

Local Vessels Advisory Committee
Pilotage Advisory Committee
High Speed Craft Consultative Committee
Port Operations Committee

Brief Introduction of the Works to be Carried Out by
the China Light and Power Company Limited
for the Construction of a Subsea Pipeline Connecting
the Hong Kong Offshore Liquefied Natural Gas Terminal and
the Black Point Power Station

Purpose

Members are invited to refer to the Annex for perusal of papers concerning the captioned matter, and submit any comments on the papers by replying to the Secretariat on or before 14 April 2021.

Marine Department

1 April 2021

**Marine Works for Construction of the Subsea Pipeline Connecting
the Hong Kong Offshore Liquefied Natural Gas Terminal and
the Black Point Power Station**

Purpose

1. This paper is to brief Members on the marine works associated with the construction of the subsea pipeline between the Hong Kong Offshore Liquefied Natural Gas Terminal (the Terminal) and the Black Point Power Station (BPPS) (refer to the Appendix A).

Background

2. To reduce carbon intensity from 2020 onwards and support the Hong Kong Special Administrative Region (HKSAR) Government's emission reduction targets set out in the Climate Action Plan 2030+ Report, as well as formulating an additional viable gas supply proposal for Hong Kong's long-term energy security, after a series of studies, CLP Power Hong Kong Limited (CLP) and The Hongkong Electric Company put forward the proposal of constructing an offshore LNG terminal for mooring Floating Storage and Regasification Unit vessel and the construction of the two subsea pipelines connecting the Terminal to the BPPS and Lamma Power Station.

3. CLP (Project Proponent) is to construct and operate the subsea gas pipeline for BPPS. The Further Environmental Permit (FEP) for this Project had been granted on 17 January 2020 (links to the FEP at <https://www.epd.gov.hk/eia/register/permit/latest/fep1962019.htm>). China Offshore Oil Engineering Company has been commissioned to engage as the Project Contractor (Project Contractor).

Proposed Marine Works

4. The proposed marine works includes the construction of the subsea pipeline connecting the Terminal to the BPPS with approximate 45 km in length. The pipeline installation will include pre-trenching, pipeline laying, post-trenching and backfilling. Please refer to Appendix B on information about the proposed main vessel types deployed, anchor arrangement plan and tentative works program.

5. The completion date of the works is expected at the end of the year 2021 but may be affected by the outbreak of COVID-19 and delayed completion until the second quarter of 2022. The Project Contractor and Project Proponent will closely monitor the situation and will update stakeholders at the appropriate juncture.

Marine Traffic Impacts

6. The works are sited at the existing marine corridors or in the vicinity of the existing marine and submarine facilities, it is anticipated that there will be impacts to the main corridors and facilities. The marine corridors and facilities include:

- i. Urmston Road Fairway and marine facilities concerned – It is the principal corridor linking Hong Kong to ports in the Pearl River Delta. Traffic to/from Shekou and Guangzhou comprises of ocean-going vessels (OGVs), river trade vessels (RTVs) and cross-boundary ferries or high-speed crafts (HSCs). Marine facilities include the lighted buoy of CP9, the Urmston Road Anchorage and Pilot Boarding Station off Lam Kok Tsui (Black Point) in Urmston Road; (refer to Appendix C – Figure 1)
- ii. Navigation Corridor between the Works area of the proposed Three-Runway System (3RS) of Hong Kong International Airport (HKIA) and Sha Chau and Lung Kwu Chau Marine Park – It predominately comprises of RTVs, cross-boundary ferries to/from Macau and Zhuhai and construction vessels serving for the 3RS Project. The pipeline alignment is partly sited close to Hong Kong International Airport Approach Areas (HKIAAA); (refer to Appendix C – Figure 2)

- iii. Sha Chau and Lung Kwu Chau Marine Park and the proposed 3RS Marine Park – Pipeline alignment is partly sited close to these facilities and construction activities will be avoided within the marine parks to preserve marine ecology; (refer to Appendix C – Figure 2)
- iv. Hong Kong Link Road (HKLR) – For no vessel with a height exceeding 12 & 5 metres above sea level shall enter or pass through the HKLR Area No. 2 & 4 respectively, the construction vessels are required to meet the requirement; (refer to Appendix C – Figure 3)
- v. Lantau Channel – It is located at south of Fan Lau in the southwest of Lantau Island; (refer to Appendix C – Figure 4), including eastbound/westbound traffic of cross-boundary ferries or HSCs to/from Macau and Zhuhai and RTVs, as well as the northbound/southbound traffic of OGVs and RTVs; and
- vi. Submarine Cables – They are mainly at the south of Lantau crossing the pipeline alignment and pose constraints to construction works. (refer to Appendix C – Figure 5)

