CONTRACT NO: KL/2009/01

SITE FORMATION FOR KAI TAK CRUISE TERMINAL DEVELOPMENT

QUARTERLY ENVIRONMENTAL MONITORING & AUDIT REPORT

- DECEMBER 2010 TO FEBRUARY 2011-

CLIENT:

Penta-Ocean Construction Co., Ltd.

Unit 601, K. Wah Centre,
191 Java Road,
North Point,
Hong Kong

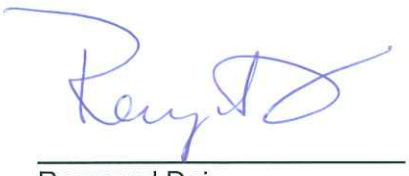
PREPARED BY:

Lam Environmental Services Limited

11/F Centre Point
181-185 Gloucester Road,
Wanchai, H.K.

Telephone: (852) 2882-3939
Facsimile: (852) 2882-3331
E-mail: info@lamenviro.com
Website: http://www.lamenviro.com

CERTIFIED BY:



Raymond Dai
Environmental Team Leader

DATE:

29 March 2011

FUGRO (HONG KONG) LIMITED CONSULTING ENGINEERS
7/F., Guardian House,
32 Oi Kwan Road,
Wanchai, Hong Kong
Tel : +852 2577 9023
Fax : +852 2895 2379
Email : fugro@fugro.com.hk

FAX MESSAGE

Priority ☐ normal / ☐ urgent

To	Lam Environmental Services Limited	Ref. No.	MCLF2880
Country		Email	raymonddai@lamenviro.com
Attn.	Mr. Raymond Dai	Date	31 March 2011
From	Joseph Poon	No. of Pages	1 (Incl. this page)
C.c. To	Mr. Barry Wong (Scott Wilson Limited)	Email	barry.wong@scottwilson.com.hk
	Mr. K. Y. Shin (Civil Engineering and Development Department)	Email	kyshin@cedd.gov.hk
	Mr. Stephen Cheng (Scott Wilson Limited)	Email	stephen.cheng@scottwilson.com.hk
	Mr. Andrew Tam (Scott Wilson Limited)	Email	andrew.tam@scottwilson.com.hk
	Mr. Perry Yam (Penta-Ocean Construction Company Limited)	Email	perry.yam@pentaocean.com.hk

Subject **Agreement No. CE 19/2009 (EP) Dredging Works for Proposed Cruise Terminal at Kai Tak – Quarterly Environmental Monitoring & Audit Report for December 2010 to February 2011**

We refer to the revised Quarterly EM&A Report for December 2010 to February 2011 that we received through email on 31 March 2011 and are pleased to confirm we have no further comment on the report.

Should you require further information, please feel free to contact us.

Best regards,

Joseph Poon
Independent Environmental Checker

JP/CY/by

CONFIDENTIALITY NOTICE
This facsimile transmission is intended only for the use of the addressee and is confidential. If you are not the addressee it may be unlawful for you to read, copy, disclose or otherwise use the information in this facsimile. If you are not the intended recipient, please telephone or fax us immediately.

(If you do not receive all pages, please fax response or phone +852-24508238.)

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

EXECUTIVE SUMMARY

i. This is the third Quarterly Environmental Monitoring and Audit (EM&A) Report – December 2010 to February 2011 for the Site Formation for Kai Tak Cruise Terminal Development under Contract No. KL/2009/01. Dredging of marine sediment and removal and reconstruction of existing seawall were commenced on 28 June and 22 November 2010 respectively. This report presents the environmental monitoring findings and information recorded during the period from December 2010 to February 2011.

Construction Activities in the Reported Period

ii. During the reporting period, the principle work activities are summarized as below:

Table I Principle Work Activities in the Reporting Quarter

December 2010	January 2011	February 2011
• Dredging at Toe of Existing Seawall; • Removal of Existing Seawall; • Fabrication and installation of silt curtain for seawall removal; • Maintenance of Silt Curtain and Silt Screens; and • Sorting of inert C&D material from existing seawall	• Dredging at Toe of Existing Seawall; • Removal of Existing Seawall; • Fabrication and installation of silt curtain for seawall removal; • Maintenance of Silt Curtain and Silt Screens; and • Sorting of inert C&D material from existing seawall	• Dredging of Marine Sediment; • Removal of Existing Seawall; • Fabrication and installation of silt curtain for seawall removal; • Maintenance of Silt Curtain and Silt Screens; and • Sorting of inert C&D material from existing seawall

Noise Monitoring

iii. Due to the non-existence of planned NSRs during the reporting quarter, no noise monitoring was required to be conducted at the planned noise monitoring locations NM1 and NM2.

Water Quality Monitoring

iv. Water quality monitoring was conducted at 6 designated monitoring stations namely WSD9, WSD10, WSD15, WSD17, WSD19 and WSD21. Total 33 SS exceedances were recorded in the reporting period. Investigation found that the 22 out of the 33 SS exceedances were located at the upstream of the Project site.

Water Quality against the Tidal Movement along Victoria Harbour

v. A comparison of the monitoring station at project downstream stations with the upstream monitoring stations indicate the extent of the remaining 11 SS exceedances recorded at the WSD intakes downstream to the project were attributed to the variation in ambient conditions due to tidal movement across the Victoria Harbour and not related to project works.

Natural Variation Comparison

vi. Based on the determination of upper bound of the natural variation levels from the Supplementary to Baseline Water Quality Monitoring Report, all SS results in reporting

quarter were well within the upper bound of natural variation levels. Thus, all recorded exceedances were well within the tolerance of background level.

Water Quality Surveillance System

vii. With reference to the upper bound of natural variation levels and water quality surveillance conducting in reporting period, it shows no fluctuation over the upper bound and hence this further supports such exceedances are not caused by dredging activities.

viii. Since the investigations found that the exceedances recorded in the reporting quarter were not related to the Project, it was concluded that all necessary steps under Event and Action Plan had been taken. The details of Event and Action Plans and Notification of Exceedance summarizing the finding of investigation, possible causes can be referred to the Monthly EM&A Reports.

Complaints, Notifications of Summons and Successful Prosecutions

ix. No complaint, notification of prosecutions or summons was received in the reporting quarter.

1. INTRODUCTION

1.1 Scope of the Report

1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) for dredging works to implement the Environmental Monitoring and Audit (EM&A) programme for the Site Formation for Kai Tak Cruise Terminal Development under Contract No. KL/2009/01. Dredging of marine sediment and removal and reconstruction of existing seawall were commenced on 28 June and 22 November 2010 respectively.

1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 10.7 under Environmental Monitoring and Audit (EM&A) Manual.

1.1.3. This report documents the finding of EM&A works during the quarter from December 2010 to February 2011.

1.2 Structure of the Report

Section 1 ***Introduction*** – details the scope and structure of the report.

Section 2 ***Project Background*** – summarizes background and scope of the Project, site description, project organization and contact details of key personnel during the reporting period.

Section 3 ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring locations, monitoring frequency, duration and action plan.

Section 4 ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.

Section 5 ***Compliance Audit, Review of the Reasons for and the Implication of Non-compliance*** – summarizes the auditing of monitoring results, all exceedances environmental parameters, review the reasons for and the implication of non-compliance.

Section 6 ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

Section 7 ***Conclusion***

2. PROJECT BACKGROUND

2.1 Background

2.1.1. The former Kai Tak Airport located in the south-eastern part of Kowloon Peninsula was the international airport of Hong Kong. The Kai Tak Airport had come into operations since 1920s. The operation of the Kai Tak Airport was ceased and replaced by the new airport at Chek Lap Kok in July 1998. After closure, the disused airport site has been occupied by various temporary uses, including a golf driving range on the runway area.

2.1.2. In 2002, the Chief Executive in Council approved the Kai Tak Outline Zoning Plans (No. S/K19/3 and S/K21/3) to provide the statutory framework to proceed with the South East Kowloon Development at the former Kai Tak Airport. However, following the judgment of the Court of Final Appeal in January 2004 regarding the Harbour reclamation, the originally proposed development which involves reclamation has to be reviewed. The Kai Tak Planning Review (KTPR) has resulted with a Preliminary Outline Development Plan (PODP) for Kai Tak in October 2006. Subsequently, the Administration announced in October 2006 a plan to implement a cruise terminal at Kai Tak, as part of the development.

2.1.3. Development of the cruise terminal at Kai Tak would require dredging at the existing seawall at the southern tip of the former Kai Tak Airport runway for construction of a quay deck structure for two berths, and dredging the seabed fronting the new quay to provide necessary manoeuvring basin. The general layout of the proposed cruise terminal construction is shown in ***Figure 2.1***.

2.1.4. The current Project involves a dredging operation exceeding 500,000m^3 for construction and operation of the proposed cruise terminal at Kai Tak and is therefore classified as a Designated Project under Item C.12, Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO). An Environmental Impact Assessment (EIA) Study for the Project has been undertaken in accordance with the EIA Study Brief (No. ESB-159/2006) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

2.2 Scope of the Project and Site Description

2.2.1. The scope of the Project comprises:

- Dredging of marine sediment of about 700,000m^3 from the existing seabed (Stage 1 dredging) in the Harbour area off the southern tip of the former Kai Tak Airport runway to provide the necessary water depth within the manoeuvring area for cruise vessels; and
- Removal of existing seawall of about 322,300m^3 by dredging at the southern tip of the former Kai Tak Airport runway for cruise berth construction.

2.3 Project Organization

2.3.1. Kowloon Development Office of Civil Engineering and Development Department is the overall project controller. For the construction phase of the Project, Project Engineer, Contractor,

Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.3.2. The proposed project organization and lines of communication with respect to environmental protection works are shown in ***Figure 2.2***. Key personnel and contact particulars are summarized in ***Table 2.2***:

Table 2.2 Contact Details of Key Personnel

Party	Role	Name	Post	Contact No.	Contact Fax
Civil Engineering and Development Department (Kowloon Development Office)	Project Proponent	Ir. KY Shin	Senior Engineer	2301 1461	2301 1277
URS / Scott Wilson Limited	Engineer's Representative	Mr. Stephen Cheng	Chief Resident Engineer	2148 7638	2148 7277
Penta-Ocean Construction Company Limited	Contractor	Mr. P.L. Yue	Project Manager	2148 7238	2148 7138
		Mr. Warren Tse	Site Agent		
		Mr. Perry Yam	Environmental Officer		
Fugro (HK) Limited	Independent Environmental Checker (IEC)	Mr. Joseph Poon	Independent Environmental Checker (IEC)	2450 8238	2450 6138
Lam Environmental Services Limited	Environmental Team Leader	Mr. Raymond Dai	Environmental Team Leader (ETL)	2882 3939	2882 3331

2.4 Principal Work and Activities

2.4.1. During this reporting quarter, the principal work activities are summarized in **Table2.4**.

Table 2.4 Principle Work Activities during the Reporting Quarter

December 2010	January 2011	February 2011
• Dredging at Toe of Existing Seawall; • Removal of Existing Seawall; • Fabrication and installation of silt curtain for seawall removal; • Maintenance of Silt Curtain and Silt Screens; and • Sorting of inert C&D material from existing seawall	• Dredging at Toe of Existing Seawall; • Removal of Existing Seawall; • Fabrication and installation of silt curtain for seawall removal; • Maintenance of Silt Curtain and Silt Screens; and • Sorting of inert C&D material from existing seawall	• Dredging of Marine Sediment; • Removal of Existing Seawall; • Fabrication and installation of silt curtain for seawall removal; • Maintenance of Silt Curtain and Silt Screens; and • Sorting of inert C&D material from existing seawall

2.4.2. Implementation status of the recommended mitigation measures during this reporting period is presented in ***Appendix 2.1***.

3. MONITORING REQUIREMENTS

3.1. Noise Monitoring

3.1.1. In accordance with the EIA Report and the approved EM&A Manual, it is anticipated that construction activities, if unmitigated, would not cause any adverse noise impact to the nearest NSRs in the vicinity of the work site. The predicted noise levels at the NSRs would comply with construction noise criteria. These nearest NSRs are designated for construction noise monitoring as listed in ***Table 3.1***.

Table 3.1 Noise Monitoring Stations

Station	Description
NM1	Planned Residential Development (R3 site)
NM2	Planned Residential Development (R3 site)

3.1.2. As per S.3.1.1 of the approved EM&A Manual states that "Noise levels shall be monitored to evaluate the construction noise impact if there is any planned noise sensitive receivers (NSRs) occupied within 300m from the works area of this Project during the proposed dredging works". Therefore, the impact monitoring for construction noise shall only be carried out when the planned residential development at the two identified monitoring stations are occupied at a later stage.

3.2. Water Quality Monitoring

3.2.1. The EIA Report has identified that suspended solids (SS) would be the most critical water quality parameter during the dredging operations. Water quality monitoring for SS and turbidity is therefore recommended to be carried out at selected WSD flushing water intakes. The impact monitoring should be carried out during the proposed dredging works for cruise terminal construction to ensure the compliance with the water quality standards.

3.2.2. It is proposed to monitor the water quality at six WSD flushing water intakes along the seafront of the Victoria Harbour. The proposed water quality monitoring stations are shown in ***Table 3.2*** and ***Figure 3.1***.

Table 3.2 Marine Water Quality Stations for Water Quality Monitoring

Station Ref.	WSD Flushing Water Intake	Easting	Northing
WSD9	Tai Wan	837921.0	818330.0
WSD10	Cha Kwo Ling	841900.9	817700.1
WSD15	Sai Wan Ho	841110.4	816450.1
WSD17	Quarry Bay	839790.3	817032.2
WSD21	Wan Chai	836220.8	815940.1
WSD19	Sheung Wan	833415.0	816771.0

WATER QUALITY PARAMETERS AND FREQUENCY

3.2.3. During the period of dredging, monitoring should be undertaken three days per week, at mid-flood and mid-ebb tides, with sampling / measurement at the designated monitoring stations as shown in ***Table 3.2***. The interval between two sets of monitoring should not be less than 36 hours except where there are exceedances of Action and/or Limit Levels, in which case the monitoring frequency will be increased. ***Table 3.3*** shows the proposed monitoring frequency and water quality parameters. Duplicate in-situ measurements and water sampling should be carried out in each sampling event. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides should not be less than 0.5m.

3.2.4. Silt screens shall be deployed at these intakes during the dredging period. It is recommended to conduct the monitoring inside the silt screens at the seawater intake culvert at each seawater pumping station to collect information on the mitigated water quality condition.

Table 3.3 Water Quality Monitoring Frequency and Parameters

Activities	**Monitoring Frequency[1]**	**Parameters[2]**
During the 4-week baseline monitoring period	Three days per week, at mid-flood and mid-ebb tides	Turbidity (in NTU), Suspended Solids (SS in mg/L)
During dredging works for proposed cruise terminal at Kai Tak	Three days per week, at mid-flood and mid-ebb tides	Turbidity (in NTU), Suspended Solids (SS in mg/L)

Notes:
1. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides should be not less than 0.5m.
2. Turbidity should be measured in situ whereas SS should be determined by laboratory.

3.2.5. The established Action and Limit levels according to the approved baseline monitoring report for monitoring works can be referred to ***Appendix 3.1***.

4. MONITORING RESULTS

4.1. Water Monitoring Results

4.1.1. The water quality monitoring was commenced concurrently with the commencement of dredging works on 28 June 2010. Water quality monitoring was conducted at 6 designated monitoring stations namely WSD9, WSD10, WSD15, WSD17, WSD19 and WSD21 during the reporting quarter.

4.1.2. Due to the access restriction of WSD Salt Water Pumping Stations owing to security reasons and no dredging activities confirmed with the Contractor between 3 February and 6 February 2011 (Chinese Lunar New Year Holiday), the scheduled impact water monitoring on 3 and 4 February 2011 was cancelled.

4.1.3. Water monitoring results measured in this reporting period are reviewed and summarized. Details of graphical presentation can be referred in ***Appendix 4.1***. The details of exceedances are summarized in **Table 4.1.1**.

Table 4.1.1 Summary of Exceedances Recorded in the Reporting Quarter

Period		Level	WSD9		WSD10		WSD15		WSD17		WSD19		WSD21	
			Turb	SS	Turb	SS	Turb	SS	Turb	SS	Turb	SS	Turb	SS
			NTU	mg/L	NTU	mg/L	NTU	mg/L	NTU	mg/L	NTU	mg/L	NTU	mg/L
Mid-flood	Dec-10	AL	0	1	0	1	0	0	0	5	0	0	0	0
	Jan-11		0	1	0	1	0	0	0	0	0	0	0	0
	Feb-11		0	0	0	1	0	2	0	0	0	0	0	0
Mid-ebb	Dec-10	AL	0	2	0	0	0	1	0	0	0	0	0	0
	Jan-11		0	0	0	0	0	0	0	0	0	1	0	0
	Feb-11		0	1	0	0	0	1	0	1	0	0	0	0
Total of AL Exceedances In Dry Season:			**0**	**5**	**0**	**3**	**0**	**4**	**0**	**6**	**0**	**1**	**0**	**0**
Mid-flood	Dec-10	LL	0	2	0	0	0	4	0	1	0	0	0	0
	Jan-11		0	0	0	0	0	1	0	0	0	0	0	0
	Feb-11		0	0	0	1	0	1	0	0	0	0	0	0
Mid-ebb	Dec-10	LL	0	0	0	1	0	0	0	0	0	0	0	0
	Jan-11		0	0	0	0	0	2	0	0	0	0	0	0
	Feb-11		0	0	0	1	0	0	0	0	0	0	0	0
Total of LL Exceedances In Dry Season:			**0**	**2**	**0**	**3**	**0**	**8**	**0**	**1**	**0**	**0**	**0**	**0**
Total of Exceedances:			**7**		**6**		**12**		**7**		**1**		**0**	

4.1.4. Total 33 SS exceedances were recorded in the reporting period. Investigation found that 22 out of the 33 SS exceedances were located at upstream of the Project site which means exceedances are not due to the Project work. The remaining exceedances found no significant change in the SS level and were unlikely to be caused by the Project works. Details of investigations can be referred in Section 5.

4.2. Water Quality Surveillance System

4.2.1. 4 self water quality surveillance monitoring events for marine sediment dredging and 7 self water quality surveillance monitoring events for removal of existing seawall were conducted in the reporting period. Sketch no. SK0067B in ***Appendix 4.2*** shows the sampling points of the surveillance system for marine sediment dredging while sketch no. SK0467 and SK0468 show the sampling points of the surveillance system for removal of existing seawall. Turbidity and SS monitoring were conducted at 12 locations as follows and shown in ***Figure 4.1***.

- One sampling point inside the silt curtain (SP1);
- Four sampling points outside the silt curtain (MP1-MP4);
- Seven control points (C1-C7)

4.2.2. The graphical presentation of the SS levels at SP1, sampling points outside the silt curtain, control points and impact water quality monitoring stations against the distance are shown in ***Appendix 4.2***.

4.3. Dredging and Disposal

4.3.1. Implementation of mitigation measures for dredging work and the associated dredging records were checked and the findings are summarized in ***Table 4.2.1***.

Table 4.2.1 Compliance with EP Conditions in the Reporting Quarter

EP Condition	Compliance Status and/or Recommendation
2.6 Silt Curtain Deployment	In accordance with the EP requirement
2.6 For removal of the existing seawall and the seabed, Daily Dredging Rate ≤ 4,000m3/d Hourly Dredging Rate ≤ 334m3/hr	Complied with the EP requirement in reporting quarter: Maximum daily Dredging Rate was at 500m^3/day and Maximum hourly Dredging Rate was at 69 m^3/hr.
2.7 Daily Dredging Rate ≤ 4,000m^3/d Hourly Dredging Rate ≤ 334m^3/hr	Complied with the EP requirement in reporting month: Maximum daily Dredging Rate was at 3,080m^3/day and Maximum hourly Dredging Rate was at 182m^3/hr.
2.8 Silt Screen Deployment	In accordance with the Silt Screen Deployment Plan for all 6 intakes

4.3.2. The daily and hourly dredging rates were checked and reviewed that were below the EP requirements. It was concluded that the dredging was conducted in compliance with the specific EP requirements.

4.3.3. There were no inert and non-C&D waste regarding to the dredging works were disposed of in the reporting quarter. Details of the marine sediment dumping are summarized in ***Table 4.2.2***.

Table 4.2.2 Waste Quantities Related To Dredging Works

Waste Type	Quantity this quarter, m^3, (Bulk Volume)	Cumulative Quantity-to-Date,m^3, (Bulk Volume)	Disposal / Dumping Grounds
Marine Sediment (Type 1 – Open Sea Disposal)	90,933	135,877	South Cheung Chau Spoil Disposal Area denoted "KTCT-1" and "KTCT -2"
Marine Sediment (Type 1 – Open Sea Disposal (Dedicated Sites) & Type 2 – Confined Marine Disposal)	82,773	125,227	East Sha Chau Contaminated Mud Disposal Site – Pit IVc

5. COMPLIANCE AUDIT, REVIEW OF THE REASONS FOR AND THE IMPLICATIONS OF NON-COMPLIANCE

5.0.1. The Event Action Plan for construction noise and water quality is presented in ***Appendix 5.1***.

5.1. Noise Monitoring

5.1.1. Noise monitoring was not necessary in the reporting period.

5.2. Water Quality Monitoring

5.2.1. For the suspended solid, the details of exceedances in the reporting period are as follows:

- 5 Action Level and 2 Limit Level exceedances were recorded at WSD9;
- 3 Action Level and 3 Limit Level exceedances were recorded at WSD10;
- 4 Action Level and 8 Limit Level exceedances were recorded at WSD15;
- 6 Action Level and 1 Limit Level exceedances were recorded at WSD17;
- 1 Action Level exceedance was recorded at WSD19; and
- No exceedance was recorded at WSD21

5.2.2. Total 33 numbers of SS exceedances were recorded in the reporting period. Silt curtain and silt screens were checked and confirmed in proper condition during the water monitoring. Investigation found that the 22 out of 33 numbers of SS exceedances were located at upstream of the Project site and these exceedances considered were due to upstream sources of the WSD intakes.

5.2.3. For the remaining exceedances, further investigations were conducted to determine the cause of impact in terms of the following areas:

- Water Quality against the Tidal Movement along Victoria Harbour;
- Natural Variation Comparison; and
- Water Quality Surveillance System

5.2.4. More details on the investigation are given in Section 5.3 to 5.5.

5.3. Water Quality against the Tidal Movement along Victoria Harbour

5.3.1. In order to conclude the cause of an adverse water quality impact, the trend across the 6 monitoring stations is reviewed. Whether the adverse impact is due to project work will be evaluated from the trend of SS level in downstream across the Victoria Harbour after passing the project location. By observing this trend of SS, contribution of the adverse water quality impact from the dredging activities under the project can be evaluated by checking if there is a significant rising up trend in the SS level in the WSD intakes at project downstream.

5.3.2. Moreover, a comparison of the monitoring station at project downstream stations with the upstream monitoring stations can also indicate whether the extent of exceedance in SS content recorded at the WSD intakes downstream to the project is likely to be caused by upstream source or not. If the SS values of the upstream and downstream show similar levels, the impact at the project downstream stations shall probably be due to the project upstream streams and the contribution from project work can be eliminated.

5.3.3. For the 11 exceedances caused by the natural tidal variation, a review on the tidal movement across the Victoria Harbour is plotted against the SS results against and graphical presentation is presented in ***Appendix 5.2***.

5.3.4. Investigations on the exceedances recorded upstream of the Project generally found no significant rising up trend of SS levels across the Victoria Harbour after passing the project location. Thus, the 11 exceedances were attributed to the variation in ambient conditions due to tidal movement across the Victoria Harbour and not related to project works.

5.4. Natural Variation Comparison

5.4.1. Referring to the ER Letter ref. CEDD/KL/2009/01/M45/130(369767) dated 14 February 2011, a Supplementary to Baseline Water Quality Monitoring Report – Review Action and Limit Levels (Revision 1.0) has been submitted to EPD by ER in February 2011. This report presents the methodology for enlargement baseline database and the review and determination of the Action and Limit Levels in dry and wet seasons.

5.4.2. On the basis of this Supplementary to Baseline Water Quality Monitoring Report, the maximum SS levels in the establishment of larger baseline database will be applied and acted as the upper bound of natural variation levels for the comparison with SS results in reporting quarter. The upper bound of natural variation levels are shown in **Table 5.4**. The graphic presentation of water quality results with respect to local variation is shown in ***Appendix 5.3***.

Table 5.4 Upper Bound of Natural Variation Levels at Water Monitoring Stations

Upper Bound of Natural Variation Levels (mg/L)	WSD9	WSD10	WSD15	WSD17	WSD19	WSD21
Dry Season	12.0	19.0	14.0	16.0	18.0	15.0
Wet Season	15.1	21.2	22.7	17.9	17.1	18.8

5.4.3. According to the graphic presentation, all SS results in reporting quarter were below the upper bound of natural variation levels. That means all recorded exceedances well within the tolerance of background level.

5.5. Water Quality Surveillance System

5.5.1. Based on the graphic presentation and the trend description of the SS levels in ***Appendix 4.2***, conclusion of the water quality surveillance can be draw as follows:

- SS level of MP is lower than SP1 generally;
- When the WSD intakes were located at upstream of the Project, it found that SS level was occasionally higher than the control points and sampling points near dredging area. Thus, uncertain interference of water quality was apparently interfering in the vicinity of intakes frequently;
- For WSD intakes located at downstream of the Project, a higher SS level than the sampling points MP and/or control points were recorded. The trend in the projections

indicated that no significant rising of SS in the projection from the dredging area to the control points and the WSD pumping stations.

- Besides, the distance between the WSD intakes and the SP1 are at least more than 1km, the water quality impact was unlikely to cause impact to the WSD intakes.

5.5.2. With reference to the upper bound of natural variation levels and water quality surveillance conducting in reporting period, it shows no fluctuation over the upper bound and hence this further supports such exceedances are not caused by dredging activities.

Summary of Investigation

5.5.3. To summarize, it was found in this reporting period that:

- 22 out of the 33 SS exceedances were located at upstream of the Project site and these exceedances considered were due to upstream sources of the WSD intakes.
- Remaining 11 SS exceedances was attributed to variation in ambient conditions due to tidal movement across the Victoria Harbour and not related to project works.
- No fluctuation over the upper bound of natural variation levels and water quality surveillance conducting was observed and this further support such exceedances are not caused by dredging activities.

5.5.4. Since the investigations found that the exceedances recorded in the reporting quarter were not related to the Project, it was concluded that all necessary steps under Event and Action Plan had been taken. The details of Event and Action Plans and Notification of Exceedance summarizing the finding of investigation, possible causes can be referred to the Monthly EM&A Reports.

5.6. Site Audit

5.6.1. There was no non-compliance from the site audits in the reporting period. During environmental site inspections conducted during the reporting quarter, the observation related to the dredging work was summarized in the ***Table 5.6***.

Table 5.6 Observation Identified during the Reporting Quarter

Date	Observations	Action taken by Contractor	Outcome
7-Dec-10	Extension of the silt curtain system for seawall removal was on-going. The contractor was reminded to close the opening of the system at all times except vessel movement.	Opening of silt curtain was closed except the vessel movement.	Completion as observed during site audit on 17-Dec-2010.
17-Dec-10	The existing silt curtain at seawall removal area needed to be improved so as to keep a vertical position.	Keeping the silt curtain in proper position.	Completion as observed during site audit on 21-Dec-2010.
14-Jan-11	Silt curtain at SDA seawall needed to be repaired. (Silt curtain was found floating up.)	Maintenance and repair the silt curtain in vertical position	Completion as observed during site audit on 25-Jan-2011.
14-Jan-11	Floating refuse at Bay B seawall removal area should be collected as soon as possible.	Regular clearance of floating refuse	Completion as observed during site audit on 21-Jan-2011.
21-Jan-11	The floating up silt curtain at SDA should be maintained vertical; and the deteriorated silt curtain should be replaced.	Maintenance and repair the silt curtain in vertical position	Completion as observed during site audit on 25-Jan-2011.
25-Jan-11	The floating up silt curtain at Bay B along the seawall needed to be repaired / replaced.	Double silt curtain and extra weights were added to maintain it vertically.	Completion as observed during site audit on 31-Jan-2011.
18-Feb-11	Dredged material deposited on the walkway of the derrick barge shall be cleared off before departure.	Keeping clearance of dredging material before departure.	Completion as observed during site audit on 22-Feb-2011.

5.7. Summary of action taken in the event of and follow-up on non-compliance

5.7.1. Since all exceedances recorded were not project-related, follow-up mitigation measures were therefore not required.

6. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

6.0.1. In the reporting quarter, no complaints, notification of summons or prosecution was received in the reporting period. Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 6.1***, ***Table 6.2*** and ***Table 6.3*** respectively.

Table 6.1 Environmental Complaints Log

Complaint Log No.	Date of Receipt	Received From and Received By	Nature of Complaint	Date Investigated	Outcome	Date of Reply
NIL	-	-	-	-	-	-

Table 6.2 Cumulative Statistics on Complaints

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative No. Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	**0**	**0**	**0**

Table 6.3 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	**0**	**0**	**0**

7. CONCLUSION

7.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.

7.0.2. Occasional action and limit level exceedances of SS concentration were recorded in the reporting period. Investigation found that most of the exceedances were located in the upstream of the Project.

7.0.3. Further investigation of the remaining exceedances indicates the extent of exceedance in SS content recorded at the WSD intakes downstream to the project were attributed to the variation due to tidal movement across the Victoria Harbour and not related to project works.

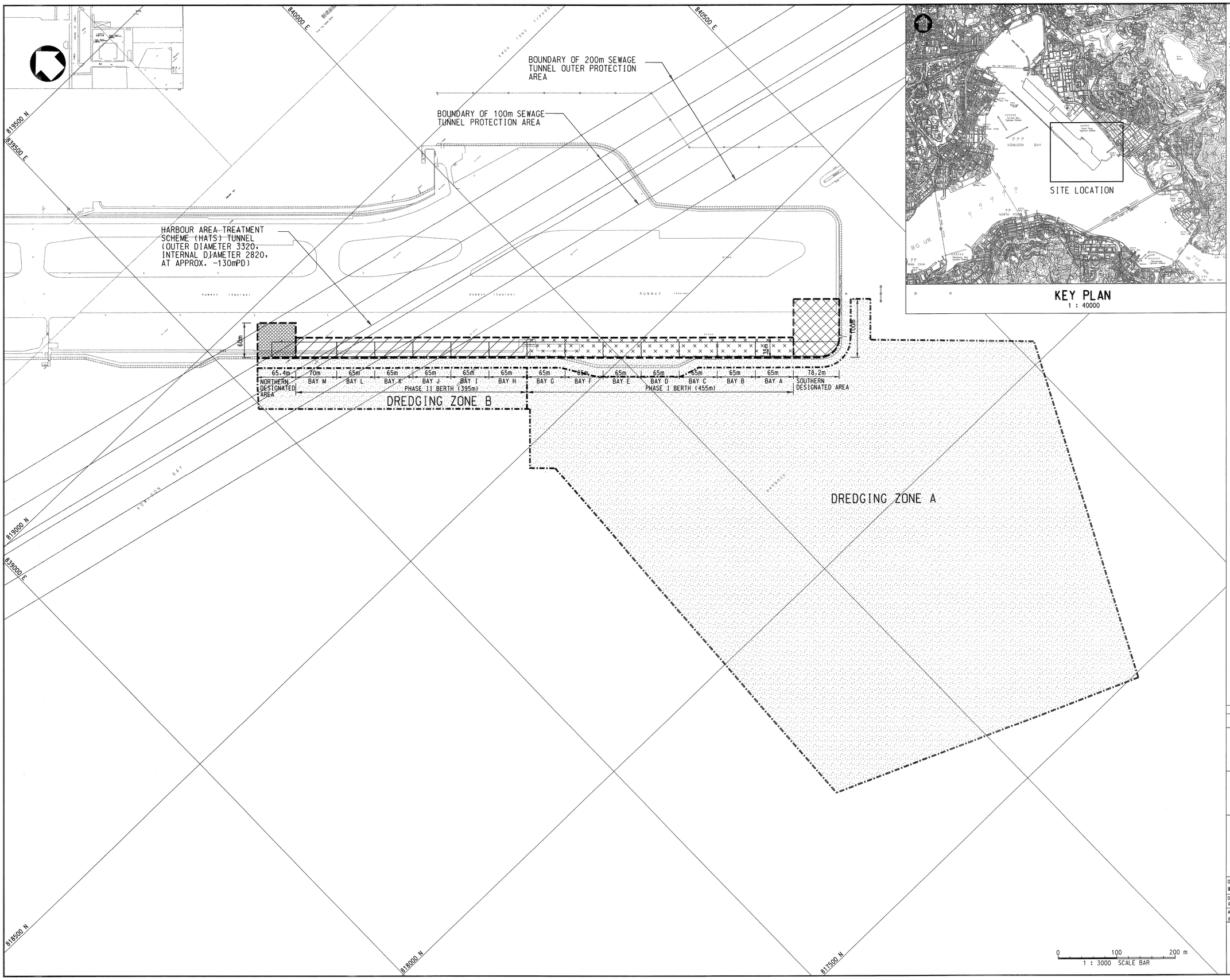
7.0.4. With reference to the upper bound of natural variation levels and water quality surveillance conducting in reporting period, it shows no fluctuation over the upper bound and hence this further supports such exceedances are not caused by dredging activities.

7.0.5. Noise monitoring was not necessary in the reporting period.

7.0.6. The overall construction programmes are provided in ***Appendix 7.1***.

Figure 2.1

General Layout



KEY PLAN
1 : 40000

NOTES:

1. ALL COORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
3. SETTING OUT REFER TO DRAWING NO.08290/1021.

LEGEND:

- SOUTHERN DESIGNATED AREA
- NORTHERN DESIGNATED AREA
- DREDGING ZONE / SEAWALL REMOVAL
- PHASE I BERTH AREA
- PHASE II BERTH AREA

Rev. 修訂	Date 日期	Description 內容摘要	Drawn 繪圖	Checked 核核
-	06/09	TENDER	LC	WCS

土木工程拓展署
CEDD Civil Engineering and Development Department

Contract No.KL/2009/01
Site Formation for Kai Tak Cruise Terminal Development

GENERAL LAYOUT PLAN

Drawing No. 圖則編號	08290/1011		
Designed 設計 BK	Drawn 繪圖 WHM	Checked 核核 WCS	Scale 比例 1:3000
Approved 批准		Date 日期 06/09	Status 現況 TENDER

Scott Wilson Ltd
偉信顧問集團有限公司

FILE
*ATE TIME

© Copyright Reserved
版 權 所 有

Figure 2.2

Project Organization Chart

Project Organization Chart

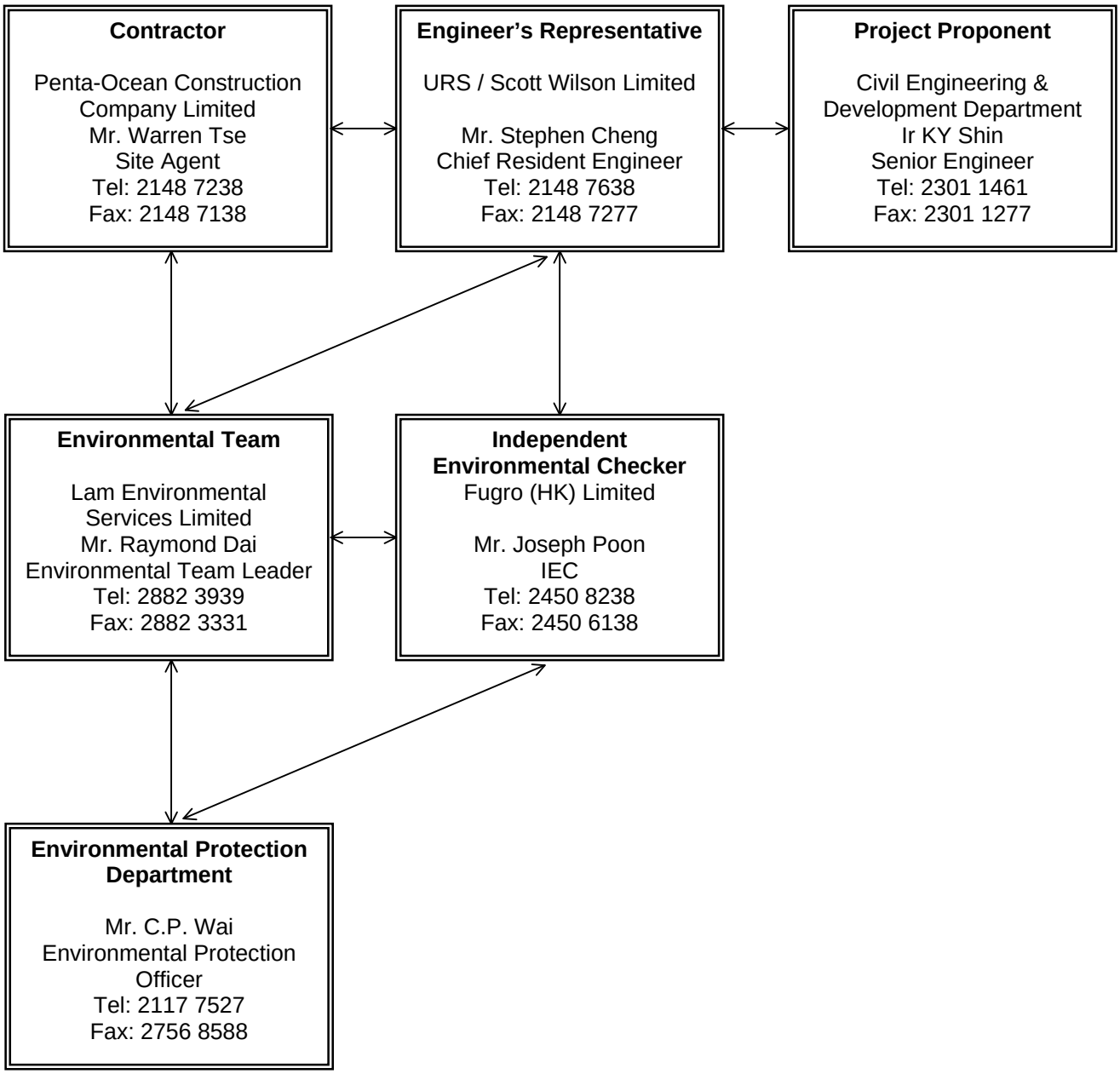
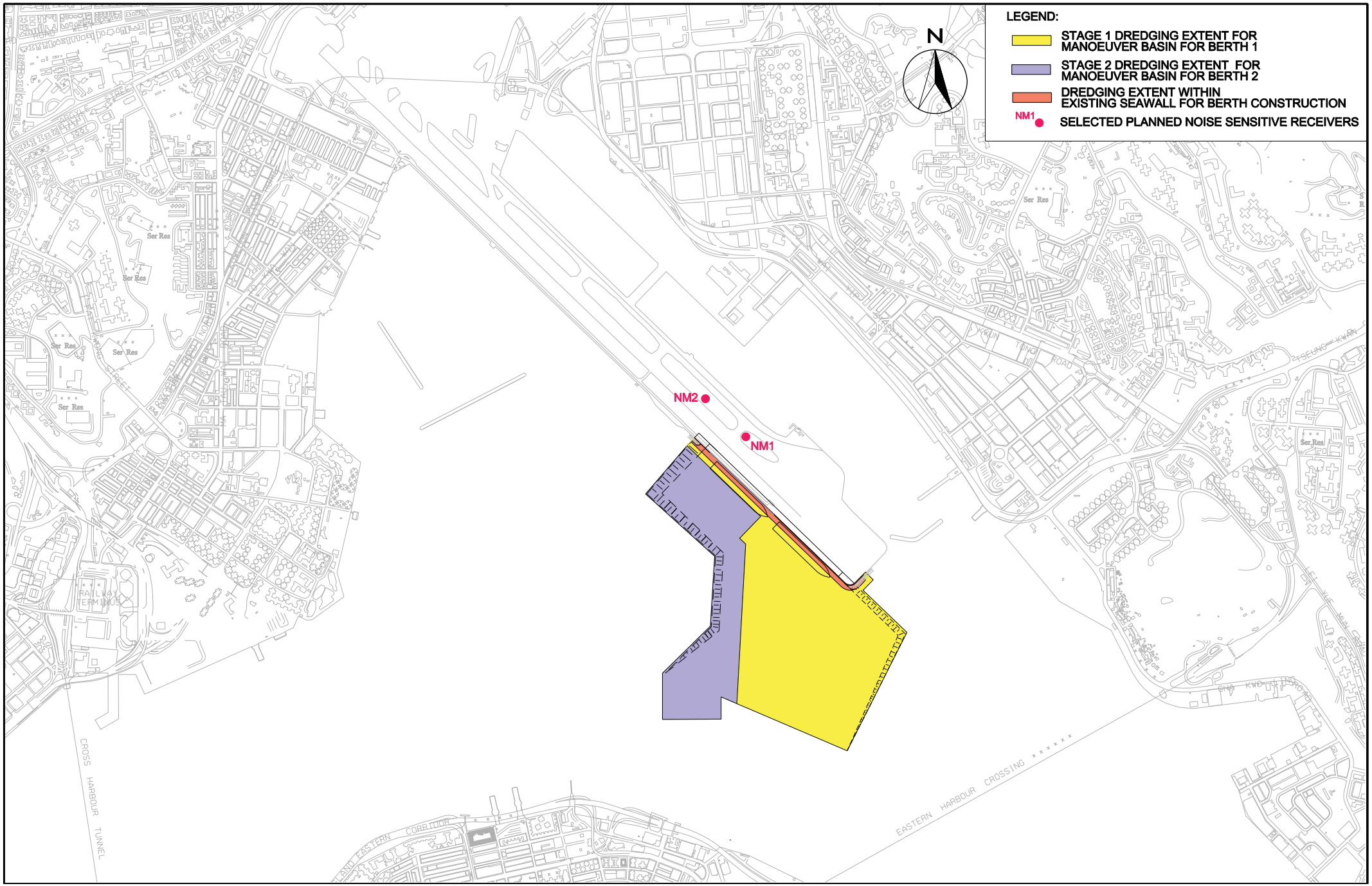
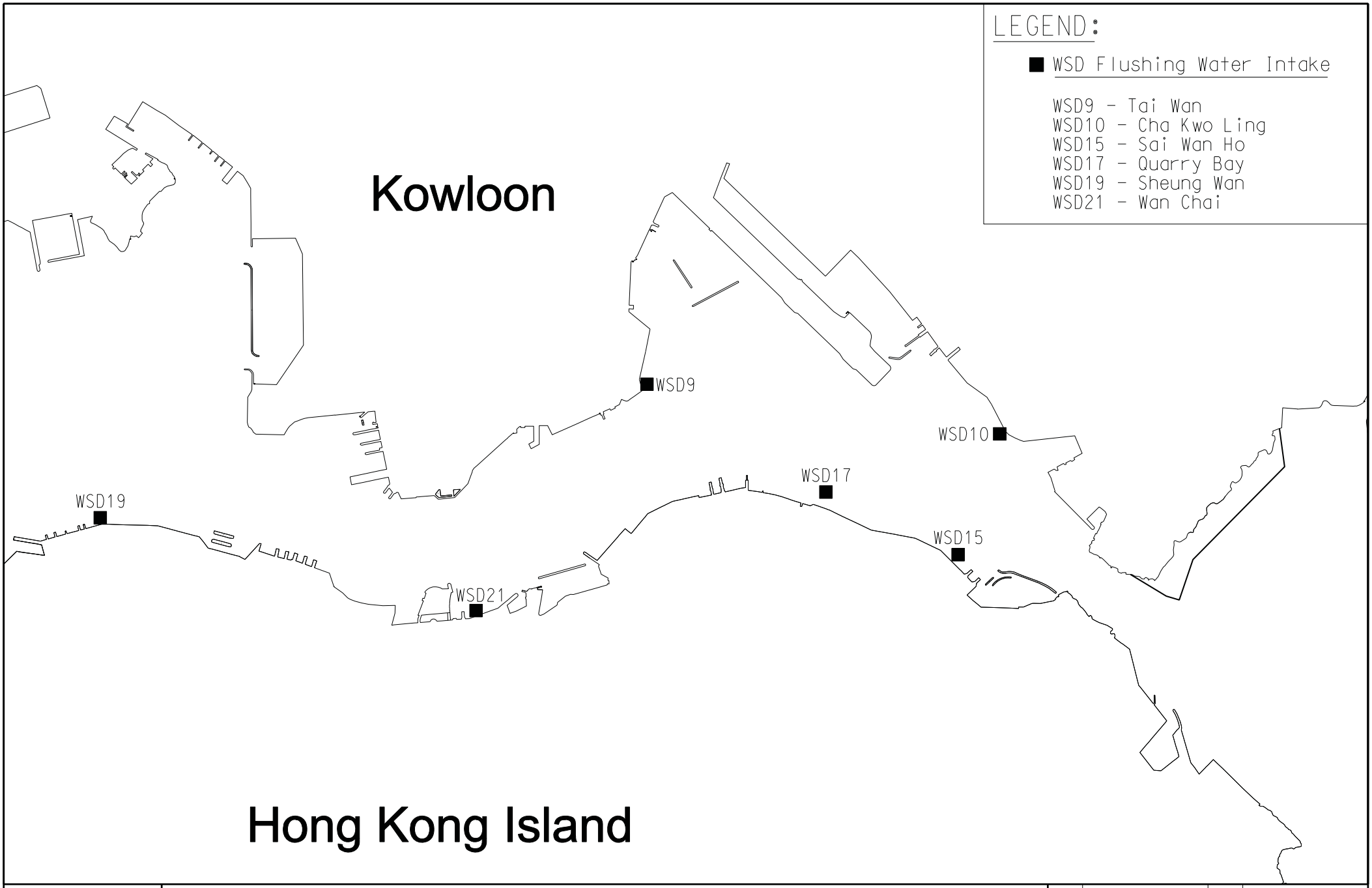


