CONTRACT NO: HK/2009/05

WANCHAI DEVELOPMENT PHASE II AND CENTRAL WANCHAI BYPASS SAMPLING, FIELD MEASUREMENT AND TESTING WORK (STAGE 1)

ENVIRONMENTAL PERMIT NO. EP-356/2009, FURTHER EVIRONMENTAL PERMIT NOS. FEP-01/356/2009, FEP-02/356/2009 AND FEP-03/356/2009

QUARTERLY ENVIRONMENTAL MONITORING AND AUDIT REPORT

- JUNE TO AUGUST 2010 -

CLIENTS:

Civil Engineering and Development Department

and

Highways Department

PREPARED BY:

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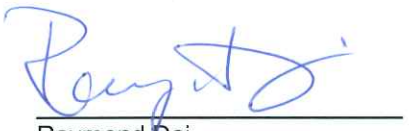

Raymond Dai
Environmental Team Leader

DATE:

29 October 2010

ENVIRON

Ref.: AACWBIECEM00_0_0576L.10

2 November 2010

AECOM Asia Company Limited
8/F, Tower 2
Grand Central Plaza
138 Shatin Rural Committee Road,
Shatin, New Territories,
Hong Kong

By Post and Fax (2691 2649)

Attention: Mr. Kelvin CHENG

Dear Sir,

Re: Wan Chai Development Phase II and Central-Wan Chai Bypass Quarterly Environmental Monitoring and Audit Report (June to August 2010) for EP-356/2009, FEP-01/356/2009, FEP-02/356/2009 and FEP-03/356/2009

Reference is made to the Environmental Team's submission of the Quarterly Environmental Monitoring and Audit (EM&A) Report for June to August 2010 dated 29 October 2010.

Please be informed that we have no adverse comments on the captioned submission and thereby write to verify the captioned submission.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,

David Yeung
Independent Environmental Checker

c.c.	HyD	Mr. Jones Lai	by fax: 2714 5289
	CEDD	Mr. Patrick Keung	by fax: 2577 5040
	AECOM	Mr. Julian Ling / Mr. Stephen Lai	by fax: 2691 2649
	Lam	Mr. Raymond Dai	by fax: 2882 3331

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

EXECUTIVE SUMMARY

i. This is the Quarterly Environmental Monitoring and Audit (EM&A) Report – June to August 2010 prepared for the Project of Wan Chai Development Phase II and Central-Wanchai Bypass under Environmental Permit no. EP-356/2009 and Further Environmental permit nos. FEP-01/356/2009, FEP-02/356/2009 and FEP-03/356/2009. This report presents the environmental monitoring and audit findings and information during the period from 28th May 2010 to 27th August 2010. The cut-off date of reporting is at 27th of each reporting quarter.

Construction Activities for the Reported Period

ii. During this reporting period, the principle work activities for Contract no. HY/2009/11 are summarized as below:

Table I Principle Work Activities for Contract no. HY/2009/11

June 2010	July 2010	August 2010
• Installation of seawall blocks; • Construction of Caissons at Casting Yard in Mainland China; • Dredging works; and • Construction of Rock Mound	• Construction of Rock Mound, • Floating Out of Caisson Seawall, • Installation of Caisson Seawall, • Dredging works, and • Laying of geo-textile	• Construction of Rock Mound, • Floating Out of Caisson Seawall, • Installation of Caisson Seawall, • Dredging works, • Filling works; • Laying of geo-textile, • Drainage Works; and • Seawall Block Installation

iii. Major marine activities for Contract no. HK/2009/01 has been commenced on 23 July 2010. During this reporting period, the preparation works and principle work activities for it are summarized as below:

Table II Principle Work Activities for Contract no. HK/2009/01

June 2010	July 2010	August 2010
• Erection of interim Engineer's Principal Office at Works areas WA2; • Pre-drilling works and fabrication of staging for trial pile • Transportation of materials to the designated pile position by derrick barges. • Decorative panel installation; • Re-mobilization of flat top barge to carry out Marine S.I. within fairway; • Marine ground investigation; • Fabrication of pipe pile wall staging at the existing promenade piled deck;	• Erection of interim Engineer's Principal Office at works area WA2 • Hoarding erection at Wan Chai HKCEC VIP Drop-off Area and Tsim Sha Tsui Salisbury Area; • The flat top barge is continued to carry out Marine S.I. within fairway area • Marine S.I. at east side of HKCEC; • Fabrications of submarine pipelines; • Silt screens installation are completed for HKCEC Phase 1, Government Buildings, China	• Erection of interim Engineer's Principal Office at Works areas WA2 • Modification of CATV combine service inspection chamber • Installation of staging piles for trial bored pile was completed and bored pile construction • Marine site investigation • Dredging works for cross harbour watermains • Dismantling of existing sloping seawall and removal of armor rock at

June 2010	July 2010	August 2010
• Fabrication of special made flat top barge for dredging inside the HKCEC water channel; • Production of pipe pile casing is underway, first batch of 30 nos. x 12 m mill steel pipeline arrived and stored at Yuen Long Yard; • Completion of silt screens installation for HKCEC Phase 1, Government Buildings, China Resources, Great Eagle & Harbour Centre, Telecom House, Shui On, HKAPA, Sheung Wan & Kowloon South Pumping Station and HKCEC Extension (Pumping Station P6); • Erection of temporary platform for pipe pile installation; and • Fabrication of mud barges and crane barge for dredging within HKCEC water channel	Resoureces, Great Eagle & Harbour Centre, Telecom House, Shui On, HKAPA, Sheung Wan & Kowloon South Pumping Station and HKCEC Extension (Pumping Station P6); • Routine maintenance and clearance works for silt screens; • Erection of temporary platform for pipe pile installation; • Fabrication of 3 nos. of mud barges for dredging within HKCEC water channel and delivered on site. Application of respective license; • Fabrication of crane barges are in progress and expect to deliver to site; and • Wheel washing facility will be provided at the north entrance to the water channel	north-west side of water channel is stopped and reinstating the rock slope at seawall • Hoarding erection at Tsim Sha Tsui Salisbury Garden area • 18m of artwork panel is installed as design for other location • Trial pits construction for determination of pipeline alignment at Convention Avenue • Fabrication of straight sections of cross harbour submarine pipes and land water pipes • Elbow sections of cross harbour submarine pipes are being fabricated. • Commenced assemble of 6 nos. of tailor made flat top barge. The fabrication of dredging crane was completed and will be installed on the tailor make flat top barge and ready for dredging.

iv. The dredging works for Contract no. HK/2009/02 has been commenced on 5 July 2010. The preparation works and major construction activities for it in this reporting periods included:

Table III Principle Work Activities for Contract no. HK/2009/02

June 2010	July 2010	August 2010
• Site Clearance; • Hoarding Erection; • Dismantle Existing Footbridge Staircase at Wan Shing Road; • Pre-drilling Works at WSD Salt Water Pumping Station; • Construction of Salt Water Intake Culvert at Pet Garden; • Road Modification Works; and • Construction of temporary seawall	• Site Clearance; • Hoarding Erection; • Breaking and Excavation at WSD Pumping Station; • Demolition Footbridge Staircase at WSD Pumping Station; • Construction of Salt Water Intake Culvert at Pet Garden; • Road Modification Works; • Construction of Cooling Mains Along Public Road; • Construction of Temporary Seawall;	• Site Clearance; • Hoarding Erection; • Pre-bored H-piles, ELS and excavation at WSD Pumping Station; • Construction of Salt Water Intake Culvert at Pet Garden; • Road Modification Works; • Construction of Cooling Mains Along Public Road; • Construction of Temporary Seawall;

	• Dredging for WCR 1; and • Equipments Procurement for TKO 137	• Dredging for WCR 1; • Tree Transplanting; and • Equipments Procurement for TKO 137

Noise Monitoring

v. Two action level exceedances were recorded due to the noise complaints on 31 July and 12 August 2010 regarding noise nuisance from the dredging works in North Point district. The Contractor HY/2009/11 has implemented mitigation measures to reduce the construction work period during daytime and evening time. In addition, eleven limit level exceedances were recorded at stations M1a, M4a, M5b in reporting quarter. Investigation found that exceedances were not related to the Project. Reviewed the past monitoring results and observation at Station M4a, Victoria Centre (Station ID: M4b) was proposed as alternative noise monitoring station effective from August 2010.

Air Quality Monitoring

vi. One action level exceedance of 1 hour TSP was recorded at station CMA1b on 24 August 2010. Investigation found that the exceedance was not related to the Project work due to the burning joss paper activity near the Oil Street Community Centre between 23 and 25 August 2010 morning.

Water Quality Monitoring

vii. Water quality monitoring was conducted at 17 monitoring stations namely WSD7, WSD9, WSD10, WSD15, WSD17, WSD19, WSD20, WSD 21, C1, C2, C3, C4e, C4w, C5e, C5w, C8 and C9 on 74 tidal monitoring events during the reporting period. Total 49 exceedances of DO, 43 exceedances of SS and 4 exceedances of turbidity were recorded during mid-flood while 83 exceedances of DO, 36 exceedances of SS and 8 exceedances of turbidity were recorded during mid-ebb in the reporting period. Investigation found that the exceedances were not due to the Project works.

viii. Owing to the frequent non-project related exceedances caused by fluctuation in coastal water quality due to localized effect, it is considered the existing Action and Limit Levels values were underestimated to the natural variation of water quality around the baseline range. It is recommended to review the existing Action and Limit Levels on water quality in order to take into the account of the coastal activities and potential variation of coastal water qualities during wet season (i.e. Apr – Sep period).

ix. While the existing Action and Limit levels will continue to be used for impact monitoring for dry season (Oct – Mar period), an additional set of Action and Limit levels are proposed for use in the coming wet season and are summarized in the table below.

Table IV Revised Action and Limit Levels for Water Quality Monitoring

	Dry Season (Existing AL & LL)		Wet Season	
Parameters	**Action**	**Limit**	**Action**	**Limit**
WSD Salt Water Intakes				
SS in mg/L	13.00	14.43	16.26	19.74
Turbidity in NTU	8.04	9.49	10.01	11.54
DO in mg/L	3.66	3.28	3.17	2.63
Cooling Water Intakes				
SS in mg/L	15.00	22.13	18.42	27.54
Turbidity in NTU	9.10	10.25	11.35	12.71
DO in mg/L	3.36	2.73	3.02	2.44

Complaints, Notifications of Summons and Successful Prosecutions

x. Two noise complaints were recorded on 31 July and 12 August 2010 regarding noise nuisance from the dredging works in North Point district. Investigation found that the complaints were considered not valid from the Environmental Permit and Construction Noise Permit point of view.

1. INTRODUCTION

1.1 Scope of the Report

1.1.1. Lam Geotechnics Limited (LGL) has been appointed to work as the Environmental Team (ET) under Environmental Permit no. EP-356/2009 and Further Environmental permit nos. FEP-01/356/2009, FEP-02/356/2009 and FEP-03/356/2009 to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) and in the EM&A Manual of the approved EIA Report for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-014/2001).

1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 10.4 of EM&A Manual and "*Environmental Monitoring and Audit Requirements"* under Particular Specification Section 27.

1.1.3. This report documents the finding of EM&A works during the period from 28th May 2010 to 27th August 2010.

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*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.

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

Section 7 ***Cumulative Construction Impact due to the Concurrent Projects*** – summarizes the relevant cumulative construction impact due to the concurrent activities of the concurrent Projects.

Section 8 ***Conclusion***

2. PROJECT BACKGROUND

2.1 Background

2.1.1. "Wan Chai Development phase II and Central-Wan Chai Bypass" and "Central-Wan Chai Bypass and Island Eastern Corridor Link" (hereafter called "the Project") are Designed Project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). The Environmental Impact Assessment (EIA) Reports for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-041/2001) and Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) have been approved on 31 August 2001 and 11 December 2008 respectively.

2.1.2. The key purpose of Wan Chai Development Phase II (WDII) is to provide land at Wan Chai North and North Point for construction of the Central-Wan Chai Bypass and Island Eastern Corridor Link (CWB). Land formed under the project will be developed as a world-class waterfront promenade joining that at the new Central waterfront for public enjoyment.

2.1.3. There is a compelling and present need for the CWB to provide relief to the very congested east-west Connaught Road Central/Harcourt Road / Gloucester Road Corridor (the Corridor) which is currently operating beyond its capacity. The CWB will provide relief to the existing congestion along the Corridor and cater for the anticipated growth of traffic on Hong Kong Island. Without the CWB and its access roads, there will not be sufficient capacity to serve the heavy traffic demands at both strategic and local levels.

2.2 Scope of the Project and Site Description

2.2.1. The Project is located mainly in Wan Chai North, Causeway Bay and North Point, and is demarcated by Gloucester Road and Victoria Park Road to the south, Fenwick Pier Street to the west and Tong Shui Road Interchange to the east, as shown in ***Figure 2.1***.

2.2.2. The study area encompasses existing developments along the Wan Chai, Causeway Bay and North Point shorelines. Major land uses include the Hong Kong Convention & Exhibition Centre (HKCEC) Extension, the Wan Chai Ferry Pier, the ex-Wan Chai Public Cargo Working Area (ex-PCWA), the Royal Hong Kong Yacht Club (RHKYC), the Police Officers' Club, the Causeway Bay Typhoon Shelter (CBTS) and commercial and residential developments.

2.2.3. The scope of the Project comprises:

- Land formation for key transport infrastructure and facilities, including the Trunk Road (i.e. CWB) and the associated slip roads for connection to the Trunk Road and for through traffic from Central to Wan Chai and Causeway Bay. The land formed for the above transport infrastructure will provide opportunities for the development of an attractive waterfront promenade for the enjoyment of the public
- Reprovisioning / protection of the existing facilities and structures affected by the land formation works mentioned above

- Extension, modification, reprovisioning or protection of existing storm water drainage outfalls, sewerage outfalls and watermains affected by the revised land use and land formation works mentioned above
- Upgrading of hinterland storm water drainage system and sewerage system, which would be rendered insufficient by the land formation works mentioned above
- Provision of the ground level roads, flyovers, footbridges, necessary transport facilities and the associated utility services
- Construction of the new waterfront promenade, landscape works and the associated utility services
- The Trunk Road (i.e. CWB) within the study area and the associated slip roads for connection to the Trunk Road.

2.2.4. The project also contains various Schedule 2 DPs that, under the EIAO, require Environmental Permits (EPs) to be granted by the DEP before they may be either constructed or operated. ***Table 2.1*** summarises the five individual DPs under this Project. ***Figure 2.1*** shows the locations of these Schedule 2 DPs.

Table 2.1 Schedule 2 Designated Projects under this Project

Item	Designated Project	EIAO Reference	Reason for inclusion
DP1	Central-Wanchai Bypass (CWB) including its road tunnel and slip roads	Schedule 2, Part I, A.1 and A.7	Trunk road and road tunnel more than 800 m in length
DP2	Road P2 and other roads which are classified as primary/district distributor roads	Schedule 2, Part I, A.1	Primary / district distributor roads
DP3	Reclamation works including associated dredging works	Schedule 2, Part I, C.1 and C.12	Reclamation more than 5 ha in size and a dredging operation less than 100 m from a seawater intake point
DP5	Wan Chai East Sewage Outfall	Schedule 2, Part I, F.5 and F.6	Submarine sewage pipelines with a total diameter more than 1,200 mm and include a submarine sewage outfall
DP6	Dredging for the Cross-harbour Water Mains from Wan Chai to Tsim Sha Tsui	Schedule 2, Part I, C.12	A dredging operation less than 100 m from a seawater intake point

2.3 Division of the Project Responsibility

2.3.1. Due to the multi-contract nature of the Project, there are a number of contracts sub-dividing the whole works area into different work areas to be commenced. Contractors of individual contracts will be required by the EP holder to apply Further Environmental Permits (FEP) such that the impact monitoring stations are sub-divided accordingly to facilitate the implementation of EM&A programme and to streamline the EM&A reporting for individual FEP holders correspondingly.

2.3.2. In the reporting period, Contract no. HY/2009/11 - Central – Wanchai Bypass, North Point Reclamation under the Project has been commenced on 17 March 2010. Two Contracts under the Project has been commenced in July 2010. The details of individual contracts are summarized in ***Table2.2***.

Table 2.2 Details of Individual Contracts under the Project

Contract No.	Contract Title	Associated DP(s)	Construction Commencement Date
HK/2009/01	Wan Chai Development Phase II – Central –Wanchai Bypass at Hong Kong Convention and Exhibition Centre	DP3, DP6	23 July 2010
		DP1, DP2	Pending
HK/2009/02	Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East	DP3, DP5	5 July 2010
		DP1	Pending
HY/2009/11	Wan Chai Development Phase II and Central - Wan Chai Bypass - North Point Reclamation	DP3	17 March 2010

2.4 Project Organization and Contact Personnel

2.4.1. Civil Engineering and Development Department and Highways Department are the overall project controllers for the Wan Chai Development Phase II and Central-Wan Chai Bypass respectively. For the construction phase of the Project, Project Engineer, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.4.2. 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 2.3***:

Table 2.3 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.	Contact Fax
AECOM	Engineer for WDII	Principal Resident Engineer	Mr. Frankie Fan	2607 0838	2687 2322
	Engineer for CWB	Principal Resident Engineer	Mr. Peter Poon	3916 1800	3529 2829
China Harbour-CRBC Joint Venture	Contractor under Contract no. HY/2009/11	Project Director	Mr. Cho Yu Fun	3157 1086	3157 1085
		Project Manager	Mr. Gregory Wong	3157 1086	
		Site Agent	Mr. Daniel Cheung	3157 1086	
		Environmental Officer	Mr. C. M. Wong	3157 1086	
Chun Wo – Leader Joint Venture	Contractor under Contract no. HK/2009/01	Site Agent	Paul Yu	9456 9819	2634 1626
		Operation Manager	Ho Wing Tai	9306 1356	

Party	Role	Post	Name	Contact No.	Contact Fax
	HK/2009/01	Construction Manager	David Wong	9653 8635	
		Construction Manager	Wilson Lau	5183 1270	
		Construction Manager	Alex Tsang	9194 9383	
		Environmental Officer (Compliance Manager)	Ho Wing Tai	9306 1356	
		Environmental Engineer	Ken Yang	9262 6791	
Chun Wo – CRGL Joint Venture	Contractor under Contract no. HK/2009/02	Project Manager	Mr. Chan Sing Cho	3658 3002	2827 9996
		Site Agent	Mr. Anthony Wu	3658 3004	
		Environmental Officer (Compliance Manager)	Mr. Barry Leung	3658 3031	
		Environmental Engineer	Ms. Flora Ng	3658-3064	
ENVIRON Hong Kong Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. David Yeung	3743 0788	3548 6988
Lam Geotechnics Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939	2882 3331

2.5 Principle Work and Activities

2.5.1. During this reporting period, the principle work activities for Contract no. HY/2009/11 are summarized in **Table2.4**.

Table 2.4 Principle Work Activities for Contract no. HY/2009/11

June 2010	July 2010	August 2010
• Installation of seawall blocks; • Construction of Caissons at Casting Yard in Mainland China; • Dredging works; and • Construction of Rock Mound	• Construction of Rock Mound, • Floating Out of Caisson Seawall, • Installation of Caisson Seawall, • Dredging works, and • Laying of geo-textile	• Construction of Rock Mound, • Floating Out of Caisson Seawall, • Installation of Caisson Seawall, • Dredging works, • Filling works; • Laying of geo-textile, • Drainage Works; and • Seawall Block Installation

2.5.2. Major marine activities for Contract no. HK/2009/01 has been commenced on 23 July 2010. The preparation works and major construction works in the reporting quarter are summarized in ***Table 2.5***.

Table 2.5 Principle Work Activities for Contract no. HK/2009/01

June 2010	July 2010	August 2010
• Erection of interim Engineer's Principal Office at Works areas WA2; • Pre-drilling works and fabrication of staging for trial pile • Transportation of materials to the designated pile position by derrick barges. • Decorative panel installation; • Re-mobilization of flat top barge to carry out Marine S.I. within fairway; • Marine ground investigation; • Fabrication of pipe pile wall staging at the existing promenade piled deck; • Fabrication of special made flat top barge for dredging inside the HKCEC water channel; • Production of pipe pile casing is underway, first batch of 30 nos. x 12 m mill steel pipeline arrived and stored at Yuen Long Yard; • Completion of silt screens installation for HKCEC Phase 1, Government Buildings, China Resources, Great Eagle & Harbour Centre, Telecom House, Shui On, HKAPA, Sheung Wan & Kowloon South Pumping Station and HKCEC Extension (Pumping Station P6); • Erection of temporary platform for pipe pile installation; and • Fabrication of mud barges and crane barge for dredging within HKCEC water channel	• Erection of interim Engineer's Principal Office at works area WA2 • Hoarding erection at Wan Chai HKCEC VIP Drop-off Area and Tsim Sha Tsui Salisbury Area; • The flat top barge is continued to carry out Marine S.I. within fairway area • Marine S.I. at east side of HKCEC; • Fabrications of submarine pipelines; • Silt screens installation are completed for HKCEC Phase 1, Government Buildings, China Resoureces, Great Eagle & Harbour Centre, Telecom House, Shui On, HKAPA, Sheung Wan & Kowloon South Pumping Station and HKCEC Extension (Pumping Station P6); • Routine maintenance and clearance works for silt screens; • Erection of temporary platform for pipe pile installation; • Fabrication of 3 nos. of mud barges for dredging within HKCEC water channel and delivered on site. Application of respective license; • Fabrication of crane barges are in progress and expect to deliver to site; and • Wheel washing facility will be provided at the north entrance to the water channel	• Erection of interim Engineer's Principal Office at Works areas WA2 • Modification of CATV combine service inspection chamber • Installation of staging piles for trial bored pile was completed and bored pile construction • Marine site investigation • Dredging works for cross harbour watermains • Dismantling of existing sloping seawall and removal of armor rock at north-west side of water channel is stopped and reinstating the rock slope at seawall • Hoarding erection at Tsim Sha Tsui Salisbury Garden area • 18m of artwork panel is installed as design for other location • Trial pits construction for determination of pipeline alignment at Convention Avenue • Fabrication of straight sections of cross harbour submarine pipes and land water pipes • Elbow sections of cross harbour submarine pipes are being fabricated. • Commenced assemble of 6 nos. of tailor made flat top barge. The fabrication of dredging crane was completed and will be installed on the tailor make flat top barge and ready for dredging.

2.5.3. Major construction activities for Contract no. HK/2009/02 has been commenced on 5 July 2010. The preparation works and major construction works in the reporting quarter are summarized in ***Table 2.6***.

Table 2.6 Principle Work Activities for Contract no. HK/2009/02

June 2010	July 2010	August 2010
• Site Clearance; • Hoarding Erection; • Dismantle Existing Footbridge Staircase at Wan Shing Road; • Pre-drilling Works at WSD Salt Water Pumping Station; • Construction of Salt Water Intake Culvert at Pet Garden; • Road Modification Works; and • Construction of temporary seawall	• Site Clearance; • Hoarding Erection; • Breaking and Excavation at WSD Pumping Station; • Demolition Footbridge Staircase at WSD Pumping Station; • Construction of Salt Water Intake Culvert at Pet Garden; • Road Modification Works; • Construction of Cooling Mains Along Public Road; • Construction of Temporary Seawall; • Dredging for WCR 1; and • Equipments Procurement for TKO 137	• Site Clearance; • Hoarding Erection; • Pre-bored H-piles, ELS and excavation at WSD Pumping Station; • Construction of Salt Water Intake Culvert at Pet Garden; • Road Modification Works; • Construction of Cooling Mains Along Public Road; • Construction of Temporary Seawall; • Dredging for WCR 1; • Tree Transplanting; and • Equipments Procurement for TKO 137

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

3. MONITORING REQUIREMENTS

3.1. Noise Monitoring

NOISE MONITORING STATIONS

3.1.1. The noise monitoring stations for the Project are listed and shown in ***Table 3.1*** and ***Figure 3.1***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.1 Noise Monitoring Stations

Station	Description
M1a	Harbour Road Sports Centre
M2b	Noon Gun Area
M3a	Tung Lo Wan Fire Station
M4a	Causeway Bay Community Centre
M5b	City Garden
M6	HK Baptist Church Henrietta Secondary School
M7e	International Finance Centre (Eastern End of Podium)
M7w	International Finance Centre (Western End of Podium)

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

3.1.2. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq\ (30\ minutes)}$ shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods, $L_{eq\ (5\ minutes)}$ shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. Supplementary information for data auditing, statistical results such as L10 and L90 shall also be obtained for reference.

3.1.3. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:

- one set of measurements between 0700 and 1900 hours on normal weekdays.

3.1.4. If construction works are extended to include works during the hours of 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring shall be carried out during respective restricted hours periods. Applicable permits under NCO shall be obtained by the Contractor.

3.2. Air Monitoring

AIR QUALITY MONITORING STATIONS

3.2.1. The air monitoring stations for the Project are listed and shown in ***Table 3.2*** and ***Figure 3.1***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.2 Air Monitoring Stations

Station ID	Monitoring Location	Description
CMA1b	Oil Street Community Liaison Centre	North Point
CMA2a	Causeway Bay Community Centre	Causeway Bay
CMA3a	Future CWB site office at Wanchai Waterfront Promenade	Causeway Bay
CMA4a	Society for the Prevention of Cruelty to Animals	Wan Chai
CMA5a	Children Playgrounds opposite to Pedestrian Plaza	Wan Chai
CMA6a	Future AECOM site office at Work Area	Wan Chai
MA1e	International Finance Centre (Eastern End of Podium)	Central
MA1w	International Finance Centre (Western End of Podium)	Central

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

3.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.

3.2.3. All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions, etc., shall be recorded down in detail.

3.2.4. For regular impact monitoring, the sampling frequency of at least once in every six-days, shall be strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs.

3.3. Water Quality Monitoring

3.3.1. The EIA Report has identified that the key water quality impact would be associated with the dredging works during the construction phase. Marine water quality monitoring for dissolved oxygen (DO), suspended solid (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 to ensure the compliance with the water quality standards.

Water Quality Monitoring Stations

3.3.2. It is proposed to monitor the water quality at 9 WSD salt water intakes and 14 cooling water intakes along the seafront of the Victoria Harbour. The proposed water quality monitoring stations of the Project are shown in ***Table 3.3*** and ***Figure 3.1***. ***Appendix 3.1*** shows the established Action/Limit Levels for the monitoring works.

Table 3.3 Marine Water Quality Stations for Water Quality Monitoring

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
WSD7	Kowloon South	834150.0	818300.3
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
WSD19	Sheung Wan	833415.0	816771.0
WSD20	Kennedy Town	830750.6	816030.3
WSD21	Wan Chai	836220.8	815940.1
RW1	Wan Chai (Reprovision)	836188.8	815911.1
Cooling Water Intake			
C1	HKCEC Extension	835885.6	816223.0
C2	Telecom House	835647.9	815864.4
C3	HKCEC Phase I	835836.2	815910.0
C4e	Wan Chai Tower and Great Eagle Centre (Eastern)	835932.8	815888.2
C4w	Wan Chai Tower and Great Eagle Centre (Western)	835629.8	815889.2
C5e	Sun Hung Kai Centre (Eastern)	836250.1	815932.2
C5w	Sun Hung Kai Centre (Western)	836248.1	815933.2
C6	World Trade Centre	837009.6	815999.3
C7	Windsor House	837193.7	816150.0
C8	City Garden	837970.6	816957.3
C9	Provident Garden	838355.0	817116.6
RC1	Proposed HKAPA Extension	835487.7	815987.7
RC5	Sun Hung Kai Centre (Reprovision)	836291.4	816029.7
RC7	Windsor House (Temporary Dilution)	837245.2	816156.6

WATER QUALITY PARAMETERS AND FREQUENCY

3.3.3. Monitoring of dissolved oxygen (DO), turbidity and suspended solids (SS) shall be carried out at WSD flushing water intakes and cooling water intakes. DO and Turbidity are measured in-situ while SS is determined in laboratory.

3.3.4. In association with the water quality parameters, other relevant data shall also be measured, such as monitoring location/position, time, sampling depth, water temperature, pH, salinity,

dissolved oxygen (DO) saturation, weather conditions, sea conditions, tidal stage, and any special phenomena and work underway at the construction site etc.

3.3.5. 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 3.4*** 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 be not less than 0.5m.

Table 3.4 Marine 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, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity
During marine construction works	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity
After completion of marine construction works	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity

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.

4. MONITORING RESULTS

4.0.1. The environmental monitoring will be implemented based on the division of works areas of each designed project managed under different contracts with separate FEP applied by individual contractors. Overall layout showing work areas of various contracts, latest status of work commencement and monitoring stations is shown in ***Figure 2.1*** and ***Figure 3.1***. The monitoring results are presented in according to the Individual Contract(s).

4.1. Noise Monitoring Results

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

4.1.1. The proposed division of noise monitoring stations for Contract no. HY/2009/11 are summarized in ***Table 4.1*** below:

Table 4.1 Noise Monitoring Stations for Contract no. HY/2009/11

Station	Description
M4a	Causeway Bay Community Centre
M4b	Victoria Centre
M5b	City Garden

4.1.2. Reviewed the past monitoring results and observation at Station M4a, the monitoring location at Causeway Bay Community Centre is facing and closed to the Island Eastern Corridor. Traffic noise is the major noise source obtained in the monitoring that cannot reflect the construction noise from the construction site. Victoria Centre (Station ID: M4b) was proposed as alternative noise monitoring station effective from August 2010.

4.1.3. Two action level exceedances were recorded due to the noise complaints on 31 July and 12 August 2010. There were complained on the construction noise nuisance from the dredging work activities at North Point District. Contractor's site practical and measurement results were reviewed. The details of the complaints can be referred to Section 6 and ***Appendix 6.1***.

4.1.4. Five limit level exceedances were recorded at M4a on 8 and 22 June 2010 and 20 and 27 July 2010 and at M5b on 16 June 2010 August 2010. All exceedances were investigated and found not attributed to the project works as major noise source was obtained from the Island Eastern Corridor. It was concluded that the exceedances were not due to the project.

4.1.5. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of graphical presentation can be referred in ***Appendix 4.1***.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC and Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

4.1.6. The commencement of marine construction works for Contract nos. HK/2009/01 and HK/2009/02 have been commenced in July 2010. The proposed division of noise monitoring stations are summarized in ***Table 4.2*** below.

Table 4.2 Noise Monitoring Station for Contract nos. HK/2009/01 and HK/2009/02

Station	Description
M1a	Harbour Road Sports Centre

4.1.7. Six limit level exceedances were recorded at station M1a on 13, 20 and 27 July 2010 and 3, 10 and 17 August 2010 during construction works at evening time for Contract no. HK/2009/02 in reporting quarter. Major noise source was contributed from Tonnochy Road and water sport competition at Wan Chai Training Swimming Pool. The dredging work was complied with the conditions under valid Construction Noise Permit no. GW-RS0132-10 during the measurement.

4.2. Air Monitoring Results

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

4.2.1. Since the filling work of Contract no. HY/2009/11 were commenced in the mid-August 2010, air monitoring had been commenced on 11 August 2010. The proposed division of air monitoring stations is summarized in Table 4.3 below.

Table 4.3 Air Monitoring Stations for Contract no. HY/2009/11

Station	Description
CMA1b	Oil Street Community Liaison Centre
CMA2a	Causeway Bay Community Centre

4.2.2. Due to no 24-hour electricity supply in CMA1b – Oil Street Community Liaison Centre, only 1-hour TSP monitoring can be conducted in the reporting quater. Details of noise monitoring results and graphical presentation can be referred in ***Appendix 4.2***.

4.2.3. One action level exceedance was recorded at CMA1b on 24 August 2010. Investigation found that the exceedance was not related to the Project work but due to the burning joss paper activity near the Oil Street Community Centre between 23 and 25 August 2010 morning.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

4.2.4. Air monitoring will be commenced from the filling work for Contract no. HK/2009/01. The proposed division of air monitoring stations are summarized in ***Table 4.4*** below.

Table 4.4 Air Monitoring Stations for Contract no. HK/2009/01

Station	Description
CMA5a	Children Playgrounds opposite to Pedestrian Plaza
CMA6a	Future AECOM site office at Work Area 1

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

4.2.5. Air monitoring will be commenced from the filling work for Contract no. HK/2009/02. The proposed division of air monitoring stations are summarized in ***Table 4.5*** below.

Table 4.5 Air Monitoring Station for Contract no. HK/2009/02

Station	Description
CMA4a	Society for the Prevention of Cruelty to Animals

4.2.6. No major dust impact is anticipated to be caused by the site preparation works and dredging works during the reporting quarter. Air monitoring will be commenced from the filling works for Contract no. HK/2009/01 and HK/2009/02. Therefore, no air monitoring was conducted in the reporting period.

4.3. Water Monitoring Results

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

4.3.1. The proposed division of water monitoring stations for Contract no. HY/2009/11 are summarized in ***Table 4.6*** below:

Table 4.6 Water Monitoring Stations for Contract no. HY/2009/11

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
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
Cooling Water Intake			
C8	City Garden	837970.6	816957.3
C9	Provident Garden	838355.0	817116.6

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

4.3.2. Water monitoring stations for Contract no. HK/2009/01 were commenced on 8 July 2010. The proposed division of water monitoring stations are summarized in ***Table 4.7*** below.

Table 4.7 Water Monitoring Stations for Contract no. HK/2009/01

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
WSD7	Kowloon South	834150.0	818300.3

Station Ref.	Location	Easting	Northing
WSD19	Sheung Wan	833415.0	816771.0
WSD20	Kennedy Town	830750.6	816030.3
Cooling Water Intake			
C1	HKCEC Extension	835885.6	816223.0
C2	Telecom House	835647.9	815864.4
C3	HKCEC Phase I	835836.2	815910.0
C4e	Wan Chai Tower and Great Eagle Centre (Eastern)	835932.8	815888.2
C4w	Wan Chai Tower and Great Eagle Centre (Western)	835629.8	815889.2

Contract no. HK/2009/02 - Wan Chai Development Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

4.3.3. Water monitoring for Contract no. HK/2009/02 was commenced on 8 July 2010. The proposed division of water monitoring stations are summarized in ***Table 4.8*** below.

Table 4.8 Water Monitoring Stations for Contract no. HK/2009/02

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
WSD21	Wan Chai	836220.8	815940.1
Cooling Water Intake			
C5e	Sun Hung Kai Centre (Eastern)	836250.1	815932.2
C5w	Sun Hung Kai Centre (Western)	836248.1	815933.2

4.3.4. Water quality monitoring at the stations for Contract nos. HK/2009/01 and HK/2009/02 were commenced on 8 July 2010. Water quality monitoring was conducted at total 17 monitoring stations namely WSD7, WSD9, WSD10, WSD15, WSD17, WSD19, WSD20, WSD 21, C1, C2, C3, C4e, C4w, C5e, C5w, C8 and C9 during the reporting period.

4.3.5. The access to WSD7 is needed to via the gates that are locked and under the control of LCSD between 1800hrs and 0800hrs from 10 July 2010. Due to no access permission obtained from LCSD in this reporting quarter, water monitoring cannot be conducted at WSD7 on 10 July 2010 at mid-flood, 14 July 2010 at mid-flood and mid-ebb, 18 July 2010 at mid-flood and 19 July 2010 at mid-ebb. The approval of access permission had been obtained from LCSD for the access to WSD7 in Mid-August 2010. However, due to the wrong locking order of the series pad locks at the gate, water quality monitoring could not be conducted on 30 July 2010, 18 and 25 August 2010.

4.3.6. The construction and maintenance works of the silt screen cover at C4e and C4w was conducted by Chun Wo & Leader JV on 14 July 2010, no water monitoring was conducted at these stations during the mid-ebb.

4.3.7. Concerning the safety works and the unrepresentative water quality being substantially affected by urban runoff under adverse weather, the following water quality monitoring were cancelled:

- 28 June 2010 at mid-ebb for all stations; 28 July 2010 at mid-ebb tide for C1 to C4 due to amber rainstorm warning in force;
- 5 August 2010 at mid-flood for all stations due to red rainstorm warning in force;
- 28 July 2010 at mid-flood for all stations due to black rainstorm warning in force;
- 21 July 2010 at mid-flood for all stations due to Strong Wind Signal No. 3 announced.

4.3.8. Water monitoring results measured in this reporting period are reviewed and summarized in **Table 4.9**. Details of water quality monitoring results and graphical presentation can be referred in ***Appendix 4.3***.

Table 4.9 Summary of Water Quality Monitoring Exceedances in Reporting Quarter

Contract no.	Water Monitoring Station	Mid-flood						Mid-ebb					
		DO		Turbidity		SS		DO		Turbidity		SS	
		AL	LL	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL
HY/2009/11	WSD9	2	2	0	0	0	1	2	4	0	0	0	1
	WSD10	3	3	0	0	3	2	2	7	0	0	1	0
	WSD15	3	4	0	0	1	3	4	8	0	0	1	0
	WSD17	3	3	0	0	0	1	4	10	1	0	0	3
	C8	5	2	2	0	7	2	3	2	0	4	7	4
	C9	4	1	0	1	8	1	6	0	2	1	6	3
HK/2009/01	WSD19	1	1	1	0	0	2	2	3	0	0	0	0
	WSD20	1	1	0	0	0	2	2	2	0	0	1	2
	WSD7	0	1	0	0	0	0	0	4	0	0	0	0
	C1	0	0	0	0	0	0	0	0	0	0	0	0
	C2	1	1	0	0	1	0	3	0	0	0	0	1
	C3	1	0	0	0	1	0	3	0	0	0	1	1
	C4e	1	0	0	0	1	0	4	0	0	0	0	0
	C4w	1	0	0	0	0	0	2	0	0	0	1	0
HK/2009/02	C5e	1	0	0	0	2	1	2	0	0	0	1	0
	C5w	1	1	0	0	2	1	0	0	0	0	1	0
	WSD21	0	1	0	0	0	1	1	0	0	0	0	1
Total		**28**	**21**	**3**	**1**	**26**	**17**	**40**	**43**	**3**	**5**	**20**	**16**

4.3.9. The exceedances have been investigated and were considered unlikely to be related to project works. Water monitoring results measured in this reporting period are reviewed and summarized. Details of graphical presentation can be referred in ***Appendix 4.2***.

4.4. Waste Monitoring Results

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

4.4.1. No inert and non-inert C&D waste was disposed in this reporting period. Details of the waste flow table are summarized in ***Table 4.10***

Table 4.10 Details of Waste Disposal for Contract no. HY/2009/11

Waste Type	Quantity this quarter, m^3	Cumulative Quantity-to-Date, m^3	Disposal / Dumping Grounds
Inert C&D materials disposed	NIL	NIL	N/A
Inert C&D materials recycled	NIL	NIL	N/A
Non-inert C&D materials disposed	NIL	NIL	SENT Landfill
Non-inert C&D materials recycled	NIL	NIL	N/A
Chemical waste disposed	N/A	N/A	N/A
Marine Sediment (Type 1 – Open Sea Disposal)	35,500 (Bulk Volume)	71,500 (Bulk Volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal)	35,000 (Bulk Volume)	81,000 (Bulk Volume)	East of Sha Chau

4.4.2. There were marine sediments Type 1 – Open Sea Disposal and Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal marine sediment disposed in the reporting period. The maximum dredging rate in North Point Shoreline Zone is 3,000m^3 per day in the reporting quarter, which is complied with the criteria listed in Table 5.10 of EIA Report Register No. AEIAR-125/2008.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

4.4.3. Inert and non-inert C&D waste was disposed of for the site preparation works in this reporting period. Details of the waste flow table are summarized in ***Table 4.11.***

Table 4.11 Details of Waste Disposal for Contract no. HK/2009/01

Waste Type	Quantity this quarter, m^3	Cumulative Quantity-to-Date, m^3	Disposal / Dumping Grounds
Inert C&D materials disposed	201.54	201.54	TKO134
Inert C&D materials recycled	NIL	NIL	N/A

Waste Type	Quantity this quarter, m^3	Cumulative Quantity-to-Date, m^3	Disposal / Dumping Grounds
Non-inert C&D materials disposed	33.91	43.68	SENT Landfill
Non-inert C&D materials recycled	2.89	2.89	N/A
Chemical waste disposed	0.29	0.29	N/A
Marine Sediment (Type 1 – Open Sea Disposal)	23,987 (Bulk Volume)	23,987 (Bulk Volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal)	NIL	NIL	N/A

4.4.4. There were marine sediments Type 1 – Open Sea Disposal disposed in the reporting period. The maximum dredging rate in Cross Harbour Water Main is 845m^3 per day in the reporting quarter, which is complied with the criteria listed in Table 5.10 of EIA Report Register No. AEIAR-125/2008.

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

4.4.5. Inert and non-inert C&D waste was disposed of for the site preparation works in this reporting period. Details of the waste flow table are summarized in ***Table 4.12.***

Table 4.12 Details of Waste Disposal for Contract no. HK/2009/02

Waste Type	Quantity this quarter, m^3	Cumulative Quantity-to-Date, m^3	Disposal / Dumping Grounds
Inert C&D materials disposed	1550.5	1550.5	TKO137
Inert C&D materials recycled	NIL	NIL	N/A
Non-inert C&D materials disposed	5.5	27.5	SENT Landfill
Non-inert C&D materials recycled	NIL	NIL	N/A
Chemical waste disposed	NIL	NIL	N/A
Marine Sediment (Type 1 – Open Sea Disposal)	NIL	NIL	N/A
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal)	51210 (Bulk Volume)	51210 (Bulk Volume)	East of Sha Chau

4.4.6. There was marine sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) disposed in reporting quarter at a maximum dredging rate 1,590m^3 per day. On-going ET site inspections observed that the temporary western seawall has been partially constructed since early August 2010 with no apparent water quality impact reported for the stations WSD21, C5e and C5w, it is considered the maximum dredging rate at WCR can be stepped up to 6,000m^3 as per the criteria under Table 5.10 of EIA Report Register No. AEIAR-125/2008 for dredging with WCR area.

5. COMPLIANCE AUDIT

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

5.1. Noise Monitoring

5.1.1. Two action level exceedances were recorded due to the noise complaints on 31 July and 12 August 2010. There were complained on the construction noise nuisance from the dredging work activities at North Point District. Contractor's site practical and noise monitoring results were reviewed. Investigation found that the complaints were considered not valid from the Environmental Permit and Construction Noise Permit point of view. The details of the complaints can be referred to Section 6 and ***Appendix 5.1***.

5.1.2. Eleven limit level exceedances were recorded in the reporting quarter. All exceedances were investigated and found not attributed to the project works as major noise source was obtained from the traffic noise. Besides, crowd noise from the Wan Chai Training Pool was also contributed during evening noise monitoring at M1a – Harbour Road Sports Centre. It was concluded that the exceedances were not due to the project.

5.2. Air Monitoring

5.2.1. One action level exceedance was recorded at CMA1b on 24 August 2010. Investigation found that the exceedance was due to the burning joss paper activities near CMA1b.

5.3. Water Quality Monitoring

5.3.1. The summary of water quality exceedances recorded in reporting quarter is presented in the ***Table 5.1***.

Table 5.1 Summary of Water Quality Exceedances in the reporting Quarter

Contract no.	Water Monitoring Station	Mid-flood						Mid-ebb					
		DO		Turbidity		SS		DO		Turbidity		SS	
		AL	LL	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL
HY/2009/11	WSD9	2	2	0	0	0	1	2	4	0	0	0	1
	WSD10	3	3	0	0	3	2	2	7	0	0	1	0
	WSD15	3	4	0	0	1	3	4	8	0	0	1	0
	WSD17	3	3	0	0	0	1	4	10	1	0	0	3
	C8	5	2	2	0	7	2	3	2	0	4	7	4
	C9	4	1	0	1	8	1	6	0	2	1	6	3
HK/2009/01	WSD19	1	1	1	0	0	2	2	3	0	0	0	0
	WSD20	1	1	0	0	0	2	2	2	0	0	1	2
	WSD7	0	1	0	0	0	0	0	4	0	0	0	0
	C1	0	0	0	0	0	0	0	0	0	0	0	0
	C2	1	1	0	0	1	0	3	0	0	0	0	1

Contract no.	Water Monitoring Station	Mid-flood						Mid-ebb					
		DO		Turbidity		SS		DO		Turbidity		SS	
		AL	LL	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL
	C3	1	0	0	0	1	0	3	0	0	0	1	1
	C4e	1	0	0	0	1	0	4	0	0	0	0	0
	C4w	1	0	0	0	0	0	2	0	0	0	1	0
HK/2009/02	C5e	1	0	0	0	2	1	2	0	0	0	1	0
	C5w	1	1	0	0	2	1	0	0	0	0	1	0
	WSD21	0	1	0	0	0	1	1	0	0	0	0	1
Total		**28**	**21**	**3**	**1**	**26**	**17**	**40**	**43**	**3**	**5**	**20**	**16**

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

5.4. Review of Action and Limit Level for Water Quality Monitoring

5.4.1 Existing Action and Limit Levels were derived based on the 4-weeks baseline water quality monitoring data obtained during the dry season in October and November 2009 prior to the commencement of construction. The Action and Limit Levels are applied the water monitoring for all seasons.

5.4.2 Owing to the frequent non-project related exceedances caused by fluctuation in coastal water quality due to localized effect, it is considered the existing Action and Limit Levels values were underestimated to the natural variation of water quality around the baseline range. It is recommended to review the existing Action and Limit Levels on water quality in order to take into the account of the coastal activities and potential variation of coastal water qualities during wet season (i.e. Apr – Sep period). Action and Limit levels for wet season were devised based on a projected scenario calculated using the marine water quality data obtained at the closest EPD routine monitoring stations as per EM&A Manual Section 4.10.4 which states,

> *"Where necessary, EPD routine water quality monitoring data at the relevant station(s), dry and wet seasons inclusive, could also be used to established the baseline water quality."*

5.4.3 While the existing Action and Limit levels will continue to be used for impact monitoring for dry season (Oct – Mar period), an additional set of Action and Limit levels are proposed for use in the coming wet season and are summarized in ***Table 5.2***. The details of calculation using the marine water quality data obtained at the closest EPD routine monitoring stations can be referred to ***Appendix 5.2***.

Table 5.2 Proposed Action and Limit Levels for Water Quality Monitoring

	Dry Season (Existing AL & LL)		Wet Season	
Parameters	**Action**	**Limit**	**Action**	**Limit**
WSD Salt Water Intakes				
SS in mg/L	13.00	14.43	16.26	19.74
Turbidity in NTU	8.04	9.49	10.01	11.54
DO in mg/L	3.66	3.28	3.17	2.63
Cooling Water Intakes				
SS in mg/L	15.00	22.13	18.42	27.54
Turbidity in NTU	9.10	10.25	11.35	12.71
DO in mg/L	3.36	2.73	3.02	2.44

5.5. Site Audit

5.5.1. There was no non-compliance from the site audits in the reporting period. During environmental site inspections conducted during the reporting quarter, minor deficiencies were noted. However, the Contractor rectified all deficiencies after receipt of notification.

5.6. Review of the Reasons for and the Implications of Non-compliance

5.6.1. No project-related non-compliance from monitoring was recorded in the reporting period.

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

5.7.1. There was no particular action taken since no project-related non-compliance was recorded from the site audits and environmental monitoring in the reporting period.

6. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

6.0.1. Two noise complaints were recorded on 31 July and 12 August 2010 regarding noise nuisance from the dredging works in North Point district. Investigation found that the complaints were considered not valid from the Environmental Permit and Construction Noise Permit point of view. The details of cumulative complaint log and summary of complaints are presented in ***Appendix 6.1***.

6.0.2. No notification of summons or prosecution was received in the reporting period. Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 6.1*** and ***Table 6.2*** respectively.

Table 6.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
Jun - Aug 2010	2
Project-to-Date	**5**

Table 6.2 Cumulative Statistics on Successful Prosecutions

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

7. CUMULATIVE CONSTRUCTION IMPACT DUE TO THE CONCURRENT PROJECTS

7.0.1. According to Condition 3.4 of the EP-356/2009, this section addresses the relevant cumulative construction impact due to the concurrent activities of the current projects including the Central Reclamation, Central-WanChai Bypass and Island Eastern Corridor Link projects.

7.0.2. According to the construction programme of Central-Wan Chai Bypass and Island Eastern Corridor Link projects, the major construction activity under Wan Chai Development Phase II was the dredging works at North Point Reclamation Stage 1(NPR1), Wan Chai Reclamation Stage 1(WCR1) and Cross Harbour Water Mains in the reporting quater. The major environmental impact was water quality impact at North Point and Wan Chai. No major construction activities were undertaken in the Central-Wan Chai Bypass and Island Eastern Corridor Link projects.

7.0.3. The major environmental impacts generated from the Central Reclamation Phase III were located along the coastline of Central and Admiralty while dredging works at NPR1, WCR1 and Cross Harbour Water Mains were in operation in this reporting quarter. The dredging works was just commenced at WCR1 and Cross Harbour Water Mains in this reporting quarter. Beside, water quality mitigation measures were properly in place for the dredging works in this reporting quarter. No project related exceedance was recorded. Thus, it is evaluated that the cumulative construction impact from the concurrent projects including Wan Chai Development Phase II and Central Reclamation Phase III was insignificant.

8. CONCLUSION

8.0.1. 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.

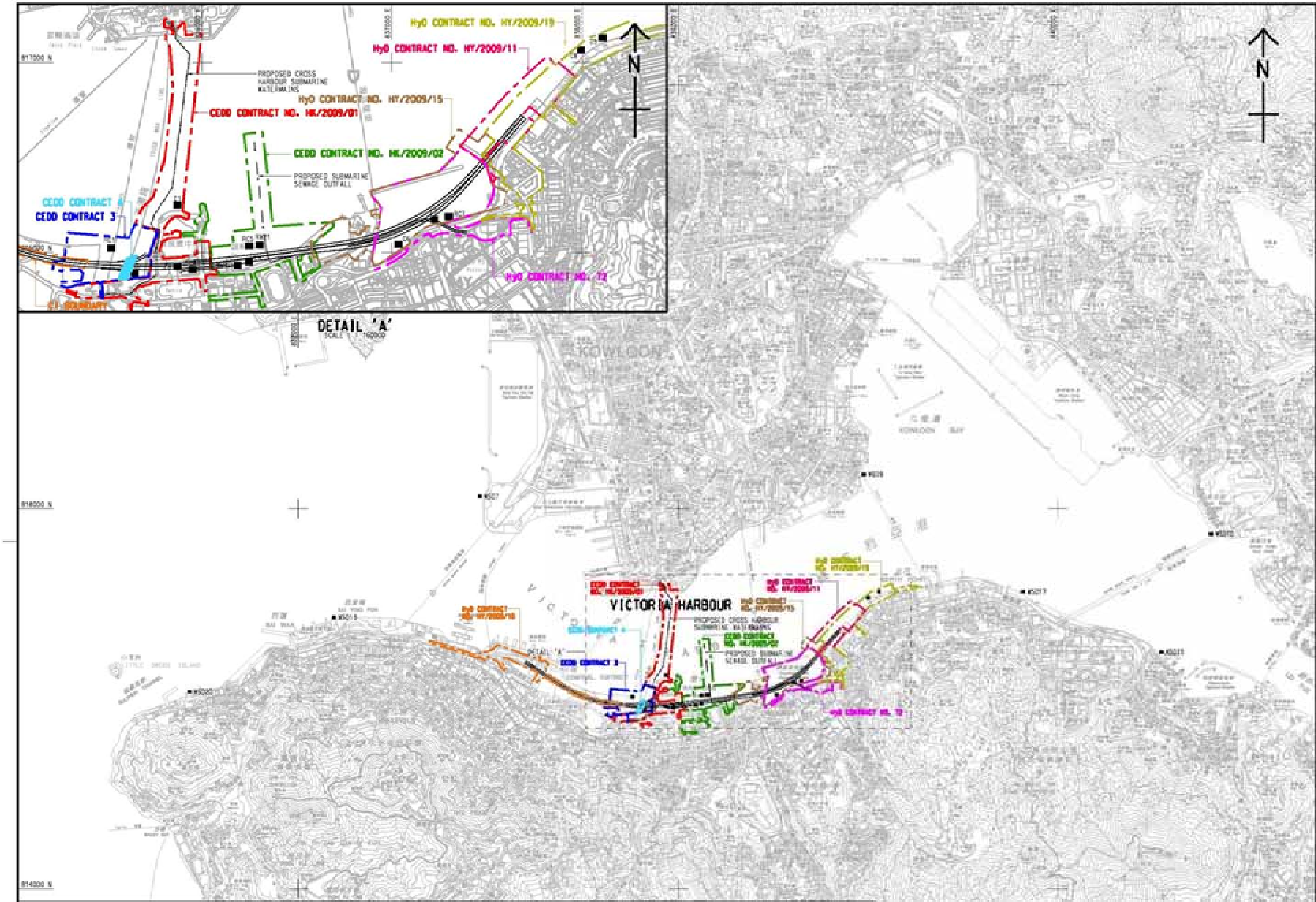
8.0.2. No project-related exceedance, non-compliances were noted and no prosecutions were received during the reporting quarter.

8.0.3. Owing to the frequent non-project related exceedances caused by fluctuation in coastal water quality due to localized effect, it is considered the existing Action and Limit Levels values were underestimated to the natural variation of water quality around the baseline range. It is recommended to review the existing Action and Limit Levels on water quality in order to take into the account of the coastal activities and potential variation of coastal water qualities during wet season (i.e. Apr – Sep period). While the existing Action and Limit levels will continue to be used for impact monitoring for dry season (Oct – Mar period), an additional set of Action and Limit levels are proposed for use in the coming wet season.

8.0.4. The construction programmes of individual contracts are provided in ***Appendix 8.1***.

Figure 2.1

Project Layout



LEGEND:

■ WATER QUALITY MONITORING STATIONS

COOLING WATER INTAKES

C1	HONG KONG CONVENTION AND EXHIBITION CENTRE EXTENSION
C2	TELECOM HOUSE/HK ACADEMY FOR PERFORMING ARTS / SHUI ON CENTRE
C3	HONG KONG CONVENTION AND EXHIBITION CENTRE PHASE I
C4	WAN CHAI TOWER AND GREAT EAGLE CENTRE
C5	SUN HUNG KAI CENTRE
C6	PROPOSED EXHIBITION STATION / WORLD TRADE CENTRE
C7	WINDSOR HOUSE
C8	CITY GARDEN
C9	PROVIDENT CENTRE
RC1	PROPOSED HKCEC EXTENSION
RC5	SUN HUNG KAI CENTRE (REPROVISION)
RC7	WINDSOR HOUSE (TEMPORARY REPROVISION)

WSD SALT WATER INTAKE

WSD21	WAN CHAI
RW1	WAN CHAI (REPROVISION)
WSD7	KOWLOON SOUTH
WSD9	TAI WAN
WSD10	CHA KWO LING
WSD15	SAI WAN HO
WSD17	QUARRY BAY
WSD19	SHEUNG WAN
WSD20	KENNEDY TOWN

土木工程拓展署
Civil Engineering and Development Department

WAN CHAI DEVELOPMENT PHASE II

WAN CHAI DEVELOPMENT PHASE II AND CENTRAL – WAN CHAI BYPASS – SAMPLING, FIELD MEASUREMENT AND TESTING WORKS (STAGE 1)

LOCATIONS OF WATER QUALITY MONITORING STATIONS

AECOM

DRAWING NO. 60041297/C5/SK001

SCALE A1 1:20000

DIMENSIONS IN METRES

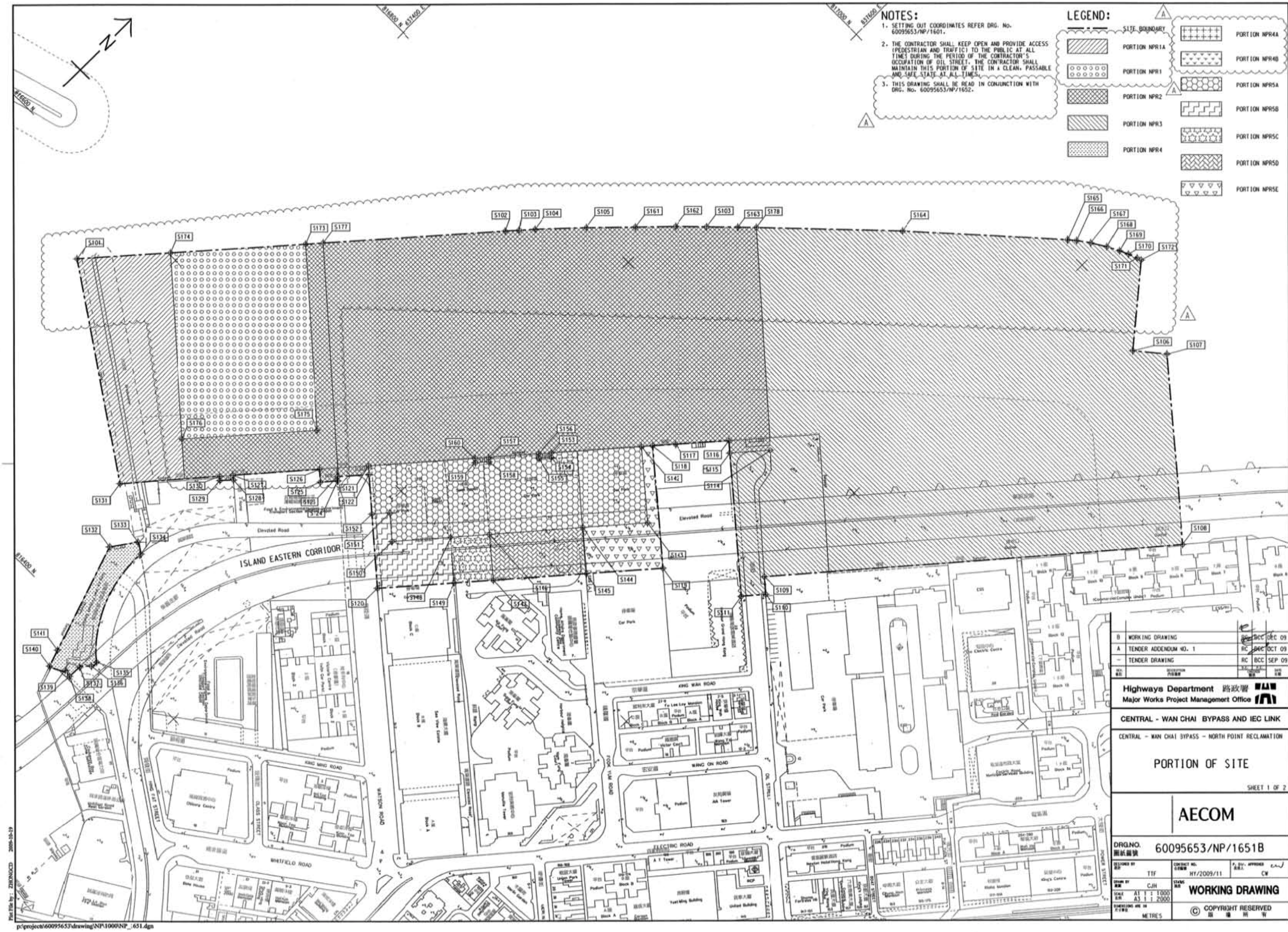
DESIGNATED PROJECTS (DP)

DP1	–	CENTRAL-WAN CHAI BYPASS (CWB) INCLUDING ITS ROAD TUNNEL AND SLIP ROADS
DP2	–	ROAD P2 AND OTHER ROADS (PRIMARY / DISTRICT DISTRIBUTOR ROADS)
DP3	–	PERMANENT AND TEMPORARY RECLAMATION WORKS INCLUDING ASSOCIATED DREDGING WORKS IN WAN CHAI DEVELOPMENT PHASE II (WDII) AREA
~~DP4~~		~~TEMPORARY PUBLIC TYPHOON SHELTER~~ (DP4 NOT TO BE IMPLEMENTED)
DP5	–	WAN CHAI EAST SEWAGE OUTFALL
DP6	–	DREDGING FOR THE CROSS-HARBOUR WATER MAINS

DP1 IS COVERED BY EP - 356/2009
DP2 IS COVERED BY EP - 376/2009
DP3, DP5 AND DP6 ARE COVERED BY EP - 356/2009

WORKS CONTRACT	DESIGNATED PROJECT INVOLVED	CONSTRUCTION COMMENCEMENT
CEDD CONTRACT NO. HK/2009/01	DP1, DP3, DP6	APRIL 2010
CEDD CONTRACT NO. HK/2009/02	DP1, DP3, DP5	APRIL 2010
CEDD CONTRACT 3	DP1, DP3	END 2011
CEDD CONTRACT 4	DP1, DP3	END 2012
CEDD CONTRACT 5	DP2	2015
HyD CONTRACT NO. HY/2009/11	DP3	18 MARCH 2010
HyD CONTRACT NO. HY/2009/15	DP1, DP3	SEPTEMBER 2010
HyD CONTRACT NO. HY/2009/18	DP1	OCTOBER 2010
HyD CONTRACT NO. HY/2009/19	DP1	NOVEMBER 2010
HyD CONTRACT T2	DP1, DP3	MID 2013

PATH p:\projects\60041297\DRAWINGS\SKETCH\C5\SKETCH 001.dgn



NOTES:

1. SETTING OUT COORDINATES REFER DRG. No. 60095653/NP/1601.
2. THE CONTRACTOR SHALL KEEP OPEN AND PROVIDE ACCESS (PEDESTRIAN AND TRAFFIC) TO THE PUBLIC AT ALL TIMES DURING THE PERIOD OF THE CONTRACTOR'S OCCUPATION OF OIL STREET. THE CONTRACTOR SHALL MAINTAIN THIS PORTION OF SITE IN A CLEAN, PASSABLE AND SAFE STATE AT ALL TIMES.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRG. No. 60095653/NP/1652.

