Yiu Lian Dockyards Limited

Relocation of Yiu Lian Floating Dock No. 3

Project Profile

January 2005

Report no: 01167R0014

Hyder

Consulting

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1 Basic Information

1.1 Project Title

The title of the proposed project is "Relocation of Yiu Lian Floating Dock No. 3".

1.2 Purpose and Nature of Project

In 1998, the Government changed the land use proposal of North-East Lantau Port from the Lantau Port concept to the basis of the tourism and recreation theme. The re-orientation of the planning rendered Yiu Lian's facilities incompatible with the overall planning context, as the retention of the dock at Yam O would not fit into the rezoning plan of the area and constitute interface issues, particular environmental and visual impacts.

Based on a decision reached at the Committee on Planning and Land Development on 21 December 1999, a revised program associated with the reclamation and proposed developments at Yam O was formulated so as to allow a continuing operation of the Yiu Lian facilities until the expiry of the existing lease term in 2008 in order to minimise any impact upon the facilities. Policy support was secured regarding the possible re-provisioning to the facilities as it had already been identified as being essential in nature for supporting port activities.

In January 2003, the project proponent notified the Marine Department of the relocation of the dock from existing Yam O Wan site to the west coast of Tsing Yi Island. The project proponent was subsequently informed that the Marine Department had no objection in principle to the acceptance of relocating the dock to the proposed Tsing Yi site.

On 18 October 2004, Marine Department confirmed that Yiu Lian was required to remove the related mooring structure upon the removal of Yiu Lian Floating Dock No. 3 from the existing site.

1.3 Name of Project Proponent

The Project Proponent is Yiu Lian Dockyards Limited.

1.4 Location and Scale of Project and History of Site

The existing dock, Yiu Lian No. 3 Floating Dock, is located at Yam O Wan, North East of Lantau as shown in Figure 1-1. The existing dock was brought to Hong Kong in 1989 with the written permission of the Director of Marine for the location and operation.

The existing dock is an individual caisson dock with continuous caisson and side wings, suitable for docking vessels of a total docking weight of up to

43,000 metric tons, or catering a ship in size up to 43 meter in width and 300 meter in length. The general arrangement of the existing dock is shown in Figure 1-2. Principle dimensions of the dock are:

Length over pontoon	287.00 m
Breadth over pontoon	54.80 m
Breadth of sidewall	3.90 m
Depth of pontoon at centre line	5.00 m
Depth of pontoon at side	4.90 m
Height of top deck at side	18.20 m
Height of safety deck at side	13.90 m
Maximum submerged draught	16.20 m

The proposed new site is located to the west coast of Tsing Yi Island and was used before for floating dock named "Apple Dock" for years. Its location is shown in Figure 1-3. The propose dock has a floor-area of around 300 x 54.8 m^2. The scope of the Project includes the following:

(i) Decommissioning of the existing Yiu Lian No. 3 Floating Dockyard at Yam O Wan

The construction activities to be involved include the cutting of the chains between the concrete anchor blocks and existing floating dock and removal of anchor blocks in the seabed. In order to dislodge the anchor blocks for removal, high velocity jetting will be deployed to clear the marine mud surrounding the blocks. The anchor blocks will then be lifted to a barge and shipped to the new site for reuse. The existing floating dock will then be towed to the new site for installation. The entire operation will take 2 months approximately.

(ii) Construction of a New Floating Dockyard at the west coast of Tsing Yi

A small scale of dredging work will be undertaken at the new site in the west coast of Tsing Yi in order to provide trenches for fixing the anchor blocks. The dredging volume is estimated to be 20,000 m^3. After the anchor blocks are fixed at the new site, the existing floating dockyard will then be towed to the new site and chained to the anchor blocks. All dredged marine mud will be temporarily stored in a hopper/barge before being reused for backfilling the trenches. The whole process will take 2 months approximately.