Figure 3.1

Layout of Environmental Monitoring Stations


LEGEND:
STAGE 1 DREDGING EXTENT FOR MANOEUVER BASIN FOR BERTH 1
STAGE 2 DREDGING EXTENT FOR MANOEUVER BASIN FOR BERTH 2
DREDGING EXTENT WITHIN EXISTING SEAWALL FOR BERTH CONSTRUCTION
NM1
SELECTED PLANNED NOISE SENSITIVE RECEIVERS
N
NM2
NM1
Ser Res
RAILWAY TERMINUS
CROSS HARBOUR TUNNEL
EASTERN HARBOUR CROSSING
TSEUNG KWAN



MAUNSELL | AECOM
Maunsell Consultants Asia Ltd

AGREEMENT NO. CE 35/2006 (CE)
KAI TAK DEVELOPMENT ENGINEERING STUDY CUM DESIGN AND
CONSTRUCTION OF ADVANCE WORKS-INVESTIGATION, DESIGN AND CONSTRUCTION

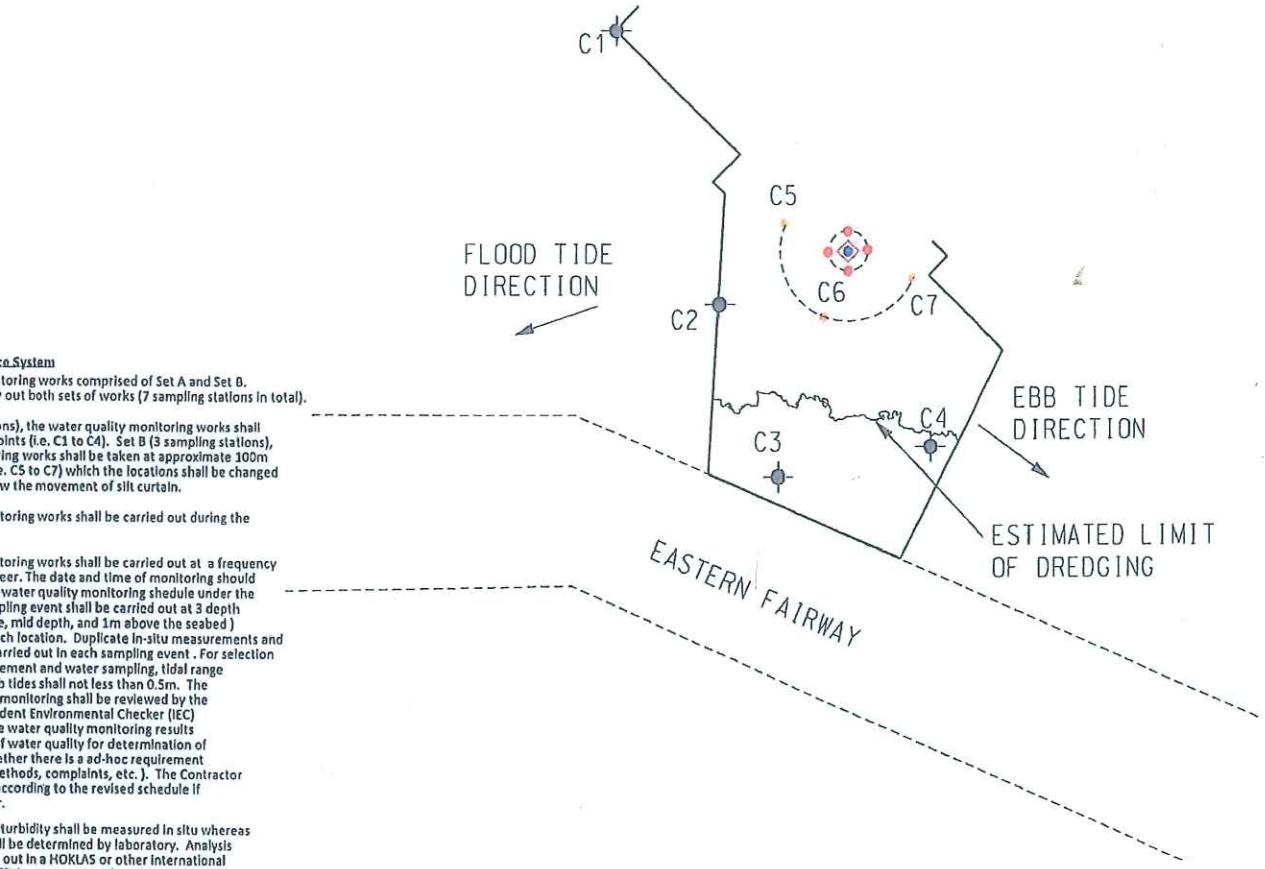
WATER QUALITY MONITORING STATIONS

SCALE	A3 1:35000	DATE	AUG 07
CHECK	AKYC	DRAWN	WCM
JOB No.	60022503	DRAWING No.	3.1
		REV	-

P:/60022503/Reports/CT Dredging/EM&A Manual/Formal submission/Figures/Drawings/4.1.dgn

Figure 4.1

Layout of Monitoring Stations for Water Quality Surveillance System



LEGEND:

- SILT CURTAIN (20m x 20m)
- SAMPLING POINT INSIDE SILT CURTAIN (CONTRACTOR'S PROPOSED SAMPLING POINT TO MONITOR EFFECTIVENESS OF SILT CURTAINS)
- SAMPLING POINT AT ABOUT 10m OUTSIDE SILT CURTAIN (CONTRACTOR'S PROPOSED SAMPLING POINT TO MONITOR EFFECTIVENESS OF SILT CURTAINS)
- SAMPLING POINT AS CONTROL POINT (C1 TO C4) (ADDITIONAL)
- SAMPLING POINT AS CONTROL POINT (C5 TO C7) AT ABOUT 100m AWAY FROM SILT CURTAIN (ADDITIONAL)

ADDITIONAL WATER QUALITY MONITORING STATIONS

COORDINATE	NORTH	EAST
C1	818867.763	839495.740
C2	818152.875	839775.604
C3	817702.158	839931.601
C4	817780.765	840334.093
C5	POSITIONS CHANGE WITH SILT CURTAIN	
C6		
C7		

SITE BOUNDARY

Scope of Works for Water Quality Surveillance System

1. The water quality monitoring works comprised of Set A and Set B. The Contractor shall carry out both sets of works (7 sampling stations in total).

2. Set A (4 sampling stations), the water quality monitoring works shall be taken at the Control Points (i.e. C1 to C4). Set B (3 sampling stations), the water quality monitoring works shall be taken at approximate 100m outside the silt curtain (i.e. C5 to C7) which the locations shall be changed from time to time to follow the movement of silt curtain.

3. The water quality monitoring works shall be carried out during the dredging period.

4. The water quality monitoring works shall be carried out at a frequency to be agreed by the Engineer. The date and time of monitoring should be in line with the impact water quality monitoring shedule under the EM&A manual. Each sampling event shall be carried out at 3 depth (i.e. 1m below the surface, mid depth, and 1m above the seabed) of the water column at each location. Duplicate in-situ measurements and water sampling shall be carried out in each sampling event . For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides shall not less than 0.5m. The schedule of water quality monitoring shall be reviewed by the Engineer and the Independent Environmental Checker (IEC) depending on whether the water quality monitoring results could indicate any trend of water quality for determination of trigger/action level or whether there is a ad-hoc requirement (e.g. change of working methods, complaints, etc.). The Contractor shall carry out the works according to the revised schedule if instructed by the Engineer.

5. As the key parameters, turbidity shall be measured in situ whereas Suspended Solids (SS) shall be determined by laboratory. Analysis of SS level shall be carried out in a HOKLAS or other international accredited laboratory. Sufficient water samples of not less than 1 liter shall be collected at the monitoring stations for carrying out the laboratory SS determinations.

6. Requirements on the monitoring equipments and calibration shall be referred to Paragraph 4.7 "Monitoring Equipment" of the Environmental Monitoring and Audit Manual for the Dredging Works for Proposed Cruise Terminal at Kai Tak.

7. Laboratory analysis of the sampling data shall be carried out in a HOKLAS or other international accredited laboratory and follow the requirements as stated in Paragraph 4.8 "Laboratory Measurement/Analysis" of the Environmental Monitoring and Audit Manual for the Dredging Works for Proposed Cruise Terminal at Kai Tak. Monitoring data together with the report shall be reported to the Engineer and the IEC on monthly basis.

8. Other relevant data shall also be recorded including monitoring location/position, time, water depth, sampling depth, water temperature, tidal stages, weather conditions and any special phenomena or work underway nearby.

Control Copy
No. 35

RECEIVED
22 SEP 2010
BY: 001967
(341879) Y.O. #5

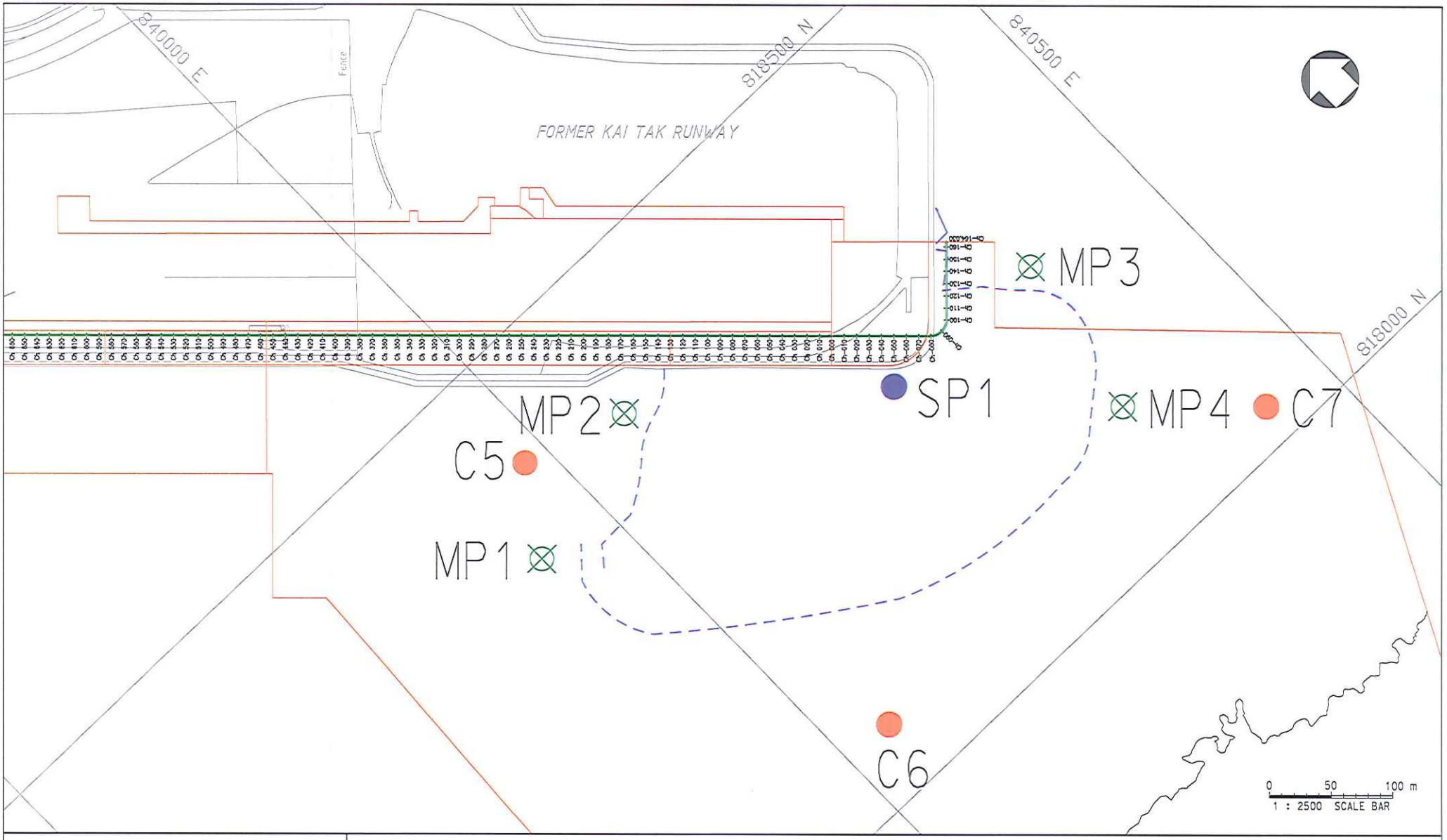
B	09/10	REVISION AS SHOWN		EW	
A	07/10	REVISION AS SHOWN		JY	SC
Scale	Date	Revision		Drawn	Checked

CEDD CONTRACT KL/2009/01
SITE FORMATION FOR KAI TAK CRUISE TERMINAL DEVELOPMENT

WATER QUALITY SURVEILLANCE SYSYEM

SKETCH NO.	(CEDDKL/200901)SK0067B				
DATE	0610	DRAWN	JY	SCALE	NTS
CHECKED	AT	APPROVED	SC		
AFFECTED DRG. NO.					

URS SCOTT WILSON LTD
Engineer for the Contract
ENGINEERS REPRESENTATIVES OFFICE

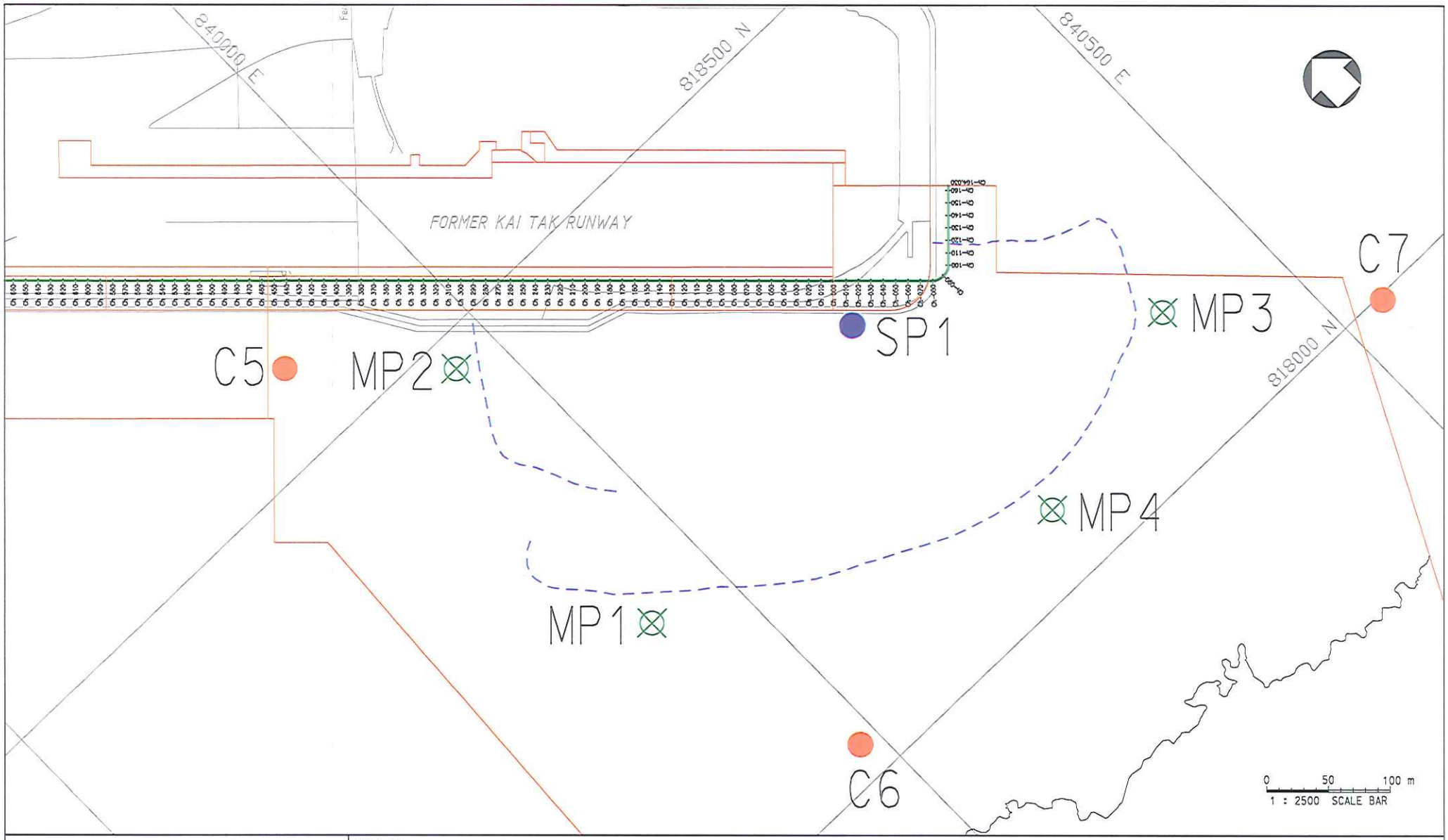


PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
Water Quality Surveillance System – from 07.02.2011 to 11.02.2011

DATE	PREPARED BY
8 Mar 2011	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0467



PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
Water Quality Surveillance System – from 14.02.2011 to 02.03.2011

DATE	PREPARED BY
8 Mar 2011	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0468

Appendix 2.1

Implementation Schedule of Environmental Mitigation Measures

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S3.6	Requirements of the Air Pollution Control (Construction Dust) Regulation shall be adhered to during the construction period.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	Air Pollution Control (Construction Dust) Regulation
S3.6	In order to minimize the potential odour emissions, if any, the dredged sediment placed on barge should be properly covered as far as practicable to minimise the exposed area and hence the potential odour emissions during the transportation of the dredged sediment.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM
S4.8	Good Site Practices: • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program. • Mobile plant, if any, should be sited as far away from NSRs as possible. • Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. • Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	NCO EIAO-TM

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S4.9	If there is any planned NSRs within 300m from the work area occupied during the dredging period, an EM&A programme is recommended to be established according to the predicted occurrence of noisy activities. All the recommended mitigation measures for daytime normal working activities should be incorporated into the EM&A programme for implementation during dredging.	Representative NSRs at the former Kai Tak Airport runway / Upon formal occupation	N/A	Not applicable	NCO EIAO-TM
S5.9	• Dredging will be carried out by closed grab dredger to minimize release of sediment and other contaminants during both capital and maintenance dredging. • The maximum production rate for dredging from the seabed to provide necessary manoeuvring area would not be more than 4,000m^3 per day (and no more than 2 closed grab dredgers) during capital dredging and 2,000m^3 per day (and no more than 1 closed grab dredger) during maintenance dredging. • The maximum production rate for dredging at or near the seawall area would not be more than 4,000m^3 per day for berth construction. No more than two closed grab dredger would be operated at the same time at or near the seawall for berth construction.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM WPCO
S5.9	Silt curtains should be deployed around the closed grab dredgers used for dredging at and near the existing seawall of the former Kai Tak Airport runway for construction of the cruise berth structures.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM, WPCO

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S5.9	Silt screens should be installed at the WSD flushing water intakes at Cha Kwo Ling, Sai Wan Ho, Quarry Bay, Sheung Wan, Wan Chai and Tai Wan for dredging in the manoeuvring basin of the first berth during the capital dredging.	Seawater intakes in Victoria Harbour/ During the construction of cruise terminal	Contractor for capital dredging	Implemented	EIAO-TM, WPCO
S5.9	Silt screens should be installed at the WSD flushing water intakes at Cha Kwo Ling, Quarry Bay and Tai Wan for dredging in the manoeuvring basin of the second berth during the capital dredging.	Seawater intakes in Victoria Harbour / During the construction of cruise terminal	Contractor for capital dredging	Implemented	EIAO-TM, WPCO
S5.9	If the opening has been introduced at the northern runway, silt screens should also be installed at the WSD flushing water intake at Sai Wan Ho, Sheung Wan and Wan Chai for dredging in the manoeuvring basin of the second berth during the capital dredging.	Seawater intake at Sai Wan Ho, Sheung Wan and Wan Chai / During the construction of cruise terminal	Contractor for capital dredging	Implemented	EIAO-TM, WPCO

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S5.9	Other good site practices that should be undertaken during dredging include: • all vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; • all barges / dredgers should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; • construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds; • barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation.	Work site and adjacent waters / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO, EIAO-TM, WPCO, WDO
S5.9	Appropriate numbers of portable chemical toilets shall be provided by a licensed contractor to serve the construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.	Work site and adjacent waters / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM, WPCO, WDO

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S5.9	Collection and removal of floating refuse should be performed at regular intervals on a daily basis. The contractor should be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish during the dredging works.	Work site and adjacent waters / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM, WPCO, WDO
S5.9	An environmental monitoring and audit programme should be implemented to verify whether or not impact predictions are representative, and to ensure that all the recommended mitigation measures are implemented properly. If the water quality monitoring data indicate that the proposed dredging works result in unacceptable water quality impacts in the receiving water, appropriate actions should be taken to review the dredging operation and additional measures such as use of frame-type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works should be implemented as necessary.	6 selected WSD flushing water intakes in Victoria Harbour/ During dredging in construction stage	Environmental Team and verified by Independent Environmental Checker	Implemented	EIAO-TM, WPCO

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S5.9	Silt screens are recommended to be deployed at 6 selected WSD flushing water intakes during the capital dredging. The contractor for capital dredging shall demonstrate and ensure that the design of the silt screen will not affect the normal operation of flushing water intake. The contractor shall obtain consensus from all relevant parties, including WSD and Marine Department on the design of the silt screen at each of the six selected flushing water intake points before installation of the silt screen and commencement of the proposed dredging works. As a mitigation measure to avoid the pollutant and refuse entrapment problems and to ensure that the impact monitoring results are representative, regular maintenance of the silt screens and refuse collection should be performed at the monitoring stations at regular intervals on a daily basis. The Contractor should be responsible for keeping the water behind the silt screen free from floating rubbish and debris during the impact monitoring period.	6 selected WSD flushing water intakes in Victoria Harbour/ During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM, WPCO

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7	Good Site Practices It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during the dredging activities include: • Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. • Training of site personnel in proper waste management and chemical waste handling procedures. • Provision of sufficient waste disposal points and regular collection for disposal. • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers. • A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7 (cont.)	• Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the workforce. • Any unused chemicals or those with remaining functional capacity shall be recycled.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	EIAO-TM
S6.7	Marine Sediments The dredged marine sediments would be loaded onto barges and transported to the designated disposal sites allocated by the MFC depending on their level of contamination. Sediment classified as Category L would be suitable for Type 1 – Open Sea Disposal. Contaminated sediment would require either Type 1 – Open Sea Disposal (Dedicated Sites) or Type 2 - Confined Marine Disposal and must be dredged and transported with great care in accordance with ETWB TCW No. 34/2002. Subject to the final allocation of the disposal sites by MFC, the dredged contaminated sediment must be effectively isolated from the environment upon final disposal and shall be disposed of at the East Sha Chau Contaminated Mud Pits that are designated for the disposal of contaminated mud in Hong Kong.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	ETWB TCW No. 34/2002

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7	It will be the responsibility of the Contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to be dredged have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal Sediment Quality Report to the DEP, prior to the dredging contract being tendered. The contractor for the dredging works shall apply for the allocation of marine sediment disposal sites from all relevant authorities.	Work site / During dredging in construction stage	Contractor for capital dredging	Dumping Permits were issued by EPD	ETWB TCW No. 34/2002
S6.7	During transportation and disposal of the dredged marine sediments requiring Type 1 and Type 2 disposal, the following measures shall be taken to minimise potential impacts on water quality: • Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved. • Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP. • Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	WDO; WPCO

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7	Chemical Wastes After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S6.7	General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material.	Work site / During dredging in construction stage	Contractor for capital dredging	Implemented	WDO, WPCO

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7	Construction and Demolition Material It is recommended that the extent of dredging of the existing seawall should be kept to a minimum in the detailed design of the new cruise terminal to minimize generation of C&D material. Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include: • Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. • Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. • Skip hoist for material transport should be totally enclosed by impervious sheeting. • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site. • The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	Work site / During the construction period	Contractor for capital dredging	Implemented	ETWB TCW No. 33/2002, 31/2004, 19/2005

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S6.7 (cont.)	• The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle. • All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. • The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.	Work site / During the construction period	Contractor for capital dredging	Implemented	ETWB TCW No. 33/2002, 31/2004, 19/2005
S6.7	When delivering inert C&D material to public fill reception facilities, the material shall consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements and implemented by the Contractor under the Waste Management Plan certified by the Environmental Team and verified by the Independent Environmental Checker who should be responsible for auditing the results of the system.	Work site / During the construction period	Contractor for capital dredging, Engineer, Environmental Team and Independent Environmental Checker	Not applicable	ETWB TCW No. 31/2004

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S7.8	The dredging activities of the proposed cruise terminal should ensure that disturbance to the existing seawall masonry outside the Project boundary should be avoided as far as practicable.	Work site/ During construction of cruise terminal	Contractor for capital dredging as per CEDD's advice	Implemented	Antiquities and Monuments Ordinance EIAO, EIAO-TM Guidance Notes on Assessment of Impact on Sites of Cultural Heritage in Environmental Impact Assessment Studies (GN-CH) Hong Kong Planning Standards and Guidelines (HKPSG)
S7.10, App. 7.1	It is recommended that the dredged spoil should be monitored for the presence of archaeological material. Guidelines for the monitoring brief have been prepared in consultation with the AMO. A qualified marine archaeologist needs to be on standby to provide specialist advice, if required, but the monitoring can be carried out by a member of staff on the dredging barge.	Work site / during dredging in construction stage	Contractor for capital dredging, Environmental Team	Implemented	Antiquities and Monuments Ordinance EIAO, EIAO-TM GN-CH HKPSG Marine Archaeological Investigation Guidelines

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
8.7	Translocate those existing coral colonies attached on boulders that are manually movable by a diver underwater (possibly longest dimension of less than 50cm) located within the hard substrata sea area within the dredging site as far as practicable prior to the commencement of the capital dredging activities. The entire translocation exercise include the preparation of a detailed translocation plan, the pre-translocation coral survey, the coral translocation, and the quarterly post-translocation monitoring for one year. Pre-translocation survey would be focused on identifying and mapping of coral colonies that would be directly impacted by the proposed dredging and investigating the translocation feasibility of these coral colonies. A detailed translocation plan (including pre-translocation coral survey, translocation methodology and monitoring of transplanted corals) should be prepared during the detailed design stage of the Project which, together with the ecologist involved in coral translocation, should be approved by AFCD prior to commencement of the translocation exercises. The proposed relocation of the coral colonies should not affect any private/public marine rights at the recipient site.	Along the section of the former Kai Tak Airport runway that will be directed affected by the cruise terminal construction / During detailed design stage	Other ET specifically employed for coral translocation works	Final Detailed Coral Translocation Plan was approved by EPD in letter ref. (18) in EP2/K19/C/19 Pt.5 dated 5 June 2009. Form 5 was submitted under CEDD's memo ref. (6) in KD 2/31/4 Pt.3 dated 10 June 2009 regarding minor alteration of the position of the coral recipient site. Coral Translocation Report was submitted in Scott Wilson letter ref. 08290/325723 dated 2 July 2009. Post-translocation report shall be referred to the submissions by another ET specifically employed for coral translocation works.	EIAO-TM

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Status	Relevant Legislation and Guidelines
S8.7	New seawalls at the berth structure of the cruise terminal shall be constructed in order to provide large area of hard substrata for settlement and recruitment of intertidal and subtidal assemblages similar to those previously recorded from existing habitats.	The section of the former Kai Tak Airport runway that will be directed affected by the cruise terminal construction / During detailed design stage	To be confirmed at later stage	To be confirmed at later stage	EIAO-TM
9.6	No fisheries-specific mitigation measures would be required.	-	Not applicable	Not applicable	-

Appendix 3.1

Action and Limit Levels

Action and Limit Levels

Action and Limit Levels for Noise Monitoring

Time Period	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)

Remarks: No noise monitoring was conducted due to no planned noise sensitive receivers (NSRs) occupied within 300m from the works area of this Project during the dredging works.

Action and Limit Levels for Water Monitoring

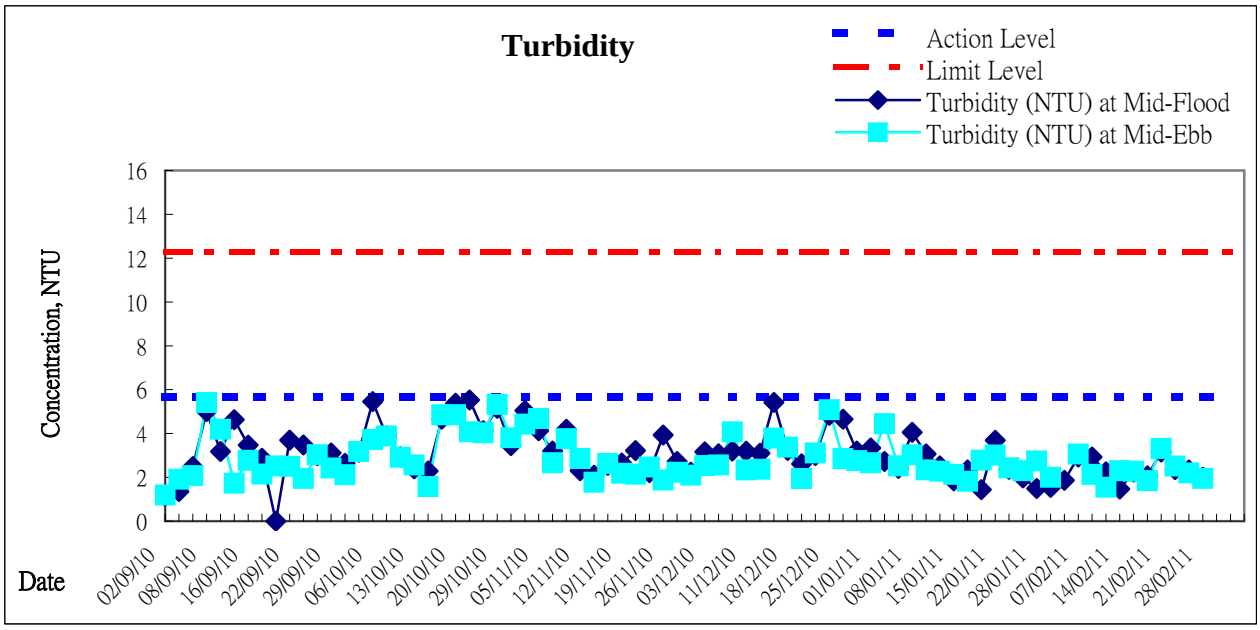
Parameters	Action Level			Limit Level		
Turbidity in NTU		All Season			All Season	
	WSD9	5.67		WSD9	12.27	
	WSD10	6.26		WSD10	10.47	
	WSD15	8.15		WSD15	14.41	
	WSD17	11.60		WSD17	16.91	
	WSD21	9.11		WSD21	15.38	
	WSD19	13.09		WSD19	15.34	
Suspended Solids (SS) in mg/L		Dry Season	Wet Season		Dry Season	Wet Season
	WSD9	6.9	9.7	WSD9	7.8	10.9
	WSD10	7.7	9.1	WSD10	10.3	12.2
	WSD15	7.8	13.5	WSD15	8.4	14.5
	WSD17	9.5	11.2	WSD17	13.7	16.2
	WSD21	13.3	17.1	WSD21	13.9	17.8
	WSD19	16.3	15.1	WSD19	17.0	15.7

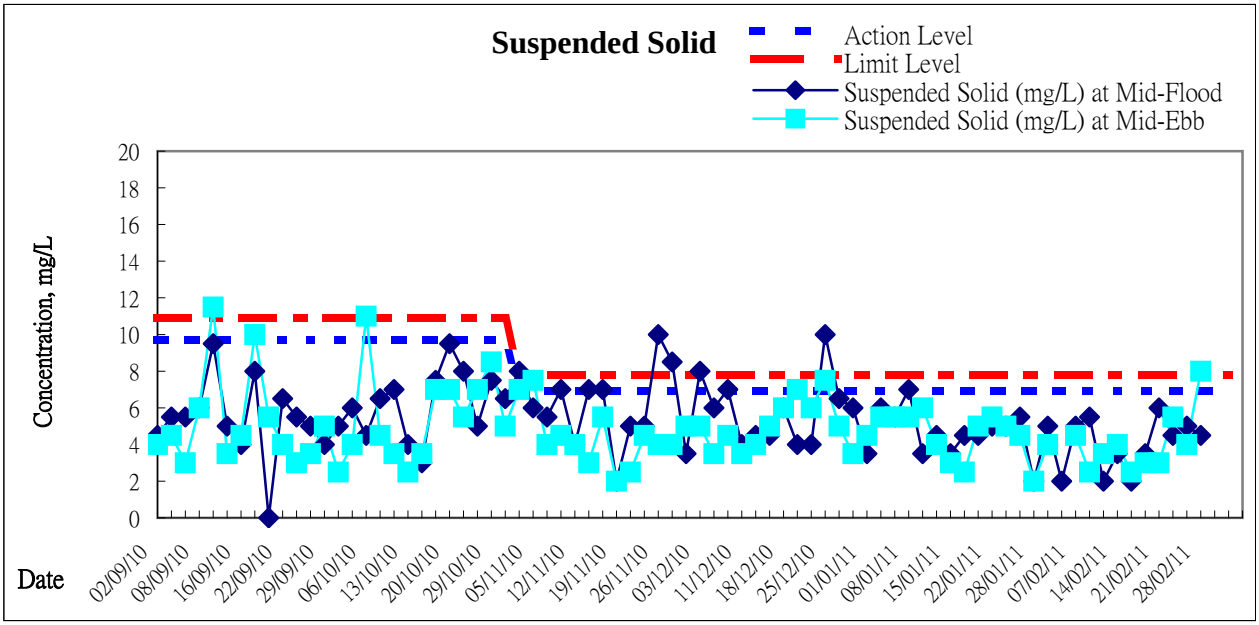
Remarks:
Wet season is the period from April to September.
Dry season is the period from October to March.

Appendix 4.1

Graphical Presentation of Water Quality Monitoring Results

Graphic Presentation of Water Quality Result of WSD9 - Tai Wan

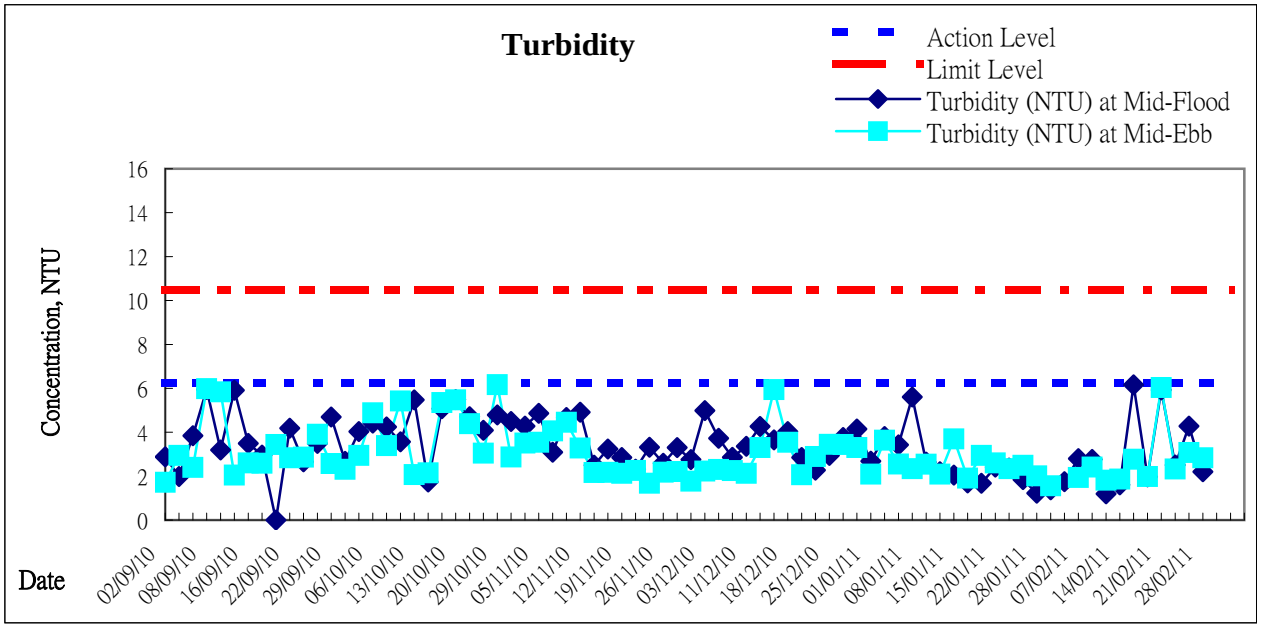


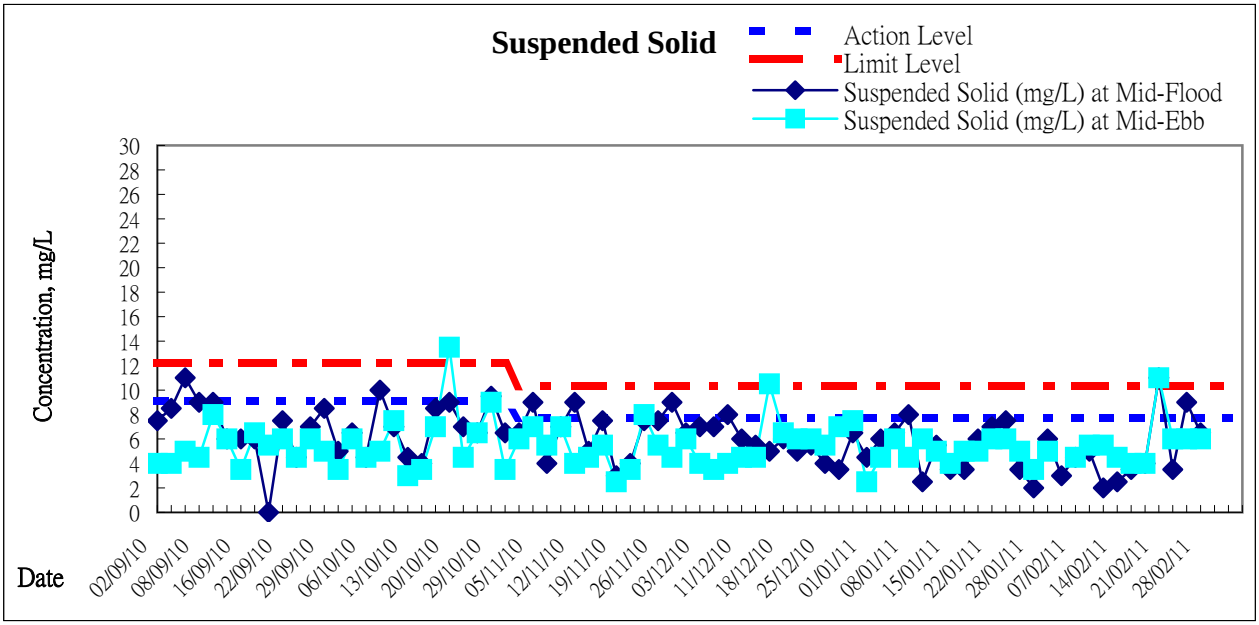


Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March) and wet season (the period from April to September).

Graphic Presentation of Water Quality Result of WSD10 - Cha Kwo Ling

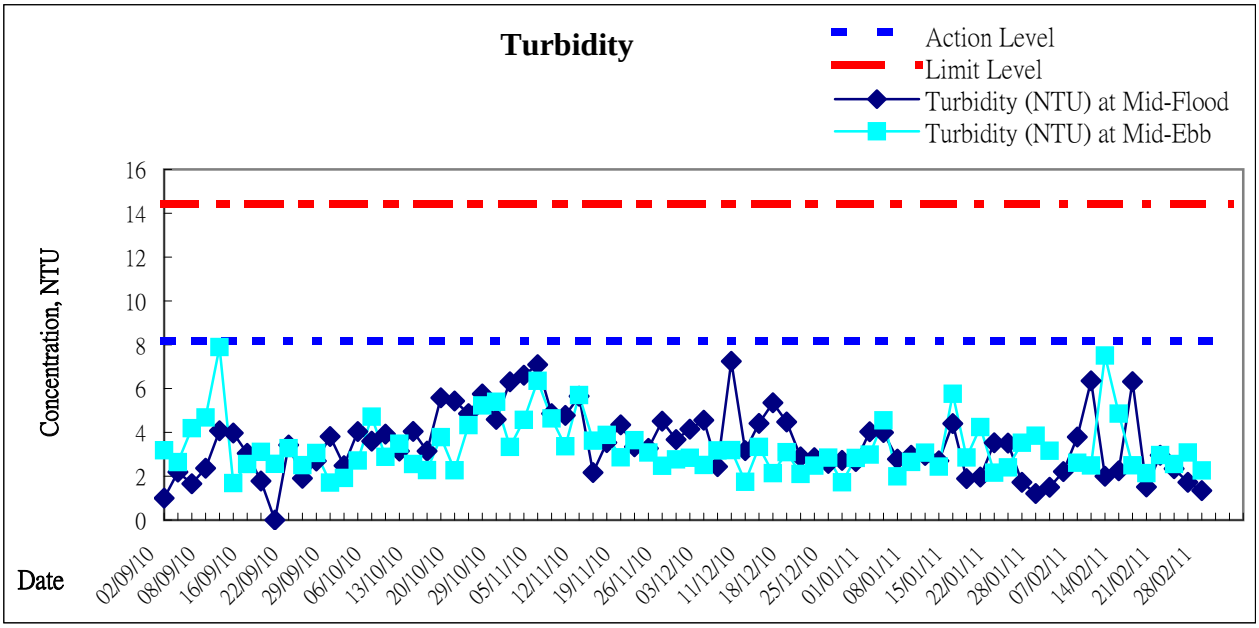


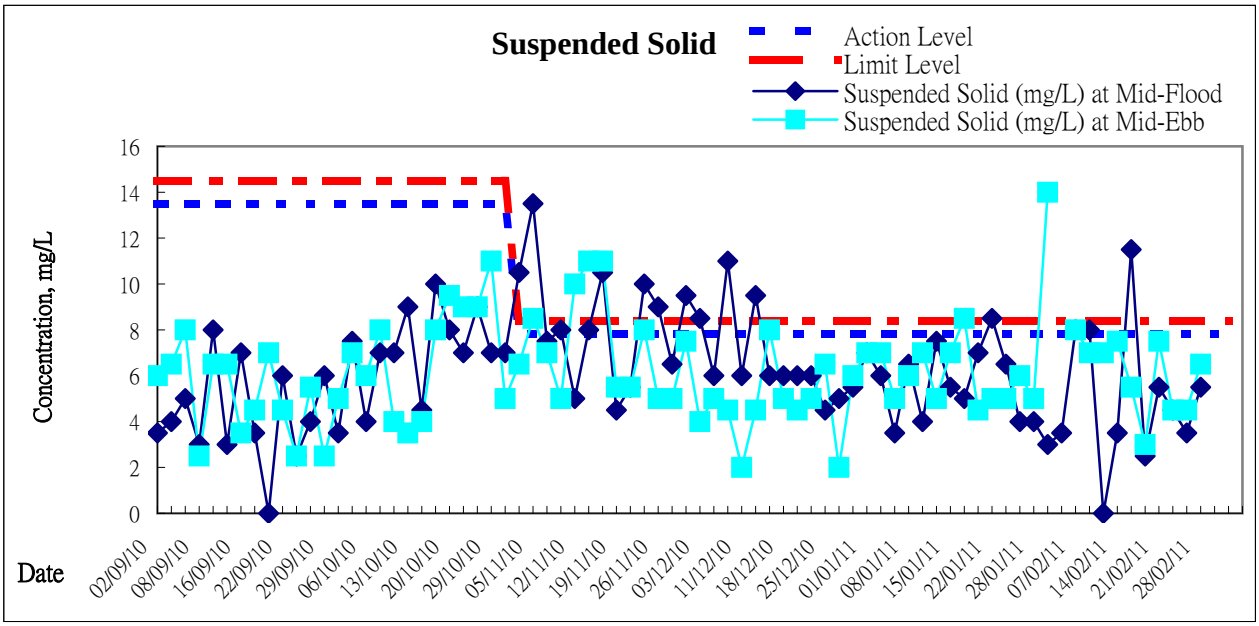


Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March) and wet season (the period from April to September).

