



CONTRACT NO: HK/2011/07

WANCHAI DEVELOPMENT PHASE II AND CENTRAL
WANCHAI BYPASS
SAMPLING, FIELD MEASUREMENT AND TESTING WORKS
(STAGE 2)

ENVIRONMENTAL PERMIT NO. EP-356/2009,
FURTHER ENVIRONMENTAL PERMIT NOS. FEP-02/356/2009,
FEP-03/356/2009, FEP-04/356/2009 ,FEP-05/356/2009 AND
FEP-06/356/2009

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

- MARCH 2013 -

CLIENTS:

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and

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DATE:

15 April 2013

Ref.: AACWBIECEM00_0_3805L.13

15 April 2013

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Hong Kong

By Post and Fax (2691 2649)

Attention: Mr. Conrad Ng

Dear Sir,

**Re: Wan Chai Development Phase II and Central-Wan Chai Bypass
Monthly Environmental Monitoring and Audit Report (March 2013)
for EP-356/2009, FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009,
FEP-05/356/2009 and FEP-06/356/2009**

Reference is made to the Environmental Team's submission of the captioned Monthly Environmental Monitoring and Audit (EM&A) Report for March 2013 received by email on 12 April 2013.

Please be informed that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 3.4 in the captioned Environmental Permits.

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

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TABLE OF CONTENTS

EXECUTIVE SUMMARY 4

1. INTRODUCTION..... 14

1.1 Scope of the Report 15

1.2 Structure of the Report..... 15

2. PROJECT BACKGROUND..... 17

2.1 Background 17

2.2 Scope of the Project and Site Description 17

2.3 Division of the Project Responsibility 18

2.4 Project Organization and Contact Personnel..... 19

3. STATUS OF REGULATORY COMPLIANCE 27

3.1 Status of Environmental Licensing and Permitting under the Project..... 28

4. MONITORING REQUIREMENTS..... 38

4.1 Noise Monitoring 40

4.2 Air Monitoring 41

4.3 Water Quality Monitoring..... 44

5. MONITORING RESULTS 50

5.1 Noise Monitoring Results 50

5.2 Real-time Noise Monitoring..... 52

5.3 Air Monitoring Results 52

5.4 Water Monitoring Results..... 54

5.5 Waste Monitoring Results 61

6. COMPLIANCE AUDIT 64

6.1 Noise Monitoring 66

6.2 Real-time noise Monitoring 66

6.3 Air Monitoring 66

6.4 Water Quality Monitoring..... 67

6.5 Review of the Reasons for and the Implications of Non-compliance..... 71

6.6 Summary of action taken in the event of and follow-up on non-compliance 71

7. CUMULATIVE CONSTRUCTION IMPACT DUE TO THE CONCURRENT PROJECTS 71

8. ENVIRONMENTAL SITE AUDIT..... 73

9. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION 75

10. CONCLUSION 78

LIST OF TABLES

Table I *Summary of Water Quality Monitoring Exceedances in Reporting Month*

Table II *Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Month*

Table 2.1 *Schedule 2 Designated Projects under this Project*

Table 2.2 *Details of Individual Contracts under the Project*

Table 2.3 *Contact Details of Key Personnel*

Table 3.1 *Summary of the current status on licences and/or permits on environmental protection pertinent to the Project*

Table 3.4 *Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/01*

Table 3.5 *Summary of submission status under FEP-02/356/2009 Condition*

Table 3.6 *Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/02*

Table 3.7 *Summary of submission status under FEP-03/356/2009 Condition*

Table 3.8 *Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/15*

Table 3.9 *Summary of submission status under FEP-04/356/2009 Condition*

Table 3.10 *Cumulative Summary of Valid Licences and Permits under Contract no. HK/2010/06*

Table 3.11 *Summary of submission status under EP-356/2009 and FEP-05/356/2009 Condition*

Table 3.12 *Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/19*

Table 4.1 *Noise Monitoring Station*

Table 4.2 *Real Time Noise Monitoring Station*

Table 4.3 *Air Monitoring Station*

Table 4.4 *Marine Water Quality Stations for Water Quality Monitoring*

Table 4.5 *Marine Water Quality Monitoring Frequency and Parameters*

Table 4.6 *Marine Water Quality Stations for Enhanced Water Quality Monitoring*

Table 4.7 *Marine Water Quality Stations for Additional DO Monitoring*

Table 5.2 *Noise Monitoring Station for Contract nos. HK/2009/01, HK/2009/02 and HK/2010/06*

Table 5.3 *Noise Monitoring Station for Contract no. HY/2009/15*

Table 5.4 *Noise Monitoring Station for Contract no. HY/2009/19*

Table 5.5 *Real Time Noise Monitoring Station for Contract no. HY/2009/19*

Table 5.8 *Air Monitoring Station for Contract no. HK/2009/02*

Table 5.9 *Air Monitoring Station for Contract no. HY/2009/15*

Table 5.10 *Air Monitoring Stations for Contract no. HY/2009/19*

Table 5.12 *Water Monitoring Stations for Contract no. HK/2009/01*

Table 5.13 *Water Monitoring Stations for Contract no. HK/2009/02*

Table 5.14 *Water Monitoring Stations for Contract no. HK/2010/06*

Table 5.15 *Water Monitoring Stations for Contract no. HY/2009/15*

Table 5.16 *Water Monitoring Stations for Contract no. HY/2009/19*

Table 5.17 *Summary of Water Quality Monitoring Exceedances in Reporting Month*

Table 5.18 *Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Month*

Table 5.19 *Details of Waste Disposal for Contract no. HK/2009/01*

Table 5.20 *Details of Waste Disposal for Contract no. HK/2009/02*

Table 5.21 *Details of Waste Disposal for Contract no. HY/2009/15*

Table 5.22 *Details of Waste Disposal for Contract no. HK/2010/06*

Table 5.23 *Details of Waste Disposal for Contract no. HY/2009/19*

Table 8.1 *Summary of Environmental Inspections for Contract no. HK/2009/01*

Table 8.2 *Summary of Environmental Inspections for Contract no. HK/2009/02*

Table 8.3 *Summary of Environmental Inspections for Contract no. HY/2009/15*

Table 8.4 *Summary of Environmental Inspections for Contract no. HK/2010/06*

Table 8.5 *Summary of Environmental Inspections for Contract no. HY/2009/19*

Table 9.1 *Cumulative Statistics on Complaints*

Table 9.2 *Cumulative Statistics on Successful Prosecutions*

Table 10.1 Construction Activities and Recommended Mitigation Measures in Coming Reporting Month

LIST OF FIGURES

- Figure 2.1 Project Layout**
- Figure 2.2 Project Organization Chart**
- Figure 2.3 Locations of Environmental Monitoring Stations**

LIST OF APPENDICES

- Appendix 3.1 Environmental Mitigation Implementation Schedule**
- Appendix 4.1 Action and Limit Level**
- Appendix 4.2 Copies of Calibration Certificates**
- Appendix 5.1 Monitoring Schedule for Reporting Month and Coming month**
- Appendix 5.2 Noise Monitoring Results and Graphical Presentations**
- Appendix 5.3 Air Quality Monitoring Results and Graphical Presentations**
- Appendix 5.4 Water Quality Monitoring Results and Graphical Presentations**
- Appendix 5.4a Additional Dissolved Oxygen Monitoring Results**
- Appendix 5.5 Real-time Noise Monitoring Results and Graphical Presentations**
- Appendix 6.1 Event Action Plans**
- Appendix 6.2 Summary for Notification of Exceedance**
- Appendix 7.1 Complaint Log**
- Appendix 8.1 Construction Programme of Individual Contracts**

EXECUTIVE SUMMARY

- i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report –April 2013 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-02/356/2009, FEP-03/356/2009, FEP-04/356/2009, FEP-05/356/2009 and FEP-06/356/2009. This report presents the environmental monitoring findings and information recorded during the period March 2013 to April 2013. The cut-off date of reporting is at 27th of each reporting month.

Construction Activities for the Reported Period

- ii. During this reporting period, the major work activities for Contract no. HK/2009/01 included:
Marine Works (at Wan Chai)
 - Rockfilling at the northern part of HKCEC3E (East of HKCEC) between CH290 and CH385.
 - Installation of shoring for temporary open channel between CH290 and CH385.
 - Construction of mass concrete coping for new seawall.
 - Installation of ELS for construction of proposed box culvert Bay 8 and Bay 9.

Cross-Harbour Watermains Installation (CHA & CHB) and Marine Works (at TST)

- Grade 75 Rockfilling and rock protection to cross-harbour watermains.
- Installation of interim connecting pipe between existing main and the proposed pipeline at Salisbury Garden.
- CCTV inspection for cross-harbour water main (including CHA, CHB, CHE & CHF) .
- Installation of interim connecting pipe between existing main and the proposed pipeline at Lung King Street.
- Installation of interim connecting pipe between land main and submarine pipeline at Zone B1-5A.
- Flushing and sterilization for cross harbour watermains (whole length).
- Pre-handover and final handover by WSD .
- HEC and PCCW cabling works in Zone A1-1 which connected to the proposed transformer rectifier at new reclaimed area.

Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)

- Mainlaying works at Zone B6-1B, B6-2A, B6-4, B6-5B, A2-3A, A1-5C, A3-3C, C1-2 and X2-1.
- Washout pit construction in Zone A2-3A and A3-2B and Reinstatement works in Zone A3-2B.
- TTA at Zone A1-5C at Convention Avenue. Salt water main laying works was carried out in combined TTA Zone of A2-3A and A1-5C.
- Mainlaying works at Zone C1-2 and X2-1.

- Mainlaying works in Zone B6-4 and B6-5B.
- Mainlaying works in Zone B6-1B and B6-2A.
- Connection works for 2nd Intake pipe of Convention Plaza (CP).
- Trench excavation in Zone X2-1 of Convention Avenue and mainlaying works.

