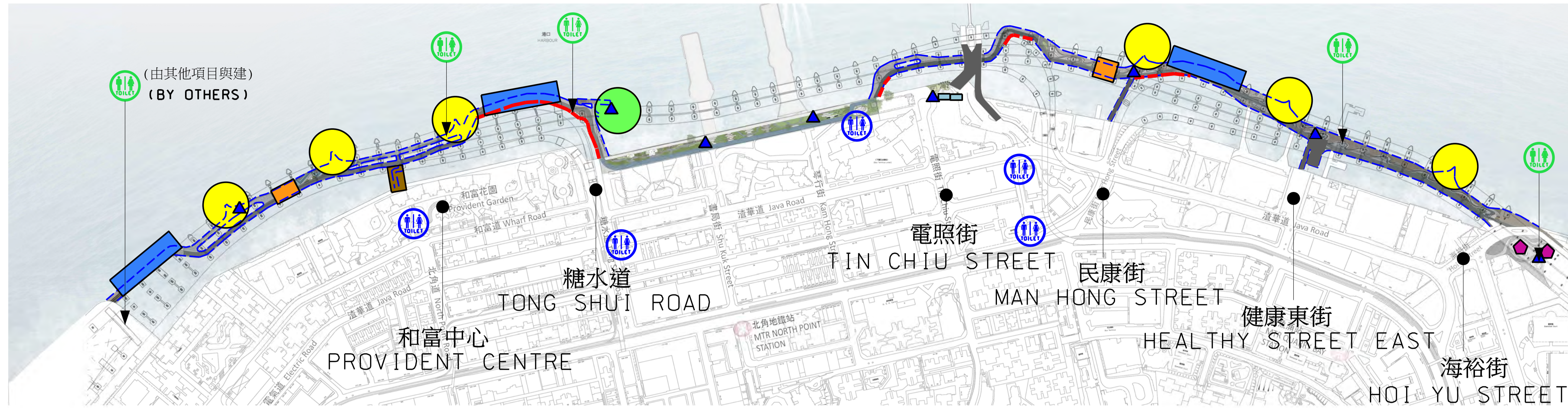
北角  
NORTH POINT

炮台山  
FORTRESS HILL


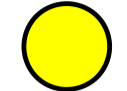
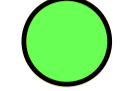



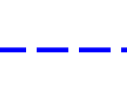





鯗魚涌  
QUARRY BAY

工程名稱 Project Title  
工務計劃項目第 873TH 號  
東區走廊下之行人板道  
PWP ITEM NO. 873TH  
BOARDWALK UNDERNEATH  
ISLAND EASTERN CORRIDOR

圖則名稱 Plan Title  
總平面圖  
GENERAL LAYOUT PLAN



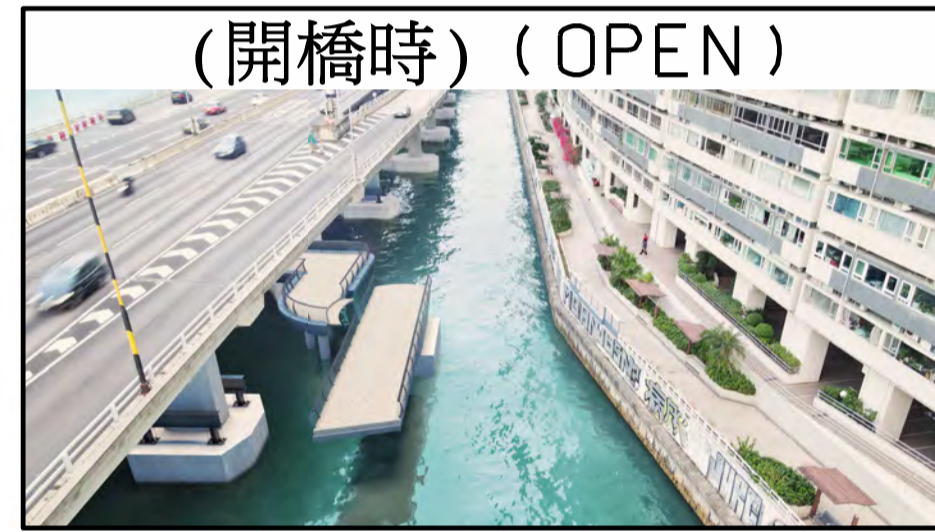
圖例 LEGEND :

