

**Public Works Subcommittee  
Meeting on 11 June 2013**

**Response to issues requiring follow-up actions by the Government**

**1. Information on the trend of diversion of the new generation of ultra large container ships (“ULCS”) from Hong Kong to the neighbouring ports including the Yantian International Container Terminals in Shenzhen if the Kwai Tsing Container Basin is not dredged**

The trend in international shipping is that more ultra large container ships (“ULCS”) would be built in the market to attain economy of scale and to reduce emissions per Twenty-foot Equivalent Unit (“TEU”) handled. We understand that over 160 ULCS with capacity of 10 000 TEUs or more are in service, and that there are over 120 new orders of ULCS. As major transshipment ports in Asia, including the Singapore port (84% transshipment), the Busan port (45% transshipment) and to a lesser extent, the Yantian container port, have water depth of over 16 metres below Chart Datum, there is a need for us to start the dredging project as soon as possible so as to maintain the competitiveness of the Hong Kong Port in handling international transshipment. The industry has indicated that as more and more ULCS are in service, more diversion will be expected if the Kwai Tsing Container Basin and its approach channel are not dredged to the required depth to handle ULCS at all tides.

**2. Whether the Government has committed to the proposed dredging of the sea-bed of Kwai Tsing Container Basin and portions of the Northern Fairway and Western Fairway in the land grants to the container terminal operators**

In the relevant land grants, there are provisions requiring the grantees to dredge and maintain the seabed within the area as specified on the grant plan (which in general refers to the marine frontage area of a berth) to a specified level to the satisfaction of the Government. There are no provisions with regard to dredging by the Government.

**3. Information on the disposal schedule of the dredged sediments, locations of the 22 water quality sensitive receivers, and the ways and means of monitoring water quality in the affected areas**

Schedule of the disposal of marine sediments

The dredging works are scheduled to commence in October 2013 for completion in the first quarter of 2016. We estimate that the project will generate about 4 million cubic metres of marine sediments. The marine sediments will be disposed of at the designated sediment disposal areas (allocated by the Marine Fill Committee according to their chemical and biological contamination level of the marine sediments) for disposal. The disposal is scheduled to commence in the first quarter of 2014 for completion in the first quarter of 2016. The schedule and quantity of disposal is shown below :-

<b>Year</b>	<b>Low contaminated sediment<sup>1</sup> (million cubic metres)</b>	<b>Medium and High contaminated sediment<sup>2</sup> (million cubic metres)</b>
Q1 to Q4 of 2014	1.369	0.523
Q1 to Q4 of 2015	1.485	0.556
Q1 of 2016	0.005	0.028
Total	2.859	1.107

Location of the 22 designated water quality sensitive receivers

The location of the 22 designated water quality sensitive receivers is shown on the attached plan.

Monitoring water quality in the affected areas

During construction stage, the Government will implement the environmental monitoring and audit programme to ensure the effectiveness of the mitigation measures. We will conduct regular water quality monitoring at the 22 designated water quality sensitive receivers. Furthermore, we will conduct 24-hour water quality monitoring at the four

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<sup>1</sup> Part of the low contaminated sediment will be used as the capping layer of the Confined Marine Disposal Area to the South of the Brothers or the East of Sha Chau. The remaining will be disposed of at the South of Cheung Chau or East of Ninepin Open Sea Sediment Disposal Area.

<sup>2</sup> The medium and high contaminated sediment will be disposed of at the Confined Marine Disposal Area to the South of the Brothers or the East of Sha Chau.

fish culture zones (FCZs) and three sea water intakes for collection of supplementary information. In case the water quality data are identified to be reaching or beyond the action level, we will immediately carry out investigation to ensure that the problem can be dealt with at the earliest possible stage.