Tunnel Works

- Pre-drilling works for CWB (Stage 2).
- Diaphragm wall construction works at Stage 2 (North). The remaining Diaphragm wall would be carried out after mobilization of Trench Cutter on site.
- Temporary bulkhead wall construction works between Stage1 / Stage2.
- Trench cutter was mobilized to Site.
- Pre-bored H piling works for CWB (Stage1b).
- 2nd Piling rig for pre-bored H piling works under atrium was mobilized to Site.

E & M

- Full commissioning test for Cooling Water Pumping Station P3.
- Handover inspection for Cooling Water Pumping Station P1.
- Handover inspection for Cooling Water Pumping Station P4.
- Full commissioning test for Cooling Water Pumping Station P5.

Application of Epoxy Lining to Existing Box Culvert M (VO No.31)

- Epoxy lining application to the eastern box of the existing Box Culvert M.
- Epoxy lining application to the western box of the existing Box Culvert M.

- iii. During this reporting period, the major work activities for Contract no. HK/2009/02 included:
- Modification work of PTI at Expo Drive East.
 - Modification of existing covered walkway along Expo Drive East.
 - Pressure tests for both intake main of GE/HC and SHK in the whole WCR1 area.
 - Remedial works for P7, P8. Mini pile foundation to support the rectified pipeworks.
 - Major E&M works and their T&C in Cooling Water Pumping Stations P7, P8 and P9.
 - Footpath reinstatement for the trenches near Harbour Centre.
 - Dry tests at WSD Salt Water Pumping Station. Wet test after completion of the proposed intake culvert.
 - Drilling hole and installation of pipe bracket for aeration and chlorination pipe inside salt water intake culvert between Bay 4 and Bay 11 (except Bay 7) .
 - Installation of stoplog at Bay 2A of the proposed intake culvert.
 - Remedial works for concrete plug at Bay 1B.
 - Mainlaying works for DN800 salt water mains (CHS8A) at Ex-Pet Garden. Bend block at CH175 - CH195 and backfilling work.
 - Backfilling works of Bay19B at the junction between Wan Shing Street and Hung

Hing Street.

- The ABWF works in WSD Salt Water Pumping Station, including maintenance platform and external finishes.
 - The whole sewage outfall system under Section VI was handed over to DSD.
 - Backfilling for the receiving pit adjacent to WCE PTW at Hung Hing Road.
 - Re-construction for the DSD Pumping Station boundary wall at Hung Hing Road.
 - The manhole for 1050 dia. concrete pipe between Bay 1 and the existing drainage.
 - Installation of concrete block and plastering works wall for toilet over PT2 & PT3 at Level 1 (+4.15mPD).
 - Concreting of base slab and stem wall for PT4 & PT5 at Level 1 (+4.15mPD) and top-slab.
 - Installation of Steel frame on Observation Deck.
 - Formwork erection for the late cast roof slab.
 - Concreting of western concrete staircase to Level 2; and its construction to Observation Deck Level.
 - Concreting of base slab and stem wall for PT1 at Level 1 (+4.15mPD).
 - Concreting of Feature Tower on Observation Deck.
 - Installation of bracket and railing for the proposed movable ramp system.
 - Planter wall and parapet wall construction at Level 2 and Observation Deck.
 - ABWF including brickworks and E&M cable tray at 1/F, 2/F and M/F.
 - Dredging of TWCR4 dredging works.
- iv. During this reporting period, the major work activities for Contract no. HY/2009/15 included:
- Removal of eastern breakwater of CBTS
 - Installation of temporary wave protection barrier at eastern breakwater
- v. During this reporting period, the major work activities for Contract no. HK/2010/06 included:
- Sheet Piling Works
 - Utility Diversion Works
 - Road surfacing preparatory works
 - Precast Unit Box Installation Preparation Works (mainland China)
- vi. During this reporting period, the major work activities for Contract no. HY/2009/19 included:
- Bored piling (Land)
 - D-wall and Barrette Construction
 - Construction works for Box Culvert T1
 - Construction of socket-H pile
 - Construction works for Culvert U1
 - Dismantling of marine platform
 - Demolition of parapet at IEC Link

- Construction of Pile caps & columns (Marine)
 - Construction of dewatering well for Cut & Cover Tunnel
 - D8-D9 Gantry Fabrication for precast segment
 - ELS for Cut & Cover Tunnel
 - Laying of 1500 ϕ pipe
- vii. During this reporting period, the major work activities for Contract no. HK/2012/08 included:
- Site preparation works
 - Site survey

Noise Monitoring

- viii. Noise monitoring during daytime and restricted hour were conducted at the stations M1a, M2b, M3a, M4b, M5b and M6 on a weekly basis in the reporting month.
- ix. No action and 4 limit level exceedances at M6 – HK Baptist Church Henrietta Secondary School were recorded on 3, 12, 16 and 23 April 2013 in this reporting month. Exceedances on 3, 16 and 23 April 2013 were concluded as non-project related and exceedance on 12 April 2013 was concluded as Project related.
- x. Due to adverse weather condition, the noise monitoring at the following stations were rescheduled:
- M3a: from 11 April 2013 to 12 April 2013
M4b: from 11 April 2013 to 12 April 2013
M5b: from 2 April 2013 to 3 April 2013 and from 11 April 2013 and 12 April 2013
M6: from 2 April 2013 to 3 April 2013 and from 11 April 2013 and 12 April 2013

Real-time Noise Monitoring

- xi. As the land-based piling and filling works- DP3 at Tin Hau had been completed on 3 September 2012 and confirmed by RSS, the real-time noise monitoring results at FEHD Hong Kong Transport Section Whitfield Depot was excluded under EP-356/2009 since 28 November 2012.
- xii. The real-time noise monitoring at RTN2-Oil Street Community Liaison Centre has been relocated to City Garden Electric Centre (RTN2a- Electric Centre) on 5 Oct 2012, which is a representative of noise sensitive receiver- City Garden. The baseline noise level of RTN2a will adopt the results derived from the baseline noise monitoring conducted in Electric Centre from 4 December 2009 to 17 December 2009.
- xiii. 24-hour real time noise monitoring was conducted at RTN2a – Hong Kong Electric Centre. No project related exceedance was recorded in the reporting month.

Air Quality Monitoring

- xiv. Due to extension of site boundary by contractor of HY/2009/19, location of air monitoring station CMA1b – Oil Street Community Liaison Centre has been finely adjusted on 21 April 2012.

- xv. The location ID of air monitoring station CMA1b was updated as Oil Street Site Office in the reporting month.
- xvi. Due to lack of electricity supply, the 24-hr TSP monitoring at the following stations were Rescheduled,
CMA1b: from 19 Apr 2013 to 20 Apr 2013
CMA3a: from 8 Apr 2013 to 9 Apr 2013 and from 25 Apr 2013 to 26 Apr 2013
- xvii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring were conducted at CMA1b – Oil Street Site Office; CMA2a - Causeway Bay Community Center; CMA3a - CWB PRE Site Office Area; CMA4a – Society for the Prevention of Cruelty to Animals; CMA5a - Children Garden opposite to Pedestrian Plaza; MA1e and MA1w – International Finance Centre eastern and western wing on every six days basis.
- xviii. 2 action level and no limit level exceedances were recorded during 1hr-TSP monitoring on 15 April 2013 at CMA1b – Oil Street Site Office in this reporting month. The exceedances were concluded as non-project related.
- xix. 2 action level and no limit level exceedances were recorded during 1hr-TSP monitoring on 15 April 2013 at CMA3a – CWB PRE Site Office in this reporting month. The exceedances were concluded as non-project related.
- xx. 1 action level and no limit level exceedances were recorded during 1hr-TSP monitoring on 15 April 2013 at CMA6a – WD2 PRE Office in this reporting month. The exceedances were concluded as non-project related.

Water Quality Monitoring

- xxi. As confirmed by CWB RSS, the marine pilling works under contract HY/2009/19 was confirmed completed by 4 March 2013. The water quality monitoring at the respective monitoring stations C8 and C9 were temporarily suspended since 30 March 2013.
- xxii. With respect to status of cooling intakes relocation, WQM events on 22 April 2013 at monitoring stations C2, C3, C4e and C4w were temporarily suspended to confirm the commissioning status of the relocated pump stations with the WDII RSS and the IEC for preparation of relocation of the WQM stations to the relocated cooling intake pump stations
- xxiii. Upon confirmation with WDII RSS and the IEC, water quality monitoring at relocated intakes monitoring location P1, P3, P4 and P5 were commenced since 24 April 2013.
- xxiv. WDII/RSS advised that the dredging works for submarine pipeline at Victoria Harbour had been completed in January 2012. Therefore, the concurrent dredging activities at Sewage Pipeline Zone and reclamation shoreline zone TCBR under the EP-356/2009 scenario 2B no longer exist. As such, with reference to Table 5.39 of the EIA Report for Wan Chai Development Phase II and Central-Wan Chai Bypass, the application of silt screen for cooling water intakes for Queensway Government Offices was suspended and the others were remains unchanged.
- xxv. Based on the joint inspection on 4 Jan 2012 for the NPR area, the 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8, C9 to confirm no water deterioration with respect to NPR was commenced since 7 Jan 2012 and was completed on 6 Feb 2012 water quality monitoring.