Proposed Marine Traffic Risk Control and Mitigation Measures

7. The basic principle of the project is not to hinder marine traffic and must pay attention to marine safety. The Project Proponent has conducted a Marine Traffic Impact Assessment (MTIA) report to identify all potential impacts to the marine traffic and facilities, appropriate mitigation measures to alleviate impacts have been developed in the MTIA. The mitigation measures include (but not limited to) the following:

- i. According to the practices of marine works, appropriate marker buoys will be provided in relevant works area, while adequate number of guard boats/tugs will be deployed in place to ensure the safety of the works area and sufficient time for evacuation in case of emergency;
- ii. The Project Contractor should invite relevant stakeholders to attend the Marine Management Liaison Group (MMLG) meeting at regular intervals during the construction period. The MMLG meeting serves the purpose of coordinating marine traffic among the interfacing contractors, existing marine operators and the Government

Departments, and resolving the interfacing issues within and near the works area;

- iii. A Marine Traffic Coordination Office (MTCO) with a 24-hour hotline will be established by the Project Contractor to provide round-the-clock monitoring on marine traffic for the works. The responsible personnel at MTCO will closely liaise with the stakeholders concerned and relevant Government Departments to exchange important messages relating to the works;
 - iv. Temporary Marine Traffic Management (TMTM) Plan for key works stages near the key marine corridors and facilities (refer to Appendix C - Figure 1 to 5) identified above are developed, which includes traffic management measures, risk control measures, typhoon evacuation arrangements and a detailed method statement. The Plan will keep continuously updating before submitted to relevant stakeholders during the works period; and
 - v. The 24-hour hotline (5649 5709) will be applicable to receive and/or handle enquiries, complaints and emergencies from the public on the Project.
8. In addition, taking into consideration of the water area mentioned in the above, particular mitigation measures are proposed respectively as follows:
- i. Urmston Road Fairway and other marine facilities – Arrangement for temporarily traffic diversion and control measures have been reviewed by the Hong Kong Pilot Association (HKPA), Shenzhen Pilot Station and cross-boundary ferry operators. It is critical that the proposed marine works shall have a detailed TMTM plan developed by a competent marine consultant to ensure safe navigation and existing operations. Due to concurrent other marine projects, allowing one-way and/or two-way passage of OGVs, RTVs, HSCs along Urmston Road Fairway at all times will be sustained. HKPA and Shenzhen Pilot Station had reviewed the implementation of temporary one-way OGVs traffic and detailed traffic arrangement plan and pilot booking system were established to ensure safe navigation (refer to Appendix D). According to the TMTM plan, the Project Contractor will provide

advance and detailed information of the works schedule and agreed traffic arrangement to all relevant stakeholders;

- ii. Navigation Corridor between 3RS works area and Sha Chau and Lung Kwu Chau Marine Park – Initial communication has been established between the contractors of 3RS Project, cross-boundary ferry operators and Civil Aviation Department (CAD). It is identified that sufficient navigation room will be maintained for HSCs’ two-way traffic and unrestricted marine access for transportation of construction material, equipment and personnel logistics to the 3RS works site; and construction vessels deployed will not exceed the height restriction of HKIAAA and airport height restriction outside of the HKIAAA;
- iii. Sha Chau and Lung Kwu Chau Marine Park, Proposed 3RS Marine Park – The proposed marine works would require construction activities to be conducted in close proximity to/within the marine parks. As requested by the Agriculture, Fisheries and Conservation Department (AFCD), detailed anchor arrangement plan for each works stage are required for reviewing/approval and valid permit issued by AFCD will be obtained before commencement of works;
- iv. HKLR – For vessel with height exceeding 12 and 5 metres above sea level shall not enter the HKLR Area No. 2 and No.4 respectively, liaison with the Highways Department (HyD) had been established and the proposed construction method had been reviewed by HyD. It is advised that Project Contractor will provide HyD the detailed construction method and bridge protective measures for assessment before commencement of works;
- v. Lantau Channel– Initial communication has been established among the relevant stakeholders including the Guangdong Maritime Safety Administration and cross-boundary ferry operators. A communication channel with relevant stakeholders will be established to ensure that existing users are aware of the up-to-date status of the construction works; and
- vi. Submarine Cables – The Land License Agreement of the subsea pipeline has been established. The works will be conducted according to the requirements as stated in the Agreement.