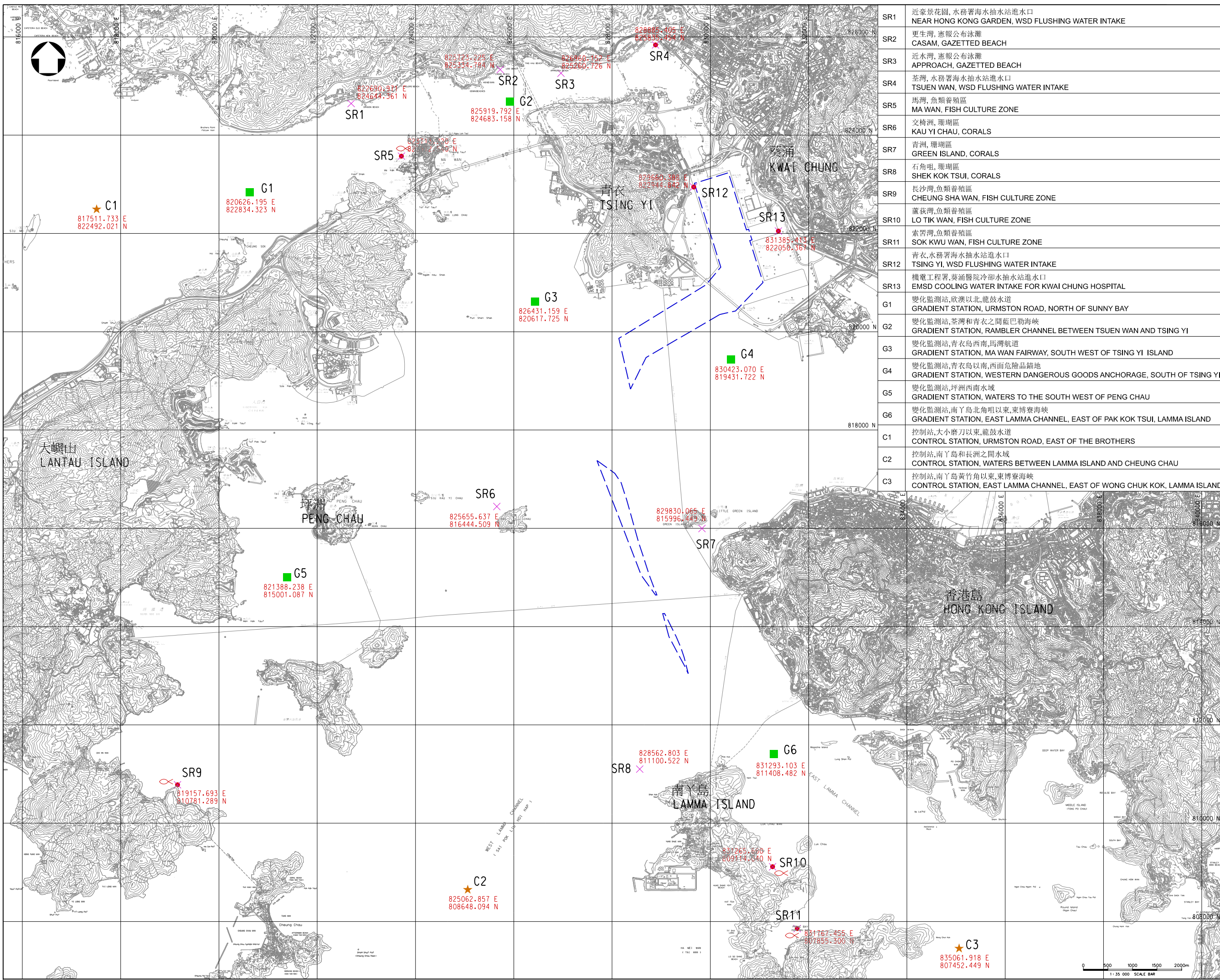
The Environmental Team<sup>3</sup> will regularly collect water samples at the water quality monitoring stations. The monitored water quality parameters include dissolved oxygen, suspended solids, turbidity, pH value, temperature and salinity. For some of the beaches, sea water intakes and coral communities, BOD5, E.coli, ammoniacal nitrogen, unionized ammonia and synthetic detergent will also be monitored.

For the additional 24-hour water quality monitoring at the four FCZs and three sea water intakes, continuous data for dissolved oxygen, turbidity and temperature will be logged at an interval of 5 minutes. The data will be transmitted to the Environmental Team for monitoring. In case of a continuous exceedance of action level for 30 minutes (i.e. 6 continuous exceedance of the monitoring data), the system will automatically alert the Environmental Team, the Environmental Protection Department and the Agricultural, Fisheries and Conservation Department by email for follow-up action.

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<sup>3</sup> As set out in the PWSC paper, the environmental team shall be deployed by the contractor and independent of the contractor to implement the environmental monitoring and audit programme. They would collect samples and measure various environmental parameters at monitoring locations to ensure the non exceedance of the prescribed levels and the effectiveness of the mitigation measures.