- xxvi. Water quality monitoring at WSD10 and WSD15 will be temporary suspended while water quality monitoring at WSD9 and WSD17 was implemented with respect to HK/2009/02 from 8 Feb 12 onwards;
- xxvii. Water quality monitoring at C8 and C9 have been implemented with respect to HY/2009/19 since the marine bore piling work started on 28 Jan 12.
- xxviii. Due to the marine piling under Contract no. HY/2009/19 was completed on 4 March 2013, the temporary suspension of impact water quality monitoring at C8 and C9 from 4 March 2013 have been monitored for 4-week period after the completion of marine works to confirm no water deterioration.
- xxix. Based on the safety concern when external façade refurbishment was conducted by contractor employed by Provident Centre (C9) between 9 January 2012 to 30 July 2012 which caused to the inaccessibility of sampling either land and marine since 3 Feb 2012, there is a fine adjustment of the sampling location of water quality monitoring at C9 since 10 March 2012 to the closest accessible point prior to the completion of the external façade refurbishment work.
- xxx. Due to the access of water monitoring station at WSD19 was blocked by LCSD construction works from 3 April 2012 to 2 May 2012 and lead to the inaccessibility of sampling either land and marine, there is a fine adjustment of the sampling point of WSD 19 since 5 April 2012 to the closest accessible point prior to the completion of the construction activities.
- xxxi. Due to the dredging works for Cross Harbour Water Mains from Wan Chai to Tsim Sha Tsui-DP6 was completed on 26 March 2012, the temporary suspension of impact water quality monitoring at WSD7 and WSD20 after 27 April 2012 for the water quality monitoring at WSD7 and WSD20 have been monitored for 4-week period after the completion of DP6 to confirm no water deterioration.
- xxxii. Water quality monitoring at 14 monitoring stations was conducted three days per week during the reporting period. The action and limit level exceedances of water quality monitoring are summarized in **Table I**.

Table I Summary of Water Quality Monitoring Exceedances in Reporting Month

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		
HK/2009/01	WSD19	0	0	0	0	0	0	0	0	0	0	1	3	1	2
	C1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	C3	0	5	0	0	0	0	0	5	0	0	0	0	0	0
	C4e	0	5	0	0	1	0	0	4	0	1	0	0	0	0
	C4w	1	3	0	0	1	0	1	4	0	0	0	0	0	0
	P1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	P3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	P4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	P5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monitoring finished on 27 April 2012	WSD20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	WSD7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/01 & HK/2010/06	C2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/02 Monitoring started on 8 Feb 2012	C5e	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	C5w	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	WSD21	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	WSD9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	WSD17	0	0	0	0	1	0	0	0	0	0	0	0	0	0
HY/2009/15	C7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HY/2009/19 Monitoring started on 28 Jan 2012	C8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	C9	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Total		1	13	1	0	5	0	1	13	1	4	1	2		

- Remarks: - The cessation of seawater intake operation for C6 was confirmed on 17 May 2011, the water monitoring at C6 was then terminated since 17 May 2011.
- WSD9 and WSD17 were implemented with respect to HK/2009/02 from 8 Feb 2012.
 - 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8 and C9 were completed on 6 Feb 2012.
 - C8 and C9 were implemented with respect to HY/2009/19 from 28 Jan 2012.
 - C8 & C9 was temporary suspended on 30 March 2013 due to the marine works for Contract no. HY/2009/19 had been completed on 4 March 2013
 - WSD7 and WSD20 water quality monitoring were temporarily suspended from 27 Apr 2012.

- xxxiii. Investigation revealed that exceedances from 8 to 12 April 2013 at C3, C4e and C4w were project-related exceedances. All the other remaining exceedances were concluded as non-project-related. The details of the recorded exceedances can be referred to the Section 6.4.
- xxxiv. Enhanced DO monitoring at 4 monitoring stations in Causeway Bay Typhoon Shelter and Ex-Public Cargo Works Area was conducted three days per week during the reporting period. The action and limit level exceedances of water quality monitoring are summarized in **Table II**.

Table II Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Month

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
HY/2009/15	C6	0	0	0	0
	C7	0	0	0	0
	Ex-WPCWA SW	0	0	1	1
	Ex-WPCWA SE	0	0	2	0
Total		0	0	3	1

- xxxv. There were 3 action level exceedances and 1 limit level exceedances of enhanced dissolved oxygen recorded in this reporting month. Investigation found that the exceedances are not related to the Project works. The details of the recorded exceedances can be referred to the Section 6.4.
- xxxvi. In response to the Condition 2.18 of the Environmental Permit no. EP-356/2009 requiring that a silt curtain / impermeable barrier system be installed to channel water discharge flow from Culvert L to locations outside the embayment area, a proposed replacement of the requirement with additional dissolved oxygen monitoring has been conducted at three monitoring stations, namely A, B and C between the eastern seawall of Central Reclamation Phase III and the HKCEC Extension since November 2011 under EP-356/2009 so that DO level between the eastern seawall of Central Reclamation Phase II and the HKCEC extension could be continuously monitored.

Complaints, Notifications of Summons and Successful Prosecutions

- xxxvii. There was no environmental complaint received in this reporting month.

Site Inspections and Audit

- xxxviii. The Environmental Team (ET) conducted weekly site inspections for Contract nos. HK/2009/01, HK/2009/02, HY/2009/15 HK/2010/06, HY/2009/19 and HK/2012/08 under EP no. EP-356/2009 in the reporting month. Major observations and recommendations made during the audit sessions were rectified by the Contractors. No non-conformance was identified during the site inspections.

Future Key Issues

- xxxix. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

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

Marine Works

- Filling works up to +4.0mPD.

- Steel bridge construction over temporary open channel between CH220 and CH260.
- Construction of mass concrete coping for new seawall.
- Installation of ELS for construction of proposed box culvert Bay 8 and Bay 9.
Subsequent Box Culvert construction for Bay 8 & 9.
- Backfilling to temporary water channel for subsequent demolition of promenade deck and pumping station at HKCEC Water Channel.
- Connection works of Pipeline D to exiting mains at Wan Chai.
- Connection works of Pipeline C to exiting mains at Wan Chai.

Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)

- Works at Zone B6-1B, B6-2A, B6-4, B6-5B, A2-3A, A1-5C, A3-3C, C1-2 and X2-1.
- Mainlaying works at Zone A2-3A and A1-5C.
- Mainlaying works in Zone C1-2.
- Mainlaying works for proposed sewerage system in Zone B6-1B, B6-2A, B6-4.
- Mainlaying works at Zone X2-1.
-

Tunnel Works

- Installation of pre-bored H-pile in CWB Stage 1B under the atrium link (from Ch80 to Ch220).
- Installation of pre-bored H-pile in CWB Stage 1B under the atrium link (from Ch120 to Ch220).
- 3rd Piling rig for pre-bored H piling works under atrium would be mobilized to Site.
- CWB diaphragm wall construction under the atrium lin.
- Construction of bulkhead Wall at Ch120.
- Pre-drilling works for CWB (Stage 3).
- Demolition of the promenade deck and pumping stations at HKCEC Water Channel.

E&M Works

- Full commissioning for Cooling Water Pumping Station P5.
- Handover inspection for Cooling Water Pumping Station P3.
- Handover inspection for Cooling Water Pumping Station P5.

Application of Epoxy Lining to Existing Box Culvert M (VO No.31)

- Epoxy lining application to the western box of the existing Box Culvert M.

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

- Footpath reinstatement works of cooling mains near Harbour Centre / Great Eagle

Centre.

- Remedial works and subsequent T&C for CRB intake pipes within WCR1 area.
Notification to stakeholder for switching over for the proposed cooling water intake system.
- Construction of pile caps for rectifying the subsided intake pipes for both GE/HC and SHK.
- Remaining DN800 salt watermins (CHS8A) installation and backfilling works inside Ex-pet Garden.
- Construction of remedial works for the concrete plug at Bay 1B and the subsequent construction of Bay 1B and Bay 2B Intake Culvert.
- All mainlaying works and prepare for connection with the existing DN600 salt watermains at Hung Hing Road.
- Leakage test for the installed stoplog at Bay 2A of Intake Culvert
- Synthetic woods and façade works for the external wall of WSD Salt Water Pumping Station.
- Backfilling to Bay 6 to Bay 11 of Intake Culvert.
- PLC & SCADA functional and performance tests after completion of training to WSD staff.
- Reinstatement works of DSD receiving pit at Hung Hing Road.
- Construction of Bay 4 & Bay 5 of the proposed Box Culvert N1.
- ABWF in Ferry Pier.
- Installation of moveable ramp system included the commencement of ramp installation
- Civil works above the caisson seawall 2X including staircase ST-1 and the plant room underneath the western staircase.
- Late cast portion for Roof RC Superstructure above the machine room in Level M.
- Lift installation at Ferry Pier.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- Removal of eastern breakwater of CBTS
- Installation of temporary wave protection barrier at eastern breakwater
- Temporary works for EVA

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central – Wan Chai Bypass over MTR Tsuen Wan Line

- Sheet Piling Works
- Utility Diversion Works



- Road surfacing works
- Precast Unit Box Installation Preparation Works (mainland China)

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- Bored piling (Land)
- D-wall and Barrette Construction
- Construction works for Box Culvert T1
- Construction works for Culvert U1
- Construction of Pile cap (Land)
- Demolition of parapet at IEC Link
- Construction of dewatering well for Cut & Cover Tunnel
- Construction of pile cap, column & cross head (Marine)
- D8-D9 Gantry Fabrication for precast segment
- ELS for Cut & Cover Tunnel
- Laying of 1500 ϕ pipe

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

- Hoarding erection
- Marine GI

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-02/356/2009, FEP-03/356/2009, FEP-04/356/2009, FEP-05/356/2009 and FEP-06/356/2009 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 10.3 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 for Environmental Permit no. EP-356/2009, Further Environmental Permit no. FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009 and FEP-05/356/2009 and during the period of March 2013 to April 2013. The cut-off date of reporting is at 27th of each reporting month.

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** **Status of Regulatory Compliance** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.
- Section 4** **Monitoring Requirements** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.
- Section 5** **Monitoring Results** – summarizes the monitoring results obtained in the reporting period.
- Section 6** **Compliance Audit** – summarizes the auditing of monitoring results, all exceedances environmental parameters.
- 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** ***Site Inspection*** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.
- Section 9** ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution
- Section 10** ***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. The details of individual contracts are summarized in **Table 2.2**.