Way Forward

9. The Project Proponent will establish effective communication mechanism with relevant stakeholders to ensure that the works does not adversely affect any existing marine activities, as well as managing interface safety issues before and during the construction period.

10. The Project Contractor will liaise with the Marine Department to provide all relevant information including vessels, schedule and implementation plan etc. for review and timely promulgation of Marine Department Notice.

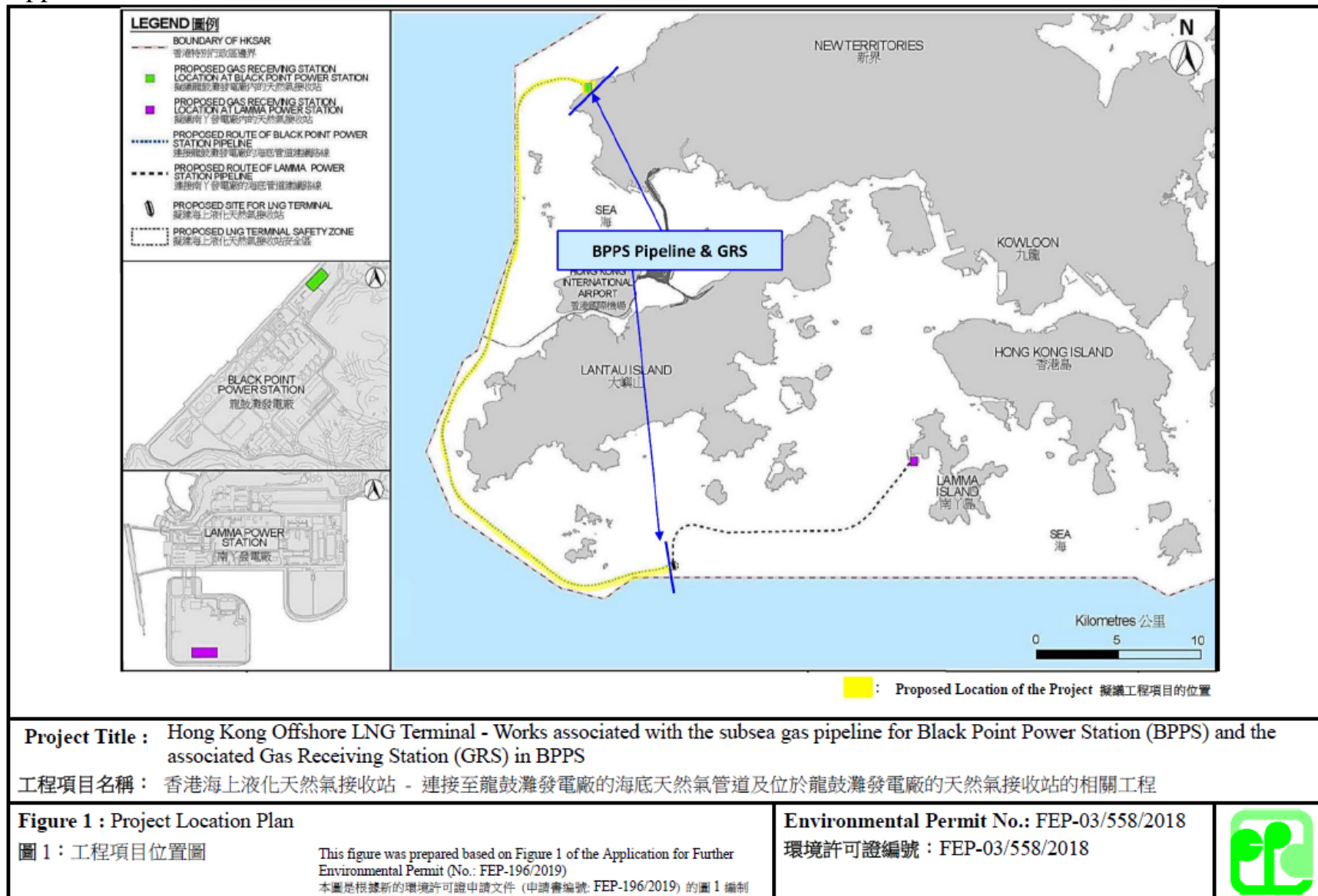
Advice Sought

11. Members are invited to note the forthcoming works and provide comments to the abovementioned proposed marine traffic risk control and mitigation measures. In case of any enquiry on the related matters, please contact Mr. YIP of CLP by phone at 2596 4188 or 5206 2157, or by email timothy.yip@clp.com.hk.