-  擬議階梯式座位  
PROPOSED CASCADE SEATING
-  擬議觀景台  
PROPOSED VIEWING PLATFORM
-  擬議釣魚平台  
PROPOSED FISHING PLATFORM
-  擬議開合橋(平轉式)  
PROPOSED MOVABLE BRIDGE (SWING TYPE)
-  擬議開合橋(豎旋式)  
PROPOSED MOVABLE BRIDGE (BASCULE TYPE)
-  擬議上蓋  
PROPOSED SHELTER
-  擬議欄杆  
PROPOSED BALUSTRADE
-  擬議洗手間  
PROPOSED TOILET
-  現有洗手間  
EXISTING TOILET
-  擬議售物亭  
PROPOSED KIOSK
-  擬議管理處和活動室  
PROPOSED MANAGEMENT OFFICE AND FUNCTION ROOM
-  擬議飲水機  
PROPOSED WATER DISPENSER

 擬議觀景台  
PROPOSED VIEWING PLATFORM



 擬議開合橋(平轉式)  
PROPOSED MOVABLE BRIDGE (SWING TYPE)



 擬議上蓋  
PROPOSED SHELTER



 擬議釣魚平台  
PROPOSED FISHING PLATFORM



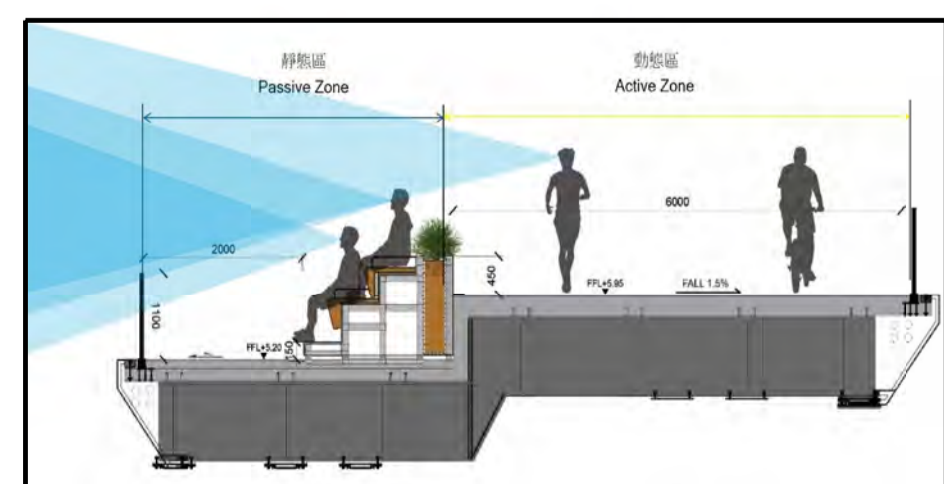
 擬議售物亭  
PROPOSED KIOSK



 擬議開合橋(豎旋式)  
PROPOSED MOVABLE BRIDGE (BASCULE TYPE)