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	25 August 2011
HK/2009/02	Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East	DP3, DP5	5 July 2010
		DP1	26 April 2011
HY/2009/11	Wan Chai Development Phase II and Central – Wan Chai Bypass – North Point Reclamation	DP3	17 March 2010
HY/2009/15	Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)	DP3	10 November 2010
		DP1	13 July 2011
HK/2010/06	Wan Chai Development Phase II-Central-Wan Chai Bypass over MTR Tsuen Wan Line	DP3	22 March 2011
04/HY/2006	Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street	DP1	September 2010
HY/2009/17	Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works.	DP1	5 October 2010
HY/2009/18	Central - Wan Chai Bypass (CWB) – Central Interchange	DP1	21 April 2011
HY/2009/19	Central - Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link	DP1	24 March 2011
HK/2012/08	Wan Chai Development Phase IICentral-Wan Chai Bypass at Wan Chai West	DP1,DP2, DP3	March 2013

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's Representative for WDII	Principal Resident Engineer	Mr. Frankie Fan	2587 1778	2587 1877



Party	Role	Post	Name	Contact No.	Contact Fax
	Engineer's Representative for CWB	Principal Resident Engineer	Mr. Peter Poon	3912 3388	3912 3010
Chun Wo – Leader Joint Venture	Contractor under Contract no. HK/2009/01	Joint Venture Board Representative	Mr. PL Yue	2162 9909	2587 1878
		Site Agent	Mr. Paul Yu	9456 9819	
		Deputy Site Agent	Mr Andy Yu	9648 4896	
		Construction Manager	Mr Terry Wong	9757 9846	
		Construction Manager	Mr. Wyman Wong	9627 2467	
		Construction Manager	Mr. Jack Chu	9775 3008	
		Environmental Officer (Compliance Manager)	Mr. Andy Mak	9103 2370	
		Environmental Supervisor	Kwong Weng Kit	6253 3356	
Chun Wo – CRGL Joint Venture	Contractor under Contract no. HK/2009/02	Deputy Project Manager	Mr. Chan Sing Cho	3658 3002	2827 9996
		Quality & Environmental Manager	Mr. C.P. Ho	9191 8856	
China State Construction Engineering (HK) Ltd.	Contractor under Contract no. HY/2009/15	Project Director	Chan Wai Hung	2823 7813	2865 5229
		Site Manager	J H Chen	3557 6368	
		Contractor's Representative	Andrew Wong	3557 6358	
		Head of Construction Manager	Roger Cheung	3557 6371	
		Senior Construction Manager	Gene Cheung	3557 6395	
		Environmental Officer	Mr. Daniel Sin	3557 6347	
Gammon -Leader JV	Contractor under Contract no. HK/2010/06	Project Manager	Mr. Paul Lui	9095 7922	2529 2880
		Site Agent	Mr. Keith Tse	2529 2068	
		Environmental Officer	Clement Pang	9735 9200	
		Environmental Supervisor	Jacky Cheung	9779 2292	

Party	Role	Post	Name	Contact No.	Contact Fax
Chun Wo - CRGL - MBEC Joint Venture	Contractor under Contract no. HY/2009/19	Project Manager	Mr. Rayland Lee	3758 8879	
		Site Agent	Paul Yu	9456 9819	
		Environmental Engineer	Mr. Calvin Leung	9286 9208	
		Environmental Manager / Environmental Officer	Mr. M.H. Isa	9884 0810	
		Construction Manager (Marine)	William Luk	9610 1101	
		Construction Manager (Land)	Patrick Cheung	9643 3012	
		Construction Manager (Land)	Eric Fong	6191 9337	
		Operation Manager (Land)	Yung Kwok Wah	9834 1010	
China State-Leader JV	Contractor under Contract no. HK/2012/08	Project Director	Andrew TSE	9137 1811	2877 1522
		Project Manager	Victor WU	9193 8871	
		Deputy Project Manager	George CHEUNG	9268 1918	
		Site Agent	Paul LUI	9095 7922	
		Environmental Officer	James MA	9130 9549	
		Environmental Supervisor	Ching Man, CHAN	6050 4919	
ENVIRON Hong Kong Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. David Yeung	3465 2888	3465 2899
Lam Geotechnics Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939	2882 3331

2.4.3. For Contract no. HK/2009/01, the principal work activities in this reporting month included:

Marine Works (at Wan Chai)

- Rockfilling at the northern part of HKCEC3E (East of HKCEC) between CH290 and CH385.
- Installation of shoring for temporary open channel between CH290 and CH385.
- Construction of mass concrete coping for new seawall.
- Installation of ELS for construction of proposed box culvert Bay 8 and Bay 9.

Cross-Harbour Watermains Installation (CHA & CHB) and Marine Works (at TST)

- Grade 75 Rockfilling and rock protection to cross-harbour watermains.
- Installation of interim connecting pipe between existing main and the proposed pipeline at Salisbury Garden.
- CCTV inspection for cross-harbour water main (including CHA, CHB, CHE & CHF) .
- Installation of interim connecting pipe between existing main and the proposed pipeline at Lung King Street.
- Installation of interim connecting pipe between land main and submarine pipeline at Zone B1-5A.
- Flushing and sterilization for cross harbour watermains (whole length).
- Pre-handover and final handover by WSD .
- HEC and PCCW cabling works in Zone A1-1 which connected to the proposed transformer rectifier at new reclaimed area.

Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)

- Mainlaying works at Zone B6-1B, B6-2A, B6-4, B6-5B, A2-3A, A1-5C, A3-3C, C1-2 and X2-1.
- Washout pit construction in Zone A2-3A and A3-2B and Reinstatement works in Zone A3-2B.
- TTA at Zone A1-5C at Convention Avenue. Salt water main laying works was carried out in combined TTA Zone of A2-3A and A1-5C.
- Mainlaying works at Zone C1-2 and X2-1.
- Mainlaying works in Zone B6-4 and B6-5B.
- Mainlaying works in Zone B6-1B and B6-2A.
- Connection works for 2nd Intake pipe of Convention Plaza (CP).
- Trench excavation in Zone X2-1 of Convention Avenue and mainlaying works.

Tunnel Works

- Pre-drilling works for CWB (Stage 2).
- Diaphragm wall construction works at Stage 2 (North). The remaining Diaphragm wall would be carried out after mobilization of Trench Cutter on site.
- Temporary bulkhead wall construction works between Stage1 / Stage2.
- Trench cutter was mobilized to Site.
- Pre-bored H piling works for CWB (Stage1b).
- 2nd Piling rig for pre-bored H piling works under atrium was mobilized to Site.

E & M

- Full commissioning test for Cooling Water Pumping Station P3.
- Handover inspection for Cooling Water Pumping Station P1.
- Handover inspection for Cooling Water Pumping Station P4.
- Full commissioning test for Cooling Water Pumping Station P5.

Application of Epoxy Lining to Existing Box Culvert M (VO No.31)

- Epoxy lining application to the eastern box of the existing Box Culvert M.
- Epoxy lining application to the western box of the existing Box Culvert M.

2.4.4. For Contract no. HK/2009/02, the principal work activities in this reporting month included:

- Modification work of PTI at Expo Drive East.
- Modification of existing covered walkway along Expo Drive East.
- Pressure tests for both intake main of GE/HC and SHK in the whole WCR1 area.
- Remedial works for P7, P8. Mini pile foundation to support the rectified pipeworks.
- Major E&M works and their T&C in Cooling Water Pumping Stations P7, P8 and P9.
- Footpath reinstatement for the trenches near Harbour Centre.
- Dry tests at WSD Salt Water Pumping Station. Wet test after completion of the proposed intake culvert.
- Drilling hole and installation of pipe bracket for aeration and chlorination pipe inside salt water intake culvert between Bay 4 and Bay 11 (except Bay 7) .
- Installation of stoplog at Bay 2A of the proposed intake culvert.
- Remedial works for concrete plug at Bay 1B.
- Mainlaying works for DN800 salt water mains (CHS8A) at Ex-Pet Garden. Bend block at CH175 - CH195 and backfilling work.
- Backfilling works of Bay19B at the junction between Wan Shing Street and Hung Hing Street.
- The ABWF works in WSD Salt Water Pumping Station, including maintenance platform and external finishes.
- The whole sewage outfall system under Section VI was handed over to DSD.
- Backfilling for the receiving pit adjacent to WCE PTW at Hung Hing Road.
- Re-construction for the DSD Pumping Station boundary wall at Hung Hing Road.
- The manhole for 1050 dia. concrete pipe between Bay 1 and the existing drainage.
- Installation of concrete block and plastering works wall for toilet over PT2 & PT3 at Level 1 (+4.15mPD).
- Concreting of base slab and stem wall for PT4 & PT5 at Level 1 (+4.15mPD) and top-slab.
- Installation of Steel frame on Observation Deck.
- Formwork erection for the late cast roof slab.
- Concreting of western concrete staircase to Level 2; and its construction to Observation Deck Level.
- Concreting of base slab and stem wall for PT1 at Level 1 (+4.15mPD).
- Concreting of Feature Tower on Observation Deck.
- Installation of bracket and railing for the proposed movable ramp system.

- Planter wall and parapet wall construction at Level 2 and Observation Deck.
- ABWF including brickworks and E&M cable tray at 1/F, 2/F and M/F.
- Dredging of TWCR4 dredging works.