LEGEND:

- SITE BOUNDARY
- PORTION NPR1A
- PORTION NPR1
- PORTION NPR2
- PORTION NPR3
- PORTION NPR4
- PORTION NPR4A
- PORTION NPR4B
- PORTION NPR5A
- PORTION NPR5B
- PORTION NPR5C
- PORTION NPR5D
- PORTION NPR5E

REV.	DESCRIPTION		CHECKED	DATE
B	WORKING DRAWING	RC	BCC	DEC 09
A	TENDER ADDENDUM NO. 1	RC	BCC	OCT 09
–	TENDER DRAWING	RC	BCC	SEP 09

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

CENTRAL - WAN CHAI BYPASS - NORTH POINT RECLAMATION

PORTION OF SITE

SHEET 1 OF 2

AECOM

DRG.NO. 60095653/NP/1651B

DESIGNED BY: TTF	CONTRACT NO.: HY/2009/11	P. DIV. APPROVED: CW
DRAWN BY: CJH	STATUS: WORKING DRAWING	
SCALE: A1 1 : 1000, A3 1 : 2000		
DIMENSIONS ARE IN METRES		

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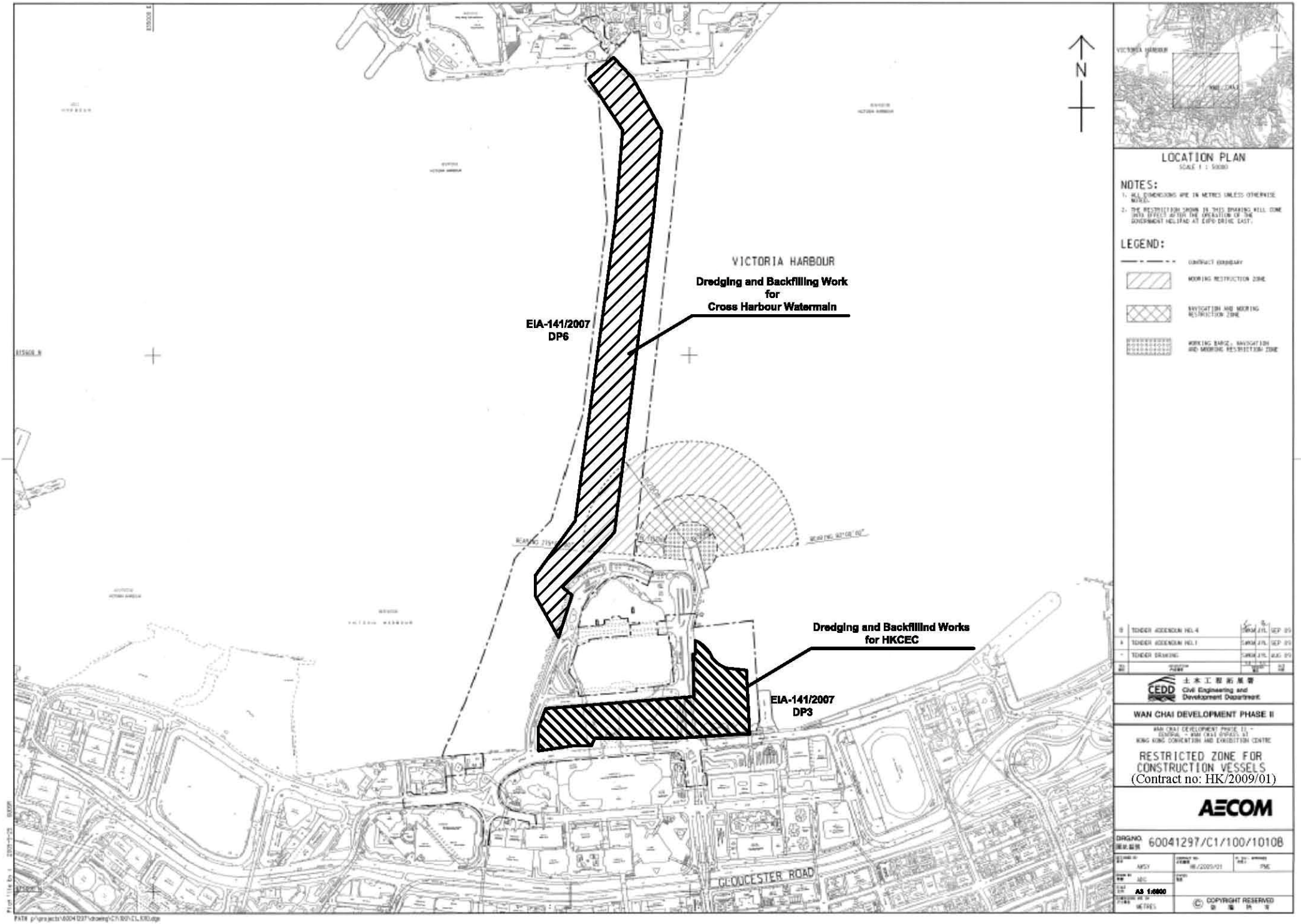
VICTORIA HARBOUR
Dredging and Backfilling Work
for
Cross Harbour Watermain
EIA-141/2007
DP6
Dredging and Backfillind Works
for HKCEC
EIA-141/2007
DP3
GLOUCESTER ROAD
N
LOCATION PLAN
SCALE 1 : 50000
NOTES:
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. THE RESTRICTION SHOWN IN THIS DRAWING WILL COME INTO EFFECT AFTER THE OPERATION OF THE GOVERNMENT HELIPAD AT EXPO DRIVE EAST.
LEGEND:
CONTRACT BOUNDARY
MOORING RESTRICTION ZONE
NAVIGATION AND MOORING RESTRICTION ZONE
WORKING BARGE, NAVIGATION AND MOORING RESTRICTION ZONE
TENDER ADDENDUM NO.4
TENDER ADDENDUM NO.1
TENDER DRAWING
CEDD
土木工程拓展署
Civil Engineering and Development Department
WAN CHAI DEVELOPMENT PHASE II
WAN CHAI DEVELOPMENT PHASE II - EXTERNAL WORKS AT HONG KONG CONVENTION AND EXHIBITION CENTRE
RESTRICTED ZONE FOR CONSTRUCTION VESSELS
(Contract no: HK/2009/01)
AECOM
DRG.NO. 60041297/C1/100/10108
AS 1:6000
METRES
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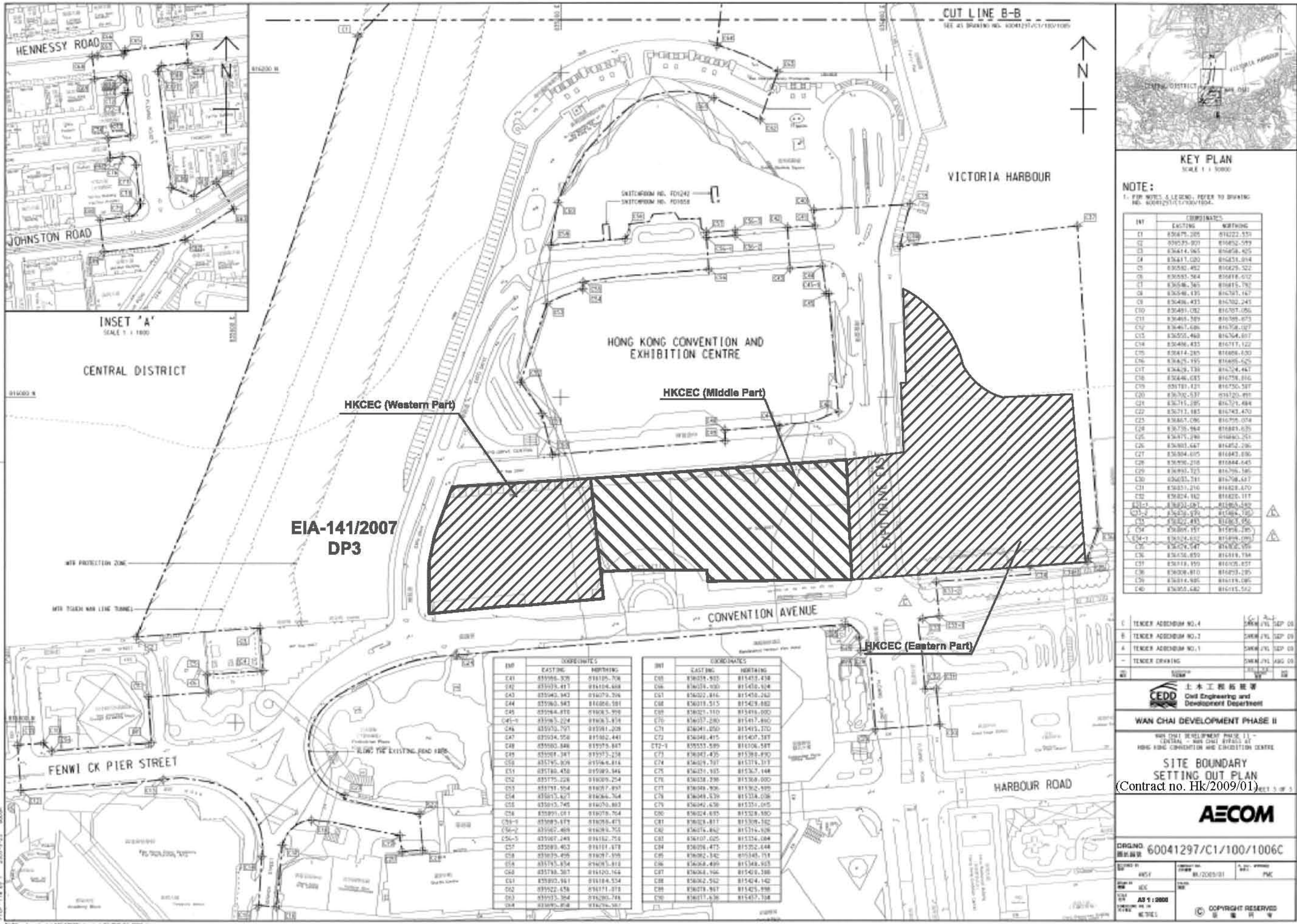

CUT LINE B-B
HENNESSY ROAD
JOHNSTON ROAD
INSET 'A'
CENTRAL DISTRICT
VICTORIA HARBOUR
HONG KONG CONVENTION AND EXHIBITION CENTRE
HKCEC (Western Part)
HKCEC (Middle Part)
HKCEC (Eastern Part)
EIA-141/2007
DP3
MTR PROTECTION ZONE
CONVENTION AVENUE
FENWICK PIER STREET
HARBOUR ROAD
KEY PLAN
NOTE:
TENDER ADDENDUM NO.4
TENDER ADDENDUM NO.3
TENDER ADDENDUM NO.1
TENDER DRAWING
Civil Engineering and Development Department
WAN CHAI DEVELOPMENT PHASE II
SITE BOUNDARY SETTING OUT PLAN
(Contract no. Hk/2009/01)
AECOM
60041297/C1/100/1006C
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OVERALL WORKING SCHEDULE

ACTIVITY	DURATION	START	FINISH
OVERALL STAGE 1 (Days 1 to 830)	830	28/01/10	06/05/12
DREDGING & RECLAMATIONS PHASE 1 (WCR1)	146 (C)	22/05/10	19/10/10
DREDGING & LAYING OF SUBMARINE OUTFALL PIPE ON SEA	410	21/09/10	02/02/12

Stage 1 : Overall Working Sequence on Reclamation Area of WCR1 and Associated Area (Days 1 to 830)

Section of Works	A	Major Work at Area WCR1
XI	A1	Construct western and eastern temporary seawall
XI	A2	Dredging and construct new seawall
XI	A3	Reclamation to level +3.5mPD
IXB	A4	Construct diaphragm wall and barrette pile of tunnel "Portion 1"
IXB	A5	Construct tunnel "Portion 1" structures including excavation and backfilling with ELSW
IVA, IVB, IVC V, VI, VII	A6	Construct all drainage system, pipeworks of intakes and cooling system within Area WCR1

Section of Works	B	Major Work in Associated Area
IVA, IVB, IVC	B1	Construct P7, P8 and P9 new pumping stations
V	B2	Construct WSD's pumping station
VI	B3	Construct connection chamber in Wan Chai East Preliminary Treatment Plant
IVA, IVB, IVC V, VI, VII	B4	Construct all drainage system, pipeworks of intakes and cooling system on public road
VI	B5	Dredging and construct the submarine outfall pipes
VIIIA	B6	Construct new Wan Chai Ferry Pier
III	B7	Construct new permanent helipad at Expo Drive
III	B8	Construct new public toilet and passenger terminal building at Expo Drive

Section of Works	C	Other Miscellaneous Works
III	C1	Construct new taxi and coach bus parking space at Expos Drive East
III	C2	Modification work on existing seawall and provide new EVA at Expo Drive
III	C3	Road re-alignment work on existing PTI at Expo Drive
II	C4	Road improvement work at junction of Harbour Road / Tonnochy Road and Fleming Road / Gloucester Road
III	C5	Demolition of existing above ground structure at Expo Drive
V	C6	Demolition of existing staircase of footbridge at Wan Shing Street
IXA	C7	Demolition of existing temporary helipad at ex-PCWA

Section of Works	D	Other Temporary Works
XI	D1	Divert existing 1800 mm diameter drain pipe

N

N 816230

N 816030

N 815830

GOLDEN BAUHINIA SQUARE

VICTORIA HARBOUR

RECLAMATION WORKS BY OTHERS

TUNNEL WORKS BY OTHERS

35m CLEAR SPACE

P7 P8 P9

DIRECTION OF TUNNEL WORKS

EXISTING WATER INTAKES

EXISTING SUBMARINE OUTFALL (SEWAGE)

EXISTING DISCHARGE

DRAINAGE DIVERSION OF 1800 PIPE

B1 B2 B3 B4 B5 B6 B7 B8

A1 A2 A3 A4 A5 A6

C1 C2 C3 C4 C6 C7

D1

0 20 40 60m

1 : 2000 SCALE BAR

REV	DATE	DESCRIPTION
C	19/05/2010	WORKING SCHEDULE UPDATED & TEMPORARY SEAWALL LAYOUT REVISED
B	14/04/2010	SECTION OF WORKS ADDED
A	08/04/2010	AS MARKED & TITLE BLOCK UPDATED

CLIENT

ENGINEER'S REPRESENTATIVE

CONTRACTOR

俊和－中國中鐵聯營
CHUN WO - CRGL JOINT VENTURE

PROJECT

CONTRACT NO. HK/2009/02
WAN CHAI DEVELOPMENT PHASE II
CENTRAL - WAN CHAI BYPASS AT WAN CHAI EAST

DRAWING TITLE

DETAILED WORKS SCHEDULE AND LOCATION PLAN - STAGE 1

	DESIGN	DRAWN	CHECKED
INITIAL	-	M.S. SIN	-
DATE	-	07/04/2010	-

DRAWING NO. CWCRJV/HK200902/SK0031 REV C

SCALE 1 : 2000 (A3)

P:\01_Construction Team\CAD (sketch working)\2010_05_19 SK0031C\CWCRJV-HK200902-SK0031C.dwg, 20/5/2010 9:34:20

Figure 2.2

Project Organization Chart

Project Organization Chart

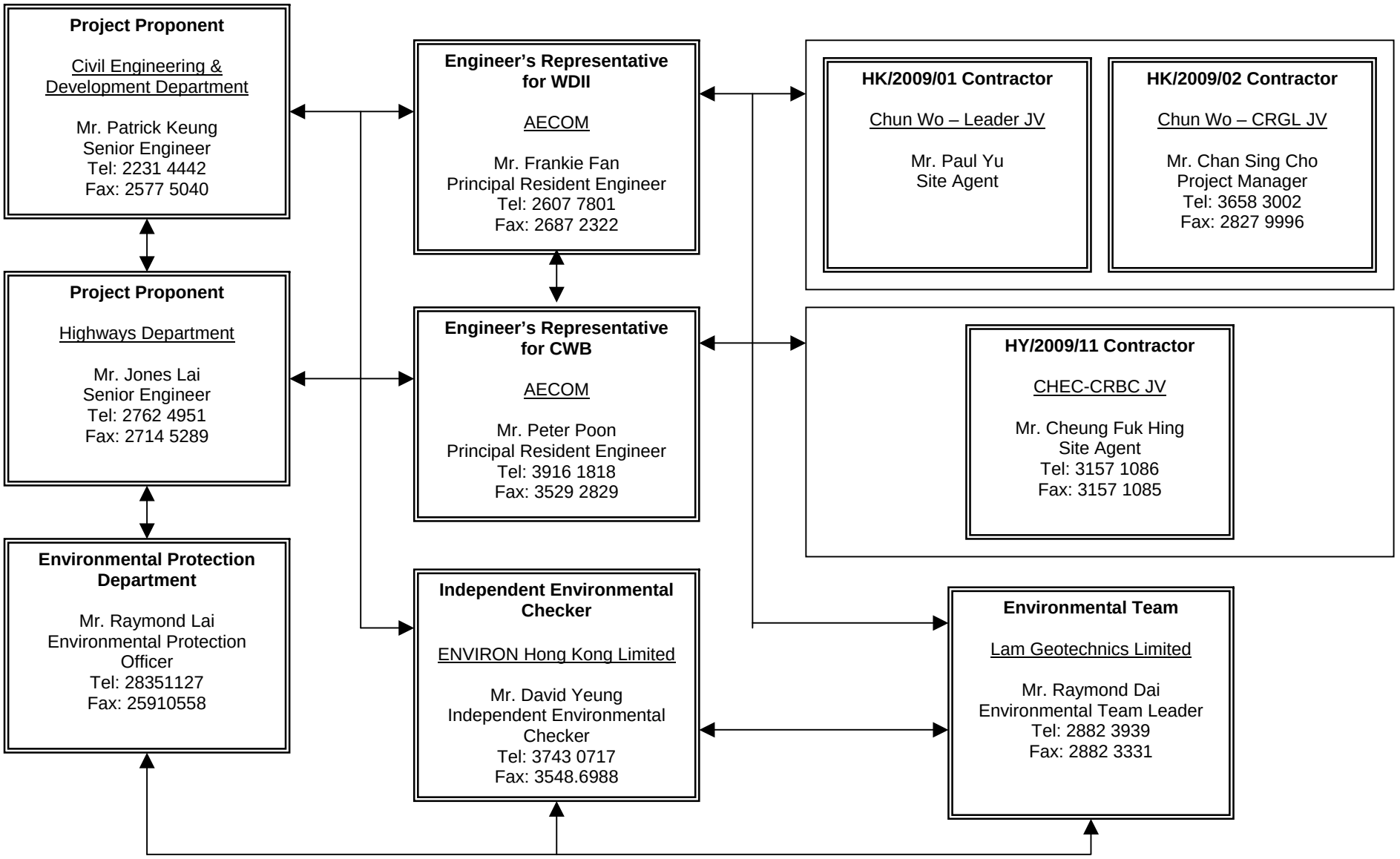


Figure 3.1

Locations of Monitoring Stations

N

LEGEND:

■ Water Quality Monitoring Stations

WSD7 - Kowloon South
WSD9 - Tai Wan
WSD10 - Cha Kwo Ling
WSD15 - Sai Wan Ho
WSD17 - Quarry Bay
WSD19 - Sheung Wan
WSD20 - Kennedy Town

Kowloon

WSD7

WSD9

WSD10

WSD19

WSD17

WSD15

WSD20

SEE FIGURE 4.1b

Hong Kong Island

MAUNSELL | AECOM

Maunsell Consultants Asia Ltd

WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

LOCATIONS OF WATER QUALITY MONITORING STATIONS

(SHEET 1 OF 2)

FIGURE 4.1a

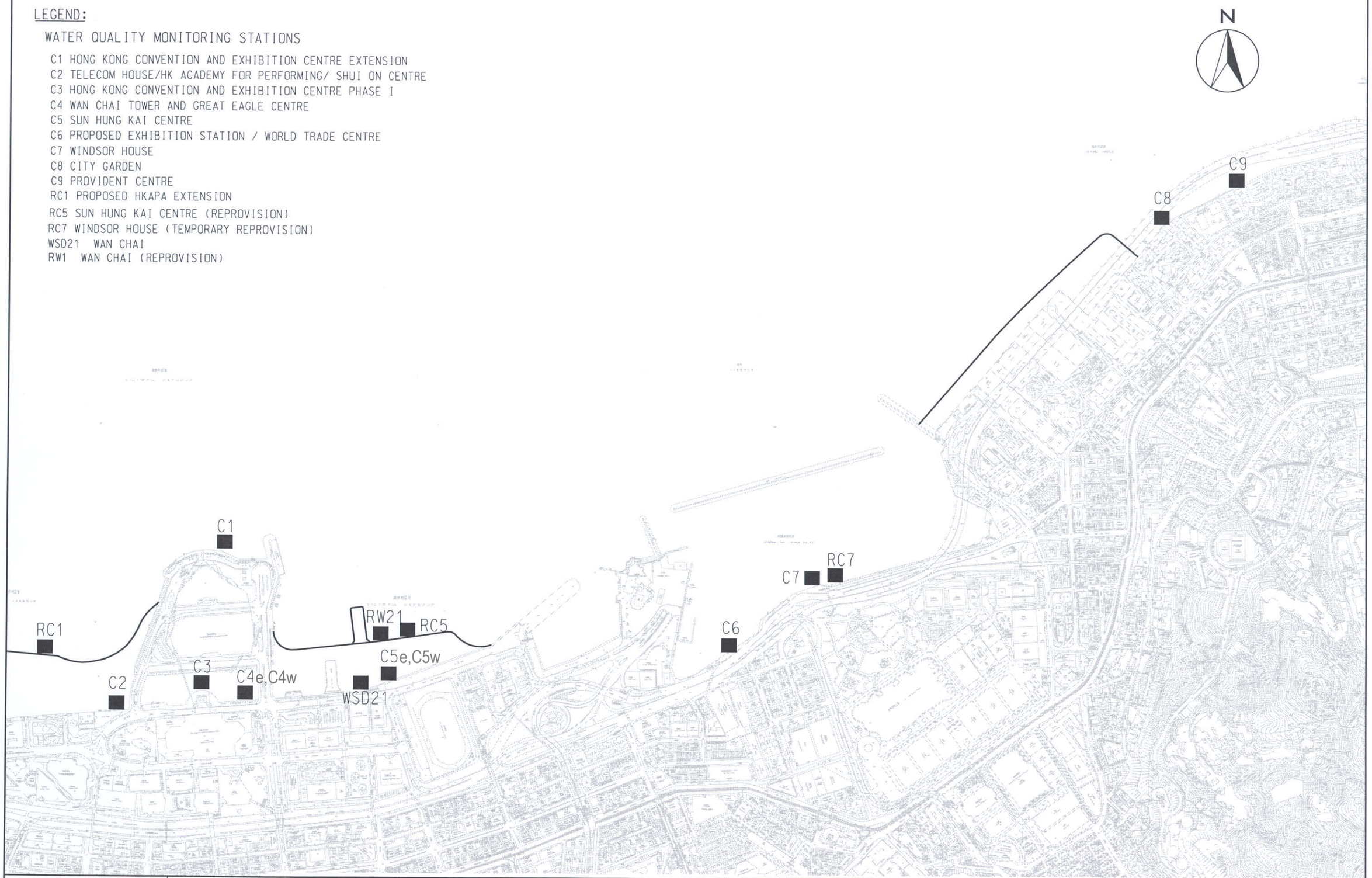
P:/60017193/REPORT/DRAWINGS/EM&A-0708/WQ/4.1A.DGN

SCALE: N.T.S. (A3)

LEGEND:

WATER QUALITY MONITORING STATIONS

C1 HONG KONG CONVENTION AND EXHIBITION CENTRE EXTENSION
C2 TELECOM HOUSE/HK ACADEMY FOR PERFORMING/ SHUI ON CENTRE
C3 HONG KONG CONVENTION AND EXHIBITION CENTRE PHASE I
C4 WAN CHAI TOWER AND GREAT EAGLE CENTRE
C5 SUN HUNG KAI CENTRE
C6 PROPOSED EXHIBITION STATION / WORLD TRADE CENTRE
C7 WINDSOR HOUSE
C8 CITY GARDEN
C9 PROVIDENT CENTRE
RC1 PROPOSED HKAPA EXTENSION
RC5 SUN HUNG KAI CENTRE (REPROVISION)
RC7 WINDSOR HOUSE (TEMPORARY REPROVISION)
WSD21 WAN CHAI
RW1 WAN CHAI (REPROVISION)



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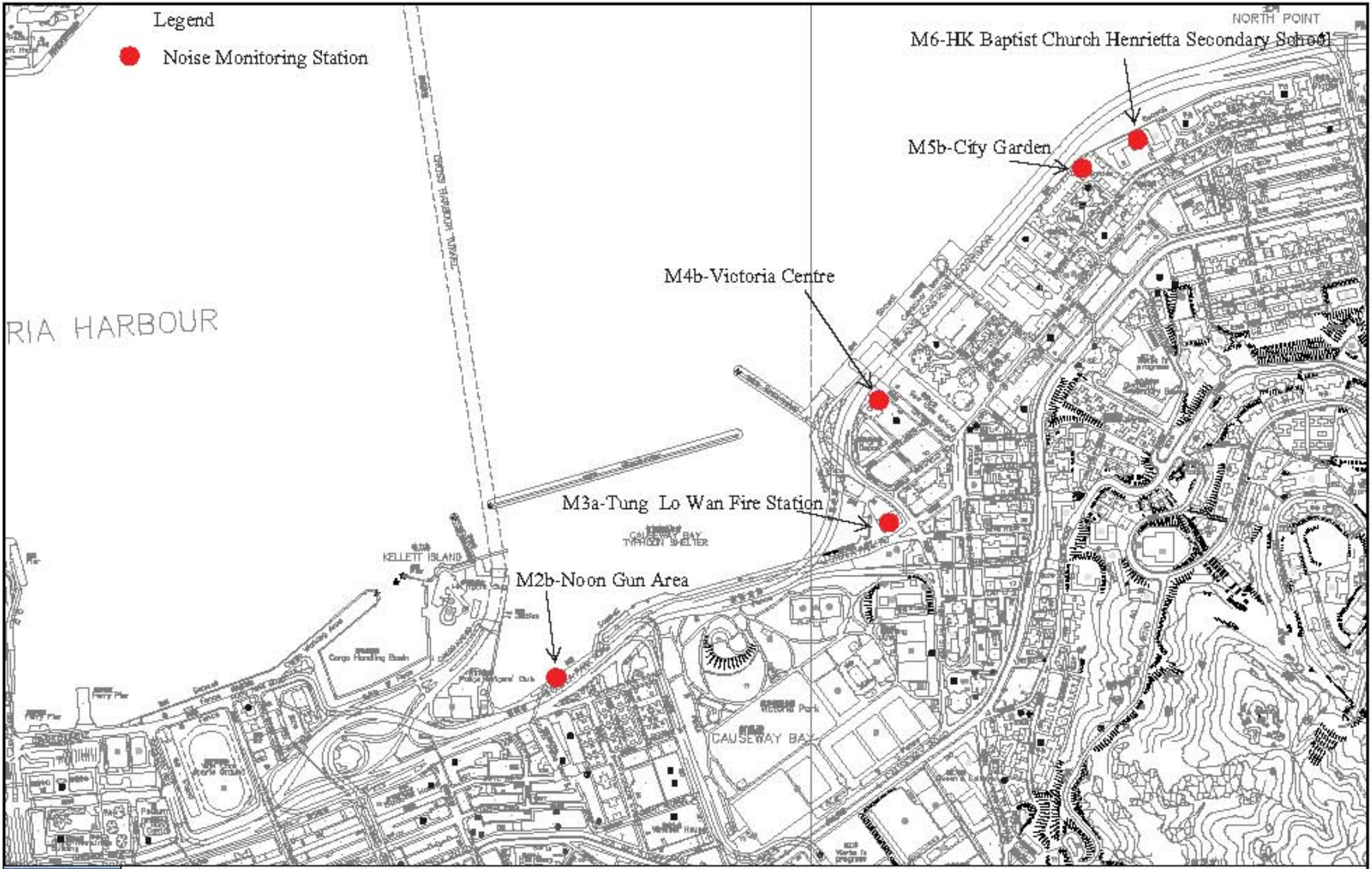
WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

LOCATIONS OF WATER QUALITY MONITORING STATIONS

(SHEET 2 OF 2)

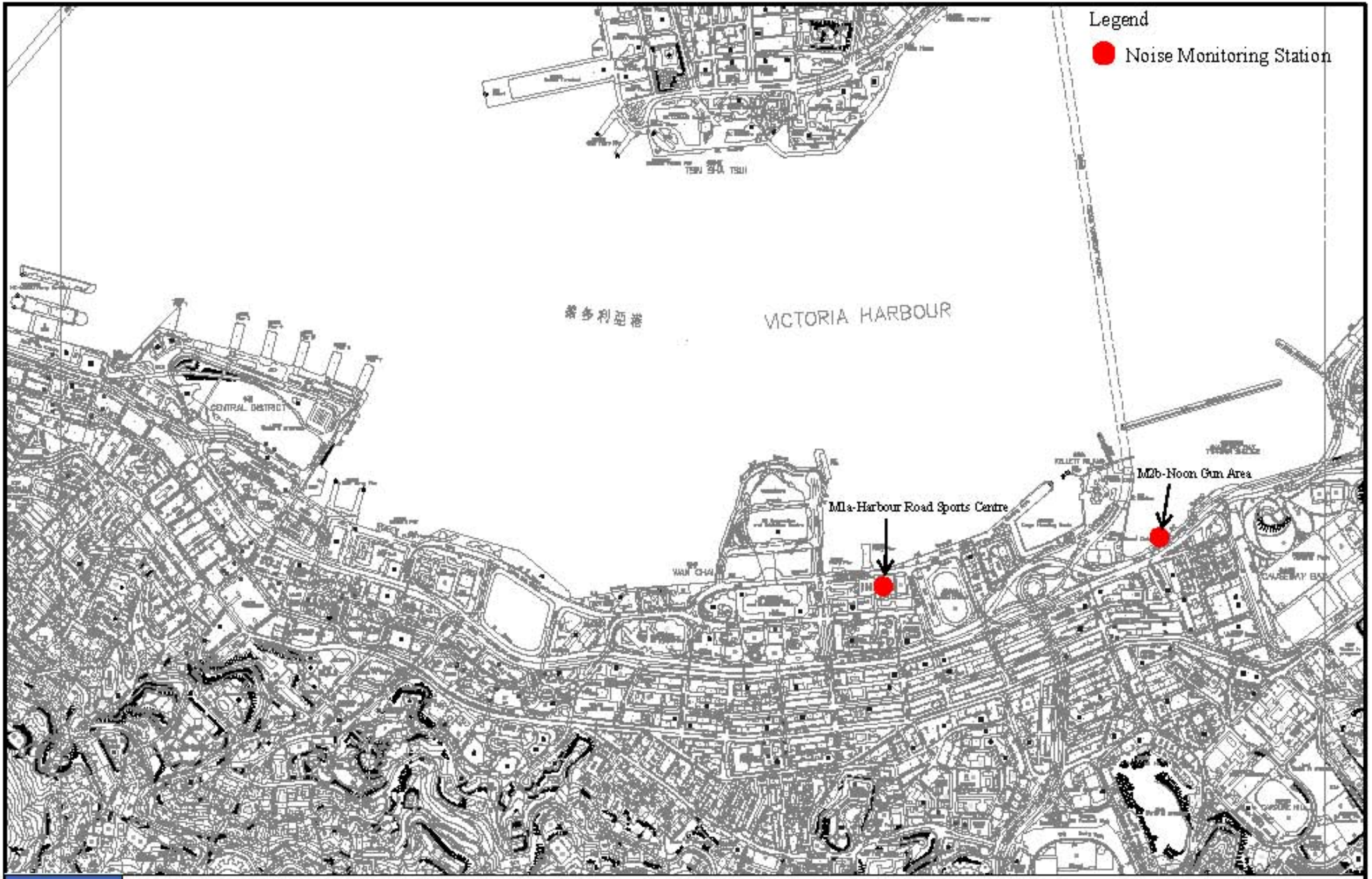
FIGURE 4.1b

P:/60017193/REPORT/DRAWINGS/EM&A-0708/WQ/4.1B.DGN SCALE 1:8000 (A3)



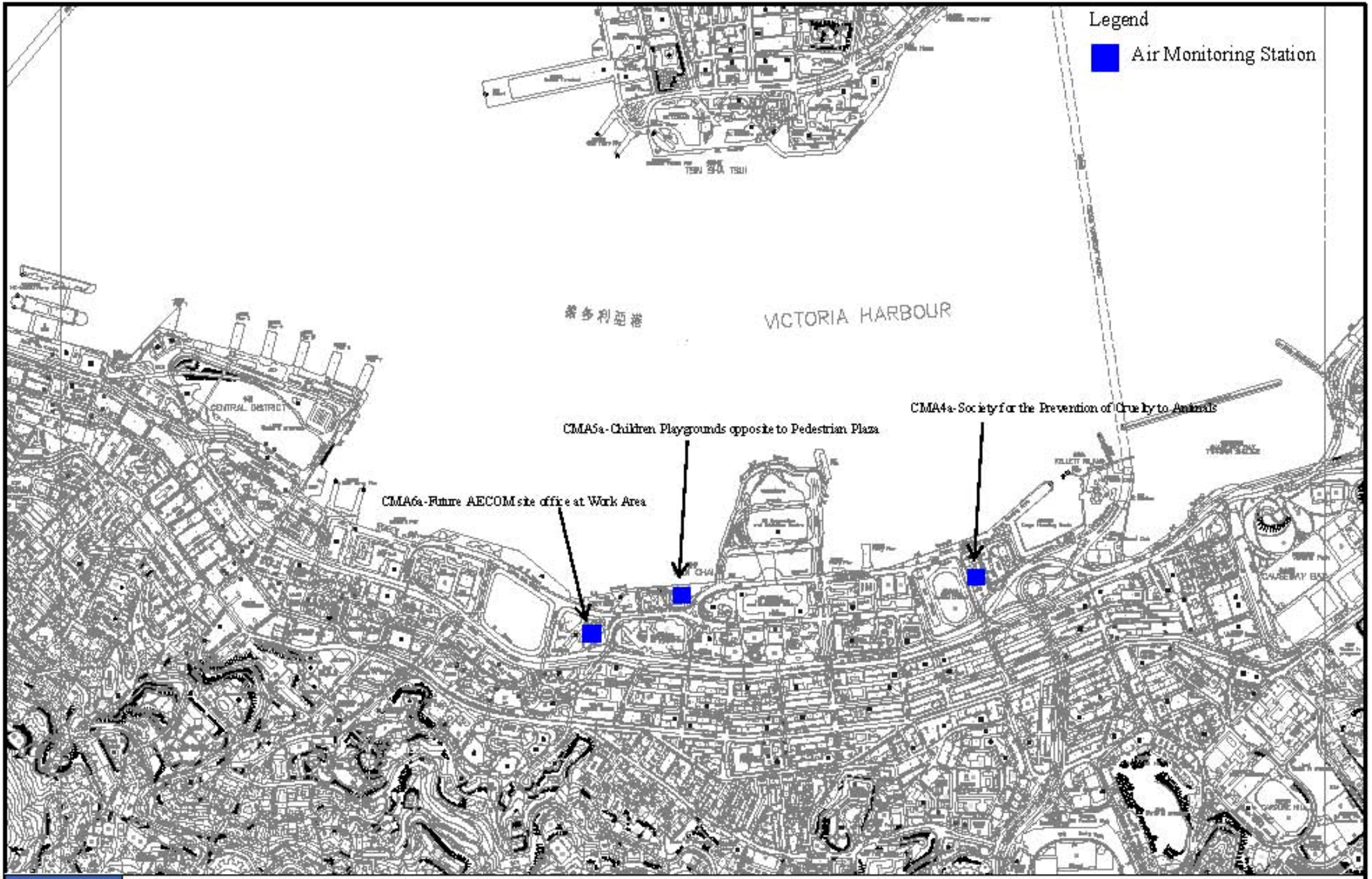
Contract no. HK/2009/05 Wan Chai Development Phase II and Central-Wan Chai Bypass

Locations of Environmental Monitoring Stations



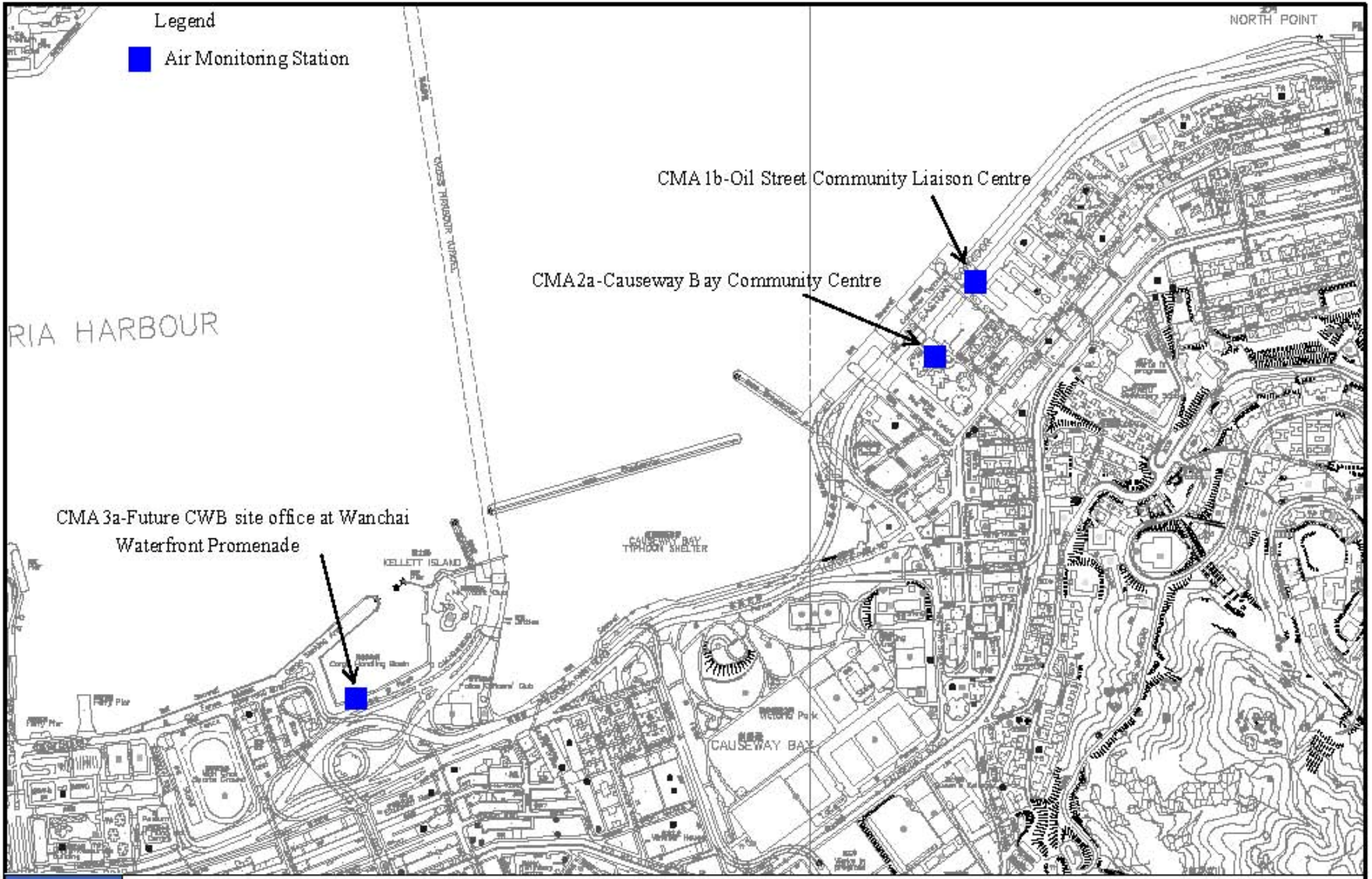
Contract no. HK/2009/05 Wan Chai Development Phase II and Central-Wan Chai Bypass

Locations of Environmental Monitoring Stations



Contract no. HK/2009/05 Wan Chai Development Phase II and Central-Wan Chai Bypass

Locations of Environmental Monitoring Stations



Contract no. HK/2009/05 Wan Chai Development Phase II and Central-Wan Chai Bypass

Locations of Environmental Monitoring Stations

Appendix 2.1

Environmental Mitigation Implementation Schedule

Environmental Mitigation Implementation Schedule

Implementation Schedule for Air Quality Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								
S3.6.5	Four times a day watering of the work site with active operations.	Work site / during construction	Contractor		√			EIAO-TM
S3.8.1	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimise cumulative dust impacts. • Strictly limit the truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition; • Watering during excavation and material handling; • Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary; and • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.	Work site / during construction	Contractor		√			

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S3.5.6	For the dredging activities carried out in the vicinity of Police Officers' Club, the dredging operation will be restricted to only 1 small close grab dredger to minimise the odour impact during the dredging activity. The dredging rate should be reduced as much as practicable for the area in close proximity to the Police Officers' Club. The sediments contain highly contaminated mud which may be disposed with the use of geosynthetic containers (details shall refer to Section 6), grab dredger has to be used for filling up the geosynthetic containers on barges. the dredging rate for the removal of the sediments at the south-west corner of the typhoon shelter shall be slowed down or restricted to specific non-popular hours in weekdays when it is necessary during construction.	Corner of CBTS/implementation of harbour-front enhancement	CEDD[1]		√			EIAO-TM
S3.8.8	Carry out dredging at the corner of CBTS to remove the sediment and clean the slime attached on the CBTS shoreline seawall	Corner of CBTS & CBTS shoreline seawall/implementation of harbour-front enhancement	CEDD[2]		√			EIAO-TM
Operation Phase								
For the Whole Project								

[1] CEDD will identify an implementation agent.

[2] CEDD will identify an implementation agent.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S3.10.2	Monthly (from July to September) monitoring of odour impacts, for a period of 5 years, is proposed during the operational phase of the Project to ascertain the effectiveness of the Enhancement Package over time, and to monitor any on-going odour impacts at the ASRs.	Planned ASRs (CBTS Breakwater)/First 5-year period of operation phase	CEDD[1]			√		EIAO-TM
For DP1 – CWB (Within the Project Boundary)								
S3.6.53 – S3.6.54	The design parameters of the East and Central Ventilation Buildings as set in Tables 3.10 and 3.11	East and Central Ventilation Buildings / During operation of the Trunk Road	HyD			√		
S3.10.2	Air quality monitoring for the operation performance of the East Ventilation Building and associated East Vent Shaft will be conducted.	East Vent Shaft / During operation of the East Ventilation Building and associated East Vent Shaft	HyD			√		EIAO-TM

- Des - Design, C - Construction, O – Operation, and Dec – Decommissioning

Table A13.2 Implementation Schedule for Noise Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.9.4	Good Site Practice: • Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program. • Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program. • Mobile plant, if any, shall be sited as far away from NSRs as possible. • Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum. • Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. • Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP1 – CWB (Within the Project Boundary)								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.8.3 – S4.8.5	Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks: • Slip road 8 tunnel • Construction of diaphragm wall and substructures of the tunnel approach ramp • Excavation • Construction of slabs • Backfill • Demolition and construction of substructures for the IEC • Demolition works of existing piers and crossheads of the marine section of the existing IEC Use of PME grouping for the following tasks: • At-grade road construction • Substructure for IECL connection	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP2 – WDII Major Roads (Road P2)								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks: • Temporary road diversion • Resurfacing • At-grade roadwork	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP3 – Reclamation Works								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following task: • Filling behind seawall • Seawall construction	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
For DP5 – Wan Chai East Sewage Outfall								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following tasks: • Submarine pipelines (marine section) Use of quiet powered mechanical equipment and movable noise barrier for the following tasks: • Installation of a new pipeline (land section)	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP6 – Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following tasks: • Submarine pipelines (marine section) •	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Operation Phase								
For DP1 – CWB (Within the Project Boundary)								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.8.14 – S4.8.18	• For Existing NSRs • about 235m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC • about 230m length of noise semi-enclosure with transparent panel covering the main carriageways (eastbound and westbound) of the CWB and IEC • about 135m length of 5.5m high cantilevered noise barrier with 3m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC • about 95m length of 5.5m high cantilevered noise barrier with 1m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC • about 350m length of 3.5m high vertical noise barrier with transparent panel on the eastbound slip road to the IEC • low noise road surfacing for the trunk road (except tunnel section and beneath the landscaped deck at the eastern portal area) with speed limit of 70 km/hour	Near North Point / Before commencement of operation of road project	HyD	√	√	√		EIAO-TM
	For Future/Planned NSRs • about 265m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC	In between the Electric Centre (next to City Garden) and CDA(1) site / Before occupation of Planned NSRs in CDA and CDA(1) sites.	HyD	√	√ #			

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	• The openable windows of the temple, if any, should be orientated so as to avoid direct line of sight to the existing Victoria Park Road as far as practicable.	Near Causeway Bay Fire Station / During detailed design of the re-provisioned Tin Hau Temple	Project Proponent for the re-provisioned Tin Hau Temple	√				

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Only the steel frame for this section of noise semi-enclosure would be erected in advance during the construction of the westbound slip road.

Table A13.3 Implementation Schedule for Water Quality Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For DP3 – Reclamation Works, DP5 (Wan Chai East Sewage Outfall), DP6 (Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui), DP1 – CWB (within the Project Boundary)								
S5.8	A phased reclamation approach is planned for the WDII. Containment of fill within each of the reclamation phases by seawalls is proposed, with the seawall constructed first (above high water mark) with filling carried out behind the completed seawalls. Any gaps that may need to be provided for marine access will be shielded by silt curtains to control sediment plume dispersion away from the site. Filling for seawall construction should be carried out behind the silt curtain	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8	Dredging shall be carried out by closed grab dredger for the following works: • Seawall construction in all the reclamation areas; • Construction of the CWB Tunnel • Construction of the proposed WSD water mains; and • Construction of the proposed Wan Chai East sewage outfall pipelines.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8, Figure 5.3	Dredging for the Wan Chai East sewage outfall pipelines shall not be carried out concurrently with the following activities: • Dredging along the proposed cross-harbour water mains; • Dredging along the seawall in the Wan Chai Reclamation (WCR) zone (area between HKCEC Extension and PCWA).	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	The water body behind the temporary reclamations within the Causeway Bay typhoon shelter shall not be fully enclosed.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8	As a mitigation measure, to avoid the accumulation of water borne pollutants within the temporary embayment between CRIII and HKCEC1, an impermeable barrier, suspended from a floating boom on the water surface and extending down to the seabed, will be erected by the contractor before the HKCEC1 commences. The barrier will channel the stormwater discharge flows from Culvert L to the outside of the embayment. The contractor will maintain this barrier until the reclamation works in HKCEC2W are carried out and the new Culvert L extension is constructed.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8, Figure 5.3	The total dredging rates in each of the marine works zones shall not be more than the maximum production rates stated in the table below. These are the production rates without considering the effect of silt curtain.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

Reclamation Area		Maximum Dredging Rate		Maximum Dredging Rate (m^3 per week)
		m^3 per day	m^3 per hour (for 16 hrs per day)	
Dredging along seawall or breakwater				
North Point Shoreline Zone (NPR)		6,000	375	42,000
Causeway Bay Shoreline Zone	TBW	1,500	94	10,500
	TCBR	6,000	375	42,000
PCWA Zone		5,000	313	35,000

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<table><tr><td colspan="2">Wan Chai Shoreline Zone (WCR)</td><td>6,000</td><td>375</td><td>42,000</td></tr><tr><td rowspan="2">HKCEC Shoreline Zone (HKCEC)</td><td>HKCEC Stage 1 & 3</td><td>1,500</td><td>94</td><td>10,500</td></tr><tr><td>HKCEC Stage 2</td><td>6,000</td><td>375</td><td>42,000</td></tr><tr><td colspan="2">Cross Harbour Water Mains</td><td>1,500</td><td>94</td><td>10,500</td></tr><tr><td colspan="2">Wan Chai East Submarine Sewage Pipeline</td><td>1,500</td><td>94</td><td>10,500</td></tr></table> Note: 1,500 m^3 per day shall be applied for construction of the western seawall of WCR1.							
S5.8, Figure 5.3	Dredging along the seawall at WCR1 shall be undertaken initially at 1,500m^3 per day for construction of the western seawall (which is in close proximity of the WSD intake), followed by partial seawall construction at the western seawall (above high water mark) to protect the adjacent intakes as much as possible from further dredging activities.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8, Figure 5.3	For dredging within the Causeway Bay typhoon shelter, seawall shall be partially constructed to protect the nearby seawater intakes from further dredging activities. For example, at TCBR1W, the southern and eastern seawalls shall be constructed first (above high water mark) so that the seawater intakes at the inner water would be protected from the impacts from the remaining dredging activities along the northern boundary.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8, Figure 5.3	Silt curtains shall be deployed around the closed grab dredgers during seawall dredging and seawall trench filling in the areas of HKCEC, WCR, TCBR and NP.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8, Figure 5.3	Silt screens shall be applied to seawater intakes at interim construction stages as stated below: <table><tr><th>Interim Construction Stage</th><th>Location of Applications</th></tr><tr><td>**Scenario 2A** in early 2009 with concurrent dredging activities at HKCEC, WCR, TPCWA, TBW, NP and Water Mains Zone</td><td>**WSD saltwater intakes** at Sai Wan Ho, Quarry Bay, Sheung Wan, Wan Chai, Kowloon South **Cooling water intakes** for Hong Kong Convention and Exhibition Centre Extension, Hong Kong Convention and Exhibition Centre Phase I, Telecom House / HK Academy for Performing Arts / Shun On Centre, Wan Chai Tower / Revenue Tower / Immigration Tower and Sun Hung Kai Centre</td></tr><tr><td>**Scenario 2B** in late 2009/2010 with concurrent dredging activities at Sewage Pipelines Zone and TCBR.</td><td>**WSD saltwater intakes** at Sheung Wan, Wan Chai **Cooling water intakes** for Queensway Government Offices, Excelsior Hotel, World Trade Centre and Windsor House.</td></tr><tr><td>**Scenario 2C** in 2011 with concurrent dredging activities at HKCEC and TCBR.</td><td>**WSD saltwater intakes** at Sheung Wan and Reprovisioned WSD Wan Chai saltwater intake. **Cooling water intakes** for MTR South, Excelsior Hotel & World Trade Centre and reprovisioned Windsor House.</td></tr></table>	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	Other mitigation measures include: • mechanical grabs, if used, shall be designed and maintained to avoid spillage and sealed tightly while being lifted. For dredging of any contaminated mud, closed watertight grabs must be used; • all vessels shall 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 hopper barges and dredgers shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material; • construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds; • loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water. Barges or hoppers shall not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation; and	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	• before commencement of the reclamation works, the holder of Environmental Permit has to submit plans showing the phased construction of the reclamation, design and operation of the silt curtain.							
S5.8	Silt screens are recommended to be deployed at the seawater intakes during the reclamation works period. Installation of silt screens at the seawater intake points may cause a potential for accumulation and trapping of pollutants, floating debris and refuse behind the silt screens and may lead to potential water quality deterioration at the seawater intake points. Major sources of pollutants and floating refuse include the runoff and storm water discharges from the nearby coastal areas. 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 shall be performed at the monitoring stations at regular intervals on a daily basis. The Contractor shall be responsible for keeping the water behind the silt screen free from floating rubbish and debris during the impact monitoring period.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	Dredging of contaminated mud is recommended as a mitigation measures for control of operational odour impact from the Causeway Bay typhoon shelter. In recognition of the potential impacts caused by dredging activities close to the seawater intakes, only 1 small close grab dredger shall be operated within the typhoon shelter (for the dredging to mitigate odour impact) at any time to minimize the potential impact. Double silt curtains shall be deployed to fully enclose the closed grab dredger during the dredging operation. In addition, an impermeable barrier, suspended from a floating boom on the water surface and extended down to the seabed, shall be erected to isolate the adjacent intakes as much as possible from dredging activities. For example, if dredging is to be carried out at the southwest corner of the typhoon shelter, physical barriers shall be erected to west of the cooling water intake for Excelsior Hotel so that the intake would be shielded from most of the SS generated from the dredging operation to the west of the intake. For area in close proximity of the cooling water intake point, the dredging rate shall be reduced as much as practicable. Site audit and water quality monitoring shall be carried out at the seawater intakes during the dredging operations. Daily monitoring of SS at the cooling water intake shall be carried out, and 24 hour monitoring of turbidity at the intakes shall be implemented during the dredging activities. If the monitoring results indicate that the dredging operation has caused significant changes in water quality conditions at the seawater intakes, appropriate actions shall be taken to stop the dredging and mitigation measures such as slowing down the dredging rate shall be implemented.	Causeway Bay typhoon shelter/Implementation of harbour-front enhancement.	CEDD[3]		√			WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
For the Whole Project								
S5.8	• Construction Runoff and Drainage • use of sediment traps, wheel washing facilities for vehicles leaving the site, and adequate maintenance of drainage systems to prevent flooding and overflow; • Permanent drainage channels shall incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC PN 1/94; • a sediment tank constructed from pre-formed individual cells of approximately 6 - 8 m3 capacity can be used for settling ground water prior to disposal; • oil interceptors shall be provided in the drainage system for the tunnels and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor shall have a bypass to prevent flushing during periods of heavy rain; • precautions and actions to be taken when a rainstorm is imminent or forecast, and during or after rainstorms. Particular attention shall be paid to the control of any silty surface runoff during storm events; • on-site drainage system shall be installed prior to the commencement of other construction activities. Sediment traps shall be installed in order to minimise the sediment loading of the effluent prior to discharge; • All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge shall be adequately designed for the controlled release of storm flows. All sediment control measures shall be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage shall be reinstated to its original condition when the construction work is finished or the temporary diversion is no longer	• Work site / During the constructi on period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

[3] CEDD will identify an implementation agent.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	required. • All fuel tanks and store areas shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity.							
	• Minimum distances of 100 m shall be maintained between the storm water discharges and the existing or planned WSD flushing water intakes during construction phase.							
S5.8	*Sewage from Construction Work Force* Construction work force sewage discharges on site shall be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage shall be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)
S5.8	*Floating Debris and Refuse* Collection and removal of floating refuse shall be performed at regular intervals on a daily basis. The contractor shall be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish.	Work site and adjacent water / During the construction period.	Contractor		√			WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	*Storm Water Discharges* Minimum distances of 100 m shall be maintained between the existing or planned stormwater discharges and the existing or planned WSD flushing water intakes.	Work site and adjacent water / During the design and construction period.	Contractor	√	√			WPCO
Operation Phase								
DP1 – CWB (within the Project Boundary)								
S5.8	For the operation of CWB, a surface water drainage system would be provided to collect road runoff. The following operation stage mitigation measures are recommended to ensure road runoff would comply with the TM under the WPCO: • The drainage from tunnel sections shall be directed through petrol interceptors to remove oil and grease before being discharged to the nearby foul water manholes. • Petrol interceptors shall be regularly cleaned and maintained in good working condition. • Oily contents of the petrol interceptors shall be properly handled and disposed of, in compliance with the requirements of the Waste Disposal Ordinance. • Sewage arising from ancillary facilities of CWB (for examples, car park,	CWB/During design and operational period	HyD/TD[3]	√		√		WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	control room, ventilation and administration buildings and tunnel portals) shall be connected to public sewerage system. Sufficient capacity in public sewerage shall be made available to the proposed facilities. • Road drainage shall also be provided with adequately designed silt trap to minimize discharge of silty runoff. • The design of the operational stage mitigation measures for CWB shall take into account the guidelines published in ProPECC PN 5/93 "Drainage Plans subject to Comment by the EPD." All operational discharges from the CWB into drainage or sewerage systems are required to be licensed by EPD under the WPCO.							