CLP Power (Hong Kong) Limited

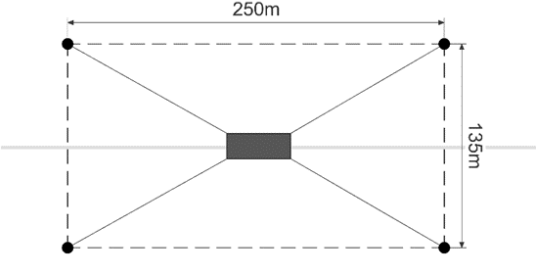
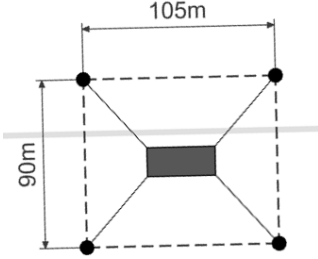
April 2021

Appendix A



Appendix B – Summary of Work types, Tentative Works Program, Vessel Types and Anchor Arrangement Plan

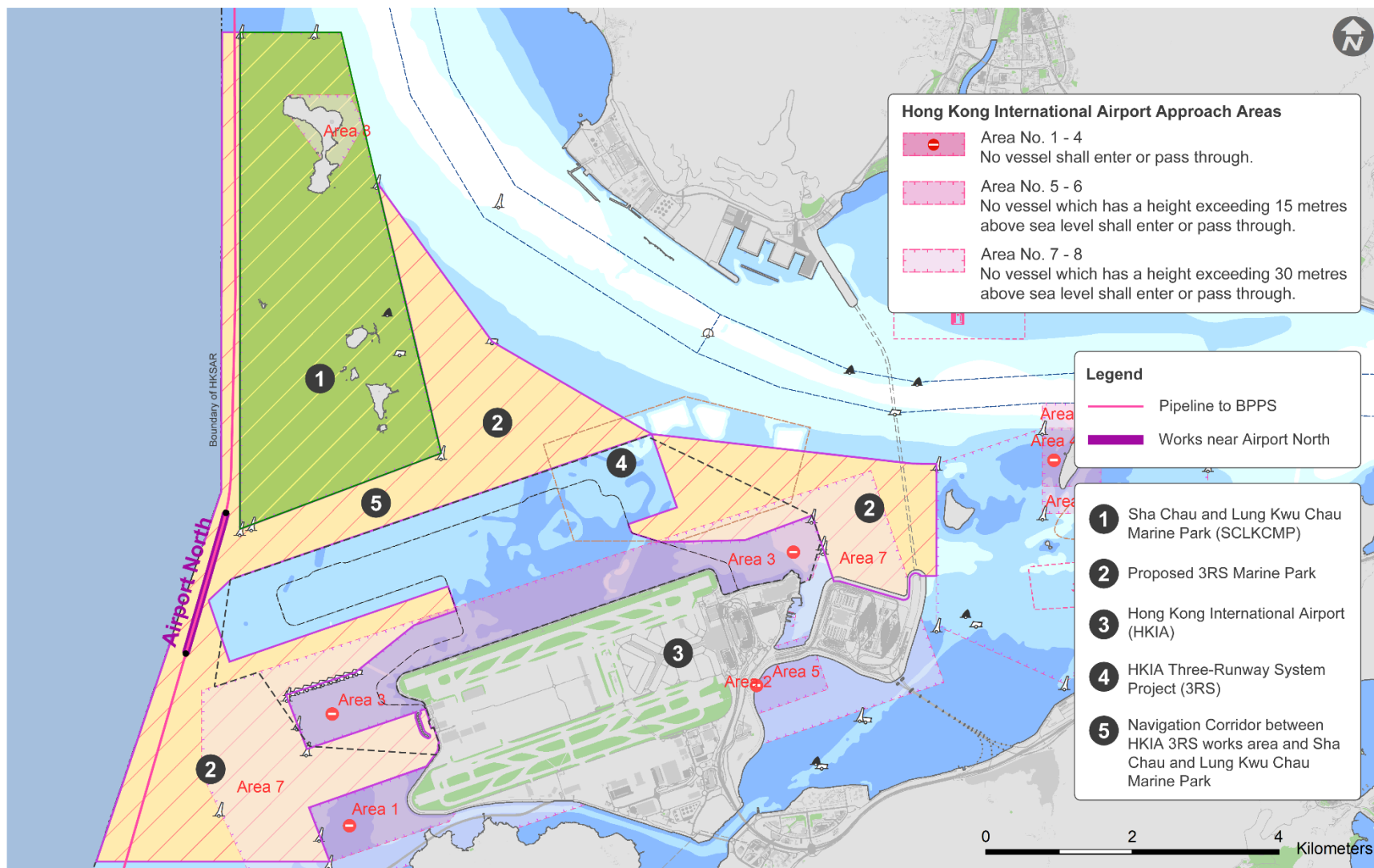
Work Types	Tentative Works Program		Working Vessel		Anchor Arrangement Plan for Working Vessel
	Start	Finish	Types	Length Overall LOA(m)	Works Area (m)
Pre-trenching	Apr 2021	Jun 2021	Dumb Lighter	49	
			Hopper Barge	57	
Pipeline Laying	Apr 2021	Sep 2021	Pipeline Laying Vessel	168	