Graphic Presentation of Water Quality Result of WSD15 - Sai Wan Ho

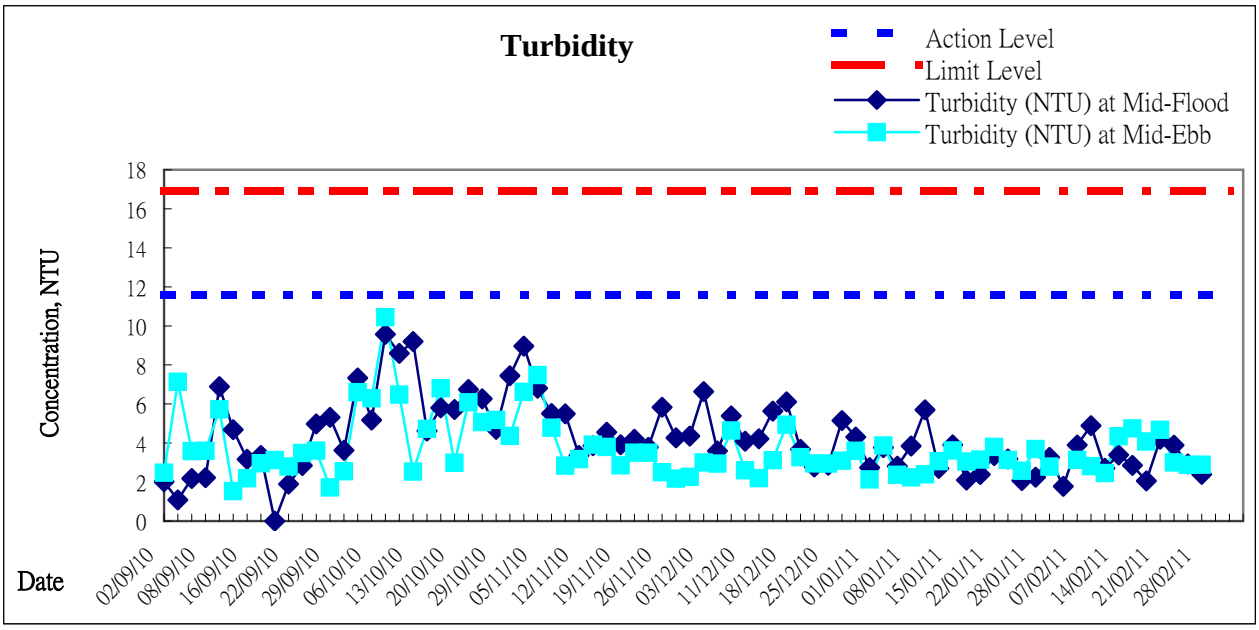


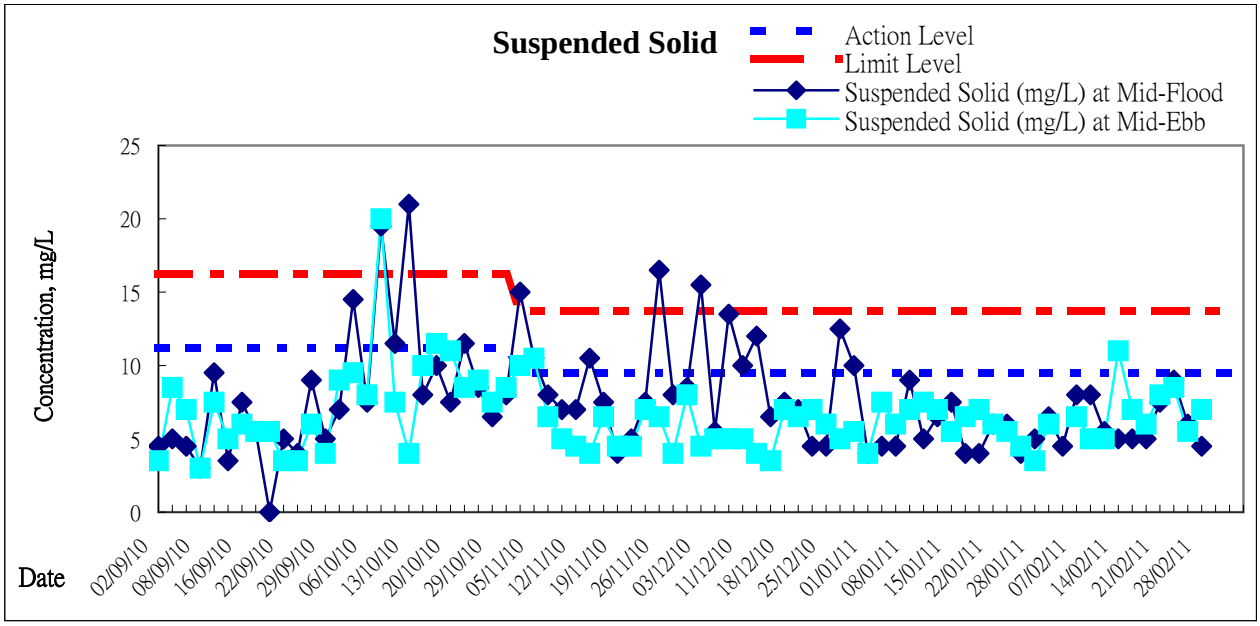


Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March) and wet season (the period from April to September).

Graphic Presentation of Water Quality Result of WSD17 - Quarry Bay

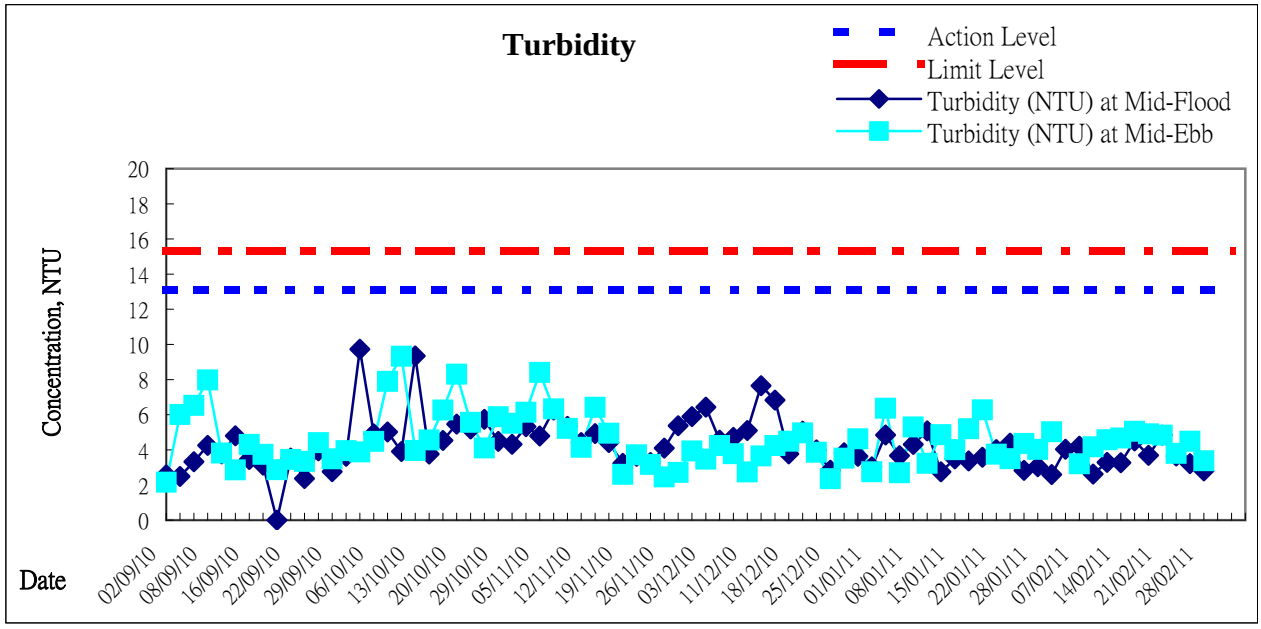


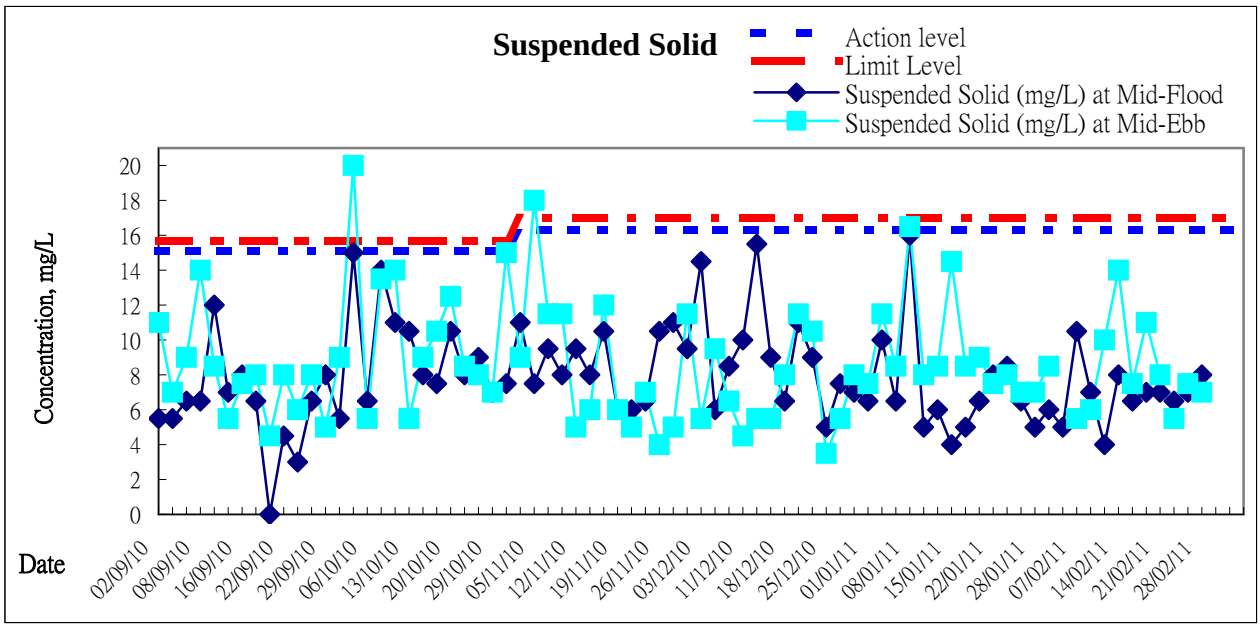


Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March) and wet season (the period from April to September).

Graphic Presentation of Water Quality Result of WSD19 - Sheung Wan

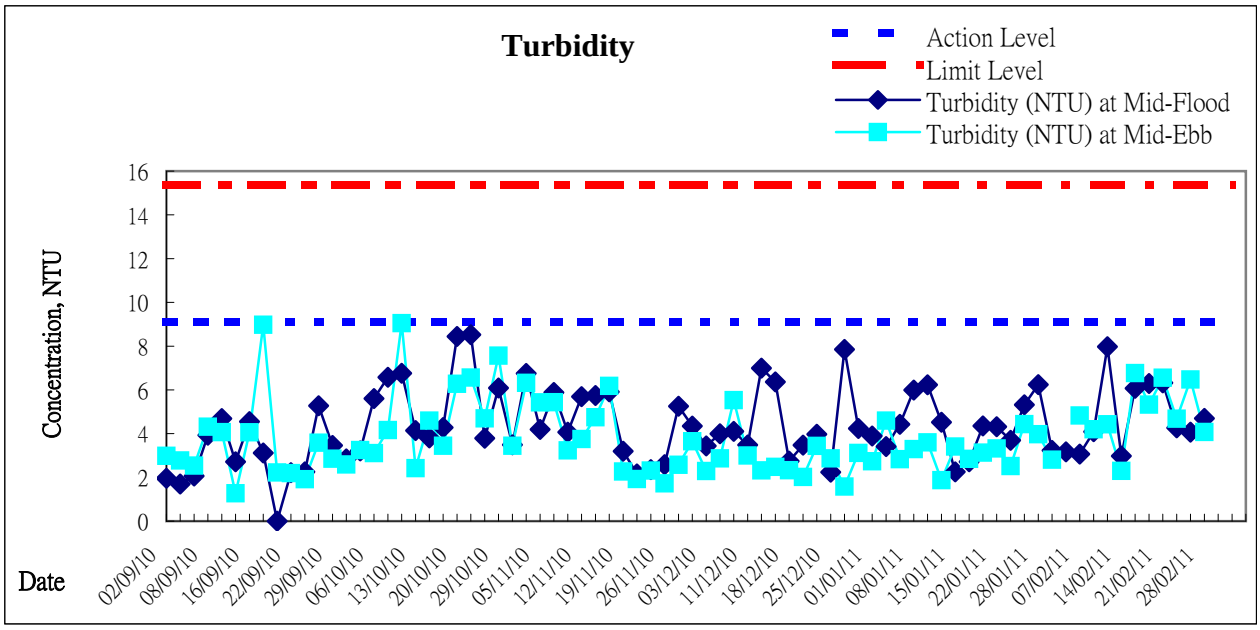


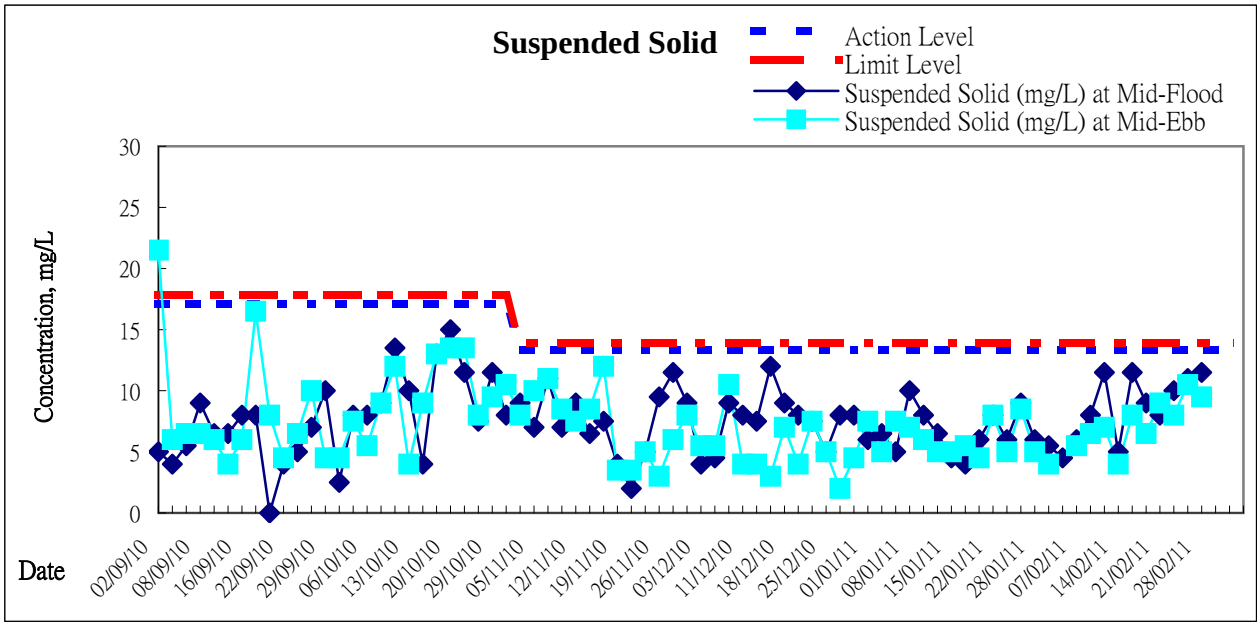


Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March) and wet season (the period from April to September).

Graphic Presentation of Water Quality Result of WSD21 - Wan Chai



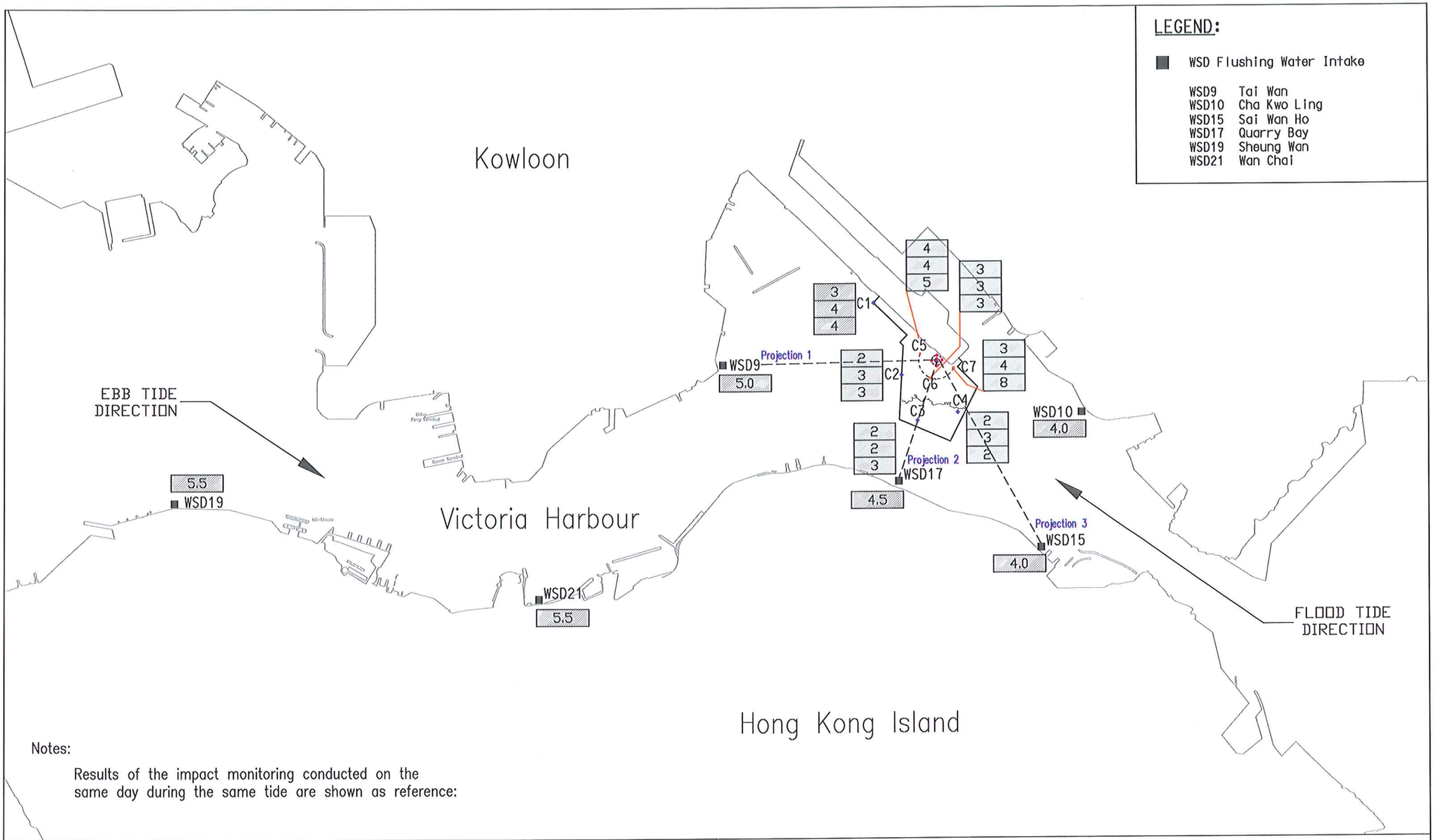


Remarks:

- Two sets of Suspended Solid Action and Limit levels for the dry season (the period from October to March) and wet season (the period from April to September).

Appendix 4.2

Graphical Presentation of Water Quality Surveillance



Notes:

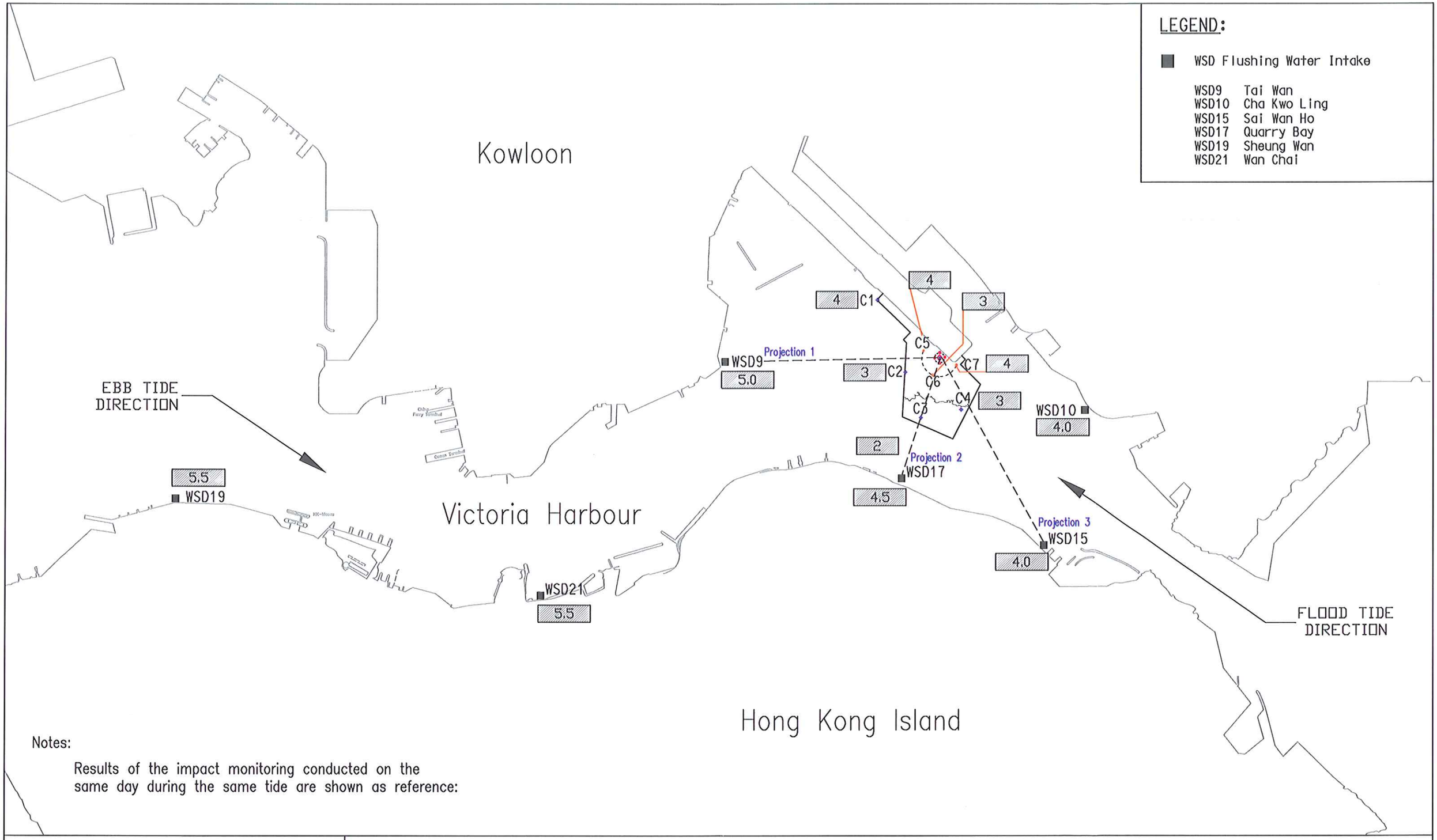
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (3 DEC 2010 EBB) – Page 1

DATE	PREPARED BY
28-Dec-10	PY
SCALE: NOT TO SCALE	SKETCH No.: SK-0419



Notes:

Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

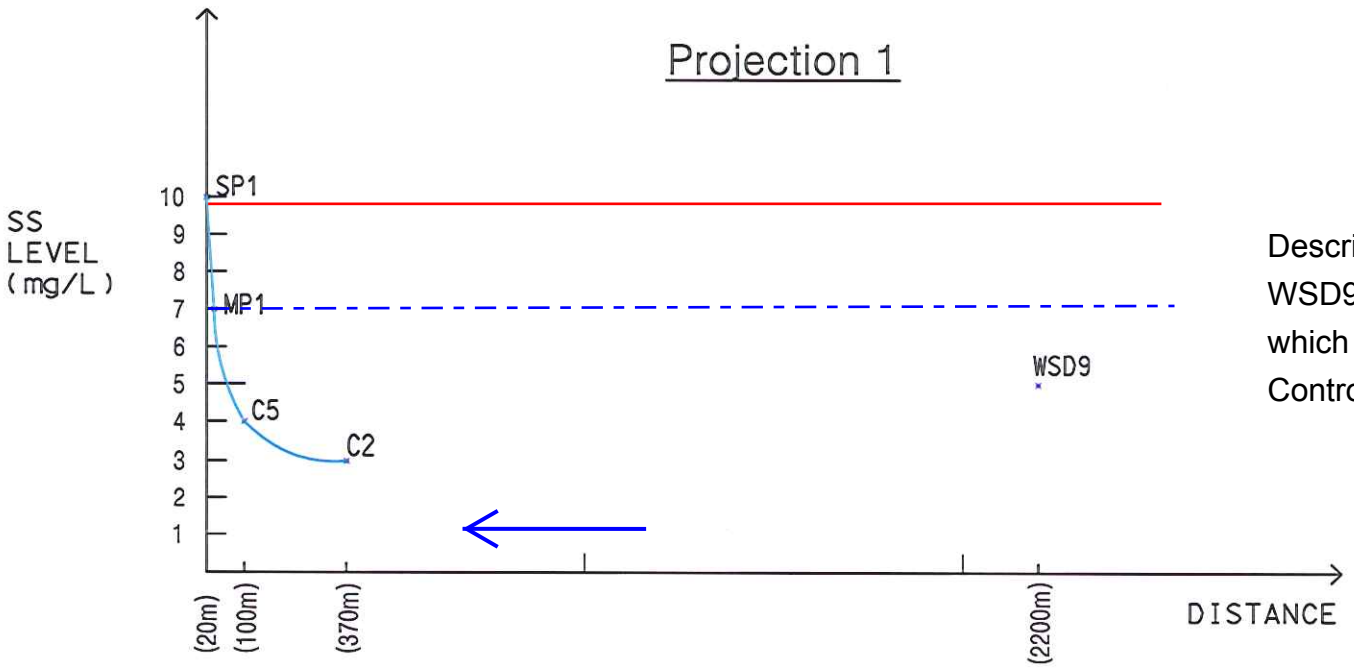
PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (3 DEC 2010 EBB) – Page 2

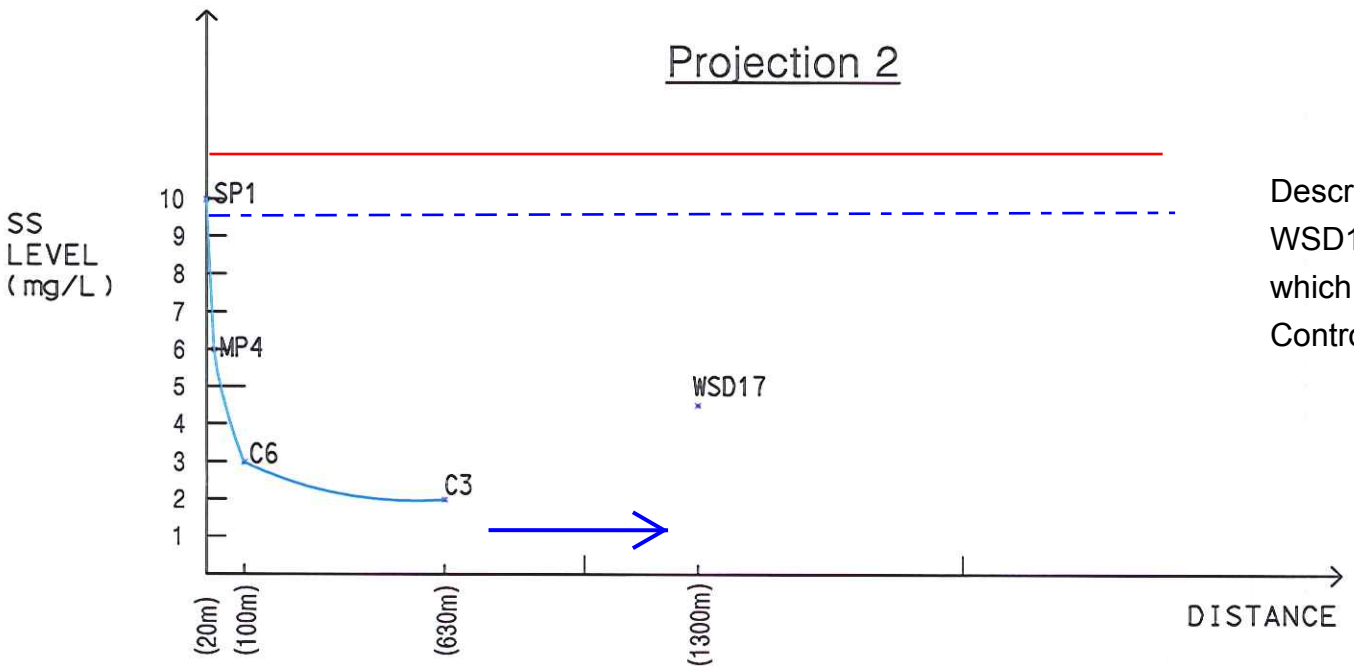
DATE	PREPARED BY
28–Dec–10	PY
SCALE: NOT TO SCALE	SKETCH No.: SK–0421

Projection 1



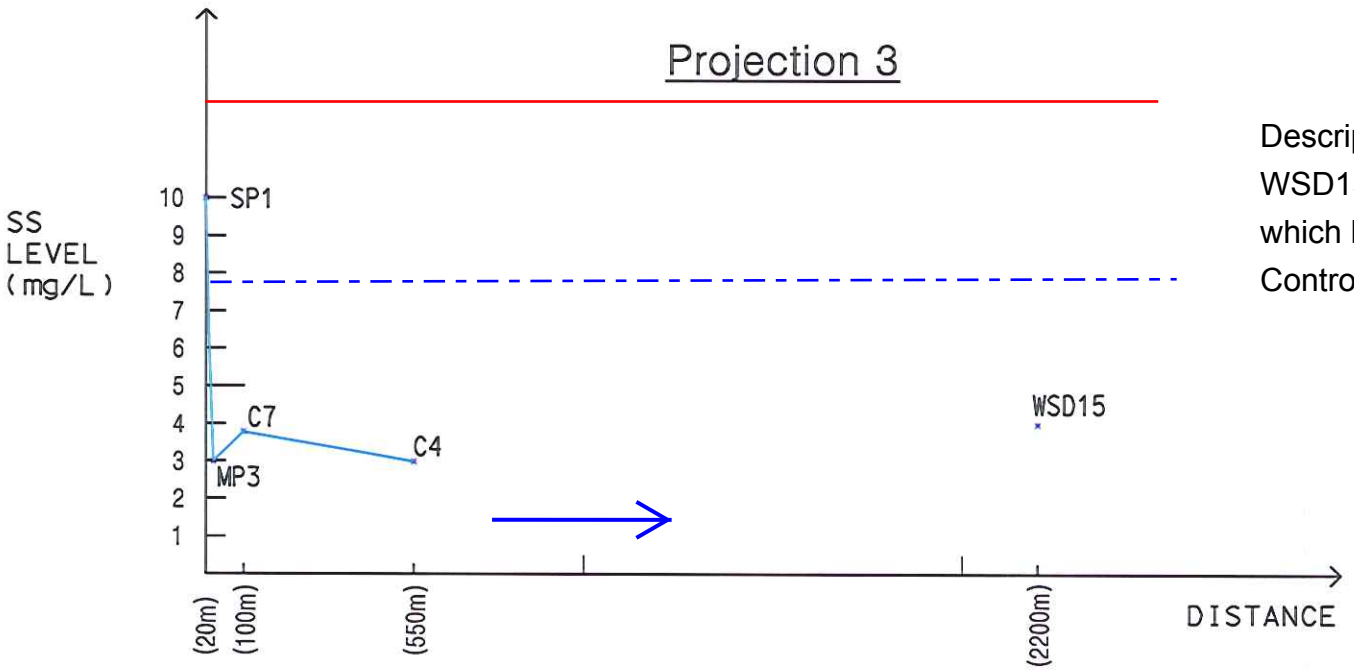
Description:
WSD9 was located at upstream which had a higher SS level than the Control Points.

Projection 2



Description:
WSD17 was located at downstream which had a higher SS level than the Control Points.

Projection 3



Description:
WSD15 was located at downstream which had similar SS level with Control Points.

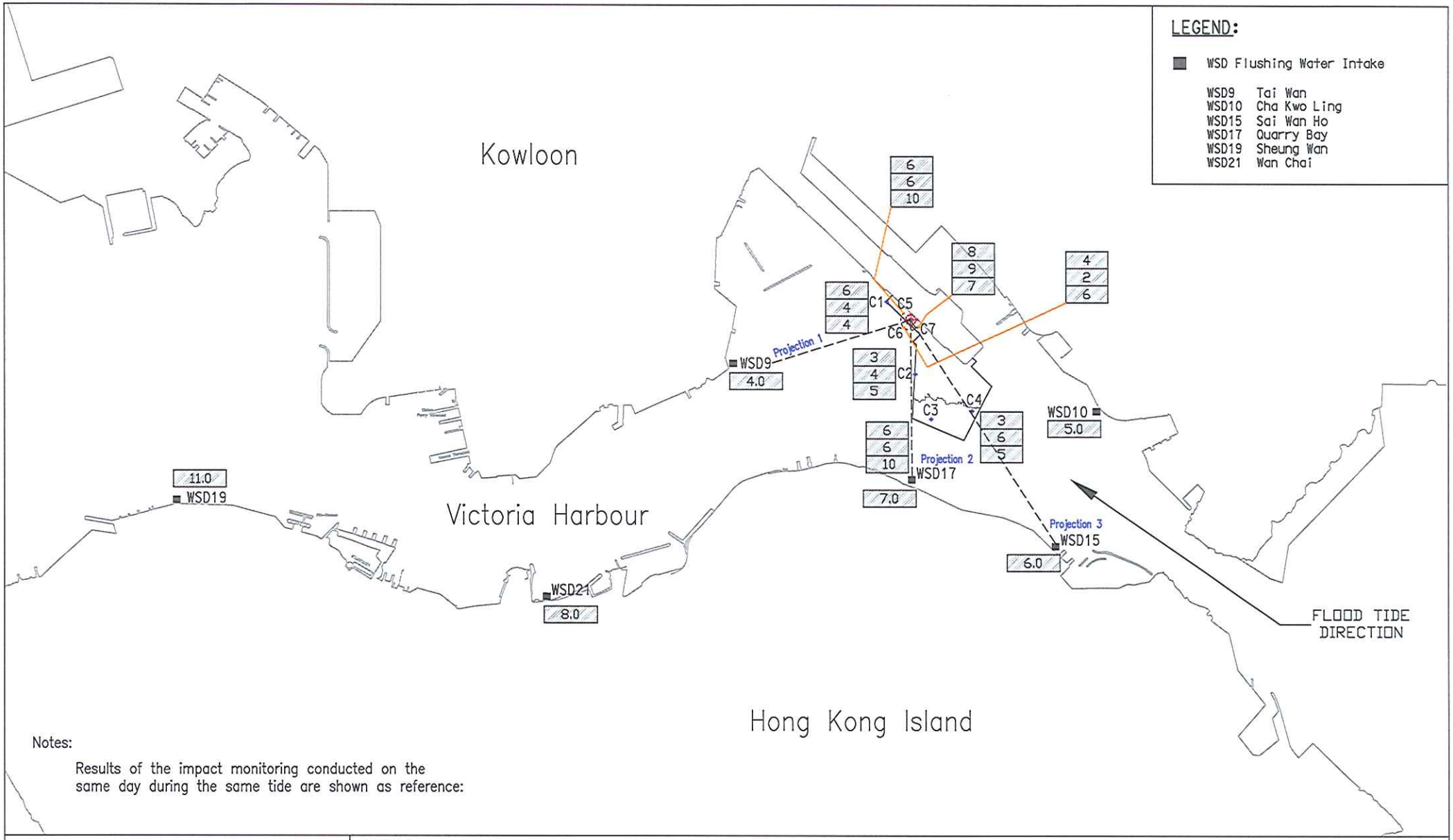
Legend
- Tidal Direction
- Action Level for WSD intake
- Limit Level for WSD intake

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

TITLE
GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS – (3 DEC 2010. EBB)

DATE	PREPARED BY
28–Dec–10	PY
SCALE	SKETCH No.
NOT TO SCALE	SK–0420



Notes:

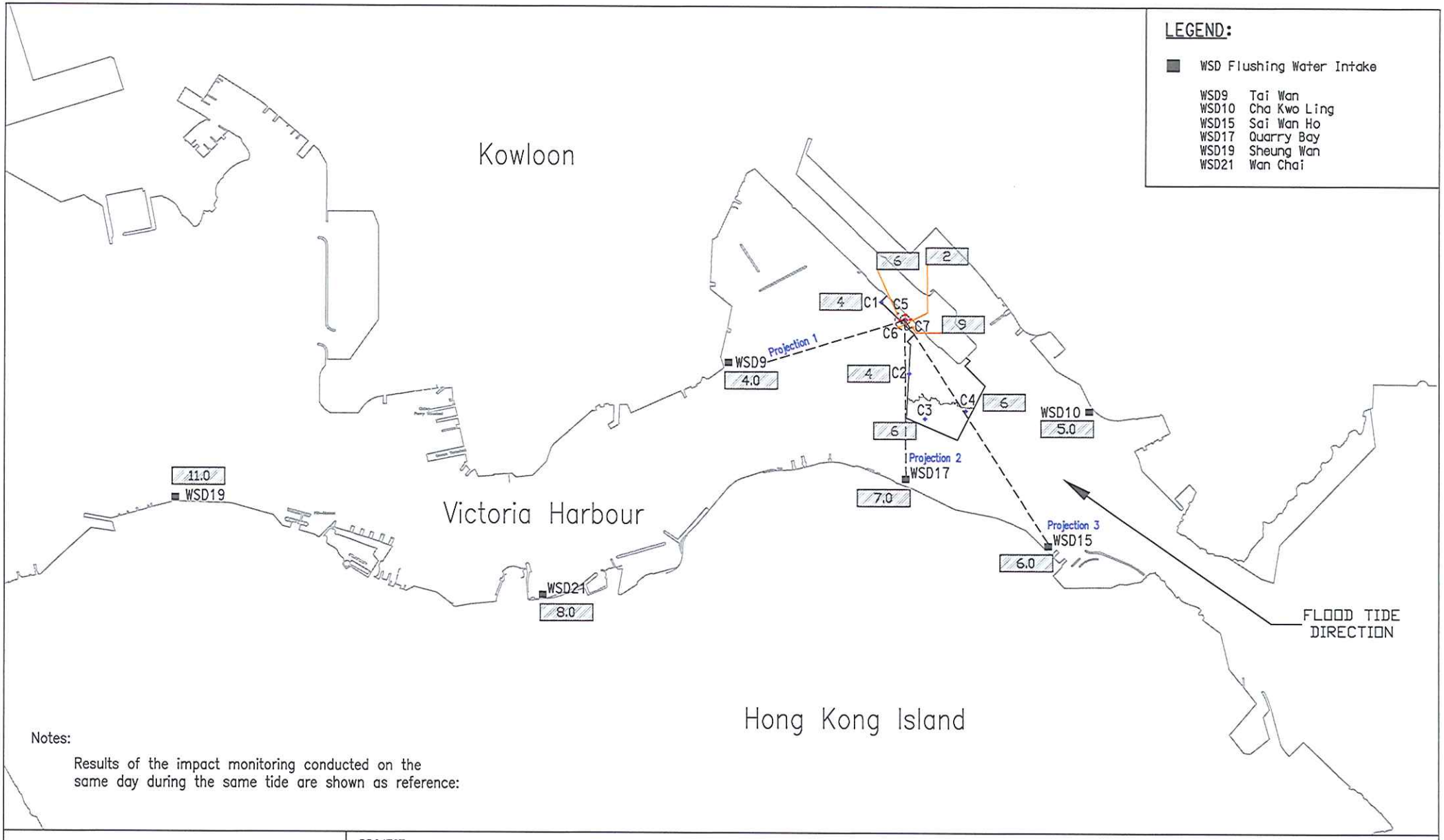
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (20 DEC 2010 FLOOD) – Page 1

DATE	PREPARED BY
4-Jan-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0423



Notes:

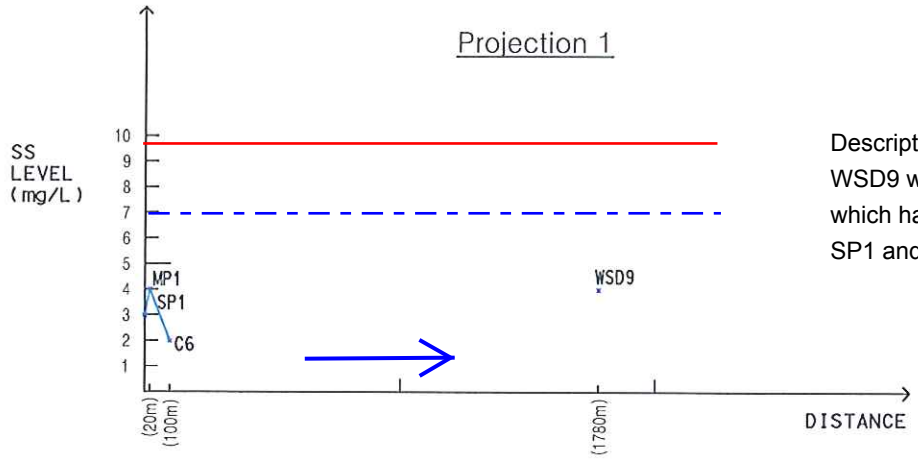
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

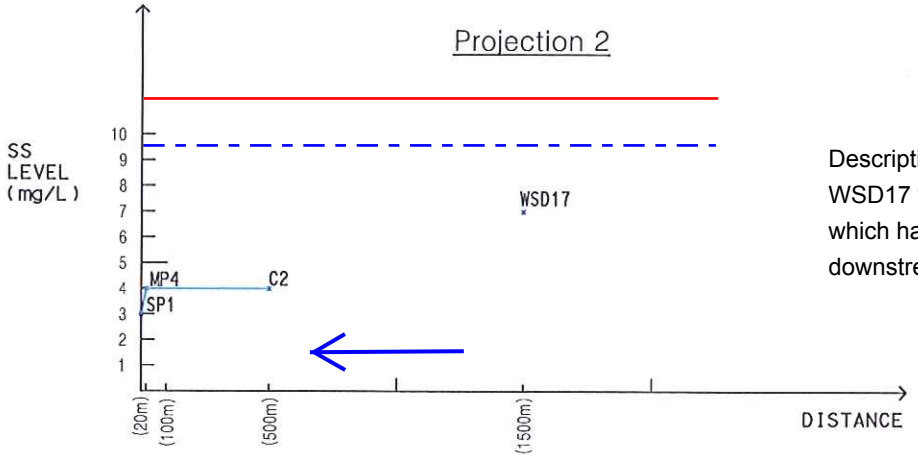
PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (20 DEC 2010 FLOOD) – Page 2

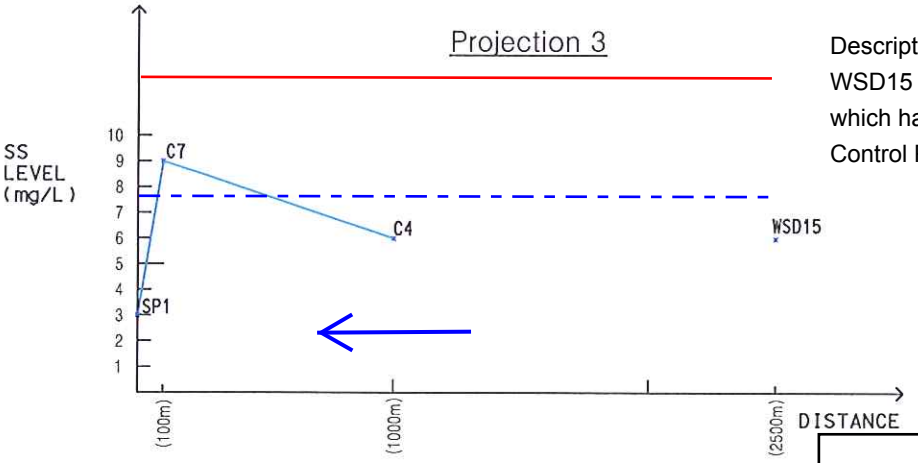
DATE	PREPARED BY
4-Jan-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0424



Description:
WSD9 was located at downstream which had a higher SS level than SP1 and Control Point.