 擬議階梯式座位  
PROPOSED CASCADE SEATING



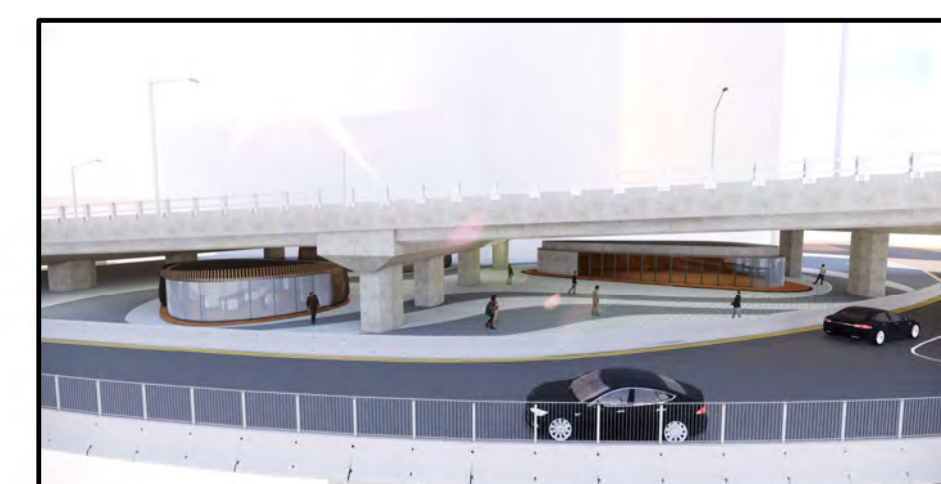
 擬議洗手間  
PROPOSED TOILET



 擬議飲水機  
PROPOSED WATER DISPENSER



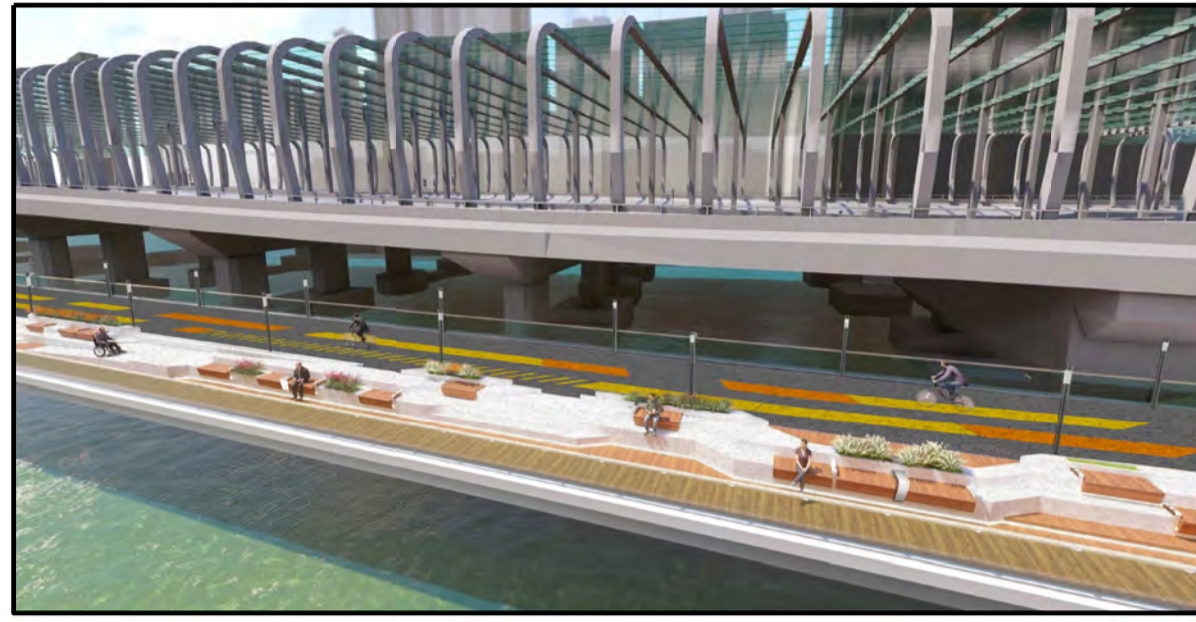
 擬議管理處和活動室  
PROPOSED MANAGEMENT OFFICE AND FUNCTION ROOM