1.5 Number and Types of Designed Projects Covered by the Project Profile

The relocation of Yiu Lian Floating Dock No. 3 is a single project but it covers two designed projects specified under the Environmental Impact

Assessment Ordinance (EIAO). They are the decommissioning of the existing floating dockyard at Yam O Wan and the construction of a new floating dockyard at the west coast of Tsing Yi.

1.5.1 Decommissioning of the Existing Floating Dockyard

The decommissioning of the floating dockyard at Yam O Wan is classified as a Designated Project under Item 17 of Part II of Schedule 2, the EIAO - "A facility for ship building or ship repairing yard more than 1 ha in size or with a lifting capacity in excess of 20,000 tonnes."

1.5.2 Construction of a New Floating Dockyard

The construction of a new floating dockyard at the west coast of Tsing Yi is also classified as a Designated Project under Item B.6 of Part I of Schedule 2 of the EIAO - "A facility for ship building or shop repairing yard more than 1 ha in size or with a lifting capacity in excess of 20,000 tonnes.".

1.6 Name and Telephone Numbers of Contact Person

Name: Mr. Li Pok Yan

(Yiu Lian Dockyards Limited – General Manager)

Telephone: 2850 0510

2 Outline of Planning and Implementation Programme

Yiu Lian Dockyards Limited will be responsible for all planning, design, decommissioning, construction and operation of the Project. Hyder Consulting Limited has been commissioned to undertake an Environmental Impact Assessment (EIA) Study for this Project.

The key milestones of the Project are as below:

Decommissioning of the Existing Floating Dock at Yam O Wan:	Oct. 2005 – Dec. 2005
Construction of the Floating Dock at Tsing Yi:	Nov. 2005 - Jan 2006

No interactions with other projects are anticipated.

3 Possible Impact on the Environment

3.1 Possible Environmental Impacts during Construction Phase

3.1.1 Decommissioning of the Existing Floating Dockyard

3.1.1.1 Water Quality

The removal of concrete anchor blocks from the existing site will require the removal of marine deposits which have formed over the top of the blocks and high velocity water jetting to remove the marine sediment surrounding the anchor blocks in order to dislodge them.

This water jetting process will release the marine sediment into the water column, leading to the elevation of the suspended solids in the water column. The marine sediment around the existing dock is likely to be contaminated. Although part of the sediment will settle back into the seabed quickly, the fine sediment and the pollutant it may contain will be carried along with the tidal currents, leading to short-term water quality impacts in the vicinity of the works.

3.1.1.2 Air Quality

There will be no dust generating construction activities. The emissions from the work vessels will be minimum. Hence no adverse air quality impact is anticipated from the decommissioning of existing floating dockyard.

3.1.1.3 Noise

Construction noise would be generated from the operation of working barges. The existing floating dockyard is located in a remote area and the nearest noise sensitive receivers (NSRs) identified are Grand Bay Villa and Bayside Villas along Castle Peak Road which are approximately 1650m to the north of the site. The closest NSR in Lantau Island is Luk Ken Tsuen which is located approximately 2400m to the southwest of the existing site. As these NSRs are remote from the construction site, any potential noise impact on them is expected to be insignificant.

3.1.1.4 Waste Management

There will be no waste generated from the works.

3.1.1.5 Visual

There will be some working vessels deployed for decommissioning of the existing floating dockyard. Compared to the scale of the structure of the existing floating dockyard, the working vessels are small and are there only for a short term. The potential visual impact is insignificant.

3.1.1.6 Marine Ecology and Fisheries

As the disturbance to the seabed is short-term and the proposed dredging work is in a small scale, the potential marine ecology and fisheries impacts are expected to be insignificant.

3.1.1.7 Cultural Heritage

At the existing site, other than taking out the anchor blocks, there will be no disturbance to any undisturbed seabed. No cultural heritage impact is therefore expected from decommissioning of the existing floating dock. The Antiquities and Monuments (AMO) confirmed on 21 August 2003 that AMO had no objection to the relocation of Yiu Lian Dock No. 3.