2.4.5. For Contract no. HY/2009/15, the principal work activities in this reporting month included:

- Removal of eastern breakwater of CBTS
- Installation of temporary wave protection barrier at eastern breakwater

2.4.6. For Contract no. HK/2010/06, the principal work activities in this reporting month included:

- Sheet Piling Works
- Utility Diversion Works
- Road surfacing preparatory works
- Precast Unit Box Installation Preparation Works (mainland China)

2.4.7. For Contract no. HY/2009/19, the principal work activity in this reporting month included:

- Bored piling (Land)
- D-wall and Barrette Construction
- Construction works for Box Culvert T1
- Construction of socket-H pile
- Construction works for Culvert U1
- Dismantling of marine platform
- Demolition of parapet at IEC Link
- Construction of Pile caps & columns (Marine)
- Construction of dewatering well for Cut & Cover Tunnel
- D8-D9 Gantry Fabrication for precast segment
- ELS for Cut & Cover Tunnel
- Laying of 1500 ϕ pipe

2.4.8. For Contract no. HK/2012/08, the principal work activity in this reporting month included:

- Hoarding erection
- Marine GI

2.4.9. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

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

Marine Works

- Filling works up to +4.0mPD.
- Steel bridge construction over temporary open channel between CH220 and CH260.
- Construction of mass concrete coping for new seawall.
- Installation of ELS for construction of proposed box culvert Bay 8 and Bay 9.
Subsequent Box Culvert construction for Bay 8 & 9.
- Backfilling to temporary water channel for subsequent demolition of promenade deck and pumping station at HKCEC Water Channel.
- Connection works of Pipeline D to exiting mains at Wan Chai.
- Connection works of Pipeline C to exiting mains at Wan Chai.

Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)

- Works at Zone B6-1B, B6-2A, B6-4, B6-5B, A2-3A, A1-5C, A3-3C, C1-2 and X2-1.
- Mainlaying works at Zone A2-3A and A1-5C.
- Mainlaying works in Zone C1-2.
- Mainlaying works for proposed sewerage system in Zone B6-1B, B6-2A, B6-4.
- Mainlaying works at Zone X2-1.
-

Tunnel Works

- Installation of pre-bored H-pile in CWB Stage 1B under the atrium link (from Ch80 to Ch220).
- Installation of pre-bored H-pile in CWB Stage 1B under the atrium link (from Ch120 to Ch220).
- 3rd Piling rig for pre-bored H piling works under atrium would be mobilized to Site.
- CWB diaphragm wall construction under the atrium lin.
- Construction of bulkhead Wall at Ch120.
- Pre-drilling works for CWB (Stage 3).
- Demolition of the promenade deck and pumping stations at HKCEC Water Channel.

E&M Works

- Full commissioning for Cooling Water Pumping Station P5.
- Handover inspection for Cooling Water Pumping Station P3.
- Handover inspection for Cooling Water Pumping Station P5.

Application of Epoxy Lining to Existing Box Culvert M (VO No.31)

- Epoxy lining application to the western box of the existing Box Culvert M.

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

- Footpath reinstatement works of cooling mains near Harbour Centre / Great Eagle Centre.
- Remedial works and subsequent T&C for CRB intake pipes within WCR1 area. Notification to stakeholder for switching over for the proposed cooling water intake system.
- Construction of pile caps for rectifying the subsided intake pipes for both GE/HC and SHK.
- Remaining DN800 salt watermins (CHS8A) installation and backfilling works inside Ex-pet Garden.
- Construction of remedial works for the concrete plug at Bay 1B and the subsequent construction of Bay 1B and Bay 2B Intake Culvert.
- All mainlaying works and prepare for connection with the existing DN600 salt watermins at Hung Hing Road.
- Leakage test for the installed stoplog at Bay 2A of Intake Culvert
- Synthetic woods and façade works for the external wall of WSD Salt Water Pumping Station.
- Backfilling to Bay 6 to Bay 11 of Intake Culvert.
- PLC & SCADA functional and performance tests after completion of training to WSD staff.
- Reinstatement works of DSD receiving pit at Hung Hing Road.
- Construction of Bay 4 & Bay 5 of the proposed Box Culvert N1.
- ABWF in Ferry Pier.
- Installation of moveable ramp system included the commencement of ramp installation
- Civil works above the caisson seawall 2X including staircase ST-1 and the plant room underneath the western staircase.
- Late cast portion for Roof RC Superstructure above the machine room in Level M.
- Lift installation at Ferry Pier.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- Removal of eastern breakwater of CBTS
- Installation of temporary wave protection barrier at eastern breakwater
- Temporary works for EVA

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central – Wan Chai Bypass over MTR Tsuen Wan Line

- Sheet Piling Works
- Utility Diversion Works
- Road surfacing works
- Precast Unit Box Installation Preparation Works (mainland China)

Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- Bored piling (Land)
- D-wall and Barrette Construction
- Construction works for Box Culvert T1
- Construction works for Culvert U1
- Construction of Pile cap (Land)
- Demolition of parapet at IEC Link
- Construction of dewatering well for Cut & Cover Tunnel
- Construction of pile cap, column & cross head (Marine)
- D8-D9 Gantry Fabrication for precast segment
- ELS for Cut & Cover Tunnel
- Laying of 1500 ϕ pipe

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

- Hoarding erection
- Marine GI

3. Status of Regulatory Compliance

3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in **Table 3.1**.

Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project

Permits and/or Licences	Reference No.	Issued Date	Status
Environmental Permit	EP-356/2009	30 Jul 2009	Valid
Environmental Permit	EP-364/2009/A	4 Aug 2010	Superseded
Environmental Permit	EP-364/2009/B	20 Sep 2012	Valid
Environmental Permit	EP-364/2009	17 Aug 2009	Superseded
Environmental Permit	EP-376/2009	13 Nov 2010	Valid
Further Environmental Permit	FEP-01/356/2009	18 Feb 2010	Surrendered
Further Environmental Permit	FEP-02/356/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-03/356/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-04/356/2009	15 Nov 2010	Valid
Further Environmental Permit	FEP-05/356/2009	24 Mar 2011	Valid
Further Environmental Permit	FEP-01/364/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-02/364/2009	21 Apr 2010	Valid
Further Environmental Permit	FEP-03/364/2009	12 Jul 2010	Surrendered
Further Environmental Permit	FEP-04/364/2009/A	14 Oct 2010	Surrendered
Further Environmental Permit	FEP-05/364/2009/A	15 Nov 2010	Valid
Further Environmental Permit	FEP-06/364/2009/A	22 Nov 2010	Valid
Further Environmental Permit	FEP-07/364/2009/A	25 Feb 2011	Valid
Further Environmental Permit	FEP-08/364/2009/A	15 Jun 2012	Valid
Further Environmental Permit	FEP-06/356/2009	5 Mar 2013	Valid
Further Environmental Permit	FEP-09/364/2009/B	5 Mar 2013	Valid

3.1.2. Due to the multi-contract nature of the Project, the status of permits and/or licences under the individual contract(s) are presented as below:

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

3.1.3. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2009/01 under FEP-02/356/2009 are shown in **Table 3.4** and **Table 3.5**.

Table 3.4 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/01

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-02/356/2009	24 Mar 2010	N/A	Valid
	FEP-02/364/2009	21 Apr 2010	N/A	Valid
Notification of Works Under APCO	313088	06 Jan 2010	N/A	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS-1293-12	10 Dec 2012	10 Dec 2012 to 9 June 2013	Valid
	GW-RS1011-12	26 Sep 2012	30 Sep 2012 to 29 Mar 2013	Cancelled
	GW-RS0166-13	14 Feb 2013	16 Feb 2013 to 13 Aug 2013	Valid
	GW-RS0274-13	19 Mar 2013	25 Mar 2013 to 24 Sept 2013	Valid
	GW-RS0310-13	25 Mar 2013	27 Mar 2013 to 25 Sept 2013	Valid
	GW-RE0274-13	26 Mar 2013	30 Mar 2013 to 29 Sept 2013	Valid
	GW-RE0793-12	21 Sep 2012	30 Sep 2012 to 29 Mar 2013	Expired
	GW-RS1040-12	10 Oct 2012	13 Oct 2012 to 12 Apr 2013	Expired
	GW-RS1177-12	15 Nov 2012	17 Nov 2012 to 10 May 2013	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
	GW-RS1184-12	15 Nov 2012	17 Nov 2012 to 8 May 2013	Replaced by GW-RS0166-13
	GW-RS1185-12	19 Nov 2012	21 Nov 2012 to 8 May 2013	Valid
	GW-RS1179-12	20 Nov 2012	22 Nov 2012 to 21 May 2013	Replaced by GW-RS0310-13
	GW-RS1187-12	20 Nov 2012	27 Nov 2012 to 26 May 2013	Valid
	GW-RS1199-12	20 Nov 2012	26 Nov 2012 to 25 May 2013	Replaced by GW-RS0368-13
	GW-RS-0052-13	18 Jan 2013	20 Jan 2013 to 19 July 2013	Valid
	GW-RE0371-13	9 Apr 2013	13 Apr 2013 to 12 Oct 2013	Valid
	GW-RS0368-13	11 Apr 2013	13 Apr 2013 to 7 Oct 2013	Valid
	GW-RS0372-13	12 Apr 2013	15 Apr 2013 to 7 Oct 2013	Valid
	Discharge Licence	WT00006220-2010	18 Mar 2010	31 Mar 2015
WT00009641-2011		24 Jul 2011	31 Jul 2016	Valid
Billing account under Waste Disposal Ordinance	7010069	21 Jan 2010	N/A	Valid
Registration as a Chemical Waste Producer	WPN5213-134-C3585-01	21 Jan 2010	N/A	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/13-096	3 Dec 2012	4 Dec 2012 to 3 June 2013	Valid

Table 3.5 Summary of submission status under FEP-02/356/2009 Condition

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	13 Apr 2010
Condition 2.7	Works Schedule and Location Plan	8 Apr 2010
Condition 2.8	Silt Curtain Deployment Plan (Rev. 5)	24 Aug 2012
	Silt Curtain Deployment Plan (Rev. 4)	12 July 2012
	Silt Curtain Deployment Plan (Rev. 3)	27 June 2012
	Silt Curtain Deployment Plan	19 Apr 2010
Condition 2.9	Silt Screen Deployment Plan (Rev.4)	15 Nov 2012
	Silt Screen Deployment Plan	19 Apr 2010
Conditions 2.8 and 2.9	Supplementary Document on Silt Curtain and Silt Screen Deployment Plan	19 Jul 2010
	Report on Field Testing for Silt Curtain	26 Aug 2010
	Report on Field Testing for Silt Curtain (Rev. A)	15 Nov 2010
Condition 2.12(d)	Alternative Proposal on Concurrent Dredging for Sewage Pipeline and Cross Harbour Water Mains	15 Apr 2011
Condition 2.17	Noise Management Plan	23 Apr 2010
Condition 2.18	Landscape Plan (Erection of Decorative Screen Hoarding along Construction Site around Hong Kong Exhibition and Convention Centre)	15 May 2010
	Landscape Plan (Night-time Lighting)	22 Oct 2010
	Landscape Plan (Rev. B)	15 Nov 2010

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

3.1.4. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2009/02 under FEP-03/356/2009 are shown in **Table 3.6** and **Table 3.7**.

