

Port Operations Committee

Designation of Vessels Height Restricted Areas (VHRAs)
for Cross Bay Link, Tseung Kwan O, Tseung Kwan O Interchange
and Southern Bridge in Tseung Kwan O

Purpose

Members are invited to refer to the **Annex** for the proposed designation of vessel height restricted areas for Cross Bay Link, Tseung Kwan O, Tseung Kwan O Interchange and Southern Bridge in Tseung Kwan O, and submit comments, if any, by replying to the Secretariat on or before 16th September 2022.

Marine Department
2 September 2022

**Designation of Vessels Height Restricted Areas (VHRAs)
for Cross Bay Link, Tseung Kwan O Interchange and Southern
Bridge in Tseung Kwan O**

PURPOSE

This paper seeks members' views on the proposed establishment of vessels height restricted areas (VHRAs) along the viaducts of Cross Bay Link, Tseung Kwan O (CBL), Tseung Kwan O Interchange (TKOI), and the Southern Bridge (SB) in Tseung Kwan O (TKO). The vessels height restrictions are proposed to avoid risk of vessel collision with the bridge structures and maintain marine safety within the vicinity.

BACKGROUND

2. The CBL is an about 1.8 kilometres long dual two-lane carriageway across Junk Bay mainly on viaduct, with cycle track and footpath. It connects Tseung Kwan O - Lam Tin Tunnel, which is under construction, and Wan Po Road near Area 86 of TKO. The TKOI consists of marine viaducts connecting Tseung Kwan O - Lam Tin Tunnel and Tseung Kwan O Town Centre as well as CBL. The SB is an about 150 metres long footbridge which spans over the Eastern Channel and connects TKO Area 68 and TKO Area 77. The layout of CBL, TKOI and SB is shown at **Appendix A**.

3. In order to maintain the navigation channels for marine traffic, under the main bridge span of CBL there will be a two-way navigation channel with a net navigable width of 160 metres and a navigable height of 17.0 metres above sea level . The layout of the navigation channel is shown at **Appendix B**.

4. The SB will cater for marine activities of small local craft. Under the span of SB there will be a navigation channel with a net navigable width of 72 metres, of which the central 25 metres portion will offer a net navigable height of 5.6 metres above sea level.

5. Prior to the commencement of the construction of CBL and SB, the Civil Engineering and Development Department had conducted consultation on marine

impact assessment of CBL during construction and operation stages, in particular, the proposed navigable heights and width of the navigation channel under the bridges with the marine industry through the Marine Department (MD)'s statutory consultative committee¹ in 2011. The net navigable heights and widths of the navigation channels mentioned in Paragraphs 3 and 4 above will be sufficient for vessels engaged in normal operations to pass underneath CBL and SB.

6. To ensure the safe passage of vessels through the navigation channels and to prevent accidental damages to CBL, TKOI and SB by vessels due to collision, we consider necessary to establish a number of VHRAs along the alignments of CBL, TKOI and SB.

PROPOSAL

7. Having regard to a host of technical safety factors, it is proposed to designate a total of eleven groups of VHRAs along the alignment of CBL, TKOI and SB. Details are set out in the paragraphs below.

CBL Areas No. 1 to 4

8. Five VHRAs (i.e. CBL Area No. 1, CBL Areas No.2(a) and (b), CBL Area No. 3, and CBL Area No. 4) will be designated along the alignment of CBL, and subject to height restrictions of 17.0, 12.0, 6.0 and 3.0 metres above sea level respectively. The locations of these restriction areas are shown at **Appendix C**. The height restrictions corresponding to the respective VHRAs are summarised in the table below.

VHRAs	Vessels Height Restrictions
CBL Area No. 1	No vessel which has a height exceeding 17.0 metres above sea level shall enter or pass through CBL Area No. 1.

¹ In 2011, Local Vessels Advisory Committee was consulted (For details, see LVAC Paper No. 5/2011 – Cross Bay Link, Tseung Kwan O, (https://www.mardep.gov.hk/en/aboutus/pdf/lvacp5_11.pdf). No adverse comment was received.

VHRAs	Vessels Height Restrictions
CBL Area No. 2 (a) and (b)	No vessel which has a height exceeding 12.0 metres above sea level shall enter or pass through CBL Areas No. 2 (a) and (b).
CBL Area No. 3	No vessel which has a height exceeding 6.0 metres above sea level shall enter or pass through CBL Area No. 3.
CBL Area No. 4	No vessel which has a height exceeding 3.0 metres above sea level shall enter or pass through CBL Area No. 4.

TKOI Areas No. 1 to 3

9. Three VHRAs (i.e. TKOI Area No. 1, TKOI Areas No. 2, and TKOI Area No. 3) will be designated along the alignment of TKOI, and subject to height restrictions of 6.0, 3.0 and 2.0 metres above sea level respectively. The locations of these restriction areas are shown at **Appendix D**. The vessels height restrictions corresponding to the respective restricted areas are summarised below.

VHRAs	Vessels Height Restrictions
TKOI Area No. 1	No vessel which has a height exceeding 6.0 metres above sea level shall enter or pass through TKOI Area No. 1.
TKOI Area No. 2	No vessel which has a height exceeding 3.0 metres above sea level shall enter or pass through TKOI Areas No. 2.
TKOI Area No. 3	No vessel which has a height exceeding 2.0 metres above sea level shall enter or pass through TKOI Area No. 3.