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

[3] if employ Management, Operation and Maintenance (MOM) Contract

Table A13.4 Implementation Schedule for Waste Management

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For DP3 – Reclamation Works								
S6.7.2	***Marine Sediments*** The dredged marine sediments would be loaded onto barges, transported to and disposed of at the designated disposal sites at South of Cheung Chau, East of Ninepin, East of Tung Lung Chau, South of Tsing Yi or East of Sha Chau to be allocated by the MFC depending on their level of contamination or at other disposal sites after consultation with the MFC and EPD. In accordance with the ETWB TCW No. 34/2002, the contaminated material must be dredged and transported with great care. The mitigation measures recommended in Section 5 of the EIA Report shall be incorporated. The dredged contaminated sediment must be effectively isolated from the environment upon final disposal and shall be disposed of at the Type 2 confined marine disposal contaminated mud pit.	Work site / During the construction period	Contractor		√			ETWB TCW No. 34/2002
S6.7.3	Based on the biological screening results, the Category H (>10xLCEL) sediment which failed the biological testing would require Type 3 special disposal. The volume of Category H sediment from the Causeway Bay typhoon shelter which would require special disposal arrangements is estimated to be approximately 0.05 Mm^3. A feasible containment method is proposed whereby the dredged sediments are sealed in geosynthetic containers and, at the disposal site, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping, thereby meeting the requirements for fully confined mud disposal.							

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.5	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, at least 3 months prior to the dredging contract being tendered							
S6.7.6	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.							

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	• 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.							
S6.6.12	***Floating Refuse*** During the construction phase, the project proponent's contractor will be responsible for the collection of any refuse within their works area. Floating booms will be provided on the water surface to confine the refuse from the working barges as well as to avoid the accumulation of pollutants within temporary embayment as mentioned in Table 13.3.	Work site / During the construction period	Contractor		√			
For the Whole Project								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.7	*Good Site Practices* Recommendations for good site practices during the construction 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; • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and • a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	Work site / During the construction period	Contractor		√			Waste Disposal Ordinance (Cap.354)

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.8	*Waste Reduction Measures* Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: • 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; • to encourage collection of aluminium cans, PET bottles and paper, separate labelled bins shall be provided to segregate these wastes from other general refuse generated by the work force; • any unused chemicals or those with remaining functional capacity shall be recycled; • use of reusable non-timber formwork, such as in casting the tunnel box sections, to reduce the amount of C&D material. • prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill; • proper storage and site practices to minimise the potential for damage or contamination of construction materials; and • plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	Work site / During planning and design stage, and construction stage	Contractor	√	√			

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.10	*General Refuse* General refuse shall be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D material. A collection area shall be provided where wastes can be stored and loaded prior to removal from site. An enclosed and covered area is recommended to reduce the occurrence of 'wind blow' light material.	Work site / During the construction period	Contractor		√			Public Health and Municipal Services Ordinance (Cap. 132)
S6.7.11	*Chemical Wastes* After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) shall be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals shall 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 the construction period	Contractor		√			Waste Disposal (Chemical Waste) (General) Regulation Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S6.7.12	*Construction and Demolition Material* C&D material shall be sorted on-site into inert C&D material (that is, public fill) and C&D waste. All the suitable inert C&D material shall be broken down to 250 mm in size for reuse as public fill in the WDII reclamation. C&D waste, such as wood, glass, plastic, steel and other metals shall be reused or recycled and, as a last resort, disposed of to landfill. A suitable area shall be designated to facilitate the sorting process and a temporary stockpiling area will be required for the separated materials.	Work site / During the construction period	Contractor		√			ETWB TCW No. 33/2002, 31/2004, 19/2005

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.13	In order to monitor the disposal of public fill and C&D waste at public filling facilities and landfills, respectively, and to control fly tipping, a trip-ticket system shall be included as one of the contractual requirements and implemented by the Environmental Team undertaking the environmental monitoring and audit work. An Independent Environment Checker shall be responsible for auditing the results of the system.	Work site / During the construction period	Contractor and Independent Environmental Checker		√			ETWB TCW No. 31/2004
S6.7.14	*Bentonite Slurry* The disposal of residual used bentonite slurry shall follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage" and listed as follows: • If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis. • If the used bentonite slurry is intended to be disposed of through the public drainage system, it shall be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the Technical Memorandum of Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. • If the used bentonite slurry is intended to be disposed to public fill reception facilities, it will be mixed with dry soil on site before disposal.	Work site / During the construction period	Contractor		√			ProPECC PN 1/94

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table A13.5 Implementation Schedule for Land Contamination

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								
S.12.6	• The contaminated site shall be cleaned up before commencement of site clearance and construction work at the concerned area which may disturb the ground.	A King Marine / Before commencement of construction activities at A King Marine.	Project proponent for the re-provisioned Tin Hau Temple	√				"*Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards, and Car Repair/Dismantling Workshops*" published by EPD, HKSAR EPD ProPECC Note No. 3/94
S7.10	During soil remediation works, the Contractor for the excavation works shall take note of the following points for excavation: • Excavation profiles must be properly designed and executed; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; • Quantities of soil to be excavated must be estimated; • It maybe necessary to split quantities of soil according to soil type, degree and nature of contamination. • Temporary storage of soil at intermediate depot or on-site	A King Marine / During soil remediation works	Contractor	√				Air Pollution Control Ordinance Noise Control Ordinance Waste Disposal Ordinance Waste Disposal (Chemical Waste) (General) Regulation

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	maybe required. The storage site shall include protection facilities for leaching into the ground. eg. Liner maybe required.							
	• Supply of suitable clean backfill materials is needed after excavation. • Care must be taken of existing buildings and utilities. • Precautions must be taken to control of ground settlement • Speed controls for vehicles shall be imposed on dusty site areas. • Vehicle wheel and body washing facilities at the site's exit points shall be established and used. The following environmental mitigation measures shall be strictly followed during the operation and/or maintenance of the CS/S facilities:							Water Pollution Control Ordinance

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	Air Quality Mitigation Measures • The loading, unloading, handling, transfer or storage of cement shall be carried out in an enclosed system. • The loading, unloading, handling, transfer or storage of other materials which may generate airborne dust emissions such as untreated soil and oversize materials sorted out from the screening plant and stabilized soil stockpiled in the designated handling area, shall be carried out in such a manner to prevent or minimise dust emissions. These materials shall be adequately wetted prior to and during the loading, unloading and handling operations. • All practicable measures, including speed controls for vehicles, shall be taken to prevent or minimize the dust emission caused by vehicle movement. • Tarpaulin or low permeable sheet shall be put on dusty vehicle loads transported between site locations.							
	Noise Mitigation Measures • The mixing facilities shall be sited as far as practicable to the nearby noise sensitive receivers. • Simultaneous operation of mixing facilities and other equipment shall be avoided. • Mixing process and other associated material handling activities shall be properly scheduled to minimise potential cumulative noise impact on the nearby noise sensitive receivers. • Construction Noise Permit shall be applied for the operation of powered mechanical equipment during restricted hours (if any).							

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	Water Quality Mitigation Measures • Stockpile of untreated soil shall be covered as far as practicable to prevent the contaminated material from leaching out. The leachate shall be discharged following the requirements of WPCO. *Waste Mitigation Measures* • Treated oversize materials will be used as filling material for backfilling within the site. Sorted materials of size smaller than 5 cm will be collected and transferred to the mixing plant for further decontamination treatment. • Stabilized soils shall be broken into suitable size for backfilling or reuse on site. • A high standard of housekeeping shall be maintained within the mixing plant area. • If necessary, there shall be clear and separated areas for stockpiling of untreated and treated materials.							

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table A13.6 Implementation Schedule for Marine Ecology

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project - Schedule 3 DP								
S.9.7.2	Alternative design of the Trunk Road constructed in tunnel shall be adopted to avoid permanent reclamation in CBTS and ex-PWCA Basin.	-	CEDD/HyD	√				EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
For DP3 – Reclamation Works								
S.9.7.3	Translocation of those potentially affected coral colonies to the nearby suitable habitats such as Junk Bay is recommended. A detailed translocation plan (including translocation methodology, monitoring of transplanted corals, etc.) should be drafted and approval by AFCD during the detailed design stage of the Project.	Ex-PCWA Basin and along seawall next to a public pier which is about 250 m away from the CBTS	CEDD/HyD	√				EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S.9.7.4	During dredging and filling operations, a number of mitigation measures to control water quality shall be adopted to confine sediment plume within reclamation area and protect marine fauna in proximity to the reclamation. The mitigation measures include the following: • Installation of silt curtains during dredging activities • Use of tightly-closed grab dredger • Reduction of dredging rate • Control of grab descending speed • Construction of leading edges of seawall in the early stages of the reclamation works	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
	• Adoption of multiple-phase construction schedule							

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S.9.7.6	To minimize potential disturbance impacts on the foraging ardeid population in the CBTS, particularly in the area near the A King Shipyard, appropriate mitigation measures shall be adopted particularly during the construction phase. The following measures are recommended: • Use of Quiet Mechanical Plant during the construction phase shall be adopted wherever possible. • Adoption of multiple-phase construction schedule. • General measures to reduce noise generated during the construction phase (see noise impact assessment) shall be effectively implemented.	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
S.9.7.7	Seawalls shall be constructed in advance around the reclamation areas within the area of the CBTS to screen adjacent feeding ground from construction phase activities, reduce noise disturbance to the associated seabirds and also to restrict access to this habitat adjacent to works areas by ship traffic.	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
S.9.7.8	Loss of artificial seawall habitats shall be reinstated by the construction of about 1 km vertical wave absorbing seawall along the coastlines of the new reclamation around the HKCEC and at North Point. The new seawalls are expected to provide large area of hard substrata for settlement and recruitment of intertidal fauna similar to those previously recorded from existing intertidal habitats.	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.

*Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table A13.7 Implementation Schedule for Landscape and Visual

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
For the Whole Project								
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
For DP1 – CWB (Within the Project Boundary)								
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
For DP2 – WDII Major Roads (Road P2)								
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
For DP3 – Reclamation Works								
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
For DP5 – Wan Chai East Sewage Outfall								
Refer to EIA-058/2001 Table 10.13	CM2 Minimisation of works areas.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM3 Erection of decorative hoardings.	Work site / During Construction Phase	Contractor		√			EIAO TM

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Refer to EIA-058/2001 Table 10.13	CM4 Control night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM5 Minimisation of disruption to public by effective programming of the works.	Work site / During Construction Phase	Contractor		√			EIAO TM
For DP6 – Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui								
Refer to EIA-058/2001 Table 10.13	CM2 Minimisation of works areas.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM3 Erection of decorative hoardings.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM4 Control night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM5 Minimisation of disruption to public by effective programming of the works.	Work site / During Construction Phase	Contractor		√			EIAO TM
Operation Phase								
For the Whole Project - Schedule 3 DP								
Table 10.6, Figure 10.5.1-10.5.5	OM1 Aesthetic design of buildings and road-related structures, including viaducts, vent buildings, subways, footbridges and noise barriers and enclosure.	Work site / During Design Stage and Operation Phases	CEDD/HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM2 Shrub and Climbing Plants to soften proposed structures.	Work site / During Design Stage and Operation Phases	CEDD/HyD	√	√	√		ETWB TCW 2/2004

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Table 10.6, Figure 10.5.1-10.5.5	OM3 Buffer Tree and Shrub Planting to screen proposed roads and associated structures.	Work site / During Design Stage and Operation Phases	CEDD/HyD/	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM4 Aesthetic design of proposed waterfront promenade.	Work site / During Design Stage and Operation Phases	CEDD[4]	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM5 Aesthetic streetscape design.	Work site / During Design Stage and Operation Phases	CEDD/HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM6 Aesthetic design of roadside amenity areas.	Work site / During Design Stage and Operation Phases	CEDD/HyD	√	√	√		ETWB TCW 2/2004
For DP1 – CWB (Within the Project Boundary)								
Table 10.6, Figure 10.5.1-10.5.5	OM1 Aesthetic design of buildings and road-related structures, including viaducts, vent buildings, subways, footbridges and noise barriers and enclosure.	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM2 Shrub and Climbing Plants to soften proposed structures	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM3 Buffer Tree and Shrub Planting to screen proposed roads and associated structures.	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM5 Aesthetic streetscape design.	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM6 Aesthetic design of roadside amenity areas.	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
For DP2 – WDII Major Roads (Road P2)								

[4] CEDD will identify an implementation agent

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Table 10.6, Figure 10.5.1-10.5.5	OM1 Aesthetic design of buildings and road-related structures, including viaducts, vent buildings, subways, footbridges and noise barriers and enclosure.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM3 Buffer Tree and Shrub Planting to screen proposed roads and associated structures.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM5 Aesthetic streetscape design.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM6 Aesthetic design of roadside amenity areas	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
For DP3 – Reclamation Works								
Table 10.6, Figure 10.5.1-10.5.5	OM4 Aesthetic design of proposed waterfront promenade.	Work site / During Design Stage and Operation Phases	CEDD[5]	√	√	√		ETWB TCW 2/2004

*Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

[5] CEDD will identify an implementation agent

Appendix 3.1

Action and Limit Level

Action and Limit Level

Action and Limit Level for Noise Monitoring

Time Period	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received.	75 dB(A)[Note 1]

Note 1:

- *70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.*
- *If works are to be carried out during the restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.*

Action and Limit Level for Air Monitoring

Monitoring Location	1-hour TSP Level in μ g/m^3		24-hour TSP Level in μ g/m^3	
	Action Level	Limit Level	Action Level	Limit Level
CMA1a[Note 2]	320.1	500	176.7	260
CMA2a	323.4	500	169.5	260
CMA3[Note 2]	311.3	500	171.0	260
CMA4a	312.5	500	171.2	260
CMA5[Note 2]	332.0	500	181.0	260
CMA6[Note 2]	300.1	500	187.3	260
MA1b	325.1	500	173.4	260

Note 2:

- *As per facing owner's rejection in allowing the implementation of long-term air quality impact monitoring at their premises, alternative monitoring stations and justification will be proposed for IEC verification and EPD approval.*

Action and Limit Level for Water Monitoring

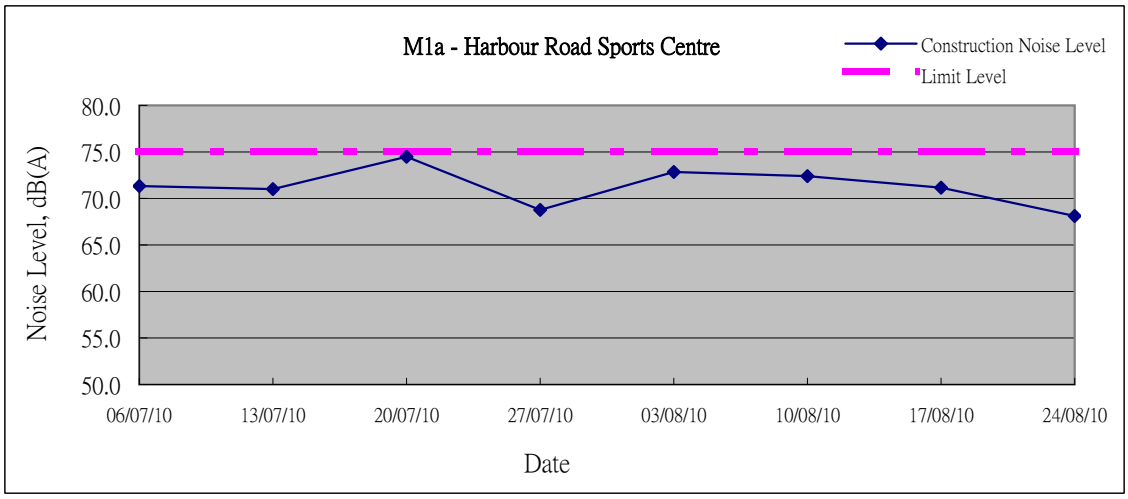
Parameter	Action Level	Limit Level
WSD Salt Water Intakes		
SS in mg/L	13.00	14.43
Turbidity in NTU	8.04	9.49
DO in mg/L	3.66	3.28
Cooling Water Intakes		
SS in mg/L	15.00	22.13
Turbidity in NTU	9.10	10.25
DO in mg/L	3.36	2.73

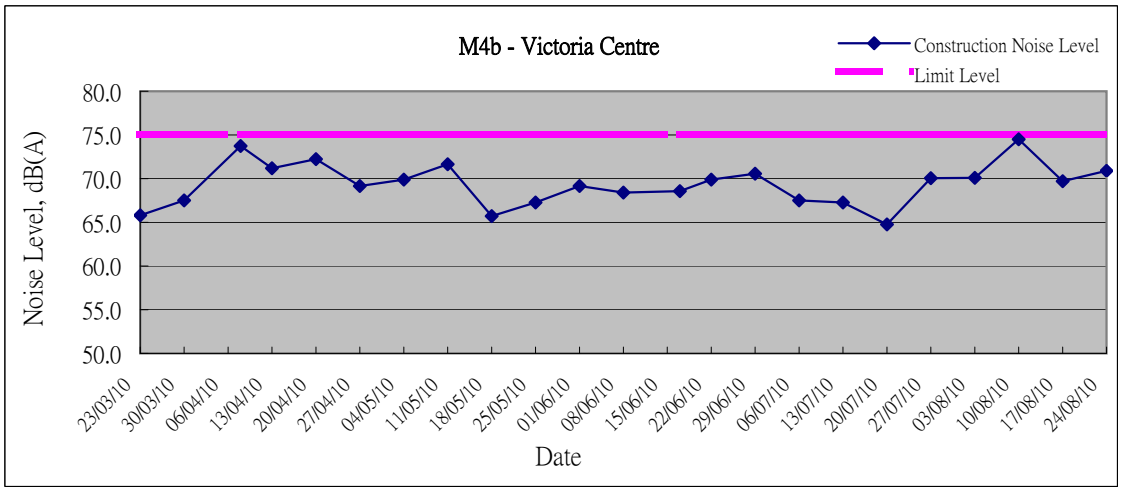
Appendix 4.1

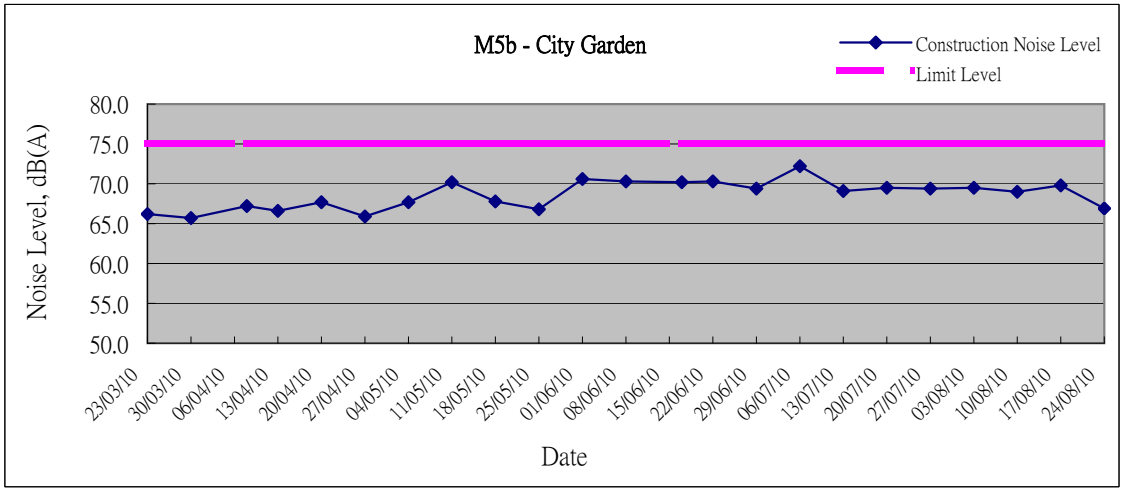
Noise Monitoring Graphical Presentations

Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

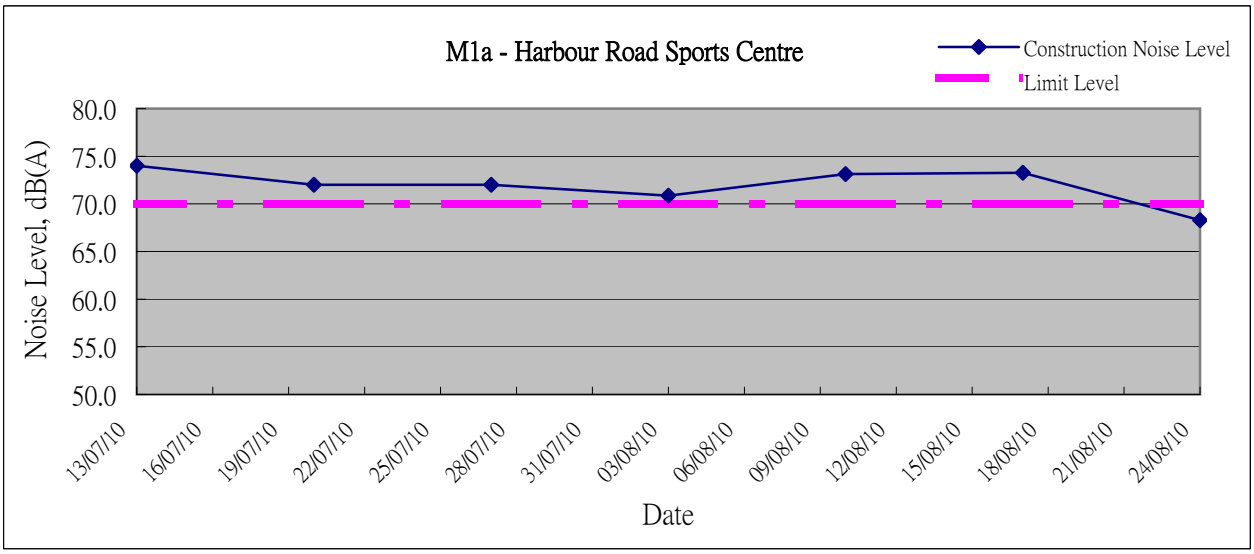


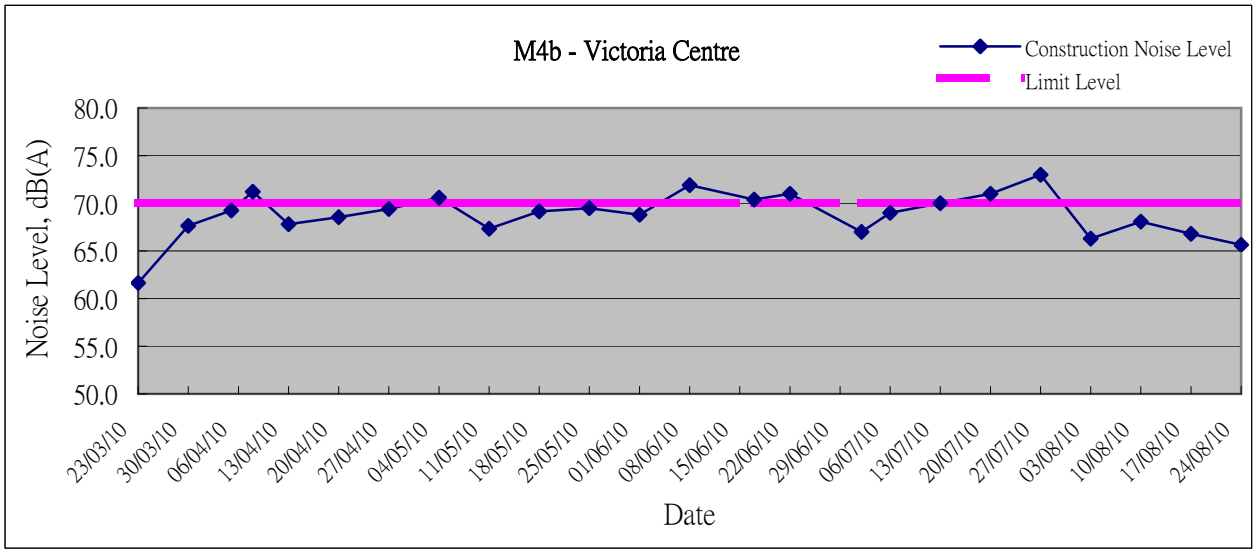


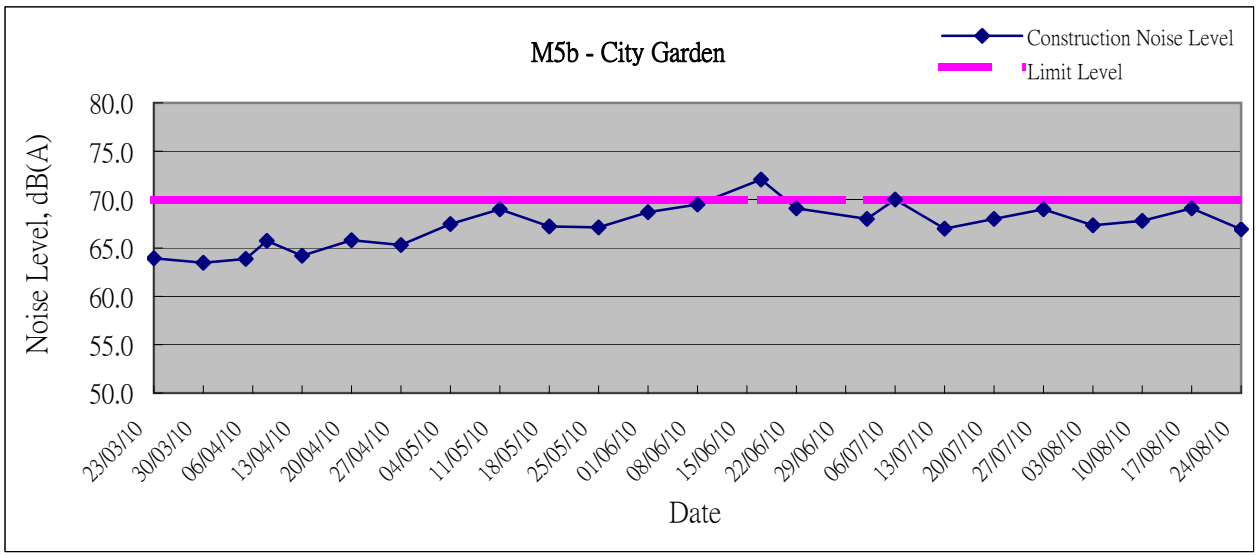


Graphic Presentation of Noise Monitoring Result

Restricted Time (1900 - 2300 hrs on normal weekdays and 0700-2300 on holiday)

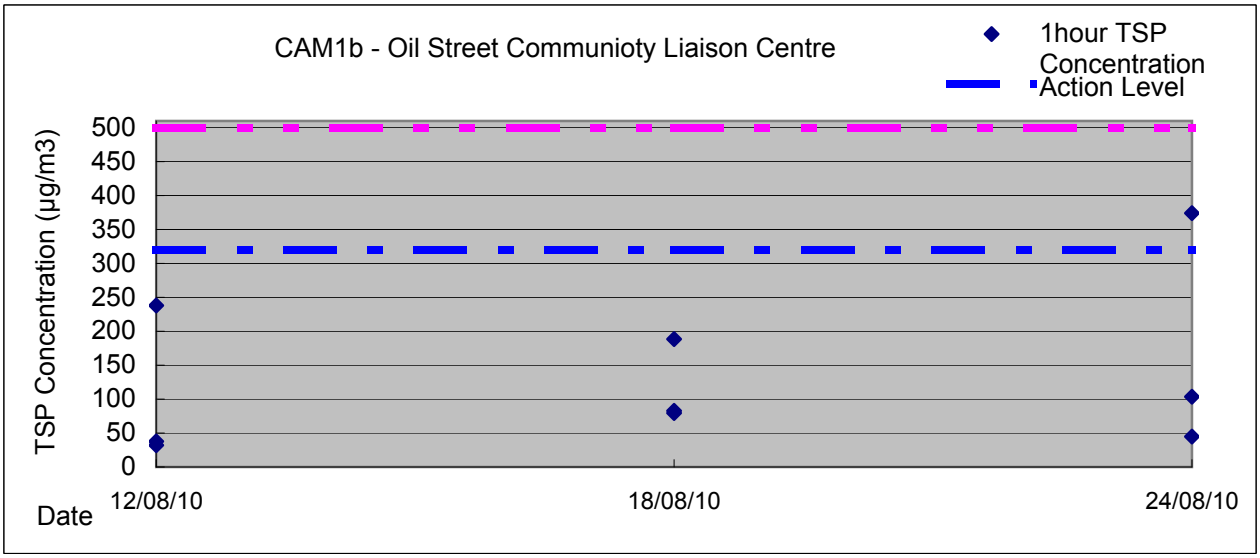


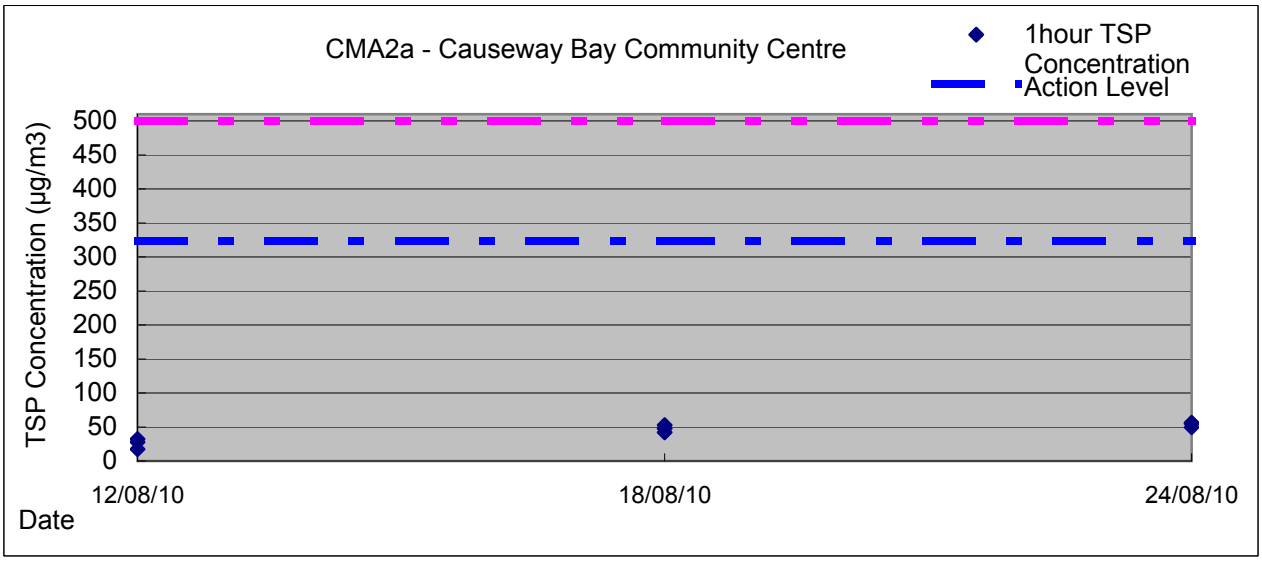




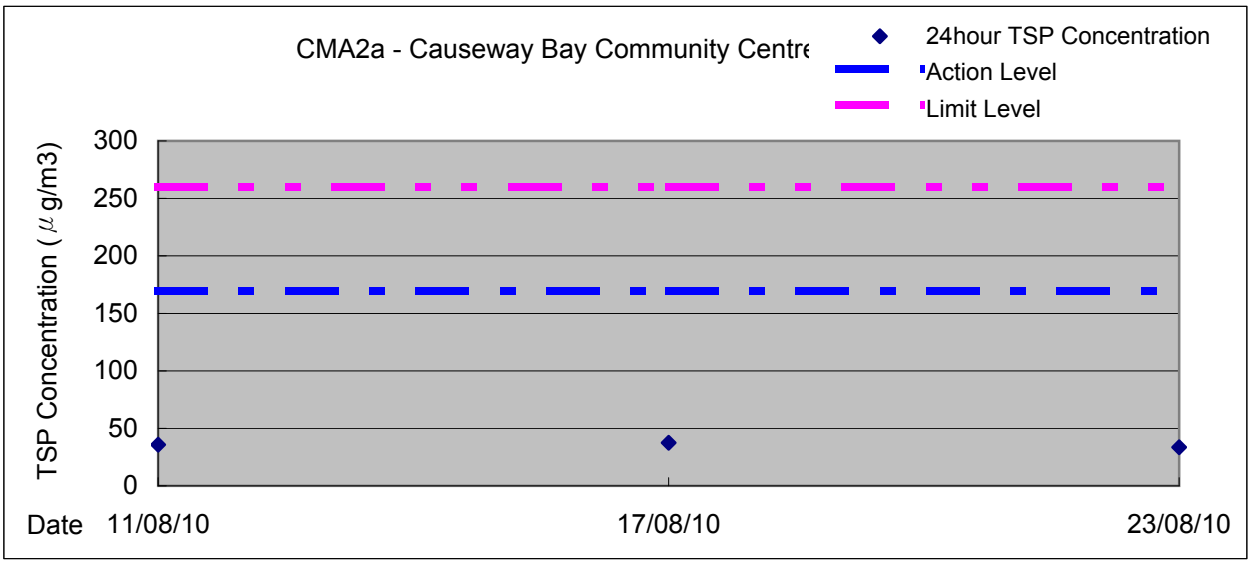
Appendix 4.2
Air Quality Monitoring Graphical Presentations

Graphic Presentation of 1 hour TSP Result





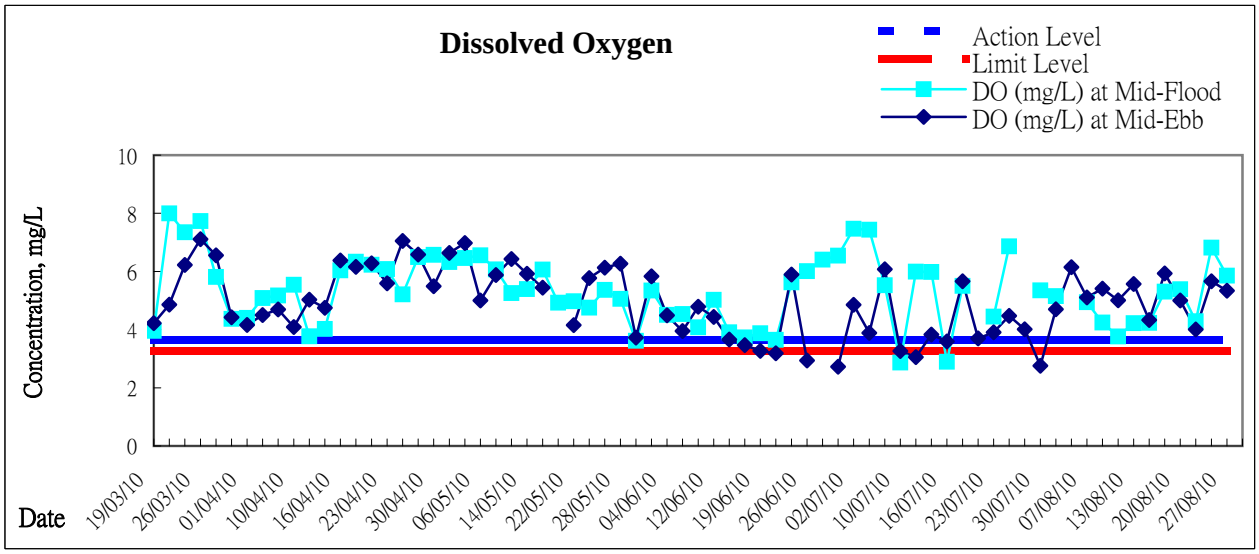
Graphic Presentation of 24 hour TSP Result

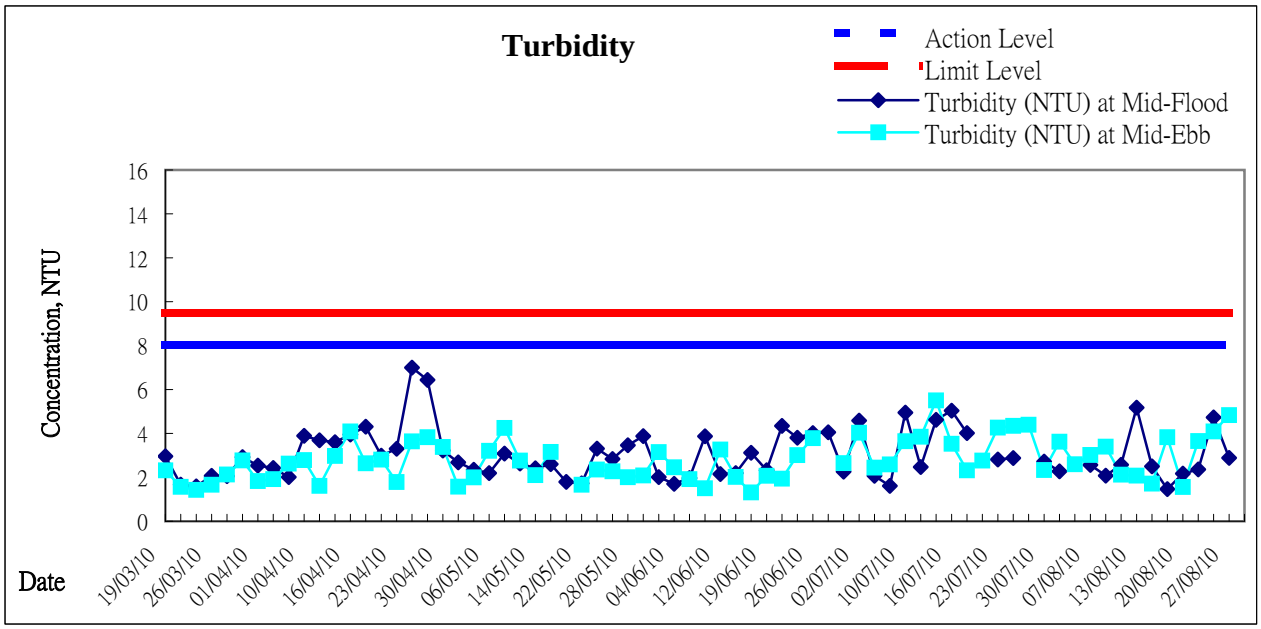


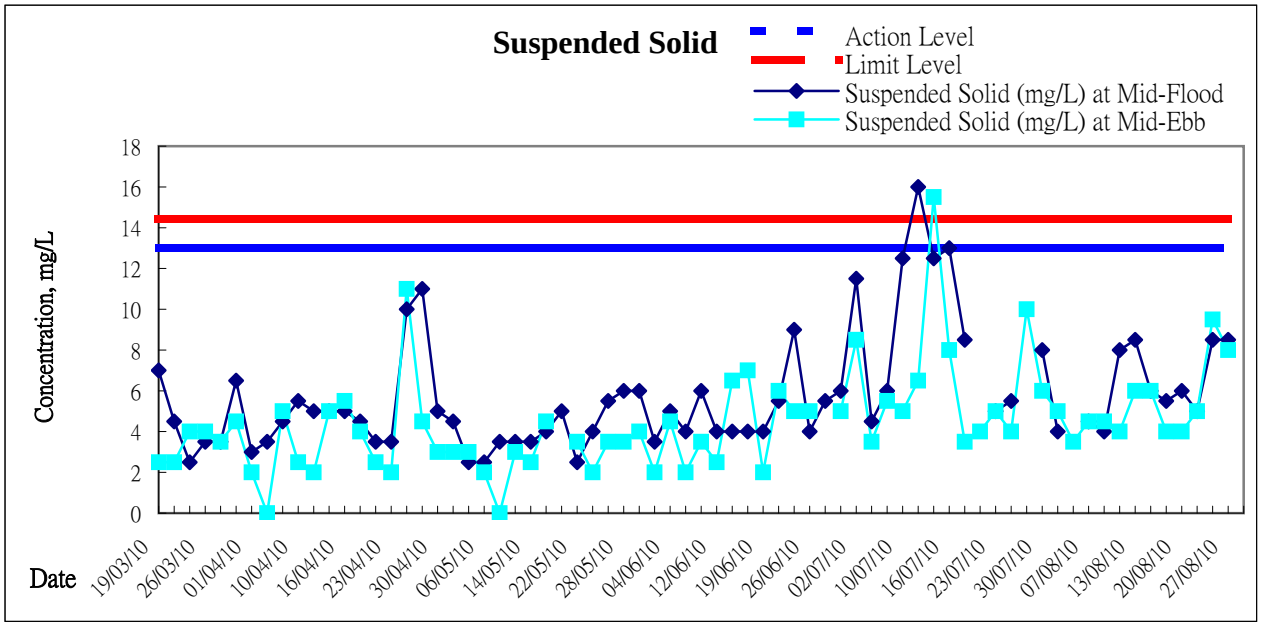
Appendix 4.3

Water Quality Monitoring Graphical Presentations

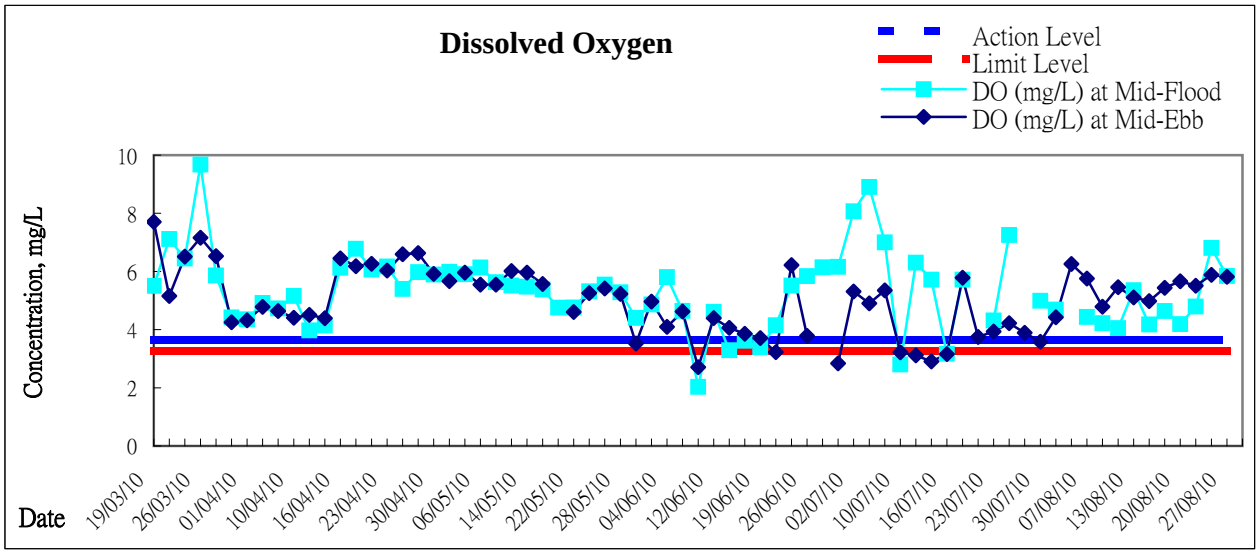
Graphic Presentation of Water Quality Result of WSD9 - Tai Wan

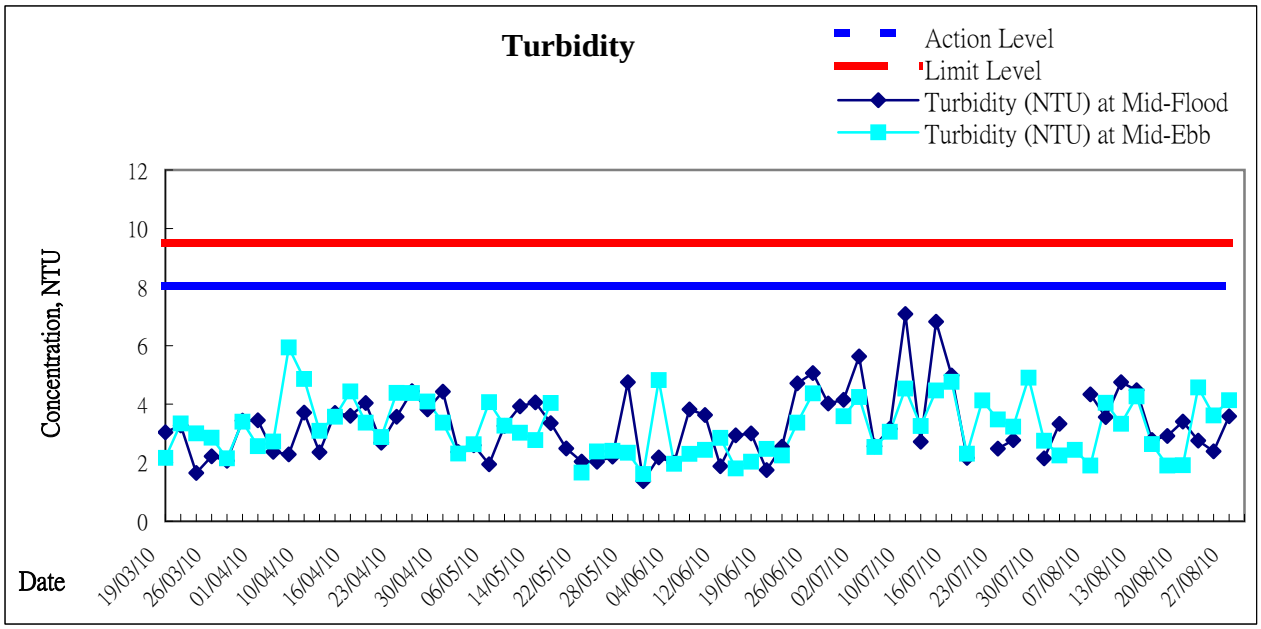


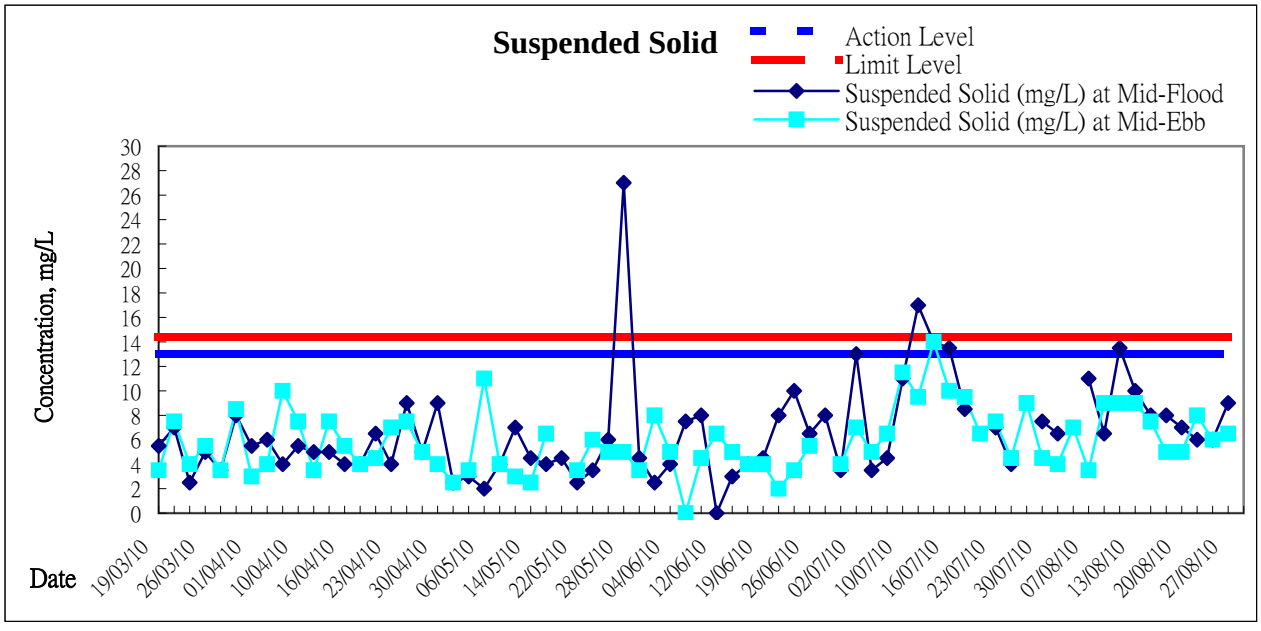




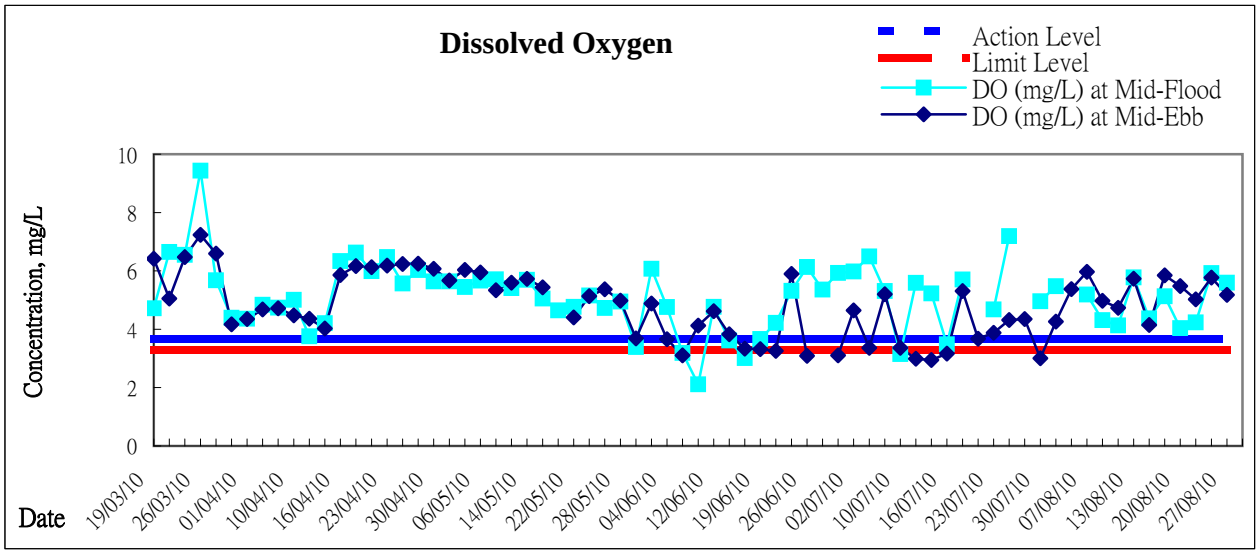
Graphic Presentation of Water Quality Result of WSD10 - Cha Kwo Ling

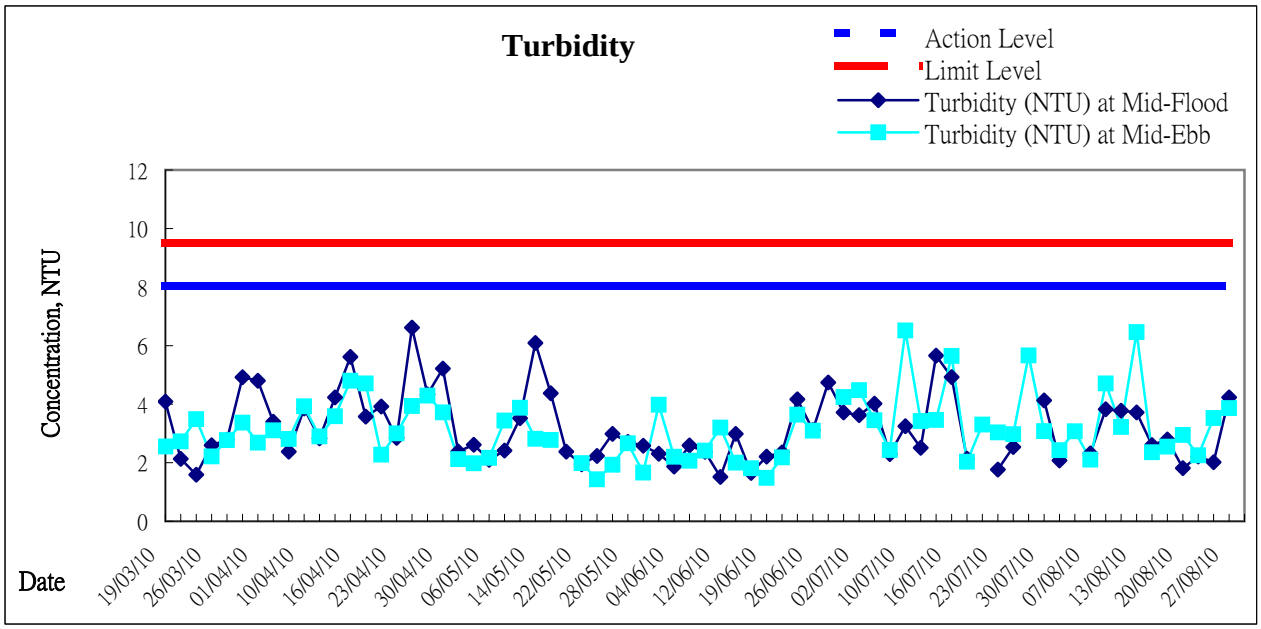


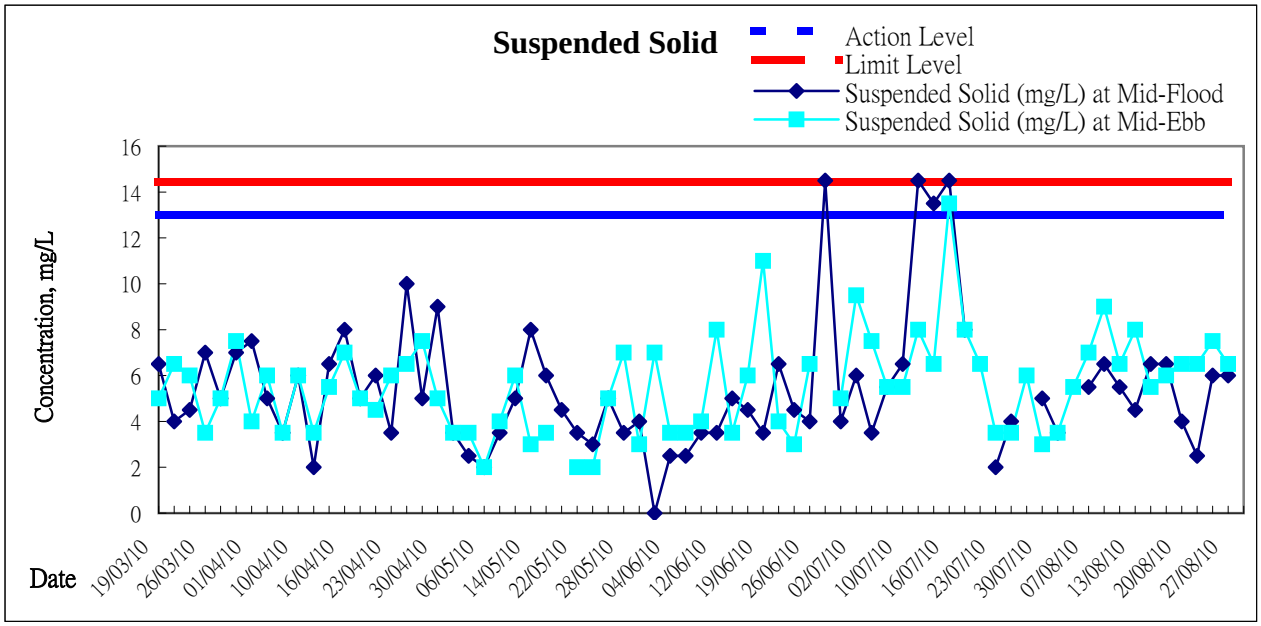




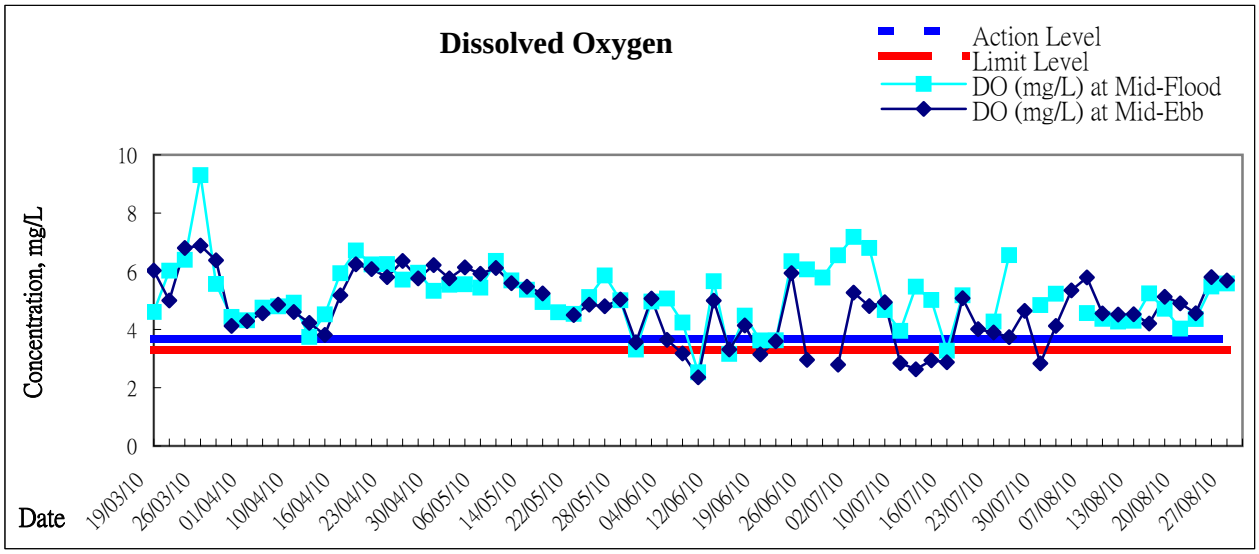
Graphic Presentation of Water Quality Result of WSD15 - Sai Wan Ho