Table 3.6 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/02

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-03/356/2009	24 Mar 2010	N/A	Valid
	FEP-01/364/2009	24 Mar 2010	N/A	Valid
Notification of Works Under APCO	313962	2 Feb 2010	N/A	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS1038-12	10 Oct 2012	10 Oct 2012 to 9 Apr 2013	Valid
	GW-RS1069-12	17 Oct 2012	19 Oct 2012 to 18 Apr 2013	Valid
	GW-RS1076-12	25 Oct 2012	1 Nov 2012 to 30 Apr 2013	Valid
	GW-RS1084-12	25 Oct 2012	1 Nov 2012 to 30 Apr 2013	Valid
	GW-RS1086-12	25 Oct 2012	28 Oct 2012 to 16 Apr 2013	Valid
	GW-RS1174-12	9 Nov 2012	11 Nov 2012 to 10 May 2013	Valid
	GW-RS1158-12	16 Nov 2012	18 Nov 2012 to 16 May 2013	Valid
	GW-RS1167-12	16 Nov 2012	23 Nov 2012 to 21 May 2013	Valid
	GW-RS1204-12	9 Nov 2012	29 Nov 2012 to 23 May 2013	Valid
	GW-RS1272-12	5 Dec 2012	5 Dec 2012 to 26 May 2013	Valid
	GW-RS1223-12	27 Nov 2012	7 Dec 2012 to 5 June 2013	Valid
	GW-RS1228-12	30 Nov 2012	30 Nov 2012 to 29 May 2013	Valid
	GW-RE1055-12	30 Nov 2012	3 Dec 2012 to 29 May 2013	Valid
	GW-RS1243-12	3 Dec 2012	5 Dec 2012 to 29 May 2013	Valid
	GW-RS1245-12	5 Dec 2012	6 Dec 2012 to 5 June 2013	Valid
	GW-RS1381-12	31 Dec 2012	9 Jan 2013 to 7 July 2013	Valid
	GW-RS1384-12	31 Dec 2012	17 Jan 2013 to 6 July 2013	Valid
GW-RS0062-13	17 Jan 2013	21 Jan 2013 to 15 July 2013	Valid	
GW-RS0155-13	15 Feb 2013	16 Feb 2013 to 14 Aug 2013	Valid	

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
	GW-RS0241-13	11 Mar 2013	13 Mar 2013 to 10 Sept 2013	Valid
	GW-RS0251-13	11 Mar 2013	26 Mar 2013 to 24 Sept 2013	Valid
	GW-RS0206-13	22 Feb 2013	24 Feb 2013 to 19 Aug 2013	Valid
	GW-RS0269-13	23 Mar 2013	23 Mar 2013 to 19 Sept 2013	Valid
	GW-RS0340-13	28 Mar 2013	10 Apr 2013 to 8 Oct 2013	Valid
	GW-RS0373-13	9 Apr 2013	19 Apr 2013 to 17 Oct 2013	Valid
	GW-RS0437-13	26 Apr 2013	1 May 2013 to 29 Oct 2013	Valid
Discharge Licence	WT00006249-2010	22 Mar 2010	31 Mar 2015	Valid
	WT00006436-2010	15 Apr 2010	30 Apr 2015	Valid
	WT00006673-2010	14 May 2010	31 Mar 2015	Cancelled
	WT00006757-2010	28 May 2010	31 May 2015	Valid
	WT00007129-2010	28 July 2010	31 Jul 2015	Valid
	WT00008982-2011	26 April 2011	30 April 2016	Valid
	WT00009691-2011	1 Aug 2011	31 July 2016	Valid
Billing Account under Waste Disposal Ordinance (Land)	7010255	10 Feb 2010	N/A	Valid
Billing Account under Waste Disposal Ordinance (Marine)	7011496	6 Oct 2010	N/A	Valid
Registration as Chemical Waste Producer (Wan Chai)	WPN5213-135-C3 593-01	10 Mar 2010	N/A	Valid
Registration as Chemical Waste Producer (TKO 137)	WPN5213-839-C3 593-02	22 Sep 2010	N/A	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/13-095	19 Nov 2012	29 Nov 2012 to 28 May 2013	Valid
Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal)	EP/MD/13-127	4 Mar 2013	6 Mar 2013 to 5 Apr 2013	Valid
	EP/MD/13-139	27 Mar 2013	6 Apr 2013 to 5 May 2013	Valid

Table 3.7 Summary of submission status under FEP-03/356/2009 Condition

EP Condition	Submission	Date of Submission
Condition 1.12	Commencement Date of Construction of Marine Works	8 April 2010
Condition 2.6	Management Organization of Main Construction Companies	10 April 2010
Condition 2.7	Works Schedule and Location Plans	8 April 2010
Condition 2.8	Silt Curtain Deployment Plan (Revision A)	20 April 2010
	Silt Curtain Deployment Plan (Revision B)	25 May 2010

EP Condition	Submission	Date of Submission
	Silt Curtain Deployment Plan (Revision C)	14 Jun 2010
	Silt Curtain Deployment Plan (Revision H)	15 Feb 2011
	Silt Curtain Deployment Plan (Revision I)	17 Nov 2011
	Silt Curtain Deployment Plan (Revision J)	15 Feb 2012
	Silt Curtain Deployment Plan (Revision K)	3 May 2012
	Silt Curtain Deployment Plan (Revision L)	25 Oct 2012
	Silt Curtain Deployment Plan (Revision M)	30 Nov 2012
	Silt Screen Deployment Plan	21 April 2010
	Supplementary Information for Existing WSD Salt Water Intakes at Quarry Bay and Sai Wan Ho	5 Oct 2010
	Silt Screen Deployment Plan (Revision B)	15 Feb 2012
	Silt Screen Deployment Plan (Revision C)	3 May 2012
	Silt Screen Deployment Plan (Revision D)	10 Dec 2012
Condition 2.17	Noise Management Plan	6 May 2010
Condition 2.18	Landscape Plan (Decorative Screen Hoarding)	11 May 2010
	Landscape Plan (Control of Night Time Lighting)	2 June 2010
	Landscape Plan (Combined Version)	20 July 2011
	Landscape Plan (Combined Version)	5 Aug 2011
-----	Acknowledge of Submission	22 Aug 2011

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 3.1.5. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HY/2009/15 under EP-356/2009 are shown in **Table 3.8** and **Table 3.9**.

Table 3.8 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/15

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-04/356/2009	22 Nov 2010	N/A	Valid
Notification of Works Under APCO	321822	24 Sep 2010	N/A	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Construction Noise Permit (CNP) for Filling and Diaphragm Wall Works at TS4/ME4	GW-RS1191-12	26 Nov 2012	26 Nov 2012 to 11 May 2013	Cancelled
Construction Noise Permit (CNP) for breakwater removal works at Eastern Breakwater of CBTS	GW-RS0325-13	27 Mar 2013	29 Mar 2013 to 27 Sep 2013	Valid
Construction Noise Permit (CNP) for ELS and rock breaking works at TS4/ME4	GW-RS0276-13	19 Mar 2013	19 Mar 2013 to 7 Sep 2013	Cancelled
Construction Noise Permit (CNP) for Pre-treatment, ELS and rock breaking works at TS4/ME4	GW-RS0434-13	23 Apr 2013	23 Apr 2013 to 16 Oct 2013	Valid
Registration as a Chemical Waste Producer	WPN5213-147-C116 9-35	15 Nov 2010	N/A	Valid
Billing Account under Waste Disposal Ordinance	7011553	30 Sep 2010	27 Sep 2010 to 27 Jan 2016	Valid
Billing Account under Waste Disposal Ordinance (Dumping by Vessel)	7011761	03 Oct 2012	17 Jan 2013 to 16 Apr 2013	Expired
	7011761	25 Mar 2013	17 Apr 2013 to 16 Jul 2013	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/13-097	28 Nov 2012	6 Dec 2012 to 5 Jun 2013	Cancelled
	EP/MD/13-113	22 Jan 2013	24 Jan 2013 to 23 Jul 2013	Valid
Dumping Permit (Type 2 – Confined Marine Disposal)	EP/MD/13-130	20 Mar 2013	20 Mar 2013 to 19 Apr 2013	Expired
	EP/MD/14-001	16 Apr 2013	20 Apr 2013 to 19 May 2013	Valid

Table 3.9 Summary of submission status under FEP-04/356/2009 Condition

FEP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	30 Sep 2010
	Amendment for Management Organization of Main Construction Companies	16 May 2011
Condition 2.7	Works Schedule and Location Plans	27 Oct 2010
	Amendment for Works Schedule and Location Plans	12 Nov 2010
Condition 2.8	Silt Curtain Deployment Plan	30 Nov 2010
	Amendment for Silt Curtain Deployment Plan	24 Feb 2011
	Amendment for Silt Curtain Deployment Plan	11 May 2011
	Amendment for Silt Curtain Deployment Plan	11 Sep 2012
	Amendment for Silt Curtain Deployment Plan	30 Oct 2012
Condition 2.9	Silt Screen Deployment Plan	19 Oct 2010
	Amendment for Silt Screen Deployment Plan	18 Feb 2011
	Amendment for Silt Screen Deployment Plan	15 Jun 2011

FEP Condition	Submission	Date of Submission
Condition 2.18	Proposal for the Removal of Odorous Sediment and Slime	13 Jan 2011
	Amendment for Proposal for the Removal of Odorous Sediment and Slime	8 Mar 2011
	Amendment for Proposal for the Removal of Odorous Sediment and Slime	2 Aug 2011
Condition 2.21	Landscape Plan	18 Feb 2011
Condition 2.23	Noise Management Plan	20 Oct 2010
	Amendment for Noise Management Plan	27 Jan 2011

3.1.6. Implementation status of the recommended mitigation measures during this reporting period is presented in **Appendix 3.1**.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line

3.1.7. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2010/06 under EP-356/2009 are shown in **Table 3.10** and **Table 3.11**.