SB Areas No. 1 and 2

10. Three VHRAs (i.e. SB Area No. 1, SB Area No. 2 (a) and (b)) will be designated along the alignment of SB, and subject to height restrictions of 5.6 and 4.0 metres above sea level respectively. The locations of these restriction areas are shown at **Appendix E**. The height restrictions corresponding to the respective VHRAs are summarised below.

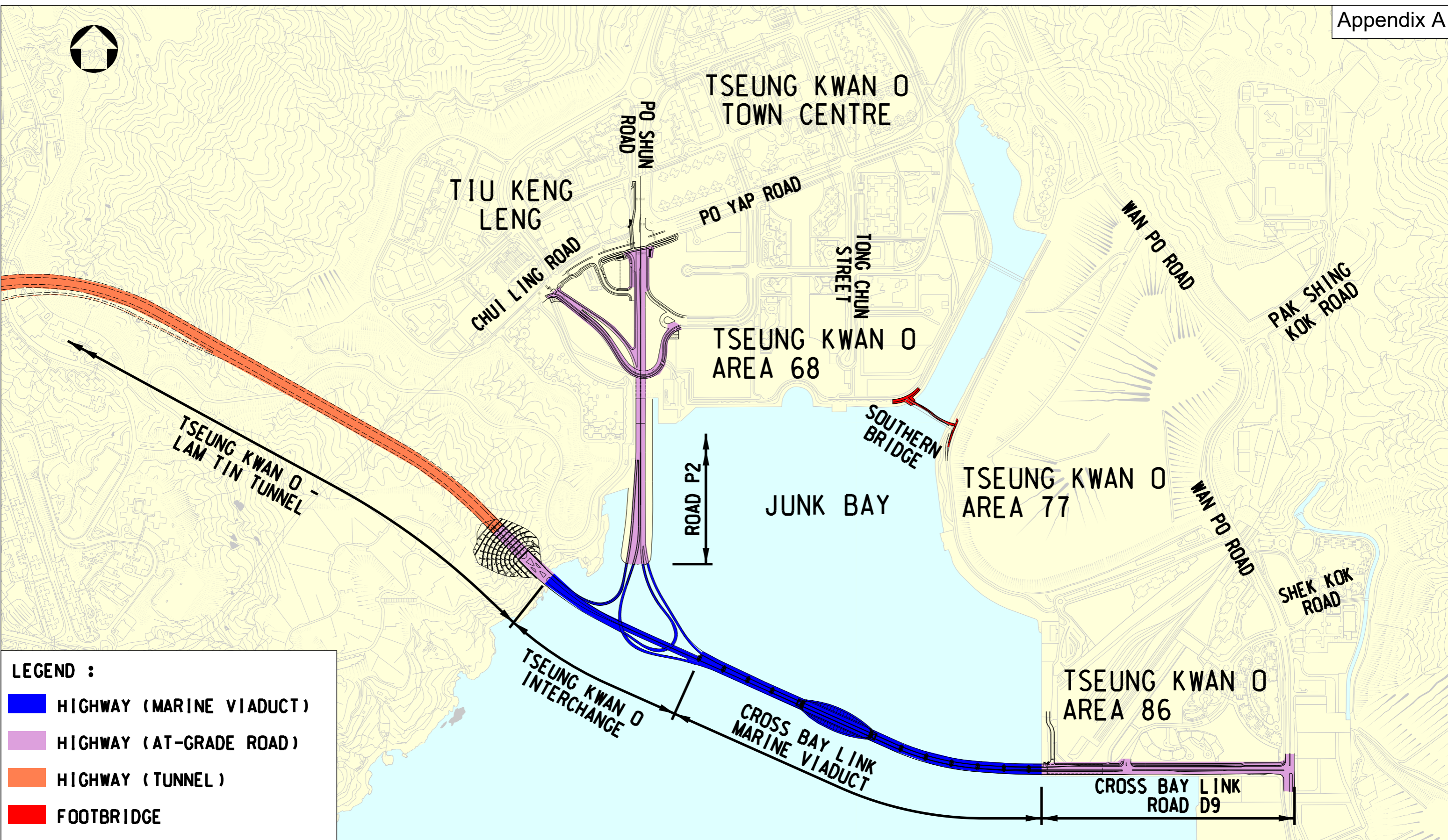
VHRAs	Vessels Height Restrictions
SB Area No. 1	No vessel which has a height exceeding 5.6 metres above sea level shall enter or pass through SB Area No. 1.
SB Area No. 2 (a) and (b)	No vessel which has a height exceeding 4.0 metres above sea level shall enter or pass through SB Area No. 2 (a) and (b).

11. The proposed VHRAs at CBL and TKOI shall come into operation tentatively in Q4 2022, while that of the SB tentatively in Q3 2023.

ADVICE SOUGHT

12. Members are invited to submit your comments, if any, on the above proposal by replying to the Secretariat on or before 16th September 2022.