3.1.2 Construction of the New Floating Dockyard

3.1.2.1 Water Quality

The construction of the new floating dockyard will require minor dredging works in order to provide small trenches for fixing the anchor blocks (24 to 28 trenches at 700 m^3 per trench). The maximum dredge volume is estimated to be 20,000 m^3. All the marine mud will be backfilled into the trenches after the anchor blocks are placed into the trenches. During the period of dredging and backfilling, there are likely to be some elevation of suspended solids in the marine water in the vicinity of the works.

3.1.2.2 Air Quality

There will be no dust-generating activities. Rope operated grab bucket will be deployed for dredging the anchor trenches and a hopper or barge will be used for temporarily storing the dredged materials (marine mud) before backfilling. Any harmful gaseous emissions from the construction machinery will be limited. As such, no adverse air quality impact is envisaged from the construction of the new floating dockyard.

3.1.2.3 Noise

The proposed new site is located to the west coast of Tsing Yi where is zoned as an industrial area under the draft Outline Zoning Plan S/TY/20. The closest NSR would be Ching Wah Court which is located to the north of the proposed new site, some 1900m away.

No noisy construction activities will be involved and the distance between the closest NSR and the project site is over 1900m. Any adverse construction noise impact is unlikely.

3.1.2.4 Waste Management

There will be no construction wastes as the marine sediment generated from necessary dredging activities for the new site will be reused for backfilling.

3.1.2.5 Visual

The new site at Tsing Yi is in shipping water near an industrial area. There are already some dockyards at the site. The construction of the floating dock will be unlikely to cause any significant adverse visual impacts.

3.1.2.6 Marine Ecology and Fisheries

As the scale of the proposed dredging work is small and the duration of the works is short, the potential marine ecology and fisheries impacts are expected to be insignificant during the construction period.

3.1.2.7 Cultural Heritage

The site for the new floating dock had been dredged some years ago when the Euro-Asia yard was built. No marine archaeological deposit is therefore anticipated at the proposed new site. AMO confirmed on 21 August 2003 that AMO had no objection to the relocation of Yiu Lian Dock No. 3.

3.2 Possible Environmental Impacts during Operational Phase

3.2.1 Decommissioning of the Existing Floating Dockyard

The views in Yam O will be improved as a result of the decommissioning of the existing floating dock. The other environmental conditions of the existing site in future would be the same as or even better than the existing condition after the relocation of floating dock.

There will be no adverse environmental impacts at the existing site during the operation stage.

3.2.2 Construction of the New Floating Dockyard

Activities to be undertaken in the new floating dockyard will be:

- steel renewal for hull structure;
- sand blasting of exterior hull surface;
- painting of exterior hull surface; and
- drydocking survey of vessels including but not limited to the keel, stem, stern frame, rudder, propeller, anchor chain and outside of side and bottom plating, together with bilge keels, thrusters, exposed parts of stern bearing and seal assembly, sea chests, rudder pintles and gudgeons and their securing arrangements.

The potential environment impacts arising from the operation of the new floating dock are discussed in the following.

3.2.2.1 Water Quality

Wastewater generated from the ship repair activities will be filtered prior to discharge.

Considering the cessation of the use of TBT by 2008 by the International Convention on Control of Harmful Anti-fouling Systems on Ships and that most of the ships have already stopped using TBT containing paint, the project proponent plans that when in operation, the new dock will only receive ships without TBT containing paint.

In order to ensure that no TBT paint vessels will be received, the marketing department of Yiu Lian will require the ship owner and operators to provide the painting schedule for checking before a contract is placed.

3.2.2.2 Air Quality

The bulk of the ship repair activities do not generate obnoxious fumes and smoke.

However, an independent power plant will be provided with the necessary diesel primer movers in routine electricity supply task as the floating dockyard is serviced away from land. Average fuel consumption of the engines is about 20 metric tons per day. Air sensitive receivers identified are the industries at west of Tsing Yi. Air quality impact from the emissions of the power plant is anticipated to be insignificant.