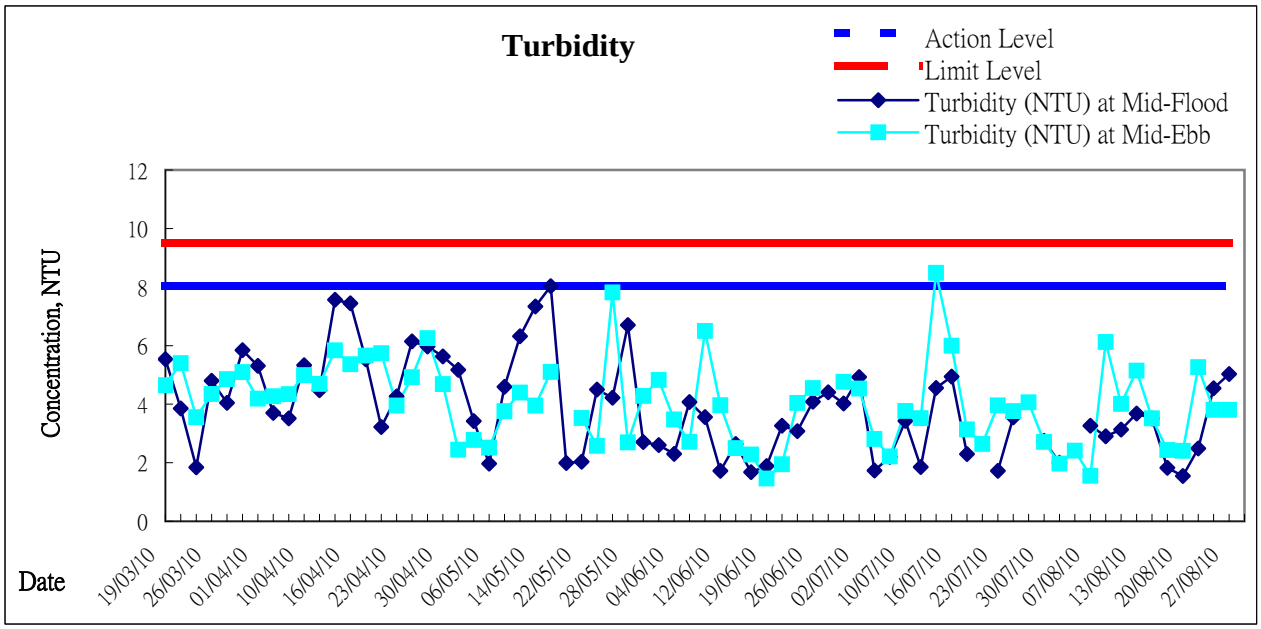


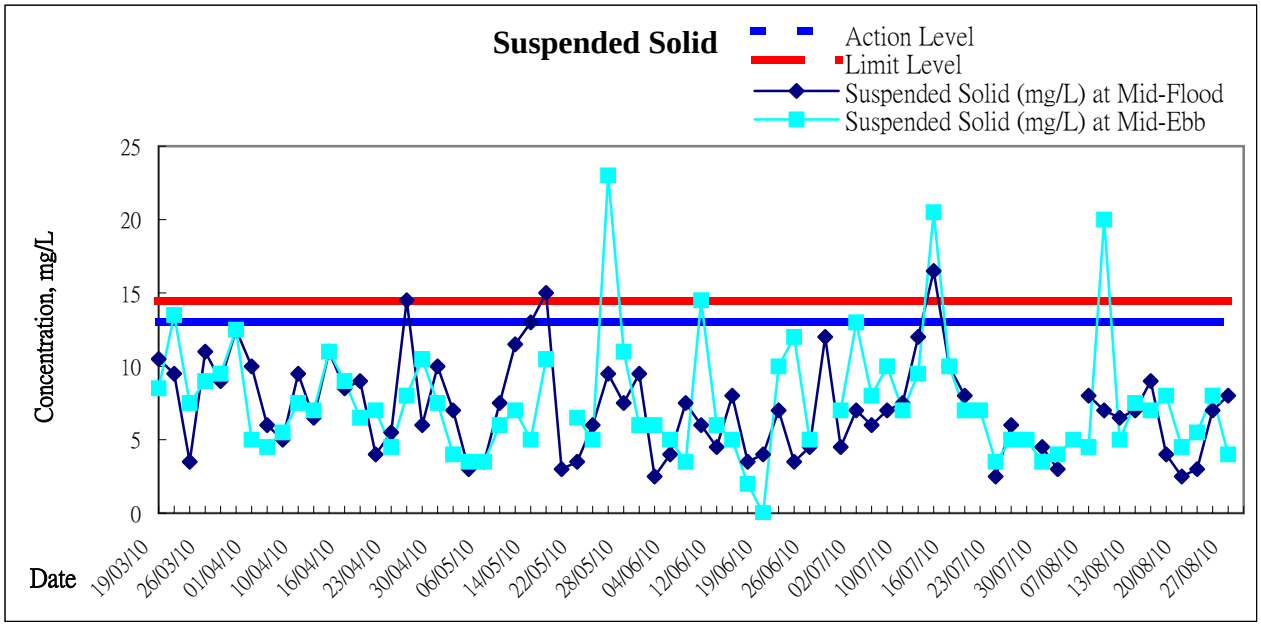




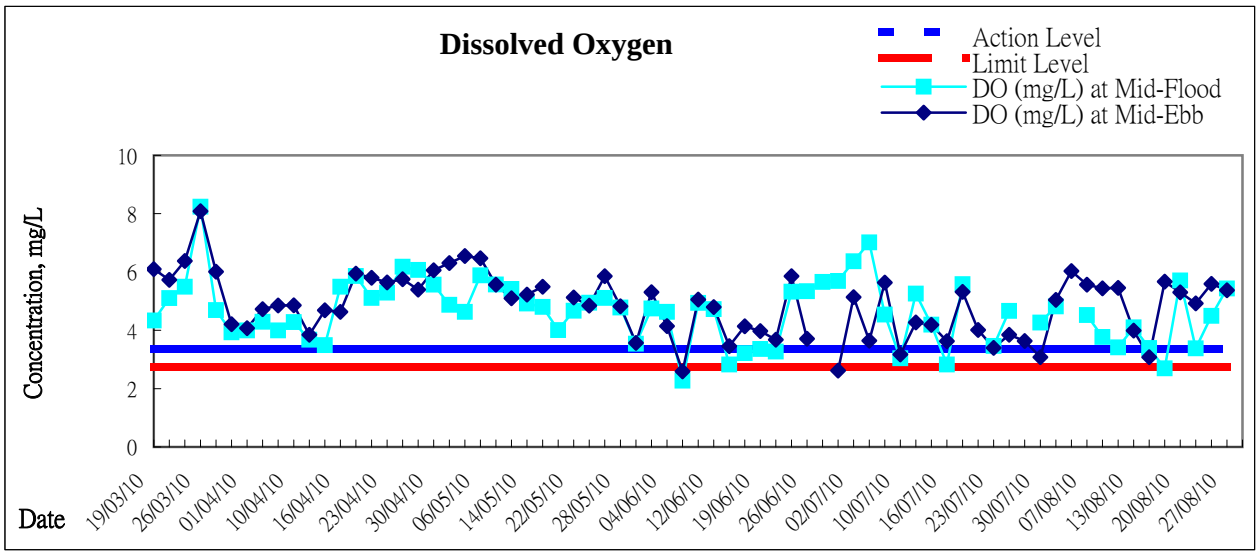
Graphic Presentation of Water Quality Result of WSD17 - Quarry Bay

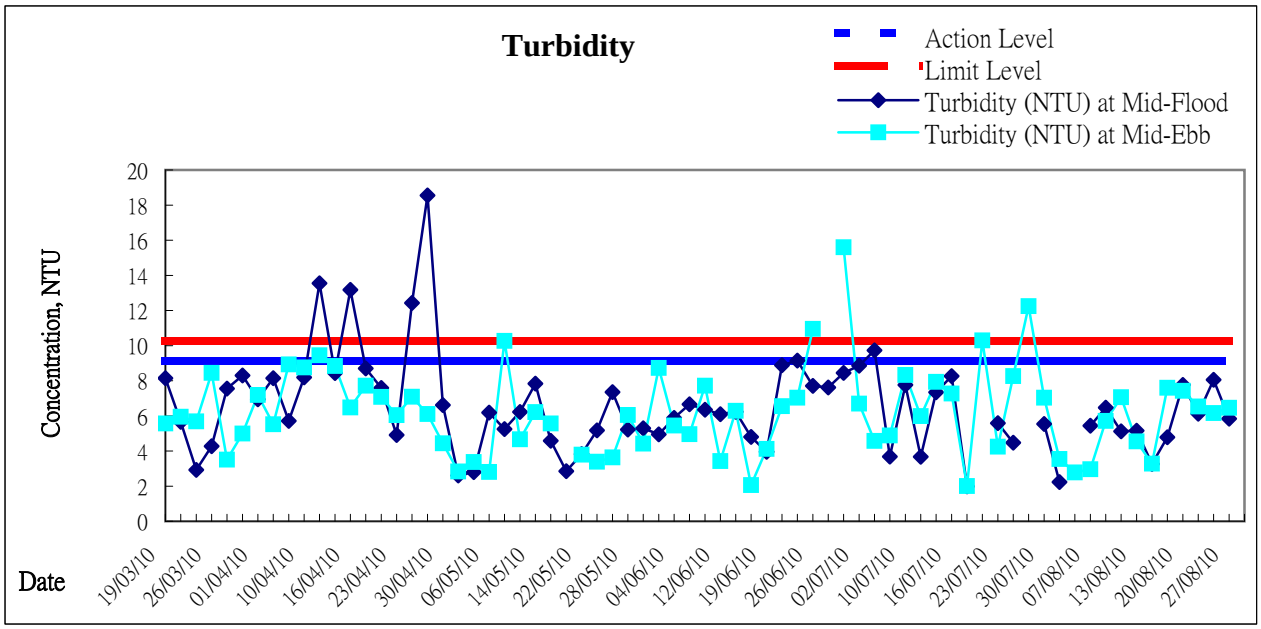


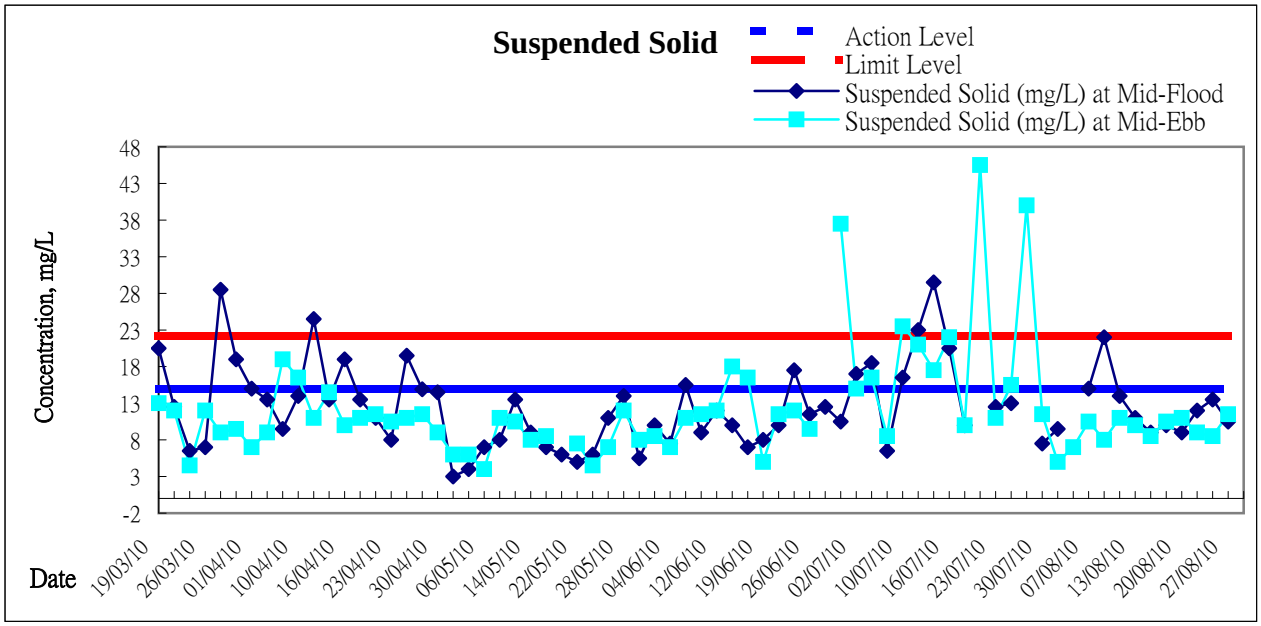




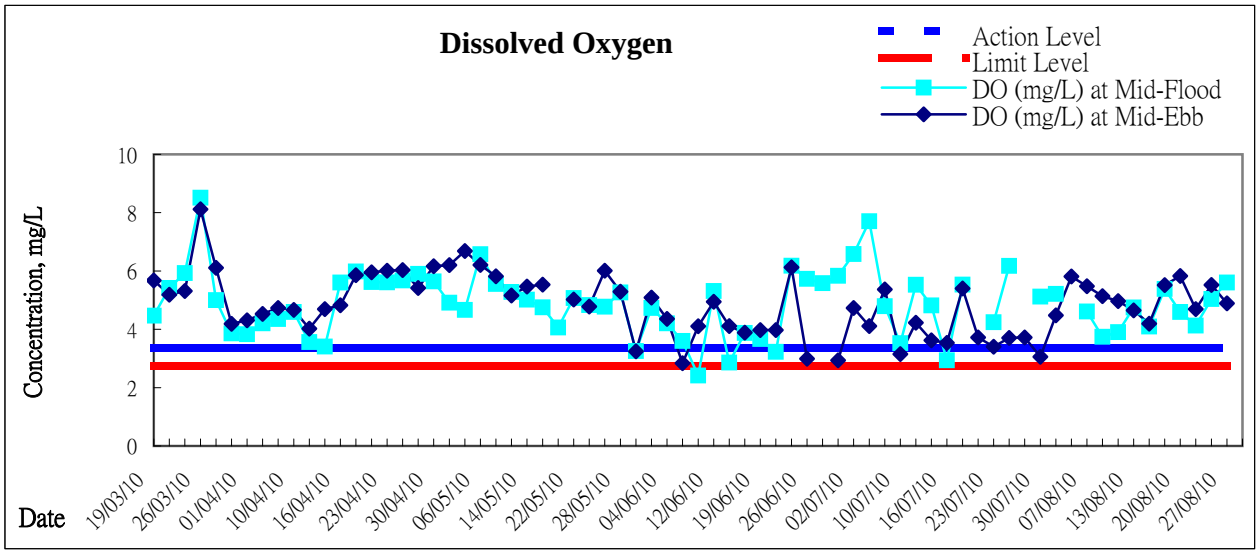
Graphic Presentation of Water Quality Result of C8 - City Garden

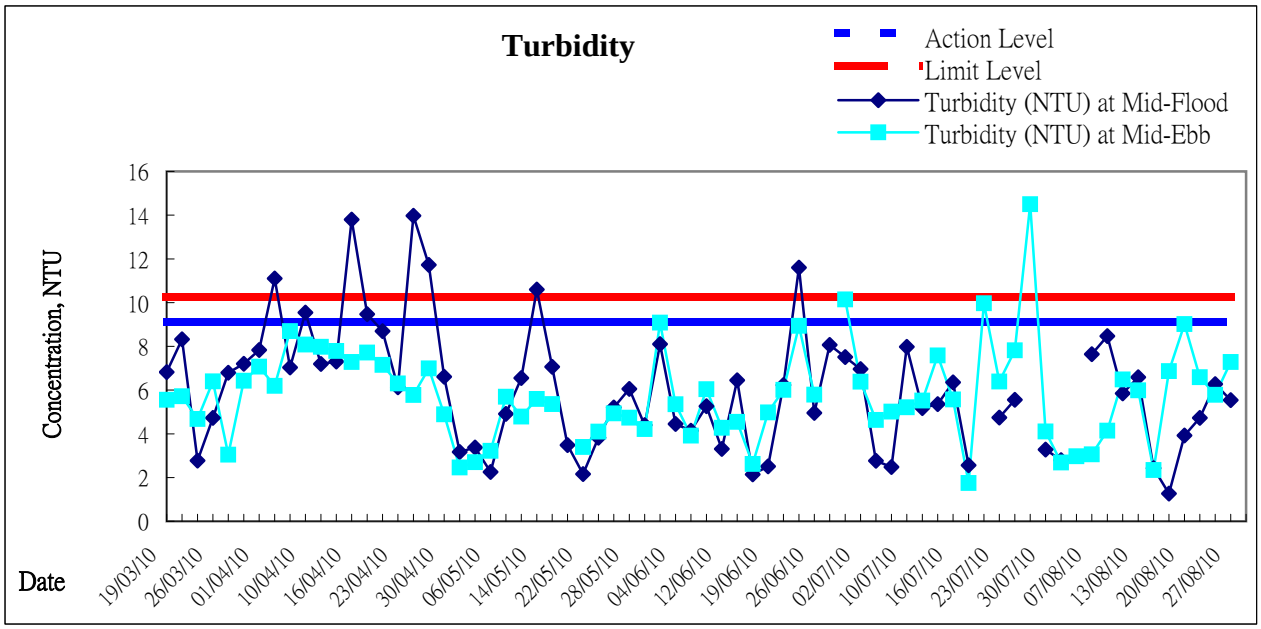


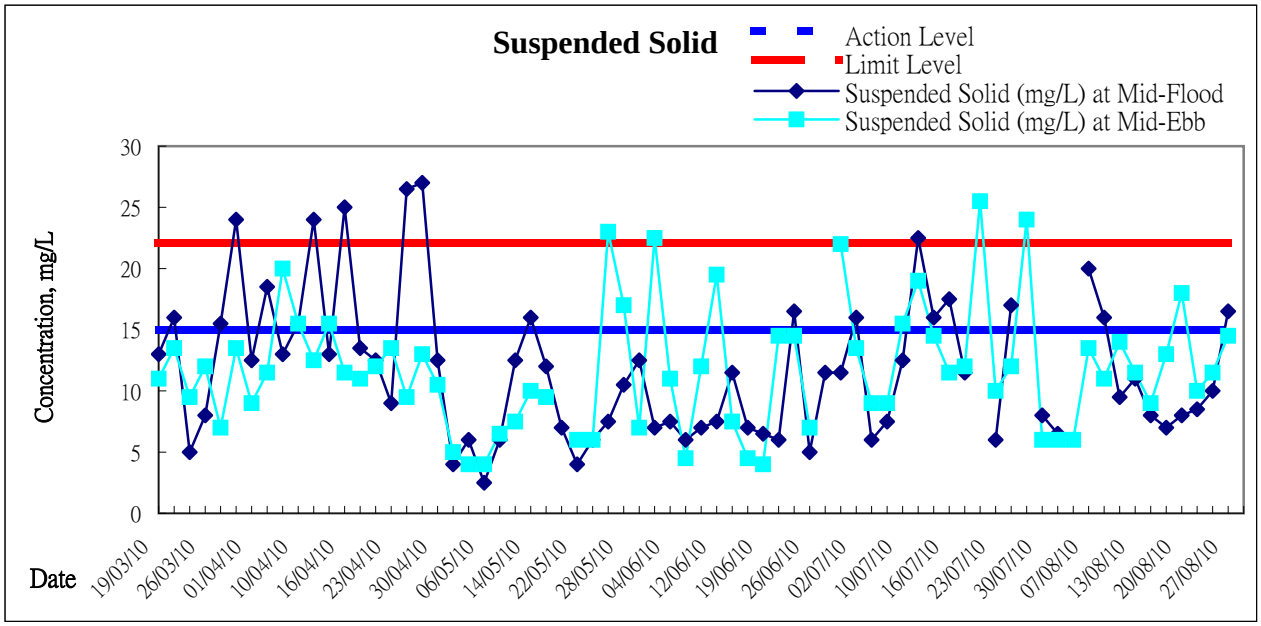




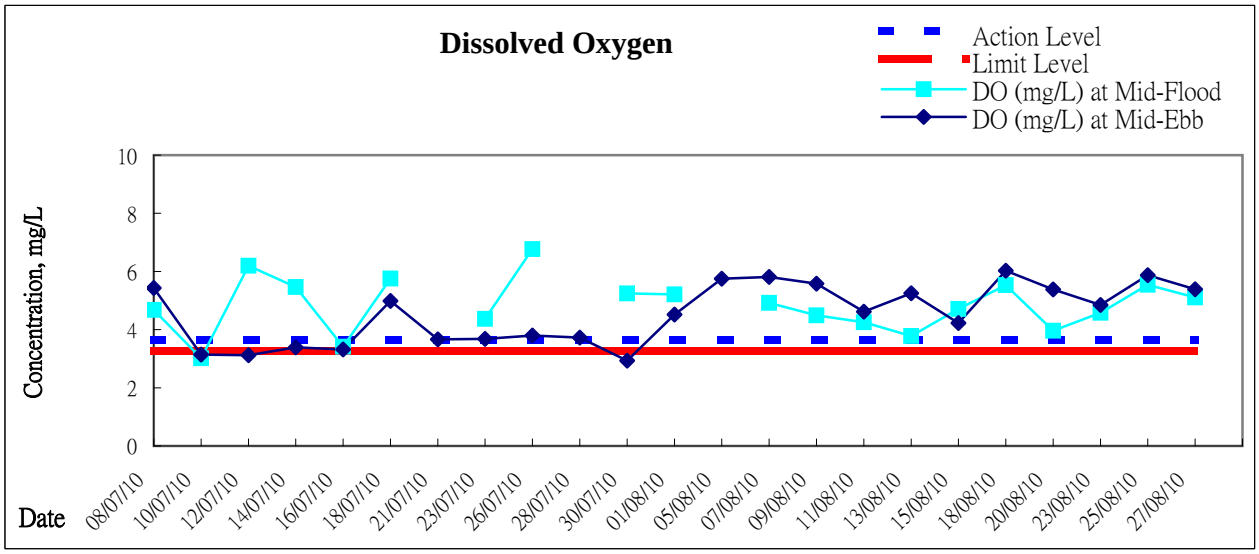
Graphic Presentation of Water Quality Result of C9 - Provident Centre

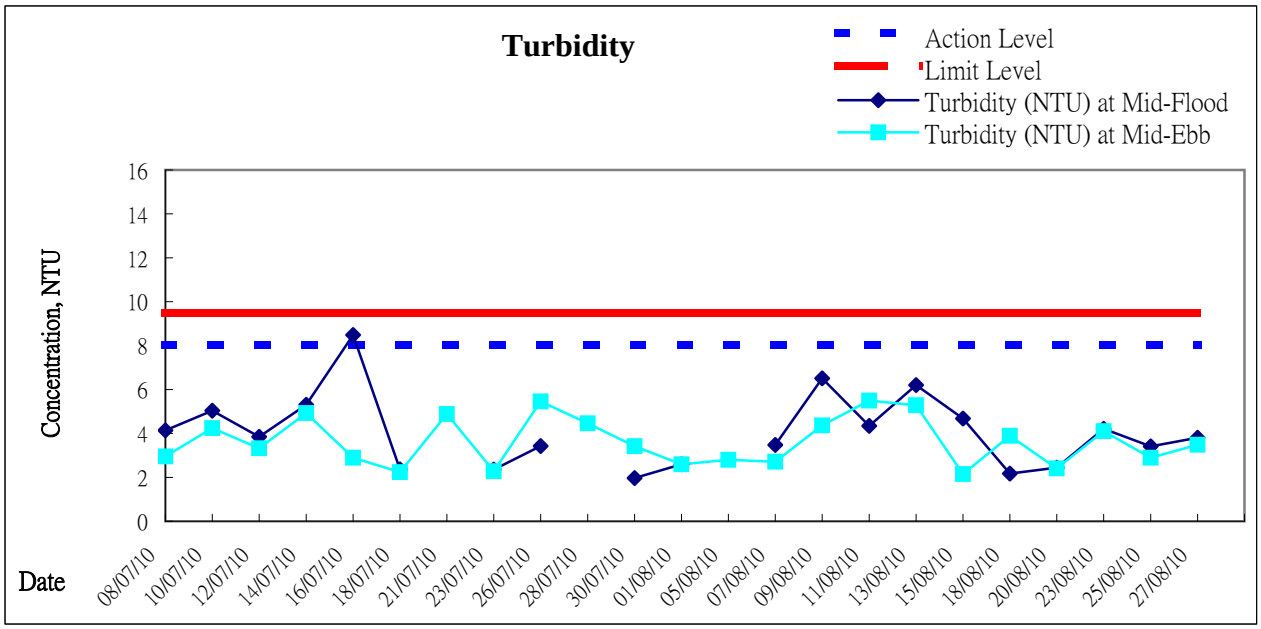


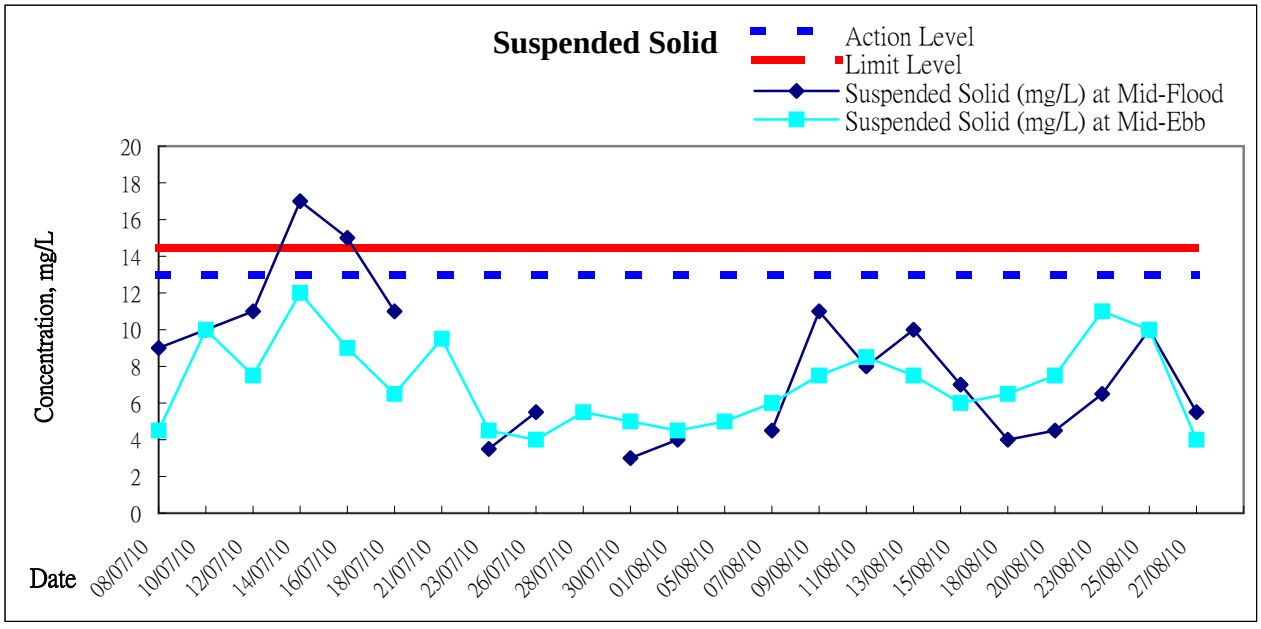




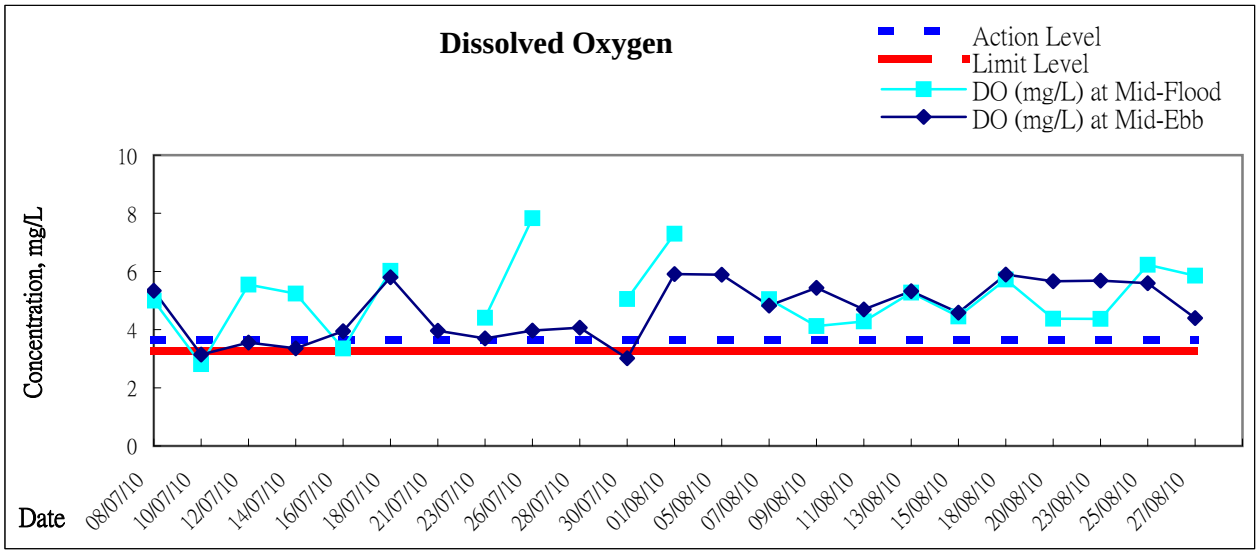
Graphic Presentation of Water Quality Result of WSD19 - Sheung Wan

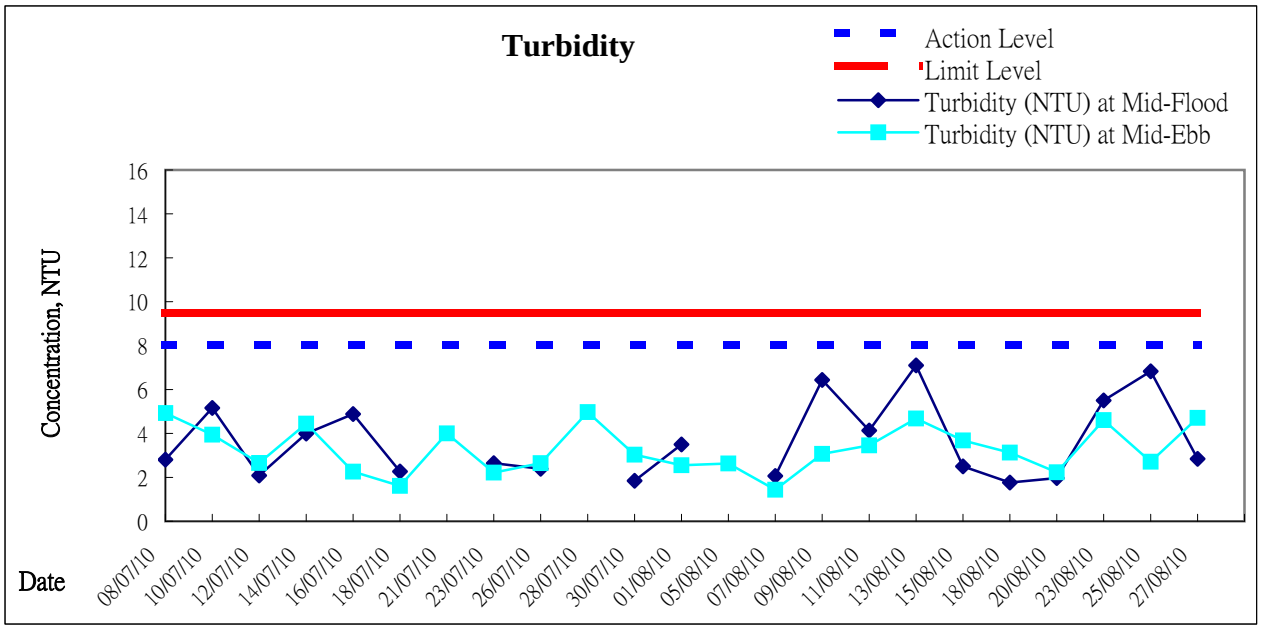


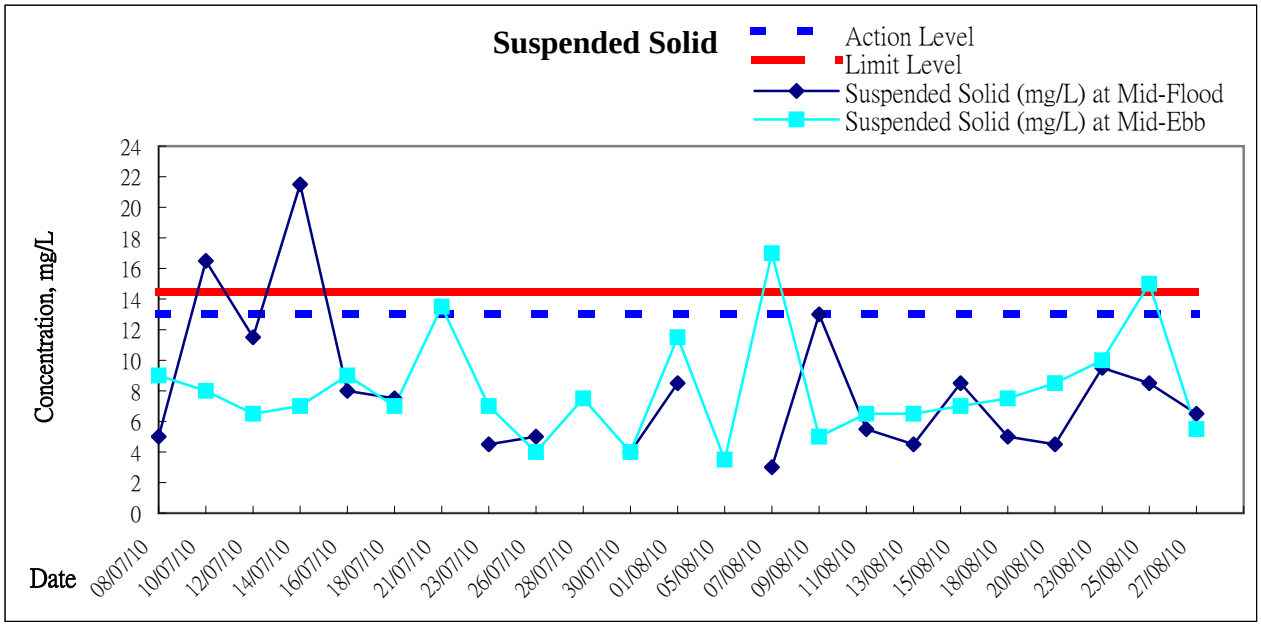




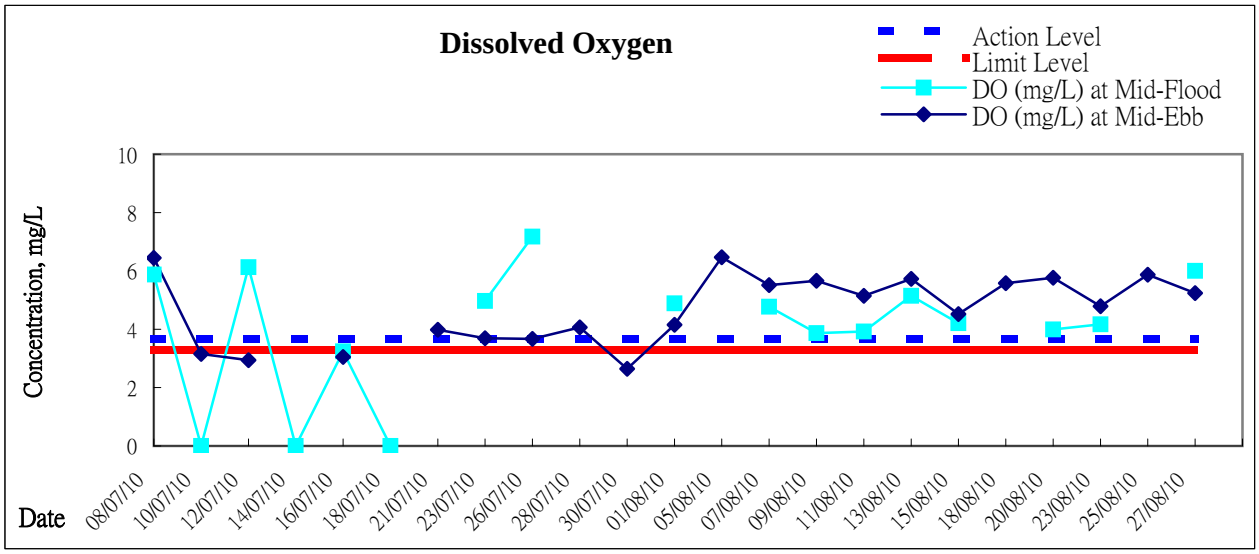
Graphic Presentation of Water Quality Result of WSD20 - Kennedy Town

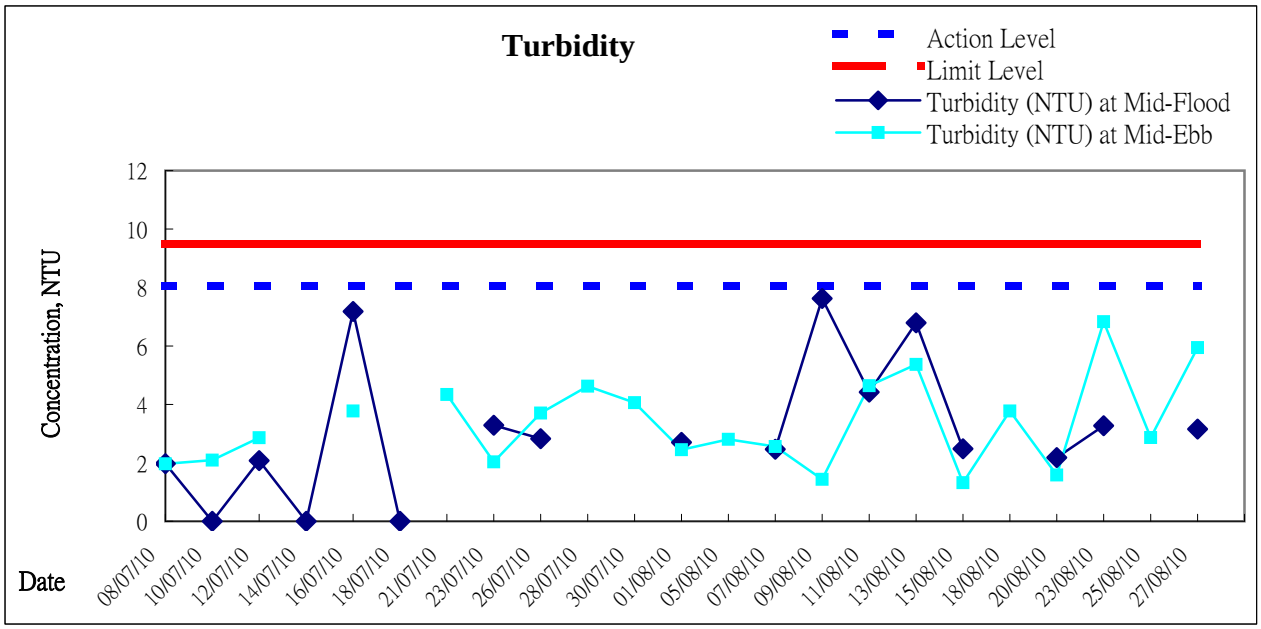


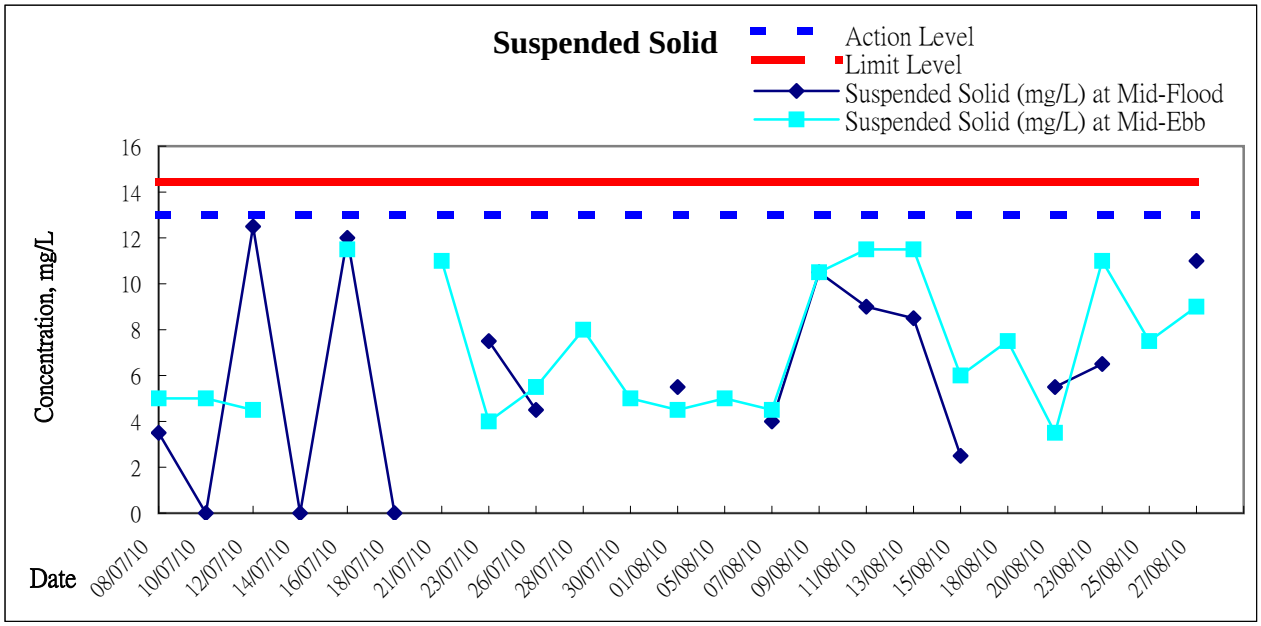




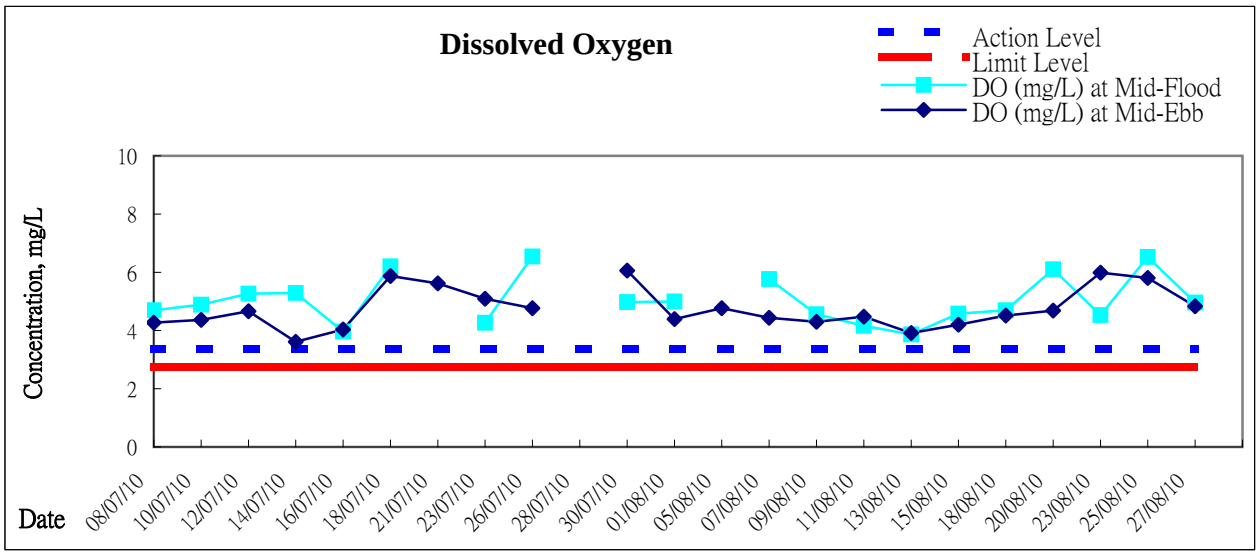
Graphic Presentation of Water Quality Result of WSD7 - Kowloon South

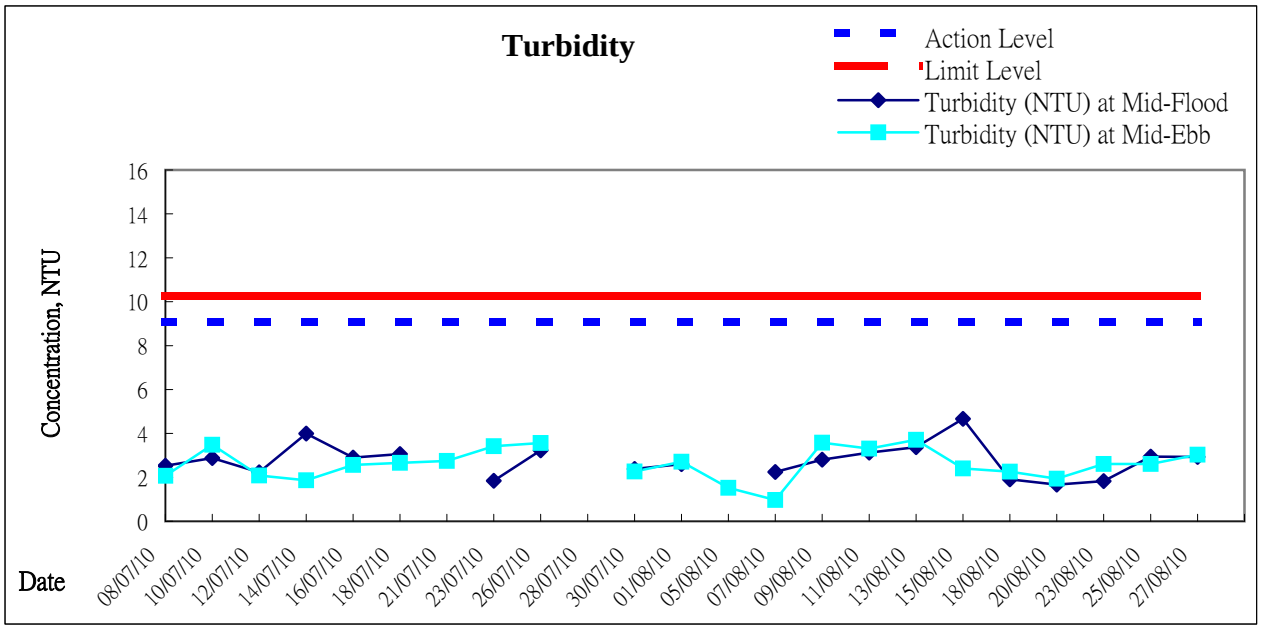


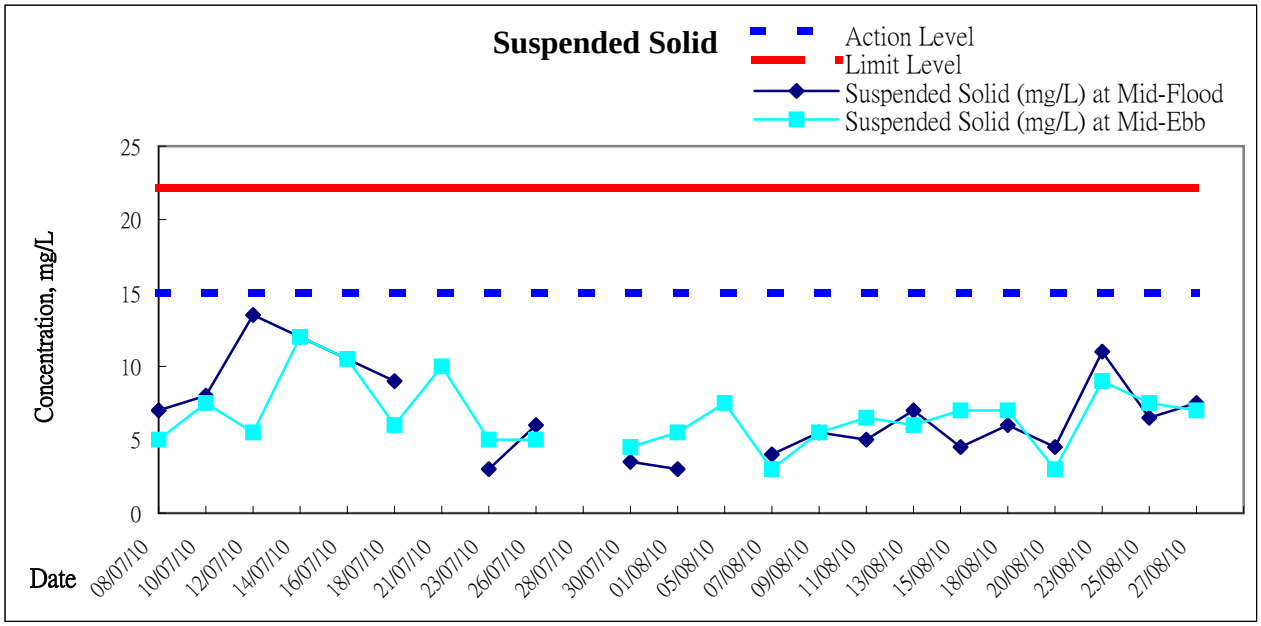




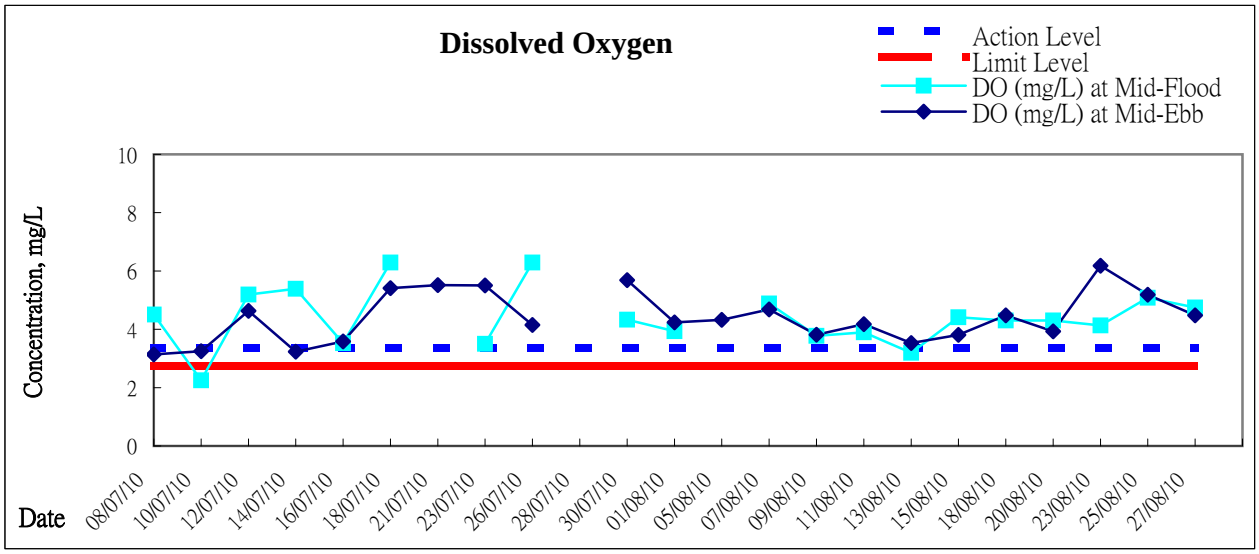
Graphic Presentation of Water Quality Result of C1 - HKCEC

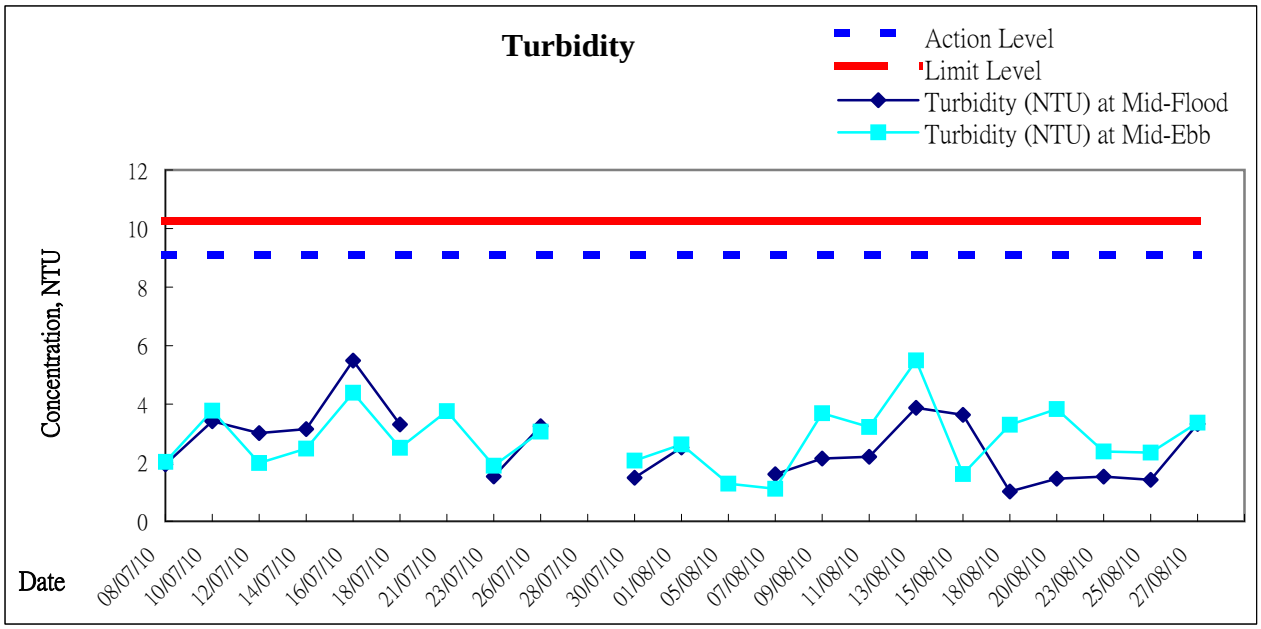


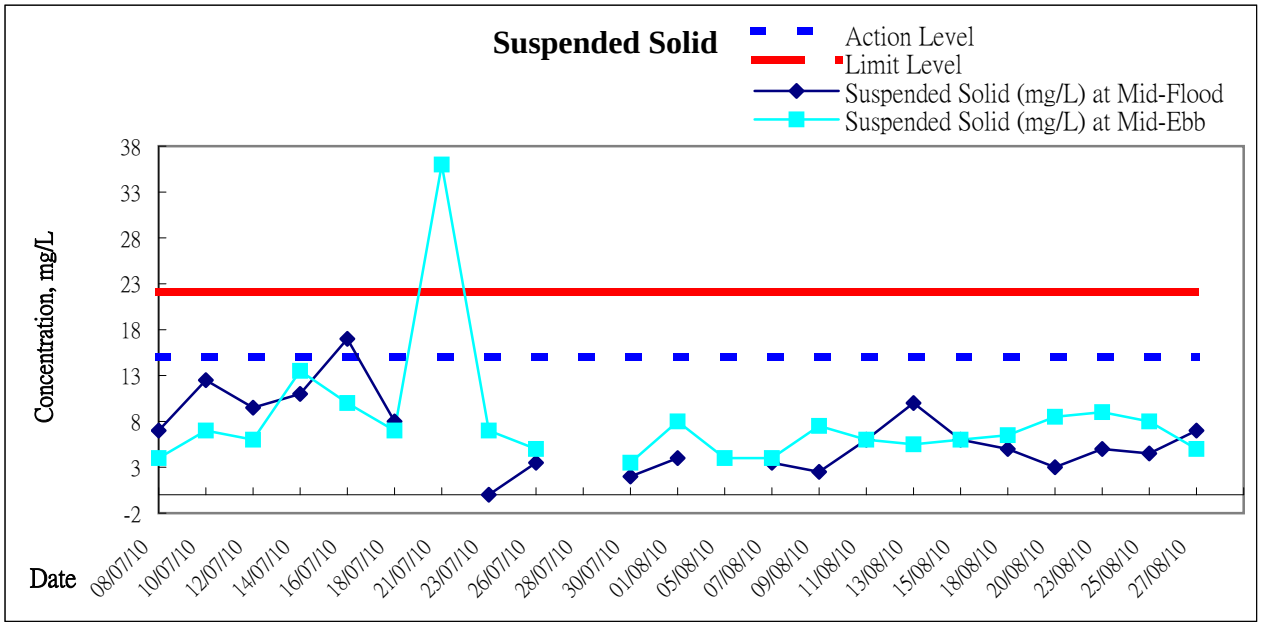




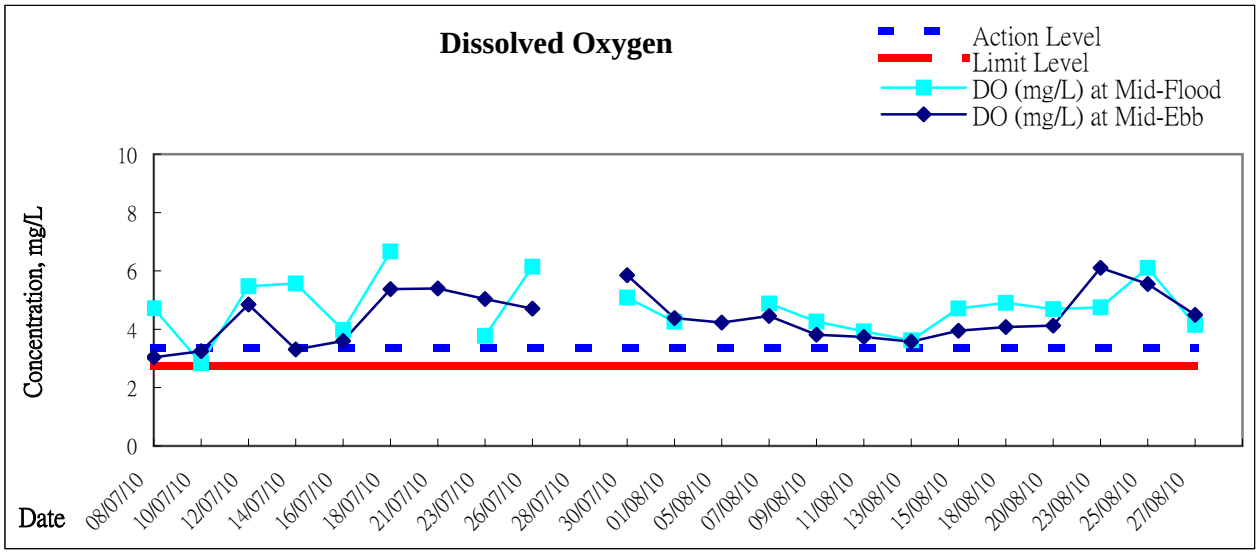
Graphic Presentation of Water Quality Result of C2 - TH / APA / SOC