Civil Engineering and Development Department
Highways Department
Marine Department
September 2022



LEGEND :

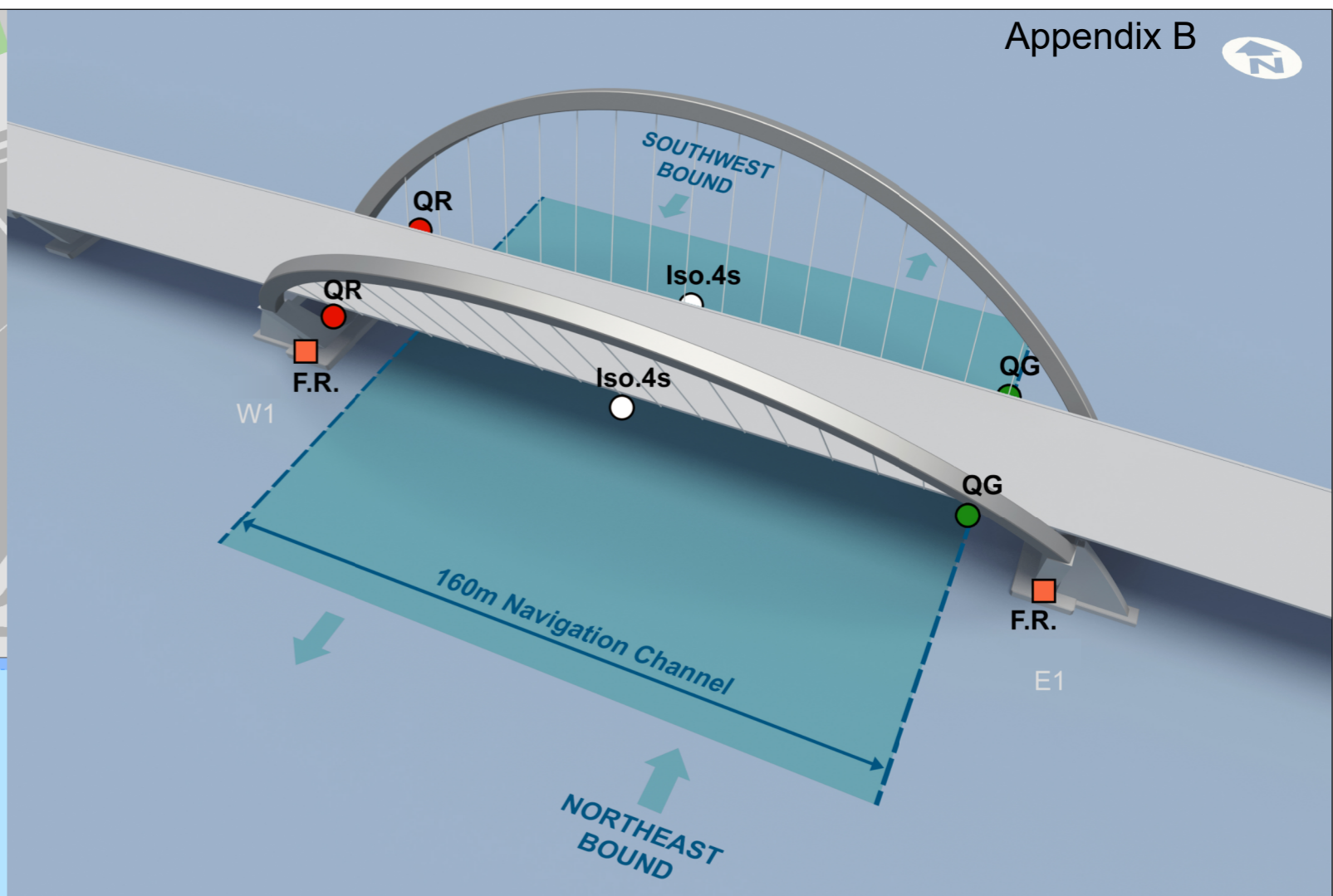
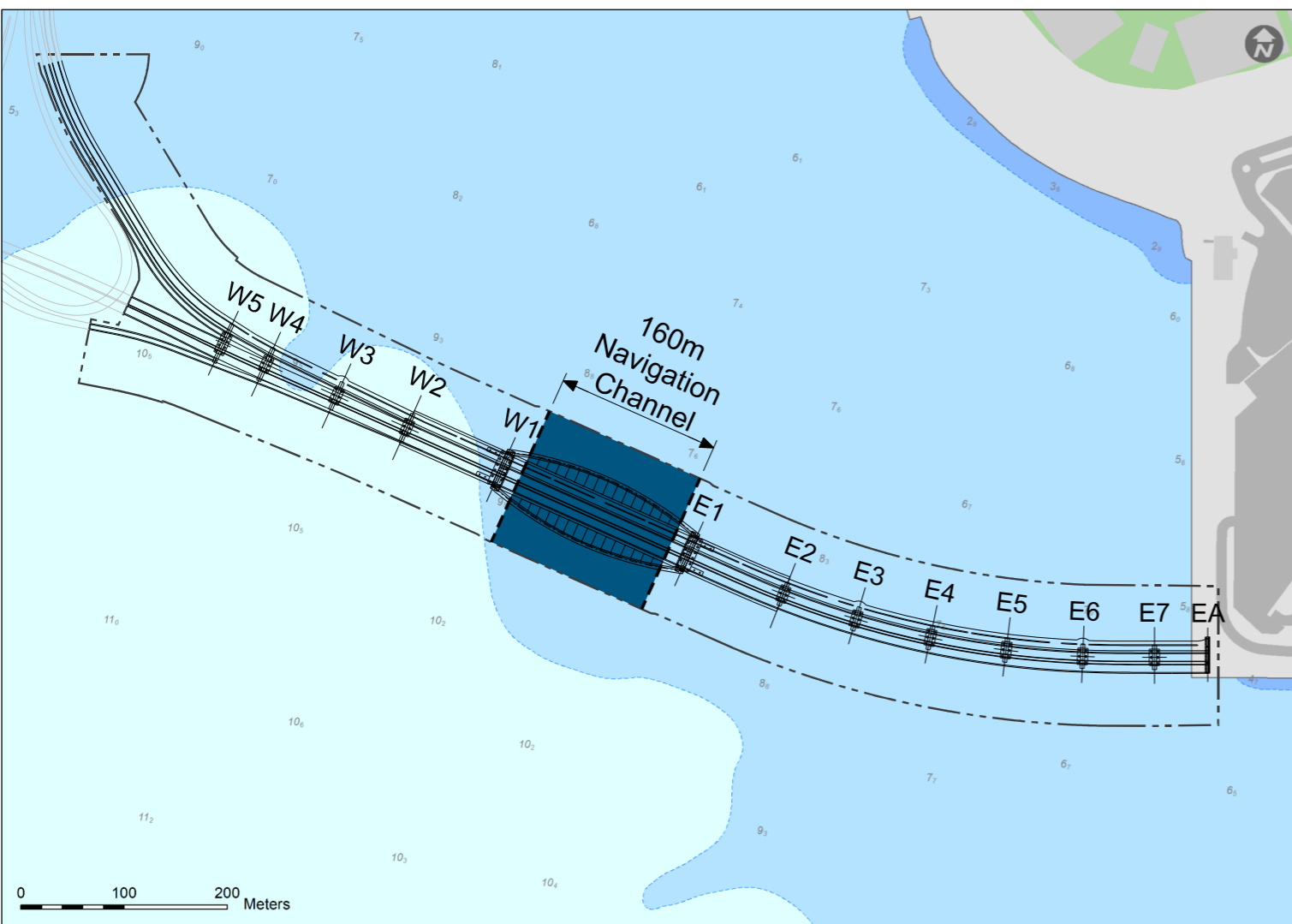
- HIGHWAY (MARINE VIADUCT)
- HIGHWAY (AT-GRADE ROAD)
- HIGHWAY (TUNNEL)
- FOOTBRIDGE