As such, no significant air quality impact is anticipated from the operation of the new floating dockyard.

3.2.2.3 Noise

The ship repair activities will inevitably generate noise. However, as the proposed new dockyard is located next to an industrial area where the noise sensitive receivers are distant from the site. Therefore, the noise impact on the surrounding environment is not envisaged.

3.2.2.4 Waste Management

Waste impacts may result from the daily operation of the floating dockyard. However, all solid materials which settle on the pontoon deck of the dock will be collected either manually or using mechanical appliances and then sent by licensed waste disposal contractors for disposal to landfill site. No significant impacts are expected.

3.2.2.5 Visual

Southwest of Tsing Yi is zoned as a major industrial area in Hong Kong, for heavy industries and marine services. The floating dockyard is compatible with the general character and urban design pattern of the area and will not be visually intrusive to the adjoining environment. As such, no visual impact is anticipated.

3.2.2.6 Marine Ecology and Fisheries

The project proponent will ensure the discharge of any wastewater from the dockyard meet the relevant standards. The operation of the new floating dockyard is unlikely to cause any potential marine ecology and fisheries impact.

3.2.2.7 Cultural Heritage

There will be no cultural heritage impact during the operational phase.

4 Major Elements of the Surrounding Environment

The existing sensitive receivers which may be affected by the Project are identified as below:

- Residential buildings including Grand Bay Villa, Bayside Villas, Luk Ken Tsuen and Ching Wah Court;
- costal waters at Yam O and in the west of Tsing Yi; and
- industries located to the west coast of Tsing Yi.

No sensitive receivers will be significantly affected by the Project.

5 Environmental Protection Measures to be Incorporated in the Design and Any Further Environmental Implications

5.1.1 Water Quality

Good dredging practice will be adopted to minimise the release and any spillage of dredged material to the surrounding water. Where necessary, silt curtains will be used to minimise the water quality impacts.

An appropriate wastewater treatment system will be provided for the new dockyard to comply with the discharge standards specified for Western Buffer Water Control Zone.

5.1.2 Air Quality

Regular maintenance of the power mechanical equipment will be provided to minimise any potential gaseous emissions during the decommissioning of the existing floating dockyard and the construction and operation of the new floating dockyard.

5.1.3 Waste Management

All dredged marine mud generated from the construction works will be reused for backfill. Any solid waste material arising from the daily operation of the new floating dockyard will be disposed of by licensed contractors to landfill sites.

5.1.4 Cultural Heritage

No mitigation measure is required for either the construction or the operation phase. However, if there are any archaeological findings during construction phase, AMO will be informed of immediately.