Description:
WSD17 was located at upstream which had a higher SS level than downstream.



Description:
WSD15 was located at upstream which had a similar SS level with Control Point - C4.

Legend
- Tidal Direction
- Action Level for WSD intake
- Limit Level for WSD intake

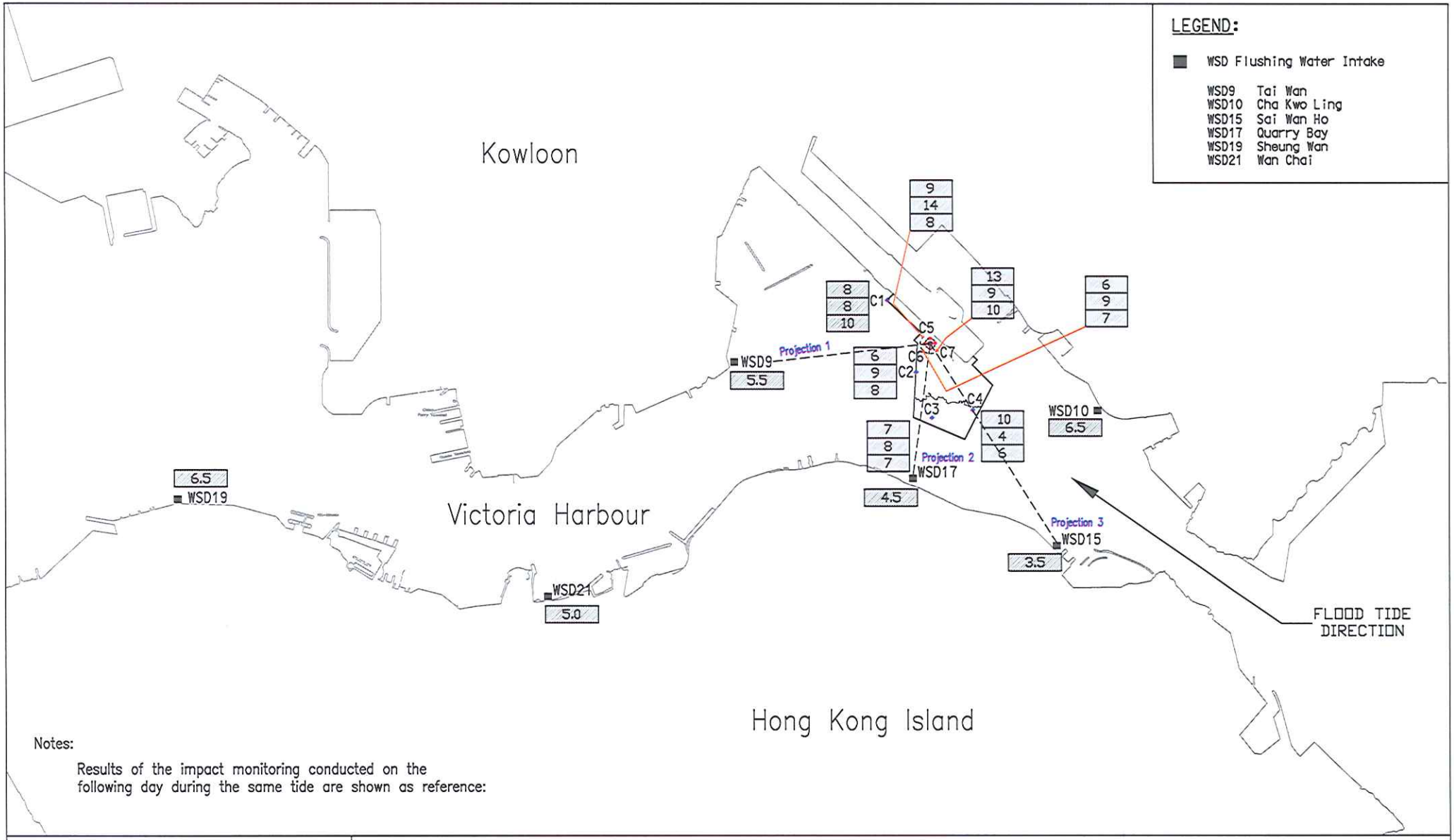
PROJECT

KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

TITLE: GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS – (20 DEC 2010 FLOOD)

DATE	PREPARED BY
4-Jan11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0425



Notes:

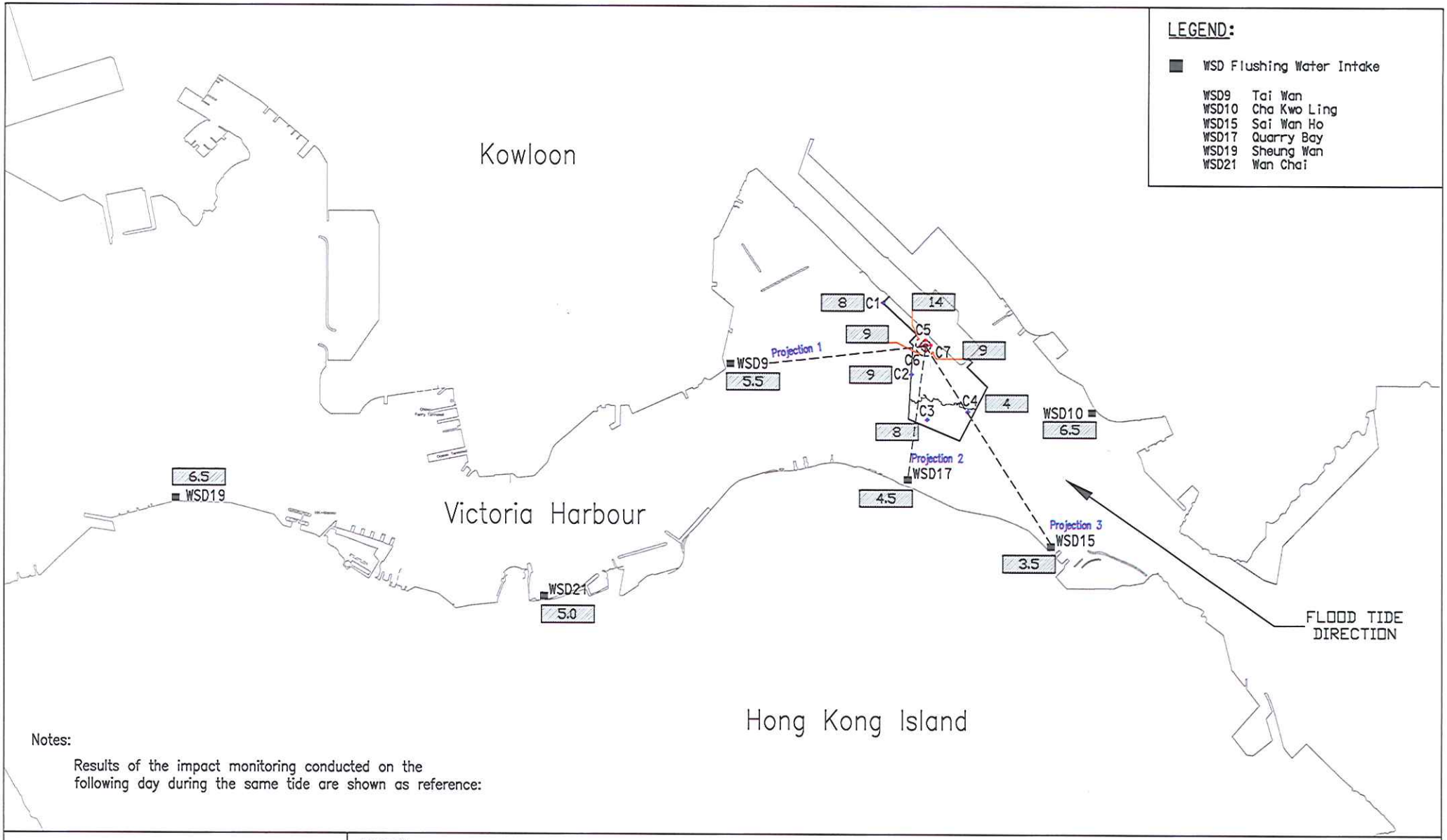
Results of the impact monitoring conducted on the following day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (4 JAN 2011 FLOOD) – Page 1

DATE	PREPARED BY
19-Jan-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0436



Notes:

Results of the impact monitoring conducted on the following day during the same tide are shown as reference:

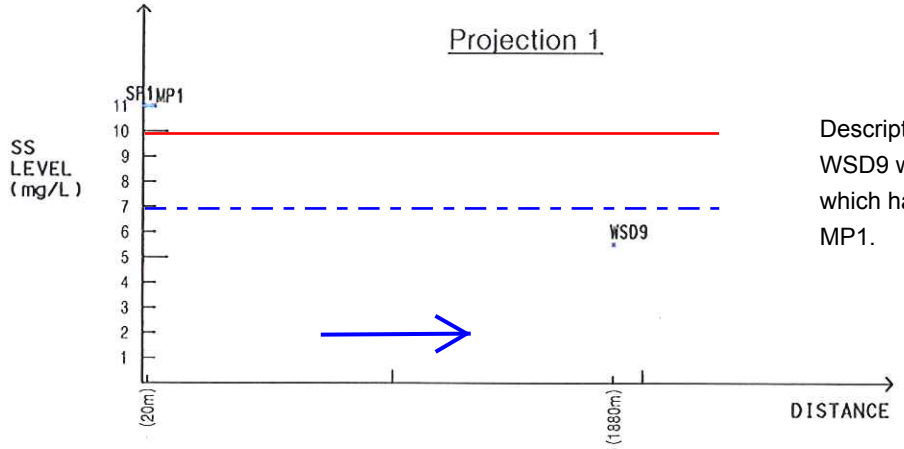
PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (4 JAN 2011 FLOOD) – Page 2

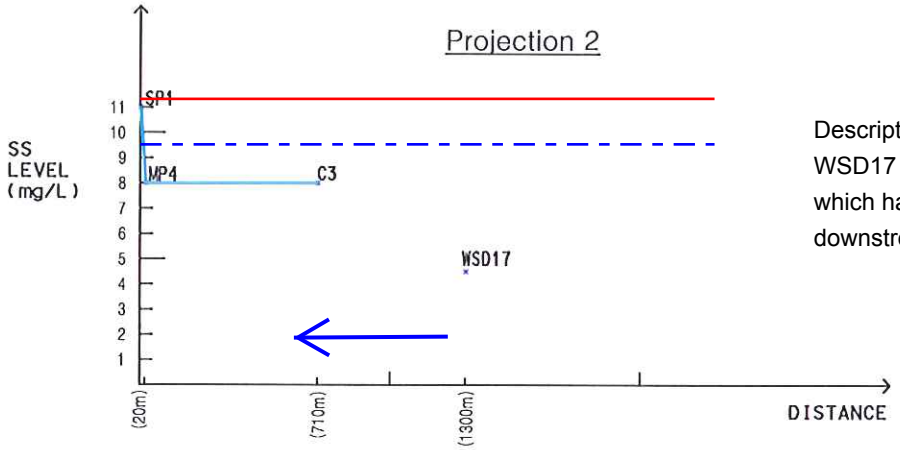
DATE	PREPARED BY
19-Jan-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0437

Projection 1



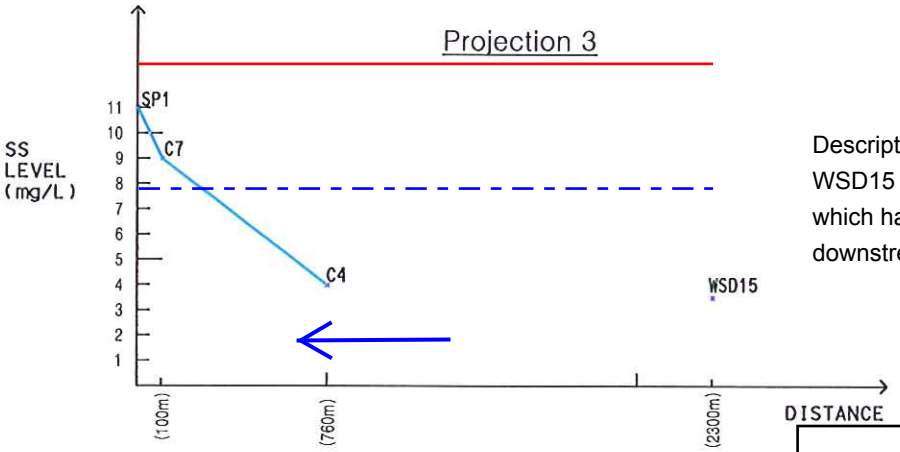
Description:
WSD9 was located at downstream which had SS level below SP1 and MP1.

Projection 2



Description:
WSD17 was located at upstream which had a below SS level than downstream.

Projection 3



Description:
WSD15 was located at upstream which had a below SS level than downstream.

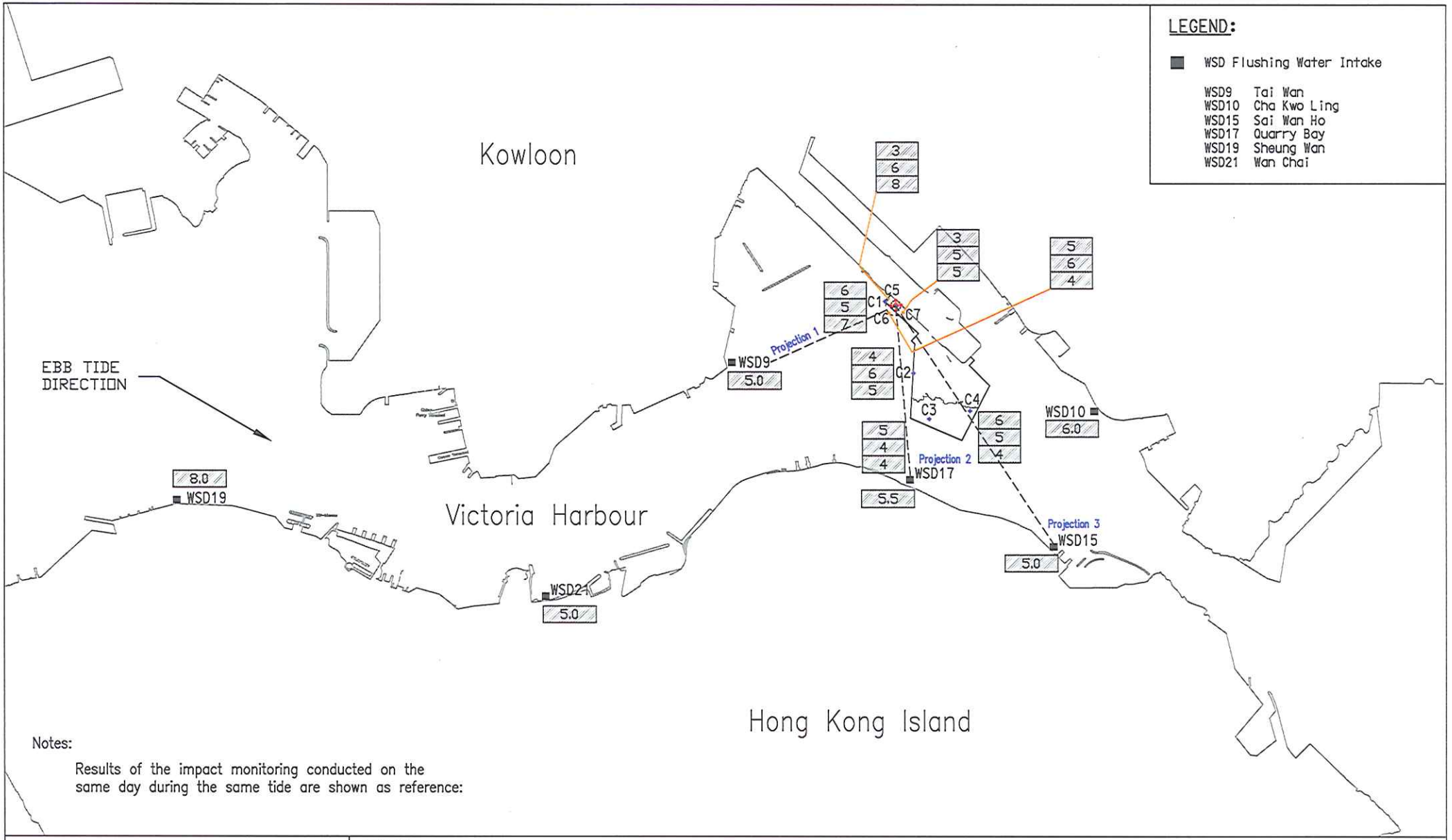
Legend
- Tidal Direction
- Action Level for WSD intake
- Limit Level for WSD intake

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

TITLE
GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS – (4 JAN 2011 FLOOD)

DATE	PREPARED BY
20 Jan11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0438



Notes:

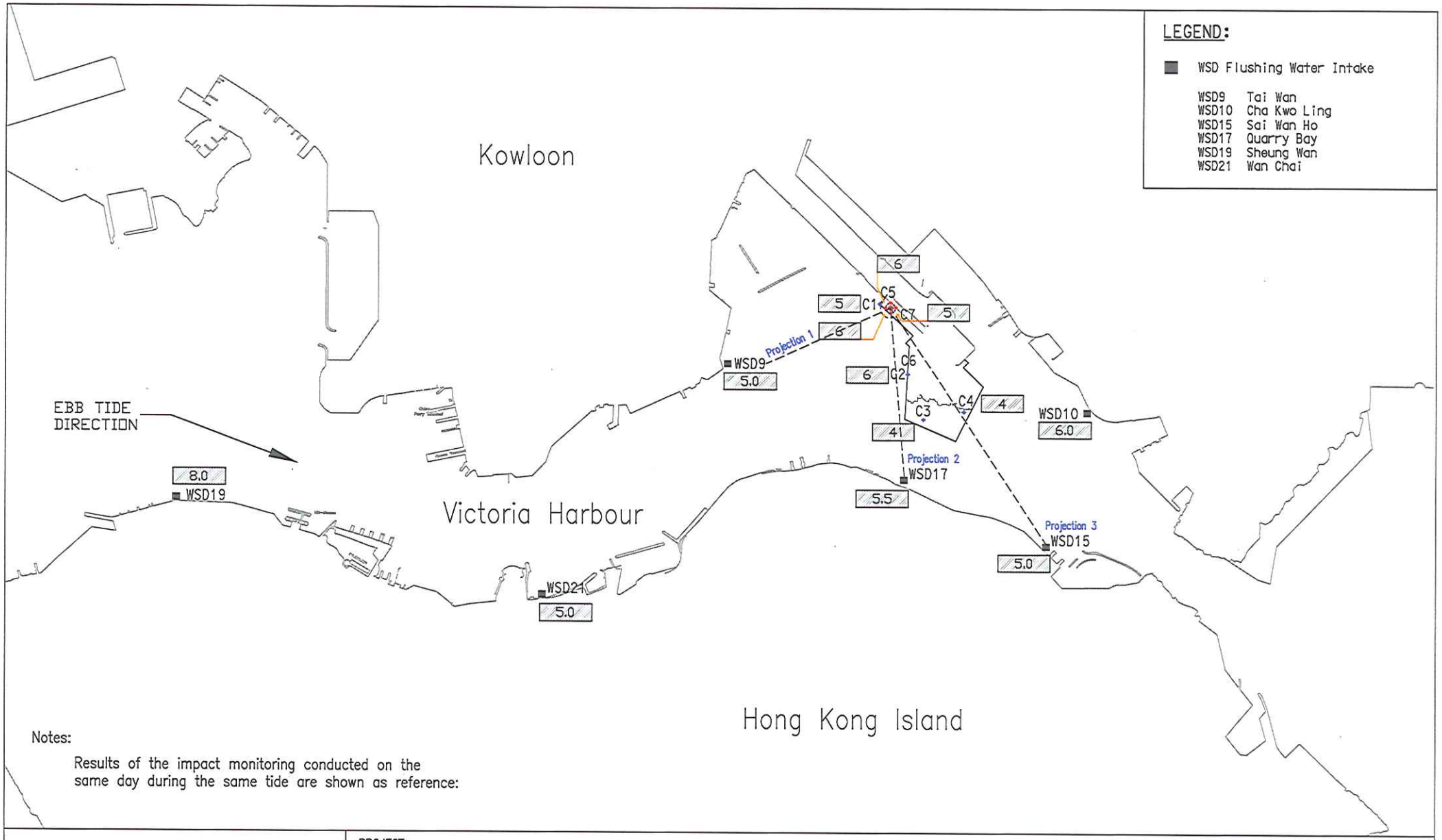
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (24 FEB 2011 EBB) – Page 1

DATE	PREPARED BY
8-Feb-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0444



Notes:

Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

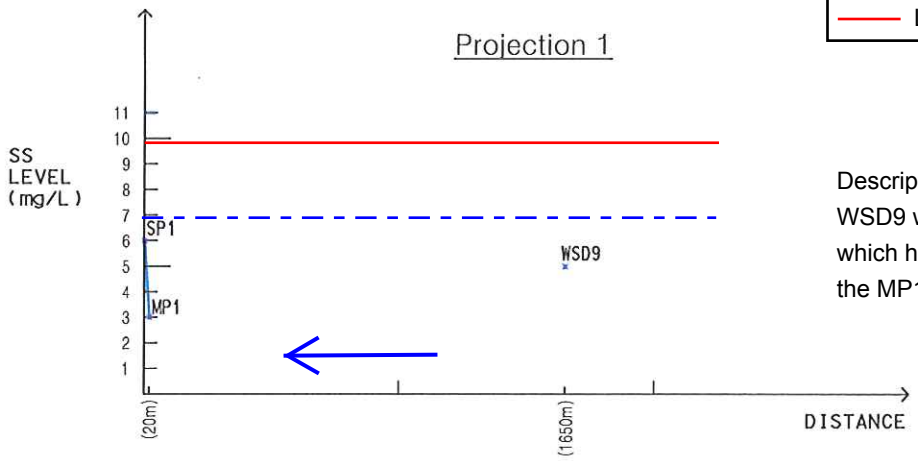
PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (24 FEB 2011 EBB) – Page 2

DATE	PREPARED BY
8-Feb-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0445

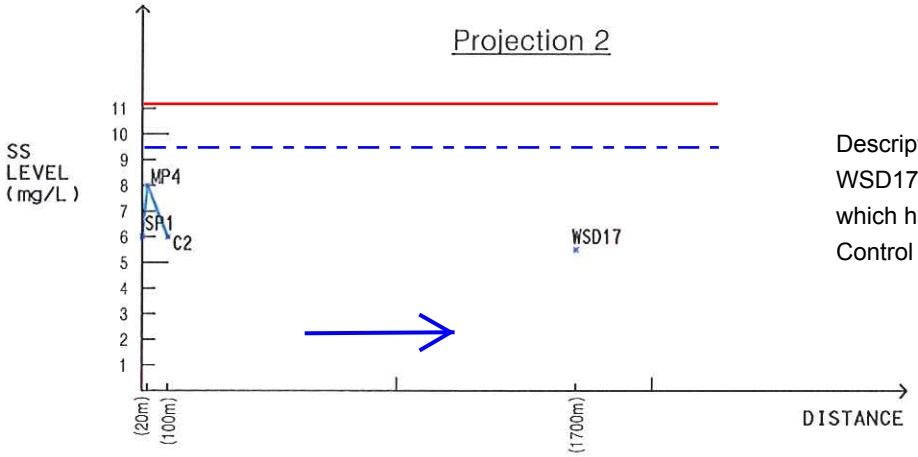
Legend
- Tidal Direction
- Action Level for WSD intake
- Limit Level for WSD intake

Projection 1



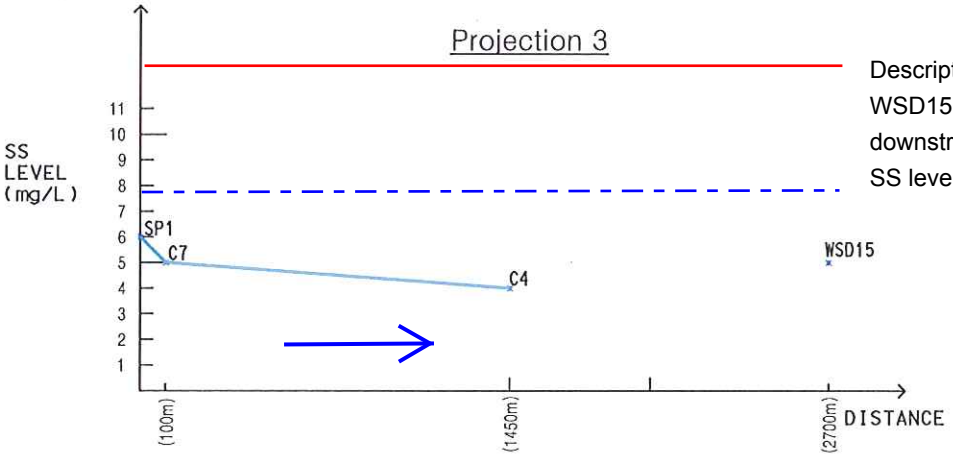
Description:
WSD9 was located at upstream which had a higher SS level than the MP1.

Projection 2



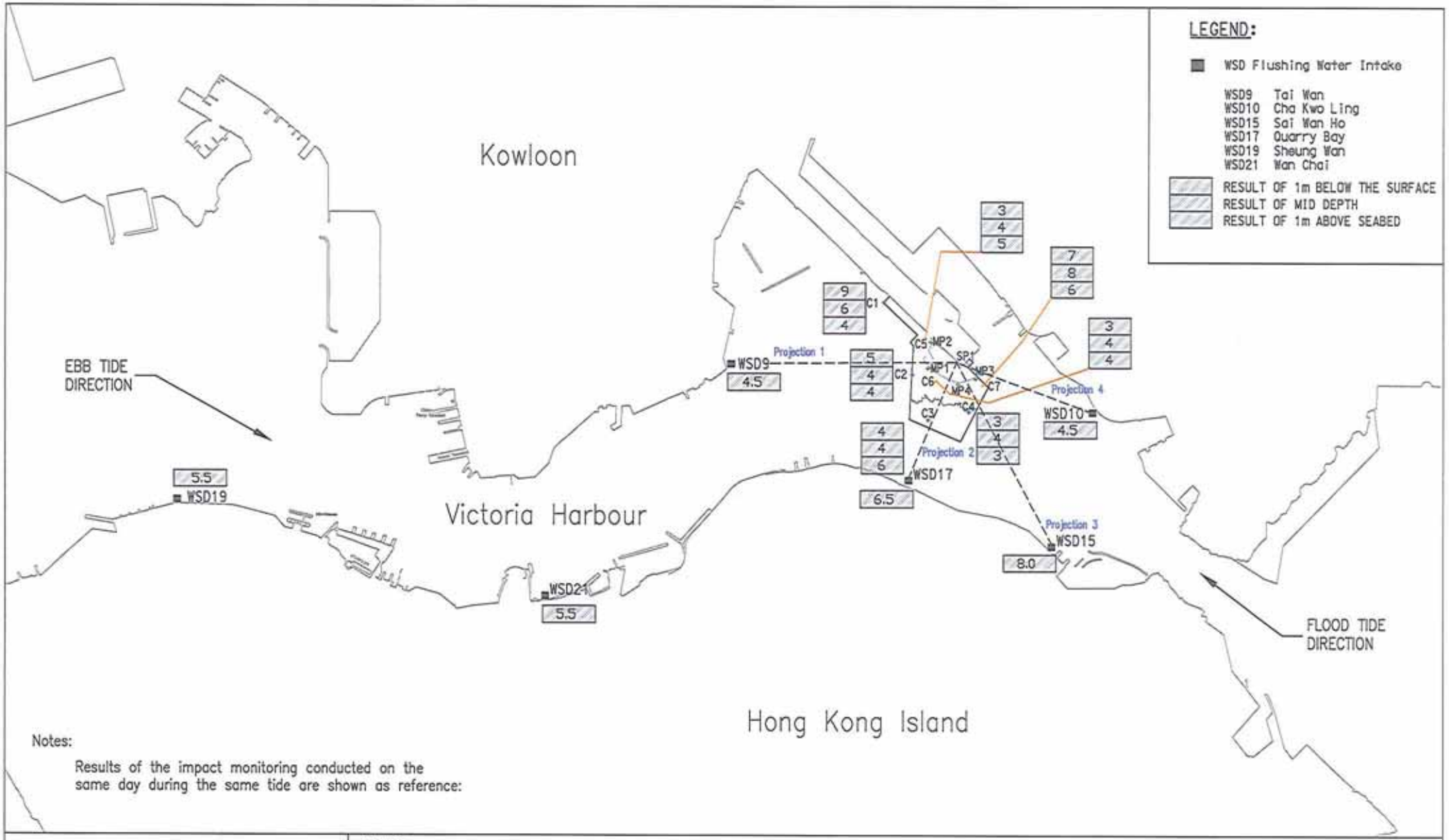
Description:
WSD17 was located at downstream which had a similar SS level with Control Point - C2.

Projection 3



Description:
WSD15 was located at downstream which had a higher SS level with Control Point - C4.

PROJECT: KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development			
PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設	TITLE: GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS – (24 JAN 2011 EBB)	DATE: 8 Feb 11	PREPARED BY: PY
		SCALE: NOT TO SCALE	SKETCH No.: SK-0446



Notes:

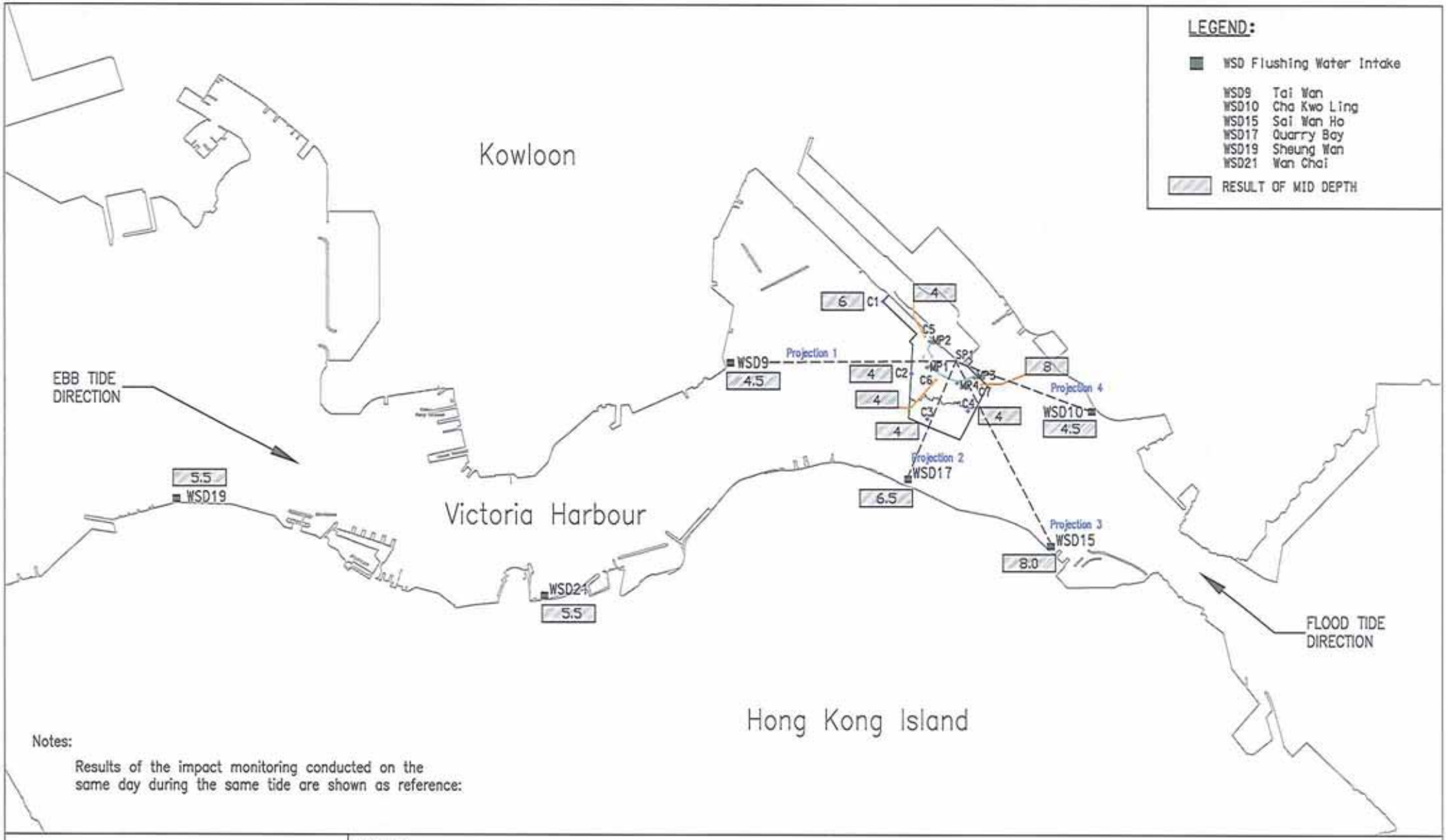
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (7 FEB 2011 EBB) – Page 1

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0471



Notes:

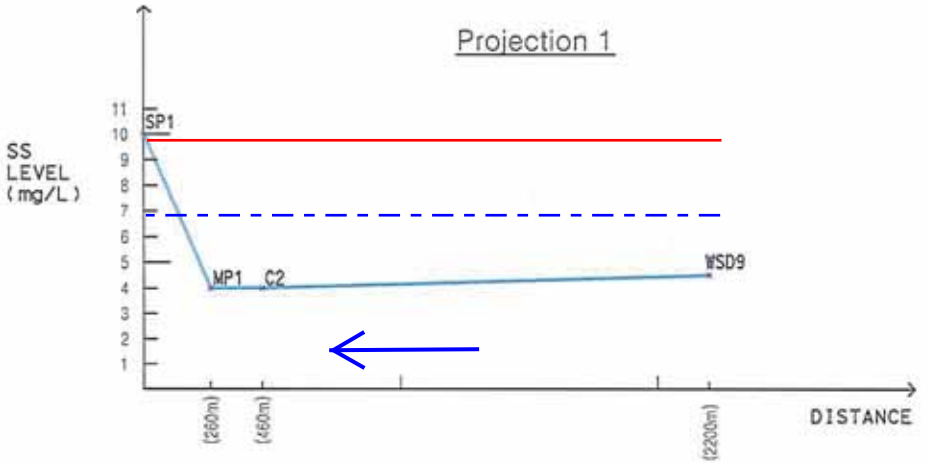
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

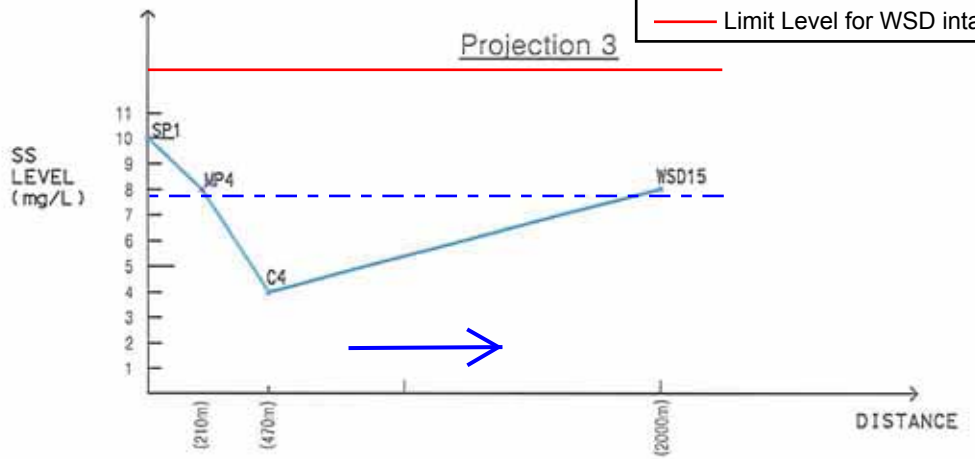
PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (7 FEB 2011 EBB) – Page 2

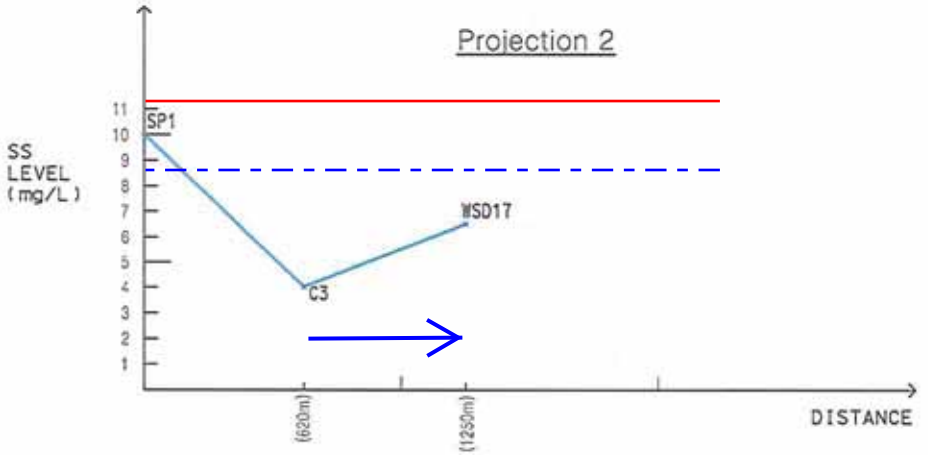
DATE	PREPARED BY
11–Mar–11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK–0472



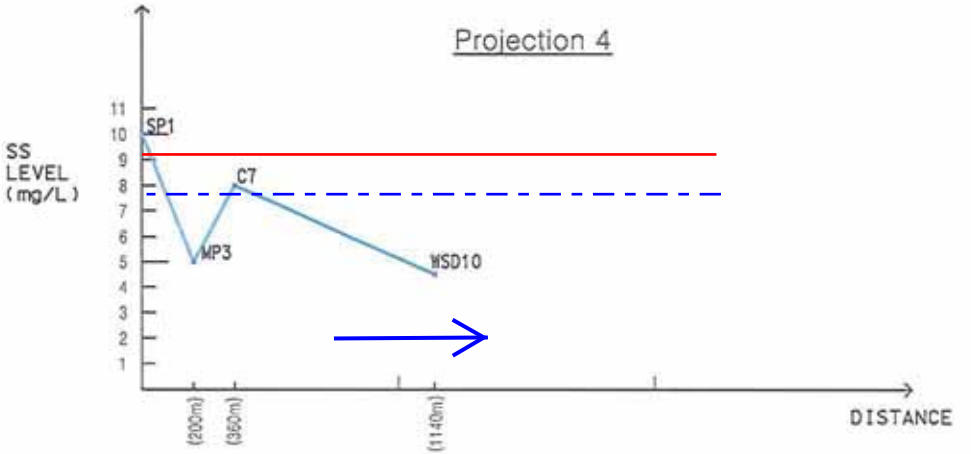
Description: WSD9 was located at upstream which had a similar SS level to Control Point - C2.



Description: WSD15 was located at downstream which had a similar SS level to MP4 but relative higher than Control Point - C4.



Description: Similarly with WSD15, WSD17 had relative higher SS level than Control Point - C3.



Description: WSD10 was located at downstream which had a SS level below SP1, MP3 and Control Point.