<p>Post Trenching</p>	<p>Jul 2021</p>	<p>Mar 2022</p>	<p>Post Trench Vessel</p>	<p>94</p>	
<p>Backfilling</p>	<p>Oct 2021</p>	<p>May 2022</p>	<p>Dumb Lighter Hopper Barge</p>	<p>49</p>	

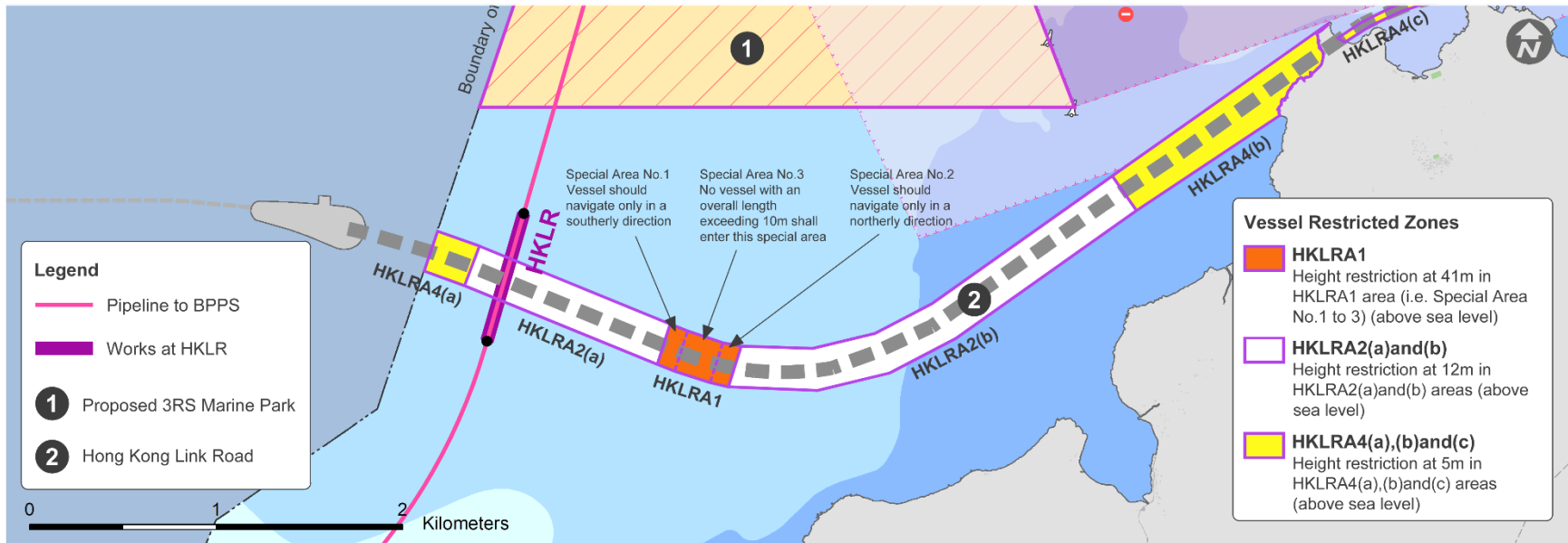
Appendix C – Figure 1: Urmston Road Fairway and other marine facilities