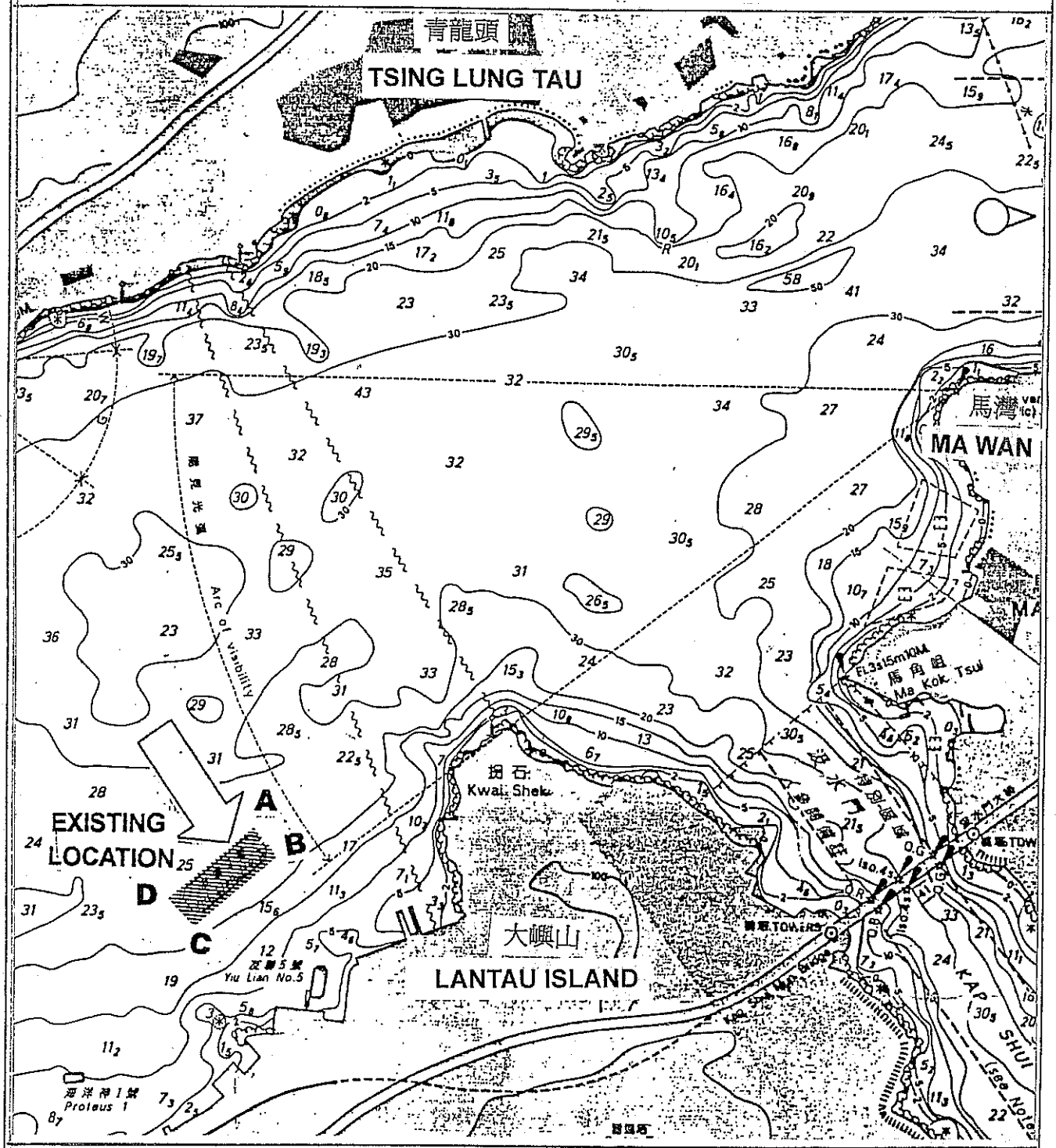
6 Use of Previously Approved EIA Reports

There is no previous EIA report applicable to this Project.

THE LOCATION OF EXISTING FLOATING DOCK

FIGURE 1 – 1

友聯 NO.3 浮船塢現時位置



THE EXISTING LOCATION OF THE FLOATING DOCK HAS A FLOOR AREA OF 252X54.8M². IT IS WITHIN THE AREA BOUNDED BY STRAIGHT LINES JOINING THE FOLLOWING CO-ORDINATES FROM A TO D.

CO-ORDIANTED	LATITUDE	LONGTITUDE
A	22° 20.429'N	114°02.669'E
B	22° 20.416'N	114°02.795'E
C	22° 20.469'N	114°02.146'E
D	22° 20.483'N	114°02.133'E