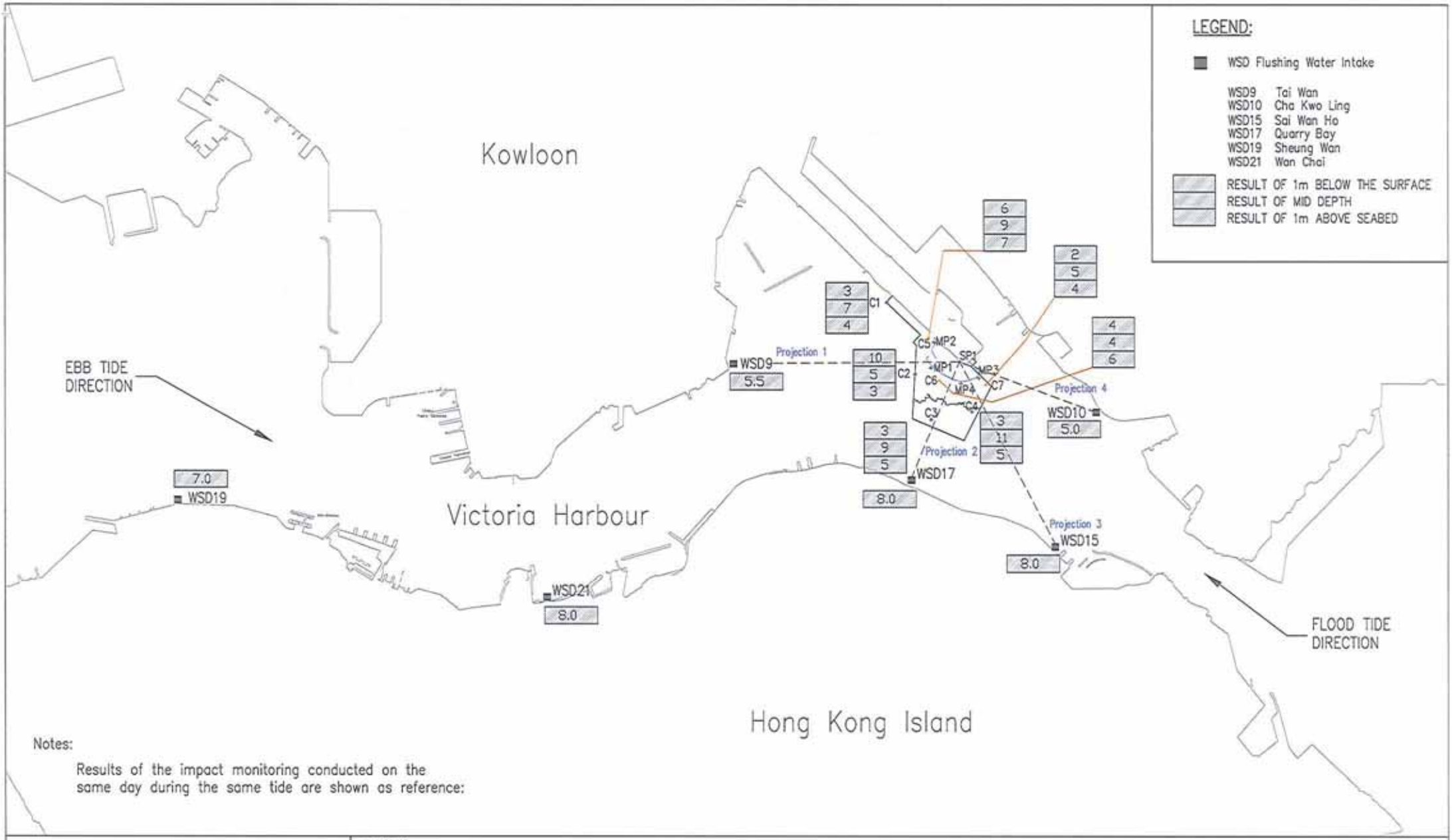
Legend
- Tidal Direction
- Action Level for WSD intake
- Limit Level for WSD intake

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS AT MID DEPTH – (7 FEB 2011 EBB)

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0473



Notes:

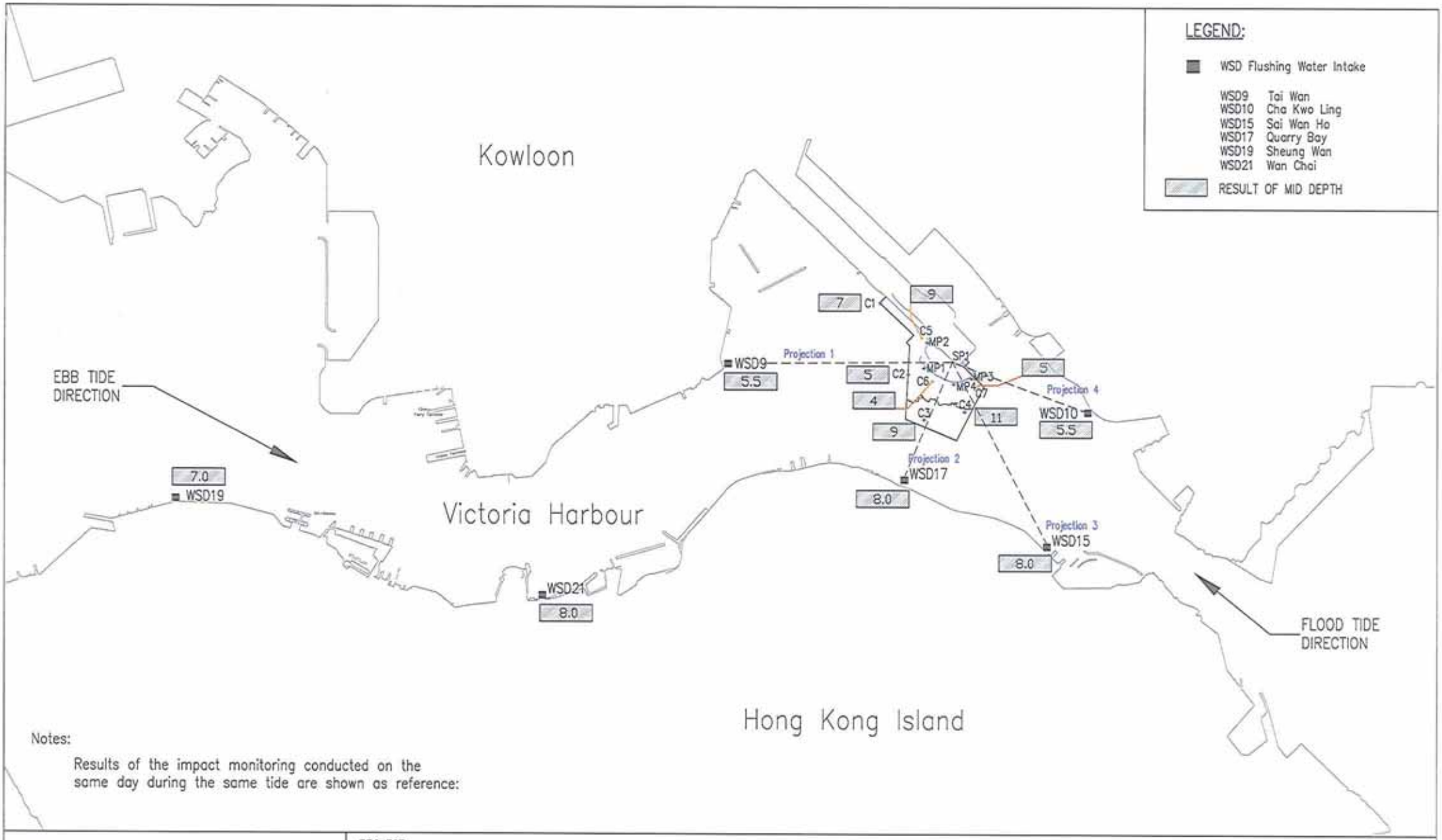
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (11 FEB 2011 Flood) – Page 1

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0477



Notes:

Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (11 FEB 2011 FLOOD) – Page 2

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0478

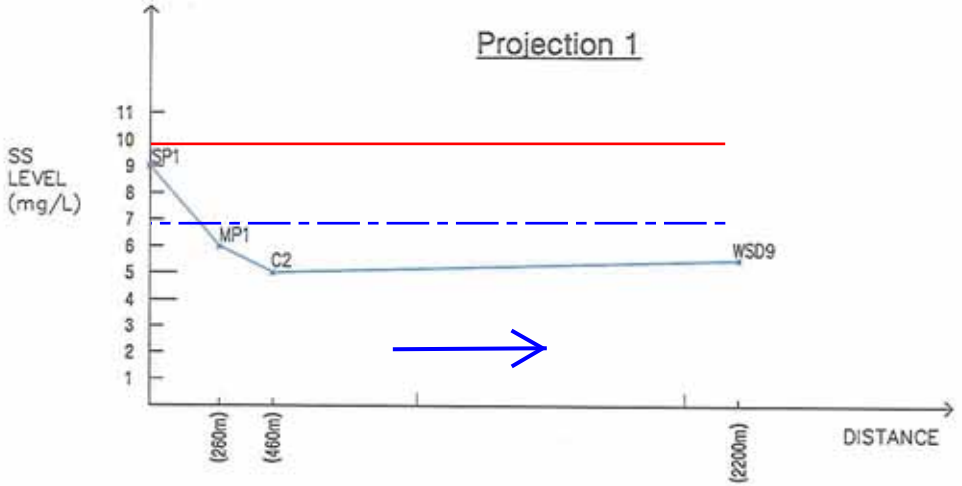
Legend

Tidal Direction

Action Level for WSD intake

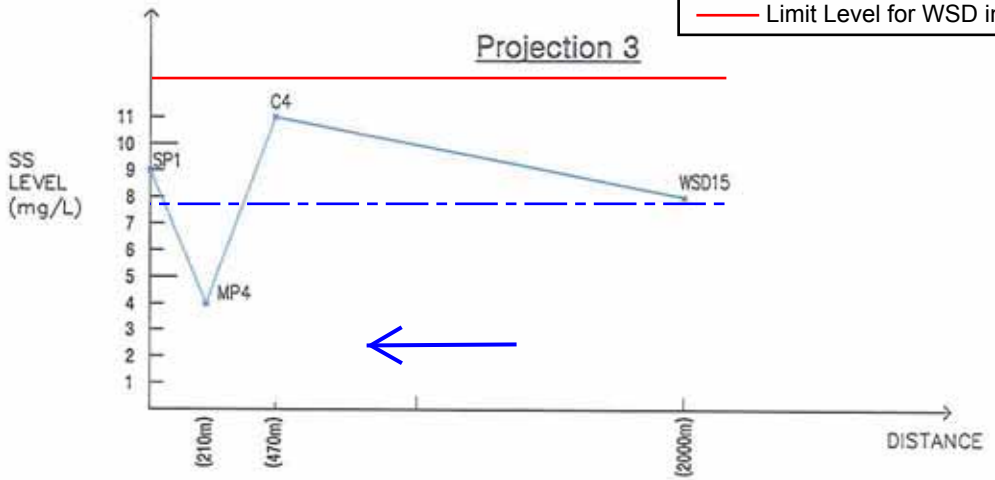
Limit Level for WSD intake

Projection 1



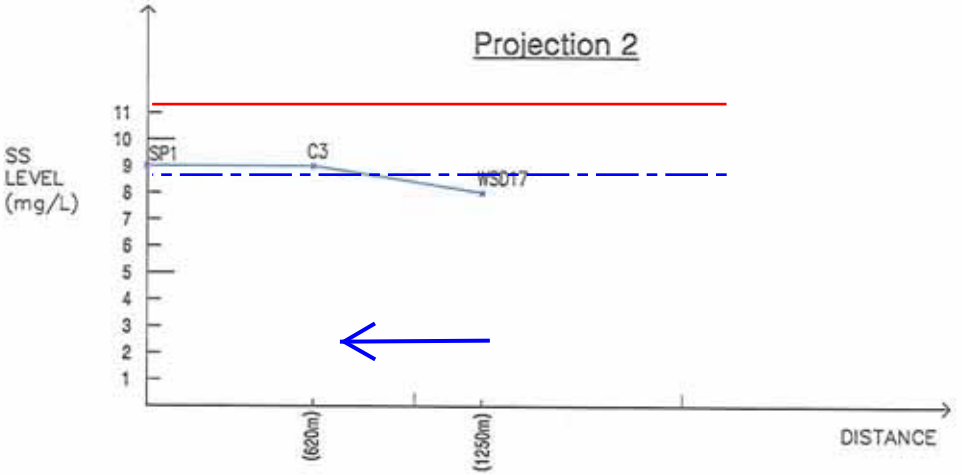
Description: WSD9 was located at downstream which had a similar SS level to Control Point - C4.

Projection 3



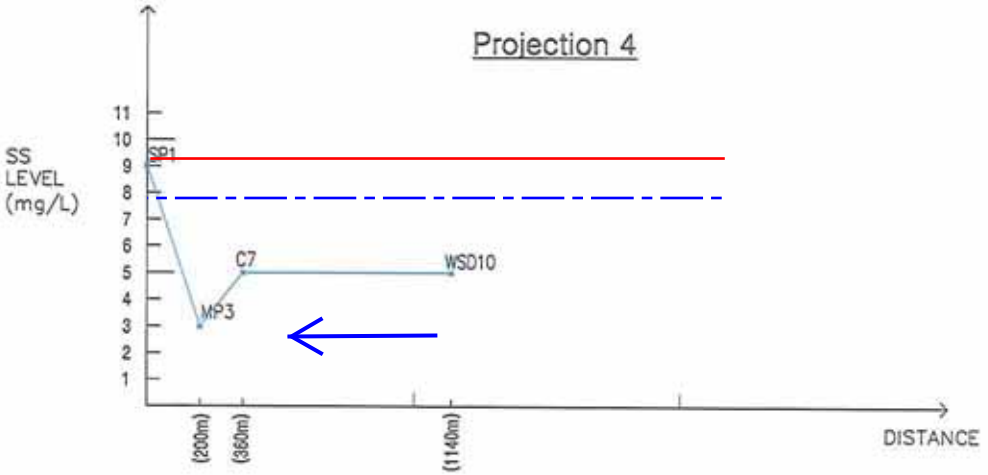
Description: WSD15 was located at upstream which had a lower SS level than Control Point but higher than MP4.

Projection 2



Description: WSD17 was located at upstream which had a similar SS level to SP1 and Control Point - C4.

Projection 4



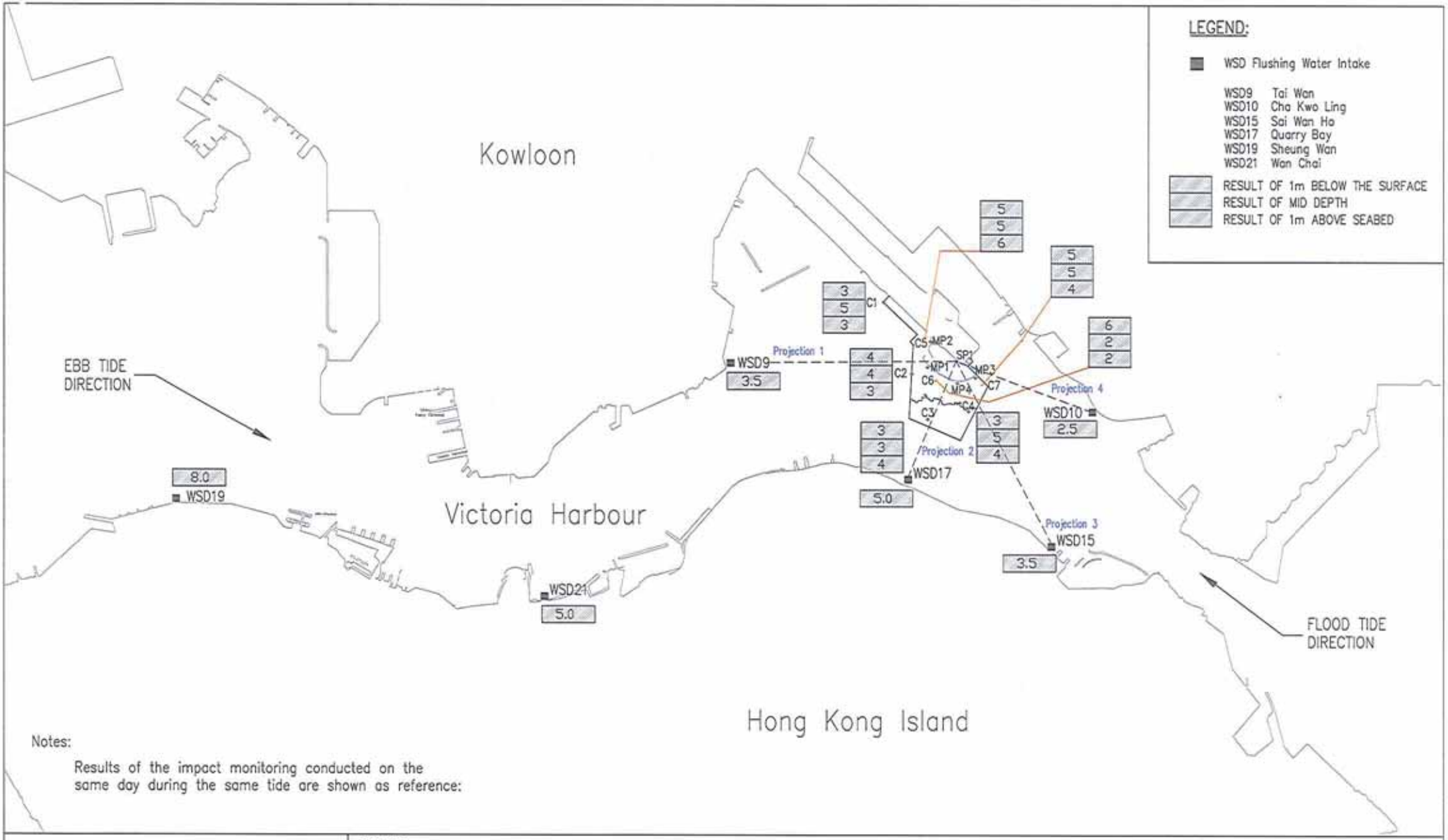
Description: WSD10 was located at upstream which had a similar SS level to Control Point - C7.

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT: KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE: GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS AT MID DEPTH – (11 FEB 2011 FLOOD)

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0479



Notes:

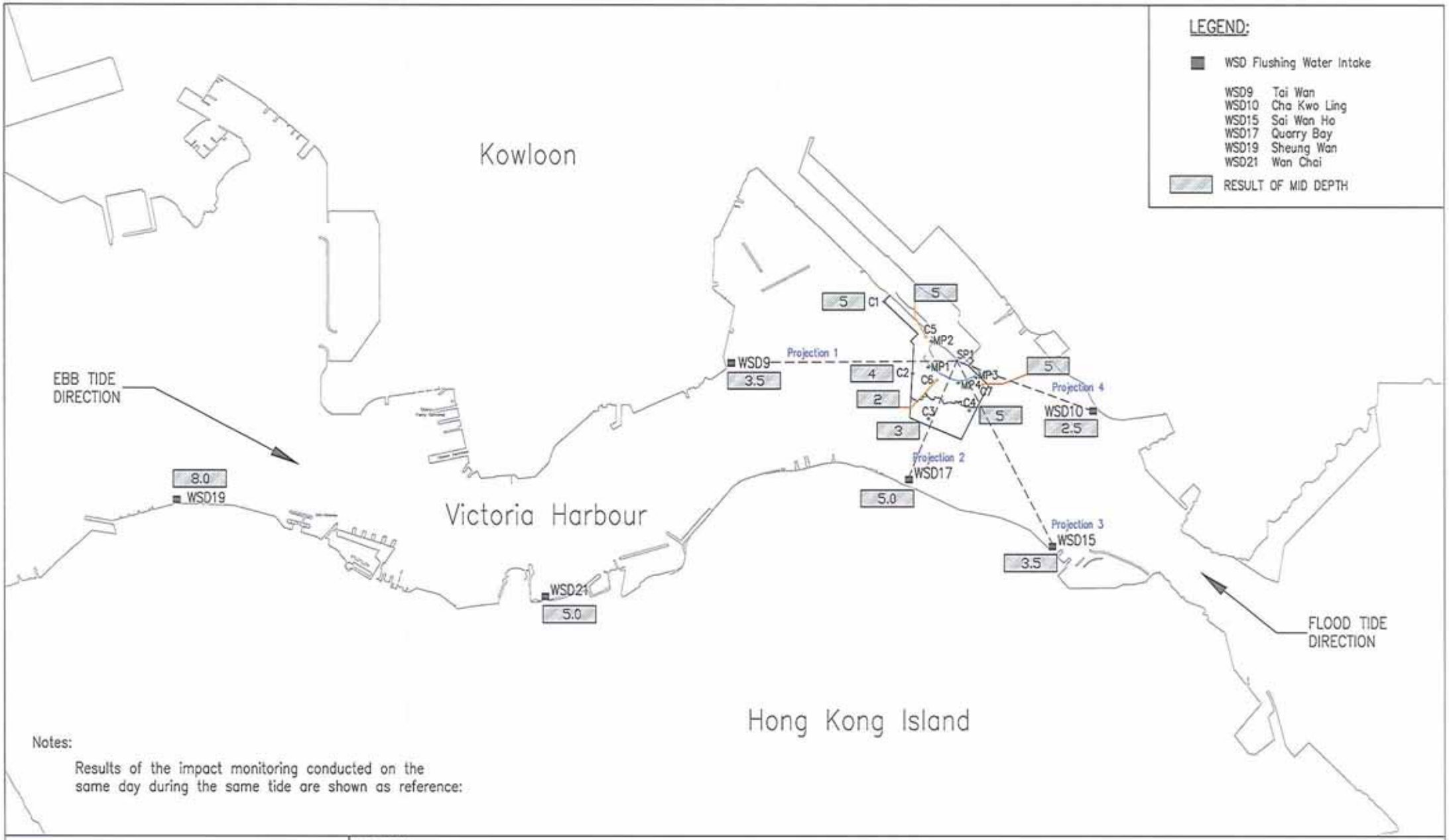
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (14 FEB 2011 Flood) – Page 1

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0474



Notes:

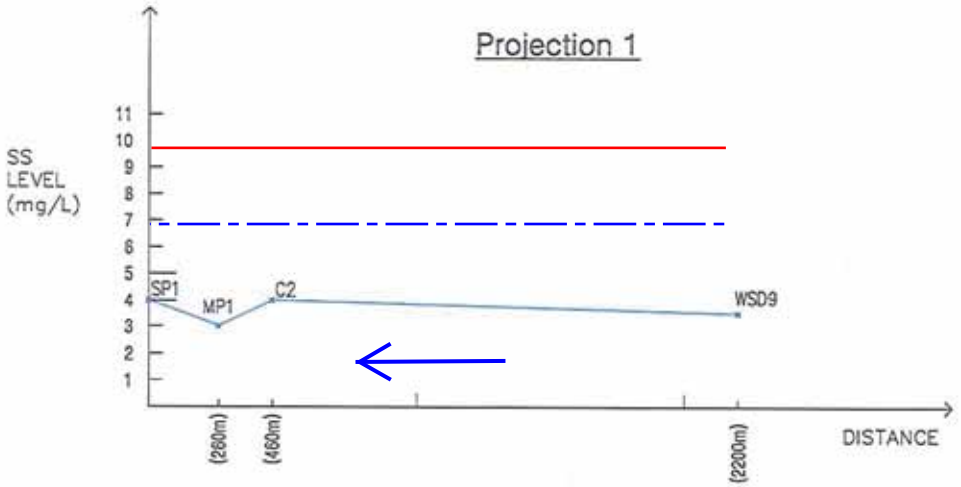
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

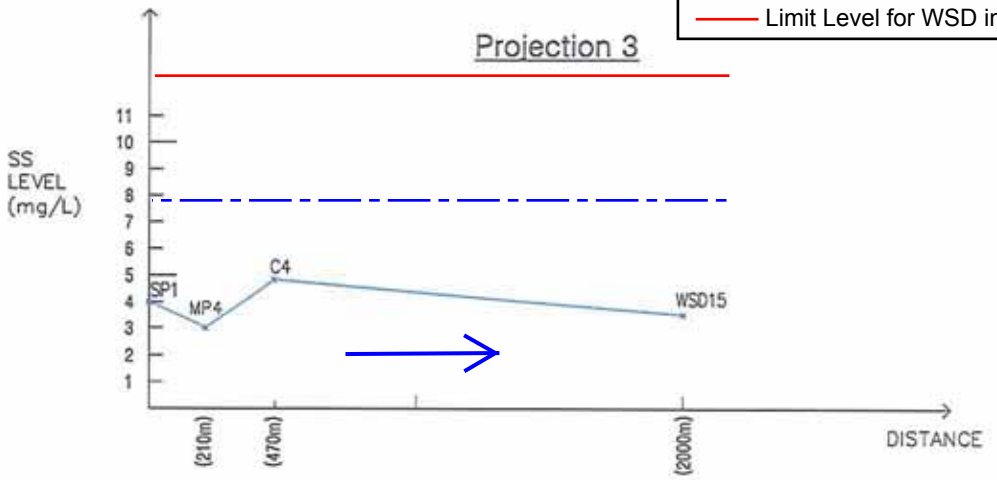
PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (14 FEB 2011 FLOOD) – Page 2

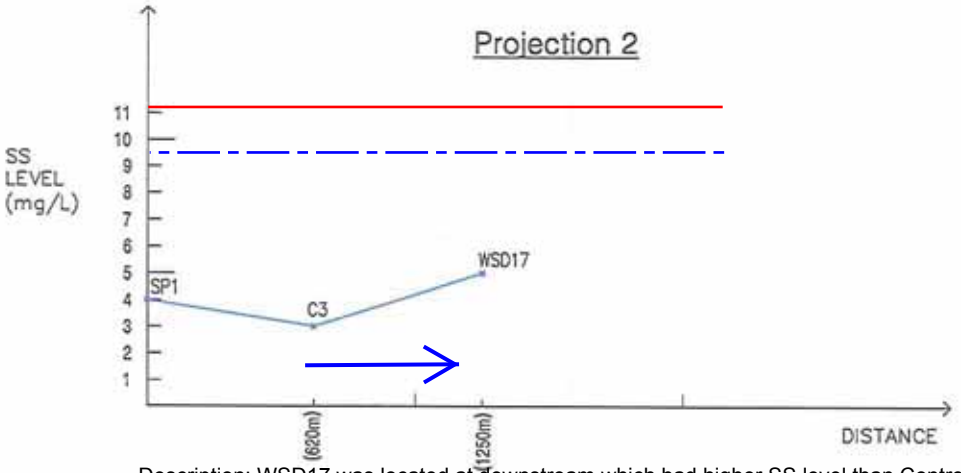
DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0475



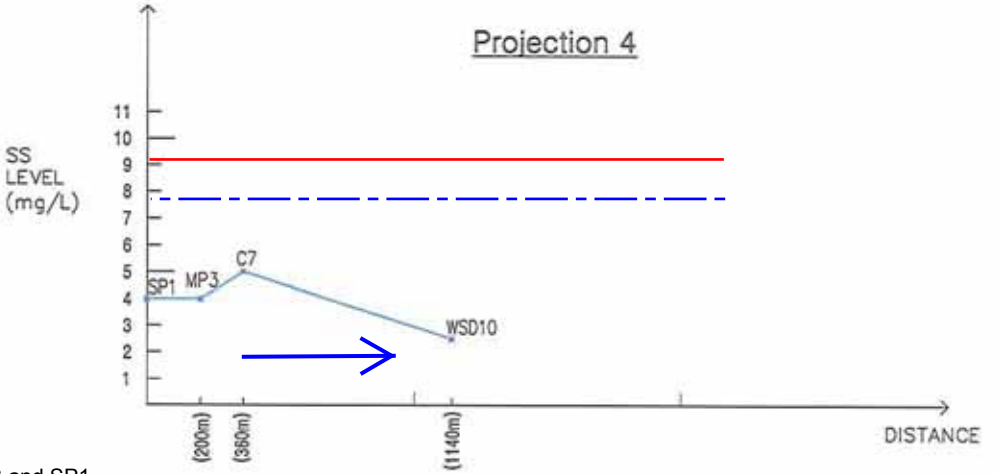
Description: WSD9 was located at upstream which had similar SS level with SP1, MP1 and Control Point - C2.



Description: WSD15 was located at downstream which had similar SS level with SP1, MP4 and Control Point - C4.



Description: WSD17 was located at downstream which had higher SS level than Control Point - C3 and SP1.



Description: WSD10 was located at downstream which had lower SS level than SP1, MP3 and Control Point - C7.

Legend

Tidal Direction

Action Level for WSD intake

Limit Level for WSD intake

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

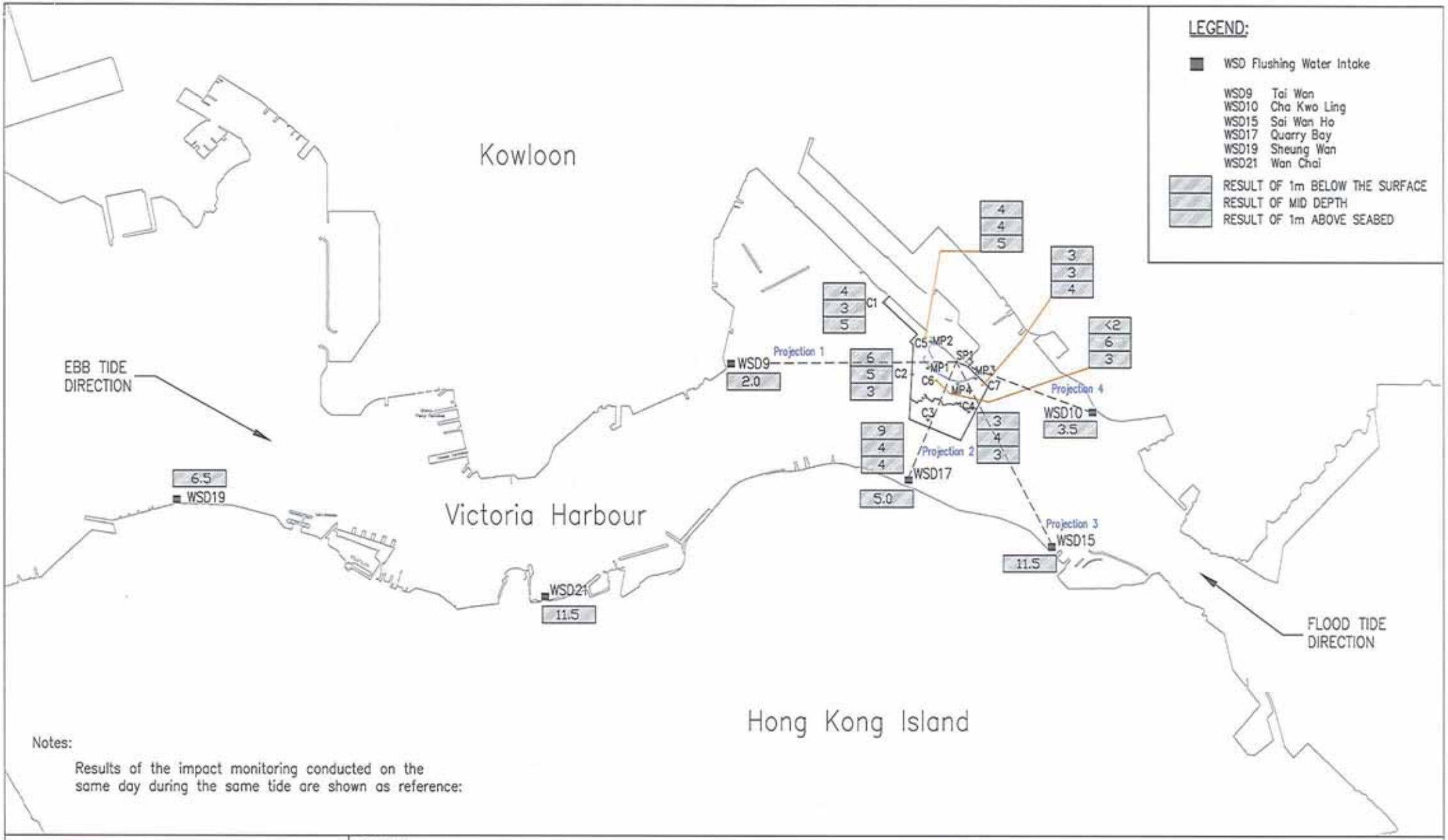
PROJECT

KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE

GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS AT MID DEPTH – (14 FEB 2011 EBB)

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0476



Notes:

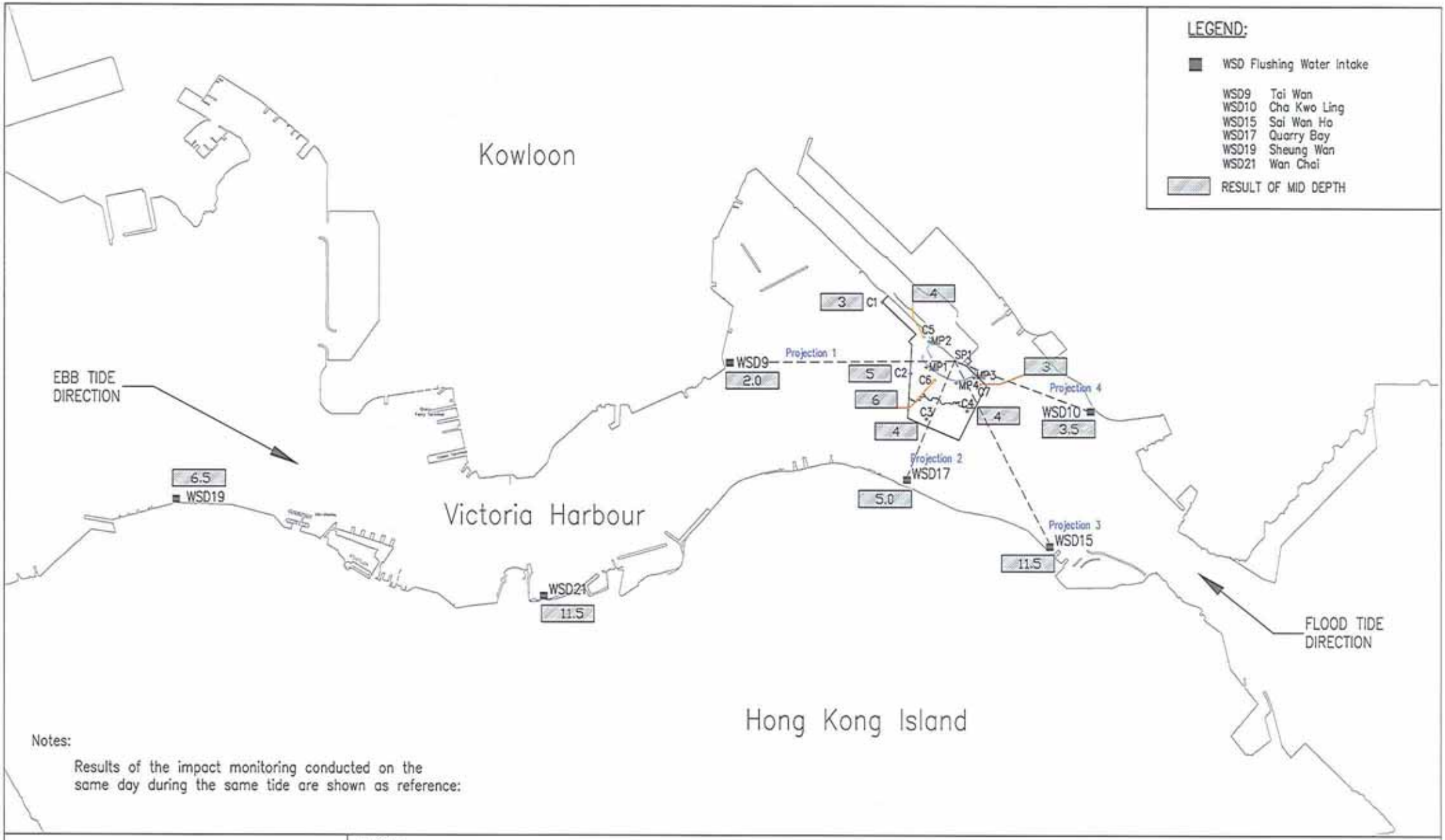
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (16 FEB 2011 Flood) – Page 1

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0480



Notes:

Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

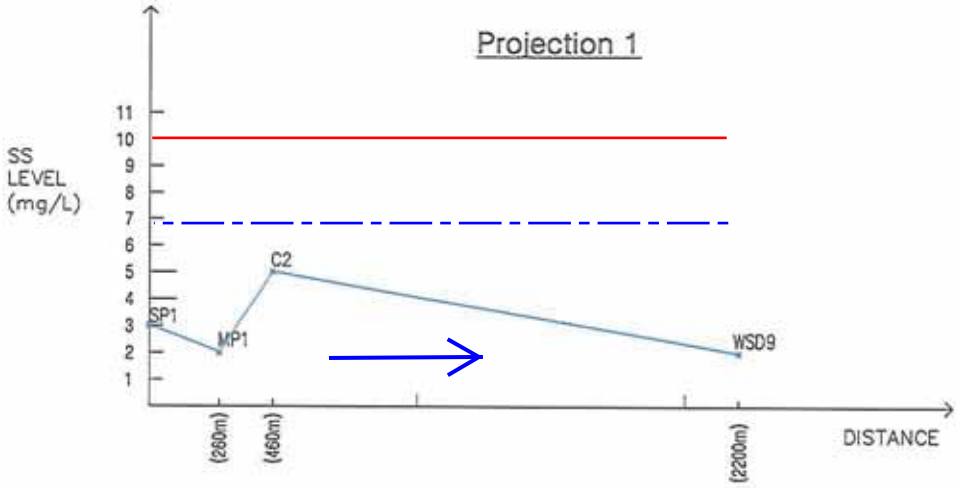
PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (16 FEB 2011 FLOOD) – Page 2

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0481

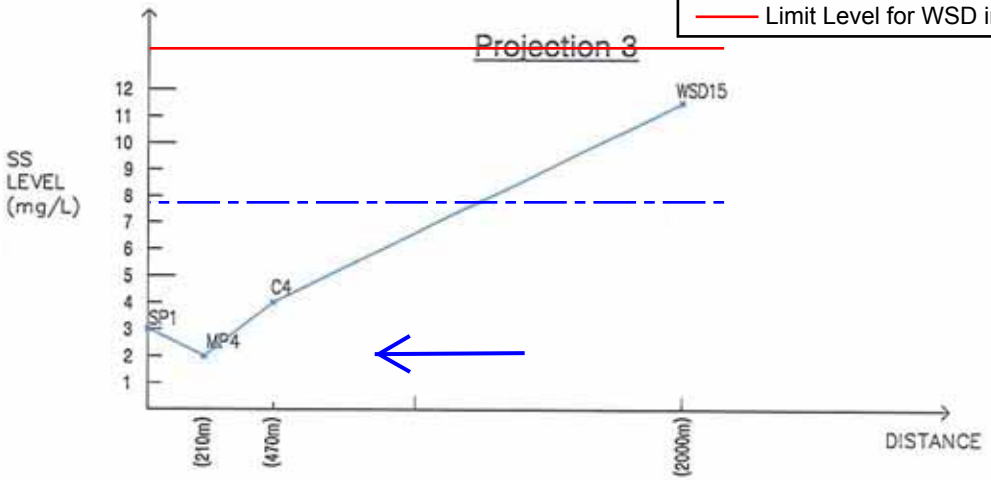
Legend
- Tidal Direction
- Action Level for WSD intake
- Limit Level for WSD intake

Projection 1



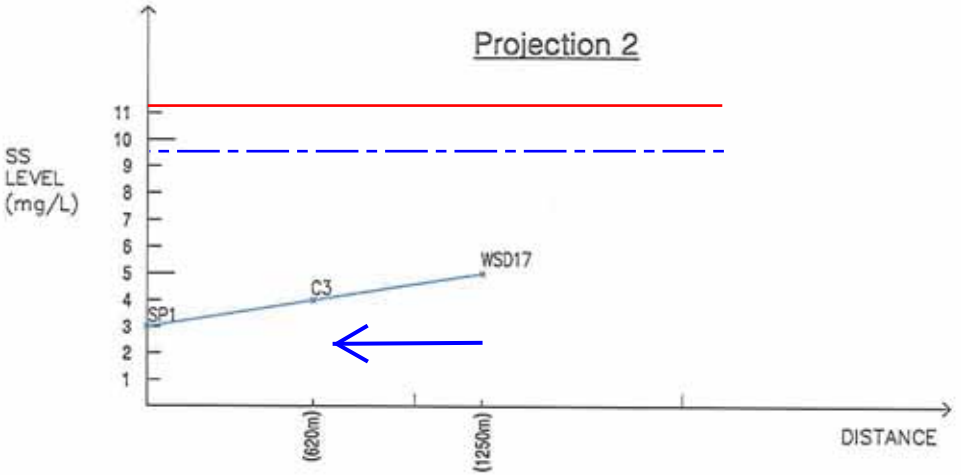
Description: WSD9 was located at downstream which had lower SS level than Control Point - C2.

Projection 3



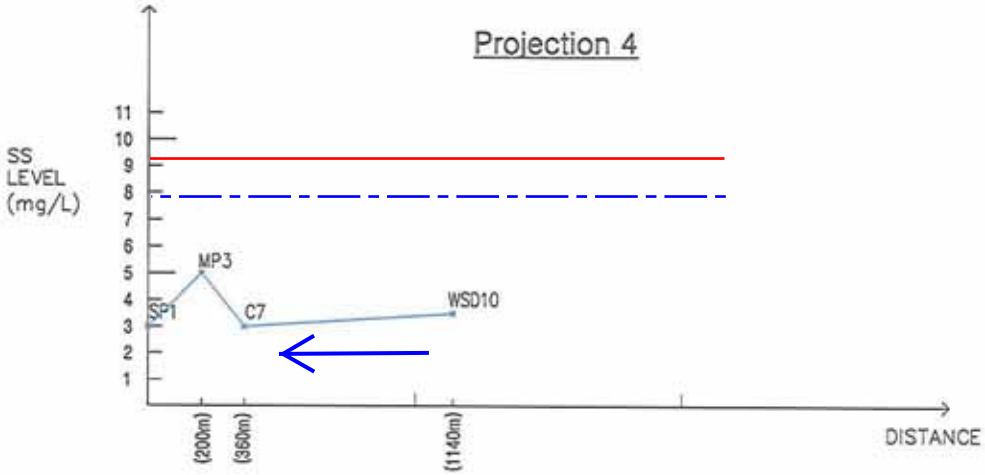
Description: WSD15 was located at upstream which had relative higher SS level than downstream including the SP1.

Projection 2



Description: Similarly, WSD17 had relative higher SS level than downstream including the SP1.

Projection 4



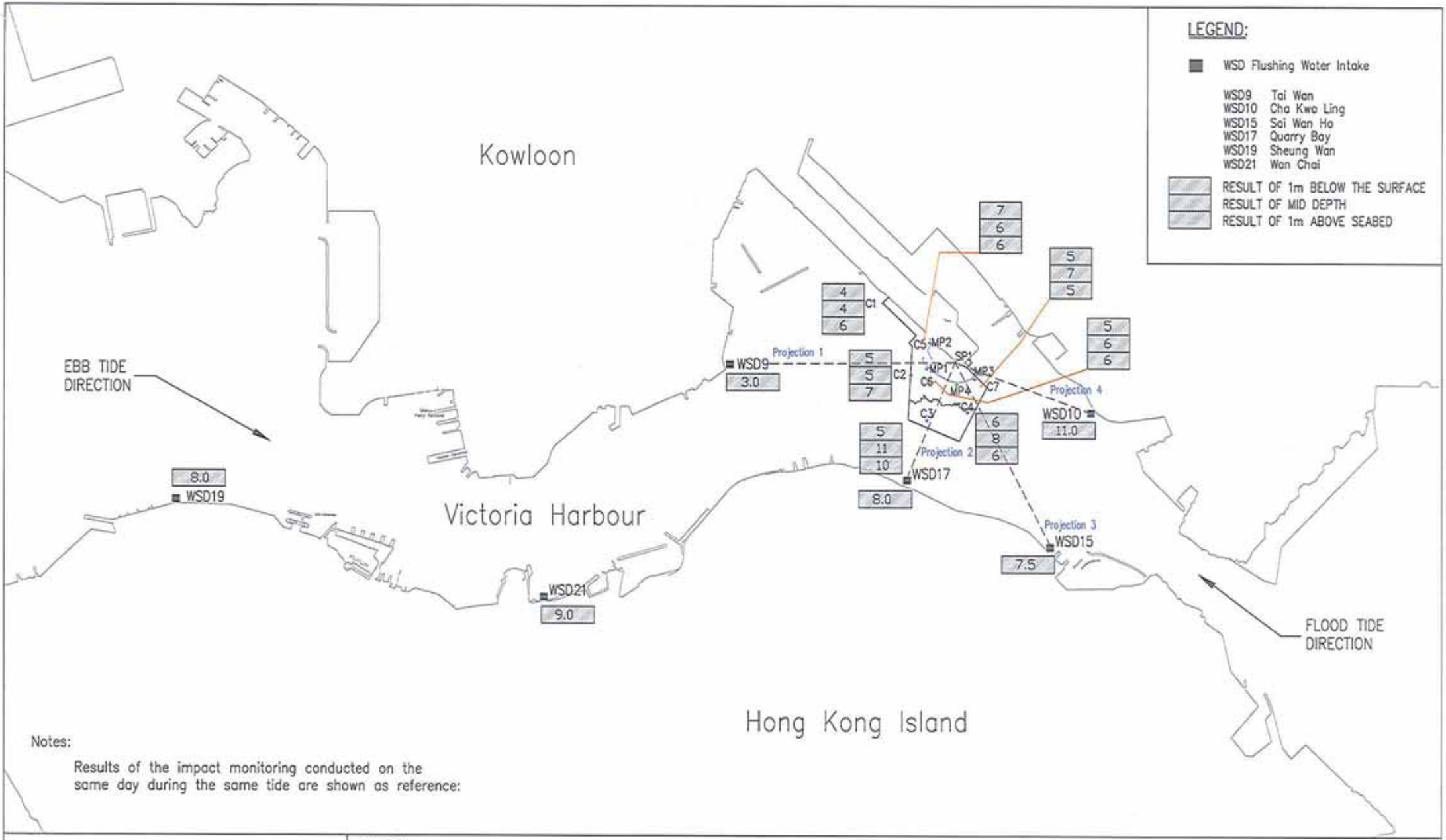
Description: WSD10 was located at upstream which had similar SS level with Control Point - C7.