SR1	近豪景花園, 水務署海水抽水站進水口 NEAR HONG KONG GARDEN, WSD FLUSHING WATER INTAKE
SR2	更生灣, 憲報公布泳灘 CASAM, GAZETTED BEACH
SR3	近水灣, 憲報公布泳灘 APPROACH, GAZETTED BEACH
SR4	荃灣, 水務署海水抽水站進水口 TSUEN WAN, WSD FLUSHING WATER INTAKE
SR5	馬灣, 魚類養殖區 MA WAN, FISH CULTURE ZONE
SR6	交椅洲, 珊瑚區 KAU YI CHAU, CORALS
SR7	青洲, 珊瑚區 GREEN ISLAND, CORALS
SR8	石角咀, 珊瑚區 SHEK KOK TSUI, CORALS
SR9	長沙灣, 魚類養殖區 CHEUNG SHA WAN, FISH CULTURE ZONE
SR10	蘆荻灣, 魚類養殖區 LO TIK WAN, FISH CULTURE ZONE
SR11	索罟灣, 魚類養殖區 SOK KWU WAN, FISH CULTURE ZONE
SR12	青衣, 水務署海水抽水站進水口 TSING YI, WSD FLUSHING WATER INTAKE
SR13	機電工程署, 葵涌醫院冷卻水抽水站進水口 EMSD COOLING WATER INTAKE FOR KWAI CHUNG HOSPITAL
G1	變化監測站, 欣澳以北, 龍鼓水道 GRADIENT STATION, URMSTON ROAD, NORTH OF SUNNY BAY
G2	變化監測站, 荃灣和青衣之間藍巴勒海峽 GRADIENT STATION, RAMBLER CHANNEL BETWEEN TSUEN WAN AND TSING YI
G3	變化監測站, 青衣島西南, 馬灣航道 GRADIENT STATION, MA WAN FAIRWAY, SOUTH WEST OF TSING YI ISLAND
G4	變化監測站, 青衣島以南, 西面危險品錨地 GRADIENT STATION, WESTERN DANGEROUS GOODS ANCHORAGE, SOUTH OF TSING YI
G5	變化監測站, 坪洲西南水域 GRADIENT STATION, WATERS TO THE SOUTH WEST OF PENG CHAU
G6	變化監測站, 南丫島北角咀以東, 東博寮海峽 GRADIENT STATION, EAST LAMMA CHANNEL, EAST OF PAK KOK TSUI, LAMMA ISLAND
C1	控制站, 大小磨刀以東, 龍鼓水道 CONTROL STATION, URMSTON ROAD, EAST OF THE BROTHERS
C2	控制站, 南丫島和長洲之間水域 CONTROL STATION, WATERS BETWEEN LAMMA ISLAND AND CHEUNG CHAU
C3	控制站, 南丫島黃竹角以東, 東博寮海峽 CONTROL STATION, EAST LAMMA CHANNEL, EAST OF WONG CHUK KOK, LAMMA ISLAND

圖例  
LEGEND:

- 擬議疏浚範圍  
PROPOSED DREDGING AREA
- × 監測站  
MONITORING STATION
- ★ 控制站  
CONTROL STATION
- 變化監測站  
GRADIENT STATION
- 24小時監測站  
24-HR MONITORING STATION
- ⊗ 魚類養殖區  
FISH CULTURE ZONE

工務計劃項目第114AP號 -  
為葵青貨櫃港池及其進港航道  
提供足夠水深 -  
擬議水質監測站位置

PWP ITEM NO. 114AP -  
PROVIDING SUFFICIENT  
WATER DEPTH FOR KWAI  
TSING CONTAINER BASIN  
AND ITS APPROACH  
CHANNEL -  
PROPOSED  
LOCATION OF WATER  
QUALITY MONITORING  
STATIONS

圖號 DRAWING NO.	比例 SCALE
259053/SK/207	1:35000

土木工程拓展署  
 土木工程處  
 專責事務(工程)部  
 CIVIL ENGINEERING AND  
 DEVELOPMENT DEPARTMENT  
 CIVIL ENGINEERING OFFICE  
 SPECIAL DUTIES (WORKS) DIVISION