MAP SOURCE: NAUTICAL MAP, DRAWING NO.: HK1502, MA WAN AND APPROACHES

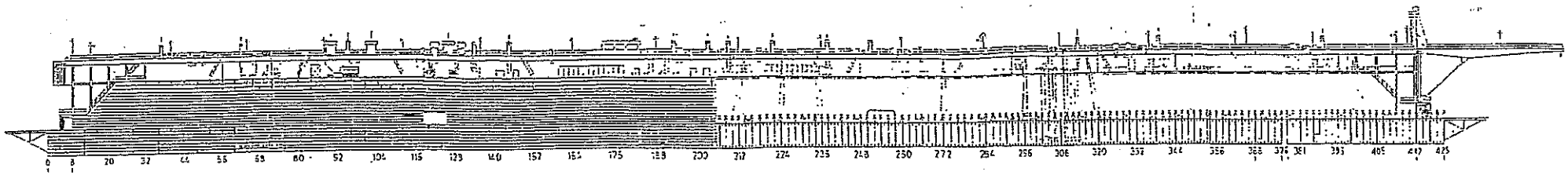
Figure 1 – 2 The General Arrangement of Existing Dock

圖 1 – 2 友聯 No.3 浮船塢總佈置

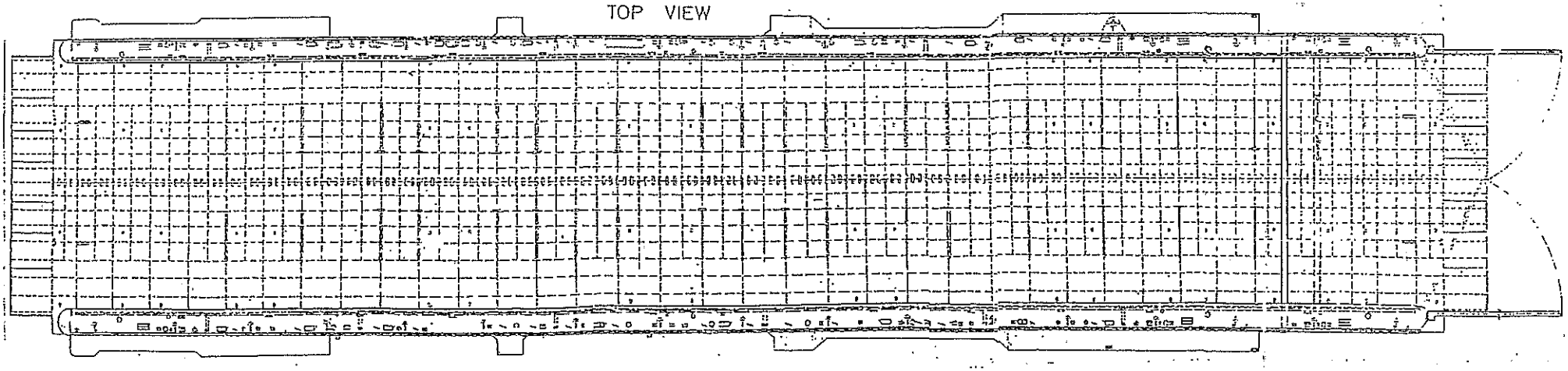
Principal dimensions:

Length over pontoon	304.00 m
Breadth over pontoon	54.80 m
Breadth of sidewall	3.90 m
Depth of pontoon at center line	5.00 m
Depth of pontoon at side	4.90 m
Height of top deck at side	18.20 m
Height of safety deck at side	13.90 m
Maximum submerged draught	16.20 m