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT: KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE: GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS AT MID DEPTH – (16 FEB 2011 FLOOD)

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0482



Notes:

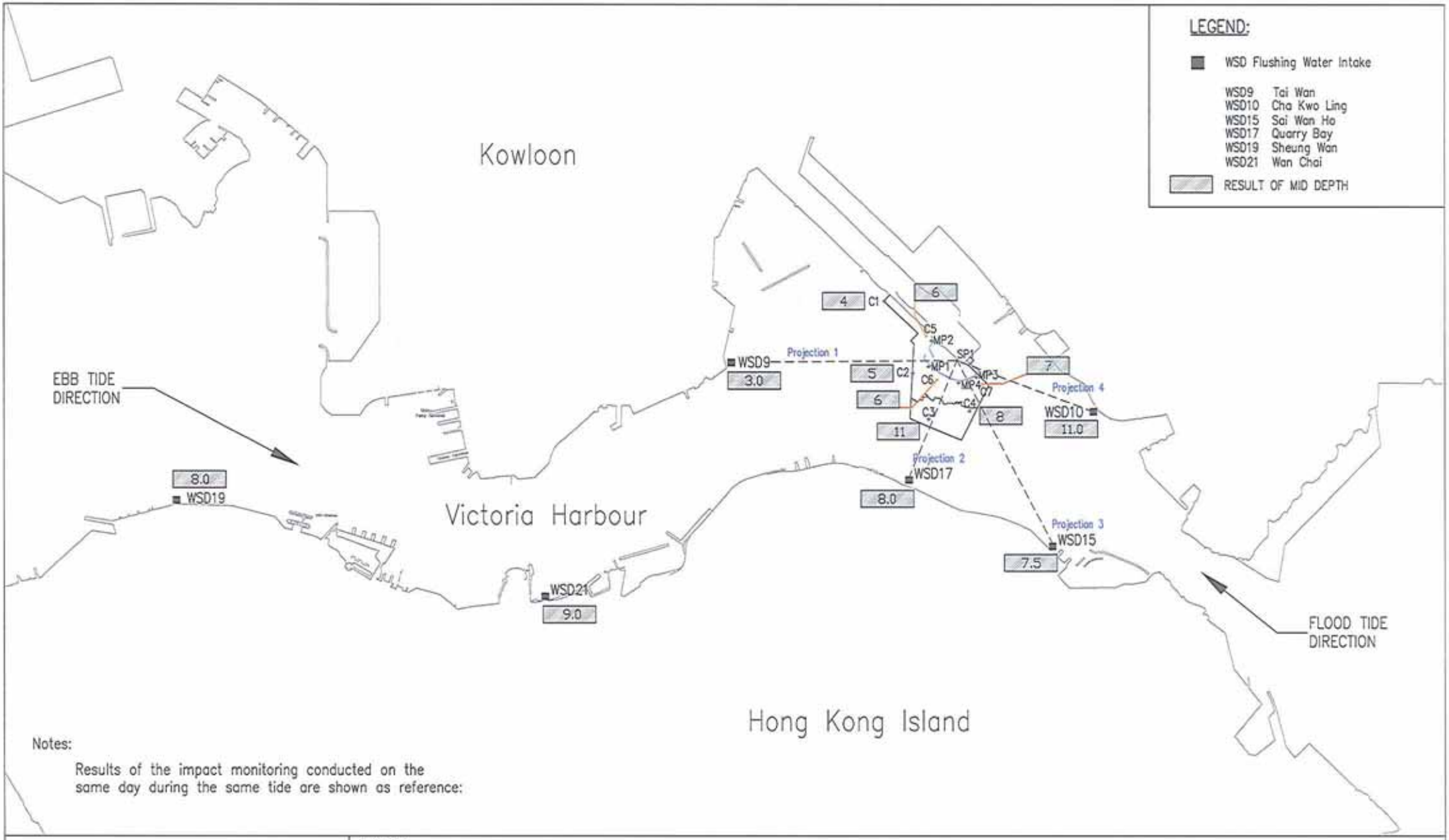
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (21 FEB 2011 Flood) – Page 1

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0483



Notes:

Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

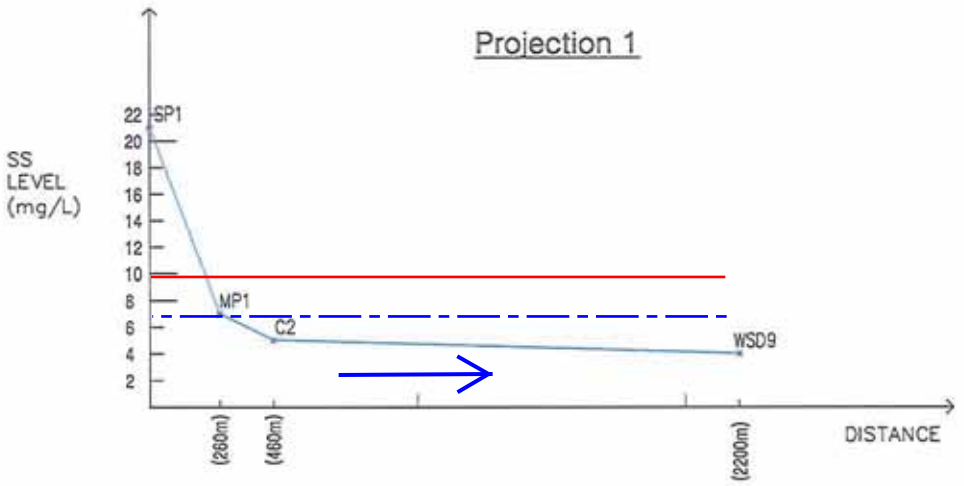
TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (21 FEB 2011 FLOOD) – Page 2

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0484

Legend

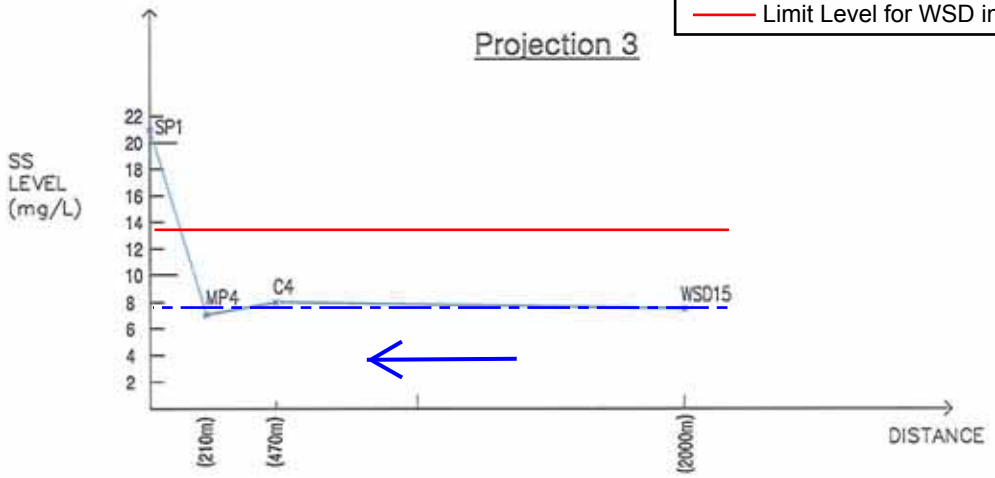
- Tidal Direction
- Action Level for WSD intake
- Limit Level for WSD intake

Projection 1



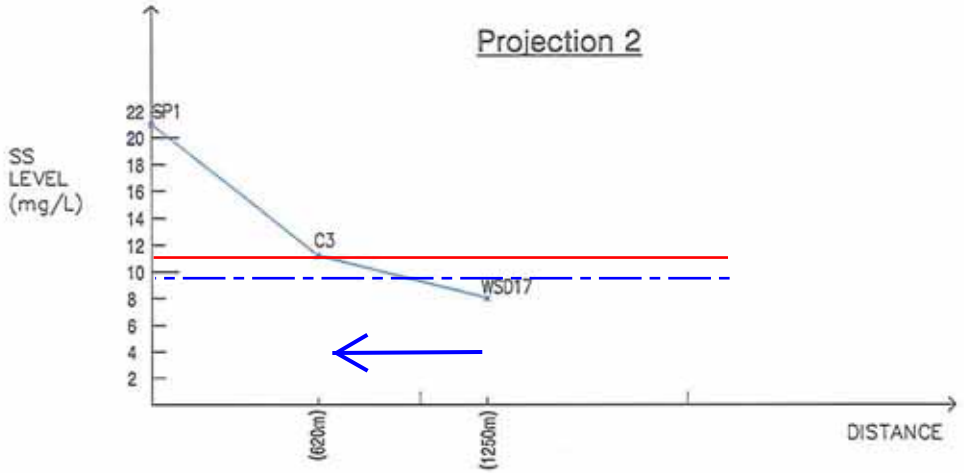
Description: WSD9 was located at downstream which had lower SS level than downstream including the SP1, MP1 and Control Point - C2.

Projection 3



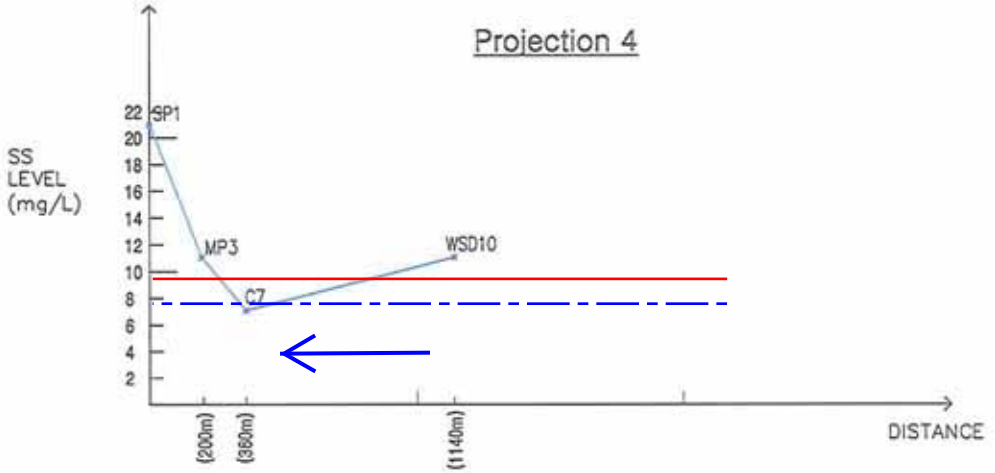
Description: WSD15 was located at upstream which had similar SS level with Control Point - C4.

Projection 2



Description: WSD17 was located at upstream which had lower SS level than downstream.

Projection 4



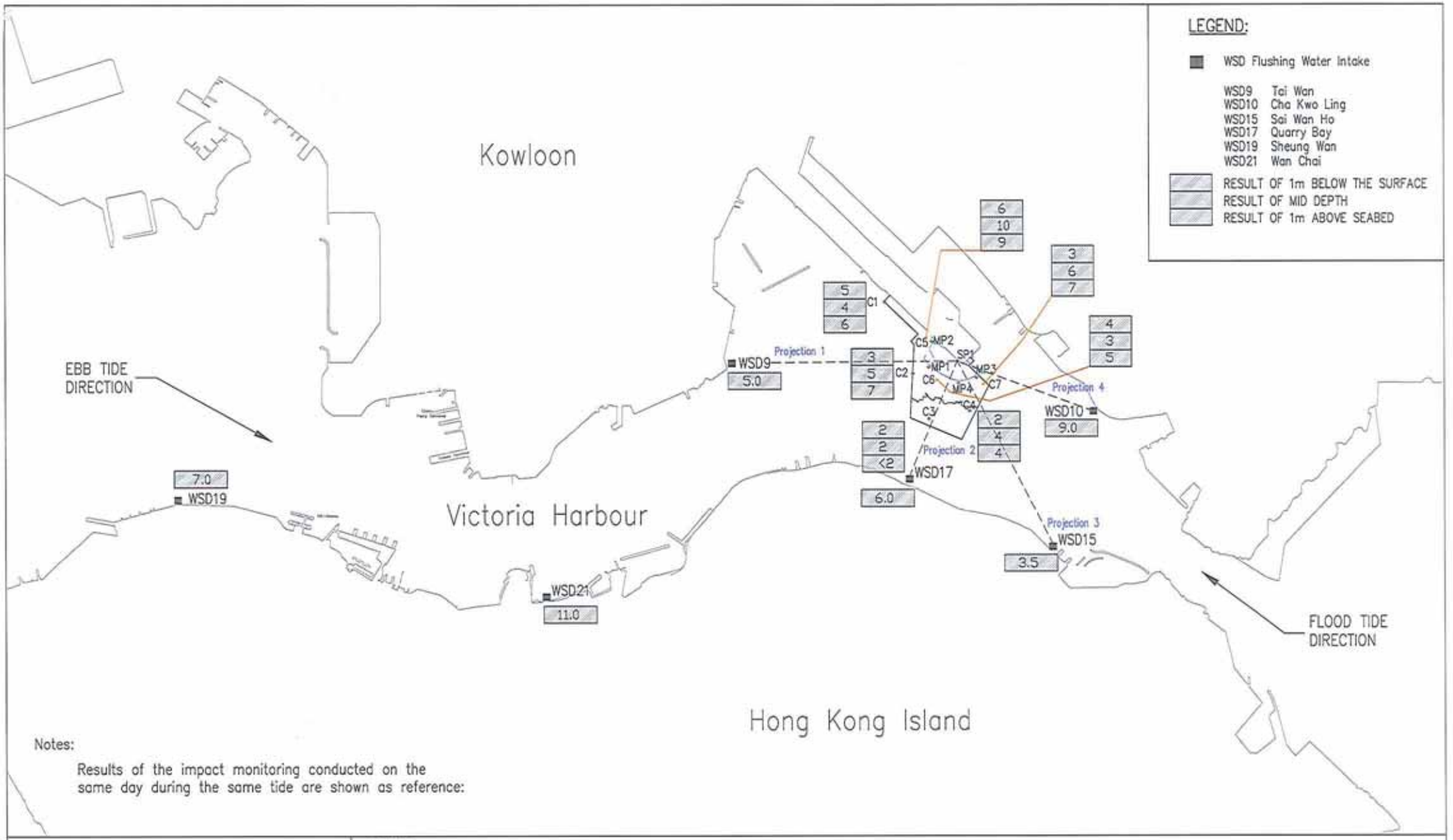
Description: WSD10 was located at upstream which had higher SS level than Control Point - C7.

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS AT MID DEPTH – (21 FEB 2011 FLOOD)

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0485



Notes:

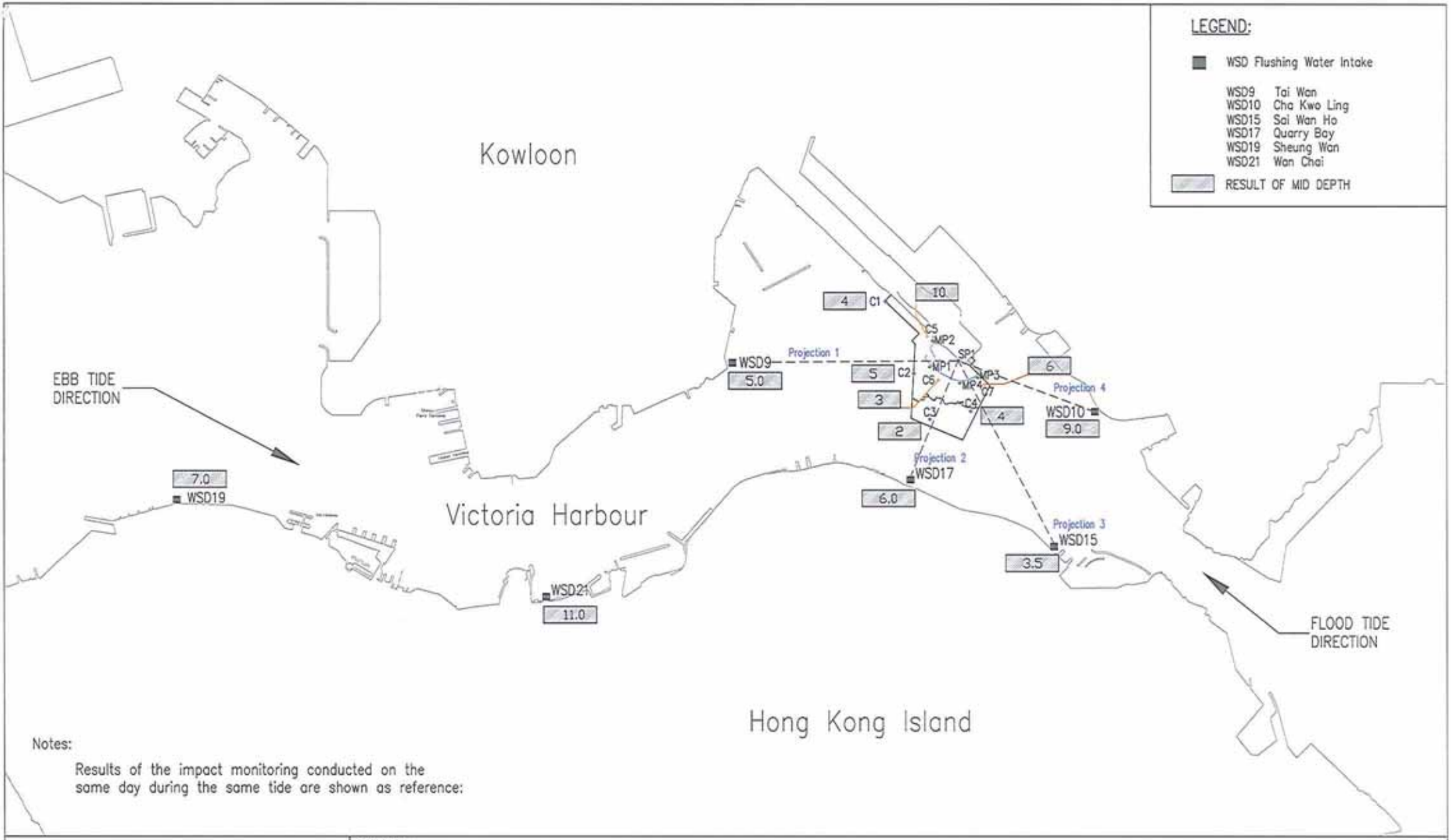
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (25 FEB 2011 Flood) – Page 1

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0486



Notes:

Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT

KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE

WATER QUALITY SURVEILLANCE SYSTEM – (25 FEB 2011 FLOOD) – Page 2

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0487

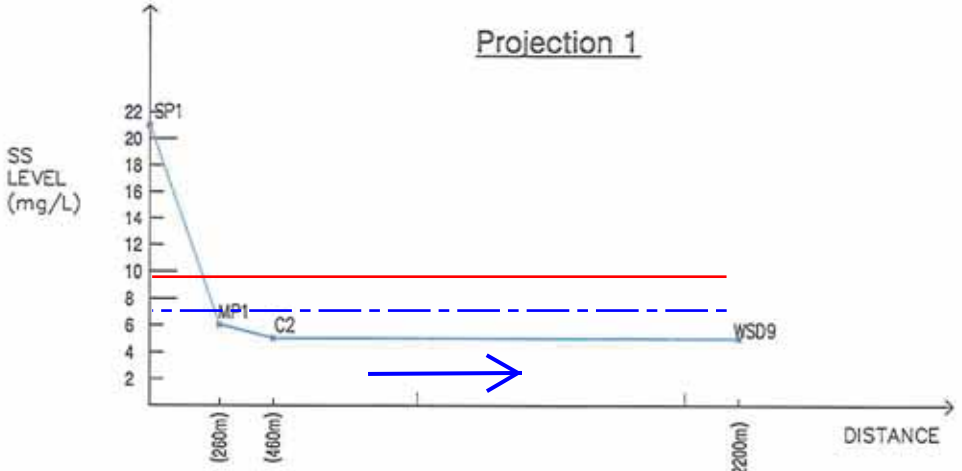
Legend

Tidal Direction

Action Level for WSD intake

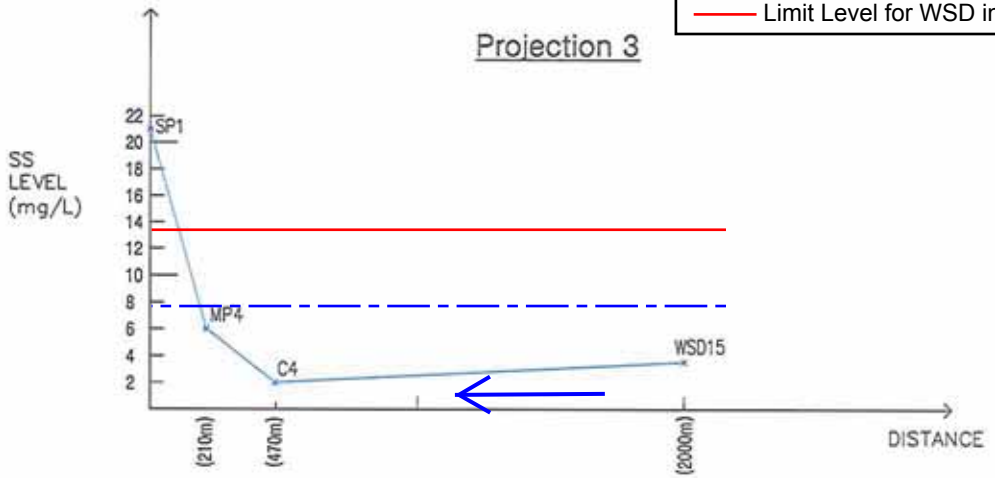
Limit Level for WSD intake

Projection 1



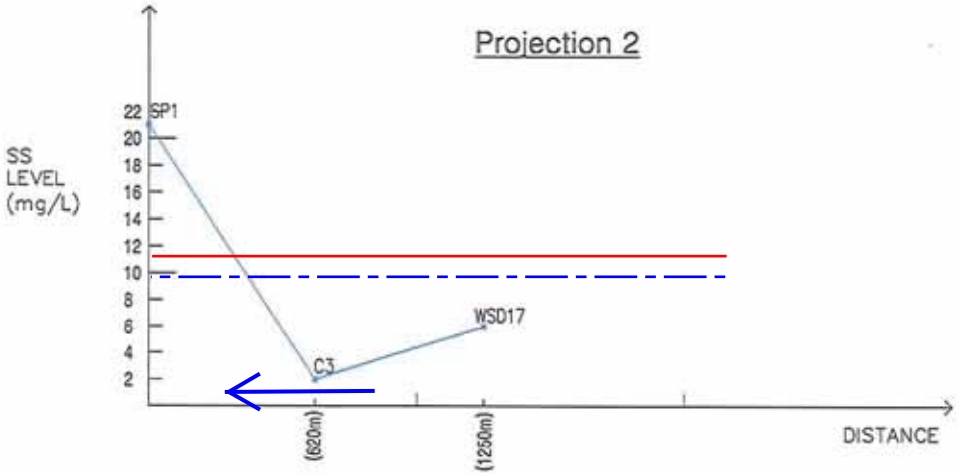
Description: SP1 had a relative higher SS concentration while WSD9 was located at downstream which had similar SS level with MP1 and Control Point - C2

Projection 3



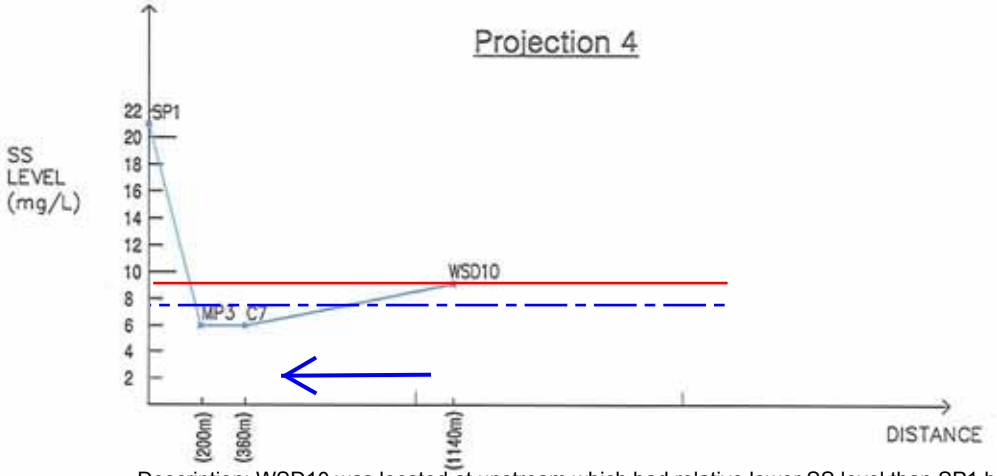
Description: WSD15 was located at upstream which had similar SS level with Control Point - C4 and lower than SP1 and MP4.

Projection 2



Description: WSD17 was located at upstream which had higher SS level than Control Point - C3.

Projection 4



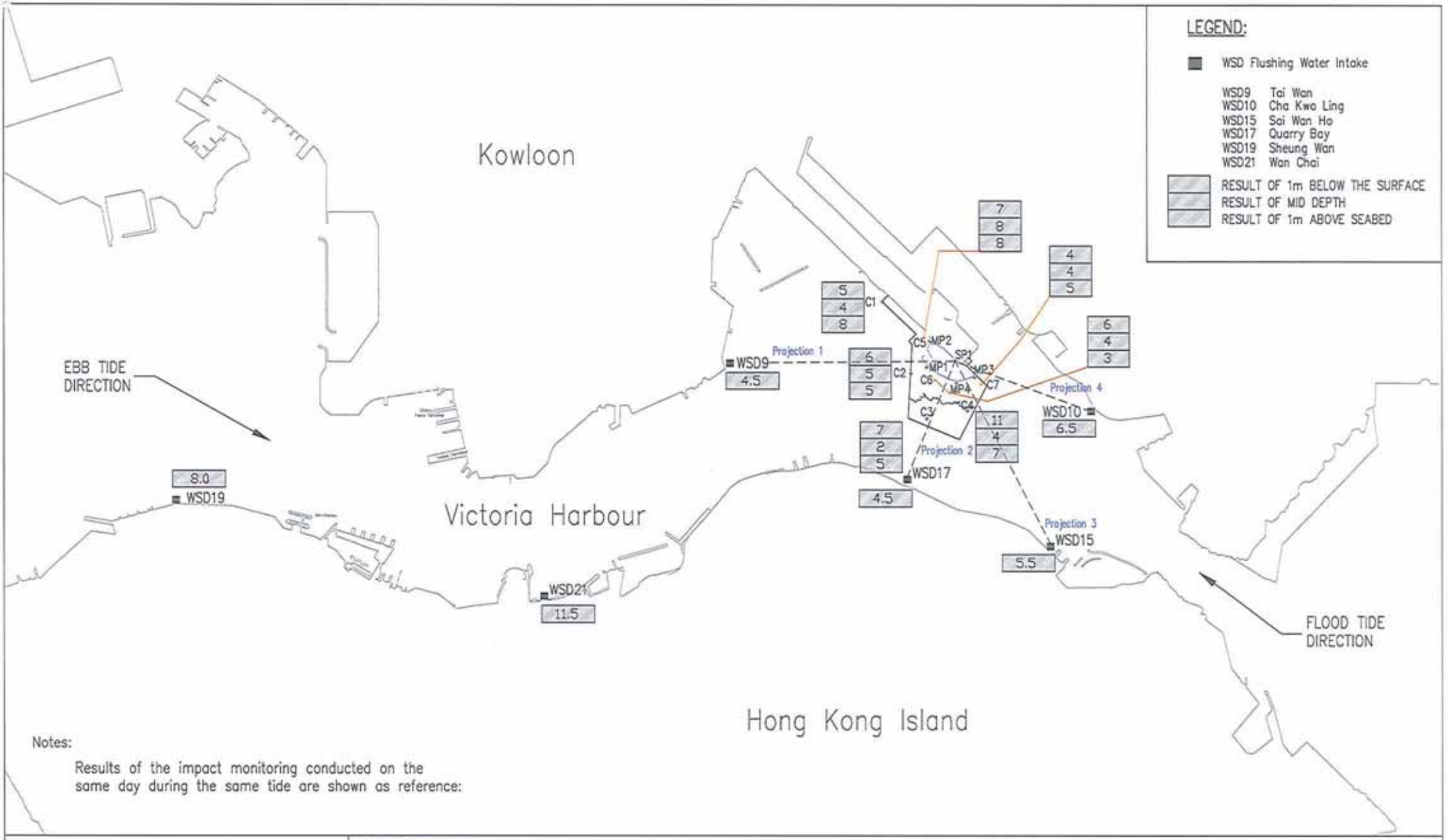
Description: WSD10 was located at upstream which had relative lower SS level than SP1 but is higher than MP3 and Control Point - C7.

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT: KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE: GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS AT MID DEPTH – (25 FEB 2011 FLOOD)

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0488



Notes:

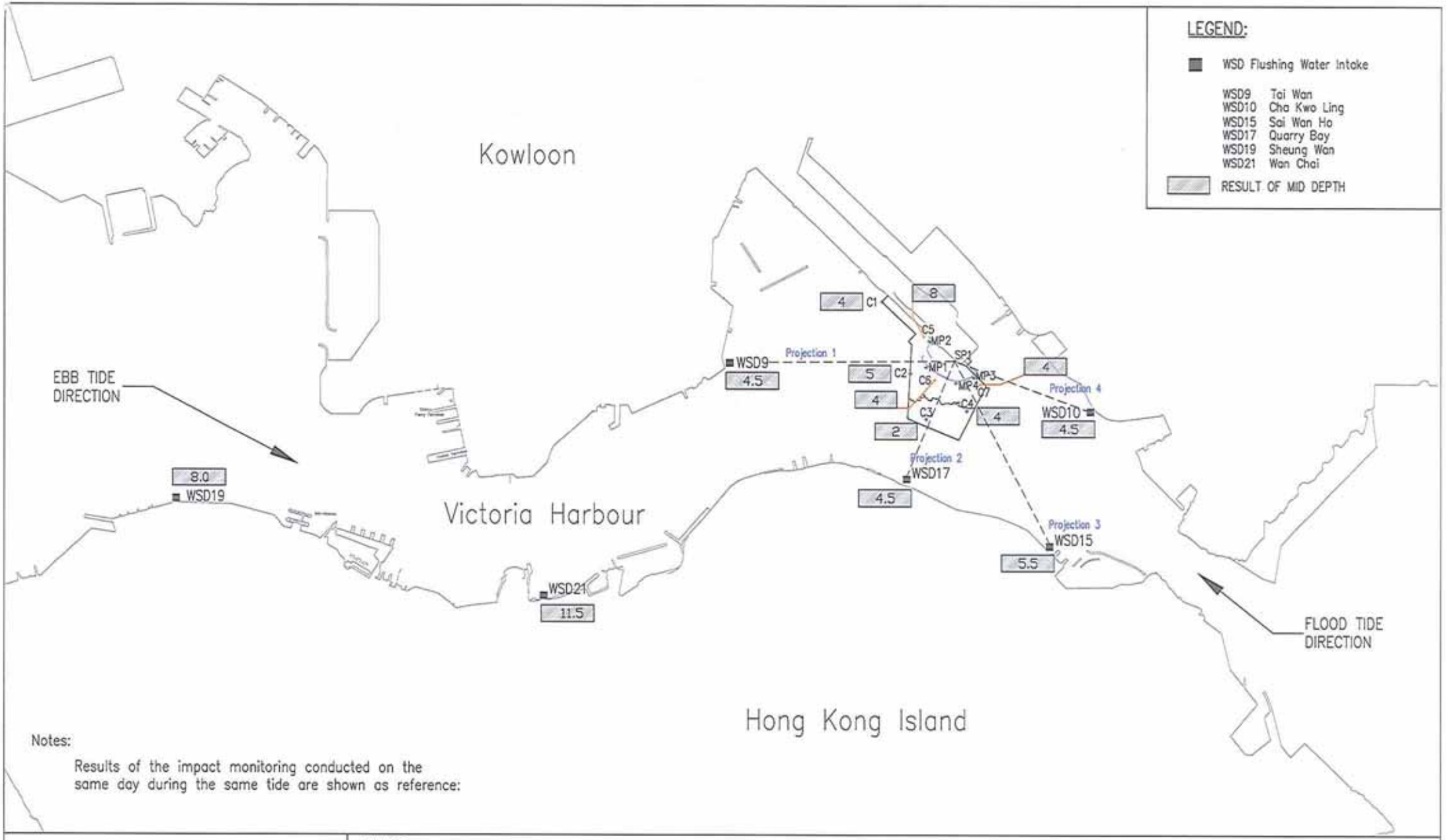
Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (28 FEB 2011 Flood) – Page 1

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0489



Notes:

Results of the impact monitoring conducted on the same day during the same tide are shown as reference:

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

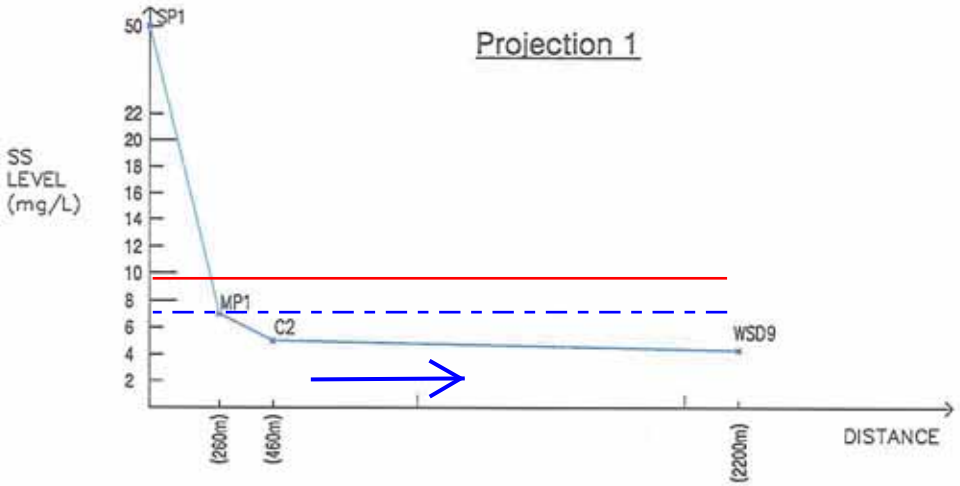
TITLE
WATER QUALITY SURVEILLANCE SYSTEM – (28 FEB 2011 FLOOD) – Page 2

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0490

Legend

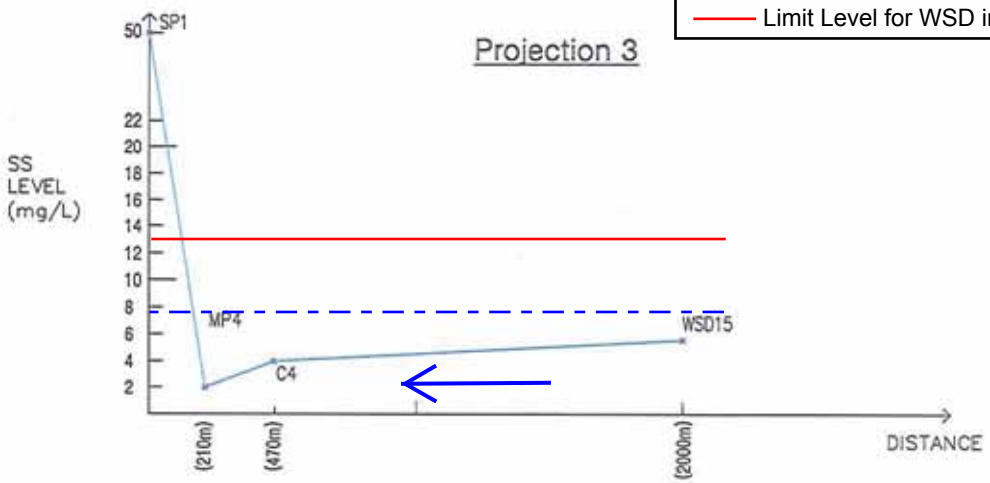
- Tidal Direction
- Action Level for WSD intake
- Limit Level for WSD intake

Projection 1



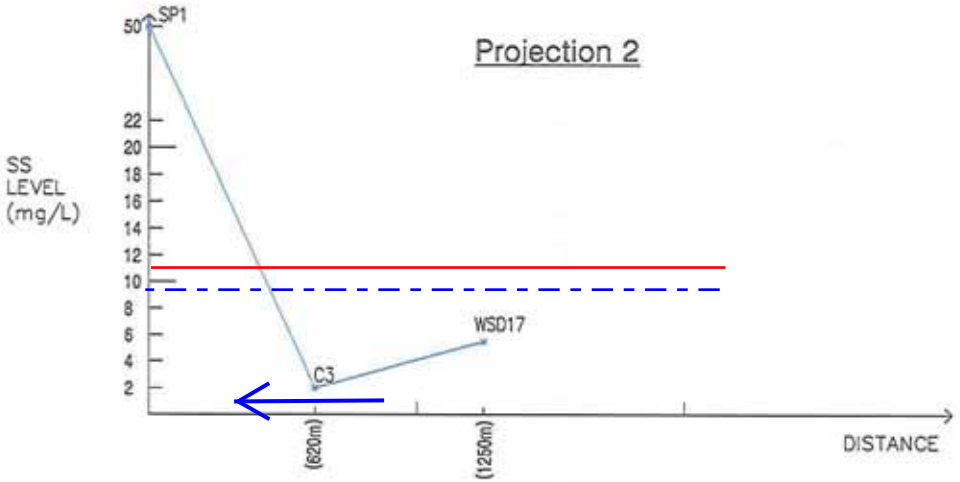
Description: SP1 had a relative higher SS concentration while WSD9 was located at downstream which had similar SS level with MP1 and Control Point - C2

Projection 3



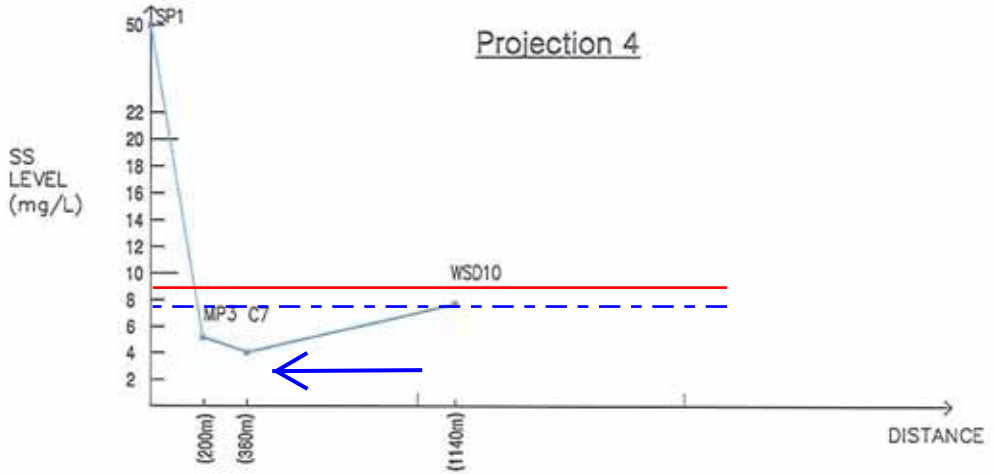
Description: WSD15 was located at upstream which had similar SS level with MP4 and Control Point - C4.

Projection 2



Description: WSD17 was located at upstream which had higher SS level than Control Point - C3.

Projection 4



Description: WSD10 was located at upstream which had higher SS level than MP3 and Control Point - C3.

PENTA-OCEAN CONSTRUCTION CO., LTD. 五洋建設

PROJECT
KL/2009/01 Site Formation for Kai Tak Cruise Terminal Development

TITLE
GRAPHICAL PRESENTATION OF THE WATER QUALITY SURVEILLANCE SYSTEM MONITORING RESULTS AT MID DEPTH – (28 FEB 2011 FLOOD)

DATE	PREPARED BY
11-Mar-11	PY
SCALE	SKETCH No.
NOT TO SCALE	SK-0491

Appendix 5.1

Event and Action Plan

Event and Action Plan for Construction Noise

EVENT	ACTION			
	ET	IC(E)	ER	CONTRACTOR
Action Level	1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.

Event and Action Plan for Marine Water Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. (The above actions should be taken within 1 working day after the exceedance is identified) 7. Repeat measurement on next day of exceedance.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified)	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented. 3. (The above actions should be taken within 1 working day after the exceedance is identified)	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Review the working methods and consider additional measures such as use of frame-type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER; 6. Implement the agreed mitigation measures. 7. (The above actions should be taken within 1 working day after the exceedance is identified)
Action level being exceeded by more than one consecutive sampling days	1. Identify source(s) of impact; 2. Inform IEC and Contractor; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss mitigation measures with IEC and Contractor;	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness	1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	5. Ensure mitigation measures are implemented; 6. Prepare to increase the monitoring frequency to daily; 7. (The above actions should be taken within 1 working day after the exceedance is identified) 8. Repeat measurement on next working day of exceedance.	accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified)	of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified)	equipment; 4. Review the working methods and consider additional measures such as use of frame-type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures. 7. (The above actions should be taken within 1 working day after the exceedance is identified)

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level. 8. (The above actions should be taken within 1 working day after the exceedance is identified)	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified)	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures. 5. (The above actions should be taken within 1 working day after the exceedance is identified)	1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Review the working methods and consider additional measures such as use of frame-type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works; 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures. 7. (The above actions should be taken within 1 working day after the exceedance is identified)

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit level being exceeded by more than one consecutive sampling days	1. Identify source(s) of impact; 2. Inform IEC, Contractor and EPD; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss mitigation measures with IEC, ER and Contractor; 5. Ensure mitigation measures are implemented; 6. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. 7. (The above actions should be taken within 1 working day after the exceedance is identified)	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified)	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level. 6. (The above actions should be taken within 1 working day after the exceedance is identified)	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Review the working methods and consider additional measures such as use of frame-type silt curtain, deployment of double silt curtains, slowing down, or rescheduling of works; 5. Discuss with ET , IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures; 7. As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities. 8. (The above actions should be taken within 1 working day after the exceedance is identified)

Appendix 5.2

Graphic Presentation of SS Results against to Tidal Movement along Victoria Harbour

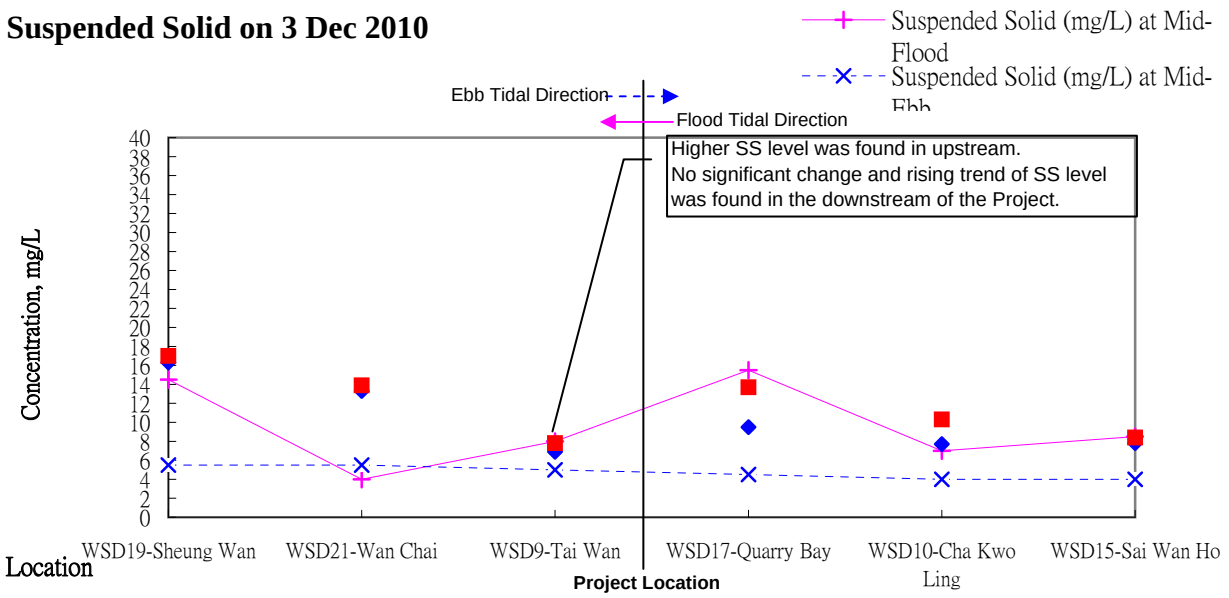
Contract no. KL/2009/01
Site Formation for Kai Tak Cruise Terminal Development

Summary of Recorded Exceedances in Reporting Quarter

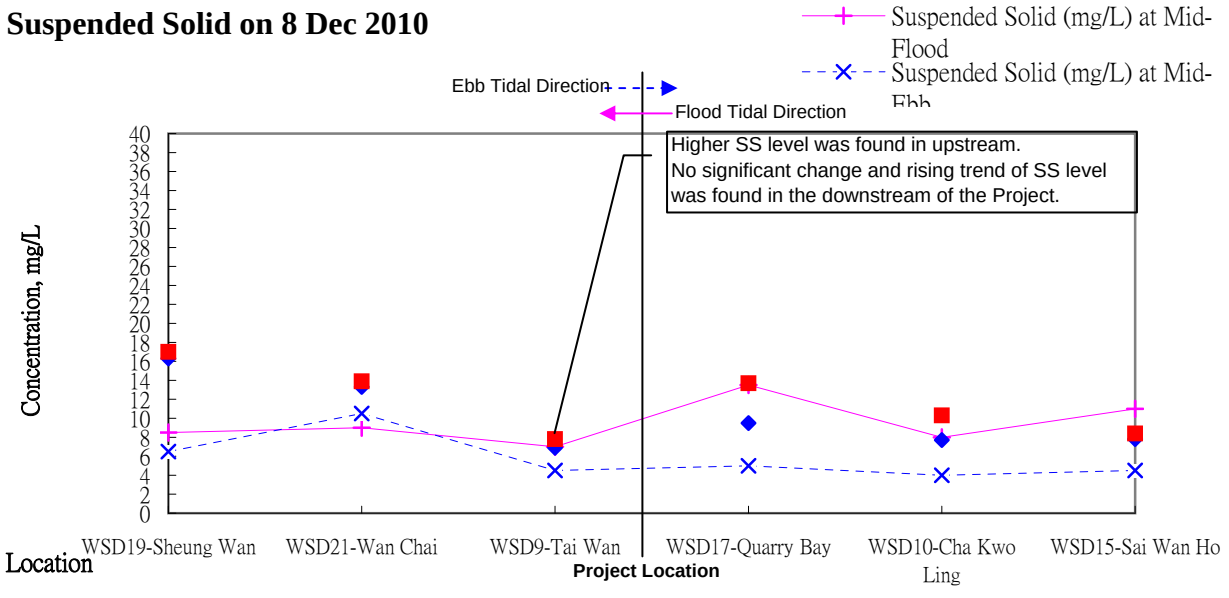
Date	Tide	Station	Parameter	Exceedance	Value (mg/L)	Possible Cause of Exceedance	SS value (mg/L) in the nearest upstream station
1/12/2010	Mid-flood	WSD15	SS (mg/L)	LL	9.5	Upstream of the Project	N/A
3/12/2010	Mid-flood	WSD9	SS (mg/L)	LL	8	Natural variation or change around station	WSD10: 8.5 and WSD17: 15.5
3/12/2010	Mid-flood	WSD15	SS (mg/L)	LL	8.5	Upstream of the Project	N/A
3/12/2010	Mid-flood	WSD17	SS (mg/L)	LL	15.5	Upstream of the Project	N/A
8/12/2010	Mid-flood	WSD9	SS (mg/L)	AL	7	Natural variation or change around station	WSD10: 8.0 and WSD17: 13.5
8/12/2010	Mid-flood	WSD10	SS (mg/L)	AL	8	Upstream of the Project	N/A
8/12/2010	Mid-flood	WSD15	SS (mg/L)	AL	11	Upstream of the Project	N/A
8/12/2010	Mid-flood	WSD17	SS (mg/L)	AL	13.5	Upstream of the Project	N/A
11/12/2010	Mid-flood	WSD17	SS (mg/L)	AL	10	Upstream of the Project	N/A
13/12/2010	Mid-flood	WSD15	SS (mg/L)	LL	9.5	Upstream of the Project	N/A
13/12/2010	Mid-flood	WSD17	SS (mg/L)	LL	12	Upstream of the Project	N/A
16/12/2010	Mid-ebb	WSD10	SS (mg/L)	LL	10.5	Natural variation or change around station	WSD9: 5.0
16/12/2010	Mid-ebb	WSD15	SS (mg/L)	AL	8	Natural variation or change around station	WSD9: 5.0 and WSD17: 3.5
20/12/2010	Mid-ebb	WSD9	SS (mg/L)	AL	7	Upstream of the Project	N/A
25/12/2010	Mid-flood	WSD9	SS (mg/L)	LL	10	Natural variation or change around station	WSD10: 4.0 and WSD17: 4.5
25/12/2010	Mid-ebb	WSD9	SS (mg/L)	AL	7.5	Upstream of the Project	N/A
28/12/2010	Mid-flood	WSD17	SS (mg/L)	AL	12.5	Upstream of the Project	N/A
30/12/2010	Mid-flood	WSD17	SS (mg/L)	AL	10	Upstream of the Project	N/A
8/1/2011	Mid-flood	WSD9	SS (mg/L)	AL	7	Natural variation or change around station	WSD10: 4.0 and WSD17: 4.5
8/1/2011	Mid-flood	WSD10	SS (mg/L)	AL	8	Upstream of the Project	N/A
8/1/2011	Mid-ebb	WSD19	SS (mg/L)	AL	16.5	Upstream of the Project	N/A
17/1/2011	Mid-ebb	WSD15	SS (mg/L)	LL	8.5	Natural variation or change around station	WSD9: 2.5 and WSD17: 6.5
22/1/2011	Mid-flood	WSD15	SS (mg/L)	LL	8.5	Upstream of the Project	N/A
31/1/2011	Mid-ebb	WSD15	SS (mg/L)	LL	14	Natural variation or change around station	WSD9: 4.0 and WSD17: 6.0
7/2/2011	Mid-flood	WSD15	SS (mg/L)	AL	8	Upstream of the Project	N/A
7/2/2011	Mid-ebb	WSD15	SS (mg/L)	AL	8	Natural variation or change around station	WSD9: 4.5 and WSD17: 6.5
9/2/2011	Mid-flood	WSD15	SS (mg/L)	AL	8	Upstream of the Project	N/A
14/2/2011	Mid-ebb	WSD17	SS (mg/L)	AL	11	Natural variation or change around station	WSD9: 4.0
16/2/2011	Mid-flood	WSD15	SS (mg/L)	LL	11.5	Upstream of the Project	N/A
21/2/2011	Mid-flood	WSD10	SS (mg/L)	LL	11	Upstream of the Project	N/A
21/2/2011	Mid-ebb	WSD10	SS (mg/L)	LL	11	Natural variation or change around station	WSD9: 3.0
25/2/2011	Mid-flood	WSD10	SS (mg/L)	AL	9	Upstream of the Project	N/A
28/2/2011	Mid-ebb	WSD9	SS (mg/L)	LL	8	Upstream of the Project	N/A