drawing title

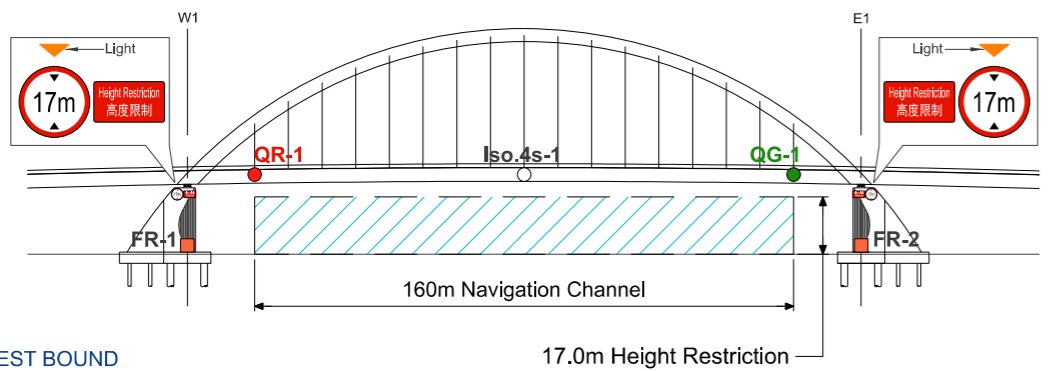
LAYOUT PLAN

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 東拓展處
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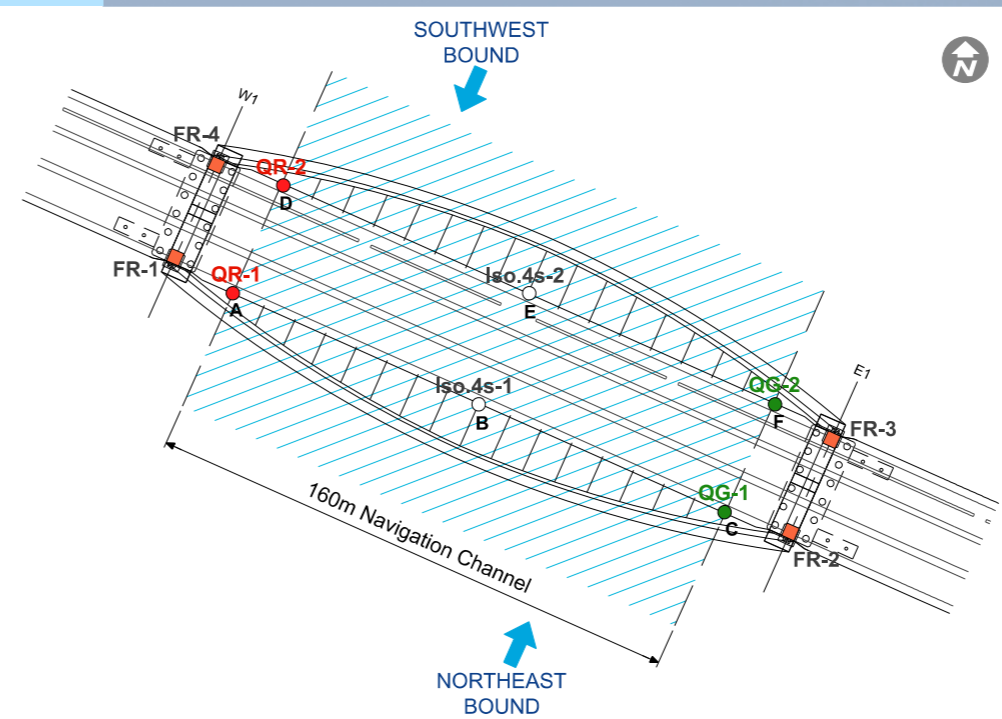
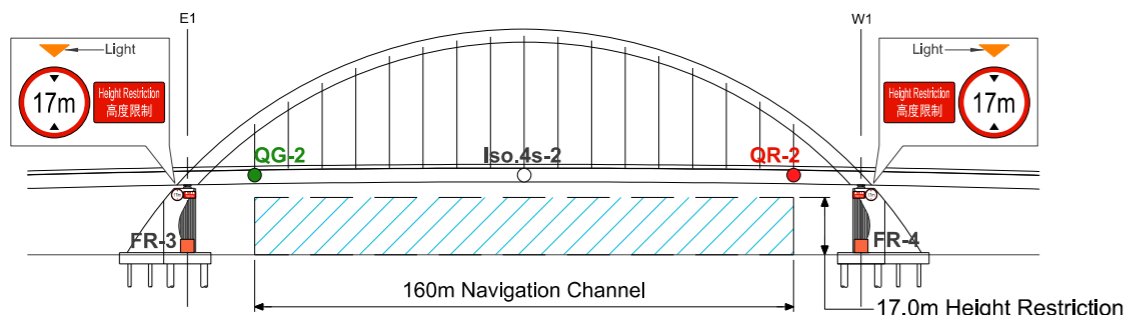