Table 3.10 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2010/06

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-05/356/2009	24 Mar 2011	N/A	Valid
	FEP-08/364//2009/A	15 June 2012	N/A	Valid
Notification of Works Under APCO	326344	18 Jan 2011	N/A	Valid
Construction Noise Permit (CNP) for piling equipment	PP-RS0001-13	3 Jan 2013	6 Jan 2013 to 5 Jul 2013	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0923-12	4 Sept 2012	15 Oct 2012 to 14 Apr 2013	Replaced by GW-RS0056-13
	GW-RS0989-12	21 Sept 2012	6 Oct 2012 to 5 Apr 2013	Expired
	GW-RS0056-13	14 Jan 2013	16 Jan 2013 – 12 Jul 2013	Valid
Billing Account under Waste Disposal Ordinance	7012338	16 Feb 2011	N/A	Valid
Registration as Chemical Waste Producer	WPN5213-134-G25 33-01	11 Feb 2011	N/A	Valid
Water Discharge Licence	WT00010905-2011	4 November 2011	31 July 2016	Valid

Table 3.11 Summary of submission status under EP-356/2009 and FEP-05/356/2009 Condition

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	29 April 2011
Condition 2.7	Works Schedule and Location Plans	11 March 2011
Condition 2.8	Revised Silt Curtain Deployment Plan	31 August 2011
	Revised Silt Curtain Deployment Plan	22 October 2012
	Revised Silt Curtain Deployment Plan	26 November 2012
	Full Silt Curtain Deployment Plan	28 January 2013
Condition 2.9	Silt Screen Deployment Plan	11 April 2011
Condition 2.23	Noise Management Plan	11 March 2011

Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

3.1.8. Summary of the current status on licences and/or permits on environmental protection pertinent for contract no. HY/2009/19 is shown in **Table 3.12**.

Table 3.12 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/19

Permit / Licence / Notification / Approval	Reference No.	Issued Date	Valid Period / Expiry date	Status
Further Environmental Permit	FEP-07/364/2009/B	20 Sep 2012	Granted	Valid
Notification of Works Under APCO	326160	24 Jan 2011	Notified	Valid
Construction Noise Permit (CNP) (For D-wall construction) (Portion I, VII, VIII & IX)	GW-RS0286-13	15-Mar-12	14-Sep-13	Valid
Construction Noise Permit (CNP) (For Bored pile construction at Portion III)	GW-RS0013-13	08-Jan-13	07-Jul-13	Valid
Construction Noise Permit (CNP) (For Watson Road)	GW-RS1230-12	28-Nov-12	25-May-13	Valid
Construction Noise Permit (CNP) (For IEC)	GW-RS1210-12	29-Nov-12	28-May-13	Cancelled
	GW-RS0046-13	18-Jan-13	10-Jul-13	Valid
Construction Noise Permit (CNP)	GW-RS1065-12	16-Oct-12	20-Apr-13	Expired

Permit / Licence / Notification / Approval	Reference No.	Issued Date	Valid Period / Expiry date	Status
(For IEC Parapet Removal – Loading/Unloading)	GW-RS0365-13	21-Apr-13	20-Oct-13	Valid
Construction Noise Permit (CNP) (For Portion Vi Marine)	GW-RS0010-13	08-Jan-13	07-Jul-13	Cancelled
	GW-RS0337-13	05-May-13	01-Oct-13	Valid
Discharge Licence (Land)	WT00010093-2011	17 Aug 2012	30-Sept-16	Valid
Discharge Licence (Sea)	WT00010865-2011	03 Nov 2011	30-Nov-16	Valid
C&D Waste Disposal	7012306	10 Feb 2011	Registered	-
Vessel Disposal	7013285	21 July 2011	Registered	-
Registration as Chemical Waste Producer	5213-151-C3654-01	24 Mar 2011	Registered	-
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/13-101	24 Dec 2012	23 May 2013	Valid
Dumping Permit (Type 2 – Confined Marine Disposal)	EP/MD/13-126	06 Mar 2013	05 Apr 2013	Valid

Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

3.1.9. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2012/08 under EP-356/2009 are shown in **Table 3.13** and **Table 3.14**.

Table 3.13 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2012/08

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-06/356/2009	5 Mar 2013	N/A	Valid
Notification of Works Under APCO	355439	4 Feb 2013	N/A	Valid
Registration as a Chemical Waste Producer	5213-134-C3790-01	8 Mar 2013	N/A	Valid
Billing Account under Waste Disposal Ordinance	7016883	18 Feb 2013	18 Jul 2017	Valid

Table 3.11 Summary of submission status under EP-356/2009 and FEP-06/356/2009 Condition

FEP Condition	Submission	Date of Submission



FEP Condition	Submission	Date of Submission
Condition 2.8	Silt Curtain Deployment Plan	Submitted to ET and IEC for comment on 22 Apr 2013
Condition 2.9	Silt Screen Deployment Plan	Under preparation
Condition 2.23	Noise Management Plan	Submitted to EPD on 22 Apr 2013
Condition 2.24	Landscape Plan	Comments received from ET and responded by CSLJV on 11 Apr 2013. Pending certification by ET and verification by IEC.

4. Monitoring Requirements

4.1 Noise Monitoring

NOISE MONITORING STATIONS

- 4.1.1. The noise monitoring stations for the Project are listed and shown in **Table 4.1** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.1 Noise Monitoring Station

Station	Description
M1a	Harbour Road Sports Centre
M2b	Noon Gun Area
M3a	Tung Lo Wan Fire Station
M4b	Victoria Centre
M5b	City Garden
M6	HK Baptist Church Henrietta Secondary School

REAL-TIME NOISE MONITORING STATIONS

- 4.1.2. The real-time noise monitoring stations for the Project are listed and shown in **Table 4.2** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.
- 4.1.3. The real-time noise monitoring at RTN2-Oil Street Community Liaison Centre has been relocated to City Garden Electric Centre (RTN2a- Electric Centre) on 5 Oct 2012, which is a representative of noise sensitive receiver- City Garden. The baseline noise level of RTN2a will adopt the results derived from the baseline noise monitoring conducted in Electric Centre from 4 December 2009 to 17 December 2009.
- 4.1.4. As the land-based piling and filling works- DP3 at Tin Hau had been completed on 3 September 2012 and confirmed by RSS, the real-time noise monitoring results at FEHD Hong Kong Transport Section Whitfield Depot was excluded under EP-356/2009 since 28 November 2012.

Table 4.2 Real Time Noise Monitoring Station

District	Station	Description
Tin Hau	RTN1	FEHD Hong Kong Transport Section Whitfield Depot
North Point	RTN2	Oil Street Community Liaison Centre
North Point	RTN2a	Electric Centre

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.1.5. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq(30\text{ minutes})}$ 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.
- 4.1.6. 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.
- 4.1.7. 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.

MONITORING EQUIPMENT

- 4.1.8. As referred to in the Technical Memorandum TM issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.
- 4.1.9. Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

4.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

- 4.2.1. The air monitoring stations for the Project are listed and shown in **Table 4.3** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.3 Air Monitoring Station

Station ID	Monitoring Location	Description
CMA1b	Oil Street Community Liaison Centre	North Point
CMA2a	Causeway Bay Community Centre	Causeway Bay
CMA3a	CWB PRE Site Office *	Causeway Bay
CMA4a	Society for the Prevention of Cruelty to Animals	Wan Chai
CMA5a	Children Playgrounds opposite to Pedestrian Plaza	Wan Chai
CMA6a	WDII PRE Site Office *	Wan Chai

* Remarks: As per the ENPC meeting in January 2011, the monitoring stations CMA3a - Future CWB site office at Wanchai Waterfront Promenade and CMA6a - Future AECOM site office at Work Area were renamed as remark.

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.2.2. 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.
- 4.2.3. 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.
- 4.2.4. 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.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

- 4.2.5. High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:
- 0.6 - 1.7 m³ per minute adjustable flow range;
 - equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
 - installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
 - capable of providing a minimum exposed area of 406 cm²;
 - flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
 - equipped with a shelter to protect the filter and sampler;
 - incorporated with an electronic mass flow rate controller or other equivalent devices;
 - equipped with a flow recorder for continuous monitoring;
 - provided with a peaked roof inlet;
 - incorporated with a manometer;
 - able to hold and seal the filter paper to the sampler housing at horizontal position;
 - easily changeable filter; and
 - capable of operating continuously for a 24-hour period.
- 4.2.6. Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. The concern parties such as IEC shall properly document the calibration data for future reference. All the data should be converted into standard temperature and pressure condition.

LABORATORY MEASUREMENT / ANALYSIS

- 4.2.7. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.
- 4.2.8. An alternative non-HOKLAS accredited laboratory was set-up for carrying out the laboratory analysis, the laboratory equipment was approved by the ER on 8 February 2011 and the measurement procedures were witnessed by the IEC. Any measurement performed by the laboratory was demonstrated to the satisfaction of the ER and IEC. IEC shall regularly audit the measurement performed by the laboratory to ensure the accuracy of measurement results.
- 4.2.9. Filter paper of size 8" x 10" shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.
- 4.2.10. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.
- 4.2.11. All the collected samples shall be kept in a good condition for 6 months before disposal.