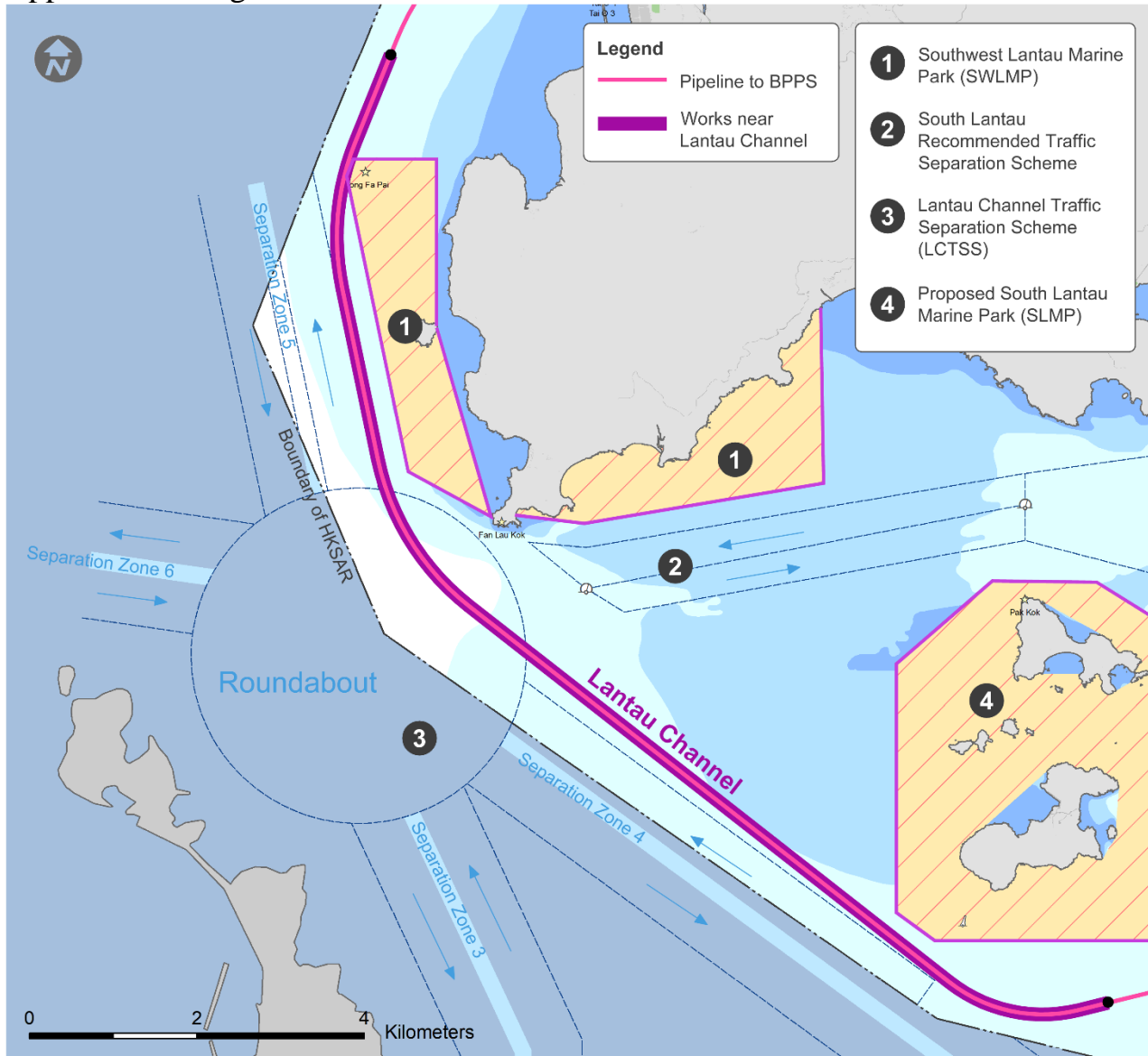
Appendix C – Figure 2: Navigation Corridor between HKIA 3RS works area and Sha Chau and Lung Kwu Chau Marine Park, Sha Chau and Lung Kwu Chau Marine Park, Proposed 3RS Marine Park