NORTHEAST BOUND



SOUTHWEST BOUND



Legend

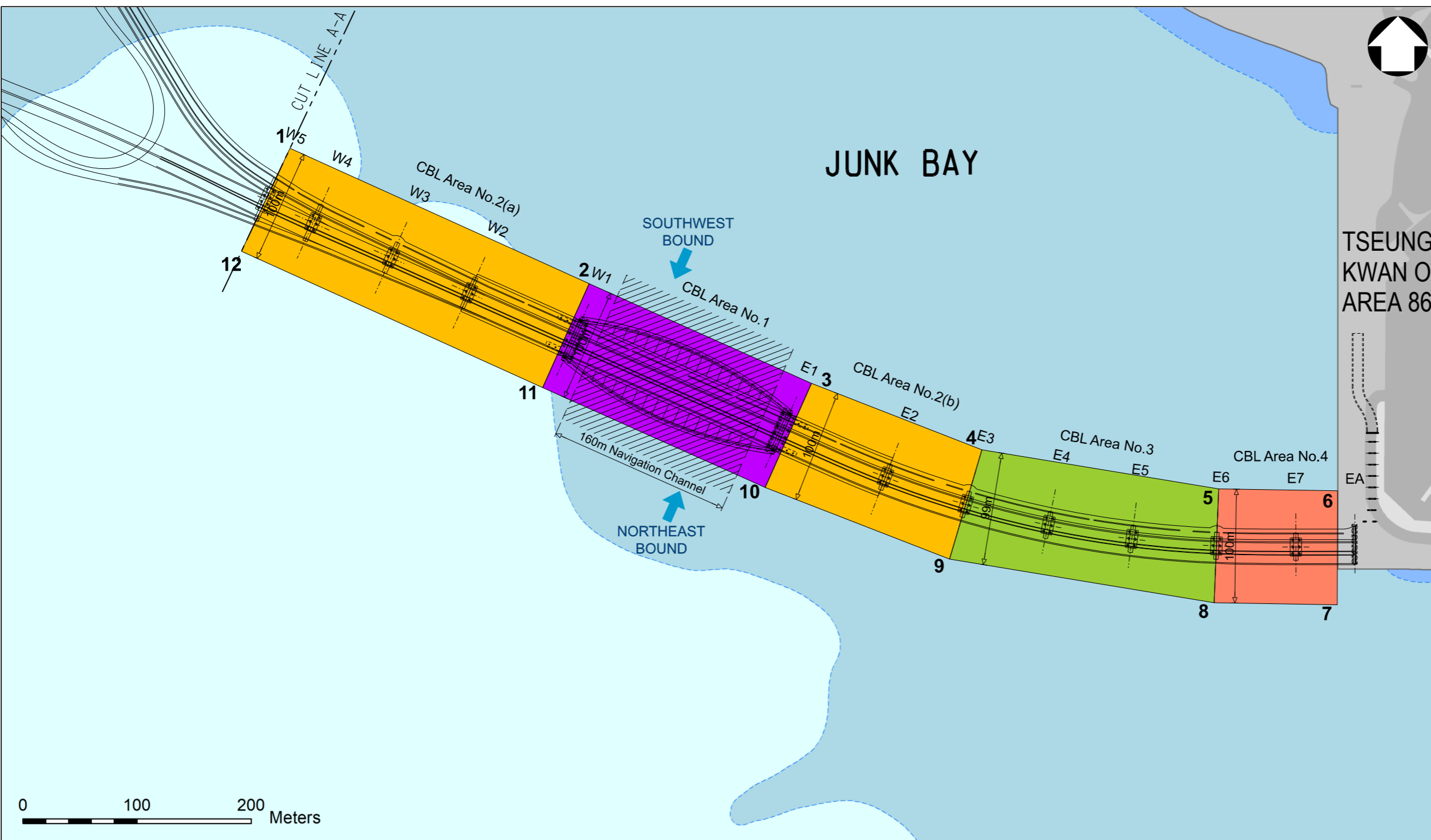
- Isophase Light 4s
- Continuous Quick Flashing Red Light (QR) and Continuous Quick Flashing Green Light (QG)
- QG Continuous Quick Flashing Green Light
- QR Continuous Quick Flashing Red Light
- Iso.4s Isophase (duration of light and darkness equal) at 4s repeat
- FR Fixed Red Light
- A-F Alphabetic order of lights