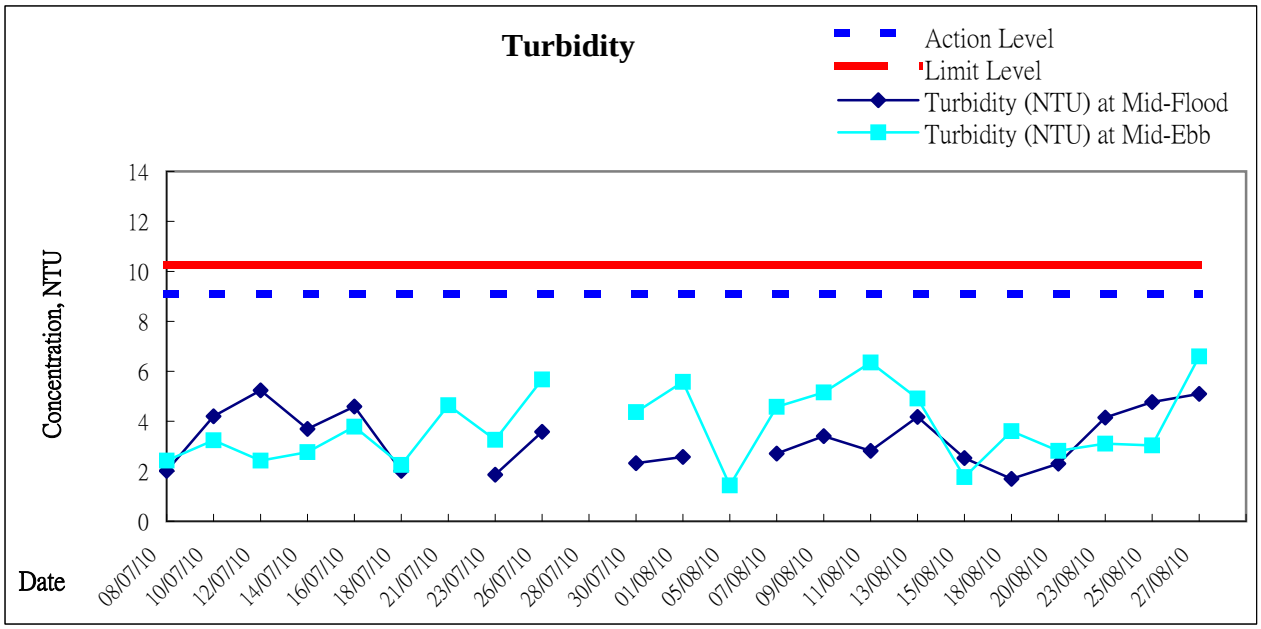


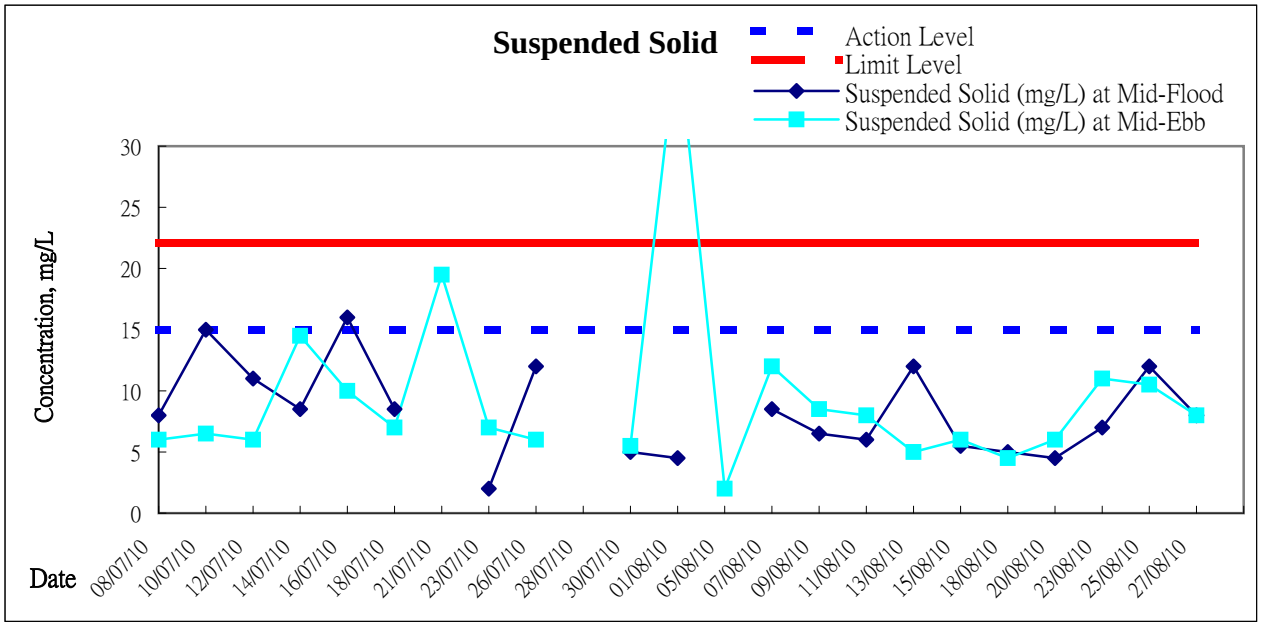




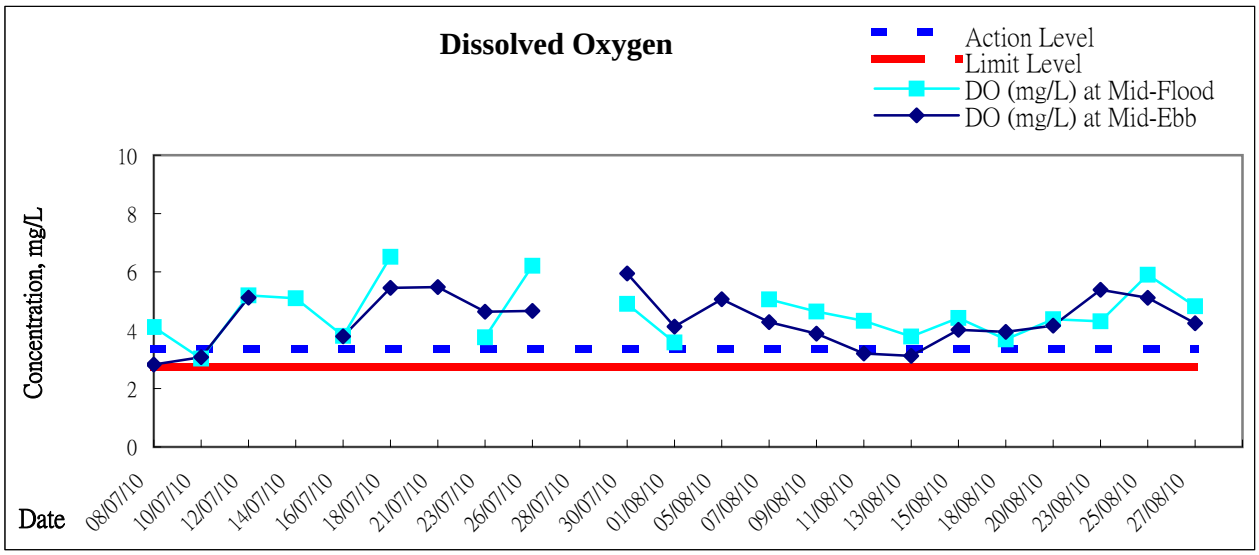
Graphic Presentation of Water Quality Result of C3 - WCT and GEC

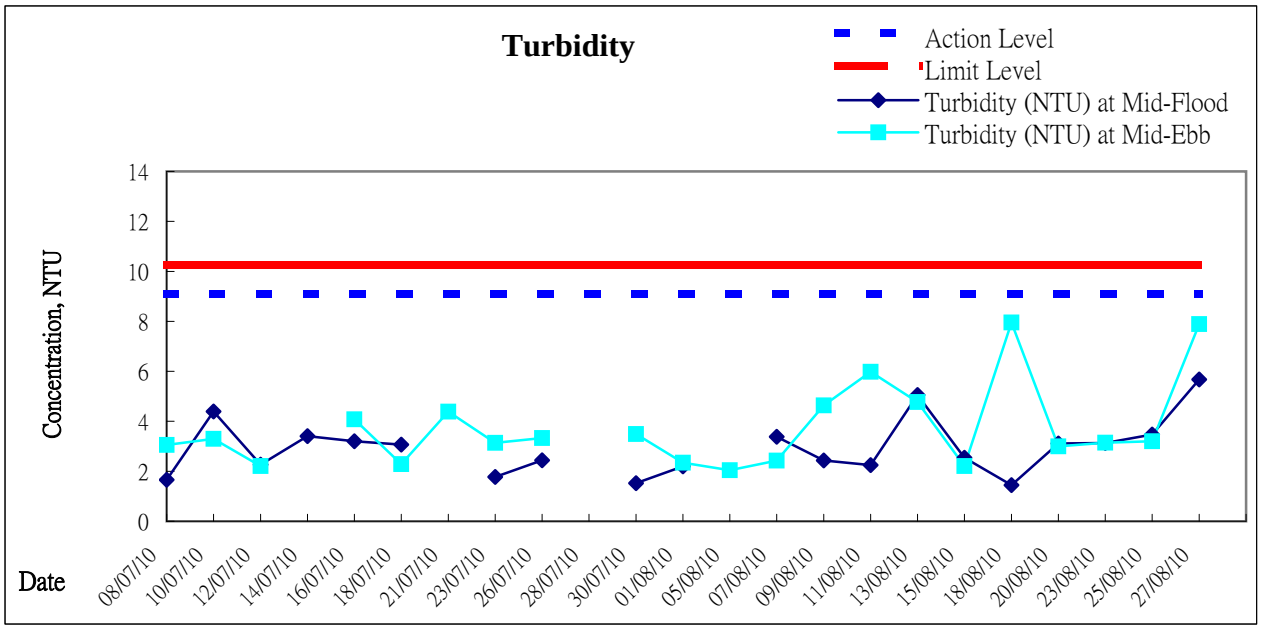


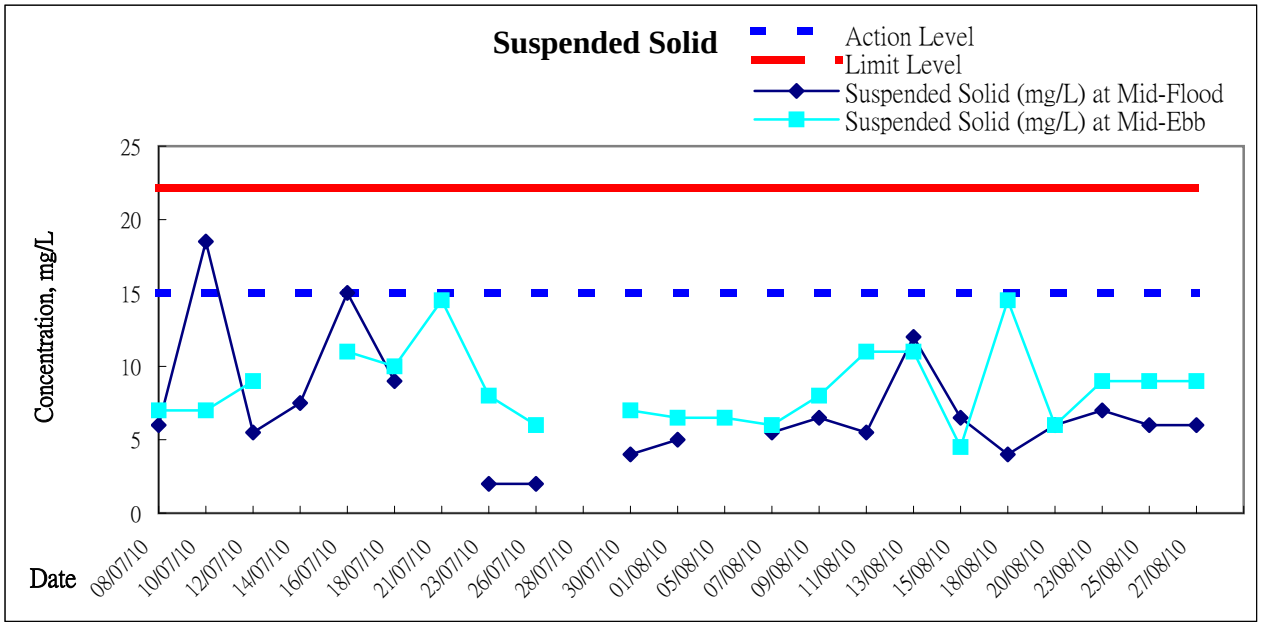




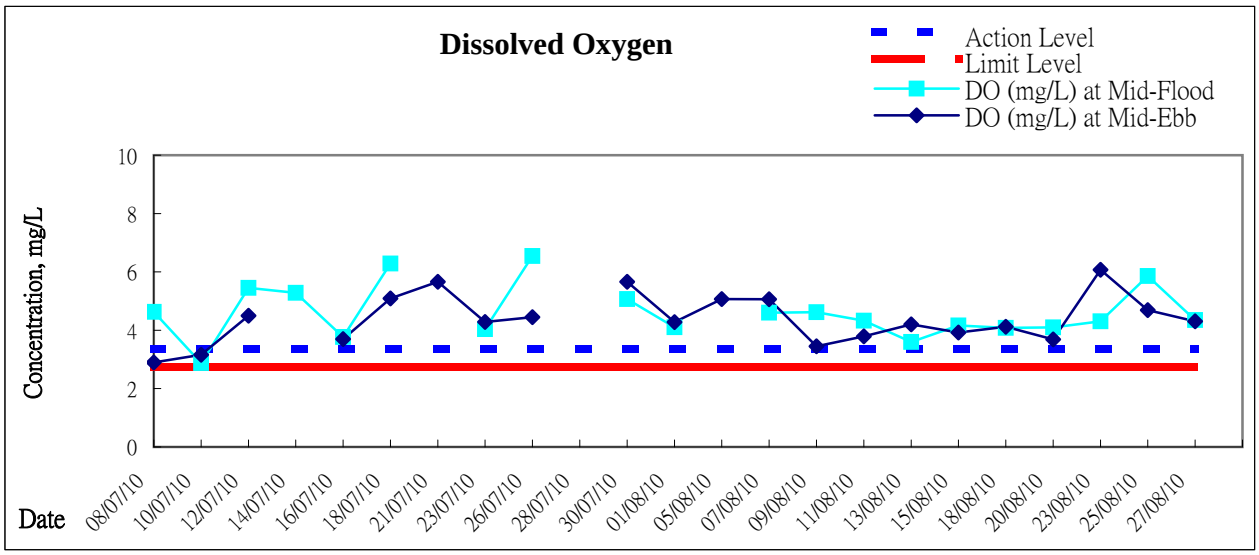
Graphic Presentation of Water Quality Result of C4e - WCT and GEC (Eastern)

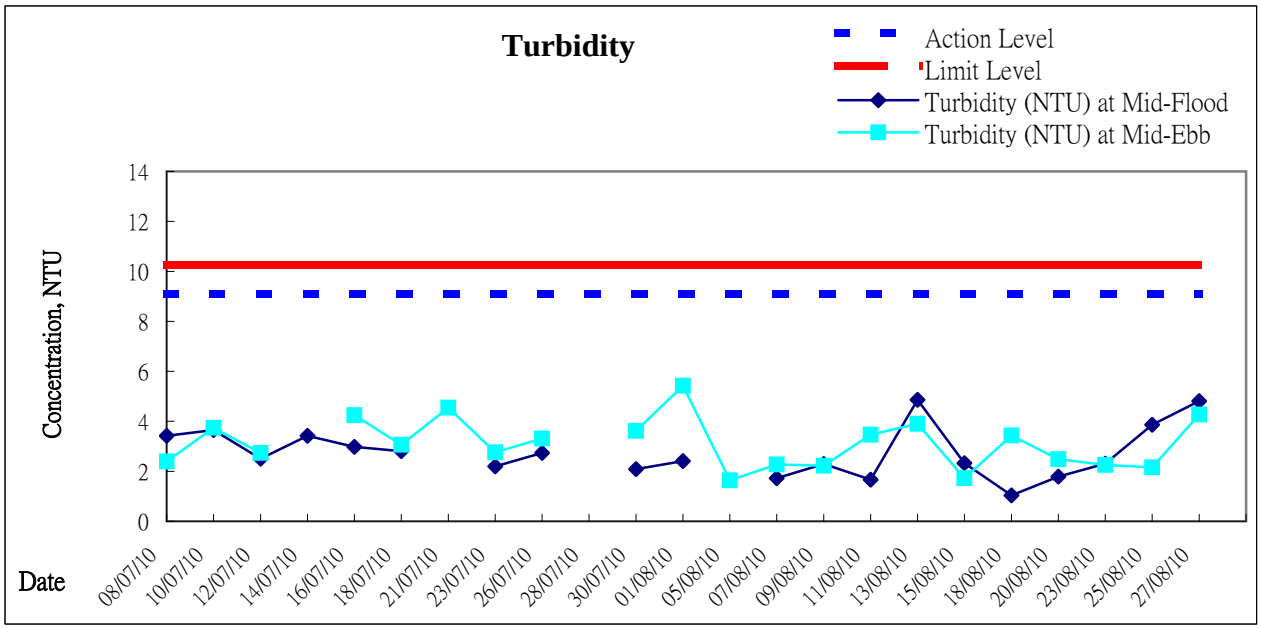


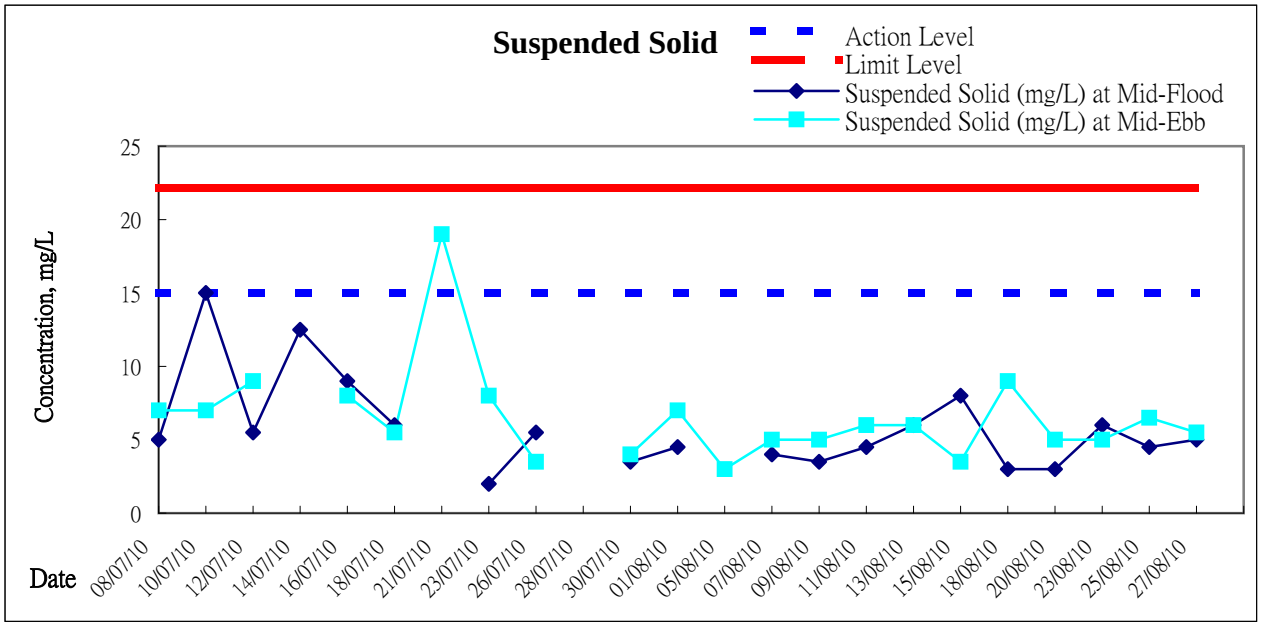




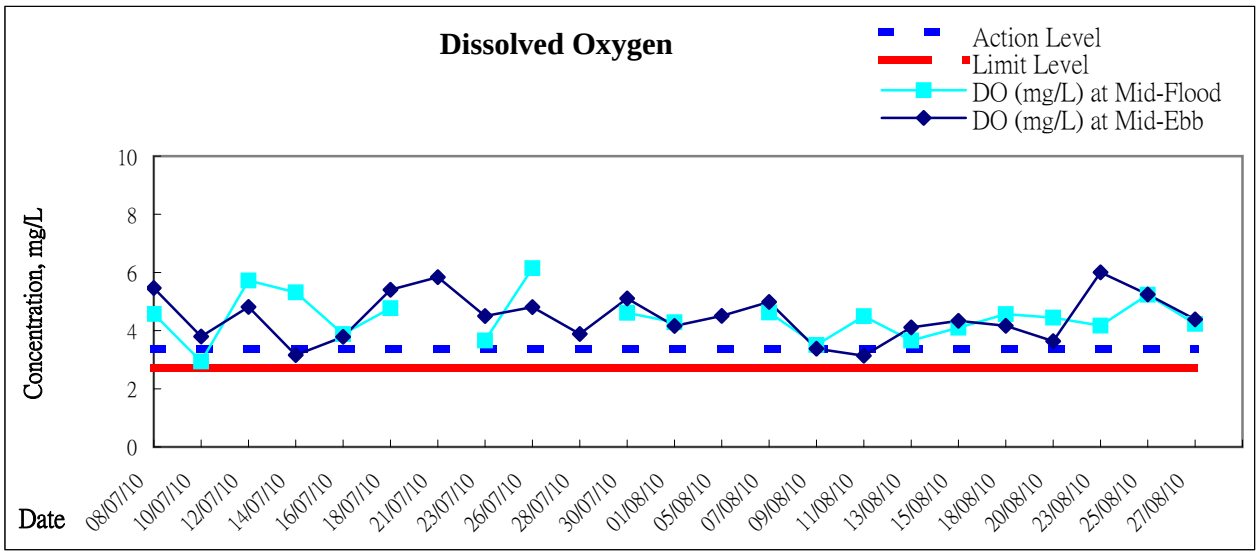
Graphic Presentation of Water Quality Result of C4w - WCT and GEC (Western)

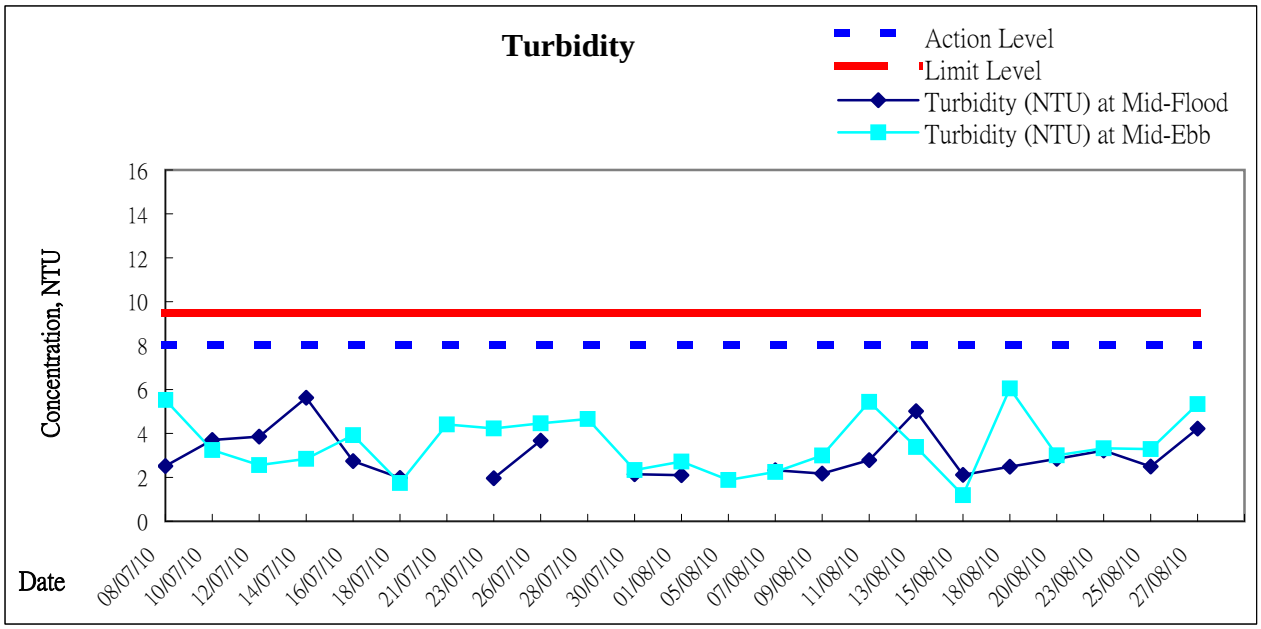


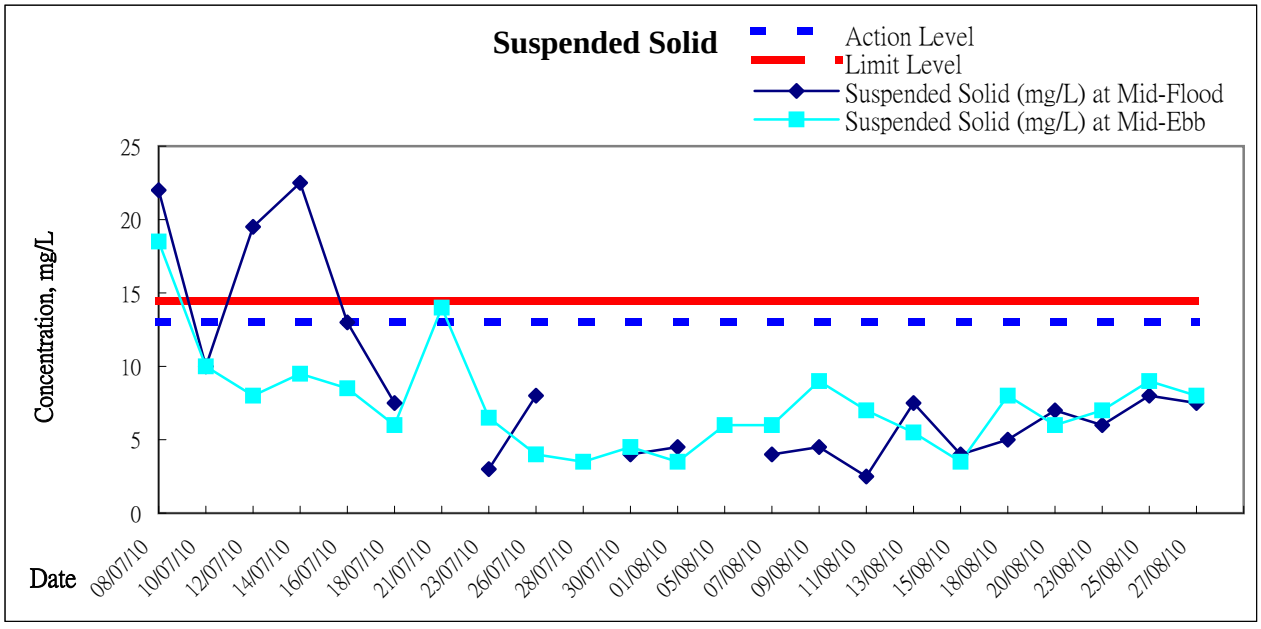




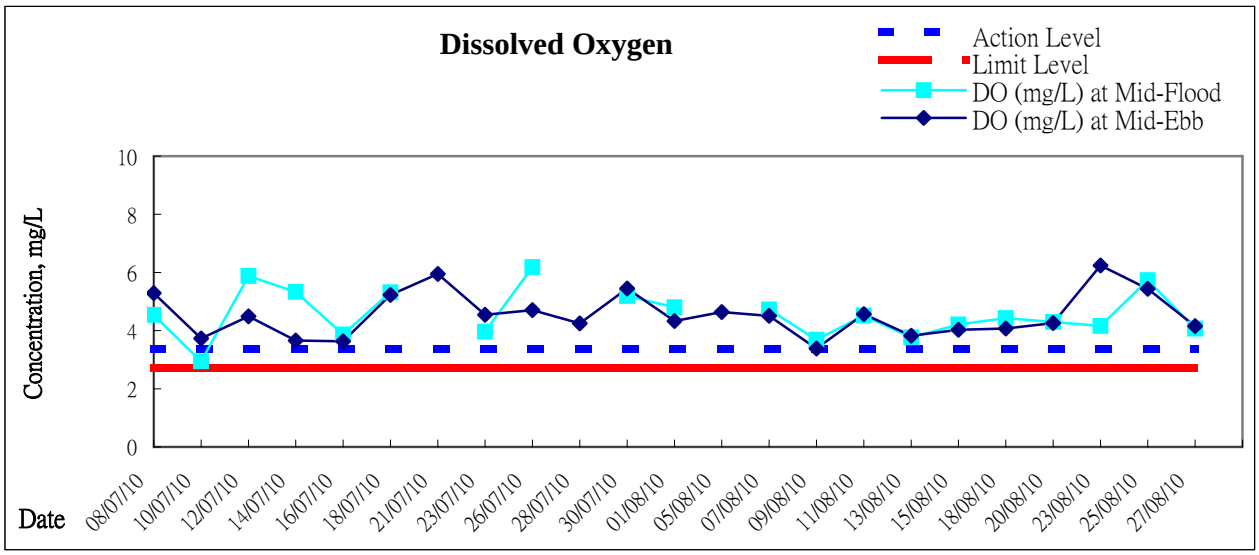
Graphic Presentation of Water Quality Result of C5e - SHKC (Eastern)

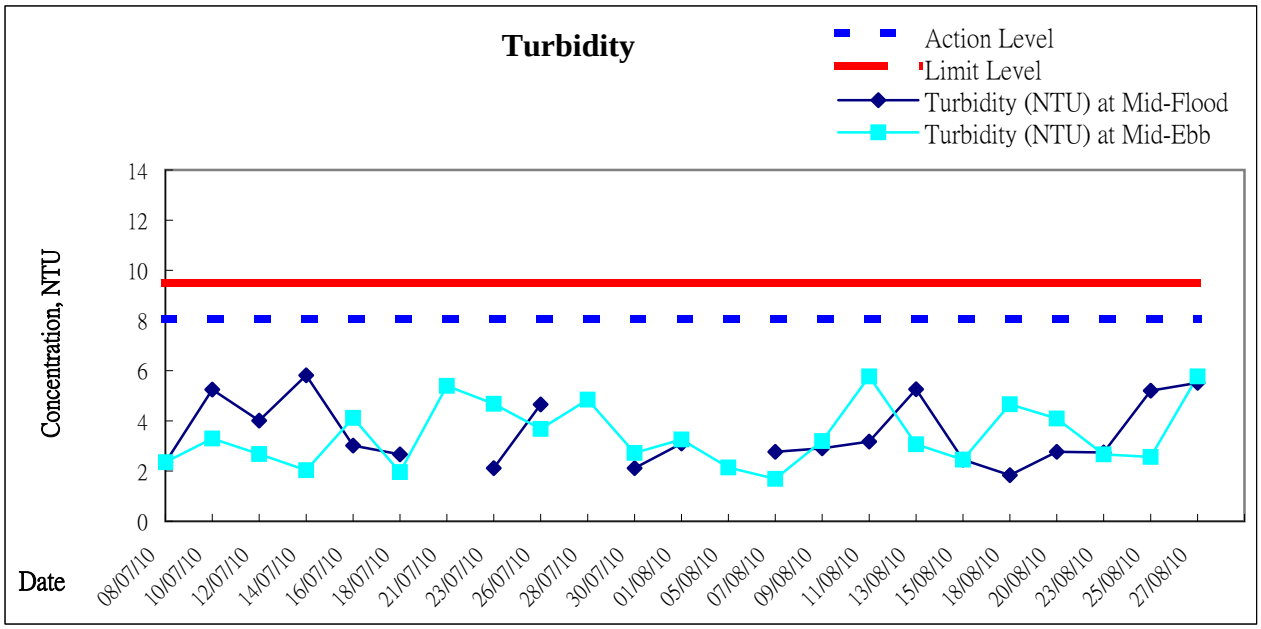


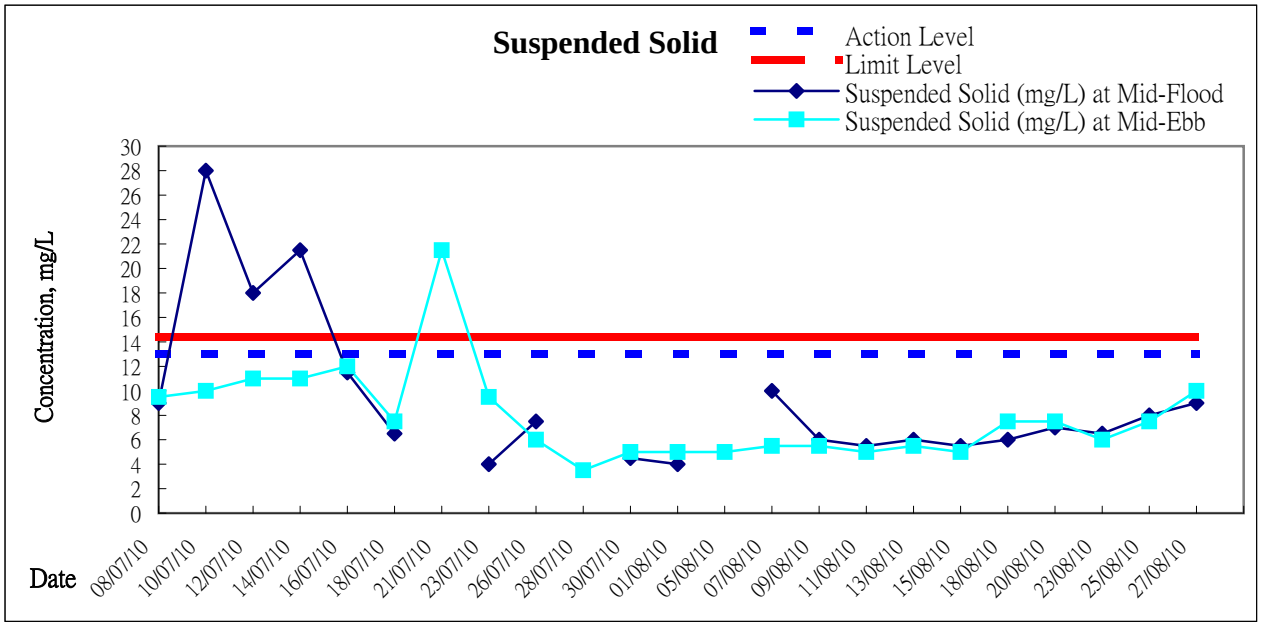




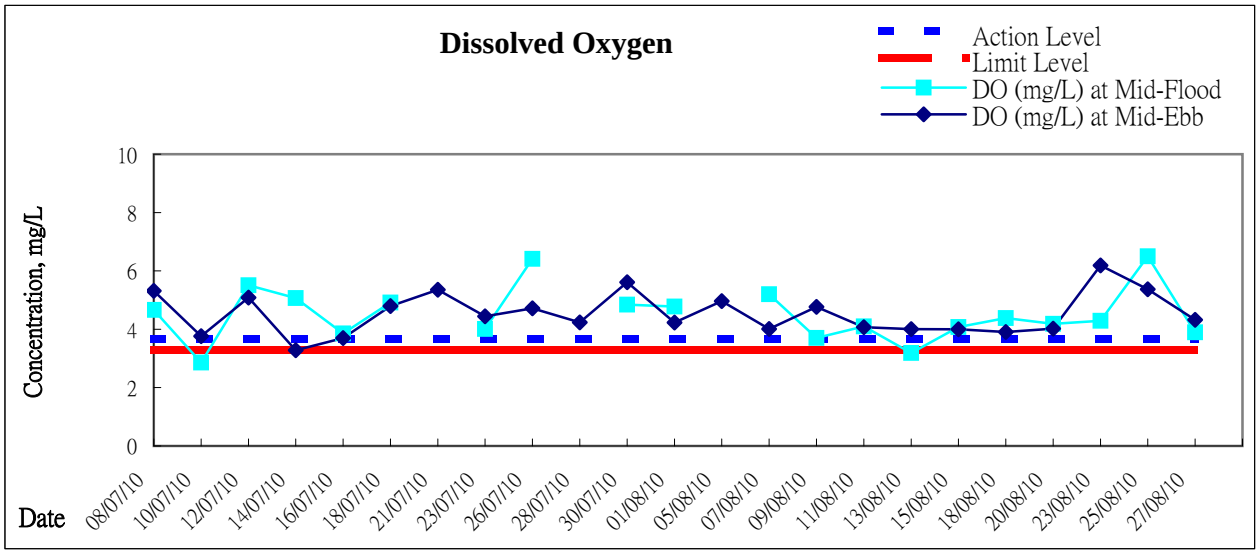
Graphic Presentation of Water Quality Result of C5w - SHKC (Western)

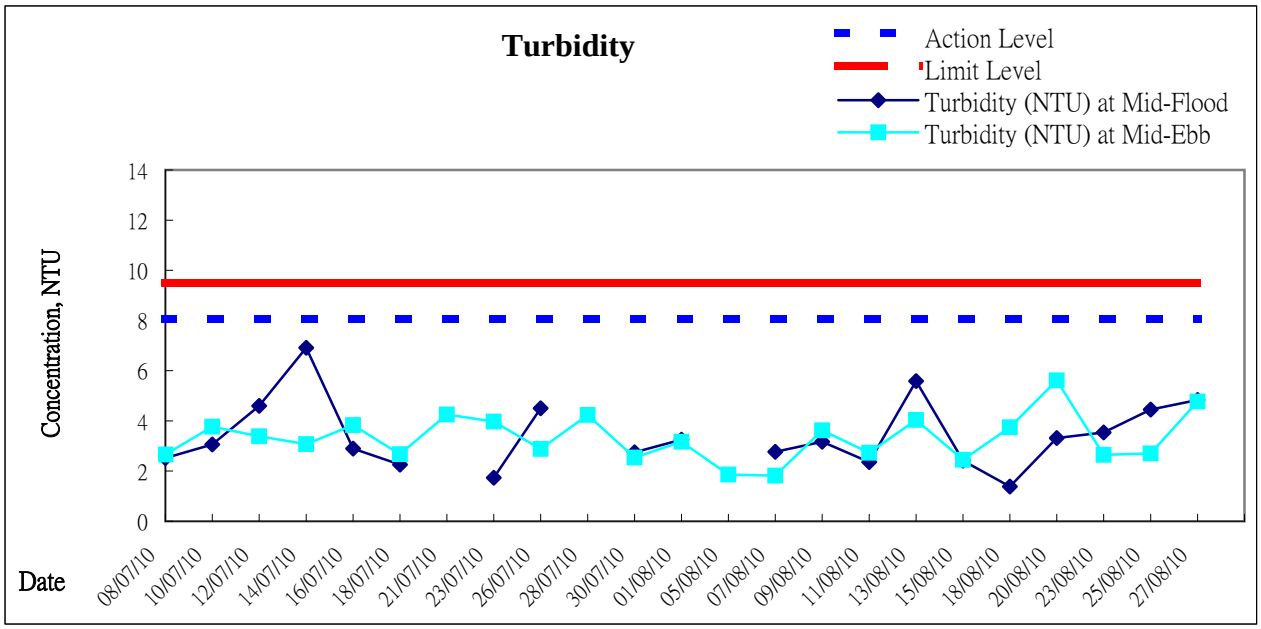


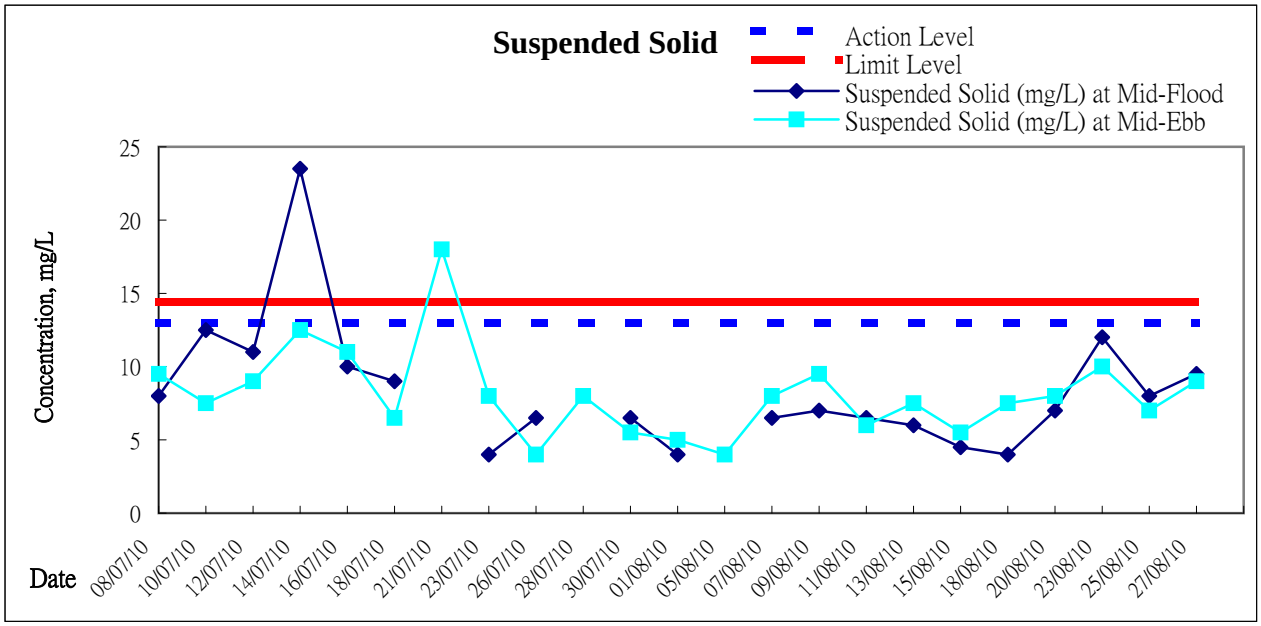




Graphic Presentation of Water Quality Result of WSD21 - Wan Chai







Appendix 5.1

Event Action Plans

Event/Action Plan for Construction Noise

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level being exceeded	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified)

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Limit Level being exceeded	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. 4. Identify source and investigate the cause of exceedance; 5. 5. Carry out analysis of Contractor's working procedures; 6. 6. Discuss with the IEC, Contractor and ER on remedial measures required; 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. (The above actions should be taken within 2 working days after the exceedance is identified)	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. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER 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. (The above actions should be taken within 2 working days after the exceedance is identified)

Event / Action Plan for Construction Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Notify Contractor. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. (The above actions should be taken within 2 working days after the exceedance is identified)	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. Amend proposal if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified)
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 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. (The above actions should be taken within 2 working days after the exceedance is identified)	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. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 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. (The above actions should be taken within 2 working days after the exceedance is identified)	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. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)

Event and Action Plan for Marine Water Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER; Implement the agreed mitigation measures. (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	Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next working day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)

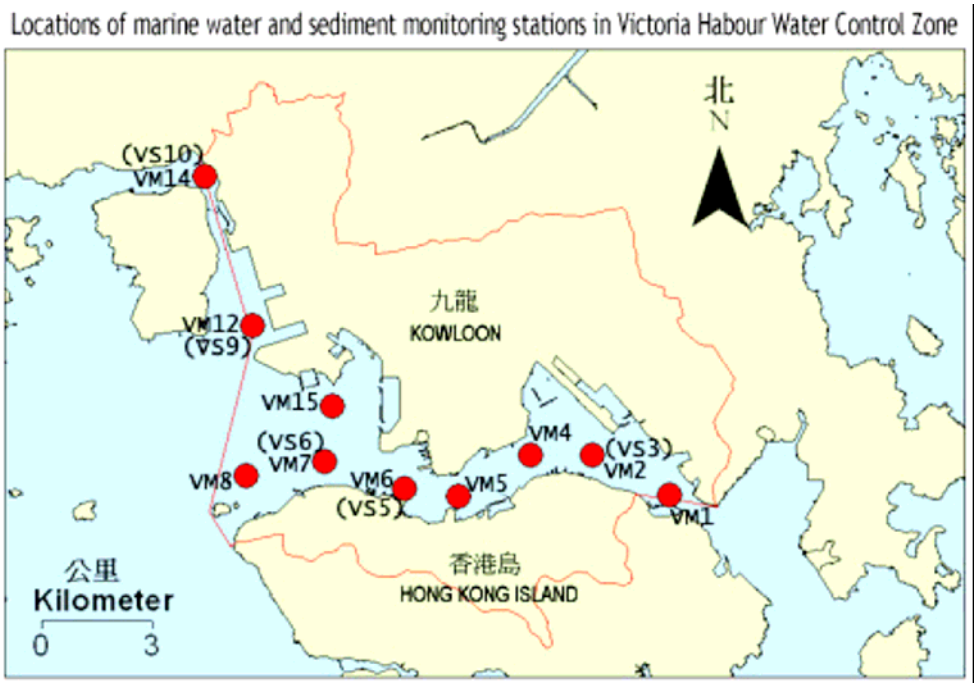
EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Limit level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET , IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Limit level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; 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. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3working days; Implement the agreed mitigation measures; As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities. (The above actions should be taken within 1 working day after the exceedance is identified)

Appendix 5.2

Calculation using the Marine Water Quality Data Obtained at the Closest EPD Routine Monitoring Stations

Appendix 5.2 Calculation using the Marine Water Quality Data Obtained at the Closest EPD Routine Monitoring Stations

- According to the location of the EPD routine monitoring stations in the diagram below, the closet monitoring station will be used for comparison purpose.



- Overlaying with ***Fig. 3.1***, the correlation of the baseline monitoring stations and the EPD monitoring stations will be:
  - WSD15 co-relates with VM1;
  - WSD10, WSD 17 co-relates with VM2;
  - WSD9, C8, C9 co-relates with VM4
  - WSD21, C1- C7 co-relates with VM5
  - WSD19 co-relates with VM6;
  - WSD7 co-relates with VM7;
  - WSD20 co-relates with VM8
- The monthly DO, Turbidity and SS patterns derived from the EPD monitoring data for 2006 to 2008 are used to compare the baseline monitoring data collected at the intake points to take account the seasonal fluctuation in the background level. The background conditions are presented in the wet season (Apr-Sep) and dry season (Oct-Mar).
- For the baseline data taken during the dry season, the derivation of the wet season shall be adjusted with dry season Action and Limit Levels multiplied with mean variation percentage of 2006 - 2008 to account for the seasonal fluctuation.

EPD Marine Water Monitoring Data at Victoria Harbour (2006-2008)

Water Control Zone	Station	Dates	Sample No	Depth	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Suspended Solids (mg/L)
Victoria Harbour	VM1	3/1/2006	1	Middle Water	7.6	9.8	2.4
Victoria Harbour	VM1	2/2/2006	1	Middle Water	6.8	12.9	2.2
Victoria Harbour	VM1	13/3/2006	1	Middle Water	7.1	8.5	2.7
Victoria Harbour	VM1	20/4/2006	1	Middle Water	7.6	9.3	3.3
Victoria Harbour	VM1	18/5/2006	1	Middle Water	5.4	13.1	19
Victoria Harbour	VM1	1/6/2006	1	Middle Water	5.3	6.8	5.6
Victoria Harbour	VM1	3/7/2006	1	Middle Water	4.4	10.6	3.5
Victoria Harbour	VM1	4/8/2006	1	Middle Water	5.6	17.6	4.4
Victoria Harbour	VM1	4/9/2006	1	Middle Water	2.7	17.9	6.9
Victoria Harbour	VM1	5/10/2006	1	Middle Water	4.9	13.6	3.6
Victoria Harbour	VM1	2/11/2006	1	Middle Water	6.6	13.9	4.1
Victoria Harbour	VM1	4/12/2006	1	Middle Water	6.6	13.4	6.8
Victoria Harbour	VM2	3/1/2006	1	Middle Water	7.2	9.8	3.6
Victoria Harbour	VM2	2/2/2006	1	Middle Water	6.5	12.5	4.4
Victoria Harbour	VM2	13/3/2006	1	Middle Water	6.8	8.9	3.5
Victoria Harbour	VM2	20/4/2006	1	Middle Water	6.9	8.6	1.8
Victoria Harbour	VM2	18/5/2006	1	Middle Water	5.5	10.3	12
Victoria Harbour	VM2	1/6/2006	1	Middle Water	4.9	4.2	3.9
Victoria Harbour	VM2	3/7/2006	1	Middle Water	5.2	8.5	0.8
Victoria Harbour	VM2	4/8/2006	1	Middle Water	5.8	14.9	5.6
Victoria Harbour	VM2	4/9/2006	1	Middle Water	3.6	12.2	2
Victoria Harbour	VM2	5/10/2006	1	Middle Water	4.3	12.9	3.5
Victoria Harbour	VM2	2/11/2006	1	Middle Water	6.1	14.8	4.7
Victoria Harbour	VM2	4/12/2006	1	Middle Water	6.6	12.4	2.5
Victoria Harbour	VM4	3/1/2006	1	Middle Water	7.3	10.3	4.4
Victoria Harbour	VM4	2/2/2006	1	Middle Water	6.7	12.6	4.4
Victoria Harbour	VM4	13/3/2006	1	Middle Water	6.8	8.4	2.9
Victoria Harbour	VM4	20/4/2006	1	Middle Water	6.8	10	3
Victoria Harbour	VM4	18/5/2006	1	Middle Water	5.3	10	12
Victoria Harbour	VM4	1/6/2006	1	Middle Water	4.9	4.8	2
Victoria Harbour	VM4	3/7/2006	1	Middle Water	5.7	8.5	1.7
Victoria Harbour	VM4	4/8/2006	1	Middle Water	5.5	12.6	4.4
Victoria Harbour	VM4	4/9/2006	1	Middle Water	4.6	12.1	3.2
Victoria Harbour	VM4	5/10/2006	1	Middle Water	4.1	18.1	7.4
Victoria Harbour	VM4	2/11/2006	1	Middle Water	5.9	14.1	4.8
Victoria Harbour	VM4	4/12/2006	1	Middle Water	6.1	12.9	3.9
Victoria Harbour	VM5	3/1/2006	1	Middle Water	7	10.8	5.3
Victoria Harbour	VM5	2/2/2006	1	Middle Water	6.5	14	3.5
Victoria Harbour	VM5	13/3/2006	1	Middle Water	6.2	9.3	2.7
Victoria Harbour	VM5	20/4/2006	1	Middle Water	5.6	9.4	3.2
Victoria Harbour	VM5	18/5/2006	1	Middle Water	4.8	8.5	9.6
Victoria Harbour	VM5	1/6/2006	1	Middle Water	4.9	4.9	3.9
Victoria Harbour	VM5	3/7/2006	1	Middle Water	4.9	10.7	3
Victoria Harbour	VM5	4/8/2006	1	Middle Water	5.6	13.4	4.7
Victoria Harbour	VM5	4/9/2006	1	Middle Water	5.1	12.2	3
Victoria Harbour	VM5	5/10/2006	1	Middle Water	4.3	17.5	5.6
Victoria Harbour	VM5	2/11/2006	1	Middle Water	5.7	13.6	3.9
Victoria Harbour	VM5	4/12/2006	1	Middle Water	5.8	12.7	3.6
Victoria Harbour	VM6	3/1/2006	1	Middle Water	6.8	10.5	4.3
Victoria Harbour	VM6	2/2/2006	1	Middle Water	6.6	13.9	7
Victoria Harbour	VM6	13/3/2006	1	Middle Water	6.4	9.6	3.2
Victoria Harbour	VM6	20/4/2006	1	Middle Water	5.9	10.1	3.5
Victoria Harbour	VM6	18/5/2006	1	Middle Water	4.8	7.7	9.7
Victoria Harbour	VM6	1/6/2006	1	Middle Water	5.1	5	4.1
Victoria Harbour	VM6	3/7/2006	1	Middle Water	6.2	8.9	1.6
Victoria Harbour	VM6	4/8/2006	1	Middle Water	5.5	13.2	4.4
Victoria Harbour	VM6	4/9/2006	1	Middle Water	4.6	12.6	2
Victoria Harbour	VM6	5/10/2006	1	Middle Water	4.4	14.1	5
Victoria Harbour	VM6	2/11/2006	1	Middle Water	5.7	13.1	3.2
Victoria Harbour	VM6	4/12/2006	1	Middle Water	5.5	13.1	4.4
Victoria Harbour	VM7	11/1/2006	1	Middle Water	6.9	9.6	2.5
Victoria Harbour	VM7	16/2/2006	1	Middle Water	6.9	10	6.5
Victoria Harbour	VM7	16/3/2006	1	Middle Water	6.1	10.3	3.8
Victoria Harbour	VM7	21/4/2006	1	Middle Water	6.9	10.5	4.6
Victoria Harbour	VM7	26/5/2006	1	Middle Water	5.1	5.9	20
Victoria Harbour	VM7	12/6/2006	1	Middle Water	4.9	5.2	3
Victoria Harbour	VM7	6/7/2006	1	Middle Water	7.7	9.6	1.4
Victoria Harbour	VM7	11/8/2006	1	Middle Water	5.4	12.7	2.6
Victoria Harbour	VM7	6/9/2006	1	Middle Water	4.4	11.5	1.6
Victoria Harbour	VM7	12/10/2006	1	Middle Water	4.1	20.4	6.8
Victoria Harbour	VM7	3/11/2006	1	Middle Water	5.3	16	5.2
Victoria Harbour	VM7	6/12/2006	1	Middle Water	5.6	12.3	4
Victoria Harbour	VM8	11/1/2006	1	Middle Water	7.5	9.6	3.2
Victoria Harbour	VM8	16/2/2006	1	Middle Water	7.7	11.2	17
Victoria Harbour	VM8	16/3/2006	1	Middle Water	6.9	9.8	4.6
Victoria Harbour	VM8	21/4/2006	1	Middle Water	7.5	10.6	4.8

EPD Marine Water Monitoring Data at Victoria Harbour (2006-2008)