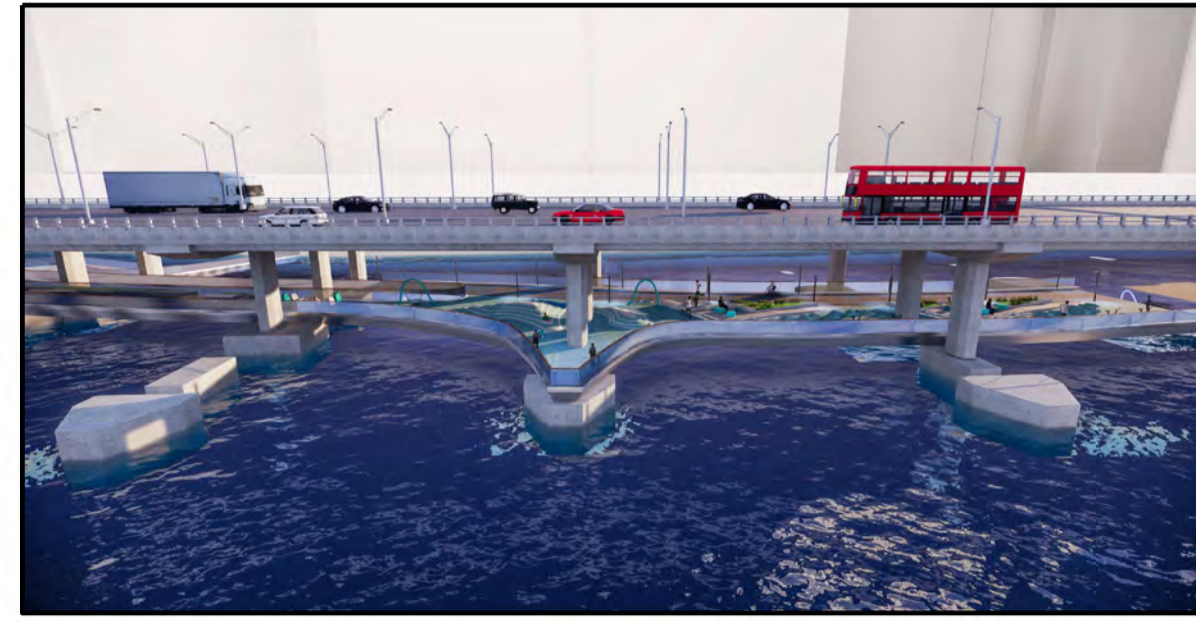
工程名稱 Project Title  
工務計劃項目第 873TH 號  
東區走廊下之行人板道  
PWP ITEM NO. 873TH  
BOARDWALK UNDERNEATH  
ISLAND EASTERN CORRIDOR