drawing title

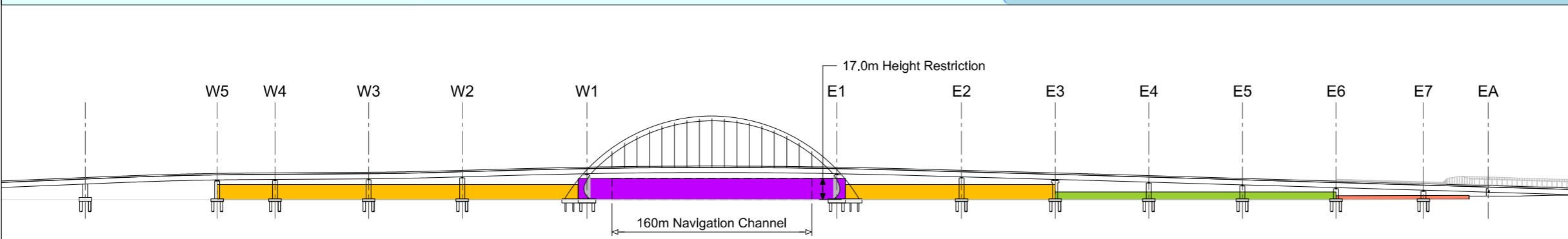
LAYOUT OF NAVIGATION CHANNEL AT CBL AREA NO.1

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CBL AREA NO.	COORDINATES OF THE BOUNDARIES (REPRESENTED BY THE WGS 84)	RESTRICTIONS	
1	BETWEEN W1 AND E1 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS.	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 17.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.	
	2		22°17.649' N 114°15.620' E
	3		22°17.601' N 114°15.734' E
	10		22°17.552' N 114°15.710' E
	11		22°17.599' N 114°15.596' E
	12		22°17.664' N 114°15.442' E
2(a)	BETWEEN W5 AND W1 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS.	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 12.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.	
	1		22°17.713' N 114°15.467' E
	2		22°17.649' N 114°15.620' E
	11		22°17.599' N 114°15.596' E
	12		22°17.664' N 114°15.442' E
	10		22°17.552' N 114°15.710' E
2(b)	BETWEEN E1 AND E3 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS.	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 6.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.	
	3		22°17.601' N 114°15.734' E
	4		22°17.570' N 114°15.821' E
	9		22°17.518' N 114°15.804' E
	10		22°17.552' N 114°15.710' E
	8		22°17.518' N 114°15.804' E
3	BETWEEN E3 AND E6 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS.	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 3.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.	
	4		22°17.570' N 114°15.821' E
	5		22°17.551' N 114°15.942' E
	8		22°17.497' N 114°15.939' E
	9		22°17.518' N 114°15.804' E
4	BETWEEN E6 AND EA THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS.	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 3.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.	
	5		22°17.551' N 114°15.942' E
	6		22°17.550' N 114°16.002' E
	7		22°17.496' N 114°16.002' E
	8		22°17.497' N 114°15.939' E



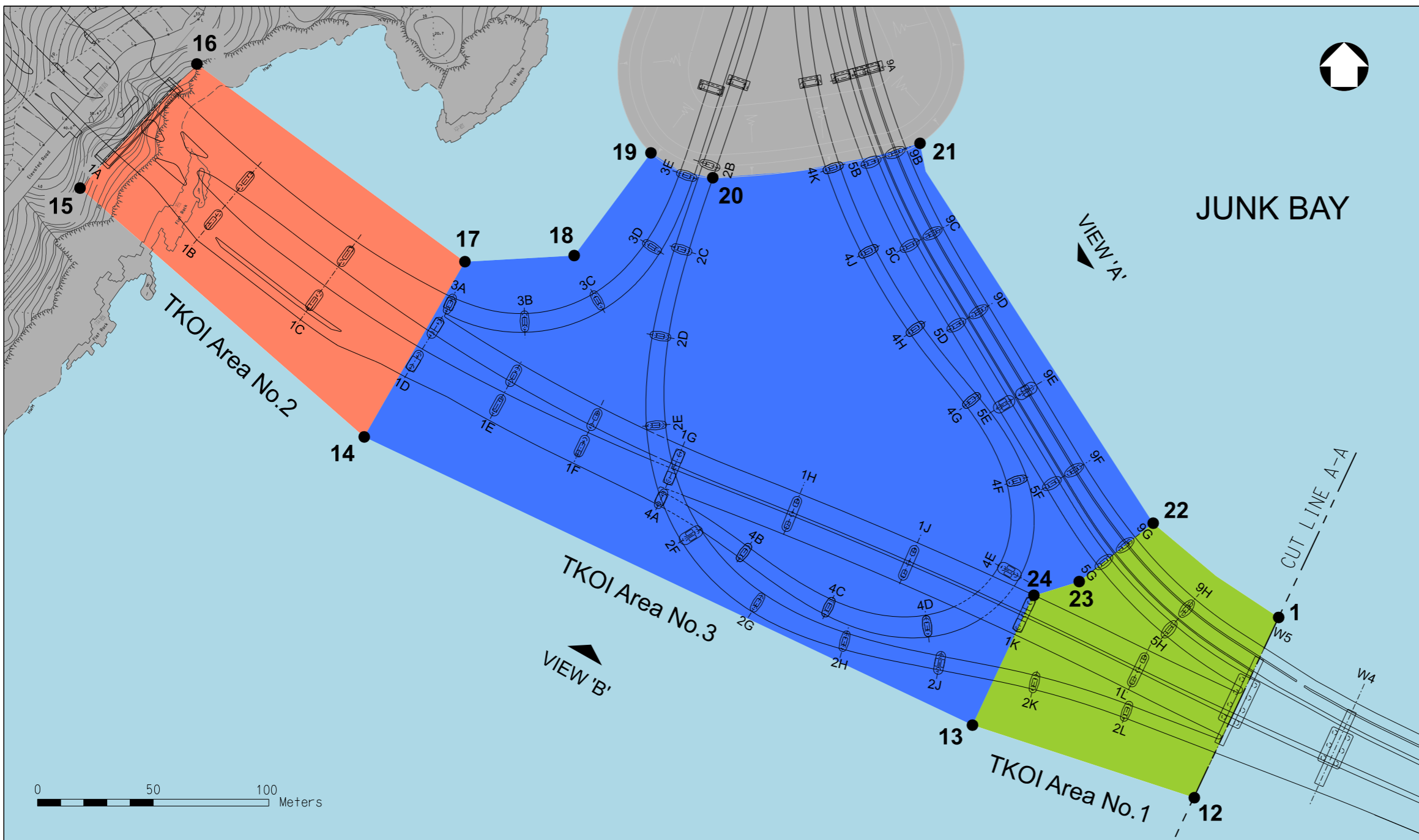
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LOCATION PLAN AND ELEVATION OF CBL AREAS NO. 1 - 4