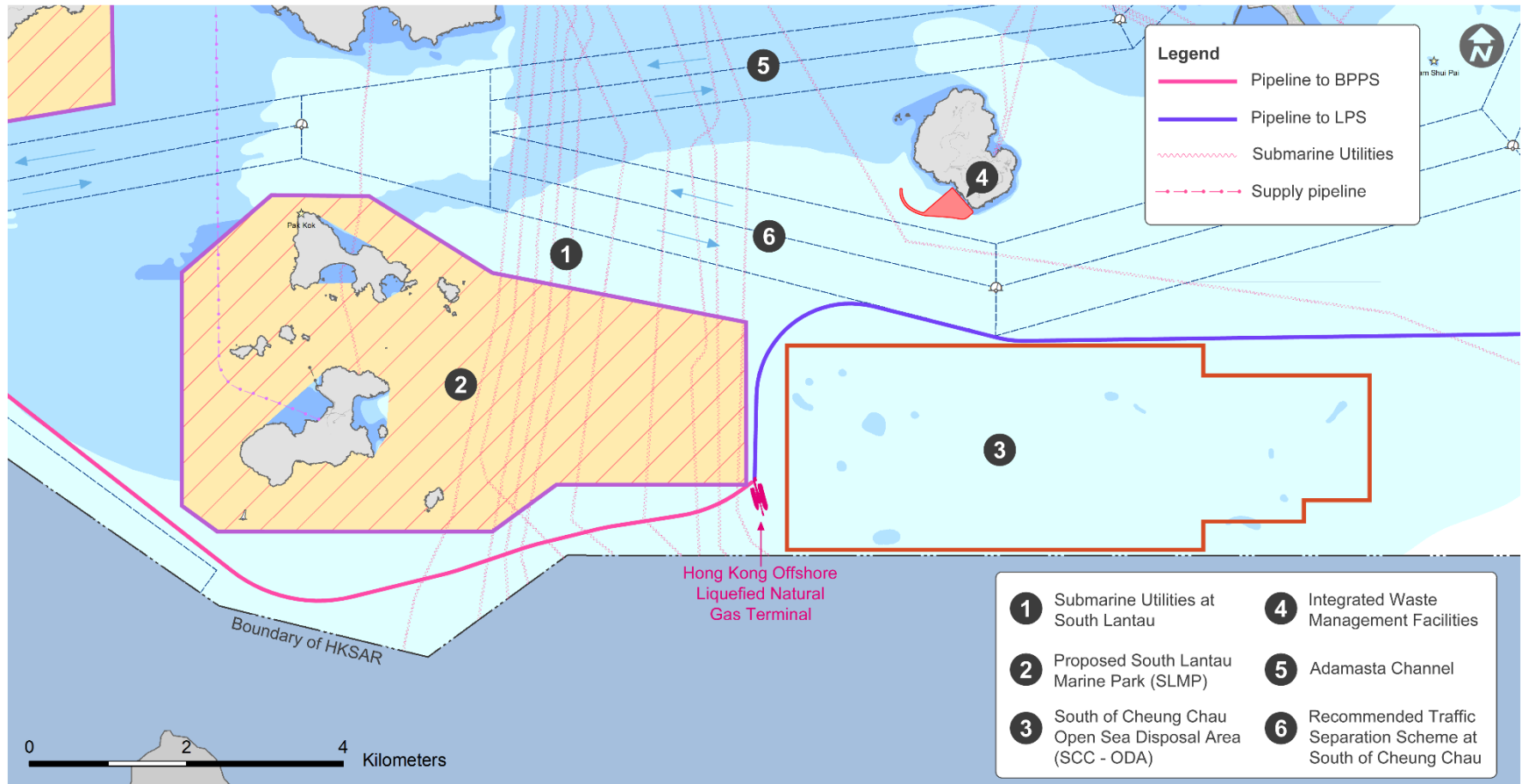
Appendix C – Figure 3: HKLR



Appendix C – Figure 4: Lantau Channel



Appendix C – Figure 5: Submarine Cables near Hong Kong Offshore Liquefied Natural Gas Terminal



Appendix D – Implementation Plan for Temporary One-way Traffic Arrangement at Urmston Road Fairway

1.	Implementation on Convoy Schedule	<p>The convoy schedule considers the below criteria:</p> <ul style="list-style-type: none"> • A convoy refers to a group of vessels travelling at same direction (northbound, southbound). • A 2.5-hour pilot booking time separation between each northbound convoy and it's subsequent southbound convoy is to be set in the schedule. • Interval for each time slot of northbound/southbound convoy schedule will be at least 1 hour apart. • Total numbers of vessels for each northbound convoy and its subsequent southbound convoy will be limited to 4 nos.
2.	Adjustment to HKPA's Pilot Booking System	<p>Taken into consideration of daily operations, tidal windows, limitations, and other internal procedures, HKPA's pilot booking system is adjusted to ensure smooth implementation of one-way traffic at Urmston Road:</p> <ul style="list-style-type: none"> • Pilot bookings for northbound and southbound vessels to/from Urmston Road Pilot Station (URMPS) have to conform to the HKPA's convoy schedule. • Convoy schedule is planned by taking into consideration of the arrival time of northbound and southbound vessels at URMPS. • Shenzhen pilots will request Shenzhen shipping agents to arrange pilot booking according to the HKPA's convoy schedule i.e. the arrival time of vessels at URMPS.