圖則名稱 Plan Title  
設計特色  
DESIGN FEATURES

① 汐·日光之階  
SUN WAVE



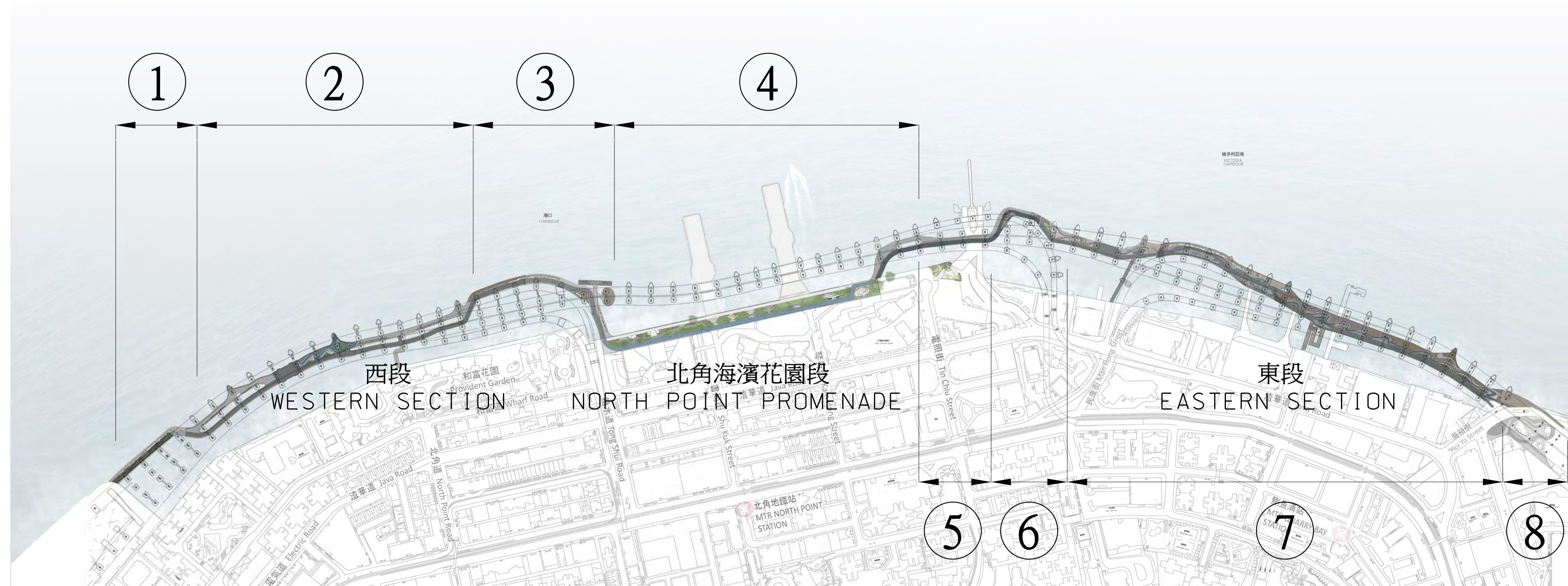
② 淘·童夢之園  
PLAY WAVE



③ 漁·釣魚平台  
FISH WAVE



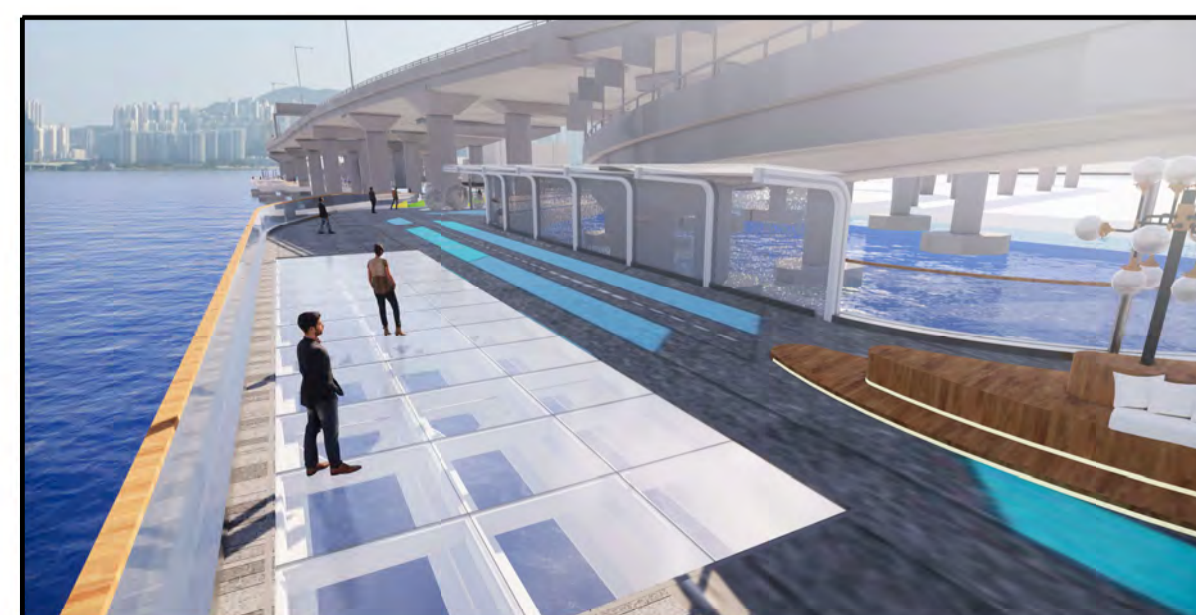
④ 滙·共融空間  
GATHER WAVE



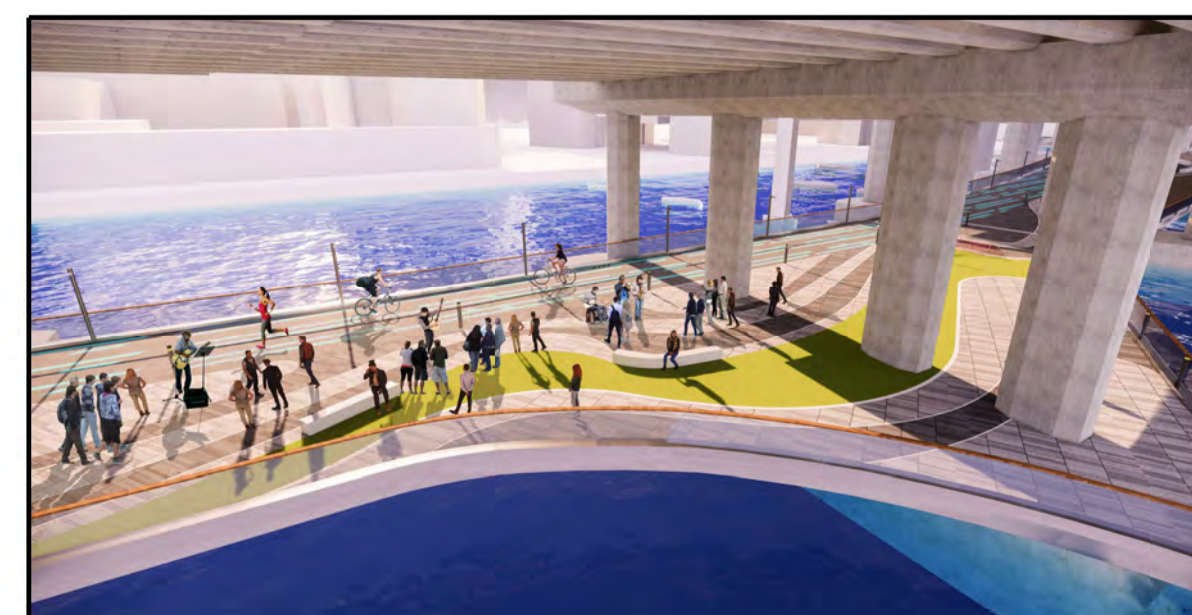
⑤ 渡·寵物花園  
PET WAVE



⑥ 濂·水空之鏡  
SKY WAVE



⑦ 演·藝創長廊  
ART WAVE



⑧ 瀚·閒聚樞紐  
WAVE HUB



工程名稱 Project Title  
工務計劃項目第 873TH 號  
東區走廊下之行人板道  
PWP ITEM NO. 873TH  
BOARDWALK UNDERNEATH  
ISLAND EASTERN CORRIDOR

圖則名稱 Plan Title  
設計主題區  
DESIGN THEMATIC ZONE

**873TH – Boardwalk underneath the Island Eastern Corridor**

**Breakdown of the estimates for consultants’ fees and resident site staff costs  
(in September 2020 prices)**

		<b>Estimated man- months</b>	<b>Average MPS* salary point</b>	<b>Multiplier (Note 1)</b>	<b>Estimated fee (\$ million)</b>
(a)	Consultants’ fees for contract administration (Note 2)				
	Professional	–	–	–	3.9
	Technical	–	–	–	1.6
				Sub-total	<u>5.5#</u>
(b)	Resident site staff (RSS) costs (Note 3)				
	Professional	396	38	1.6	54.4
	Technical	1 740	14	1.6	84.2
				Sub-total	<u>138.6</u>
	Comprising –				
	(i) Consultants’ fees for management of RSS				2.5#
	(ii) Remuneration of RSS				136.1#
				<b>Total</b>	<b><u>144.1</u></b>

\* MPS = Master Pay Scale

**Notes**

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = \$85,870 per month and MPS salary point 14 = \$30,235 per month).
2. The consultants’ staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **873TH**. The construction phase of the assignment will only be executed subject to Finance Committee’s approval to upgrade **873TH** to Category A.
3. The actual man-months and fees will only be known after the completion of the construction works.

**Remarks**

The cost figures in this Enclosure are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 9 of the main paper.

**873TH – Boardwalk underneath the Island Eastern Corridor**

**Breakdown of the land acquisition cost**

	<b>\$ million</b>
<b>(I) Estimated cost for land compensation</b>	<b>51.0</b>
<b>(II) Interest and Contingency payment</b>	<b>5.1</b>
<b>Total</b>	<b>56.1</b>

**Note**

The above estimated land acquisition cost is based on the prevailing rate as at May 2021.