Graphic Presentation of SS Results Against the Tidal Movement along Victoria Harbour

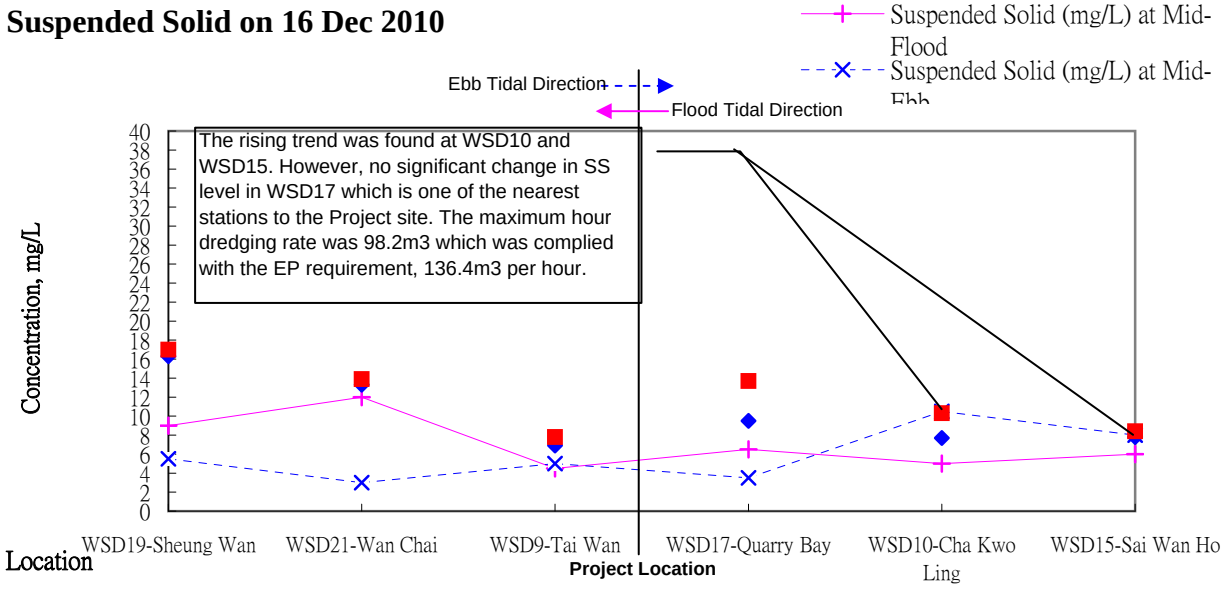
Suspended Solid on 3 Dec 2010



Suspended Solid on 8 Dec 2010

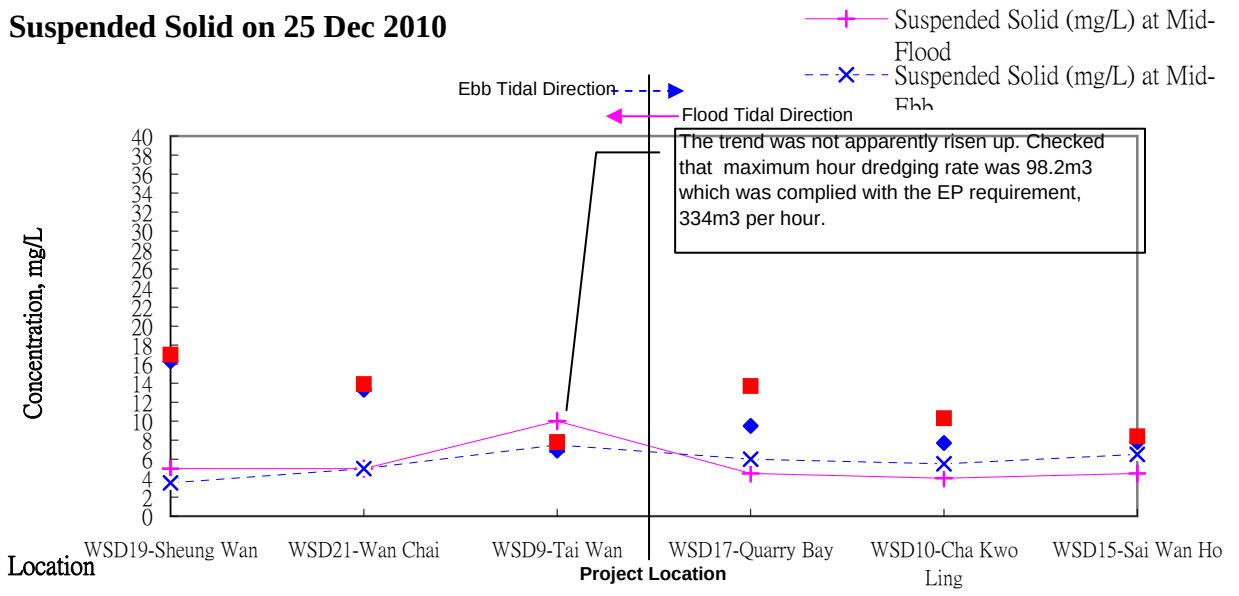


Suspended Solid on 16 Dec 2010

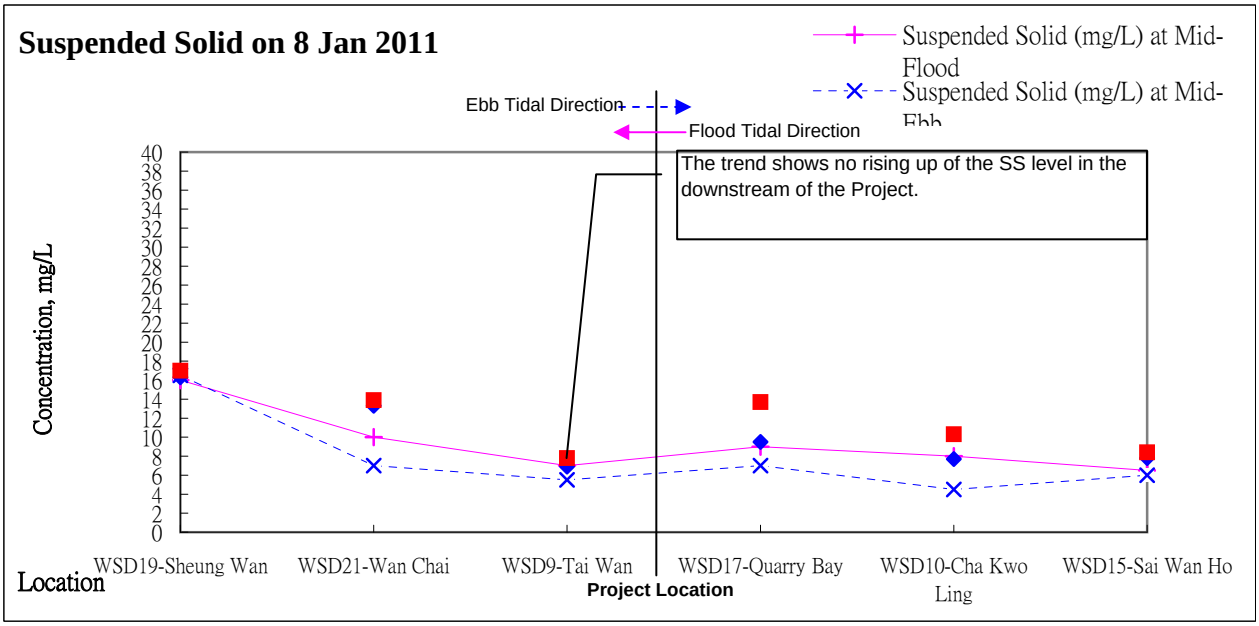


Graphic Presentation of SS Results Against the Tidal Movement along Victoria Harbour

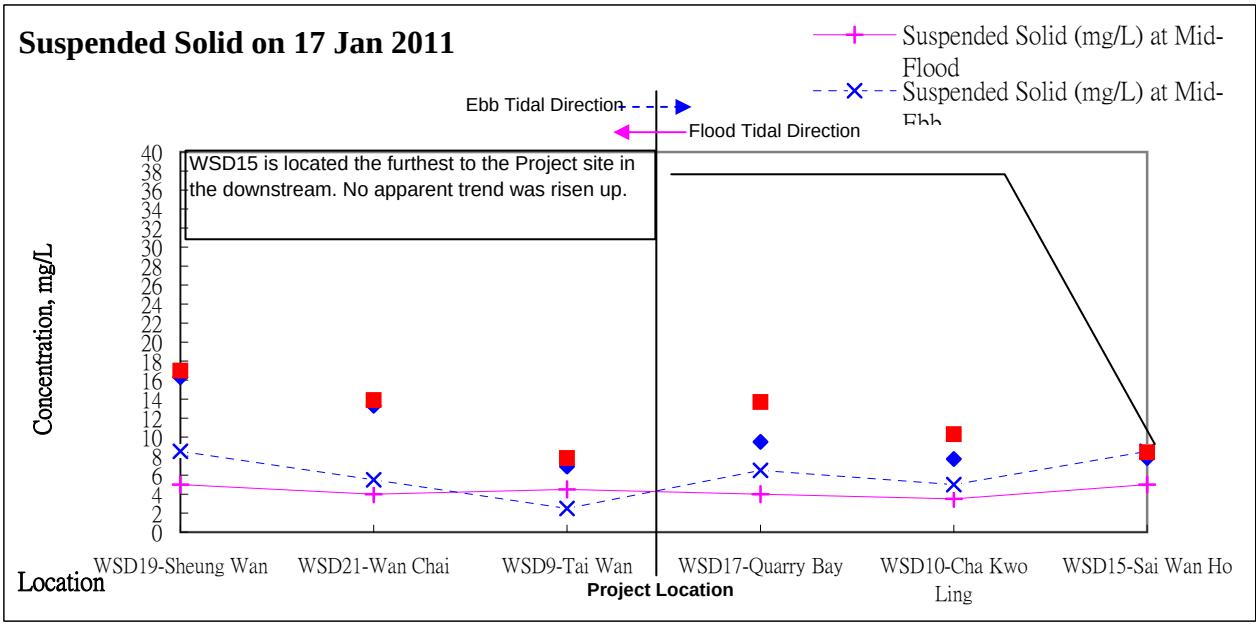
Suspended Solid on 25 Dec 2010



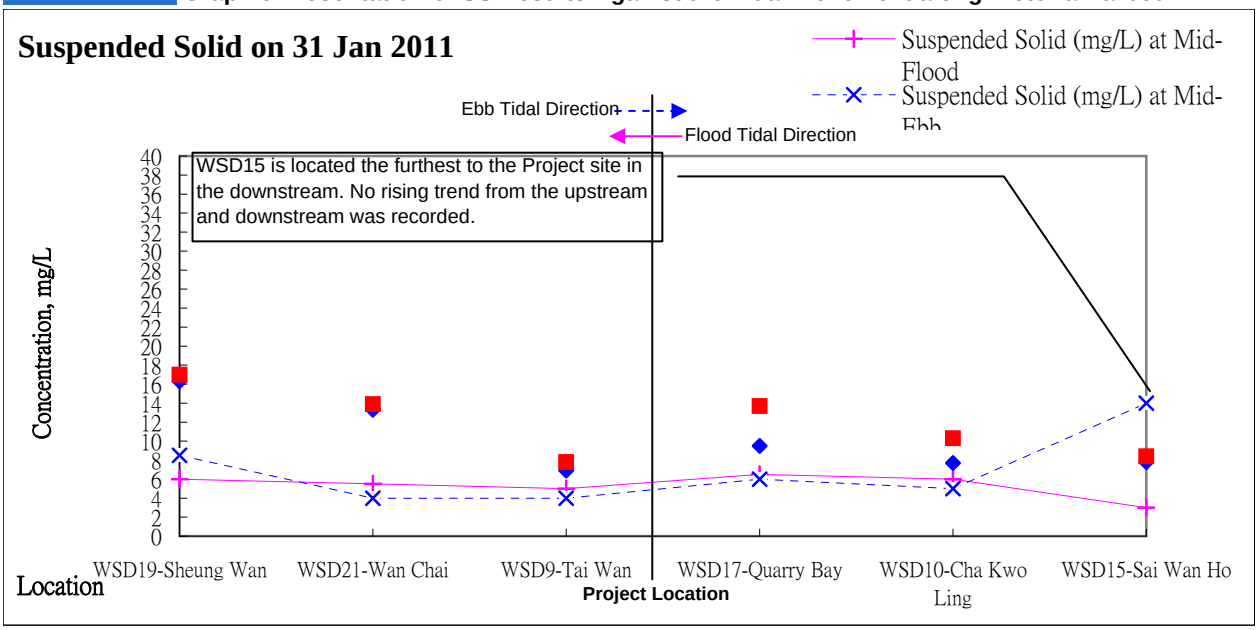
Suspended Solid on 8 Jan 2011

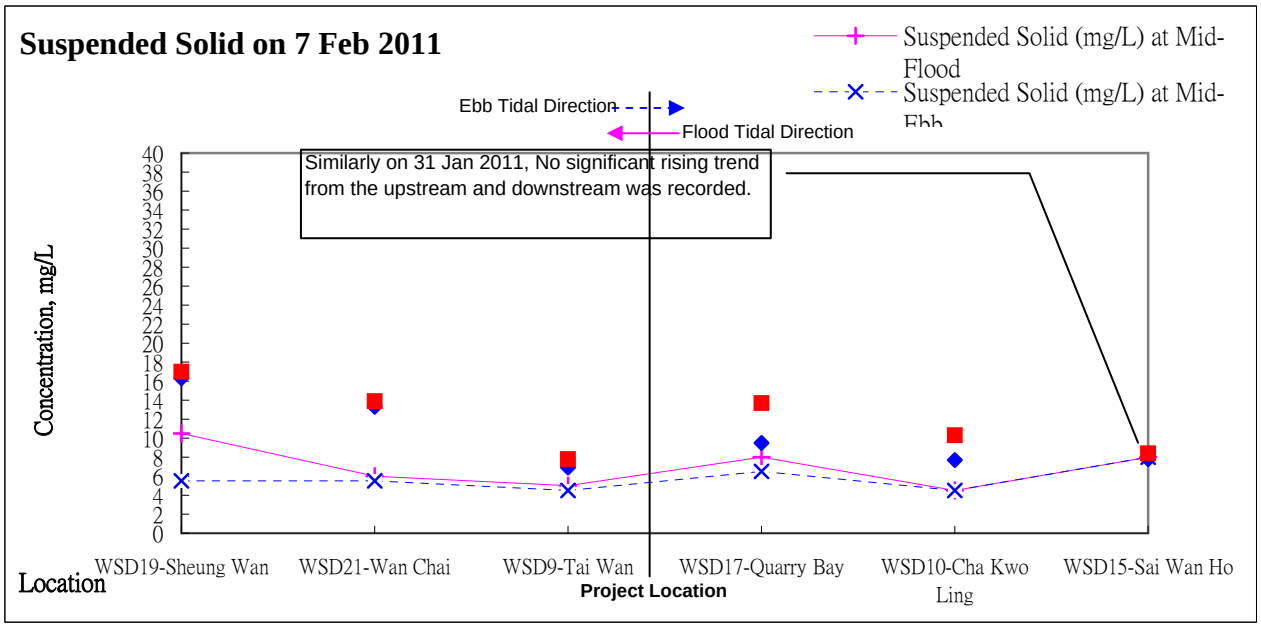


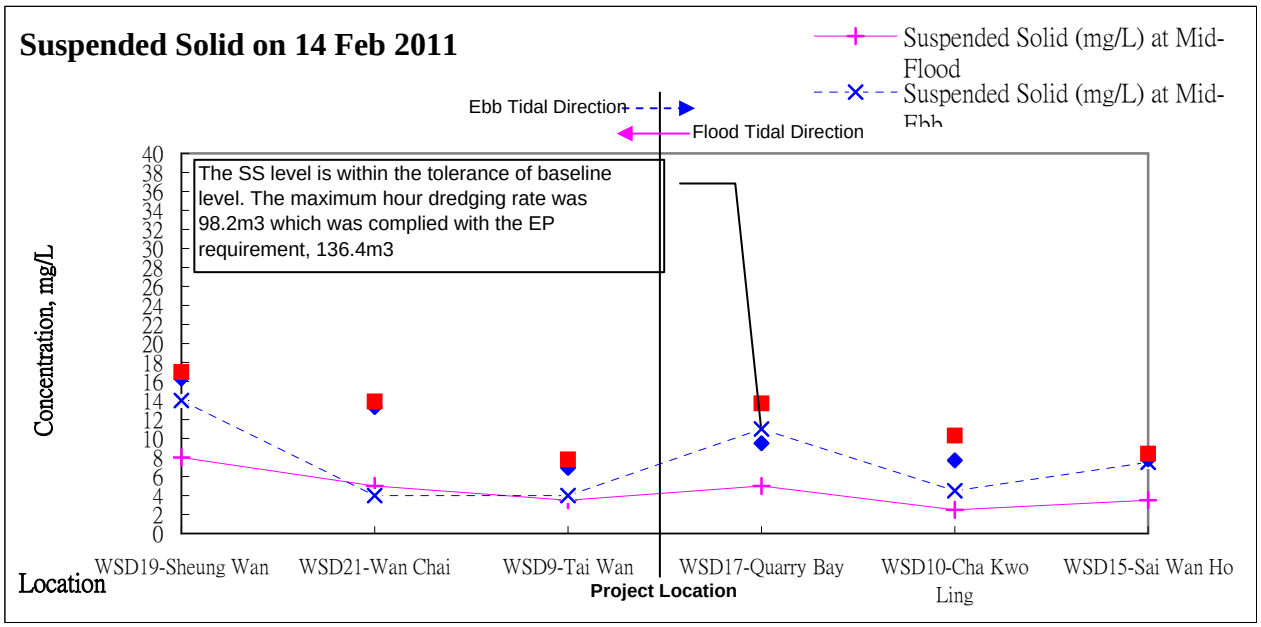
Suspended Solid on 17 Jan 2011



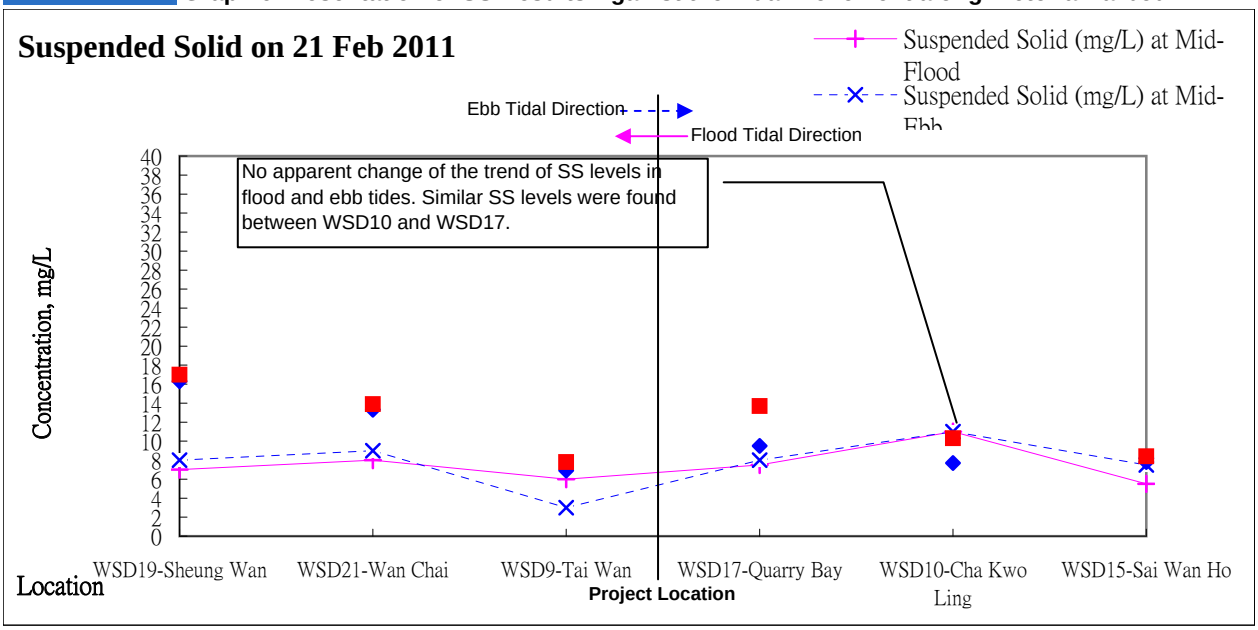
Graphic Presentation of SS Results Against the Tidal Movement along Victoria Harbour







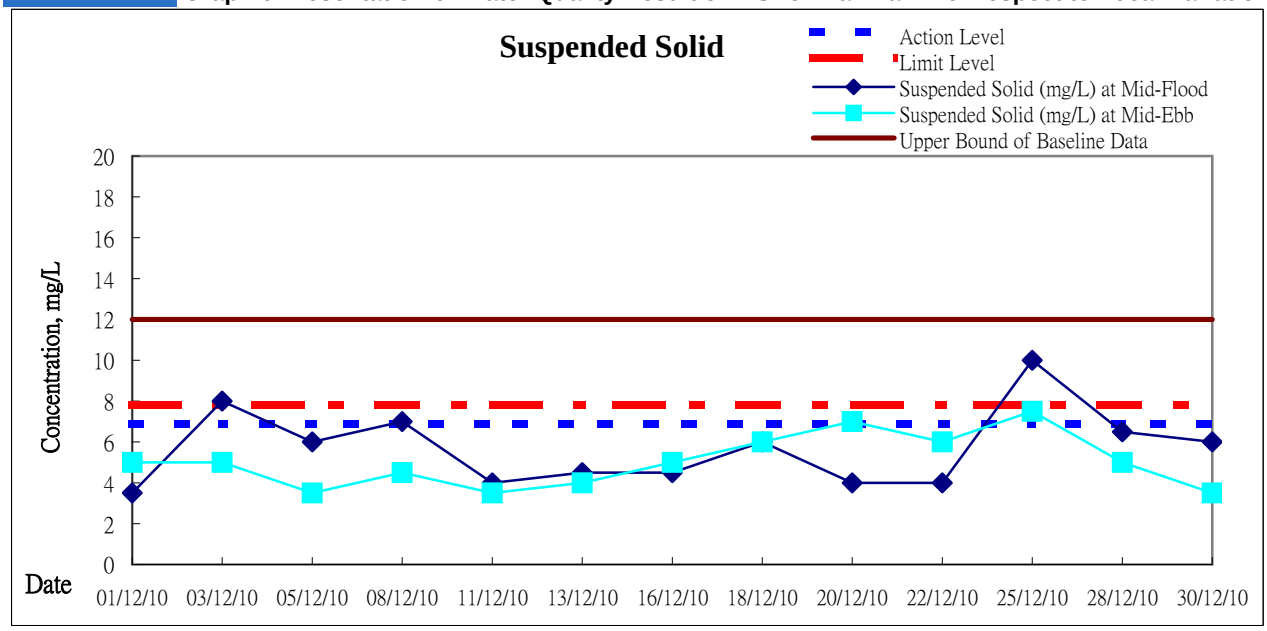
Graphic Presentation of SS Results Against the Tidal Movement along Victoria Harbour

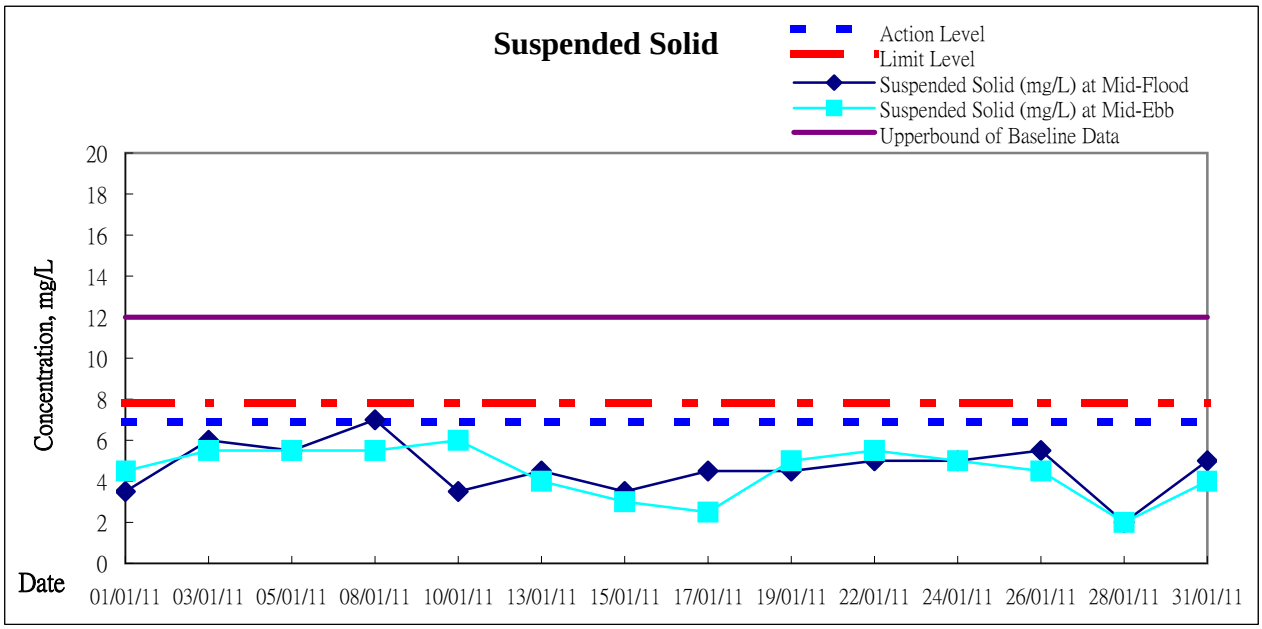


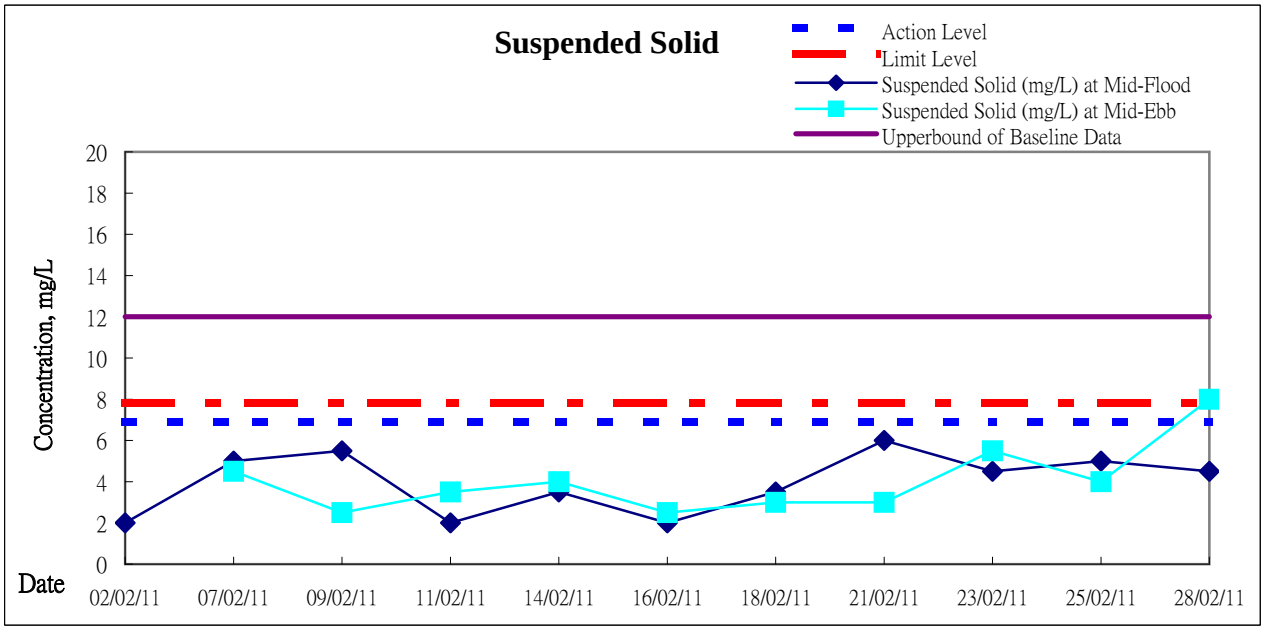
Appendix 5.3

Graphic Presentation of Water Quality Result with respect to Local Variation

Graphic Presentation of Water Quality Result of WSD9 - Tai Wan with respect to Local Variation

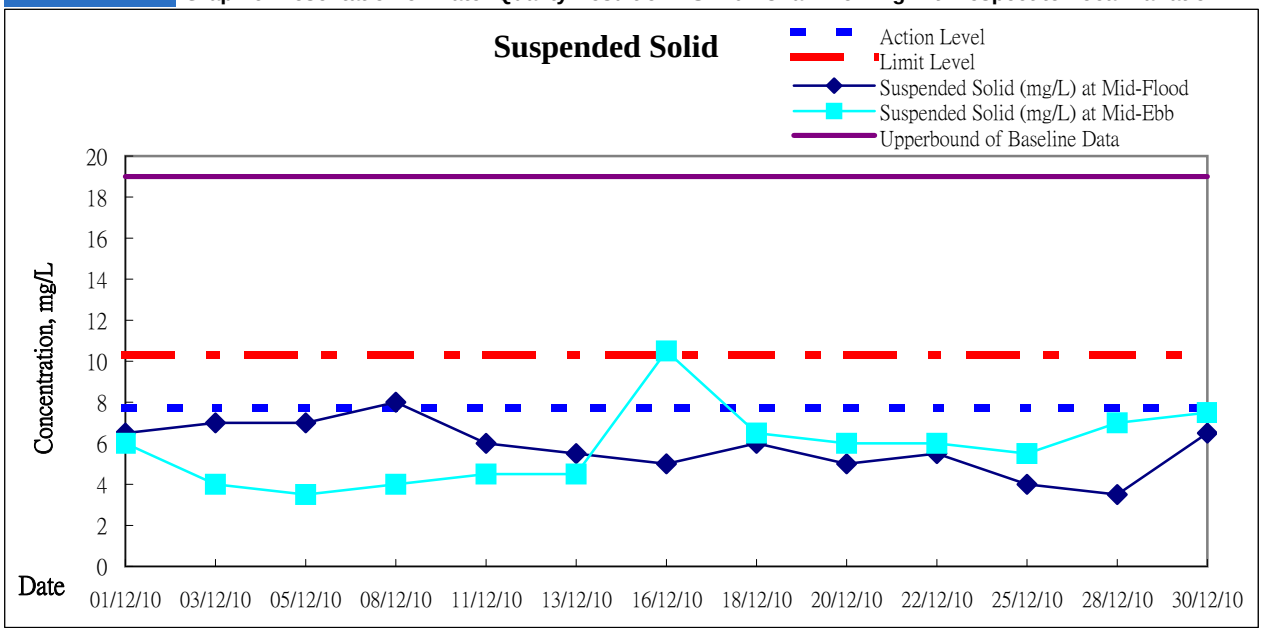


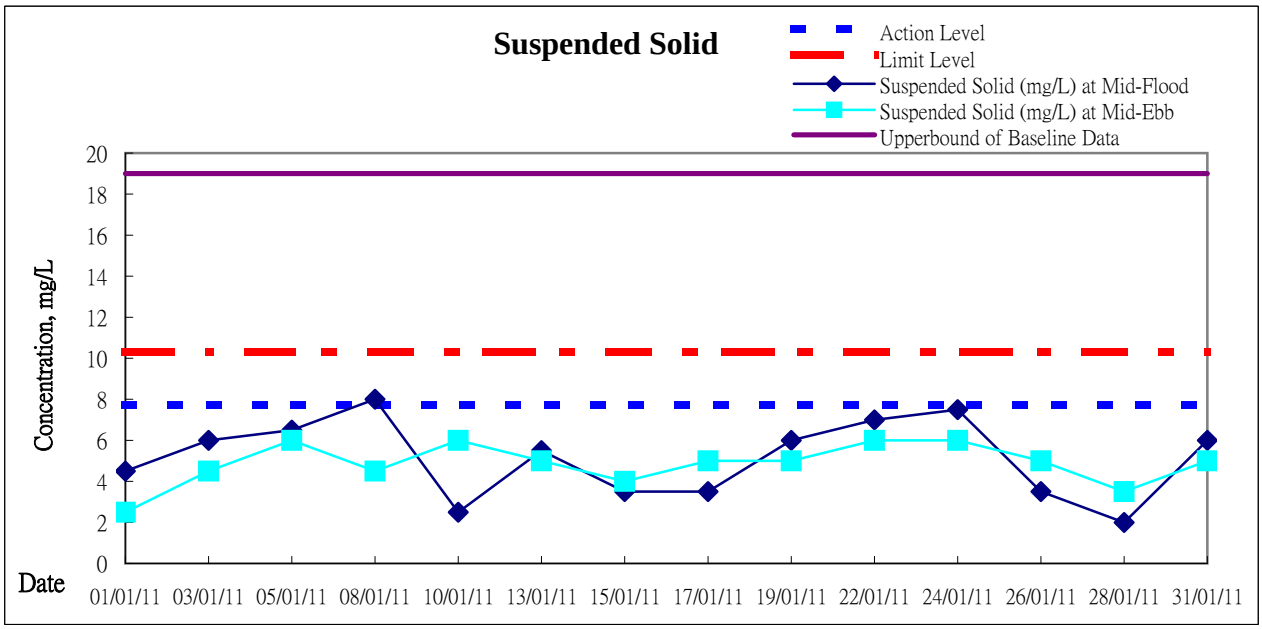


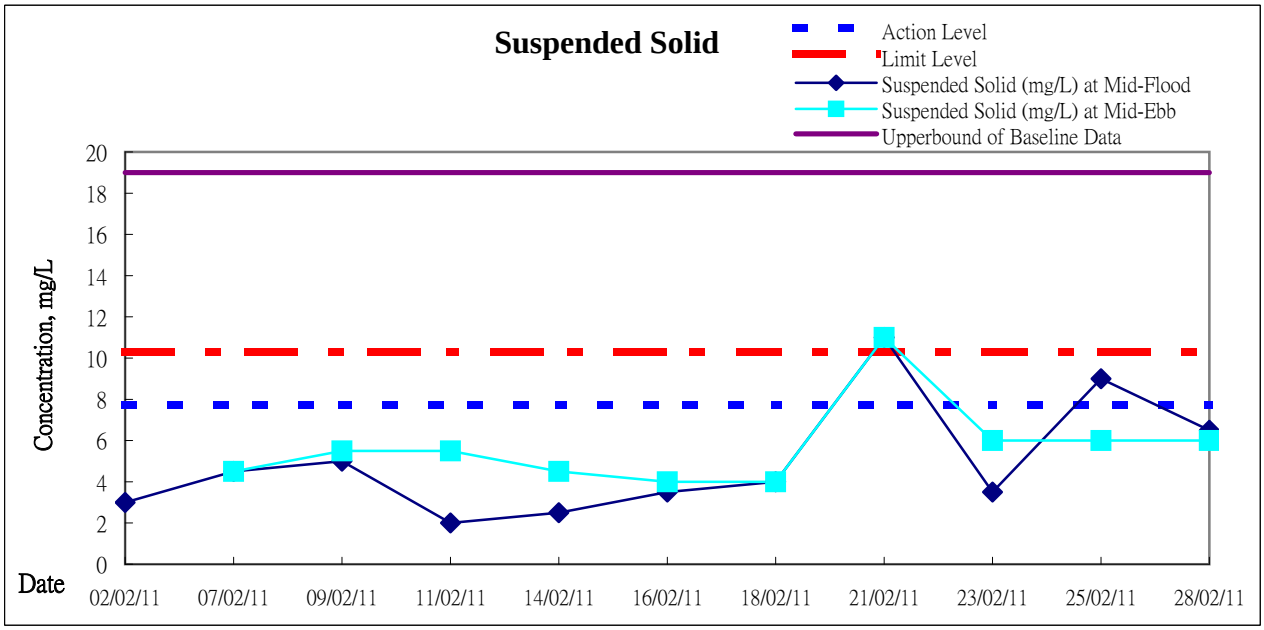


Remarks: WSD9 is located at upstream during the ebb tides while at downstream during flood tides.

Graphic Presentation of Water Quality Result of WSD10 - Cha Kwo Ling with respect to Local Variation

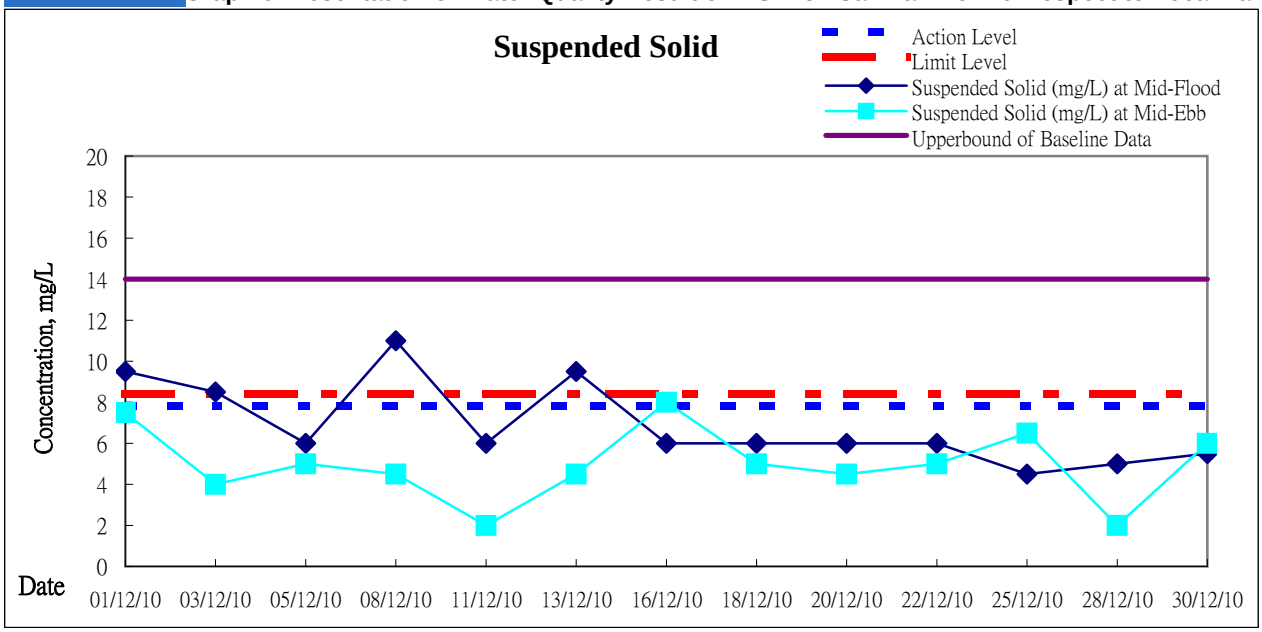


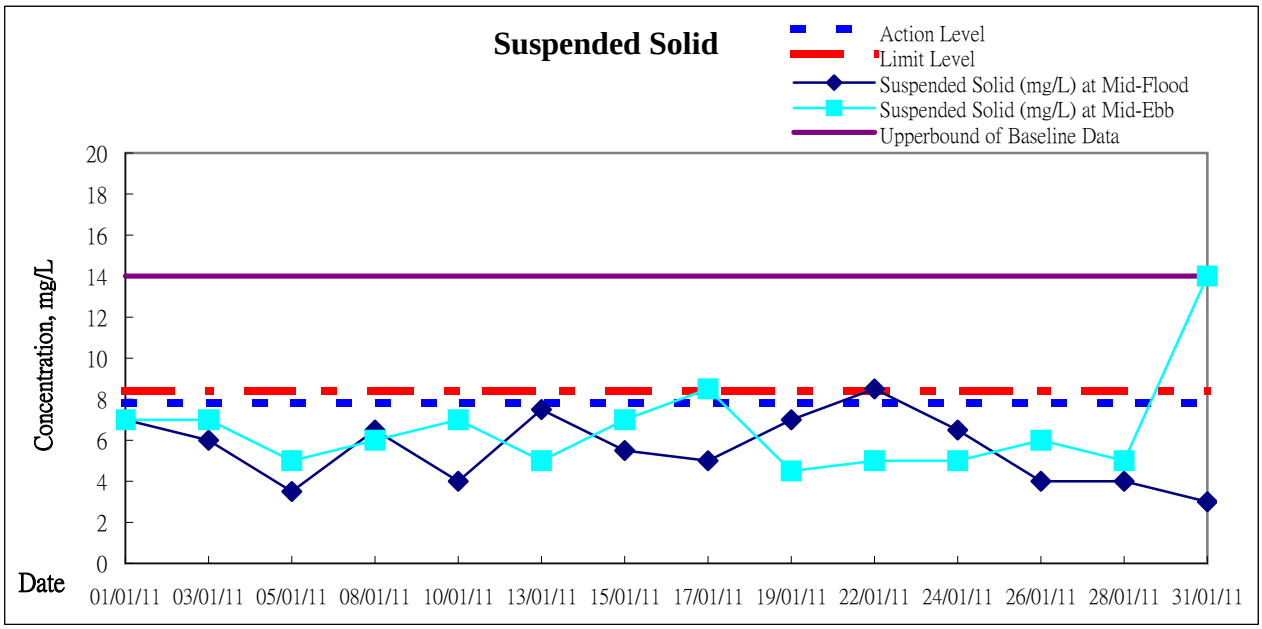


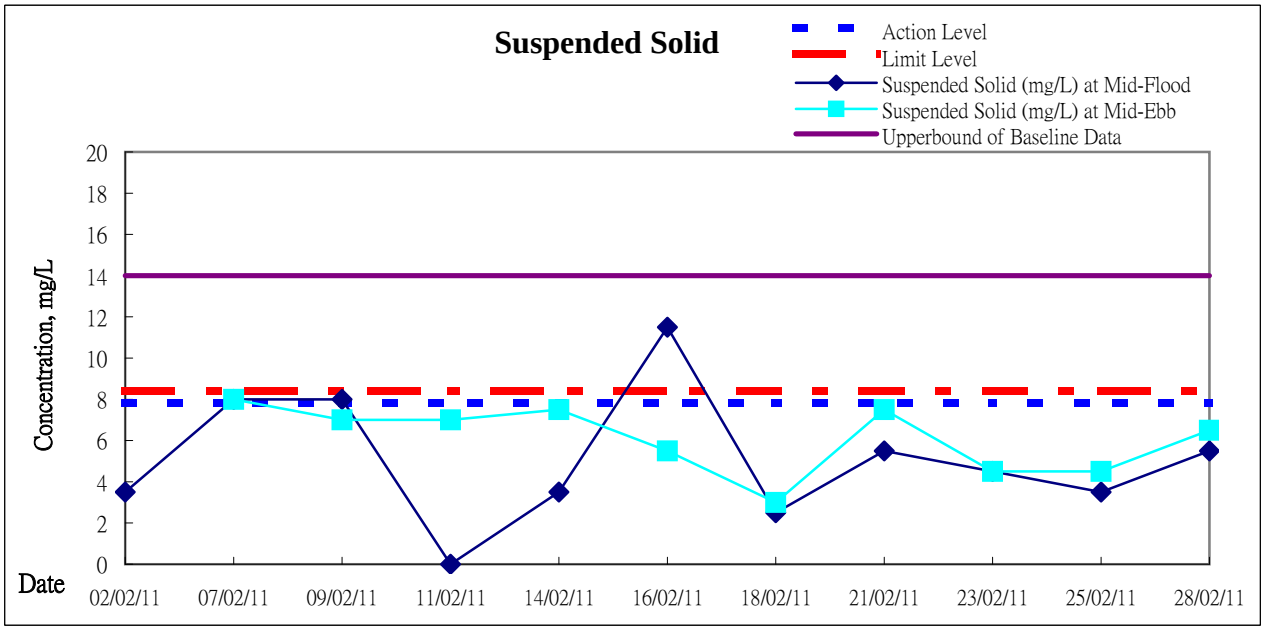


Remarks: WSD10 is located at upstream during the flood tides while at downstream during ebb tides.