Water Control Zone	Station	Dates	Sample No	Depth	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Suspended Solids (mg/L)
Victoria Harbour	VM8	26/5/2006	1	Middle Water	5.3	5.2	18
Victoria Harbour	VM8	12/6/2006	1	Middle Water	4.9	6.2	1.3
Victoria Harbour	VM8	6/7/2006	1	Middle Water	7.4	8.8	2
Victoria Harbour	VM8	11/8/2006	1	Middle Water	5	12	2
Victoria Harbour	VM8	6/9/2006	1	Middle Water	4.4	11.8	2.1
Victoria Harbour	VM8	12/10/2006	1	Middle Water	5.3	18.8	7.5
Victoria Harbour	VM8	3/11/2006	1	Middle Water	5.5	14.5	5.3
Victoria Harbour	VM8	6/12/2006	1	Middle Water	6.2	17.5	9.2
Victoria Harbour	VM1	15/1/2007	1	Middle Water	7.7	10.5	3.3
Victoria Harbour	VM1	1/2/2007	1	Middle Water	7.6	8.4	2
Victoria Harbour	VM1	7/3/2007	1	Middle Water	6.6	10.3	2
Victoria Harbour	VM1	12/4/2007	1	Middle Water	6	9.5	3.4
Victoria Harbour	VM1	3/5/2007	1	Middle Water	5.1	9.5	4.1
Victoria Harbour	VM1	22/6/2007	1	Middle Water	4.2	12.9	5.6
Victoria Harbour	VM1	23/7/2007	1	Middle Water	3.7	35	4.4
Victoria Harbour	VM1	23/8/2007	1	Middle Water	2.9	12.1	5.4
Victoria Harbour	VM1	17/9/2007	1	Middle Water	4.5	14.8	8.5
Victoria Harbour	VM1	10/10/2007	1	Middle Water	4.9	10.8	4
Victoria Harbour	VM1	8/11/2007	1	Middle Water	6	4.2	5.8
Victoria Harbour	VM1	4/12/2007	1	Middle Water	6	7.5	1.6
Victoria Harbour	VM1	3/1/2008	1	Middle Water	6.9	6.6	1.6
Victoria Harbour	VM1	1/2/2008	1	Middle Water	7.2	6.7	1.1
Victoria Harbour	VM1	28/3/2008	1	Middle Water	6.6	10.5	5.7
Victoria Harbour	VM1	23/4/2008	1	Middle Water	6.3	14.4	12
Victoria Harbour	VM1	19/5/2008	1	Middle Water	5.5	7.9	6.6
Victoria Harbour	VM1	11/6/2008	1	Middle Water	4.5	9.1	4.9
Victoria Harbour	VM1	2/7/2008	1	Middle Water	3.7	12.9	3.8
Victoria Harbour	VM1	4/8/2008	1	Middle Water	4.8	9.3	5.4
Victoria Harbour	VM1	19/9/2008	1	Middle Water	2.8	12.3	9.2
Victoria Harbour	VM1	8/10/2008	1	Middle Water	4.5	3.8	6.5
Victoria Harbour	VM1	5/11/2008	1	Middle Water	5.4	3.7	5
Victoria Harbour	VM1	10/12/2008	1	Middle Water	6.1	2.1	3.6
Victoria Harbour	VM2	15/1/2007	1	Middle Water	7.6	10.4	2.6
Victoria Harbour	VM2	1/2/2007	1	Middle Water	7.7	8.4	2
Victoria Harbour	VM2	7/3/2007	1	Middle Water	6.3	11.3	3.3
Victoria Harbour	VM2	12/4/2007	1	Middle Water	5.9	9.1	2.8
Victoria Harbour	VM2	3/5/2007	1	Middle Water	4.7	9.5	3.7
Victoria Harbour	VM2	22/6/2007	1	Middle Water	6.5	11.8	3
Victoria Harbour	VM2	23/7/2007	1	Middle Water	8	24.9	5.2
Victoria Harbour	VM2	23/8/2007	1	Middle Water	3.7	9.4	2.9
Victoria Harbour	VM2	17/9/2007	1	Middle Water	4.5	14.6	5.8
Victoria Harbour	VM2	10/10/2007	1	Middle Water	4.1	10.3	4
Victoria Harbour	VM2	8/11/2007	1	Middle Water	5.7	4.3	4.4
Victoria Harbour	VM2	4/12/2007	1	Middle Water	5.8	7.2	1.8
Victoria Harbour	VM2	3/1/2008	1	Middle Water	6.6	6.5	1.6
Victoria Harbour	VM2	1/2/2008	1	Middle Water	7.1	7	1.6
Victoria Harbour	VM2	28/3/2008	1	Middle Water	6.1	8.9	2.9
Victoria Harbour	VM2	23/4/2008	1	Middle Water	6.1	10.4	4.8
Victoria Harbour	VM2	19/5/2008	1	Middle Water	4.9	6.5	3.8
Victoria Harbour	VM2	11/6/2008	1	Middle Water	5.6	7.6	3.8
Victoria Harbour	VM2	2/7/2008	1	Middle Water	3	11.2	3.6
Victoria Harbour	VM2	4/8/2008	1	Middle Water	6.9	8.1	4.2
Victoria Harbour	VM2	19/9/2008	1	Middle Water	4	8.2	4
Victoria Harbour	VM2	8/10/2008	1	Middle Water	4.3	4.8	4.8
Victoria Harbour	VM2	5/11/2008	1	Middle Water	4.9	4.8	9.2
Victoria Harbour	VM2	10/12/2008	1	Middle Water	5.6	2.5	2.6
Victoria Harbour	VM4	15/1/2007	1	Middle Water	7.3	10.8	2.8
Victoria Harbour	VM4	1/2/2007	1	Middle Water	6.9	9.2	2.3
Victoria Harbour	VM4	7/3/2007	1	Middle Water	5.7	11.2	3.5
Victoria Harbour	VM4	12/4/2007	1	Middle Water	5.6	9.4	2.8
Victoria Harbour	VM4	3/5/2007	1	Middle Water	4.5	9.3	4.6
Victoria Harbour	VM4	22/6/2007	1	Middle Water	5.3	11.8	3.5
Victoria Harbour	VM4	23/7/2007	1	Middle Water	8	21	5.6
Victoria Harbour	VM4	23/8/2007	1	Middle Water	4.6	9.6	2.7
Victoria Harbour	VM4	17/9/2007	1	Middle Water	4.3	14.2	5.9
Victoria Harbour	VM4	10/10/2007	1	Middle Water	4.1	10.6	4.8
Victoria Harbour	VM4	8/11/2007	1	Middle Water	5.6	4.1	3.8
Victoria Harbour	VM4	4/12/2007	1	Middle Water	5.4	7.1	1.7
Victoria Harbour	VM4	3/1/2008	1	Middle Water	6.1	7.4	2.8
Victoria Harbour	VM4	1/2/2008	1	Middle Water	7.1	7.5	2.7
Victoria Harbour	VM4	28/3/2008	1	Middle Water	5.9	9.7	3.4
Victoria Harbour	VM4	23/4/2008	1	Middle Water	5.8	11.9	7.8
Victoria Harbour	VM4	19/5/2008	1	Middle Water	4.7	8.4	11
Victoria Harbour	VM4	11/6/2008	1	Middle Water	5.9	8.2	3.1
Victoria Harbour	VM4	2/7/2008	1	Middle Water	4.2	11	3.5
Victoria Harbour	VM4	4/8/2008	1	Middle Water	7	8.4	4.6

EPD Marine Water Monitoring Data at Victoria Harbour (2006-2008)

Water Control Zone	Station	Dates	Sample No	Depth	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Suspended Solids (mg/L)
Victoria Harbour	VM4	19/9/2008	1	Middle Water	2.8	9.4	5.3
Victoria Harbour	VM4	8/10/2008	1	Middle Water	4.4	4.2	4.7
Victoria Harbour	VM4	5/11/2008	1	Middle Water	4.7	5.9	7.7
Victoria Harbour	VM4	10/12/2008	1	Middle Water	5.3	2.5	2.9
Victoria Harbour	VM5	15/1/2007	1	Middle Water	6.6	10.3	1.7
Victoria Harbour	VM5	1/2/2007	1	Middle Water	6.9	8.9	3.2
Victoria Harbour	VM5	7/3/2007	1	Middle Water	5.6	10.2	2.8
Victoria Harbour	VM5	12/4/2007	1	Middle Water	5	9.3	3.1
Victoria Harbour	VM5	3/5/2007	1	Middle Water	4.1	10.1	5.3
Victoria Harbour	VM5	22/6/2007	1	Middle Water	5.1	12	3.9
Victoria Harbour	VM5	23/7/2007	1	Middle Water	6.1	24.6	6.2
Victoria Harbour	VM5	23/8/2007	1	Middle Water	4.9	9.5	2.8
Victoria Harbour	VM5	17/9/2007	1	Middle Water	3.9	12.1	3.1
Victoria Harbour	VM5	10/10/2007	1	Middle Water	3.9	13.1	8
Victoria Harbour	VM5	8/11/2007	1	Middle Water	5.3	4.1	4.2
Victoria Harbour	VM5	4/12/2007	1	Middle Water	4.2	8	1.7
Victoria Harbour	VM5	3/1/2008	1	Middle Water	5.7	6.8	2.8
Victoria Harbour	VM5	1/2/2008	1	Middle Water	6.8	7.2	2.4
Victoria Harbour	VM5	28/3/2008	1	Middle Water	5.2	9.2	2.7
Victoria Harbour	VM5	23/4/2008	1	Middle Water	5.2	10.4	5
Victoria Harbour	VM5	19/5/2008	1	Middle Water	5.1	7.9	5.8
Victoria Harbour	VM5	11/6/2008	1	Middle Water	5.2	8.2	4.9
Victoria Harbour	VM5	2/7/2008	1	Middle Water	5.1	10	2.4
Victoria Harbour	VM5	4/8/2008	1	Middle Water	6	8.4	5.3
Victoria Harbour	VM5	19/9/2008	1	Middle Water	3.1	12.1	10
Victoria Harbour	VM5	8/10/2008	1	Middle Water	4.4	3.8	4.7
Victoria Harbour	VM5	5/11/2008	1	Middle Water	4.7	5.2	6.6
Victoria Harbour	VM5	10/12/2008	1	Middle Water	5.6	3	4
Victoria Harbour	VM6	15/1/2007	1	Middle Water	7.3	10.3	2.1
Victoria Harbour	VM6	1/2/2007	1	Middle Water	6.8	9.8	4.4
Victoria Harbour	VM6	7/3/2007	1	Middle Water	5.2	10.1	2.4
Victoria Harbour	VM6	12/4/2007	1	Middle Water	5	9.5	3.8
Victoria Harbour	VM6	3/5/2007	1	Middle Water	4.3	10.1	4.2
Victoria Harbour	VM6	22/6/2007	1	Middle Water	5.6	12.6	2.5
Victoria Harbour	VM6	23/7/2007	1	Middle Water	3.2	18.4	3.9
Victoria Harbour	VM6	23/8/2007	1	Middle Water	3.9	11.4	4
Victoria Harbour	VM6	17/9/2007	1	Middle Water	3.7	12.4	4
Victoria Harbour	VM6	10/10/2007	1	Middle Water	4.4	13.4	9.5
Victoria Harbour	VM6	8/11/2007	1	Middle Water	5	4.1	4.8
Victoria Harbour	VM6	4/12/2007	1	Middle Water	4.7	7.5	2.5
Victoria Harbour	VM6	3/1/2008	1	Middle Water	5.6	7	2
Victoria Harbour	VM6	1/2/2008	1	Middle Water	6.6	7.4	3.1
Victoria Harbour	VM6	28/3/2008	1	Middle Water	5.3	9.2	2.4
Victoria Harbour	VM6	23/4/2008	1	Middle Water	5.3	11.4	7
Victoria Harbour	VM6	19/5/2008	1	Middle Water	5.1	7.1	6
Victoria Harbour	VM6	11/6/2008	1	Middle Water	5	9.7	3.5
Victoria Harbour	VM6	2/7/2008	1	Middle Water	4.6	9.9	4.4
Victoria Harbour	VM6	4/8/2008	1	Middle Water	7.4	7.7	4.2
Victoria Harbour	VM6	19/9/2008	1	Middle Water	2.8	10.1	7.4
Victoria Harbour	VM6	8/10/2008	1	Middle Water	4.7	4	14
Victoria Harbour	VM6	5/11/2008	1	Middle Water	4.7	4.6	6.4
Victoria Harbour	VM6	10/12/2008	1	Middle Water	5.6	3.4	5.3
Victoria Harbour	VM7	3/1/2007	1	Middle Water	5.7	12.2	2.4
Victoria Harbour	VM7	6/2/2007	1	Middle Water	7	10.7	5.3
Victoria Harbour	VM7	9/3/2007	1	Middle Water	5.2	10.2	3.2
Victoria Harbour	VM7	13/4/2007	1	Middle Water	4.9	9.3	3.6
Victoria Harbour	VM7	7/5/2007	1	Middle Water	4.9	8.8	1.3
Victoria Harbour	VM7	25/6/2007	1	Middle Water	5.5	9.2	1.3
Victoria Harbour	VM7	18/7/2007	1	Middle Water	5.3	11.4	3
Victoria Harbour	VM7	20/8/2007	1	Middle Water	4.7	12.5	4
Victoria Harbour	VM7	24/9/2007	1	Middle Water	4.7	15.5	10
Victoria Harbour	VM7	11/10/2007	1	Middle Water	3.9	11.2	6
Victoria Harbour	VM7	15/11/2007	1	Middle Water	5.1	4.2	4.6
Victoria Harbour	VM7	11/12/2007	1	Middle Water	5.1	8.6	3.4
Victoria Harbour	VM7	4/1/2008	1	Middle Water	5.6	8.1	4.2
Victoria Harbour	VM7	11/2/2008	1	Middle Water	6.3	8.7	4.6
Victoria Harbour	VM7	5/3/2008	1	Middle Water	7.8	8	2.2
Victoria Harbour	VM7	2/4/2008	1	Middle Water	6.1	10.3	5
Victoria Harbour	VM7	14/5/2008	1	Middle Water	5.5	8	5.9
Victoria Harbour	VM7	2/6/2008	1	Middle Water	4.4	8.1	3.4
Victoria Harbour	VM7	7/7/2008	1	Middle Water	5.1	11.6	2.6
Victoria Harbour	VM7	25/8/2008	1	Middle Water	5.2	7.3	2.9
Victoria Harbour	VM7	22/9/2008	1	Middle Water	3.1	7.7	4.1
Victoria Harbour	VM7	9/10/2008	1	Middle Water	5.3	4.3	5.6
Victoria Harbour	VM7	20/11/2008	1	Middle Water	5.3	4.7	6.5
Victoria Harbour	VM7	6/12/2008	1	Middle Water	6.1	9.8	4.3

EPD Marine Water Monitoring Data at Victoria Harbour (2006-2008)

Water Control Zone	Station	Dates	Sample No	Depth	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Suspended Solids (mg/L)
Victoria Harbour	VM8	3/1/2007	1	Middle Water	5.6	13.5	5
Victoria Harbour	VM8	6/2/2007	1	Middle Water	8.6	11.8	7
Victoria Harbour	VM8	9/3/2007	1	Middle Water	6.4	13.1	7.8
Victoria Harbour	VM8	13/4/2007	1	Middle Water	5.5	9.9	4.5
Victoria Harbour	VM8	7/5/2007	1	Middle Water	5.8	9.8	3.6
Victoria Harbour	VM8	25/6/2007	1	Middle Water	5.2	9.5	2.2
Victoria Harbour	VM8	18/7/2007	1	Middle Water	5	33.9	3.4
Victoria Harbour	VM8	20/8/2007	1	Middle Water	4.4	13	4
Victoria Harbour	VM8	24/9/2007	1	Middle Water	5	14.5	6.6
Victoria Harbour	VM8	11/10/2007	1	Middle Water	4.5	12	6.5
Victoria Harbour	VM8	15/11/2007	1	Middle Water	5.6	4.1	7.6
Victoria Harbour	VM8	11/12/2007	1	Middle Water	5.1	8.7	3.7
Victoria Harbour	VM8	4/1/2008	1	Middle Water	6.2	8.1	3.4
Victoria Harbour	VM8	11/2/2008	1	Middle Water	7.4	12.1	6.6
Victoria Harbour	VM8	5/3/2008	1	Middle Water	7.6	8.8	3
Victoria Harbour	VM8	2/4/2008	1	Middle Water	6.6	13.3	7.4
Victoria Harbour	VM8	14/5/2008	1	Middle Water	5.5	8.4	6.3
Victoria Harbour	VM8	2/6/2008	1	Middle Water	5.1	7.3	3
Victoria Harbour	VM8	7/7/2008	1	Middle Water	5.1	12.2	2.4
Victoria Harbour	VM8	25/8/2008	1	Middle Water	5.1	7.2	3.2
Victoria Harbour	VM8	22/9/2008	1	Middle Water	4	7.3	3.1
Victoria Harbour	VM8	9/10/2008	1	Middle Water	5.3	3.9	4.3
Victoria Harbour	VM8	20/11/2008	1	Middle Water	5.8	4.5	5.4
Victoria Harbour	VM8	6/12/2008	1	Middle Water	6.4	10.3	6.3

EPD Marine Water Monitoring Data (2006-2008) - DO Variation Between Dry and Wet Seasons

Station \ DO (mg/L)		Dry season 2006	Wet season 2006	Variation in avg. DO	Dry season 2007	Wet season 2007	Variation in avg. DO	Dry season 2008	Wet season 2008	Varia-tion in avg. DO	Mean Variation %
VM1 (WSD15)	Avg.	6.60	5.17	-21.7%	6.47	4.40	-32.0%	6.12	4.60	-24.8%	-26.2%
	Min.	4.90	2.70	-	4.90	2.90	-	4.50	2.80	-	-
	Max.	7.60	7.60	-	7.70	6.00	-	7.20	6.30	-	-
VM2 (WSD10, WSD17)	Avg.	6.25	5.32	-14.9%	6.20	5.55	-10.5%	5.77	5.08	-11.8%	-12.4%
	Min.	4.30	3.60	-	4.10	3.70	-	4.30	3.00	-	-
	Max.	7.20	6.90	-	7.70	8.00	-	7.10	6.90	-	-
VM4 (WSD9, C8, C9)	Avg.	6.15	5.47	-11.1%	5.83	5.38	-7.7%	5.58	5.07	-9.3%	-9.4%
	Min.	4.10	4.60	-	4.10	4.30	-	4.40	2.80	-	-
	Max.	7.30	6.80	-	7.30	8.00	-	7.10	7.00	-	-
VM5 (WSD21, C1-C7)	Avg.	5.92	5.15	-13.0%	5.42	4.85	-10.5%	5.40	4.95	-8.3%	-10.6%
	Min.	4.30	4.80	-	3.90	3.90	-	4.40	3.10	-	-
	Max.	7.00	5.60	-	6.90	6.10	-	6.80	6.00	-	-
VM6 (WSD19)	Avg.	5.90	5.35	-9.3%	5.57	4.28	-23.1%	5.42	5.03	-7.1%	-13.2%
	Min.	4.40	4.60	-	4.40	3.20	-	4.70	2.80	-	-
	Max.	6.80	6.20	-	7.30	5.60	-	6.60	7.40	-	-
VM7 (WSD7)	Avg.	5.82	5.73	-1.4%	5.33	5.00	-6.2%	6.07	4.90	-19.2%	-9.0%
	Min.	4.10	4.40	-	3.90	4.70	-	5.30	3.10	-	-
	Max.	6.90	7.70	-	7.00	5.50	-	7.80	6.10	-	-
VM8 (WSD20)	Avg.	6.52	5.75	-11.8%	5.97	5.15	-13.7%	6.45	5.23	-18.9%	-14.8%
	Min.	5.30	4.40	-	4.50	4.40	-	5.30	4.00	-	-
	Max.	7.70	7.50	-	8.60	5.80	-	7.60	6.60	-	-

EPD Marine Water Monitoring Data (2006-2008) - Turbidity Variation Between Dry and Wet Seasons

Station \ Turb (NTU)		Dry season 2006	Wet season 2006	Varia-tion in avg. Tur	Dry season 2007	Wet season 2007	Varia-tion in avg. Tur	Dry season 2008	Wet season 2008	Varia-tion in avg. Tur	Mean Variation %
VM1 (WSD15)	Avg.	12.02	12.55	4.4%	8.62	15.63	81.4%	5.57	10.98	97.3%	61.1%
	Min.	8.50	6.80	-	4.20	9.50	-	2.10	7.90	-	-
	Max.	13.90	17.90	-	10.80	35.00	-	10.50	14.40	-	-
VM2 (WSD10, WSD17)	Avg.	11.88	9.78	-17.7%	8.65	13.22	52.8%	5.75	8.67	50.7%	28.6%
	Min.	8.90	4.20	-	4.30	9.10	-	2.50	6.50	-	-
	Max.	14.80	14.90	-	11.30	24.90	-	8.90	11.20	-	-
VM4 (WSD9, C8, C9)	Avg.	12.73	9.67	-24.1%	8.83	12.55	42.1%	6.20	9.55	54.0%	24.0%
	Min.	8.40	4.80	-	4.10	9.30	-	2.50	8.20	-	-
	Max.	18.10	12.60	-	11.20	21.00	-	9.70	11.90	-	-
VM5 (WSD21, C1-C7)	Avg.	12.98	9.85	-24.1%	9.10	12.93	42.1%	5.87	9.50	61.9%	26.6%
	Min.	9.30	4.90	-	4.10	9.30	-	3.00	7.90	-	-
	Max.	17.50	13.40	-	13.10	24.60	-	9.20	12.10	-	-
VM6 (WSD19)	Avg.	12.38	9.58	-22.6%	9.20	12.40	34.8%	5.93	9.32	57.0%	23.1%
	Min.	9.60	5.00	-	4.10	9.50	-	3.40	7.10	-	-
	Max.	14.10	13.20	-	13.40	18.40	-	9.20	11.40	-	-
VM7 (WSD7)	Avg.	13.10	9.23	-29.5%	9.52	11.12	16.8%	7.27	8.83	21.6%	3.0%
	Min.	9.60	5.20	-	4.20	8.80	-	4.30	7.30	-	-
	Max.	20.40	12.70	-	12.20	15.50	-	9.80	11.60	-	-
VM8 (WSD20)	Avg.	13.57	9.10	-32.9%	10.53	15.10	43.4%	7.95	9.28	16.8%	9.1%
	Min.	9.60	5.20	-	4.10	9.50	-	3.90	7.20	-	-
	Max.	18.80	12.00	-	13.50	33.90	-	12.10	13.30	-	-

EPD Marine Water Monitoring Data (2006-2008) - SS Variation Between Dry and Wet Seasons

Station \ SS (mg/L)		Dry season 2006	Wet season 2006	Varia-tion in avg. SS	Dry season 2007	Wet season 2007	Varia-tion in avg. SS	Dry season 2008	Wet season 2008	Varia-tion in avg. SS	Mean Variation %
VM1 (WSD15)	Avg.	3.63	7.12	95.9%	3.12	5.23	67.9%	3.92	6.98	78.3%	80.7%
	Min.	2.20	3.30	-	1.60	3.40	-	1.10	3.80	-	-
	Max.	6.80	19.00	-	5.80	8.50	-	6.50	12.00	-	-
VM2 (WSD10, WSD17)	Avg.	3.70	4.35	17.6%	3.02	3.90	29.3%	3.78	4.03	6.6%	17.8%
	Min.	2.50	0.80	-	1.80	2.80	-	1.60	3.60	-	-
	Max.	4.70	12.00	-	4.40	5.80	-	9.20	4.80	-	-
VM4 (WSD9, C8, C9)	Avg.	4.63	4.38	-5.4%	3.15	4.18	32.8%	4.03	5.88	45.9%	24.4%
	Min.	2.90	1.70	-	1.70	2.70	-	2.70	3.10	-	-
	Max.	7.40	12.00	-	4.80	5.90	-	7.70	11.00	-	-
VM5 (WSD21, C1-C7)	Avg.	4.10	4.57	11.4%	3.60	4.07	13.0%	3.87	5.57	44.0%	22.8%
	Min.	2.70	3.00	-	1.70	2.80	-	2.40	2.40	-	-
	Max.	5.60	9.60	-	8.00	6.20	-	6.60	10.00	-	-
VM6 (WSD19)	Avg.	4.52	4.22	-6.6%	4.28	3.73	-12.8%	5.53	5.42	-2.1%	-7.2%
	Min.	3.20	1.60	-	2.10	2.50	-	2.00	3.50	-	-
	Max.	7.00	9.70	-	9.50	4.20	-	14.00	7.40	-	-
VM7 (WSD7)	Avg.	4.80	5.53	15.3%	4.15	3.87	-6.8%	4.57	3.98	-12.8%	-1.4%
	Min.	2.50	1.40	-	2.40	1.30	-	2.20	2.60	-	-
	Max.	6.80	20.00	-	6.00	10.00	-	6.50	5.90	-	-
VM8 (WSD20)	Avg.	7.80	5.03	-35.5%	6.27	4.05	-35.4%	4.83	4.23	-12.4%	-27.8%
	Min.	3.20	1.30	-	3.70	2.20	-	3.00	2.40	-	-
	Max.	17.00	18.00	-	7.80	6.60	-	6.60	7.40	-	-

Baseline Turbidity Monitoring Data (Oct - Nov 2009)

Mid-flood	WSD7			WSD9			WSD10			WSD15			WSD17		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	10.2	9.3	9.75	4.6	4.6	4.60	5.0	4.3	4.65	5.7	5.2	5.45	6.2	6.4	6.30
23-Oct-09	4.9	5.8	5.35	3.4	4.1	3.75	3.1	3.2	3.15	6.3	6.4	6.35	5.0	5.5	5.25
27-Oct-09	7.6	7.4	7.50	4.0	4.2	4.10	3.3	3.2	3.25	6.3	5.7	6.00	6.6	6.7	6.65
29-Oct-09	8.0	8.0	8.00	3.8	3.8	3.80	5.0	5.0	5.00	3.0	3.0	3.00	3.6	3.6	3.60
31-Oct-09	6.3	5.4	5.85	2.2	2.0	2.10	4.9	6.1	5.50	5.6	4.2	4.90	5.9	5.9	5.90
2-Nov-09	5.8	5.0	5.40	3.7	3.8	3.75	3.3	2.9	3.10	5.0	4.8	4.90	4.9	4.8	4.85
4-Nov-09	7.1	6.8	6.95	3.8	3.7	3.75	4.7	4.5	4.60	5.1	5.5	5.30	4.8	4.6	4.70
6-Nov-09	8.4	8.1	8.25	3.7	3.6	3.65	3.0	3.0	3.00	3.5	3.4	3.45	4.1	4.5	4.30
10-Nov-09	6.3	6.0	6.15	3.7	3.4	3.55	3.6	3.9	3.75	2.9	2.6	2.75	5.8	6.2	6.00
12-Nov-09	9.8	9.2	9.50	4.4	4.3	4.35	7.1	6.5	6.80	5.6	5.5	5.55	6.0	6.2	6.10
14-Nov-09	1.9	1.8	1.85	2.1	2.4	2.25	4.9	5.1	5.00	2.3	2.2	2.25	6.6	6.1	6.35
16-Nov-09	1.9	1.8	1.85	2.3	2.3	2.30	2.6	2.7	2.65	2.4	2.3	2.35	2.4	2.4	2.40

Mid-ebb	WSD7			WSD9			WSD10			WSD15			WSD17		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	5.5	5.5	5.50	6.3	6.9	6.60	5.2	4.8	5.00	7.3	7.5	7.40	7.8	7.5	7.65
23-Oct-09	6.2	5.7	5.95	4.3	4.8	4.55	4.3	3.9	4.10	3.1	3.0	3.05	5.4	4.4	4.90
27-Oct-09	6.7	6.2	6.45	2.3	2.5	2.40	3.7	3.5	3.60	3.2	3.4	3.30	3.4	3.5	3.45
29-Oct-09	4.3	4.2	4.25	3.3	3.5	3.40	4.9	4.9	4.90	3.3	3.5	3.40	4.6	4.6	4.60
31-Oct-09	3.7	4.1	3.90	3.4	3.7	3.55	6.1	6.4	6.25	3.8	1.9	2.85	3.9	3.5	3.70
2-Nov-09	6.3	5.9	6.10	3.6	3.7	3.65	3.6	3.7	3.65	3.6	3.7	3.65	4.6	3.7	4.15
4-Nov-09	3.2	3.3	3.25	2.9	2.7	2.80	2.7	2.8	2.75	6.1	5.8	5.95	3.5	3.4	3.45
6-Nov-09	3.8	3.7	3.75	3.1	2.9	3.00	3.3	3.1	3.20	5.7	5.6	5.65	4.6	4.4	4.50
10-Nov-09	3.8	3.7	3.75	5.2	5.3	5.25	2.7	2.8	2.75	2.4	2.3	2.35	4.1	4.3	4.20
12-Nov-09	5.1	5.1	5.10	4.4	4.5	4.45	6.1	6.1	6.10	5.5	5.7	5.60	7.3	7.6	7.45
14-Nov-09	2.2	2.0	2.10	2.4	2.4	2.40	4.4	4.0	4.20	1.6	1.4	1.50	2.9	3.1	3.00
16-Nov-09	2.1	2.1	2.10	2.4	2.3	2.35	2.8	2.7	2.75	2.9	2.7	2.80	2.8	2.5	2.65

Baseline Turbidity Monitoring Data (Oct - Nov 2009)

Mid-flood	WSD19			WSD20			WSD21			RW1			C1		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	6.2	5.8	6.00	5.9	6.3	6.10	8.4	8.5	8.45	10.4	10.6	10.50	6.1	6.3	6.20
23-Oct-09	7.0	6.5	6.75	5.5	5.6	5.55	6.6	6.9	6.75	8.2	8.1	8.15	6.0	5.4	5.70
27-Oct-09	6.9	6.6	6.75	3.8	3.5	3.65	7.9	7.6	7.75	7.8	7.7	7.75	5.1	5.2	5.15
29-Oct-09	4.3	4.3	4.30	3.0	2.9	2.95	5.8	6.1	5.95	6.4	6.1	6.25	4.9	4.9	4.90
31-Oct-09	5.6	7.0	6.30	4.0	3.5	3.75	4.9	5.0	4.95	4.7	5.8	5.25	4.1	4.5	4.30
2-Nov-09	5.4	4.4	4.90	5.1	4.6	4.85	5.0	4.5	4.75	4.3	4.0	4.15	6.0	5.8	5.90
4-Nov-09	4.0	4.1	4.05	6.3	6.7	6.50	6.6	6.6	6.60	5.6	5.4	5.50	4.0	3.9	3.95
6-Nov-09	5.2	5.3	5.25	5.5	5.7	5.60	6.3	6.3	6.30	6.5	6.3	6.40	3.6	3.7	3.65
10-Nov-09	7.4	7.8	7.60	4.0	4.3	4.15	6.7	7.0	6.85	4.8	5.3	5.05	4.0	3.8	3.90
12-Nov-09	9.6	9.2	9.40	6.5	6.9	6.70	5.8	5.6	5.70	4.7	4.5	4.60	3.2	3.1	3.15
14-Nov-09	5.1	5.2	5.15	5.5	5.1	5.30	4.8	5.2	5.00	6.1	5.8	5.95	4.0	3.7	3.85
16-Nov-09	1.8	1.6	1.70	1.7	1.7	1.70	8.4	8.9	8.65	7.9	7.9	7.90	8.4	8.9	8.65

Mid-ebb	WSD19			WSD20			WSD21			RW1			C1		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	8.8	8.4	8.60	6.7	6.5	6.60	6.2	6.2	6.20	6.6	6.6	6.60	5.1	5.4	5.25
23-Oct-09	5.3	4.7	5.00	4.2	4.2	4.20	5.5	5.8	5.65	4.9	5.1	5.00	5.5	5.8	5.65
27-Oct-09	3.7	3.3	3.50	3.1	3.2	3.15	6.0	6.0	6.00	5.9	5.9	5.90	8.4	8.3	8.35
29-Oct-09	5.0	4.9	4.95	2.9	2.8	2.85	4.9	5.1	5.00	4.8	4.8	4.80	6.0	6.2	6.10
31-Oct-09	3.8	3.9	3.85	4.7	5.9	5.30	4.5	4.3	4.40	4.6	4.5	4.55	4.9	4.7	4.80
2-Nov-09	4.9	5.4	5.15	3.5	3.5	3.50	4.8	4.7	4.75	3.1	2.9	3.00	4.5	3.8	4.15
4-Nov-09	3.2	3.4	3.30	3.8	3.6	3.70	6.0	5.7	5.85	5.2	5.1	5.15	4.6	4.8	4.70
6-Nov-09	7.0	6.3	6.65	5.3	4.9	5.10	5.5	5.3	5.40	4.2	4.5	4.35	4.8	4.7	4.75
10-Nov-09	4.2	4.4	4.30	3.0	3.2	3.10	4.4	4.5	4.45	3.8	4.2	4.00	4.6	4.5	4.55
12-Nov-09	4.0	4.2	4.10	3.5	3.6	3.55	4.7	4.4	4.55	4.6	4.4	4.50	4.6	4.4	4.50
14-Nov-09	2.1	2.2	2.15	2.4	2.1	2.25	5.1	5.0	5.05	6.4	6.1	6.25	4.4	4.1	4.25
16-Nov-09	2.5	2.6	2.55	1.9	1.9	1.90	8.6	8.5	8.55	9.0	8.9	8.95	9.2	8.8	9.00

Baseline Turbidity Monitoring Data (Oct - Nov 2009)

Mid-flood	C2			C3			C4			C5			C6		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	5.7	5.5	5.60	8.5	7.8	8.15	6.8	7.6	7.20	9.3	9.0	9.15	5.4	5.4	5.40
23-Oct-09	5.5	5.6	5.55	6.1	6.0	6.05	7.2	7.2	7.20	6.7	6.5	6.60	5.8	5.7	5.75
27-Oct-09	7.8	8.1	7.95	7.8	7.5	7.65	7.0	7.0	7.00	7.3	7.2	7.25	7.4	7.3	7.35
29-Oct-09	6.2	6.3	6.25	7.4	6.4	6.90	9.3	8.3	8.80	7.4	7.5	7.45	6.3	5.7	6.00
31-Oct-09	6.6	6.2	6.40	4.7	4.8	4.75	5.1	5.5	5.30	4.7	4.7	4.70	4.1	4.0	4.05
2-Nov-09	3.7	3.6	3.65	3.3	3.2	3.25	3.3	3.2	3.25	3.6	3.2	3.40	5.6	5.8	5.70
4-Nov-09	5.2	4.8	5.00	6.2	6.5	6.35	5.9	5.7	5.80	5.9	5.6	5.75	4.8	4.5	4.65
6-Nov-09	6.2	6.0	6.10	4.7	4.5	4.60	6.4	6.1	6.25	6.4	6.3	6.35	3.2	3.3	3.25
10-Nov-09	5.8	5.9	5.85	5.7	5.9	5.80	6.8	6.5	6.65	6.6	6.9	6.75	5.3	5.1	5.20
12-Nov-09	4.6	4.4	4.50	4.8	4.6	4.70	5.4	5.6	5.50	5.3	5.5	5.40	3.6	3.7	3.65
14-Nov-09	5.9	5.6	5.75	3.8	3.9	3.85	4.6	4.7	4.65	4.9	5.0	4.95	4.5	4.3	4.40
16-Nov-09	9.0	8.6	8.80	8.3	8.2	8.25	9.4	9.1	9.25	9.1	8.6	8.85	8.0	7.7	7.85

Mid-ebb	C2			C3			C4			C5			C6		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	6.1	6.3	6.20	5.2	5.3	5.25	6.8	6.8	6.80	7.7	7.9	7.80	5.5	5.2	5.35
23-Oct-09	6.0	5.4	5.70	7.0	6.6	6.80	5.4	5.4	5.40	5.3	5.5	5.40	5.6	5.6	5.60
27-Oct-09	5.1	5.2	5.15	5.4	5.4	5.40	6.6	6.3	6.45	6.3	6.2	6.25	6.2	6.3	6.25
29-Oct-09	4.9	4.9	4.90	4.7	4.6	4.65	5.0	4.8	4.90	5.1	5.0	5.05	4.8	4.8	4.80
31-Oct-09	4.1	4.5	4.30	3.8	3.9	3.85	4.4	4.0	4.20	4.8	4.7	4.75	5.8	6.1	5.95
2-Nov-09	6.0	5.8	5.90	6.6	6.4	6.50	6.1	5.5	5.80	4.2	4.1	4.15	3.8	3.9	3.85
4-Nov-09	4.0	3.9	3.95	6.2	6.0	6.10	6.6	6.2	6.40	4.9	5.4	5.15	5.4	5.0	5.20
6-Nov-09	3.6	3.7	3.65	4.5	4.4	4.45	4.1	4.3	4.20	7.4	7.7	7.55	4.0	4.0	4.00
10-Nov-09	4.0	3.8	3.90	4.4	4.2	4.30	5.1	4.8	4.95	4.4	4.4	4.40	5.0	4.8	4.90
12-Nov-09	3.2	3.1	3.15	2.8	2.7	2.75	2.8	3.0	2.90	4.9	4.7	4.80	4.3	4.3	4.30
14-Nov-09	4.0	3.7	3.85	4.7	4.9	4.80	4.8	4.7	4.75	6.7	6.4	6.55	5.3	5.2	5.25
16-Nov-09	8.4	8.9	8.65	8.9	8.8	8.85	8.8	9.0	8.90	9.3	9.4	9.35	8.9	8.6	8.75

Baseline Turbidity Monitoring Data (Oct - Nov 2009)

Mid-flood	C7			C8			C9			RC1			RC5		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	5.8	5.5	5.65	8.9	9.0	8.95	8.2	8.1	8.15	5.7	6.0	5.85	6.4	6.4	6.40
23-Oct-09	6.8	6.5	6.65	9.4	10.1	9.75	10.2	10.2	10.20	5.5	5.5	5.50	7.5	7.4	7.45
27-Oct-09	5.5	5.5	5.50	10.0	10.1	10.05	10.9	11.2	11.05	7.9	8.0	7.95	7.6	7.5	7.55
29-Oct-09	7.7	7.3	7.50	8.6	9.0	8.80	10.4	10.8	10.60	6.5	5.8	6.15	6.4	6.1	6.25
31-Oct-09	4.8	4.6	4.70	5.8	6.3	6.05	9.9	9.9	9.90	5.0	5.3	5.15	4.0	3.9	3.95
2-Nov-09	4.7	4.6	4.65	4.8	4.8	4.80	5.1	5.6	5.35	3.4	3.2	3.30	4.2	4.3	4.25
4-Nov-09	4.9	5.0	4.95	6.5	6.4	6.45	7.6	7.8	7.70	4.3	4.7	4.50	6.1	6.6	6.35
6-Nov-09	4.5	4.4	4.45	9.3	9.6	9.45	8.4	8.0	8.20	5.9	5.7	5.80	5.2	5.3	5.25
10-Nov-09	4.8	4.7	4.75	7.3	7.7	7.50	8.4	7.9	8.15	5.0	4.9	4.95	5.2	5.3	5.25
12-Nov-09	3.7	3.8	3.75	6.5	6.6	6.55	7.5	7.1	7.30	4.0	4.1	4.05	6.2	5.9	6.05
14-Nov-09	3.9	4.2	4.05	5.4	5.8	5.60	7.0	6.9	6.95	5.5	5.3	5.40	4.1	4.1	4.10
16-Nov-09	8.2	7.9	8.05	11.3	11.5	11.40	9.3	8.6	8.95	8.3	8.4	8.35	9.3	9.4	9.35

Mid-ebb	C7			C8			C9			RC1			RC5		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	4.8	4.5	4.65	6.6	6.8	6.70	9.7	9.5	9.60	5.0	4.9	4.95	6.1	6.1	6.10
23-Oct-09	3.8	4.0	3.90	7.0	7.2	7.10	8.6	8.7	8.65	4.7	4.6	4.65	4.2	4.2	4.20
27-Oct-09	5.6	5.6	5.60	7.4	7.4	7.40	8.1	8.0	8.05	5.1	5.3	5.20	5.9	5.9	5.90
29-Oct-09	4.3	4.3	4.30	6.0	6.2	6.10	6.4	6.2	6.30	6.2	6.2	6.20	5.0	4.9	4.95
31-Oct-09	4.0	3.7	3.85	5.3	4.9	5.10	5.6	6.2	5.90	4.4	4.3	4.35	3.9	4.4	4.15
2-Nov-09	2.9	2.6	2.75	6.6	6.0	6.30	6.5	6.5	6.50	4.4	4.3	4.35	4.6	5.6	5.10
4-Nov-09	2.8	2.9	2.85	5.8	5.8	5.80	8.0	7.6	7.80	3.9	4.1	4.00	4.8	4.5	4.65
6-Nov-09	3.4	3.3	3.35	4.5	4.4	4.45	5.2	5.5	5.35	4.3	4.3	4.30	4.9	4.7	4.80
10-Nov-09	4.8	4.3	4.55	5.1	5.1	5.10	5.2	5.2	5.20	4.4	4.3	4.35	3.7	3.8	3.75
12-Nov-09	2.7	2.6	2.65	6.3	6.7	6.50	5.9	5.9	5.90	2.5	2.5	2.50	3.7	4.0	3.85
14-Nov-09	3.6	3.6	3.60	5.6	5.8	5.70	5.8	6.1	5.95	4.3	4.2	4.25	4.5	4.4	4.45
16-Nov-09	8.2	7.9	8.05	9.9	9.9	9.90	8.1	8.5	8.30	9.7	9.4	9.55	8.4	8.4	8.40

Baseline Turbidity Monitoring Data (Oct - Nov 2009)

Mid-flood	RC7		
Date	Value	Value	Average
21-Oct-09	4.9	4.9	4.90
23-Oct-09	4.0	4.1	4.05
27-Oct-09	7.7	7.5	7.60
29-Oct-09	5.5	5.3	5.40
31-Oct-09	4.8	4.8	4.80
2-Nov-09	4.3	4.1	4.20
4-Nov-09	5.0	5.1	5.05
6-Nov-09	5.2	5.4	5.30
10-Nov-09	4.6	4.5	4.55
12-Nov-09	3.4	3.3	3.35
14-Nov-09	3.4	3.1	3.25
16-Nov-09	8.9	8.7	8.80

Mid-ebb	RC7		
Date	Value	Value	Average
21-Oct-09	5.5	5.7	5.60
23-Oct-09	4.4	4.3	4.35
27-Oct-09	9.3	8.0	8.65
29-Oct-09	5.0	4.5	4.75
31-Oct-09	4.3	4.2	4.25
2-Nov-09	4.5	4.2	4.35
4-Nov-09	5.4	4.9	5.15
6-Nov-09	4.9	4.5	4.70
10-Nov-09	6.1	6.8	6.45
12-Nov-09	3.5	3.5	3.50
14-Nov-09	4.2	4.4	4.30
16-Nov-09	8.9	8.9	8.90

Projected Turbidity Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	WSD7		WSD9		WSD10		WSD15		WSD17		WSD19		WSD20		WSD21	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	10.5	10.04	5.7	5.70	6.4	5.98	9.2	8.78	8.0	8.10	6.4	6.18	6.4	6.65	10.6	10.70
	9.6		5.7		5.5		8.4		8.2		6.0		6.9		10.8	
23-Oct-09	5.0	5.51	4.2	4.65	4.0	4.05	10.1	10.23	6.4	6.75	8.6	8.31	6.0	6.05	8.4	8.55
	6.0		5.1		4.1		10.3		7.1		8.0		6.1		8.7	
27-Oct-09	7.8	7.72	5.0	5.08	4.2	4.18	10.1	9.66	8.5	8.55	8.5	8.31	4.1	3.98	10.0	9.81
	7.6		5.2		4.1		9.2		8.6		8.1		3.8		9.6	
29-Oct-09	8.2	8.24	4.7	4.71	6.4	6.43	4.8	4.83	4.6	4.63	5.3	5.29	3.3	3.22	7.3	7.54
	8.2		4.7		6.4		4.8		4.6		5.3		3.2		7.7	
31-Oct-09	6.5	6.02	2.7	2.60	6.3	7.07	9.0	7.89	7.6	7.59	6.9	7.75	4.4	4.09	6.2	6.27
	5.6		2.5		7.8		6.8		7.6		8.6		3.8		6.3	
2-Nov-09	6.0	5.56	4.6	4.65	4.2	3.99	8.1	7.89	6.3	6.24	6.6	6.03	5.6	5.29	6.3	6.02
	5.1		4.7		3.7		7.7		6.2		5.4		5.0		5.7	
4-Nov-09	7.3	7.16	4.7	4.65	6.0	5.92	8.2	8.54	6.2	6.04	4.9	4.98	6.9	7.09	8.4	8.36
	7.0		4.6		5.8		8.9		5.9		5.0		7.3		8.4	
6-Nov-09	8.6	8.49	4.6	4.53	3.9	3.86	5.6	5.56	5.3	5.53	6.4	6.46	6.0	6.11	8.0	7.98
	8.3		4.5		3.9		5.5		5.8		6.5		6.2		8.0	
10-Nov-09	6.5	6.33	4.6	4.40	4.6	4.82	4.7	4.43	7.5	7.72	9.1	9.35	4.4	4.53	8.5	8.67
	6.2		4.2		5.0		4.2		8.0		9.6		4.7		8.9	
12-Nov-09	10.1	9.78	5.5	5.39	9.1	8.75	9.0	8.94	7.7	7.85	11.8	11.57	7.1	7.31	7.3	7.22
	9.5		5.3		8.4		8.9		8.0		11.3		7.5		7.1	
14-Nov-09	2.0	1.90	2.6	2.79	6.3	6.43	3.7	3.62	8.5	8.17	6.3	6.34	6.0	5.78	6.1	6.33
	1.9		3.0		6.6		3.5		7.8		6.4		5.6		6.6	
16-Nov-09	2.0	1.90	2.9	2.85	3.3	3.41	3.9	3.78	3.1	3.09	2.2	2.09	1.9	1.85	10.6	10.95
	1.9		2.9		3.5		3.7		3.1		2.0		1.9		11.3	

Mid-Ebb	WSD7		WSD9		WSD10		WSD15		WSD17		WSD19		WSD20		WSD21	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	5.7	5.66	7.8	8.18	6.7	6.43	11.8	11.92	10.0	9.84	10.8	10.58	7.3	7.20	7.9	7.85
	5.7		8.6		6.2		12.1		9.6		10.3		7.1		7.9	
23-Oct-09	6.4	6.13	5.3	5.64	5.5	5.27	5.0	4.91	6.9	6.30	6.5	6.15	4.6	4.58	7.0	7.16
	5.9		6.0		5.0		4.8		5.7		5.8		4.6		7.3	
27-Oct-09	6.9	6.64	2.9	2.98	4.8	4.63	5.2	5.31	4.4	4.44	4.6	4.31	3.4	3.44	7.6	7.60
	6.4		3.1		4.5		5.5		4.5		4.1		3.5		7.6	
29-Oct-09	4.4	4.38	4.1	4.22	6.3	6.30	5.3	5.48	5.9	5.92	6.2	6.09	3.2	3.11	6.2	6.33
	4.3		4.3		6.3		5.6		5.9		6.0		3.1		6.5	
31-Oct-09	3.8	4.02	4.2	4.40	7.8	8.04	6.1	4.59	5.0	4.76	4.7	4.74	5.1	5.78	5.7	5.57
	4.2		4.6		8.2		3.1		4.5		4.8		6.4		5.4	
2-Nov-09	6.5	6.28	4.5	4.53	4.6	4.69	5.8	5.88	5.9	5.34	6.0	6.34	3.8	3.82	6.1	6.02
	6.1		4.6		4.8		6.0		4.8		6.6		3.8		6.0	
4-Nov-09	3.3	3.35	3.6	3.47	3.5	3.54	9.8	9.58	4.5	4.44	3.9	4.06	4.1	4.04	7.6	7.41
	3.4		3.3		3.6		9.3		4.4		4.2		3.9		7.2	
6-Nov-09	3.9	3.86	3.8	3.72	4.2	4.12	9.2	9.10	5.9	5.79	8.6	8.18	5.8	5.56	7.0	6.84
	3.8		3.6		4.0		9.0		5.7		7.8		5.3		6.7	
10-Nov-09	3.9	3.86	6.4	6.51	3.5	3.54	3.9	3.78	5.3	5.40	5.2	5.29	3.3	3.38	5.6	5.64
	3.8		6.6		3.6		3.7		5.5		5.4		3.5		5.7	
12-Nov-09	5.3	5.25	5.5	5.52	7.8	7.85	8.9	9.02	9.4	9.58	4.9	5.05	3.8	3.87	6.0	5.76
	5.3		5.6		7.8		9.2		9.8		5.2		3.9		5.6	
14-Nov-09	2.3	2.16	3.0	2.98	5.7	5.40	2.6	2.42	3.7	3.86	2.6	2.65	2.6	2.45	6.5	6.40
	2.1		3.0		5.1		2.3		4.0		2.7		2.3		6.3	
16-Nov-09	2.2	2.16	3.0	2.91	3.6	3.54	4.7	4.51	3.6	3.41	3.1	3.14	2.1	2.07	10.9	10.83
	2.2		2.9		3.5		4.3		3.2		3.2		2.1		10.8	

Projected Turbidity Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	RW21		C1		C2		C3		C4		C5		C6		C7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	13.2	13.30	7.7	7.85	7.2	7.09	10.8	10.32	8.6	9.12	9.6	9.42	6.8	6.84	7.3	7.16
	13.4		8.0		7.0		9.9		9.6		9.3		6.8		7.0	
23-Oct-09	10.4	10.32	7.6	7.22	7.0	7.03	7.7	7.66	9.1	9.12	8.5	8.36	7.3	7.28	8.6	8.42
	10.3		6.8		7.1		7.6		9.1		8.2		7.2		8.2	
27-Oct-09	9.9	9.81	6.5	6.52	9.9	10.07	9.9	9.69	8.9	8.86	9.2	9.18	9.4	9.31	7.0	6.97
	9.8		6.6		10.3		9.5		8.9		9.1		9.2		7.0	
29-Oct-09	8.1	7.92	6.2	6.21	7.9	7.92	9.4	8.74	11.8	11.14	9.4	9.43	8.0	7.60	9.8	9.50
	7.7		6.2		8.0		8.1		10.5		9.5		7.2		9.2	
31-Oct-09	6.0	6.65	5.2	5.45	8.4	8.11	6.0	6.02	6.5	6.71	6.0	5.95	5.2	5.13	6.1	5.95
	7.3		5.7		7.9		6.1		7.0		6.0		5.1		5.8	
2-Nov-09	5.4	5.26	7.6	7.47	4.7	4.62	4.2	4.12	4.2	4.12	4.6	4.31	7.1	7.22	6.0	5.89
	5.1		7.3		4.6		4.1		4.1		4.1		7.3		5.8	
4-Nov-09	7.1	6.97	5.1	5.00	6.6	6.33	7.9	8.04	7.5	7.35	7.5	7.28	6.1	5.89	6.2	6.27
	6.8		4.9		6.1		8.2		7.2		7.1		5.7		6.3	
6-Nov-09	8.2	8.11	4.6	4.62	7.9	7.73	6.0	5.83	8.1	7.92	8.1	8.04	4.1	4.12	5.7	5.64
	8.0		4.7		7.6		5.7		7.7		8.0		4.2		5.6	
10-Nov-09	6.1	6.40	5.1	4.94	7.3	7.41	7.2	7.35	8.6	8.42	8.4	8.55	6.7	6.59	6.1	6.02
	6.7		4.8		7.5		7.5		8.2		8.7		6.5		6.0	
12-Nov-09	6.0	5.83	4.1	3.99	5.8	5.70	6.1	5.95	6.8	6.97	6.7	6.84	4.6	4.62	4.7	4.75
	5.7		3.9		5.6		5.8		7.1		7.0		4.7		4.8	
14-Nov-09	7.7	7.54	5.1	4.88	7.5	7.28	4.8	4.88	5.8	5.89	6.2	6.27	5.7	5.57	4.9	5.13
	7.3		4.7		7.1		4.9		6.0		6.3		5.4		5.3	
16-Nov-09	10.0	10.00	10.6	10.95	11.4	11.14	10.5	10.45	11.9	11.71	11.5	11.21	10.1	9.94	10.4	10.19
	10.0		11.3		10.9		10.4		11.5		10.9		9.8		10.0	

Mid-Ebb	RW21		C1		C2		C3		C4		C5		C6		C7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	8.4	8.36	6.5	6.65	7.7	7.85	6.6	6.65	8.6	8.61	9.8	9.88	7.0	6.78	6.1	5.89
	8.4		6.8		8.0		6.7		8.6		10.0		6.6		5.7	
23-Oct-09	6.2	6.27	7.0	7.16	7.6	7.22	8.9	8.61	6.8	6.84	6.7	6.84	7.1	7.09	4.8	4.94
	6.3		7.3		6.8		8.4		6.8		7.0		7.1		5.1	
27-Oct-09	7.5	7.47	10.6	10.57	6.5	6.52	6.8	6.84	8.4	8.17	8.0	7.92	7.9	7.92	7.1	7.09
	7.5		10.5		6.6		6.8		8.0		7.9		8.0		7.1	
29-Oct-09	6.1	6.08	7.6	7.73	6.2	6.21	6.0	5.89	6.3	6.21	6.5	6.40	6.1	6.08	5.4	5.45
	6.1		7.9		6.2		5.8		6.1		6.3		6.1		5.4	
31-Oct-09	5.8	5.79	6.2	6.08	5.2	5.45	4.8	4.88	5.6	5.32	6.1	6.02	7.3	7.54	5.1	4.88
	5.8		6.0		5.7		4.9		5.1		6.0		7.7		4.7	
2-Nov-09	3.9	3.86	5.7	5.26	7.6	7.47	8.4	8.23	7.7	7.35	5.3	5.26	4.8	4.88	3.7	3.48
	3.8		4.8		7.3		8.1		7.0		5.2		4.9		3.3	
4-Nov-09	6.6	6.55	5.8	5.95	5.1	5.00	7.9	7.73	8.4	8.11	6.2	6.52	6.8	6.59	3.5	3.61
	6.5		6.1		4.9		7.6		7.9		6.8		6.3		3.7	
6-Nov-09	5.3	5.41	6.1	6.02	4.6	4.62	5.7	5.64	5.2	5.32	9.4	9.56	5.1	5.07	4.3	4.24
	5.5		6.0		4.7		5.6		5.4		9.8		5.1		4.2	
10-Nov-09	4.8	4.94	5.8	5.76	5.1	4.94	5.6	5.45	6.5	6.27	5.6	5.57	6.3	6.21	6.1	5.76
	5.1		5.7		4.8		5.3		6.1		5.6		6.1		5.4	
12-Nov-09	5.8	5.76	5.8	5.70	4.1	3.99	3.5	3.48	3.5	3.67	6.2	6.08	5.4	5.45	3.4	3.36
	5.7		5.6		3.9		3.4		3.8		6.0		5.4		3.3	
14-Nov-09	8.1	8.01	5.6	5.38	5.1	4.88	6.0	6.08	6.1	6.02	8.5	8.29	6.7	6.65	4.6	4.56
	7.9		5.2		4.7		6.2		6.0		8.1		6.6		4.6	
16-Nov-09	11.4	11.37	11.7	11.40	10.6	10.95	11.3	11.21	11.1	11.27	11.8	11.84	11.3	11.08	10.4	10.19
	11.3		11.1		11.3		11.1		11.4		11.9		10.9		10.0	

Projected Turbidity Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	C8		C9		RC1		RC5		RC7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	11.0	11.10	10.2	10.11	7.2	7.41	8.1	8.11	6.2	6.21
	11.2		10.0		7.6		8.1		6.2	
23-Oct-09	11.7	12.09	12.6	12.65	7.0	6.97	9.5	9.43	5.1	5.13
	12.5		12.6		7.0		9.4		5.2	
27-Oct-09	12.4	12.46	13.5	13.70	10.0	10.07	9.6	9.56	9.8	9.62
	12.5		13.9		10.1		9.5		9.5	
29-Oct-09	10.7	10.91	12.9	13.14	8.2	7.79	8.1	7.92	7.0	6.84
	11.2		13.4		7.3		7.7		6.7	
31-Oct-09	7.2	7.50	12.3	12.28	6.3	6.52	5.1	5.00	6.1	6.08
	7.8		12.3		6.7		4.9		6.1	
2-Nov-09	6.0	5.95	6.3	6.63	4.3	4.18	5.3	5.38	5.4	5.32
	6.0		6.9		4.1		5.4		5.2	
4-Nov-09	8.1	8.00	9.4	9.55	5.4	5.70	7.7	8.04	6.3	6.40
	7.9		9.7		6.0		8.4		6.5	
6-Nov-09	11.5	11.72	10.4	10.17	7.5	7.35	6.6	6.65	6.6	6.71
	11.9		9.9		7.2		6.7		6.8	
10-Nov-09	9.1	9.30	10.4	10.11	6.3	6.27	6.6	6.65	5.8	5.76
	9.5		9.8		6.2		6.7		5.7	
12-Nov-09	8.1	8.12	9.3	9.05	5.1	5.13	7.9	7.66	4.3	4.24
	8.2		8.8		5.2		7.5		4.2	
14-Nov-09	6.7	6.94	8.7	8.62	7.0	6.84	5.2	5.19	4.3	4.12
	7.2		8.6		6.7		5.2		3.9	
16-Nov-09	14.0	14.14	11.5	11.10	10.5	10.57	11.8	11.84	11.3	11.14
	14.3		10.7		10.6		11.9		11.0	

Mid-Ebb	C8		C9		RC1		RC5		RC7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	8.2	8.31	12.0	11.90	6.3	6.27	7.7	7.73	7.0	7.09
	8.4		11.8		6.2		7.7		7.2	
23-Oct-09	8.7	8.80	10.7	10.73	6.0	5.89	5.3	5.32	5.6	5.51
	8.9		10.8		5.8		5.3		5.4	
27-Oct-09	9.2	9.18	10.0	9.98	6.5	6.59	7.5	7.47	11.8	10.95
	9.2		9.9		6.7		7.5		10.1	
29-Oct-09	7.4	7.56	7.9	7.81	7.9	7.85	6.3	6.27	6.3	6.02
	7.7		7.7		7.9		6.2		5.7	
31-Oct-09	6.6	6.32	6.9	7.32	5.6	5.51	4.9	5.26	5.4	5.38
	6.1		7.7		5.4		5.6		5.3	
2-Nov-09	8.2	7.81	8.1	8.06	5.6	5.51	5.8	6.46	5.7	5.51
	7.4		8.1		5.4		7.1		5.3	
4-Nov-09	7.2	7.19	9.9	9.67	4.9	5.07	6.1	5.89	6.8	6.52
	7.2		9.4		5.2		5.7		6.2	
6-Nov-09	5.6	5.52	6.4	6.63	5.4	5.45	6.2	6.08	6.2	5.95
	5.5		6.8		5.4		6.0		5.7	
10-Nov-09	6.3	6.32	6.4	6.45	5.6	5.51	4.7	4.75	7.7	8.17
	6.3		6.4		5.4		4.8		8.6	
12-Nov-09	7.8	8.06	7.3	7.32	3.2	3.17	4.7	4.88	4.4	4.43
	8.3		7.3		3.2		5.1		4.4	
14-Nov-09	6.9	7.07	7.2	7.38	5.4	5.38	5.7	5.64	5.3	5.45
	7.2		7.6		5.3		5.6		5.6	
16-Nov-09	12.3	12.28	10.0	10.29	12.3	12.09	10.6	10.64	11.3	11.27
	12.3		10.5		11.9		10.6		11.3	

Baseline DO Monitoring Data (Oct - Nov 2009)