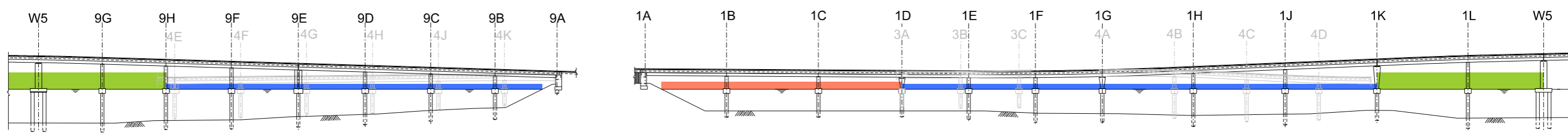
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RESTRICTED AREAS IN THE FIFTH SCHEDULE OF THE SHIPPING AND PORT CONTROL REGULATIONS (CAP 313A)



TKOI AREA NO.	COORDINATES OF THE BOUNDARIES (REPRESENTED BY THE WGS 84)		RESTRICTIONS
1	22	22°17.731' N	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 6.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.
		114°15.433' E	
		22°17.713' N	
		114°15.467' E	
		22°17.664' N	
		114°15.442' E	
		22°17.683' N	
13	24	22°17.713' N	
		114°15.403' E	
23	17	22°17.717' N	
		114°15.414' E	
2	16	22°17.838' N	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 3.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.
		114°15.192' E	
		22°17.792' N	
		114°15.260' E	
14	15	22°17.751' N	
		114°15.234' E	
3	17	22°17.809' N	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 2.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.
		114°15.163' E	
		22°17.792' N	
		114°15.260' E	
		22°17.793' N	
		114°15.287' E	
		22°17.817' N	
		114°15.307' E	
		22°17.811' N	
		114°15.322' E	
		22°17.820' N	
		114°15.374' E	
		22°17.731' N	
		114°15.433' E	
22°17.717' N			
114°15.414' E			
13	24	22°17.713' N	
		114°15.403' E	
14	13	22°17.683' N	
		114°15.387' E	
14	14	22°17.751' N	
		114°15.234' E	



VIEW 'A'

VIEW 'B'