Graphic Presentation of Water Quality Result of WSD15 - Sai Wan Ho with respect to Local Variatic

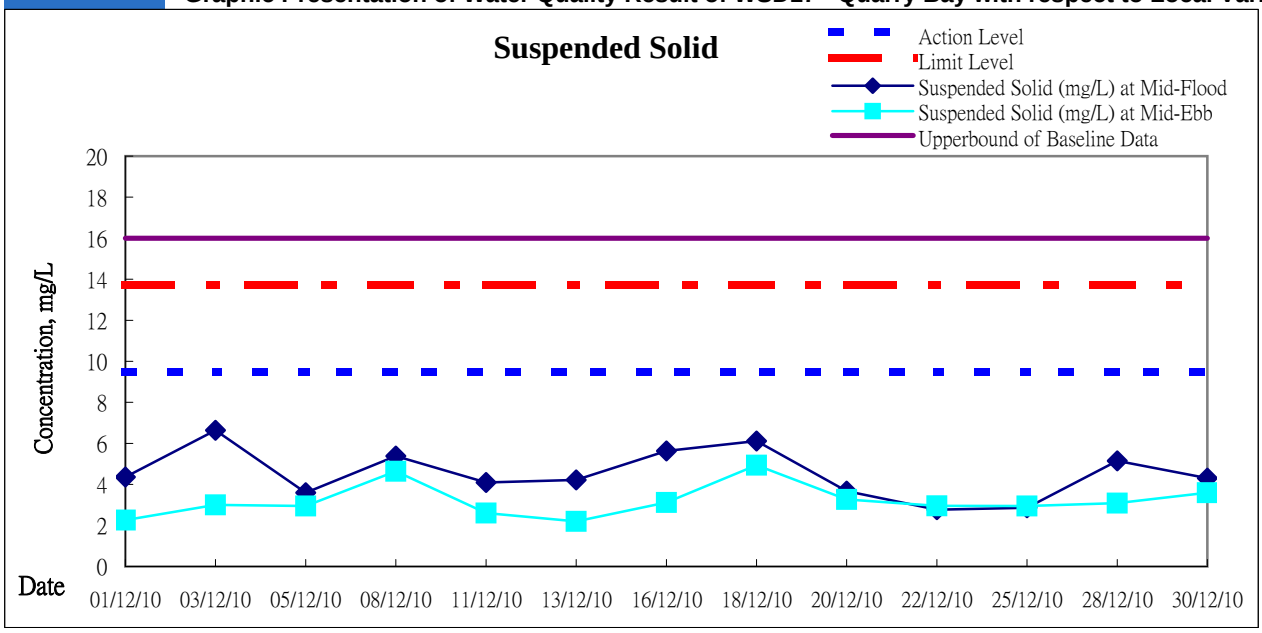


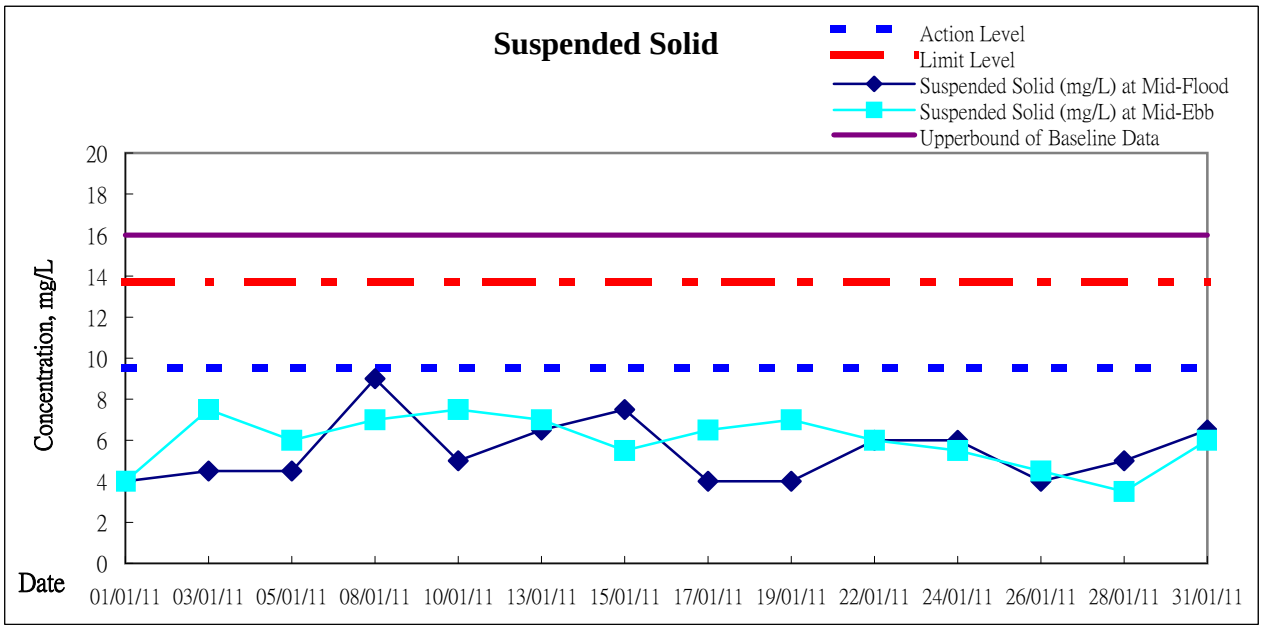


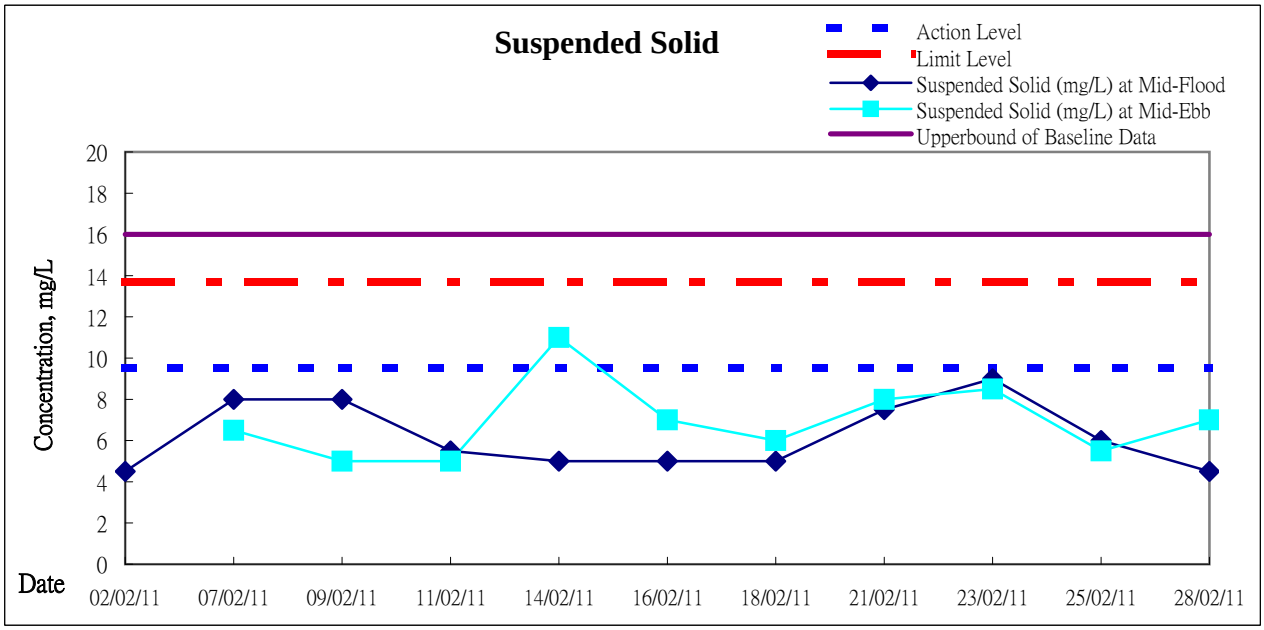


Remarks: WSD15 is located at upstream during the flood tides while at downstream during ebb tides.

Graphic Presentation of Water Quality Result of WSD17 - Quarry Bay with respect to Local Variatio

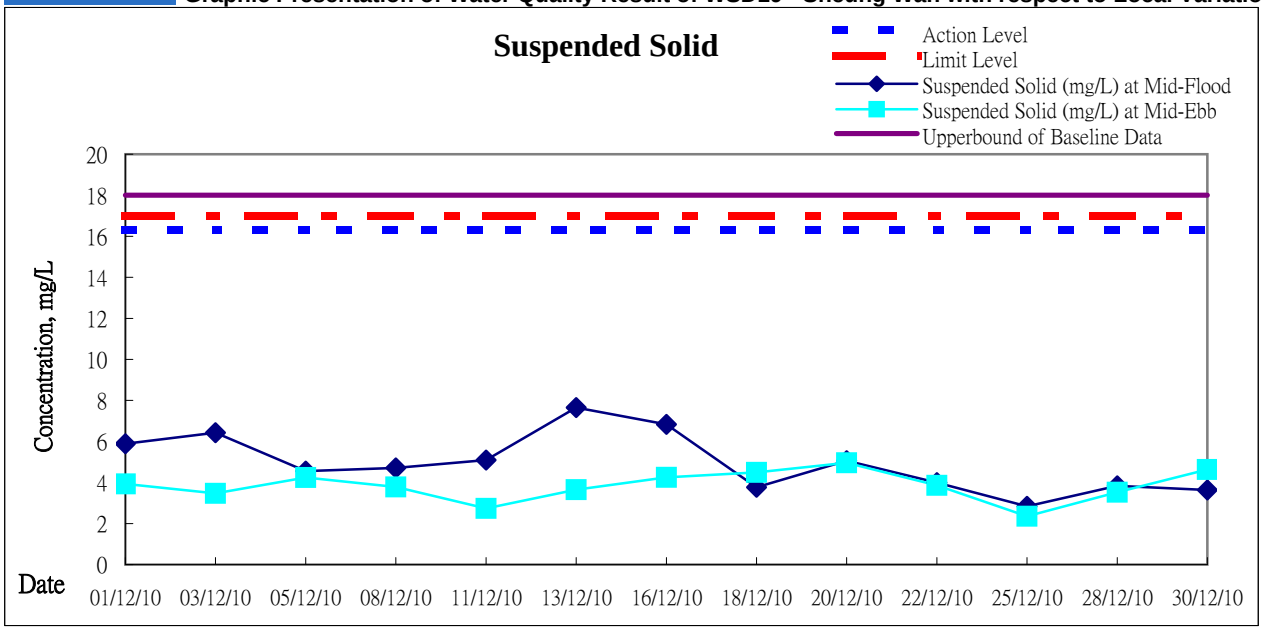


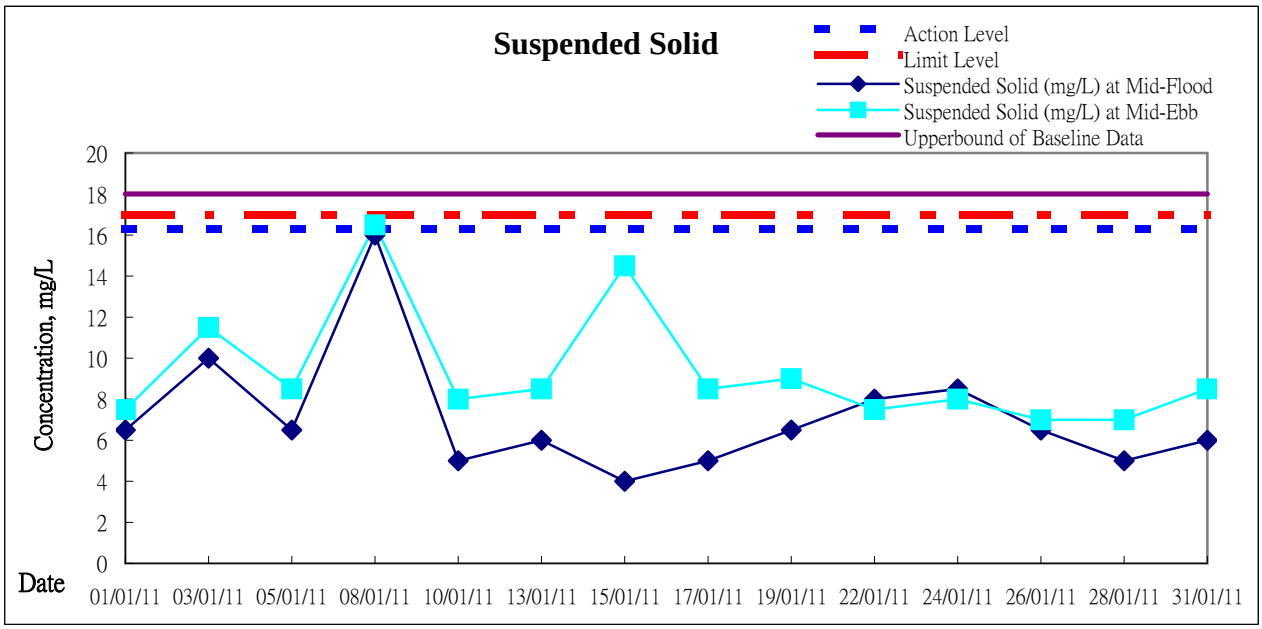


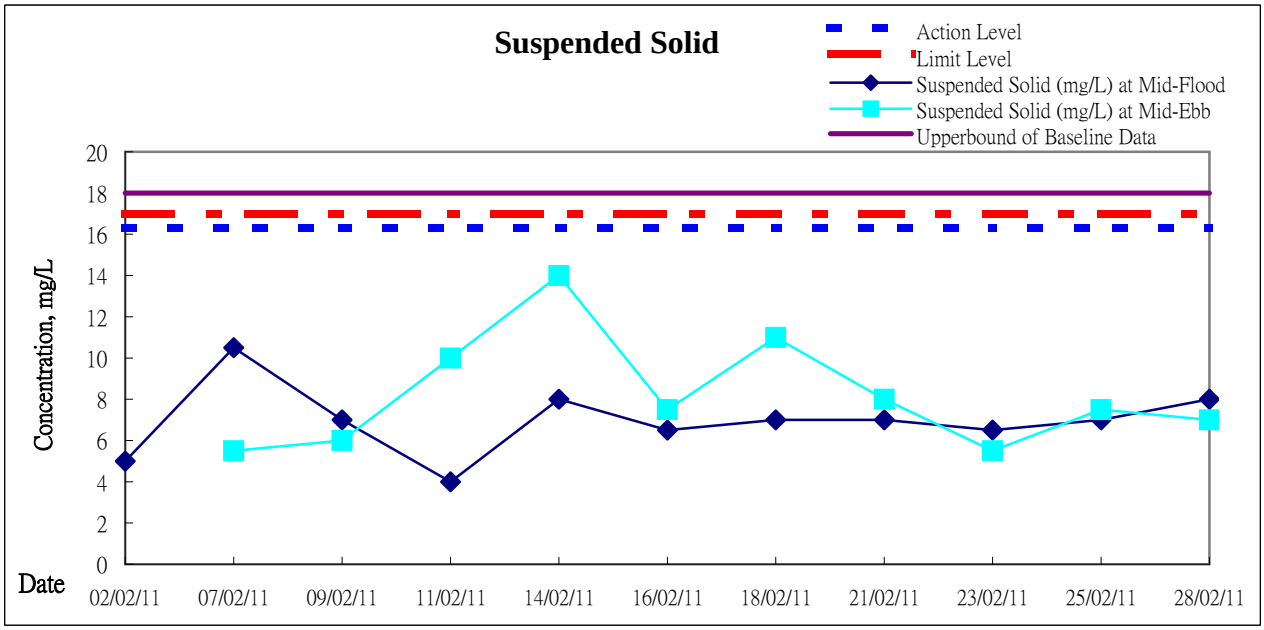


Remarks: WSD17 is located at upstream during the flood tides while at downstream during ebb tides.

Graphic Presentation of Water Quality Result of WSD19 - Sheung Wan with respect to Local Variation

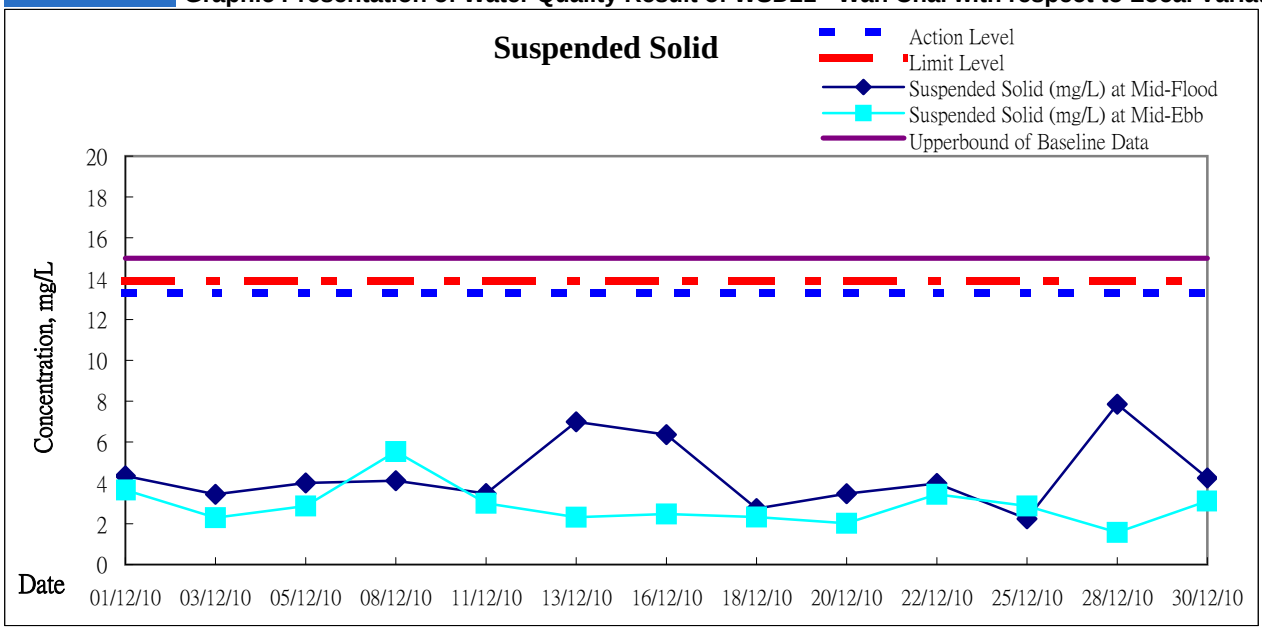


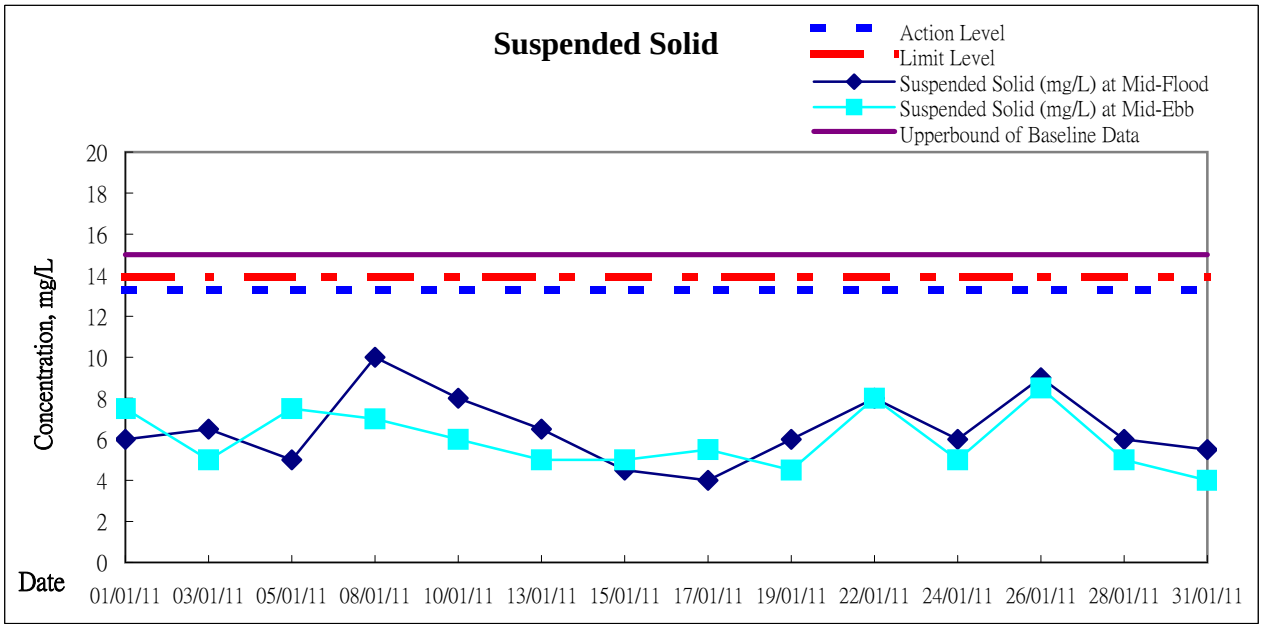


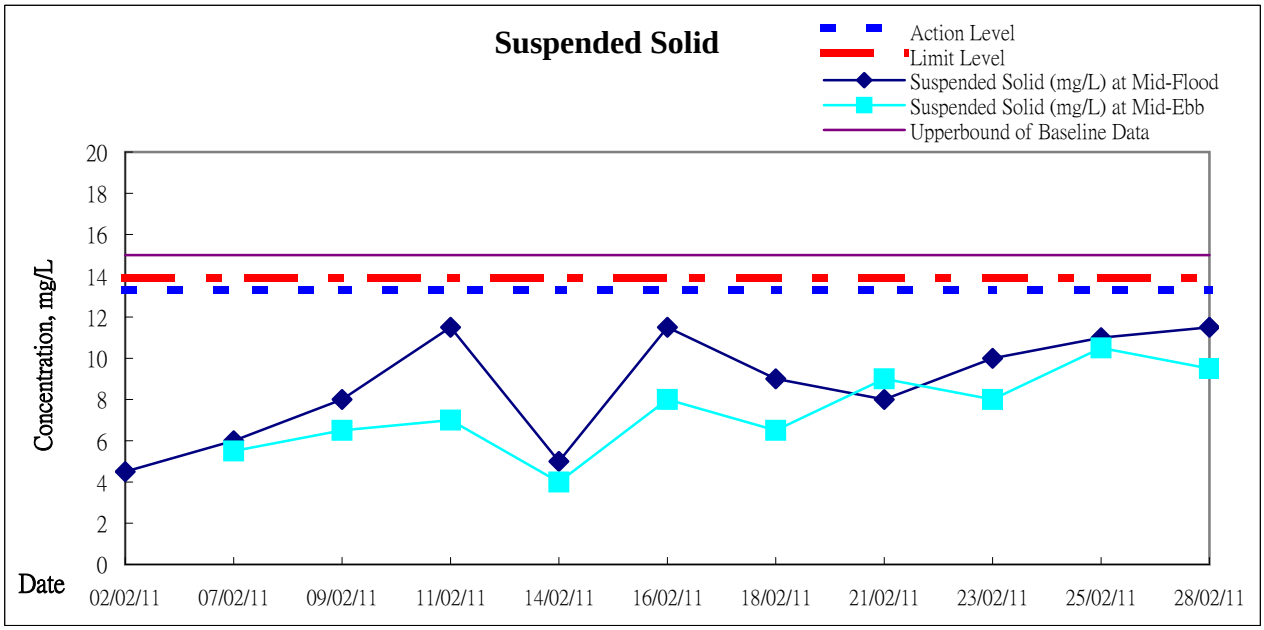


Remarks: WSD19 is located at upstream during the ebb tides while at downstream during flood tides.

Graphic Presentation of Water Quality Result of WSD21 - Wan Chai with respect to Local Variation





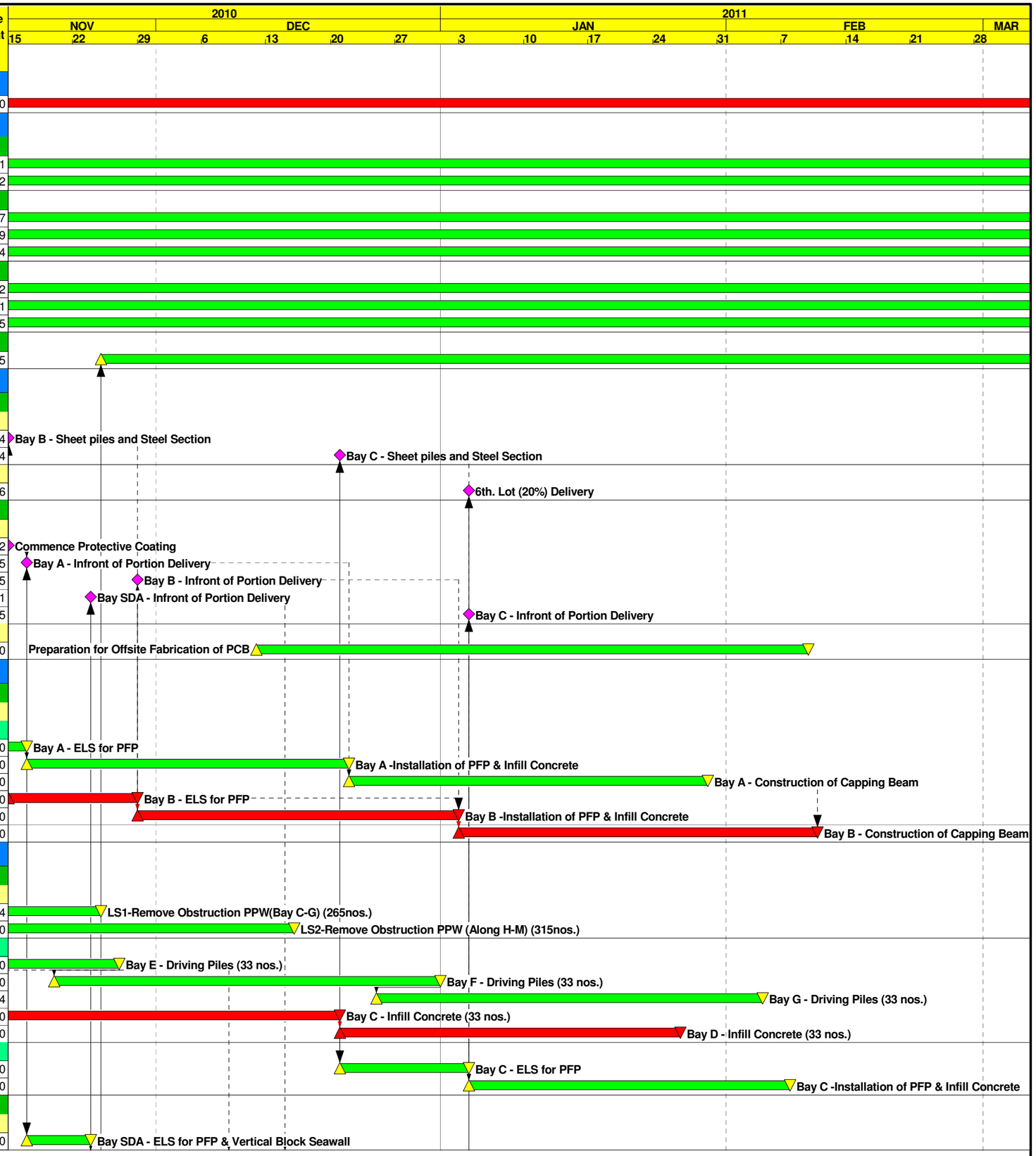


Remarks: WSD21 is located at upstream during the ebb tides while at downstream during flood tides.

Appendix 7.1

Construction Programme

Activity ID	Activity Description	Orig Dur	Early Start	Late Start	Early Finish	Late Finish	Total Float	Free Float
Site Formation KT Cruise Terminal Development								
Contract Period								
PD1100	Contract Period	1,486	30/11/09*	30/11/09*	24/12/13	24/12/13	0	0
Preliminaries & General Requirements								
Temporary Accommodation								
TA1060	Servicing of Temp Accommodation for the Engineer	1,406	28/01/10	18/02/10	03/12/13	24/12/13	21	21
TA1070	Maintenance of Traffic Flow	1,344	28/02/10	21/04/10	02/11/13	24/12/13	52	52
Environmental and Site Safety Monitoring								
ES1050	Monthly Update of SSP & EMP	1,422	07/12/09	02/02/10	28/10/13	24/12/13	57	57
ES1110	Impact Monitoring for Water Quality	1,380	05/02/10	16/03/10	15/11/13	24/12/13	39	39
ES1125	Maintenance of Silt Screen at WSD Intakes	1,380	31/01/10	16/03/10	10/11/13	24/12/13	44	44
Mobilization & Site Clearance								
MP1020	Routine Site Cleanliness and Tidiness	1,484	30/11/09	02/12/09	22/12/13	24/12/13	2	2
MP1060	Disposal of Surplus C&D Material	695	10/03/10	30/01/12	02/02/12	24/12/13	691	691
MP1070	Primary Sorting of C&D Material	1,200	26/03/10	12/09/10	07/07/13	24/12/13	170	85
Sorting of C&D Material								
SM1000	Bay SDA - Sorting and Mixing C&D Material	295	25/11/10	27/03/11	15/09/11	15/01/12	122	35
Preparatory Works								
Procurement of Material								
Procurement of Material for Temporary Work								
PW.1.1010	Bay B - Sheet piles and Steel Section	0	15/11/10	29/11/10			14	14
PW.1.1015	Bay C - Sheet piles and Steel Section	0	21/12/10	28/03/11			97	14
Procurement of Material for Permanent Work								
PW.1.2080	6th. Lot (20%) Delivery	0	04/01/11	25/12/13			1,086	1,086
Production of Precast Units								
Precast Front Panel (PFP) along PipePile Wall								
PW.2.1010	Commence Protective Coating	0	15/11/10	03/01/11			49	2
PW.2.1020	Bay A - Infront of Portion Delivery	0	17/11/10	03/01/11			47	35
PW.2.1030	Bay B - Infront of Portion Delivery	0	29/11/10	03/01/11			35	35
PW.2.1050	Bay SDA - Infront of Portion Delivery	0	24/11/10	11/03/11			107	21
PW.2.1060	Bay C - Infront of Portion Delivery	0	04/01/11	02/05/11			118	35
Precast Concrete Block (PCB) for Seawall								
PW.3.1000	Preparation for Offsite Fabrication of PCB	60	12/12/10	02/03/12	09/02/11	30/04/12	446	0
Section 1 - Portion MQ1								
Portion MQ1 (Bays A - B)								
Piling Work								
Installation of PFP (Precast Front Panels)								
SW.1.2400	Bay A - ELS for PFP	14	03/11/10	15/11/10	16/11/10	28/11/10	12	0
SW.1.2410	Bay A -Installation of PFP & Infill Concrete	35	17/11/10	29/11/10	21/12/10	02/01/11	12	0
SW.1.2420	Bay A - Construction of Capping Beam	39	22/12/10	03/01/11	29/01/11	10/02/11	12	0
SW.1.2430	Bay B - ELS for PFP	14	15/11/10	15/11/10	28/11/10	28/11/10	0	0
SW.1.2440	Bay B -Installation of PFP & Infill Concrete	35	29/11/10	29/11/10	02/01/11	02/01/11	0	0
SW.1.2460	Bay B - Construction of Capping Beam	39	03/01/11	03/01/11	10/02/11	10/02/11	0	0
Section 2 - Portions MQ2, LS1, LS2, SDA & DZA								
Portion MQ2 (Bays C - G), LS1 & LS2								
Piling Work (Bays C - G, LS1 & LS2)								
SW.2.1020	LS1-Remove Obstruction PPW(Bay C-G) (265nos.)	126	22/07/10	02/09/10	24/11/10	05/01/11	42	24
SW.2.1030	LS2-Remove Obstruction PPW (Along H-M) (315nos.)	147	22/07/10	20/11/10	15/12/10	15/04/11	121	0
Pipe Pile for Quay Structure								
SW.2.1240	Bay E - Driving Piles (33 nos.)	42	16/10/10	04/01/11	26/11/10	14/02/11	80	0
SW.2.1250	Bay F - Driving Piles (33 nos.)	42	20/11/10	08/02/11	31/12/10	21/03/11	80	0
SW.2.1260	Bay G - Driving Piles (33 nos.)	42	25/12/10	15/03/11	04/02/11	25/04/11	80	54
SW.2.1290	Bay C - Infill Concrete (33 nos.)	67	15/10/10*	15/10/10	20/12/10	20/12/10	0	0
SW.2.1300	Bay D - Infill Concrete (33 nos.)	37	21/12/10	21/12/10	26/01/11	26/01/11	0	0
Precast Front Panels (PFP) & Capping Beam								
SW.2.1500	Bay C - ELS for PFP	14	21/12/10	14/03/11	03/01/11	27/03/11	83	0
SW.2.1505	Bay C -Installation of PFP & Infill Concrete	35	04/01/11	28/03/11	07/02/11	01/05/11	83	0
Portion SDA (Bay SDA)								
Precast Front Panel (PFP) & Temp. Piling Bracing								
SW.21.2000	Bay SDA - ELS for PFP & Vertical Block Seawall	7	17/11/10	11/02/11	23/11/10	17/02/11	86	0



Early Bar
Progress Bar
Critical Activity

?Primavera Systems, Inc.

KTWP

Sheet 1 of 2

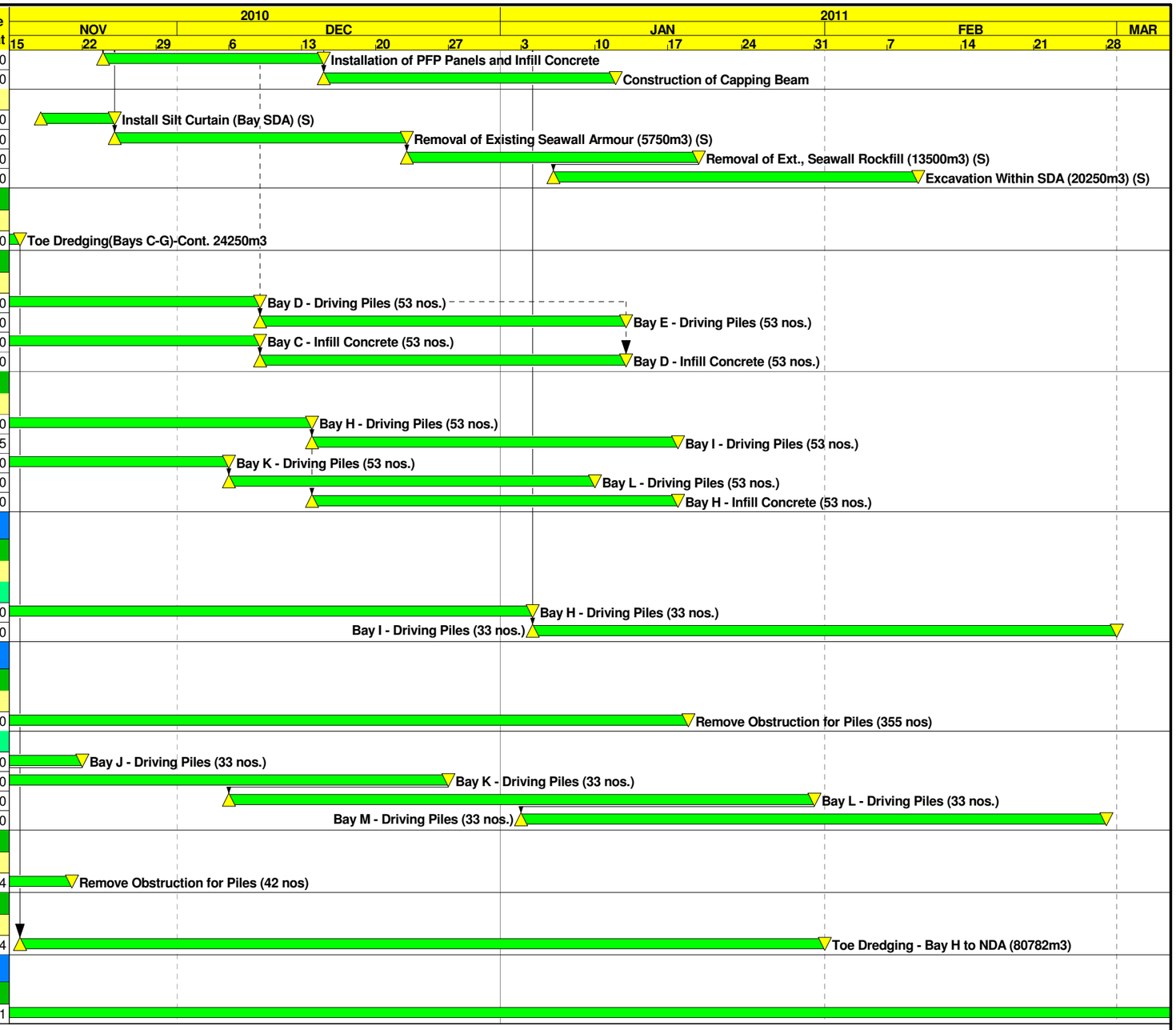
Penta-Ocean Construction Co., Ltd.

CEDD Contract No. KL/2009/01
Site Formation for Kai Tak Cruise Terminal Development
Three Months Rolling Programme (Nov 2010- jan 2011)

Start Date	30/11/09
Finish Date	24/12/13
Data Date	30/11/09
Run Date	23/11/10 08:17

Date	Revision	Checked	Approved
11/11/10	I	TM	WT

Activity ID	Activity Description	Orig Dur	Early Start	Late Start	Early Finish	Late Finish	Total Float	Free Float
SW.21.2010	Installation of PFP Panels and Infill Concrete	21	24/11/10	18/02/11	14/12/10	10/03/11	86	0
SW.21.2020	Construction of Capping Beam	28	15/12/10	11/03/11	11/01/11	07/04/11	86	0
Dredging Work & Removal of Existing Seawall								
SW.21.2900	Install Silt Curtain (Bay SDA) (S)	7	18/11/10	20/03/11	24/11/10	26/03/11	122	0
SW.21.3000	Removal of Existing Seawall Armour (5750m3) (S)	28	25/11/10	27/03/11	22/12/10	23/04/11	122	0
SW.21.3010	Removal of Ext., Seawall Rockfill (13500m3) (S)	28	23/12/10	26/03/12	19/01/11	22/04/12	459	0
SW.21.3020	Excavation Within SDA (20250m3) (S)	35	06/01/11	09/04/12	09/02/11	13/05/12	459	0
Portion DZA								
Dredging Work								
SW.22.1080	Toe Dredging(Bays C-G)-Cont. 24250m3	73	04/09/10	18/01/11	15/11/10	31/03/11	136	0
Portion LS1								
Pipe Pile Wall								
SW.23.520	Bay D - Driving Piles (53 nos.)	35	04/11/10	27/12/10	08/12/10	30/01/11	53	0
SW.23.525	Bay E - Driving Piles (53 nos.)	35	09/12/10	31/01/11	12/01/11	06/03/11	53	0
SW.23.565	Bay C - Infill Concrete (53 nos.)	35	04/11/10	22/11/10	08/12/10	26/12/10	18	0
SW.23.575	Bay D - Infill Concrete (53 nos.)	35	09/12/10	27/12/10	12/01/11	30/01/11	18	0
Portion LS2								
Pipe Pile Wall								
SW.24.500	Bay H - Driving Piles (53 nos.)	35	09/11/10	30/07/11	13/12/10	02/09/11	263	0
SW.24.505	Bay I - Driving Piles (53 nos.)	35	14/12/10	08/10/11	17/01/11	11/11/11	298	35
SW.24.515	Bay K - Driving Piles (53 nos.)	35	01/11/10	18/07/11	05/12/10	21/08/11	259	0
SW.24.520	Bay L - Driving Piles (53 nos.)	35	06/12/10	26/08/11	09/01/11	29/09/11	263	0
SW.24.530	Bay H - Infill Concrete (53 nos.)	35	14/12/10	03/09/11	17/01/11	07/10/11	263	0
Section 3 - Portion MQ3								
Portion MQ3 (Bays H - I)								
Piling Work								
Pipe Pile for Quay Structure								
SW.3.1500	Bay H - Driving Piles (33 nos.)	56	09/11/10	10/03/11	03/01/11	04/05/11	121	0
SW.3.1505	Bay I - Driving Piles (33 nos.)	56	04/01/11	11/08/11	28/02/11	05/10/11	219	0
Section 4 - Portions MQ4, LS3, NDA & DZB								
Portion MQ4 (Bays J - M) & LS3								
Piling Work (Bays J-M & LS3)								
SW.4.1010	Remove Obstruction for Piles (355 nos)	180	23/07/10	20/12/10	18/01/11	17/06/11	150	0
Pipe Pile for Quay Structure								
SW.4.1200	Bay J - Driving Piles (33 nos.)	56	27/09/10	24/02/11	21/11/10	20/04/11	150	0
SW.4.1205	Bay K - Driving Piles (33 nos.)	56	01/11/10	27/06/11	26/12/10	21/08/11	238	0
SW.4.1210	Bay L - Driving Piles (33 nos.)	56	06/12/10	05/08/11	30/01/11	29/09/11	242	0
SW.4.1215	Bay M - Driving Piles (33 nos.)	56	03/01/11	12/09/11	27/02/11	06/11/11	252	0
Portion NDA (Bay NDA)								
Piling Work (Bay NDA)								
SW.41.1010	Remove Obstruction for Piles (42 nos)	21	31/10/10	19/01/12	20/11/10	08/02/12	445	64
Portion DZB								
Dredging Work								
SW.42.1020	Toe Dredging - Bay H to NDA (80782m3)	77	16/11/10	31/10/11	31/01/11	15/01/12	349	304
Section 5 - Portion CA3, CA5B & WA1A								
Transplanting and Tree Preservation								
LS1030	Preservation & Protection of Existing Trees	1,300	03/05/10	04/05/10	22/11/13	23/11/13	1	1



Early Bar
Progress Bar
Critical Activity

?Primavera Systems, Inc.

KTWP

Sheet 2 of 2

Penta-Ocean Construction Co., Ltd.

CEDD Contract No. KL/2009/01
Site Formation for Kai Tak Cruise Terminal Development
Three Months Rolling Programme (Nov 2010- jan 2011)

Start Date	30/11/09
Finish Date	24/12/13
Data Date	30/11/09
Run Date	23/11/10 08:17

Date	Revision	Checked	Approved
11/11/10	I	TM	WT