Mid-flood	WSD7			WSD9			WSD10			WSD15			WSD17		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	4.40	4.40	4.40	4.70	4.82	4.76	5.14	5.10	5.12	5.14	5.17	5.16	5.38	5.20	5.29
23-Oct-09	4.91	4.38	4.65	4.27	4.40	4.34	4.51	4.47	4.49	4.68	4.60	4.64	4.88	4.86	4.87
27-Oct-09	4.20	4.23	4.22	4.96	4.91	4.94	4.68	4.65	4.67	4.44	4.38	4.41	4.92	4.66	4.79
29-Oct-09	4.76	4.63	4.70	4.90	4.89	4.90	6.07	6.01	6.04	4.48	4.37	4.43	4.60	4.52	4.56
31-Oct-09	4.51	4.62	4.57	5.10	5.04	5.07	4.93	4.86	4.90	4.88	4.79	4.84	4.75	4.80	4.78
2-Nov-09	5.14	5.16	5.15	5.26	5.31	5.29	5.42	5.55	5.49	5.68	5.70	5.69	5.85	5.34	5.60
4-Nov-09	6.23	6.12	6.18	6.44	6.34	6.39	6.48	6.46	6.47	6.59	6.45	6.52	6.53	6.62	6.58
6-Nov-09	5.50	5.43	5.47	5.34	5.30	5.32	5.59	5.58	5.59	5.63	5.65	5.64	5.63	5.61	5.62
10-Nov-09	5.18	5.17	5.18	4.67	4.61	4.64	5.13	5.08	5.11	4.89	4.91	4.90	5.21	5.12	5.17
12-Nov-09	3.38	3.63	3.51	3.32	3.41	3.37	3.49	3.68	3.59	3.30	3.63	3.47	3.91	4.06	3.99
14-Nov-09	6.82	6.76	6.79	8.25	8.33	8.29	7.98	8.32	8.15	8.52	8.62	8.57	8.40	8.43	8.42
16-Nov-09	7.45	7.38	7.42	8.58	8.55	8.57	7.48	7.47	7.48	7.43	7.42	7.43	8.90	8.29	8.60

Mid-ebb	WSD7			WSD9			WSD10			WSD15			WSD17		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	4.89	4.83	4.86	4.78	4.78	4.78	5.09	5.03	5.06	4.93	4.88	4.91	4.99	4.67	4.83
23-Oct-09	4.07	3.88	3.98	4.44	4.36	4.40	5.56	5.38	5.47	4.65	4.62	4.64	4.33	4.16	4.25
27-Oct-09	4.79	4.57	4.68	4.70	4.64	4.67	4.58	4.66	4.62	4.28	4.23	4.26	5.02	4.72	4.87
29-Oct-09	5.37	5.37	5.37	5.39	5.17	5.28	5.06	4.97	5.02	4.87	4.79	4.83	4.31	4.24	4.28
31-Oct-09	4.50	4.42	4.46	5.22	5.13	5.18	5.83	5.88	5.86	5.14	5.22	5.18	5.07	5.27	5.17
2-Nov-09	5.13	5.06	5.10	5.28	5.21	5.25	5.18	5.14	5.16	4.45	4.32	4.39	4.22	4.29	4.26
4-Nov-09	6.14	6.12	6.13	6.20	6.19	6.20	6.29	6.27	6.28	6.40	6.46	6.43	6.20	6.16	6.18
6-Nov-09	5.31	5.31	5.31	5.66	5.65	5.66	5.79	5.73	5.76	5.75	5.74	5.75	5.55	5.61	5.58
10-Nov-09	6.03	5.97	6.00	5.49	5.38	5.44	4.36	4.29	4.33	4.67	4.64	4.66	5.35	5.41	5.38
12-Nov-09	4.84	4.81	4.83	3.59	3.71	3.65	4.70	4.69	4.70	2.81	3.04	2.93	3.13	3.40	3.27
14-Nov-09	7.12	7.16	7.14	8.57	8.58	8.58	8.57	8.43	8.50	8.54	8.57	8.56	8.45	8.41	8.43
16-Nov-09	7.85	7.72	7.79	8.77	8.76	8.77	6.66	6.61	6.64	6.87	6.80	6.84	7.18	7.09	7.14

Baseline DO Monitoring Data (Oct - Nov 2009)

Mid-flood	WSD19			WSD20			WSD21			RW1			C1		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	4.36	4.45	4.41	5.31	4.78	5.05	4.49	4.49	4.49	4.74	4.66	4.70	4.75	4.52	4.64
23-Oct-09	3.71	3.60	3.66	4.78	4.58	4.68	3.92	3.86	3.89	4.35	4.35	4.35	4.62	4.48	4.55
27-Oct-09	3.94	3.83	3.89	3.82	3.88	3.85	4.45	4.34	4.40	4.35	4.32	4.34	4.64	4.64	4.64
29-Oct-09	4.99	4.92	4.96	4.59	4.55	4.57	4.66	4.61	4.64	4.75	4.71	4.73	4.84	4.82	4.83
31-Oct-09	4.33	4.31	4.32	4.04	4.11	4.08	4.89	4.87	4.88	5.22	5.20	5.21	4.82	4.81	4.82
2-Nov-09	5.57	5.40	5.49	5.30	5.35	5.33	4.90	4.55	4.73	5.28	4.66	4.97	4.80	4.78	4.79
4-Nov-09	6.38	6.31	6.35	6.48	6.41	6.45	4.82	4.76	4.79	4.79	4.96	4.88	4.53	4.60	4.57
6-Nov-09	5.17	5.11	5.14	5.79	5.78	5.79	4.73	4.67	4.70	4.56	4.55	4.56	4.69	4.61	4.65
10-Nov-09	5.54	5.52	5.53	5.38	5.32	5.35	4.50	4.45	4.48	4.59	4.55	4.57	4.68	4.66	4.67
12-Nov-09	3.30	3.42	3.36	3.18	3.51	3.35	3.93	3.86	3.90	4.11	4.05	4.08	3.69	3.64	3.67
14-Nov-09	8.03	7.74	7.89	7.98	7.99	7.99	3.53	3.48	3.51	4.32	4.13	4.23	4.43	4.47	4.45
16-Nov-09	7.36	7.19	7.28	8.55	8.50	8.53	4.66	4.32	4.49	4.58	4.47	4.53	5.33	5.43	5.38

Mid-ebb	WSD19			WSD20			WSD21			RW1			C1		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	4.70	4.93	4.82	4.80	4.80	4.80	4.84	4.84	4.84	4.56	4.48	4.52	4.55	4.44	4.50
23-Oct-09	4.04	4.25	4.15	4.52	4.48	4.50	3.67	3.65	3.66	4.93	4.55	4.74	4.38	4.38	4.38
27-Oct-09	4.92	4.99	4.96	4.92	5.05	4.99	4.60	4.41	4.51	4.66	4.46	4.56	4.81	4.64	4.73
29-Oct-09	4.71	4.63	4.67	5.10	5.02	5.06	4.81	4.71	4.76	4.83	4.78	4.81	4.66	4.54	4.60
31-Oct-09	4.07	4.14	4.11	4.69	4.43	4.56	5.22	4.98	5.10	5.06	4.86	4.96	5.20	5.17	5.19
2-Nov-09	4.28	4.43	4.36	4.86	4.94	4.90	4.90	4.79	4.85	5.50	5.62	5.56	4.99	4.82	4.91
4-Nov-09	6.58	6.55	6.57	6.66	6.53	6.60	4.52	4.44	4.48	4.63	4.52	4.58	5.65	5.60	5.63
6-Nov-09	5.78	5.76	5.77	5.93	5.92	5.93	3.96	3.90	3.93	4.01	3.99	4.00	4.79	4.75	4.77
10-Nov-09	5.95	5.93	5.94	5.74	5.67	5.71	4.65	4.55	4.60	4.67	4.62	4.65	4.50	4.38	4.44
12-Nov-09	2.96	3.02	2.99	3.67	3.76	3.72	3.75	3.73	3.74	3.85	3.78	3.82	3.96	3.91	3.94
14-Nov-09	8.39	8.23	8.31	7.91	7.84	7.88	4.62	4.52	4.57	4.63	4.57	4.60	4.55	4.32	4.44
16-Nov-09	8.33	8.20	8.27	8.76	8.70	8.73	6.67	6.49	6.58	6.33	6.22	6.28	4.02	4.05	4.04

Baseline DO Monitoring Data (Oct - Nov 2009)

Mid-flood	C2			C3			C4			C5			C6		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	4.52	4.46	4.49	4.46	4.39	4.43	4.46	4.29	4.38	4.55	4.48	4.52	3.51	3.44	3.48
23-Oct-09	4.23	3.96	4.10	4.22	4.09	4.16	4.22	4.01	4.12	4.88	4.32	4.60	2.83	2.63	2.73
27-Oct-09	4.39	4.25	4.32	4.42	4.36	4.39	4.55	4.45	4.50	4.46	4.36	4.41	3.56	3.29	3.43
29-Oct-09	4.69	4.60	4.65	4.60	4.61	4.61	4.58	4.51	4.55	4.70	4.60	4.65	3.73	3.29	3.51
31-Oct-09	4.87	4.83	4.85	5.05	5.02	5.04	5.12	4.99	5.06	5.03	4.92	4.98	4.03	3.92	3.98
2-Nov-09	4.69	4.59	4.64	5.07	4.85	4.96	4.71	4.66	4.69	5.31	4.65	4.98	3.85	3.76	3.81
4-Nov-09	5.36	5.01	5.19	5.34	5.31	5.33	5.24	5.20	5.22	4.83	4.73	4.78	3.85	3.74	3.80
6-Nov-09	4.70	4.60	4.65	4.61	4.58	4.60	4.58	4.54	4.56	4.74	4.66	4.70	3.46	3.34	3.40
10-Nov-09	4.53	4.44	4.49	4.44	4.45	4.45	4.42	4.35	4.39	4.54	4.44	4.49	3.57	3.13	3.35
12-Nov-09	3.84	3.78	3.81	3.97	3.95	3.96	3.87	3.81	3.84	3.87	3.81	3.84	2.76	2.70	2.73
14-Nov-09	4.47	4.44	4.46	4.27	4.18	4.23	3.97	3.95	3.96	3.81	3.67	3.74	3.16	3.19	3.18
16-Nov-09	3.99	3.91	3.95	4.32	4.25	4.29	4.34	4.26	4.30	4.43	4.33	4.38	3.15	3.20	3.18

Mid-ebb	C2			C3			C4			C5			C6		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	4.47	4.47	4.47	4.73	4.64	4.69	4.84	4.83	4.84	4.26	4.26	4.26	3.74	3.71	3.73
23-Oct-09	4.03	3.95	3.99	4.08	4.00	4.04	3.99	3.91	3.95	4.07	3.94	4.01	3.68	3.35	3.52
27-Oct-09	4.75	4.59	4.67	4.53	4.42	4.48	4.58	4.44	4.51	4.31	4.18	4.25	4.29	3.85	4.07
29-Oct-09	5.02	4.97	5.00	4.98	4.84	4.91	4.77	4.76	4.77	4.84	4.79	4.82	3.08	2.98	3.03
31-Oct-09	5.11	5.01	5.06	4.77	4.75	4.76	4.79	4.75	4.77	5.06	4.81	4.94	4.49	3.43	3.96
2-Nov-09	5.16	5.01	5.09	4.74	4.73	4.74	4.84	4.80	4.82	5.19	5.02	5.11	4.46	4.28	4.37
4-Nov-09	5.03	5.01	5.02	4.79	4.79	4.79	4.69	4.61	4.65	4.93	4.58	4.76	4.47	4.28	4.38
6-Nov-09	4.41	4.33	4.37	4.35	4.30	4.33	4.09	4.05	4.07	3.98	3.96	3.97	3.80	3.76	3.78
10-Nov-09	4.86	4.81	4.84	4.82	4.68	4.75	4.61	4.60	4.61	4.68	4.63	4.66	2.92	2.82	2.87
12-Nov-09	3.86	3.83	3.85	4.07	4.00	4.04	3.88	3.83	3.86	3.99	3.92	3.96	2.81	2.77	2.79
14-Nov-09	4.59	4.68	4.64	4.60	4.55	4.58	4.56	4.48	4.52	4.76	4.75	4.76	3.89	3.80	3.85
16-Nov-09	5.75	5.54	5.65	6.22	6.09	6.16	5.58	5.37	5.48	6.11	6.11	6.11	5.64	5.21	5.43

Baseline DO Monitoring Data (Oct - Nov 2009)

Mid-flood	C7			C8			C9			RC1			RC5		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	4.07	3.91	3.99	4.96	4.96	4.96	4.93	4.78	4.86	4.15	4.15	4.15	4.54	4.55	4.55
23-Oct-09	3.51	3.38	3.45	4.19	4.07	4.13	3.83	3.81	3.82	4.18	4.18	4.18	3.94	3.92	3.93
27-Oct-09	3.76	3.35	3.56	3.90	3.63	3.77	4.22	3.46	3.84	4.42	4.30	4.36	4.52	4.48	4.50
29-Oct-09	4.23	4.09	4.16	4.16	4.04	4.10	3.55	3.45	3.50	4.65	4.62	4.64	4.74	4.72	4.73
31-Oct-09	4.27	4.19	4.23	4.63	4.53	4.58	4.05	3.99	4.02	5.00	4.93	4.97	5.28	5.32	5.30
2-Nov-09	4.32	3.60	3.96	4.03	3.90	3.97	4.90	4.45	4.68	4.53	4.49	4.51	4.42	4.34	4.38
4-Nov-09	3.89	3.82	3.86	4.36	4.32	4.34	4.58	4.47	4.53	5.80	5.77	5.79	4.80	4.76	4.78
6-Nov-09	3.89	3.78	3.84	4.43	4.42	4.43	4.66	4.59	4.63	4.52	4.46	4.49	4.76	4.66	4.71
10-Nov-09	4.07	3.93	4.00	4.00	3.88	3.94	3.39	3.29	3.34	4.49	4.46	4.48	4.58	4.56	4.57
12-Nov-09	2.87	2.82	2.85	3.98	3.94	3.96	3.99	3.92	3.96	3.90	3.82	3.86	3.89	3.85	3.87
14-Nov-09	3.09	3.12	3.11	4.65	4.57	4.61	4.51	4.48	4.50	4.77	4.75	4.76	3.96	3.91	3.94
16-Nov-09	3.97	3.65	3.81	6.37	6.33	6.35	6.33	6.13	6.23	3.62	3.68	3.65	4.32	4.35	4.34

Mid-ebb	C7			C8			C9			RC1			RC5		
Date	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average	Value	Value	Average
21-Oct-09	3.67	3.65	3.66	4.96	4.78	4.87	5.01	5.13	5.07	4.51	4.43	4.47	4.73	4.61	4.67
23-Oct-09	3.79	3.52	3.66	4.64	4.54	4.59	5.43	4.50	4.97	3.91	3.86	3.89	4.05	4.05	4.05
27-Oct-09	3.69	3.71	3.70	4.44	4.44	4.44	4.64	4.45	4.55	4.18	4.06	4.12	4.21	4.16	4.19
29-Oct-09	3.58	3.53	3.56	4.41	4.40	4.41	4.78	4.64	4.71	4.74	4.74	4.74	4.83	4.73	4.78
31-Oct-09	4.09	3.88	3.99	4.73	4.71	4.72	4.88	4.75	4.82	4.58	4.60	4.59	4.92	4.76	4.84
2-Nov-09	4.80	4.56	4.68	4.95	4.90	4.93	3.89	4.03	3.96	4.79	4.70	4.75	5.64	5.58	5.61
4-Nov-09	4.92	4.65	4.79	5.76	5.74	5.75	5.69	5.65	5.67	4.71	4.63	4.67	4.61	4.62	4.62
6-Nov-09	3.98	3.96	3.97	5.42	5.36	5.39	5.31	5.21	5.26	4.18	4.16	4.17	4.13	4.04	4.09
10-Nov-09	3.42	3.37	3.40	4.25	4.24	4.25	4.62	4.48	4.55	4.58	4.58	4.58	4.67	4.57	4.62
12-Nov-09	3.01	2.98	3.00	4.11	4.03	4.07	3.94	3.87	3.91	3.98	3.90	3.94	3.79	3.77	3.78
14-Nov-09	3.94	3.92	3.93	4.39	4.47	4.43	4.54	4.58	4.56	4.61	4.59	4.60	4.58	4.63	4.61
16-Nov-09	5.15	5.12	5.14	6.39	6.33	6.36	5.93	5.89	5.91	5.86	5.93	5.90	6.91	6.66	6.79

Baseline DO Monitoring Data (Oct - Nov 2009)

Mid-flood	RC7		
Date	Value	Value	Average
21-Oct-09	3.53	3.53	3.53
23-Oct-09	3.57	3.17	3.37
27-Oct-09	5.06	3.67	4.37
29-Oct-09	4.16	4.02	4.09
31-Oct-09	4.27	4.14	4.21
2-Nov-09	4.04	3.73	3.89
4-Nov-09	3.88	3.66	3.77
6-Nov-09	3.60	3.51	3.56
10-Nov-09	4.00	3.86	3.93
12-Nov-09	1.71	1.67	1.69
14-Nov-09	2.16	2.12	2.14
16-Nov-09	4.32	4.32	4.32

Mid-ebb	RC7		
Date	Value	Value	Average
21-Oct-09	3.69	3.71	3.70
23-Oct-09	4.17	3.81	3.99
27-Oct-09	4.57	4.07	4.32
29-Oct-09	4.09	3.67	3.88
31-Oct-09	4.16	4.00	4.08
2-Nov-09	4.78	4.54	4.66
4-Nov-09	5.04	4.91	4.98
6-Nov-09	3.94	3.88	3.91
10-Nov-09	3.93	3.51	3.72
12-Nov-09	2.73	2.70	2.72
14-Nov-09	3.58	3.62	3.60
16-Nov-09	5.53	5.53	5.53

Projected DO Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	WSD7		WSD9		WSD10		WSD15		WSD17		WSD19		WSD20		WSD21	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	4.01	4.01	4.26	4.31	4.50	4.48	3.80	3.81	4.71	4.63	3.97	4.01	4.53	4.30	4.01	4.01
	4.01		4.37		4.47		3.82		4.55		4.05		4.07		4.01	
23-Oct-09	4.47	4.23	3.87	3.93	3.95	3.93	3.46	3.43	4.27	4.27	3.22	3.17	4.07	3.99	3.51	3.48
	3.99		3.99		3.91		3.40		4.26		3.13		3.90		3.45	
27-Oct-09	3.82	3.84	4.50	4.47	4.10	4.09	3.28	3.26	4.31	4.19	3.42	3.37	3.26	3.28	3.98	3.93
	3.85		4.45		4.07		3.23		4.08		3.33		3.31		3.88	
29-Oct-09	4.33	4.27	4.44	4.44	5.32	5.29	3.31	3.27	4.03	3.99	4.33	4.30	3.91	3.89	4.17	4.14
	4.21		4.43		5.26		3.23		3.96		4.27		3.88		4.12	
31-Oct-09	4.11	4.16	4.62	4.60	4.32	4.29	3.60	3.57	4.16	4.18	3.76	3.75	3.44	3.47	4.37	4.36
	4.21		4.57		4.26		3.54		4.20		3.74		3.50		4.35	
2-Nov-09	4.68	4.69	4.77	4.79	4.75	4.80	4.19	4.20	5.12	4.90	4.84	4.76	4.52	4.54	4.38	4.22
	4.70		4.81		4.86		4.21		4.68		4.69		4.56		4.07	
4-Nov-09	5.67	5.62	5.84	5.79	5.68	5.67	4.87	4.81	5.72	5.76	5.54	5.51	5.52	5.49	4.31	4.28
	5.57		5.75		5.66		4.76		5.80		5.48		5.46		4.26	
6-Nov-09	5.01	4.97	4.84	4.82	4.90	4.89	4.16	4.16	4.93	4.92	4.49	4.46	4.93	4.93	4.23	4.20
	4.94		4.80		4.89		4.17		4.91		4.44		4.93		4.18	
10-Nov-09	4.72	4.71	4.23	4.21	4.49	4.47	3.61	3.62	4.56	4.52	4.81	4.80	4.59	4.56	4.02	4.00
	4.71		4.18		4.45		3.63		4.48		4.79		4.53		3.98	
12-Nov-09	3.08	3.19	3.01	3.05	3.06	3.14	2.44	2.56	3.42	3.49	2.87	2.92	2.71	2.85	3.51	3.48
	3.30		3.09		3.22		2.68		3.56		2.97		2.99		3.45	
14-Nov-09	6.21	6.18	7.48	7.51	6.99	7.14	6.29	6.33	7.36	7.37	6.97	6.85	6.80	6.81	3.16	3.13
	6.15		7.55		7.29		6.37		7.38		6.72		6.81		3.11	
16-Nov-09	6.78	6.75	7.78	7.76	6.55	6.55	5.49	5.48	7.79	7.53	6.39	6.32	7.29	7.27	4.17	4.01
	6.72		7.75		6.54		5.48		7.26		6.24		7.24		3.86	

Mid-Ebb	WSD7		WSD9		WSD10		WSD15		WSD17		WSD19		WSD20		WSD21	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	4.45	4.42	4.33	4.33	4.46	4.43	3.64	3.62	4.37	4.23	4.08	4.18	4.09	4.09	4.33	4.33
	4.40		4.33		4.41		3.60		4.09		4.28		4.09		4.33	
23-Oct-09	3.70	3.62	4.02	3.99	4.87	4.79	3.43	3.42	3.79	3.72	3.51	3.60	3.85	3.84	3.28	3.27
	3.53		3.95		4.71		3.41		3.64		3.69		3.82		3.26	
27-Oct-09	4.36	4.26	4.26	4.23	4.01	4.05	3.16	3.14	4.40	4.27	4.27	4.30	4.19	4.25	4.11	4.03
	4.16		4.21		4.08		3.12		4.13		4.33		4.30		3.94	
29-Oct-09	4.89	4.89	4.89	4.79	4.43	4.39	3.60	3.57	3.77	3.74	4.09	4.06	4.35	4.31	4.30	4.26
	4.89		4.69		4.35		3.54		3.71		4.02		4.28		4.21	
31-Oct-09	4.10	4.06	4.73	4.69	5.11	5.13	3.80	3.83	4.44	4.53	3.53	3.57	4.00	3.89	4.67	4.56
	4.02		4.65		5.15		3.85		4.62		3.60		3.78		4.45	
2-Nov-09	4.67	4.64	4.79	4.75	4.54	4.52	3.29	3.24	3.70	3.73	3.72	3.78	4.14	4.18	4.38	4.33
	4.61		4.72		4.50		3.19		3.76		3.85		4.21		4.28	
4-Nov-09	5.59	5.58	5.62	5.62	5.51	5.50	4.73	4.75	5.43	5.41	5.71	5.70	5.68	5.62	4.04	4.01
	5.57		5.61		5.49		4.77		5.39		5.69		5.57		3.97	
6-Nov-09	4.83	4.83	5.13	5.13	5.07	5.04	4.25	4.24	4.86	4.89	5.02	5.01	5.05	5.05	3.54	3.51
	4.83		5.12		5.02		4.24		4.91		5.00		5.05		3.49	
10-Nov-09	5.49	5.46	4.98	4.93	3.82	3.79	3.45	3.44	4.69	4.71	5.17	5.16	4.89	4.86	4.16	4.11
	5.43		4.88		3.76		3.43		4.74		5.15		4.83		4.07	
12-Nov-09	4.41	4.39	3.25	3.31	4.12	4.11	2.07	2.16	2.74	2.86	2.57	2.60	3.13	3.17	3.35	3.34
	4.38		3.36		4.11		2.24		2.98		2.62		3.20		3.34	
14-Nov-09	6.48	6.50	7.77	7.77	7.51	7.44	6.31	6.32	7.40	7.38	7.29	7.22	6.74	6.71	4.13	4.09
	6.52		7.78		7.38		6.33		7.37		7.15		6.68		4.04	
16-Nov-09	7.15	7.09	7.95	7.94	5.83	5.81	5.07	5.05	6.29	6.25	7.23	7.18	7.47	7.44	5.96	5.88
	7.03		7.94		5.79		5.02		6.21		7.12		7.41		5.80	

Projected DO Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	RW21		C1		C2		C3		C4		C5		C6		C7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	4.24	4.20	4.25	4.14	4.04	4.01	3.99	3.96	3.99	3.91	4.14	4.11	3.14	3.11	3.64	3.57
	4.17		4.04		3.99		3.93		3.84		4.08		3.08		3.50	
23-Oct-09	3.89	3.89	4.13	4.07	3.78	3.66	3.77	3.72	3.77	3.68	4.36	4.11	2.53	2.44	3.14	3.08
	3.89		4.01		3.54		3.66		3.59		3.86		2.35		3.02	
27-Oct-09	3.89	3.88	4.15	4.15	3.93	3.86	3.95	3.93	4.07	4.02	3.99	3.94	3.18	3.06	3.36	3.18
	3.86		4.15		3.80		3.90		3.98		3.90		2.94		3.00	
29-Oct-09	4.25	4.23	4.33	4.32	4.19	4.15	4.11	4.12	4.10	4.06	4.20	4.16	3.34	3.14	3.78	3.72
	4.21		4.31		4.11		4.12		4.03		4.11		2.94		3.66	
31-Oct-09	4.67	4.66	4.31	4.31	4.35	4.34	4.52	4.50	4.58	4.52	4.50	4.45	3.60	3.55	3.82	3.78
	4.65		4.30		4.32		4.49		4.46		4.40		3.51		3.75	
2-Nov-09	4.72	4.44	4.29	4.28	4.19	4.15	4.53	4.44	4.21	4.19	4.75	4.45	3.44	3.40	3.86	3.54
	4.17		4.27		4.10		4.34		4.17		4.16		3.36		3.22	
4-Nov-09	4.28	4.36	4.05	4.08	4.79	4.64	4.77	4.76	4.69	4.67	4.32	4.27	3.44	3.39	3.48	3.45
	4.44		4.11		4.48		4.75		4.65		4.23		3.34		3.42	
6-Nov-09	4.08	4.07	4.19	4.16	4.20	4.16	4.12	4.11	4.10	4.08	4.24	4.20	3.09	3.04	3.48	3.43
	4.07		4.12		4.11		4.10		4.06		4.17		2.99		3.38	
10-Nov-09	4.10	4.09	4.18	4.18	4.05	4.01	3.97	3.97	3.95	3.92	4.06	4.01	3.19	3.00	3.64	3.58
	4.07		4.17		3.97		3.98		3.89		3.97		2.80		3.51	
12-Nov-09	3.67	3.65	3.30	3.28	3.43	3.41	3.55	3.54	3.46	3.43	3.46	3.43	2.47	2.44	2.57	2.54
	3.62		3.25		3.38		3.53		3.41		3.41		2.41		2.52	
14-Nov-09	3.86	3.78	3.96	3.98	4.00	3.98	3.82	3.78	3.55	3.54	3.41	3.34	2.83	2.84	2.76	2.78
	3.69		4.00		3.97		3.74		3.53		3.28		2.85		2.79	
16-Nov-09	4.10	4.05	4.77	4.81	3.57	3.53	3.86	3.83	3.88	3.84	3.96	3.92	2.82	2.84	3.55	3.41
	4.00		4.86		3.50		3.80		3.81		3.87		2.86		3.26	

Mid-Ebb	RW21		C1		C2		C3		C4		C5		C6		C7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	4.08	4.06	4.07	4.02	4.00	4.00	4.23	4.19	4.33	4.32	3.81	3.81	3.34	3.33	3.28	3.27
	4.04		3.97		4.00		4.15		4.32		3.81		3.32		3.26	
23-Oct-09	4.41	4.32	3.92	3.92	3.60	3.57	3.65	3.61	3.57	3.53	3.64	3.58	3.29	3.14	3.39	3.27
	4.24		3.92		3.53		3.58		3.50		3.52		3.00		3.15	
27-Oct-09	4.17	4.12	4.30	4.22	4.25	4.18	4.05	4.00	4.10	4.03	3.85	3.80	3.84	3.64	3.30	3.31
	4.08		4.15		4.10		3.95		3.97		3.74		3.44		3.32	
29-Oct-09	4.32	4.31	4.17	4.11	4.49	4.47	4.45	4.39	4.27	4.26	4.33	4.31	2.75	2.71	3.20	3.18
	4.30		4.06		4.44		4.33		4.26		4.28		2.66		3.16	
31-Oct-09	4.52	4.48	4.65	4.64	4.57	4.52	4.27	4.26	4.28	4.27	4.52	4.41	4.01	3.54	3.66	3.56
	4.44		4.62		4.48		4.25		4.25		4.30		3.07		3.47	
2-Nov-09	4.92	4.94	4.46	4.39	4.61	4.55	4.24	4.23	4.33	4.31	4.64	4.56	3.99	3.91	4.29	4.18
	4.97		4.31		4.48		4.23		4.29		4.49		3.83		4.08	
4-Nov-09	4.14	4.12	5.05	5.03	4.50	4.49	4.28	4.28	4.19	4.16	4.41	4.25	4.00	3.91	4.40	4.28
	4.10		5.01		4.48		4.28		4.12		4.10		3.83		4.16	
6-Nov-09	3.59	3.58	4.28	4.27	3.94	3.91	3.89	3.87	3.66	3.64	3.56	3.55	3.40	3.38	3.56	3.55
	3.58		4.25		3.87		3.84		3.62		3.54		3.36		3.54	
10-Nov-09	4.18	4.17	4.02	3.97	4.35	4.32	4.31	4.25	4.12	4.12	4.18	4.16	2.61	2.57	3.06	3.04
	4.16		3.92		4.30		4.18		4.11		4.14		2.52		3.01	
12-Nov-09	3.44	3.43	3.54	3.52	3.45	3.44	3.64	3.61	3.47	3.45	3.57	3.54	2.51	2.49	2.69	2.68
	3.42		3.50		3.42		3.58		3.42		3.51		2.48		2.66	
14-Nov-09	4.14	4.13	4.07	3.97	4.10	4.14	4.11	4.09	4.08	4.04	4.26	4.25	3.48	3.44	3.52	3.51
	4.11		3.86		4.18		4.07		4.01		4.25		3.40		3.51	
16-Nov-09	5.66	5.64	3.59	3.61	5.14	5.05	5.56	5.50	4.99	4.90	5.46	5.46	5.04	4.85	4.60	4.59
	5.62		3.62		4.95		5.45		4.80		5.46		4.66		4.58	

Projected DO Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	C8		C9		RC1		RC5		RC7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	4.50	4.50	4.47	4.40	3.71	3.71	4.06	4.06	3.16	3.16
	4.50		4.33		3.71		4.07		3.16	
23-Oct-09	3.80	3.74	3.47	3.46	3.74	3.74	3.52	3.51	3.19	3.01
	3.69		3.45		3.74		3.51		2.83	
27-Oct-09	3.53	3.41	3.83	3.48	3.95	3.90	4.04	4.02	4.52	3.90
	3.29		3.14		3.84		4.01		3.28	
29-Oct-09	3.77	3.72	3.22	3.17	4.16	4.14	4.24	4.23	3.72	3.66
	3.66		3.13		4.13		4.22		3.59	
31-Oct-09	4.20	4.15	3.67	3.64	4.47	4.44	4.72	4.74	3.82	3.76
	4.11		3.62		4.41		4.76		3.70	
2-Nov-09	3.65	3.59	4.44	4.24	4.05	4.03	3.95	3.92	3.61	3.47
	3.53		4.03		4.01		3.88		3.34	
4-Nov-09	3.95	3.93	4.15	4.10	5.19	5.17	4.29	4.27	3.47	3.37
	3.92		4.05		5.16		4.26		3.27	
6-Nov-09	4.02	4.01	4.22	4.19	4.04	4.01	4.26	4.21	3.22	3.18
	4.01		4.16		3.99		4.17		3.14	
10-Nov-09	3.63	3.57	3.07	3.03	4.01	4.00	4.10	4.09	3.58	3.51
	3.52		2.98		3.99		4.08		3.45	
12-Nov-09	3.61	3.59	3.62	3.58	3.49	3.45	3.48	3.46	1.53	1.51
	3.57		3.55		3.42		3.44		1.49	
14-Nov-09	4.21	4.18	4.09	4.07	4.27	4.26	3.54	3.52	1.93	1.91
	4.14		4.06		4.25		3.50		1.90	
16-Nov-09	5.77	5.76	5.74	5.65	3.24	3.26	3.86	3.88	3.86	3.86
	5.74		5.56		3.29		3.89		3.86	

Mid-Ebb	C8		C9		RC1		RC5		RC7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	4.50	4.41	4.54	4.60	4.03	4.00	4.23	4.18	3.30	3.31
	4.33		4.65		3.96		4.12		3.32	
23-Oct-09	4.21	4.16	4.92	4.50	3.50	3.47	3.62	3.62	3.73	3.57
	4.12		4.08		3.45		3.62		3.41	
27-Oct-09	4.02	4.02	4.21	4.12	3.74	3.68	3.76	3.74	4.09	3.86
	4.02		4.03		3.63		3.72		3.64	
29-Oct-09	4.00	3.99	4.33	4.27	4.24	4.24	4.32	4.27	3.66	3.47
	3.99		4.21		4.24		4.23		3.28	
31-Oct-09	4.29	4.28	4.42	4.36	4.10	4.10	4.40	4.33	3.72	3.65
	4.27		4.31		4.11		4.26		3.58	
2-Nov-09	4.49	4.46	3.53	3.59	4.28	4.24	5.04	5.02	4.27	4.17
	4.44		3.65		4.20		4.99		4.06	
4-Nov-09	5.22	5.21	5.16	5.14	4.21	4.18	4.12	4.13	4.51	4.45
	5.20		5.12		4.14		4.13		4.39	
6-Nov-09	4.91	4.89	4.81	4.77	3.74	3.73	3.69	3.65	3.52	3.50
	4.86		4.72		3.72		3.61		3.47	
10-Nov-09	3.85	3.85	4.19	4.12	4.10	4.10	4.18	4.13	3.51	3.33
	3.84		4.06		4.10		4.09		3.14	
12-Nov-09	3.73	3.69	3.57	3.54	3.56	3.52	3.39	3.38	2.44	2.43
	3.65		3.51		3.49		3.37		2.41	
14-Nov-09	3.98	4.02	4.12	4.13	4.12	4.11	4.10	4.12	3.20	3.22
	4.05		4.15		4.10		4.14		3.24	
16-Nov-09	5.79	5.76	5.37	5.36	5.24	5.27	6.18	6.07	4.94	4.94
	5.74		5.34		5.30		5.96		4.94	

Baseline SS Monitoring Data (Oct - Nov 2009)

Mid-flood	WSD7		WSD9		WSD10		WSD15		WSD17		WSD19		WSD20		WSD21		RW1	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	11.0	11.5	11.0	10.5	9.0	8.5	7.0	7.5	10.0	10.0	9.0	9.5	11.0	11.5	14.0	14.0	10.0	9.0
	12.0		10.0		8.0		8.0		10.0		10.0		12.0		14.0		8.0	
23-Oct-09	10.0	11.5	6.0	6.0	8.0	7.0	11.0	10.5	9.0	9.5	11.0	11.0	13.0	13.0	14.0	13.0	14.0	13.5
	13.0		6.0		6.0		10.0		10.0		11.0		13.0		12.0		13.0	
27-Oct-09	12.0	12.5	10.0	10.5	9.0	8.5	10.0	10.0	11.0	10.5	12.0	11.0	8.0	8.0	10.0	10.0	10.0	11.0
	13.0		11.0		8.0		10.0		10.0		10.0		8.0		10.0		12.0	
29-Oct-09	14.0	14.0	8.0	8.5	8.0	7.5	9.0	9.0	7.0	7.0	7.0	7.5	7.0	6.5	13.0	12.0	12.0	12.0
	14.0		9.0		7.0		9.0		7.0		8.0		6.0		11.0		12.0	
31-Oct-09	13.0	12.0	8.0	7.0	7.0	7.5	8.0	8.0	12.0	11.0	11.0	12.0	8.0	8.0	11.0	10.0	9.0	9.0
	11.0		6.0		8.0		8.0		10.0		13.0		8.0		9.0		9.0	
2-Nov-09	13.0	12.5	10.0	9.5	11.0	10.0	9.0	8.5	8.0	8.5	11.0	10.0	9.0	10.0	8.0	7.5	9.0	9.0
	12.0		9.0		9.0		8.0		9.0		9.0		11.0		7.0		9.0	
4-Nov-09	12.0	13.0	9.0	8.5	8.0	9.0	10.0	11.0	9.0	8.5	8.0	8.5	10.0	11.5	13.0	12.5	9.0	10.0
	14.0		8.0		10.0		12.0		8.0		9.0		13.0		12.0		11.0	
6-Nov-09	18.0	18.5	8.0	8.0	7.0	8.0	8.0	9.0	9.0	10.0	8.0	9.0	11.0	11.5	10.0	9.5	12.0	12.0
	19.0		8.0		9.0		10.0		11.0		10.0		12.0		9.0		12.0	
10-Nov-09	12.0	13.0	10.0	11.0	13.0	12.5	6.0	6.5	13.0	12.5	14.0	14.5	7.0	8.0	10.0	10.5	10.0	11.0
	14.0		12.0		12.0		7.0		12.0		15.0		9.0		11.0		12.0	
12-Nov-09	11.0	11.0	7.0	8.0	5.0	4.5	8.0	7.5	14.0	13.5	12.0	11.5	6.0	6.5	10.0	9.5	9.0	9.0
	11.0		9.0		4.0		7.0		13.0		11.0		7.0		9.0		9.0	
14-Nov-09	9.0	8.0	7.0	6.0	10.0	9.5	9.0	8.5	8.0	8.0	12.0	11.5	10.0	10.0	11.0	10.5	7.0	7.5
	7.0		5.0		9.0		8.0		8.0		11.0		10.0		10.0		8.0	
16-Nov-09	8.0	9.0	6.0	6.5	4.0	4.5	6.0	7.0	6.0	6.0	6.0	6.0	6.0	7.0	6.0	5.0	6.0	6.5
	10.0		7.0		5.0		8.0		6.0		6.0		8.0		4.0		7.0	

Mid-Ebb	WSD7		WSD9		WSD10		WSD15		WSD17		WSD19		WSD20		WSD21		RW1	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	9.0	8.5	7.0	7.0	8.0	7.5	6.0	6.5	16.0	15.5	14.0	13.0	9.0	10.0	9.0	9.5	9.0	9.5
	8.0		7.0		7.0		7.0		15.0		12.0		11.0		10.0		10.0	
23-Oct-09	8.0	8.0	8.0	8.0	8.0	7.0	6.0	5.5	9.0	8.5	10.0	9.5	5.0	6.0	11.0	10.5	10.0	11.0
	8.0		8.0		6.0		5.0		8.0		9.0		7.0		10.0		12.0	
27-Oct-09	10.0	9.5	6.0	5.0	9.0	8.0	7.0	7.5	8.0	7.5	7.0	6.5	7.0	7.5	7.0	8.0	9.0	8.5
	9.0		4.0		7.0		8.0		7.0		6.0		8.0		9.0		8.0	
29-Oct-09	12.0	11.5	8.0	8.0	8.0	8.0	8.0	8.5	8.0	8.5	8.0	9.0	9.0	8.5	8.0	9.0	9.0	9.0
	11.0		8.0		8.0		9.0		9.0		10.0		8.0		10.0		9.0	
31-Oct-09	10.0	9.0	8.0	7.0	9.0	10.0	7.0	6.0	9.0	9.5	9.0	9.0	11.0	11.0	11.0	10.5	10.0	10.0
	8.0		6.0		11.0		5.0		10.0		9.0		11.0		10.0		10.0	
2-Nov-09	12.0	11.5	7.0	8.0	6.0	6.5	12.0	11.0	12.0	12.0	9.0	8.5	8.0	7.5	10.0	10.5	8.0	8.5
	11.0		9.0		7.0		10.0		12.0		8.0		7.0		11.0		9.0	
4-Nov-09	7.0	8.0	7.0	6.5	6.0	7.0	11.0	12.5	5.0	6.0	9.0	8.5	7.0	8.0	10.0	10.5	10.0	9.5
	9.0		6.0		8.0		14.0		7.0		8.0		9.0		11.0		9.0	
6-Nov-09	11.0	10.0	6.0	6.5	7.0	6.5	11.0	10.0	10.0	9.0	10.0	9.0	8.0	9.0	9.0	8.5	11.0	10.0
	9.0		7.0		6.0		9.0		8.0		8.0		10.0		8.0		9.0	
10-Nov-09	8.0	9.0	9.0	9.0	8.0	7.0	6.0	7.0	9.0	8.5	5.0	5.5	7.0	7.0	8.0	8.0	9.0	8.0
	10.0		9.0		6.0		8.0		8.0		6.0		7.0		8.0		7.0	
12-Nov-09	8.0	7.5	6.0	5.5	5.0	5.5	10.0	9.0	9.0	9.0	9.0	9.5	5.0	5.5	11.0	10.5	10.0	10.5
	7.0		5.0		6.0		8.0		9.0		10.0		6.0		10.0		11.0	
14-Nov-09	6.0	6.0	7.0	6.5	8.0	7.5	8.0	8.0	8.0	8.5	9.0	8.0	7.0	7.0	10.0	11.0	11.0	10.5
	6.0		6.0		7.0		8.0		9.0		7.0		7.0		12.0		10.0	
16-Nov-09	7.0	6.5	8.0	8.0	4.0	5.0	6.0	7.0	11.0	9.5	4.0	4.0	8.0	8.5	8.0	8.0	10.0	9.0
	6.0		8.0		6.0		8.0		8.0		4.0		9.0		8.0		8.0	

Baseline SS Monitoring Data (Oct - Nov 2009)

Mid-flood	C1		C2		C3		C4		C5		C6		C7		C8		C9	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	8.0	8.0	9.0	8.5	9.0	9.5	11.0	11.5	14.0	14.5	6.0	6.5	6.0	6.5	12.0	11.0	11.0	11.0
	8.0		8.0		10.0		12.0		15.0		7.0		7.0		10.0		11.0	
23-Oct-09	12.0	11.5	12.0	12.5	14.0	12.5	14.0	14.0	15.0	14.0	10.0	9.0	11.0	12.0	21.0	19.5	23.0	21.5
	11.0		13.0		11.0		14.0		13.0		8.0		13.0		18.0		20.0	
27-Oct-09	13.0	12.5	8.0	9.0	9.0	8.0	11.0	10.0	11.0	11.5	10.0	10.5	10.0	9.0	15.0	14.0	23.0	23.0
	12.0		10.0		7.0		9.0		12.0		11.0		8.0		13.0		23.0	
29-Oct-09	18.0	18.5	10.0	11.0	11.0	11.0	15.0	14.5	11.0	11.5	10.0	9.5	12.0	11.5	16.0	16.0	23.0	23.5
	19.0		12.0		11.0		14.0		12.0		9.0		11.0		16.0		24.0	
31-Oct-09	11.0	10.5	10.0	10.0	15.0	15.0	10.0	9.5	9.0	9.5	8.0	7.0	6.0	7.0	14.0	13.5	19.0	18.5
	10.0		10.0		15.0		9.0		10.0		6.0		8.0		13.0		18.0	
2-Nov-09	9.0	9.0	8.0	8.0	8.0	8.5	7.0	7.0	5.0	5.5	8.0	9.0	9.0	9.0	10.0	10.0	10.0	10.5
	9.0		8.0		9.0		7.0		6.0		10.0		9.0		10.0		11.0	
4-Nov-09	10.0	11.5	9.0	9.5	10.0	10.0	9.0	9.5	10.0	10.5	4.0	5.0	8.0	8.0	13.0	12.5	14.0	14.0
	13.0		10.0		10.0		10.0		11.0		6.0		8.0		12.0		14.0	
6-Nov-09	13.0	12.0	9.0	8.5	14.0	13.0	14.0	13.5	16.0	15.0	10.0	9.5	9.0	9.0	19.0	17.5	12.0	12.0
	11.0		8.0		12.0		13.0		14.0		9.0		9.0		16.0		12.0	
10-Nov-09	9.0	8.5	11.0	10.5	12.0	11.5	10.0	10.5	10.0	10.0	7.0	7.0	8.0	7.0	14.0	12.5	13.0	13.0
	8.0		10.0		11.0		11.0		10.0		7.0		6.0		11.0		13.0	
12-Nov-09	10.0	10.0	10.0	10.0	10.0	10.0	11.0	11.0	10.0	9.5	10.0	11.0	8.0	9.0	24.0	22.0	18.0	18.5
	10.0		10.0		10.0		11.0		9.0		12.0		10.0		20.0		19.0	
14-Nov-09	6.0	7.0	9.0	10.0	12.0	11.0	12.0	13.0	16.0	14.5	8.0	7.5	7.0	7.0	14.0	14.5	16.0	15.0
	8.0		11.0		10.0		14.0		13.0		7.0		7.0		15.0		14.0	
16-Nov-09	5.0	5.5	8.0	7.0	6.0	6.5	12.0	11.0	6.0	6.0	6.0	7.0	9.0	9.0	7.0	6.0	6.0	6.0
	6.0		6.0		7.0		10.0		6.0		8.0		9.0		5.0		6.0	

Mid-Ebb	C1		C2		C3		C4		C5		C6		C7		C8		C9	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	10.0	10.5	8.0	7.0	8.0	7.0	11.0	11.5	10.0	10.5	7.0	7.5	5.0	5.5	10.0	11.0	20.0	18.5
	11.0		6.0		6.0		12.0		11.0		8.0		6.0		12.0		17.0	
23-Oct-09	6.0	5.5	14.0	14.5	10.0	10.0	9.0	9.5	11.0	12.0	10.0	9.0	8.0	7.0	13.0	12.5	10.0	11.5
	5.0		15.0		10.0		10.0		13.0		8.0		6.0		12.0		13.0	
27-Oct-09	4.0	4.5	7.0	6.0	6.0	5.0	8.0	8.0	8.0	8.0	7.0	7.0	5.0	5.0	9.0	9.0	10.0	10.0
	5.0		5.0		4.0		8.0		8.0		7.0		5.0		9.0		10.0	
29-Oct-09	9.0	9.5	10.0	9.0	11.0	10.5	7.0	6.5	9.0	10.0	9.0	8.5	8.0	7.5	12.0	12.0	13.0	13.0
	10.0		8.0		10.0		6.0		11.0		8.0		7.0		12.0		13.0	
31-Oct-09	10.0	9.5	9.0	8.5	11.0	10.0	10.0	10.0	12.0	11.0	12.0	11.0	6.0	5.5	12.0	11.0	13.0	13.5
	9.0		8.0		9.0		10.0		10.0		10.0		5.0		10.0		14.0	
2-Nov-09	11.0	10.0	10.0	10.0	12.0	13.0	13.0	12.5	12.0	12.5	10.0	9.0	9.0	8.5	12.0	13.0	13.0	12.0
	9.0		10.0		14.0		12.0		13.0		8.0		8.0		14.0		11.0	
4-Nov-09	6.0	7.0	8.0	8.5	8.0	8.5	13.0	13.5	11.0	12.5	6.0	6.0	10.0	9.0	12.0	12.5	14.0	13.5
	8.0		9.0		9.0		14.0		14.0		6.0		8.0		13.0		13.0	
6-Nov-09	6.0	6.0	7.0	8.0	7.0	6.5	9.0	9.5	11.0	11.5	8.0	8.0	9.0	8.0	9.0	10.0	12.0	13.0
	6.0		9.0		6.0		10.0		12.0		8.0		7.0		11.0		14.0	
10-Nov-09	8.0	8.0	5.0	5.0	6.0	6.0	6.0	6.5	8.0	8.0	9.0	8.0	7.0	7.0	10.0	9.5	8.0	8.0
	8.0		5.0		6.0		7.0		8.0		7.0		7.0		9.0		8.0	
12-Nov-09	6.0	7.0	7.0	7.0	7.0	7.5	8.0	9.0	16.0	15.0	7.0	6.5	7.0	5.5	8.0	8.5	12.0	12.5
	8.0		7.0		8.0		10.0		14.0		6.0		4.0		9.0		13.0	
14-Nov-09	9.0	10.0	10.0	9.5	9.0	9.5	11.0	12.0	11.0	10.5	10.0	9.0	5.0	5.5	10.0	10.0	14.0	13.0
	11.0		9.0		10.0		13.0		10.0		8.0		6.0		10.0		12.0	
16-Nov-09	6.0	6.5	8.0	7.5	7.0	6.5	8.0	8.5	7.0	7.5	10.0	9.0	8.0	7.0	8.0	8.5	7.0	7.0
	7.0		7.0		6.0		9.0		8.0		8.0		6.0		9.0		7.0	

Baseline SS Monitoring Data (Oct - Nov 2009)

Mid-flood	RC1		RC5		RC7	
Date	Value	Average	Value	Average	Value	Average
21-Oct-09	7.0	7.0	15.0	14.0	8.0	8.0
	7.0		13.0		8.0	
23-Oct-09	10.0	10.0	12.0	11.0	11.0	12.0
	10.0		10.0		13.0	
27-Oct-09	8.0	7.5	11.0	11.5	25.0	23.5
	7.0		12.0		22.0	
29-Oct-09	14.0	13.0	12.0	11.5	9.0	9.0
	12.0		11.0		9.0	
31-Oct-09	9.0	9.5	8.0	7.5	7.0	7.0
	10.0		7.0		7.0	
2-Nov-09	8.0	7.5	9.0	8.0	7.0	6.5
	7.0		7.0		6.0	
4-Nov-09	8.0	8.0	10.0	10.0	8.0	7.5
	8.0		10.0		7.0	
6-Nov-09	16.0	15.5	12.0	11.5	9.0	9.0
	15.0		11.0		9.0	
10-Nov-09	9.0	9.5	8.0	8.0	6.0	6.5
	10.0		8.0		7.0	
12-Nov-09	6.0	7.0	10.0	9.5	6.0	6.5
	8.0		9.0		7.0	
14-Nov-09	11.0	12.5	8.0	9.0	10.0	10.0
	14.0		10.0		10.0	
16-Nov-09	5.0	6.0	6.0	6.5	7.0	6.5
	7.0		7.0		6.0	

Mid-Ebb	RC1		RC5		RC7	
Date	Value	Average	Value	Average	Value	Average
21-Oct-09	7.0	7.5	8.0	8.5	6.0	5.5
	8.0		9.0		5.0	
23-Oct-09	7.0	6.5	7.0	7.0	13.0	12.5
	6.0		7.0		12.0	
27-Oct-09	6.0	5.0	5.0	5.5	10.0	10.0
	4.0		6.0		10.0	
29-Oct-09	9.0	9.5	10.0	9.5	10.0	9.0
	10.0		9.0		8.0	
31-Oct-09	10.0	9.5	8.0	8.5	10.0	10.0
	9.0		9.0		10.0	
2-Nov-09	10.0	11.0	9.0	9.0	8.0	7.5
	12.0		9.0		7.0	
4-Nov-09	6.0	6.5	10.0	10.0	9.0	9.5
	7.0		10.0		10.0	
6-Nov-09	8.0	8.5	8.0	8.5	9.0	9.0
	9.0		9.0		9.0	
10-Nov-09	7.0	7.0	8.0	7.5	8.0	8.0
	7.0		7.0		8.0	
12-Nov-09	9.0	8.5	11.0	10.5	9.0	8.0
	8.0		10.0		7.0	
14-Nov-09	8.0	7.0	10.0	9.5	10.0	9.0
	6.0		9.0		8.0	
16-Nov-09	6.0	6.5	9.0	9.0	7.0	7.0
	7.0		9.0		7.0	

Projected SS Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	WSD7		WSD9		WSD10		WSD15		WSD17		WSD19		WSD20		WSD21	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	10.8	11.3	13.7	13.1	10.6	10.0	12.6	13.6	11.8	11.8	8.4	8.8	7.9	8.3	17.2	17.2
	11.8		12.4		9.4		14.5		11.8		9.3		8.7		17.2	
23-Oct-09	9.9	11.3	7.5	7.5	9.4	8.2	19.9	19.0	10.6	11.2	10.2	10.2	9.4	9.4	17.2	16.0
	12.8		7.5		7.1		18.1		11.8		10.2		9.4		14.7	
27-Oct-09	11.8	12.3	12.4	13.1	10.6	10.0	18.1	18.1	13.0	12.4	11.1	10.2	5.8	5.8	12.3	12.3
	12.8		13.7		9.4		18.1		11.8		9.3		5.8		12.3	
29-Oct-09	13.8	13.8	10.0	10.6	9.4	8.8	16.3	16.3	8.2	8.2	6.5	7.0	5.1	4.7	16.0	14.7
	13.8		11.2		8.2		16.3		8.2		7.4		4.3		13.5	
31-Oct-09	12.8	11.8	10.0	8.7	8.2	8.8	14.5	14.5	14.1	13.0	10.2	11.1	5.8	5.8	13.5	12.3
	10.8		7.5		9.4		14.5		11.8		12.1		5.8		11.0	
2-Nov-09	12.8	12.3	12.4	11.8	13.0	11.8	16.3	15.4	9.4	10.0	10.2	9.3	6.5	7.2	9.8	9.2
	11.8		11.2		10.6		14.5		10.6		8.4		7.9		8.6	
4-Nov-09	11.8	12.8	11.2	10.6	9.4	10.6	18.1	19.9	10.6	10.0	7.4	7.9	7.2	8.3	16.0	15.3
	13.8		10.0		11.8		21.7		9.4		8.4		9.4		14.7	
6-Nov-09	17.7	18.2	10.0	10.0	8.2	9.4	14.5	16.3	10.6	11.8	7.4	8.4	7.9	8.3	12.3	11.7
	18.7		10.0		10.6		18.1		13.0		9.3		8.7		11.0	
10-Nov-09	11.8	12.8	12.4	13.7	15.3	14.7	10.8	11.7	15.3	14.7	13.0	13.5	5.1	5.8	12.3	12.9
	13.8		14.9		14.1		12.6		14.1		13.9		6.5		13.5	
12-Nov-09	10.8	10.8	8.7	10.0	5.9	5.3	14.5	13.6	16.5	15.9	11.1	10.7	4.3	4.7	12.3	11.7
	10.8		11.2		4.7		12.6		15.3		10.2		5.1		11.0	
14-Nov-09	8.9	7.9	8.7	7.5	11.8	11.2	16.3	15.4	9.4	9.4	11.1	10.7	7.2	7.2	13.5	12.9
	6.9		6.2		10.6		14.5		9.4		10.2		7.2		12.3	
16-Nov-09	7.9	8.9	7.5	8.1	4.7	5.3	10.8	12.6	7.1	7.1	5.6	5.6	4.3	5.1	7.4	6.1
	9.9		8.7		5.9		14.5		7.1		5.6		5.8		4.9	

Mid-Ebb	WSD7		WSD9		WSD10		WSD15		WSD17		WSD19		WSD20		WSD21	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	8.9	8.4	8.7	8.7	9.4	8.8	10.8	11.7	18.9	18.3	13.0	12.1	6.5	7.2	11.0	11.7
	7.9		8.7		8.2		12.6		17.7		11.1		7.9		12.3	
23-Oct-09	7.9	7.9	10.0	10.0	9.4	8.2	10.8	9.9	10.6	10.0	9.3	8.8	3.6	4.3	13.5	12.9
	7.9		10.0		7.1		9.0		9.4		8.4		5.1		12.3	
27-Oct-09	9.9	9.4	7.5	6.2	10.6	9.4	12.6	13.6	9.4	8.8	6.5	6.0	5.1	5.4	8.6	9.8
	8.9		5.0		8.2		14.5		8.2		5.6		5.8		11.0	
29-Oct-09	11.8	11.3	10.0	10.0	9.4	9.4	14.5	15.4	9.4	10.0	7.4	8.4	6.5	6.1	9.8	11.0
	10.8		10.0		9.4		16.3		10.6		9.3		5.8		12.3	
31-Oct-09	9.9	8.9	10.0	8.7	10.6	11.8	12.6	10.8	10.6	11.2	8.4	8.4	7.9	7.9	13.5	12.9
	7.9		7.5		13.0		9.0		11.8		8.4		7.9		12.3	
2-Nov-09	11.8	11.3	8.7	10.0	7.1	7.7	21.7	19.9	14.1	14.1	8.4	7.9	5.8	5.4	12.3	12.9
	10.8		11.2		8.2		18.1		14.1		7.4		5.1		13.5	
4-Nov-09	6.9	7.9	8.7	8.1	7.1	8.2	19.9	22.6	5.9	7.1	8.4	7.9	5.1	5.8	12.3	12.9
	8.9		7.5		9.4		25.3		8.2		7.4		6.5		13.5	
6-Nov-09	10.8	9.9	7.5	8.1	8.2	7.7	19.9	18.1	11.8	10.6	9.3	8.4	5.8	6.5	11.0	10.4
	8.9		8.7		7.1		16.3		9.4		7.4		7.2		9.8	
10-Nov-09	7.9	8.9	11.2	11.2	9.4	8.2	10.8	12.6	10.6	10.0	4.6	5.1	5.1	5.1	9.8	9.8
	9.9		11.2		7.1		14.5		9.4		5.6		5.1		9.8	
12-Nov-09	7.9	7.4	7.5	6.8	5.9	6.5	18.1	16.3	10.6	10.6	8.4	8.8	3.6	4.0	13.5	12.9
	6.9		6.2		7.1		14.5		10.6		9.3		4.3		12.3	
14-Nov-09	5.9	5.9	8.7	8.1	9.4	8.8	14.5	14.5	9.4	10.0	8.4	7.4	5.1	5.1	12.3	13.5
	5.9		7.5		8.2		14.5		10.6		6.5		5.1		14.7	
16-Nov-09	6.9	6.4	10.0	10.0	4.7	5.9	10.8	12.6	13.0	11.2	3.7	3.7	5.8	6.1	9.8	9.8
	5.9		10.0		7.1		14.5		9.4		3.7		6.5		9.8	