LONGITUDINAL SECTION



TOP VIEW



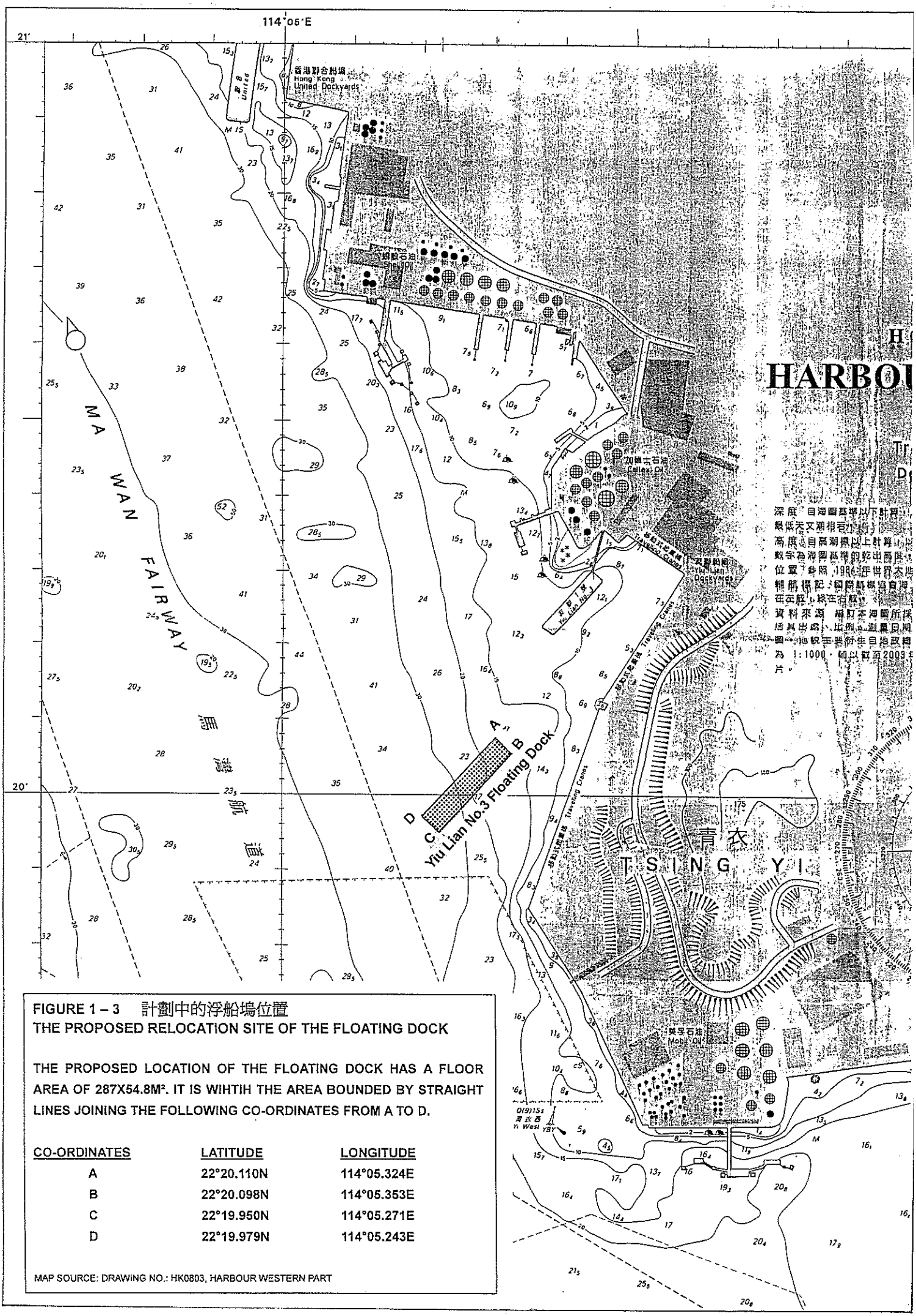


FIGURE 1 – 3　計劃中的浮船塢位置
THE PROPOSED RELOCATION SITE OF THE FLOATING DOCK

THE PROPOSED LOCATION OF THE FLOATING DOCK HAS A FLOOR AREA OF 287X54.8M². IT IS WIHTIH THE AREA BOUNDED BY STRAIGHT LINES JOINING THE FOLLOWING CO-ORDINATES FROM A TO D.

CO-ORDINATES	LATITUDE	LONGITUDE
A	22°20.110N	114°05.324E
B	22°20.098N	114°05.353E
C	22°19.950N	114°05.271E
D	22°19.979N	114°05.243E

MAP SOURCE: DRAWING NO.: HK0803, HARBOUR WESTERN PART