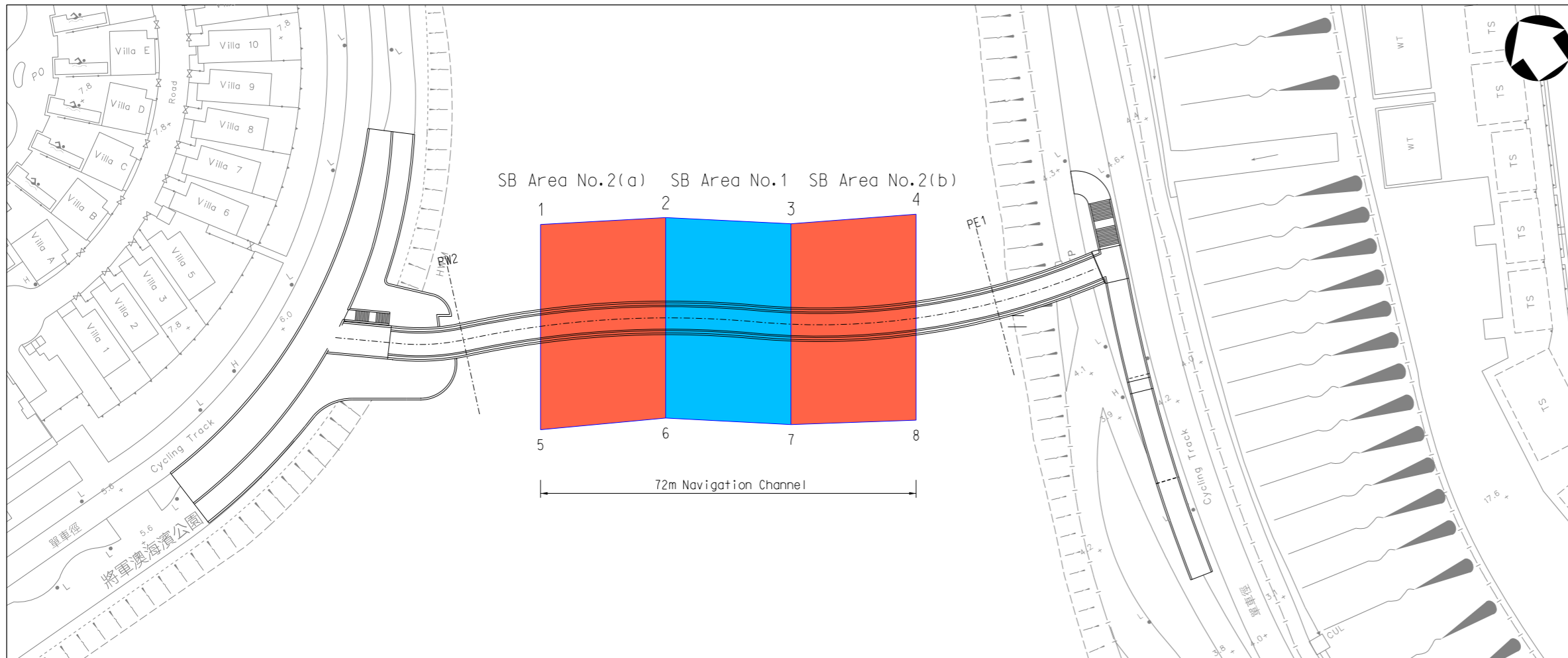
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LOCATION PLAN AND ELEVATION OF TKOI AREAS NO. 1 - 3

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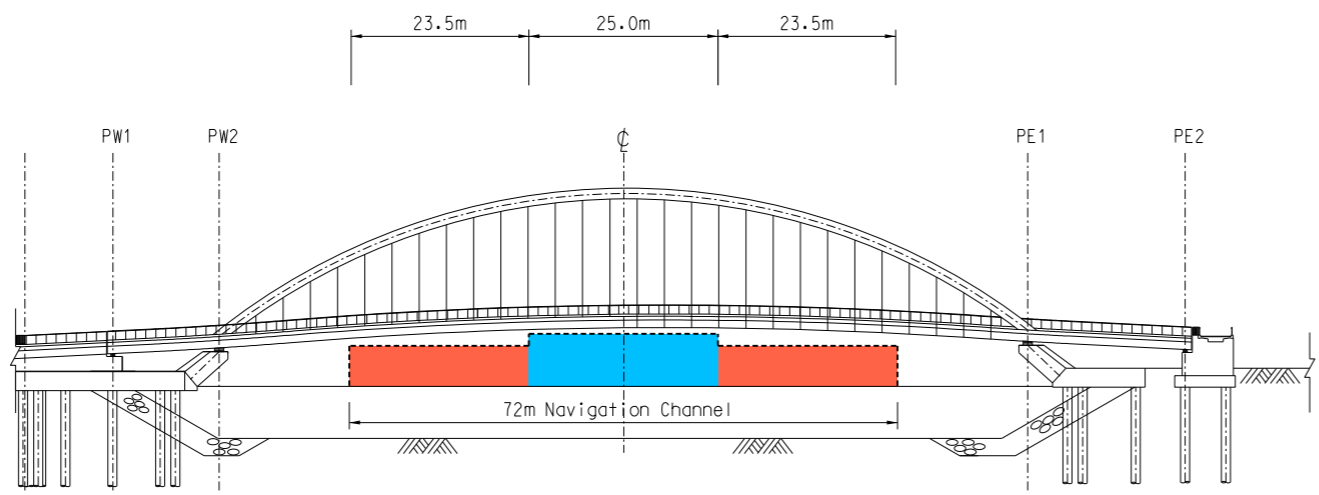


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SB AREA NO.	COORDINATES OF THE BOUNDARIES (REPRESENTED BY THE WGS 84)	RESTRICTIONS	
1	BETWEEN PW2 AND PE1 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS.		
	2	22°18.083' N	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 5.6m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.
		114°15.821' E	
	3	22°18.075' N	
		114°15.833' E	
	6	22°18.065' N	
		114°15.808' E	
	22°18.057' N		
	114°15.820' E		
2(a)	BETWEEN PW2 AND PE1 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS.		
	1	22°18.090' N	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 4.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.
		114°15.809' E	
	2	22°18.083' N	
		114°15.821' E	
	5	22°18.072' N	
	114°15.795' E		
	22°18.065' N		
	114°15.808' E		
2(b)	BETWEEN PW2 AND PE1 THE AREA OF THE WATERS OF HONG KONG BOUNDED BY THE STRAIGHT LINES JOINING THE FOLLOWING POSITIONS.		
	3	22°18.075' N	NO VESSEL WHICH HAS A HEIGHT EXCEEDING 4.0m ABOVE SEA LEVEL SHALL ENTER OR PASS THROUGH.
		114°15.833' E	
	4	22°18.068' N	
		114°15.845' E	
	7	22°18.057' N	
	114°15.820' E		
	22°18.050' N		
	114°15.832' E		

SB Area No.2(a) SB Area No.1 SB Area No.2(b)



drawing title

LOCATION PLAN AND ELEVATION OF SOUTHERN BRIDGE AREAS NO. 1 - 2

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