Projected SS Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	RW21		C1		C2		C3		C4		C5		C6		C7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	12.3	11.0	9.8	9.8	11.0	10.4	11.0	11.7	13.5	14.1	17.2	17.8	7.4	8.0	7.4	8.0
	9.8		9.8		9.8		12.3		14.7		18.4		8.6		8.6	
23-Oct-09	17.2	16.6	14.7	14.1	14.7	15.3	17.2	15.3	17.2	17.2	18.4	17.2	12.3	11.0	13.5	14.7
	16.0		13.5		16.0		13.5		17.2		16.0		9.8		16.0	
27-Oct-09	12.3	13.5	16.0	15.3	9.8	11.0	11.0	9.8	13.5	12.3	13.5	14.1	12.3	12.9	12.3	11.0
	14.7		14.7		12.3		8.6		11.0		14.7		13.5		9.8	
29-Oct-09	14.7	14.7	22.1	22.7	12.3	13.5	13.5	13.5	18.4	17.8	13.5	14.1	12.3	11.7	14.7	14.1
	14.7		23.3		14.7		13.5		17.2		14.7		11.0		13.5	
31-Oct-09	11.0	11.0	13.5	12.9	12.3	12.3	18.4	18.4	12.3	11.7	11.0	11.7	9.8	8.6	7.4	8.6
	11.0		12.3		12.3		18.4		11.0		12.3		7.4		9.8	
2-Nov-09	11.0	11.0	11.0	11.0	9.8	9.8	9.8	10.4	8.6	8.6	6.1	6.8	9.8	11.0	11.0	11.0
	11.0		11.0		9.8		11.0		8.6		7.4		12.3		11.0	
4-Nov-09	11.0	12.3	12.3	14.1	11.0	11.7	12.3	12.3	11.0	11.7	12.3	12.9	4.9	6.1	9.8	9.8
	13.5		16.0		12.3		12.3		12.3		13.5		7.4		9.8	
6-Nov-09	14.7	14.7	16.0	14.7	11.0	10.4	17.2	16.0	17.2	16.6	19.6	18.4	12.3	11.7	11.0	11.0
	14.7		13.5		9.8		14.7		16.0		17.2		11.0		11.0	
10-Nov-09	12.3	13.5	11.0	10.4	13.5	12.9	14.7	14.1	12.3	12.9	12.3	12.3	8.6	8.6	9.8	8.6
	14.7		9.8		12.3		13.5		13.5		12.3		8.6		7.4	
12-Nov-09	11.0	11.0	12.3	12.3	12.3	12.3	12.3	12.3	13.5	13.5	12.3	11.7	12.3	13.5	9.8	11.0
	11.0		12.3		12.3		12.3		13.5		11.0		14.7		12.3	
14-Nov-09	8.6	9.2	7.4	8.6	11.0	12.3	14.7	13.5	14.7	16.0	19.6	17.8	9.8	9.2	8.6	8.6
	9.8		9.8		13.5		12.3		17.2		16.0		8.6		8.6	
16-Nov-09	7.4	8.0	6.1	6.8	9.8	8.6	7.4	8.0	14.7	13.5	7.4	7.4	7.4	8.6	11.0	11.0
	8.6		7.4		7.4		8.6		12.3		7.4		9.8		11.0	

Mid-Ebb	RW21		C1		C2		C3		C4		C5		C6		C7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	11.0	11.7	12.3	12.9	9.8	8.6	9.8	8.6	13.5	14.1	12.3	12.9	8.6	9.2	6.1	6.8
	12.3		13.5		7.4		7.4		14.7		13.5		9.8		7.4	
23-Oct-09	12.3	13.5	7.4	6.8	17.2	17.8	12.3	12.3	11.0	11.7	13.5	14.7	12.3	11.0	9.8	8.6
	14.7		6.1		18.4		12.3		12.3		16.0		9.8		7.4	
27-Oct-09	11.0	10.4	4.9	5.5	8.6	7.4	7.4	6.1	9.8	9.8	9.8	9.8	8.6	8.6	6.1	6.1
	9.8		6.1		6.1		4.9		9.8		9.8		8.6		6.1	
29-Oct-09	11.0	11.0	11.0	11.7	12.3	11.0	13.5	12.9	8.6	8.0	11.0	12.3	11.0	10.4	9.8	9.2
	11.0		12.3		9.8		12.3		7.4		13.5		9.8		8.6	
31-Oct-09	12.3	12.3	12.3	11.7	11.0	10.4	13.5	12.3	12.3	12.3	14.7	13.5	14.7	13.5	7.4	6.8
	12.3		11.0		9.8		11.0		12.3		12.3		12.3		6.1	
2-Nov-09	9.8	10.4	13.5	12.3	12.3	12.3	14.7	16.0	16.0	15.3	14.7	15.3	12.3	11.0	11.0	10.4
	11.0		11.0		12.3		17.2		14.7		16.0		9.8		9.8	
4-Nov-09	12.3	11.7	7.4	8.6	9.8	10.4	9.8	10.4	16.0	16.6	13.5	15.3	7.4	7.4	12.3	11.0
	11.0		9.8		11.0		11.0		17.2		17.2		7.4		9.8	
6-Nov-09	13.5	12.3	7.4	7.4	8.6	9.8	8.6	8.0	11.0	11.7	13.5	14.1	9.8	9.8	11.0	9.8
	11.0		7.4		11.0		7.4		12.3		14.7		9.8		8.6	
10-Nov-09	11.0	9.8	9.8	9.8	6.1	6.1	7.4	7.4	7.4	8.0	9.8	9.8	11.0	9.8	8.6	8.6
	8.6		9.8		6.1		7.4		8.6		9.8		8.6		8.6	
12-Nov-09	12.3	12.9	7.4	8.6	8.6	8.6	8.6	9.2	9.8	11.0	19.6	18.4	8.6	8.0	8.6	6.8
	13.5		9.8		8.6		9.8		12.3		17.2		7.4		4.9	
14-Nov-09	13.5	12.9	11.0	12.3	12.3	11.7	11.0	11.7	13.5	14.7	13.5	12.9	12.3	11.0	6.1	6.8
	12.3		13.5		11.0		12.3		16.0		12.3		9.8		7.4	
16-Nov-09	12.3	11.0	7.4	8.0	9.8	9.2	8.6	8.0	9.8	10.4	8.6	9.2	12.3	11.0	9.8	8.6
	9.8		8.6		8.6		7.4		11.0		9.8		9.8		7.4	

Projected SS Monitoring Data (Wet Season) adjusted with Mean Variation Percentage of EPD Marine Monitoring Data (2006 - 2008)

Mid-flood	C8		C9		RC1		RC5		RC7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	14.9	13.7	13.7	13.7	8.6	8.6	18.4	17.2	9.8	9.8
	12.4		13.7		8.6		16.0		9.8	
23-Oct-09	26.1	24.3	28.6	26.8	12.3	12.3	14.7	13.5	13.5	14.7
	22.4		24.9		12.3		12.3		16.0	
27-Oct-09	18.7	17.4	28.6	28.6	9.8	9.2	13.5	14.1	30.7	28.9
	16.2		28.6		8.6		14.7		27.0	
29-Oct-09	19.9	19.9	28.6	29.2	17.2	16.0	14.7	14.1	11.0	11.0
	19.9		29.9		14.7		13.5		11.0	
31-Oct-09	17.4	16.8	23.6	23.0	11.0	11.7	9.8	9.2	8.6	8.6
	16.2		22.4		12.3		8.6		8.6	
2-Nov-09	12.4	12.4	12.4	13.1	9.8	9.2	11.0	9.8	8.6	8.0
	12.4		13.7		8.6		8.6		7.4	
4-Nov-09	16.2	15.6	17.4	17.4	9.8	9.8	12.3	12.3	9.8	9.2
	14.9		17.4		9.8		12.3		8.6	
6-Nov-09	23.6	21.8	14.9	14.9	19.6	19.0	14.7	14.1	11.0	11.0
	19.9		14.9		18.4		13.5		11.0	
10-Nov-09	17.4	15.6	16.2	16.2	11.0	11.7	9.8	9.8	7.4	8.0
	13.7		16.2		12.3		9.8		8.6	
12-Nov-09	29.9	27.4	22.4	23.0	7.4	8.6	12.3	11.7	7.4	8.0
	24.9		23.6		9.8		11.0		8.6	
14-Nov-09	17.4	18.0	19.9	18.7	13.5	15.3	9.8	11.0	12.3	12.3
	18.7		17.4		17.2		12.3		12.3	
16-Nov-09	8.7	7.5	7.5	7.5	6.1	7.4	7.4	8.0	8.6	8.0
	6.2		7.5		8.6		8.6		7.4	

Mid-Ebb	C8		C9		RC1		RC5		RC7	
Date	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
21-Oct-09	12.4	13.7	24.9	23.0	8.6	9.2	9.8	10.4	7.4	6.8
	14.9		21.2		9.8		11.0		6.1	
23-Oct-09	16.2	15.6	12.4	14.3	8.6	8.0	8.6	8.6	16.0	15.3
	14.9		16.2		7.4		8.6		14.7	
27-Oct-09	11.2	11.2	12.4	12.4	7.4	6.1	6.1	6.8	12.3	12.3
	11.2		12.4		4.9		7.4		12.3	
29-Oct-09	14.9	14.9	16.2	16.2	11.0	11.7	12.3	11.7	12.3	11.0
	14.9		16.2		12.3		11.0		9.8	
31-Oct-09	14.9	13.7	16.2	16.8	12.3	11.7	9.8	10.4	12.3	12.3
	12.4		17.4		11.0		11.0		12.3	
2-Nov-09	14.9	16.2	16.2	14.9	12.3	13.5	11.0	11.0	9.8	9.2
	17.4		13.7		14.7		11.0		8.6	
4-Nov-09	14.9	15.6	17.4	16.8	7.4	8.0	12.3	12.3	11.0	11.7
	16.2		16.2		8.6		12.3		12.3	
6-Nov-09	11.2	12.4	14.9	16.2	9.8	10.4	9.8	10.4	11.0	11.0
	13.7		17.4		11.0		11.0		11.0	
10-Nov-09	12.4	11.8	10.0	10.0	8.6	8.6	9.8	9.2	9.8	9.8
	11.2		10.0		8.6		8.6		9.8	
12-Nov-09	10.0	10.6	14.9	15.6	11.0	10.4	13.5	12.9	11.0	9.8
	11.2		16.2		9.8		12.3		8.6	
14-Nov-09	12.4	12.4	17.4	16.2	9.8	8.6	12.3	11.7	12.3	11.0
	12.4		14.9		7.4		11.0		9.8	
16-Nov-09	10.0	10.6	8.7	8.7	7.4	8.0	11.0	11.0	8.6	8.6
	11.2		8.7		8.6		11.0		8.6	

Contract no. HK/2009/05
WanChai Development Phase II and Central-Wanchai Bypass
Sampling, Field Measurement, Testing Works (Stage 1)

Existing Action and Limit Levels for Water Quality proposed as Dry Season AL & LL

Parameters	Action	Limit
WSD Salt Water Intakes		
SS in mg/L	13.00	14.43
Turbidity in NTU	8.04	9.49
DO in mg/L	3.66	3.28
Cooling Water Intakes		
SS in mg/L	15.00	22.13
Turbidity in NTU	9.10	10.25
DO in mg/L	3.36	2.73

Proposed Action and Limit Levels for Water Quality in Wet Season (with projection using EPD data)

Parameters	Action	Limit
WSD Salt Water Intakes		
SS in mg/L	16.26	19.74
Turbidity in NTU	10.01	11.54
DO in mg/L	3.17	2.63
Cooling Water Intakes		
SS in mg/L	18.42	27.54
Turbidity in NTU	11.35	12.71
DO in mg/L	3.02	2.44

Appendix 6.1

Complaints Log

Environmental Complaints Log

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
100321a	21/3/2010	ICC Case no. 1-224618029, Ms. Tsang	Location near Tin Hau	Complaint regarding the loud noise and dark smoke in the course of dredging works on 21 March 2010 (Sunday).	1) A valid Construction Noise Permit no. GW-RS0119-10 was granted from EPD since 18th Feb. 2010 for the dredging works which carry out at area for North Point Reclamation. 2) Officer from Marine Department, Police and EPD's officer attended the scene for inspection and investigation. 3) The Contractor (CHEC-CRBC JV) strictly comply all the conditions in CNP and take all mitigation measures in order to minimize the potential impacts to surrounding sensitive receivers. A formal letter was issued out by CHEC-CRBC JV and to explain the status of the recent construction activities. 4) No limit level exceedance was recorded on the noise measurement during day time and evening time noise measurement on 23 March 2010. Additional restrict hours noise monitoring at Causeway Bay Community and City Garden was conducted on 5 April 2010 (Public Holiday). No limit level exceedance was recorded in the monitoring. 5) No further complaints were received from Mr. Tsang in the reporting month. The complaint is considered closed.	Closed
100321b	21/3/2010	Unknown	Near the eastern breakwater of the Causeway Bay Typhoon Shelter	A public complaint and enquiry regarding loud noises emanated from dredging activities on 21/3/2010 (Sunday) until 2220 hours and between 1920-1946 hours in the evening of 22 March 2010(Monday).	1) A valid Construction Noise Permit no. GW-RS0119-10 was granted from EPD since 18th Feb. 2010 for the dredging works at area for North Point Reclamation during general holidays including Sunday between 0700-2300 hours and any day not being a general holiday between 1900-2300hours. It is complied with the condition of CNP. 2) Officer from Marine Department, Polic and EPD's officer attended the scene for inspection and investigation. 3) No limit level exceedance was recorded on the noise measurement during day time and evening time noise measurement on 23 March 2010. Additional restrict hours noise monitoring at Causeway Bay Community and City Garden was conducted on 5 April 2010 (Public	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					Holiday). No limit level exceedance was recorded in the monitoring. 4) No further complaints were received in the reporting month. The complaint is considered closed.	
100504	4/5/2010	Public complainant received by ICC (ICC case: 1-233384048)	Watson Road	Complaint on the noise nuisance due to the large scale of dredging machine (face to Island East Corridor) in particular the hours 1900 to 0800 and request to reduce the noise level.	1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0119-10 for their dredging works. Contractor has implemented mitigation measures to reduce the working hour not later than 2230. 2) According to RSS 's record, no more daytime and night time dredging since the departure of the split hopper barge from the workplace on 29 April 2010 at 1900 hrs to 5 May 2010. 3) No further complaints were received in the reporting month. The complaint is considered closed.	Closed
100731	31/7/2010	Mr. Lee received by ICC (CC Case: 1-250702681)	Oil Street to Watson Road	Complaint on the noise nuisance due to the dredging works. Three construction plants were operated concurrently.	1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0371-10 for their dredging works. 2) There was only 1 grab dredger operated by Contractor within NPR project site area for dredging works. 3) No noise exceedance was recorded at noise monitoring station at Victoria Centre on 27 July and 3 August 2010 during daytime and evening time period. 4) It is considered as invalid from the EP and CNP point of view.	Closed
100812	12/8/2010	Mr. Wong, Harbour Heights (Management) Ltd.	Harbour Heights	Management office received their resident complained on the noise nuisance from the dredging works at the marine works area adjacent to the Harbour Height during the period from 0700 to 2200.	1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0371-10 for their dredging works. Contractor has implemented mitigation measures to reduce the working hour not later than 2230. 2) No noise exceedance was recorded at noise monitoring station at Victoria Centre on 10 and 17 August 2010 during daytime and evening time period. 3) It is considered as invalid complaint. No further complaints were received in the reporting month. The complaint is considered closed.	Closed

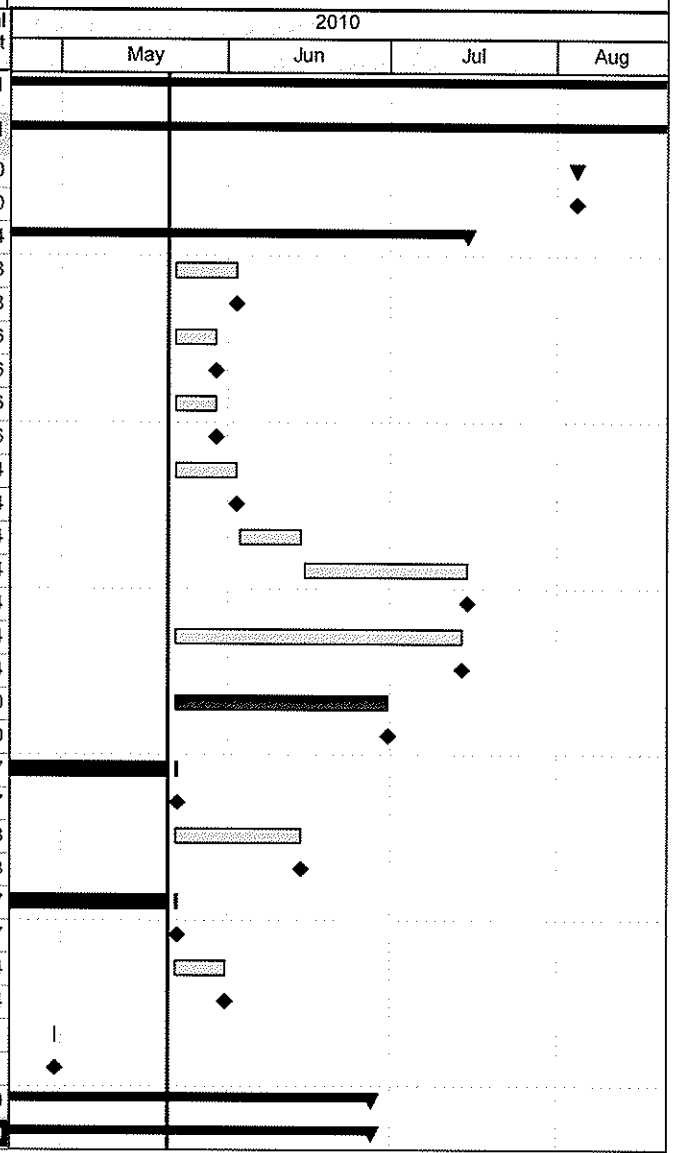
Appendix 8.1

Construction Programme of Individual Contracts

Contract no. HY/2009/11

Updated Works Programme upto 20May2010 from details programme rev | 3 Month Rolling Programme | 28-May-10 10:39

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
Updated Works Programme upto 20May2010 f		185	125	18-Dec-09 A	22-Sep-10	21
PRELIMINARIES		185	125	18-Dec-09 A	22-Sep-10	21
COMPLETION SECTION OF WORKS		0	0	04-Aug-10	04-Aug-10	0
K11050	Completion Section IA of Works	0	0		04-Aug-10*	0
GENERAL SUBMISSION		92	45	18-Dec-09 A	15-Jul-10	14
22980	Prepare proposed storage compartment	10	10	22-May-10	02-Jun-10	23
23000	Submit storage compartment	0	0		02-Jun-10*	23
23380	Prepare proposed showering facilities	7	7	22-May-10	29-May-10	26
23400	Submit showering facilities	0	0		29-May-10*	26
23480	Prepare proposed rubbish bins	7	7	22-May-10	29-May-10	26
23500	Submit rubbish bins	0	0		29-May-10*	26
23580	Prepare security system for the site	10	10	22-May-10	02-Jun-10	14
23600	Submit security system for the site	0	0		02-Jun-10*	14
23620	Approval of securtiy system	10	10	03-Jun-10	14-Jun-10	14
23680	Setting up of security system	25	25	15-Jun-10	15-Jul-10	14
23700	Complete setting up of security system	0	0		15-Jul-10*	14
23780	Prepare risk resulting from working in hot weather	44	44	22-May-10	14-Jul-10	14
23800	Submit Risk resulting from working in hot weather	0	0		14-Jul-10*	14
23980	Prepare propose each release of construction video	33	33	22-May-10	30-Jun-10	0
24000	Submit propose each release of construction video	0	0		30-Jun-10*	0
24080	Prepare video scripts for each release of video	78	1	18-Dec-09 A	22-May-10	7
24100	Submit video scripts for each release of video	0	0		22-May-10*	7
24180	Prepare weather protection scheme	20	20	22-May-10	14-Jun-10	13
24200	Submit weather protection scheme	0	0		14-Jun-10*	13
24280	Prepare deliver weather protection system	44	1	18-Dec-09 A	22-May-10	7
24300	Deliver weather protection system	0	0		22-May-10*	7
26500	Prepare proposal for location and its area for holding pre-w	8	8	22-May-10	31-May-10	24
26600	Submit proposal for location and its area for holding pre-wc	0	0		31-May-10*	24
26700	Prepare detailed information on silance material (del)	18	0	30-Apr-10 A	30-Apr-10 A	
26800	Submit detailed information on silance material (del)	0	0		30-Apr-10 A	
TEMPORARY AND CONTRACTOR DESIGN		68	38	25-Mar-10 A	27-Jun-10	0
TEMPORARY WORKS DESIGN		68	38	25-Mar-10 A	27-Jun-10	0

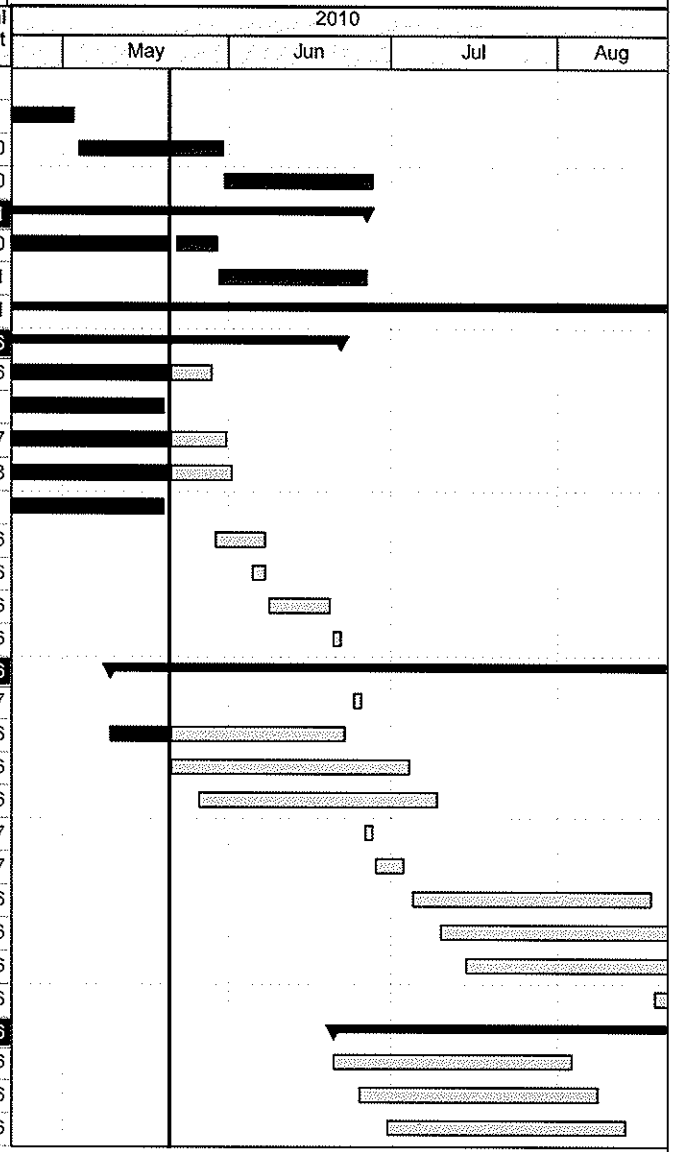


Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone | Level Effort

TASK filters: Three Month Rolling Programme, Three Month Rolling Programm

Updated Works Programme upto 20May2010 from details programme rev | 3 Month Rolling Programme | 28-May-10 10:39

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
20300	Sub. & consent temp works dsgn for facilitate the demolitior	7	0	25-Mar-10 A	21-Apr-10 A	
20400	Temporary works design for protection & precautionary me	12	0	29-Mar-10 A	03-May-10 A	
20500	Sub. & cerf. temp works dsgn for protection & precautionar	7	10	04-May-10 A	30-May-10	0
20600	Sub. & consent temp works dsgn for protection & precautio	28	28	31-May-10	27-Jun-10	0
CONTRACTOR DESIGN		67	36	29-Mar-10 A	26-Jun-10	1
20900	-	14	7	29-Mar-10 A	29-May-10	0
21000	Sub. & app. steel protection ties for IEC protection by the E	28	28	30-May-10	26-Jun-10	1
PRE-CAST CAISSON SEAWALL		157	125	15-Mar-10 A	22-Sep-10	21
Package 1 of Caisson Seawall SP3-6 & 7-8 5nrs		77	32	15-Mar-10 A	21-Jun-10	6
A00400	Casting Cassion Seawall SP 3-4a (Type 2-R)(Land)	60	8	17-Mar-10 A	28-May-10	6
A00500	Casting Cassion Seawall SP 4a-4b (Type 2)(Land)	60	0	15-Mar-10 A	20-May-10 A	
A00600	Casting Cassion Seawall SP 4b-5 (Type 2)(Land)	60	11	15-Mar-10 A	31-May-10	7
A00700	Casting Cassion Seawall SP 5-6 (Type 1-L)(Land)	60	12	08-Apr-10 A	01-Jun-10	8
A00800	Casting Cassion Seawall SP7-8 (Type 2-N)(Land)	60	0	31-Mar-10 A	20-May-10 A	
A00900	Install BT/Bulkhead (SP3-6 & 7-8) 5nrs	10	10	29-May-10	07-Jun-10	6
A01000	Rolling Setup	3	3	05-Jun-10	07-Jun-10	6
A01100	Rolling caisson seawalls onto Barge (SP3-6 & 7-8) 5nrs	12	12	08-Jun-10	19-Jun-10	6
A03000	Tow Barge to HK (SP3-6 & 7-8) 5nrs	2	2	20-Jun-10	21-Jun-10	6
Package 2 of Caission Seawall SP9-10, 11a-14 & 15-16 6nrs		102	102	10-May-10 A	30-Aug-10	6
A03500	Tow Barge Back to yard	2	2	24-Jun-10	25-Jun-10	7
A03600	Casting Cassion Seawall SP 9-10 (Type 1-N)(Land)	45	33	10-May-10 A	22-Jun-10	46
A03700	Casting Cassion Seawall SP12-13 (Type 1)(Land)	45	45	21-May-10	04-Jul-10	46
A03800	Casting Cassion Seawall SP 13-14 (Type 1-L)(Land)	45	45	26-May-10	09-Jul-10	46
A03900	Rolling setpup	2	2	26-Jun-10	27-Jun-10	7
A04000	Rolling Caisson seawalls onto Barge (SP9-10, 12-14) 3nrs	6	6	28-Jun-10	03-Jul-10	7
A04100	Casting Cassion Seawall SP 11a-11b (Type 2-R)(Barge)	45	45	05-Jul-10	18-Aug-10	6
A04200	Casting Cassion Seawall SP 11b-12 (Type 2)(Barge)	45	45	10-Jul-10	23-Aug-10	6
A04300	Casting Cassion Seawall SP 15-16 (Type 2-R)(Barge)	45	45	15-Jul-10	28-Aug-10	6
A04400	Install BT/Bulkhead (SP9-10, 11a-14 & 15-16) 6nrs	12	12	19-Aug-10	30-Aug-10	6
Package 3 of Caisson Seawall SP16-22 6nrs		85	85	20-Jun-10	12-Sep-10	6
A05100	Casting Cassion Seawall SP 16-17 (Type 1)(Land)	45	45	20-Jun-10	03-Aug-10	6
A05200	Casting Cassion Seawall SP17-18 (Type 1AR)(Land)	45	45	25-Jun-10	08-Aug-10	6
A05300	Casting Cassion Seawall SP 18-19 (Type 1)(Land)	45	45	30-Jun-10	13-Aug-10	6

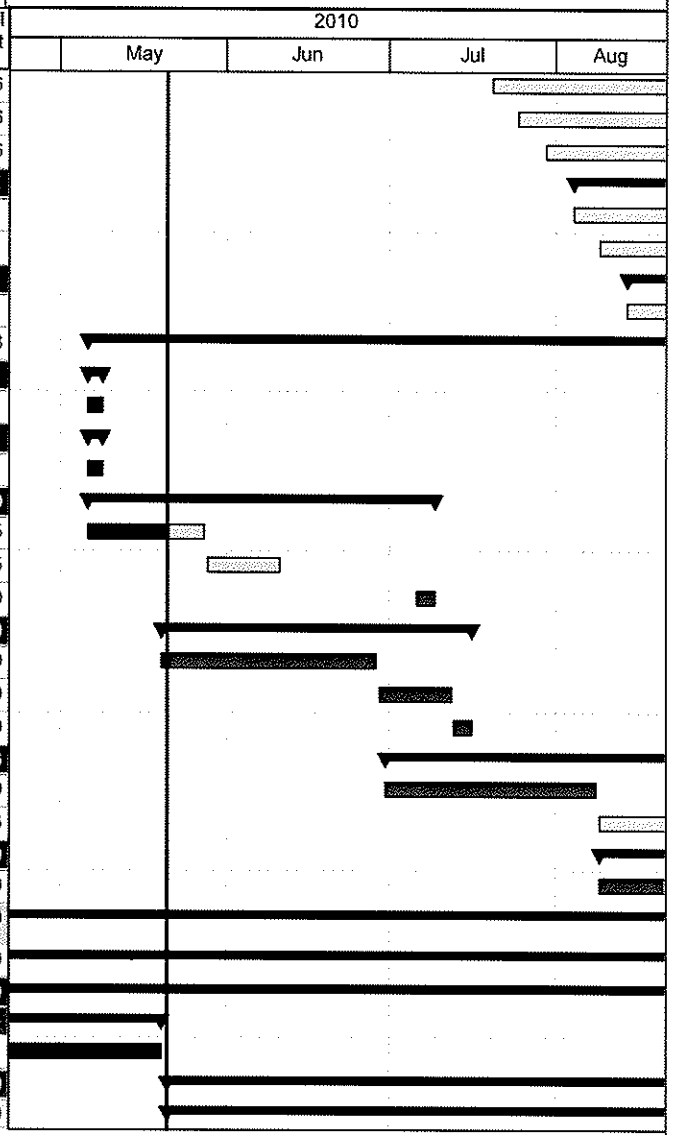


Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone | Level Effort

TASK filters: Three Month Rolling Programme, Three Month Rolling Programm

Updated Works Programme upto 20May2010 from details programme rev | 3 Month Rolling Programme | 28-May-10 10:39

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
A05400	Casting Cassion Seawall SP 19-20 (Type 1)(Land)	45	45	20-Jul-10	02-Sep-10	6
A05500	Casting Cassion Seawall SP 20-21 (Type 1BR)(Land)	45	45	25-Jul-10	07-Sep-10	6
A05600	Casting Cassion Seawall SP 21-22 (Type 1)(Land)	45	45	30-Jul-10	12-Sep-10	6
Package 4 of Caisson Seawall SP22-28 6nrs		50	50	04-Aug-10	22-Sep-10	21
A08000	Casting Cassion Seawall SP 22-23 (Type 1)(Land)	45	45	04-Aug-10	17-Sep-10	21
A08100	Casting Cassion Seawall SP23-24 (Type 1)(Land)	45	45	09-Aug-10	22-Sep-10	21
Package 5 of Caisson Seawall SP29-32 & 36-40 7nrs		25	25	14-Aug-10	07-Sep-10	21
A09500	Casting Cassion Seawall SP 36-37 (Type 3A-R)(Land)	25	25	14-Aug-10	07-Sep-10	21
PRE-CAST SEAWALL BLOCK		117	117	06-May-10 A	14-Sep-10	3
1st Barge of Seawall Block SP1-2		4	0	06-May-10 A	09-May-10 A	
A20120	Transport Seawall Block SP1-2 to Site	4	0	06-May-10 A	09-May-10 A	
2nd Barge of Seawall Block SP2-3		4	0	06-May-10 A	09-May-10 A	
A20220	Transport Seawall block SP2-3 to Site	4	0	06-May-10 A	09-May-10 A	
3rd Barge of Seawall Block SP6-7		50	50	06-May-10 A	09-Jul-10	0
A20300	Casting Seawall Block SP6-7 137nrs	40	7	06-May-10 A	27-May-10	25
A20310	Curing Seawall Block SP6-7	14	14	28-May-10	10-Jun-10	25
A20320	Transport seawll block SP6-7 to site	4	4	06-Jul-10	09-Jul-10	0
4th Barge of Seawall Block SP8-9		57	57	20-May-10 A	16-Jul-10	0
A20400	Casting Seawall Block SP8-9 185nrs	40	39	20-May-10 A	28-Jun-10	0
A20410	Curing Seawall Block SP8-9	14	14	29-Jun-10	12-Jul-10	0
A20420	Transport seawall block SP8-9 to site	4	4	13-Jul-10	16-Jul-10	0
5th Barge of Seawall Block SP10-11a		54	54	30-Jun-10	22-Aug-10	26
A20500	Casting Seawall Block SP10-11a 103nrs	40	40	30-Jun-10	08-Aug-10	0
A20510	Curing Seawall Block SP10-11a	14	14	09-Aug-10	22-Aug-10	26
6th Barge of Seawall Block SP14-15		37	37	09-Aug-10	14-Sep-10	0
A20600	Casting Seawall Block SP14-15 192nrs	37	37	09-Aug-10	14-Sep-10	0
SECTION 1 OF WORKS (290 DAYS)		101	101	21-Apr-10 A	30-Aug-10	0
SEAWALLS AND RECLAMATION WORKS		101	101	21-Apr-10 A	30-Aug-10	0
PORTION NPR1		101	101	21-Apr-10 A	30-Aug-10	0
DREDGING		7	0	21-Apr-10 A	20-May-10 A	
11320	Prepare & Submit Dredging Report	7	0	21-Apr-10 A	20-May-10 A	
SEAWALL CONSTRUCTION		98	101	21-May-10 A	30-Aug-10	0
Package 1 SP3-6 & 7-8 5nrs		98	101	21-May-10 A	30-Aug-10	0

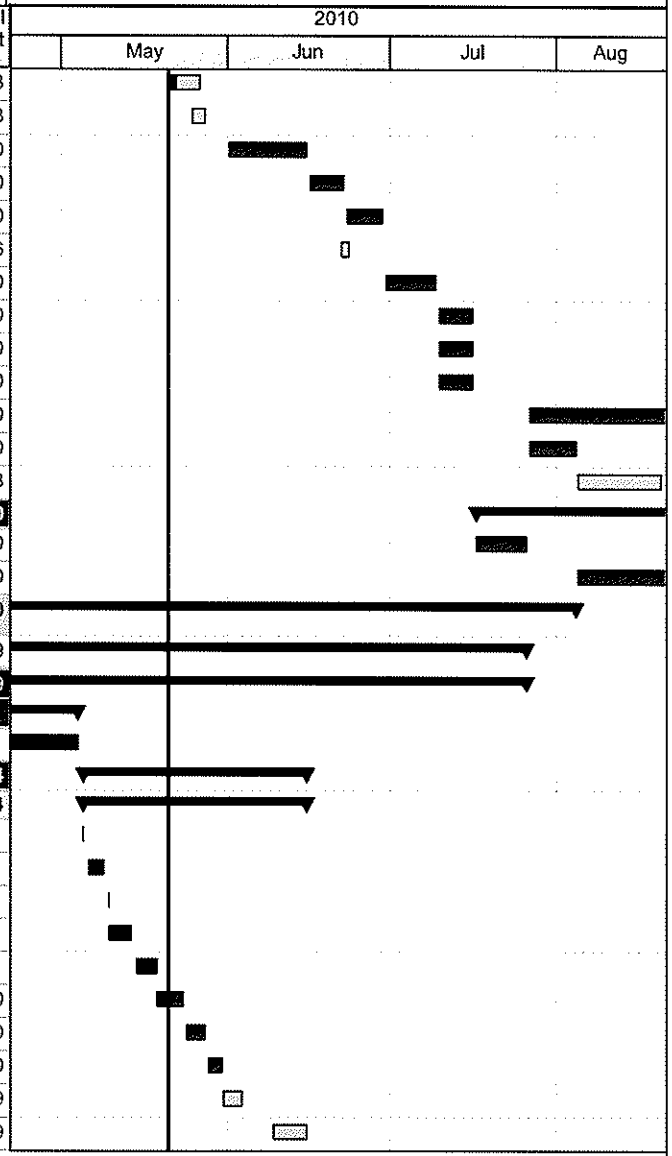


Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone | Level Effort

TASK filters: Three Month Rolling Programme, Three Month Rolling Programm

Updated Works Programme upto 20May2010 from details programme rev | 3 Month Rolling Programme | 28-May-10 10:39

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
12100	Seawall foundation rockfill grade 400 (13071m3)	4	4	21-May-10 A	26-May-10	3
12900	Rockfill slope survey checking	3	3	25-May-10	27-May-10	3
12910	Levelling Stone & Toe Block SP 3-6	15	15	01-Jun-10	15-Jun-10	0
12920	Levelling Stone & Toe Block SP 6-7	7	7	16-Jun-10	22-Jun-10	0
12930	Levelling Stone & Toe Block SP 7-8	7	7	23-Jun-10	29-Jun-10	0
12940	Float Out caisson seawalls (SP3-6 & 7-8) 5nrs	2	2	22-Jun-10	23-Jun-10	6
12950	Install caisson seawall (SP 3 to 6 & 7 to 8) 5 nos.	10	10	30-Jun-10	09-Jul-10	0
13800	Rockfill grade 200 inside caisson seawall	6	6	10-Jul-10	16-Jul-10	0
13810	Install Seawall Blocks SP6-7	7	7	10-Jul-10	16-Jul-10	0
13820	Geotextile type A & filter layer below -6.65mPD	6	6	10-Jul-10	16-Jul-10	0
14700	Construct in-situ caisson seawall (SP3 to 6 & 7 to 8) 5nos	30	30	27-Jul-10	30-Aug-10	0
15200	Rockfill type A, geotextile type A & filter layer above -6.65m	8	8	27-Jul-10	04-Aug-10	0
15250	Seawall foundation 0.5T amour and filter layer below -6.65	14	14	05-Aug-10	20-Aug-10	3
RECLAMATION		38	38	17-Jul-10	30-Aug-10	0
15400	Reclamation upto -6.65mPD	8	8	17-Jul-10	26-Jul-10	0
15600	Reclamation upto finish level (40500m3)	22	22	05-Aug-10	30-Aug-10	0
SECTION 1A OF WORKS (230 DAYS)		94	76	14-Apr-10 A	04-Aug-10	0
SEAWALLS AND RECLAMATION WORKS		85	67	14-Apr-10 A	26-Jul-10	9
PORTION NPR1A		85	67	14-Apr-10 A	26-Jul-10	9
DREDGING		9	0	14-Apr-10 A	04-May-10 A	
10300	Remove of existing Causeway Bay East breakwater (4605	9	0	14-Apr-10 A	04-May-10 A	
SEAWALL CONSTRUCTION		25	26	05-May-10 A	15-Jun-10	24
Package 1		25	26	05-May-10 A	15-Jun-10	24
11700	Laying geotextile Type A	2	0	05-May-10 A	05-May-10 A	
11800	Seawall foundation rockfill grade 400 (3734m3)	4	0	06-May-10 A	09-May-10 A	
12800	Rockfill Slope survery checking	1	0	10-May-10 A	10-May-10 A	
12810	Levelling Stone & Toe Block SP 2-3	7	0	10-May-10 A	14-May-10 A	
12820	Install Seawall Blocks SP 2-3 (-7.5mPD to -5.3mPD)	3	0	15-May-10 A	19-May-10 A	
12830	Levelling Stone & Toe Block SP 1-2	7	3	19-May-10 A	23-May-10	0
12840	Install Seawall Blocks SP 1-2	4	4	24-May-10	27-May-10	0
12850	Install Seawall Blocks SP 2-3 (-3.95mPD to +0.1mPD)	3	3	28-May-10	30-May-10	0
12860	Geotextile type A & filter layer below -6.65mPD	4	4	31-May-10	03-Jun-10	19
15160	Rockfill type A, geotextile type A & filter layer above -6.65m	6	6	09-Jun-10	15-Jun-10	19



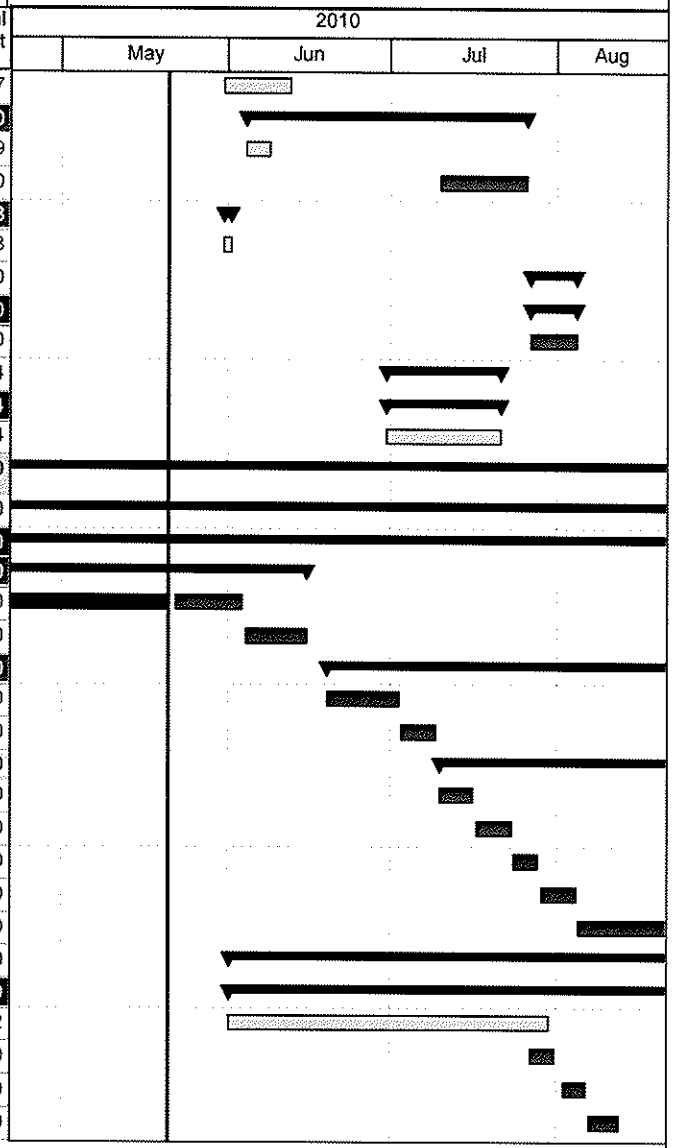
Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone | Level Effort

TASK filters: Three Month Rolling Programme, Three Month Rolling Programm

Contract no. HY/2009/11

Updated Works Programme upto 20May2010 from details programme rev | 3 Month Rolling Programme | 28-May-10 10:39

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
15170	Seawall foundation 0.5T amour and filter layer below -6.65	12	12	31-May-10	12-Jun-10	17
RECLAMATION		**43**	**43**	**04-Jun-10**	**26-Jul-10**	**0**
15300	Reclamation upto -6.65mPD	4	4	04-Jun-10	08-Jun-10	19
15500	Reclamation upto finish level (27000m3)	14	14	10-Jul-10	26-Jul-10	0
CONSTRUCT CAUSEWAY BAY EAST BREAKWATER		**2**	**2**	**31-May-10**	**01-Jun-10**	**53**
16100	Construct Causeway Bay East breakwater	2	2	31-May-10	01-Jun-10	53
DRAINAGE WORKS		8	8	27-Jul-10	04-Aug-10	0
PORTION NPR1A		**8**	**8**	**27-Jul-10**	**04-Aug-10**	**0**
15900	Construct 375 U-channel	8	8	27-Jul-10	04-Aug-10	0
COPINGS		18	18	30-Jun-10	21-Jul-10	4
PORTION NPR1A		**18**	**18**	**30-Jun-10**	**21-Jul-10**	**4**
15700	Mass concrete copings (2 bays)	18	18	30-Jun-10	21-Jul-10	4
SECTION 2 OF WORKS (470 DAYS)		125	94	15-Apr-10 A	23-Aug-10	0
SEAWALLS AND RECLAMATION WORKS		124	93	15-Apr-10 A	22-Aug-10	0
PORTION NPR2		124	93	15-Apr-10 A	22-Aug-10	0
DREDGING		**46**	**21**	**15-Apr-10 A**	**15-Jun-10**	**0**
11400	Dredging in Portion NPR2 (86488m3)	25	11	15-Apr-10 A	03-Jun-10	0
11420	Prepare and submit Dredging Report	10	10	04-Jun-10	15-Jun-10	0
SEAWALL CONSTRUCTION		**65**	**65**	**19-Jun-10**	**22-Aug-10**	**0**
12400	Seawall foundation rockfill grade 400 (41082m3)	11	11	19-Jun-10	02-Jul-10	0
13100	Rockfill slope survey checking	6	6	03-Jul-10	09-Jul-10	0
Package 2 SP9-10, 11a-14 & 15-16 6nrs		44	44	10-Jul-10	22-Aug-10	0
17210	Levelling Stone & Toe Block SP 8-9	7	7	10-Jul-10	16-Jul-10	0
17220	Install Seawall Blocks SP8-9	7	7	17-Jul-10	23-Jul-10	0
17230	Levelling Stone & Toe Block SP 9-10	5	5	24-Jul-10	28-Jul-10	0
17240	Levelling Stone & Toe Block SP10-11a	7	7	29-Jul-10	04-Aug-10	0
17250	Levelling Stone & Toe Block SP 11a-14	18	18	05-Aug-10	22-Aug-10	0
DRAINAGE WORKS		84	84	01-Jun-10	23-Aug-10	0
PORTION NPR2		**84**	**84**	**01-Jun-10**	**23-Aug-10**	**0**
18290	Casting blockwork wall for open channel T	60	60	01-Jun-10*	30-Jul-10	2
18310	Rockfill Type A for open channel T	5	5	27-Jul-10	31-Jul-10	0
18320	Levelling Stone for open channel T	5	5	02-Aug-10	06-Aug-10	0
18330	Blockwork wall for open channel T	5	5	07-Aug-10	12-Aug-10	0

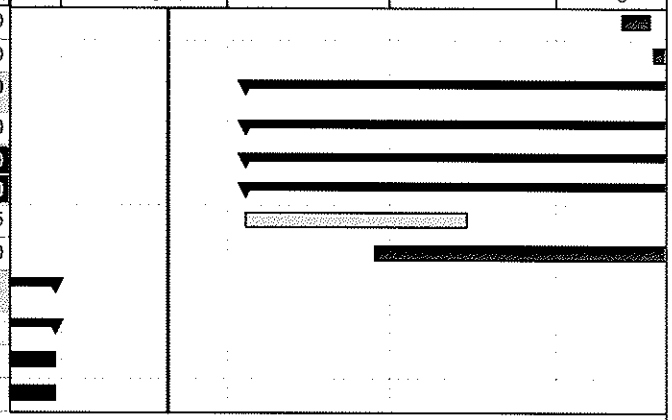


Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone | Level Effort

TASK filters: Three Month Rolling Programme, Three Month Rolling Programm

Updated Works Programme upto 20May2010 from details programme rev | 3 Month Rolling Programme | 28-May-10 10:39

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
18340	Rockfill Type A behind open channel T	5	5	13-Aug-10	18-Aug-10	0
18350	Geotextile Type A & Filter of open channel T	4	4	19-Aug-10	23-Aug-10	0
SECTION 3 OF WORKS (600 DAYS)		69	69	04-Jun-10	25-Aug-10	0
SEAWALLS AND RECLAMATION WORKS		69	69	04-Jun-10	25-Aug-10	0
PORTION NPR3		69	69	04-Jun-10	25-Aug-10	0
DREDGING		69	69	04-Jun-10	25-Aug-10	0
11428	Dredging in Portion NPR3 (98844m3)	34	34	04-Jun-10	15-Jul-10	35
11430	Protection & Precautionary measures for Existing Island Ea	50	50	28-Jun-10	25-Aug-10	0
SECTION 6 OF WORKS (120 DAYS)		17	0	27-Mar-10 A	30-Apr-10 A	
WORKS IN PORTIONS NPR5B,NPR5C,NPR5D AND NPR5E		17	0	27-Mar-10 A	30-Apr-10 A	
19650	Erection noise absorptive panel	14	0	27-Mar-10 A	30-Apr-10 A	
19700	Exterior finish of decorative panel	5	0	12-Apr-10 A	30-Apr-10 A	



Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone | Level Effort

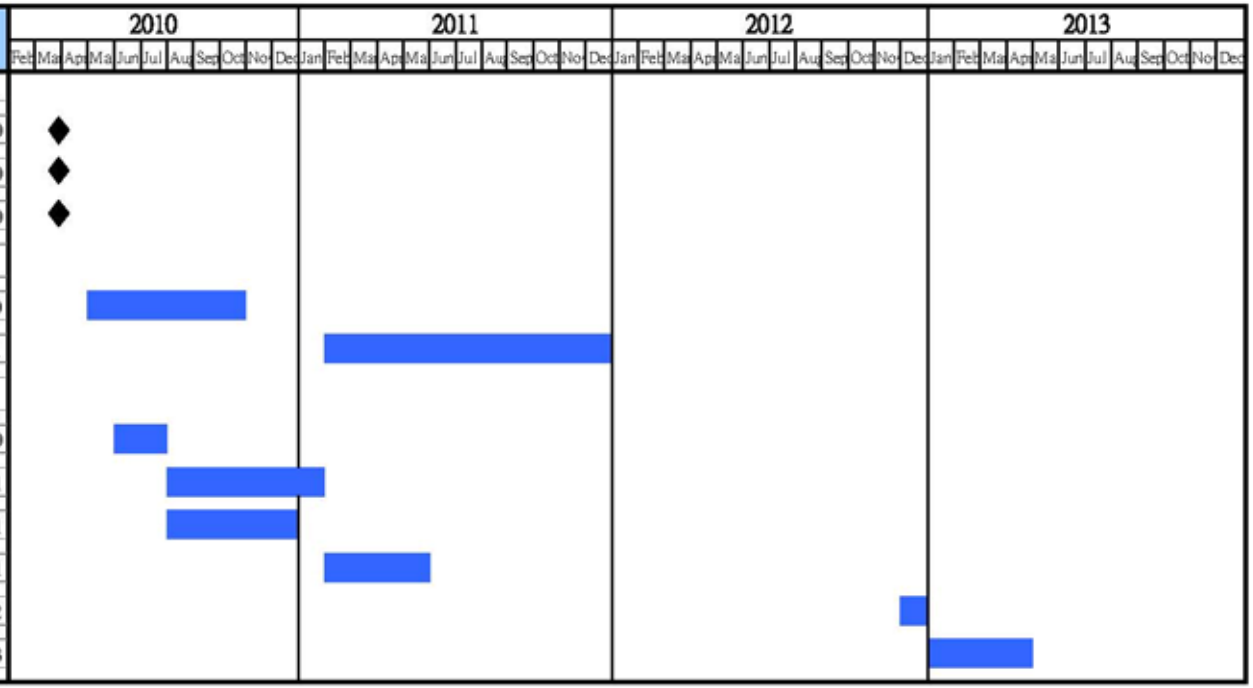
TASK filters: Three Month Rolling Programme, Three Month Rolling Programm

Contract No. HK/2009/01

Contract Title : Wan Chai Development Phase II - Central - Wan Chai Bypass at HKCEC

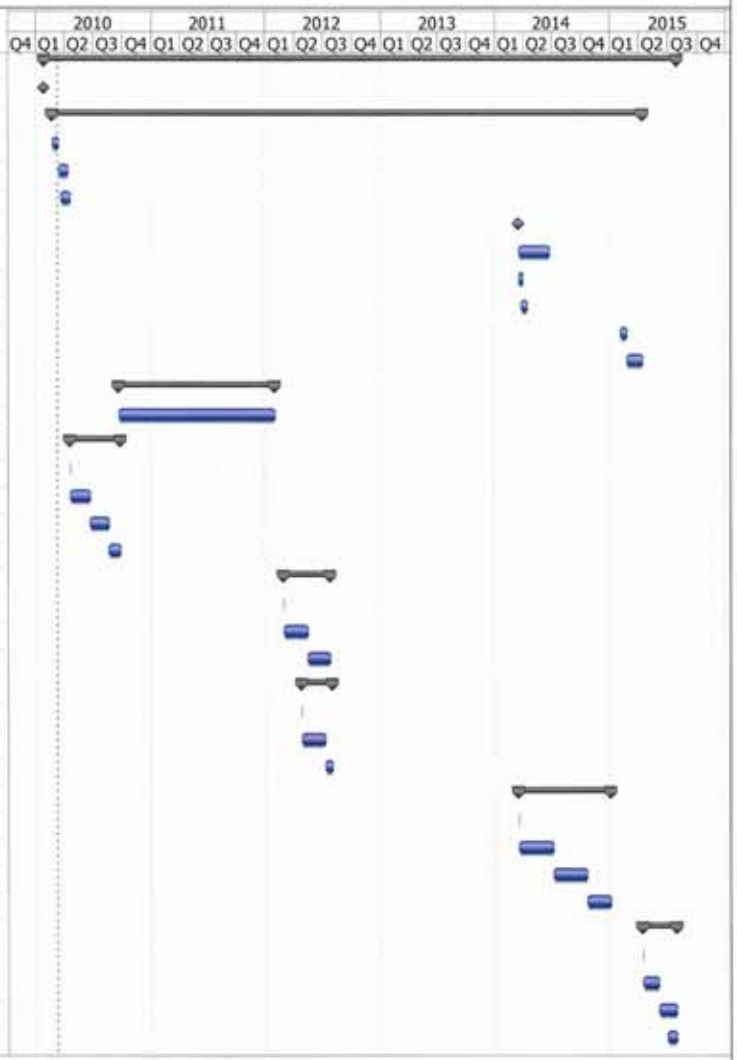
Working Programme for Marine Works (Dredging and Backfilling)

ACTIVITY	START	FINISH
Submissions before Works Commencement		
Submit silt curtain deployment plan	31/3/10	31/3/10
Submit silt screen deployment plan	31/3/10	31/3/10
Submit measures to mitigate noise impact	31/3/10	31/3/10
Cross Harbour Watermains from WCN to TST (DP6)		
Trench dredging for marine watermains installation	29/4/10	28/10/10
Backfilling for watermain	28/1/11	14/12/11
Reclamation Works at HKCEC Water Channel (DP3)		
Dredging at HKCEC Water Channel (Western Part)	1/6/10	1/8/10
Backfilling to +3.5mPD (Western Part)	17/8/10	6/2/11
Dredging at HKCEC Water Channel (Middle Part)	2/8/10	6/1/11
Backfilling to +3.5mPD (Middle Part)	21/2/11	1/6/11
Dredging at HKCEC Water Channel (Eastern Part)	1/12/12	31/12/12
Backfilling to +3.5mPD (Eastern Part)	16/1/13	30/4/13



Dredging & Reclamation Works Programme Summary
(based on Initial Works Programme Rev. 0)

ID	Task Name	Duration	Start
1	**HK/2009/02-Marine & Reclamation Works**	**2008 d**	**Thu 28/1/10**
2	Contract Commencement	0 d	Thu 28/1/10
3	**General**	**1879 d**	**Mon 22/2/10**
4	Submission & obtain approval for marine GI	21 d	Mon 22/2/10
5	Stage 1 Marine GI for reclamation	30 d	Mon 15/3/10
6	Engineer's Design review for Dredging of WCR1, WCR2 & WCR4	30 d	Mon 22/3/10
7	Relocation of New Star Ferry Pier	0 d	Tue 18/3/14
8	Demolition of Existing Star Ferry Pier	100 d	Tue 18/3/14
9	Stage 2 Marine GI for Reclamation	14 d	Tue 18/3/14
10	Engineer's Design review for Dredging of WCR3	21 d	Tue 25/3/14
11	Complete Diversion of Hung Hing Road Traffic Back to Original	20 d	Fri 6/2/15
12	Excavate & remove top of d-wall for permanet seawall construction	50 d	Wed 25/2/15
13	**Submarine Outfall**	**500 d**	**Tue 21/9/10**
14	Dredging, Laying and Backfilling of Submarine Outfall Pipe at Sea	500 d	Tue 21/9/10
15	**Phase 1 - WCR1**	**158 d**	**Wed 21/4/10**
16	Mobilization of plants	1 d	Wed 21/4/10
17	Seabed dredging	63 d	Wed 21/4/10
18	Bedding Filling and Permanent seawall (precast cassion)	60 d	Tue 22/6/10
19	Bulk reclamation	37 d	Fri 20/8/10
20	**Phase 2 - WCR2**	**149 d**	**Thu 1/3/12**
21	Mobilization of plants	1 d	Thu 1/3/12
22	Temp seawall and Seabed dredging	77 d	Thu 1/3/12
23	Bulk reclamation	73 d	Wed 16/5/12
24	**Phase 3 - TWCR4 & WCR4**	**98 d**	**Sat 28/4/12**
25	Mobilization of plants	1 d	Sat 28/4/12
26	Temp Seawall and Seabed dredging	75 d	Sat 28/4/12
27	Bulk & temp reclamation	24 d	Wed 11/7/12
28	**Phase 4 - WCR3**	**294 d**	**Tue 18/3/14**
29	Mobilization of plants	1 d	Tue 18/3/14
30	Seabed dredging for Permanent Seawall	112 d	Tue 18/3/14
31	Backfill and permanent seawall (precast cassion)	108 d	Tue 8/7/14
32	Bulk reclamation	74 d	Fri 24/10/14
33	**Phasee 5 - Construct Permanent Seawall Blocks along curved coastline & Remove TWCR4**	**105 d**	**Wed 15/4/15**
34	Mobilization of plants	1 d	Wed 15/4/15
35	Dredging and Filling for permanent seawall construction	50 d	Wed 15/4/15
36	Construction of Permanent Seawall Blocks for curved coastline	56 d	Wed 3/6/15
37	Remove temp seawall and reinstate the location of TWCR4	30 d	Mon 29/6/15



Project: Reclamation Works Programm
Date: Tue 9/3/10

Task | Summary | Rolled Up Progress | Project Summary
Progress | Rolled Up Task | Split | Group By Summary
Milestone | Rolled Up Milestone | External Tasks | Deadline