		<ul style="list-style-type: none"> • A planned control system is established for reception of pilot bookings to avoid conflicting traffic at URMPS.
3.	Contingency Plan for Delay or Early Arrival of Vessels	<ul style="list-style-type: none"> • On-scene communication will be established via dedicated VHF Channel between Hong Kong Pilots and Shenzhen Pilots on-board of the piloted vessel before arriving at the Urmston Road Anchorage. • In case of unavoidable delay of the vessel, Hong Kong Pilots and Shenzhen Pilots will communicate with each other in advance before vessel approaching URMPS, to estimate the prevailing traffic situations and seek mutual agreement on passing priority as well as actual time of arrival/pilot transfer in order to execute one-way traffic at the concerned water. • Hong Kong pilot(s) in charge of the vessel will timely update Vessel Traffic Centre (VTC) of Marine Department(MD) on traffic arrangement at URMPS if there is sudden delay of vessel. Accordingly, VTC of MD will inform MTCO of the same if deemed necessary. <p><u>Southbound Traffic</u></p> <p>In order to avoid early arrival of vessel, SZ MSA was informed of the upcoming marine works at Urmston Road and suggested that the southbound vessel should avoid enter the boundary of HKSAR 10 minutes before vessel's HK pilot booking time at URMPS and should at all time strictly conform to the planned convoy schedule.</p> <p><u>Northbound Traffic</u></p> <p>Hong Kong Pilot will steam and adjust the vessels at appropriate speed in order to arrive at URMPS on time, or wait at the deep draft waters off Lung</p>

		Kwun Tan if situations deemed necessary.
4.	Arrangement for Embarkation and Disembarkation of HK pilots	<p><u>Northbound Traffic</u></p> <p>For northbound traffic, the pilot booking for vessels proceeding from Ngau Chau or Kwai Tsing Container Terminal will take approximately 2 hours to reach URMPS while from anchorage will take approximately 1.5 hours and hence the pilot booking time for northbound vessels at anchorage will be half an hour later than the scheduled northbound convoy. Hong Kong pilot(s) will disembark after the vessel passing the Works Area (i.e. north of the works area), subject to on-scene conditions.</p> <p><u>Southbound Traffic</u></p> <p>SZP will navigate the vessels departing from Shenzhen terminals as per convoy schedule and assess traffic situations again before departure. Hong Kong pilot(s) will embark the vessel prior to vessel passing the Works Area (i.e. north of the works area)</p>
5.	Information Exchange	<p><u>Works Planning</u></p> <ul style="list-style-type: none"> • MTCO will provide relevant stakeholders with 7-day, 3-day and 24 hours in advance regarding marine works information at Urmston Road. • HKPA will provide a 7-day convoy schedule to VTC of MD for reference and any changes to the schedule HKPA will update VTC of MD. • MTCO will seek information on the latest convoy schedule from HKPA if required.

		<ul style="list-style-type: none"> For the stages of the pipeline pulling and recovering buoys tied on pipeline, the altering of navigational channel will happen within a short time (approximately 4 hours for pipeline pulling, and 20 hours for recovering buoys). Once the layout of the navigational channel changed, MTCO will send the update information to HKPA and SZP without any delay. <p><u>Instant Messenger</u></p> <ul style="list-style-type: none"> A we-chat group will be established among MTCO, HKPA, SZP, shipmasters of Project Contractor's work barge/boats etc. for instant dissemination of updated position of work barge and works area occupied.
6.	On-Scene Traffic Control Measures to Ensure Safety of Works Area	<p><u>Guard Boats and Tugs</u></p> <ul style="list-style-type: none"> To ensure safety of works area, Project Contractor will provide on-scene regulations by guard boats and tugs to warn off non-project vessels from the works area. Loud-hailer and suitable day and night signals will be equipped on board of guard boats and tugs and working vessels. Shipmasters of Project Contractor's work barge/boats will contact MTCO to updates the situations as necessary.
7.	Arrangement for Low Visibility and Advent of Typhoon	Evacuation of construction vessels from works area will be arranged as early as possible in the event of low visibility or the advent of typhoon.