IMPACT MONITORING FOR ODOUR PATROL

- 4.2.12. Odour patrols along the shorelines of Causeway Bay Typhoon Shelter and ex-Wan Chai Public Cargo Working Area when there is temporary reclamation in Causeway Bay Typhoon Shelter and/or in the ex-Wan Chai Public Cargo Working Area, or when there is dredging of the odorous sediment and slime at the south-western corner of the Causeway Bay Typhoon Shelter. Odour patrols will be carried out at bi-weekly intervals during July, August and September by a qualified person of the ET who shall:
- be at least 16 years of age;
 - be free from any respiratory illnesses; and
 - not be allowed to smoke, eat, drink (except water) or use chewing gum or sweets 30 min before and during odour patrol
- 4.2.13. Odour patrol shall be conducted by independent trained personnel / competent persons patrolling and sniffing around the shore as shown in **Figure 4.1** to detect any odour at the concerned hours (afternoon is preferred for higher daily temperature).
- 4.2.14. The qualified person will use the nose (olfactory sensor) to sniff odours at different locations. The main odour emission sources and the areas to be affected by the odour nuisance will be identified.
- 4.2.15. The perceived odour intensity is to be divided into 5 levels which are ranked in the descending order as follows:
- 0 - Not detected. No odour perceived or an odour so weak that it cannot be easily characterized or described;
 - 1 - Slight Identifiable odour, and slight chance to have odour nuisance;

- 2 - Moderate Identifiable odour, and moderate chance to have odour nuisance;
- 3 - Strong Identifiable, likely to have odour nuisance;
- 4 - Extreme Severe odour, and unacceptable odour level.

4.2.16. The findings including odour intensity, odour nature and possible odour sources, and also the local wind speed and direction at each location will be recorded. In addition, some relevant meteorological and tidal data such as daily average temperature, and daily average humidity, on that surveyed day will be obtained from the Hong Kong Observatory Station for reference. The Action and Limit levels for odour patrol are shown in **Appendix 6.1**.

4.2.17. The qualified odour patrol member has individual n-butanol thresholds complied with the requirement of European Standard Method of Air Quality – Determination of Odour Concentration by Dynamic Olfactometry (EN13725) in the range of 20 to 80 ppb.

4.3 Water Quality Monitoring

4.3.1. 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.

4.3.2. The updated EM&A Manual for EP-356/2009 (Version in March 2011) is approval by EPD on 29 April 2011. As such, the Action Level and Limit Level for the wet season (April – September) will be effected and applied to the water quality monitoring data from 30 April 2011.

Water Quality Monitoring Stations

4.3.3. 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 4.4** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.4 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

Station Ref.	Location	Easting	Northing
C2	Telecom House	835647.9	815864.4
C3	HKCEC Phase I	835836.2	815910.0
C4e	Great Eagle Centre	835932.8	815888.2
C4w	Wan Chai Tower	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	Excelsior Hotel	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
P1	HKCEC Phase I	835774.7	816179.4
P3	The Academy of performing Arts	835824.6	816212.0
P4	Shui on Centre	835865.6	816220.0
P5	Government Buildings (Wanchai Tower / Revenue Tower / Immigration Tower)	835895.2	816215.2

WATER QUALITY PARAMETERS

- 4.3.4. 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.
- 4.3.5. 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.

SAMPLING PROCEDURES AND MONITORING EQUIPMENT

- 4.3.6. 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 4.5** 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 4.5 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

Activities	Monitoring Frequency ¹	Parameters ²
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.

DISSOLVED OXYGEN AND TEMPERATURE MEASURING EQUIPMENT

4.3.7. The instrument should be a portable, weatherproof dissolved oxygen measuring instrument complete with cable, sensor, comprehensive operation manuals, and use a DC power source. It should be capable of measuring:

- a dissolved oxygen level in the range of 0-20 mg/l and 0-200% saturation
- a temperature of 0-45 degree Celsius

4.3.8. It should have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables should be available for replacement where necessary. (e.g. YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

4.3.9. Should salinity compensation not be build-in in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

TURBIDITY MEASUREMENT INSTRUMENT

4.3.10. The instrument should be a portable, weatherproof turbidity-measuring instrument complete with comprehensive operation manual. The equipment should use a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU and be complete with a cable (e.g. Hach model 2100P or an approved similar instrument).

SAMPLER

4.3.11. A water sampler comprises a transparent PVC cylinder, with a capacity of not less than 2 litres, and can be effectively sealed with latex cups at both ends. The sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (e.g. Kahlsico Water Sampler or an approved similar instrument).

SAMPLE CONTAINER AND STORAGE

4.3.12. Water samples for suspended solids measurement should be collected in high-density polythene bottles, packed in ice (cooled to 4°C without being frozen), and delivered to ALS Technichem (HK) Pty Ltd. as soon as possible after collection for analysis.

WATER DEPTH DETECTOR

4.3.13. A portable, battery-operated echo sounder shall be used for the determination of water depth at each designated monitoring station. This unit can either be handheld or affixed to the bottom of the workboat, if the same vessel is to be used throughout the monitoring programme.

SALINITY

- 4.3.14. A portable salinometer capable of measuring salinity in the range of 0-40 ppt shall be provided for measuring salinity of the water at each of monitoring location.

MONITORING POSITION EQUIPMENT

- 4.3.15. A hand-held or boat-fixed type digital Global Positioning System (GPS) with waypoint bearing indication or other equivalent instrument of similar accuracy shall be provided and used during monitoring to ensure the monitoring vessel is at the correct location before taking measurements.

CALIBRATION OF IN-SITU INSTRUMENTS

- 4.3.16. All in-situ monitoring instrument shall be checked, calibrated and certified by a laboratory accredited under HOKLAS or equivalent before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes should be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.
- 4.3.17. For the on site calibration of field equipment by the ET, the BS 127:1993, "Guide to Field and on-site test methods for the analysis of waters" should be observed.
- 4.3.18. Sufficient stocks of spare parts should be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring can proceed uninterrupted even when some equipment is under maintenance, calibration, etc.
- 4.3.19. Current calibration certificates of equipments are presented in **Appendix 4.2**.

LABORATORY MEASUREMENT / ANALYSIS

- 4.3.20. Analysis of suspended solids has been carried out in a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd. Water samples of about 1L shall be collected at the monitoring stations for carrying out the laboratory SS determination. The SS determination work shall start within 24 hours after collection of the water samples. The SS determination shall follow APHA 19ed or equivalent methods subject to the approval of IEC and EPD.

ENHANCED WATER QUALITY MONITORING IN THE EX-WAN CHAI PUBLIC CARGO WORKING AREA AND THE CAUSEWAY BAY TYPHOON SHELTER

- 4.3.21. The enhanced water quality monitoring and audit programme is to avoid aggravation of odour nuisance from seawater arising from temporary reclamation in the ex-Wan Chai Public Cargo Working Area and the Causeway Bay Typhoon Shelter.
- 4.3.22. Dissolved oxygen monitoring at the intakes C6 and C7 in Causeway Bay Typhoon Shelter when there is temporary reclamation in Causeway Bay Typhoon Shelter and at the south-western and south-eastern corners of the ex-Wan Chai Public Cargo Working Area. The proposed water quality monitoring stations of the Project are shown in **Table 4.6** and **Figure 4.1**.

Table 4.6 Marine Water Quality Stations for Enhanced Water Quality Monitoring

Station	Location

Station	Location
C6	Excelsior Hotel
C7	Windsor House
Ex-WPCWA-SW	South-western of the ex-Wan Chai Public Cargo Working Area
Ex-WPCWA-SE	South-eastern of the ex-Wan Chai Public Cargo Working Area

4.3.23. The monitoring of dissolved oxygen are to be carried out 3 days per week, at mid-flood and mid-ebb tides for 3 water depths (1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth may be omitted. If the water depth be equal to or less than 3m, only the mid-depth will be monitored).

DAILY SS MONITORING AND 24 HOURS TURBIDITY MONITORING SYSTEM

4.3.24. During dredging of the sediment at the south-western corner of the Causeway Bay Typhoon Shelter, daily monitoring of suspended solids and 24 hour monitoring of turbidity at the cooling water intakes (C6 and C7) shall be conducted.

4.3.25. The 24 hours monitoring of turbidity at the cooling water intakes (C6 and C7) shall be established by setting up a continuous water quality monitoring station in front of the intakes during the dredging activities. The monitoring system include the turbidity sensor and data logger which is capable of data capturing at every 5 minutes. The data shall be downloaded daily and compared with the Action and Limit level determined during the baseline water quality monitoring at the cooling water intake locations.

ADDITIONAL DISSOLVED OXYGEN MONITORING FOR CULVERT L WATER DISCHARGE FLOW

4.3.26. In response to the Condition 2.18 of the Environmental Permit no. EP-356/2009 requiring that a silt curtain / impermeable barrier system be installed to channel water discharge flow from Culvert L to locations outside the embayment area, a proposed replacement of the requirement with additional dissolved oxygen monitoring has been conducted at three monitoring stations, namely A, B and C between the eastern seawall of Central Reclamation Phase III and the HKCEC Extension since November 2011 under EP-356/2009 so that DO level between the eastern seawall of Central Reclamation Phase II and the HKCEC extension could be continuously monitored.

4.3.27. The proposed DO monitoring stations of the Project are shown in **Table 4.7** and **Figure 4.1**.

Table 4.7 Marine Water Quality Stations for Additional DO Monitoring

Station	Easting	Northing
A	835468	815857
B	835572	815961
C	835659	816271

4.3.28. The monitoring of dissolved oxygen are to be carried out once per week, at mid-flood and mid-ebb tides for 3 water depths (1m below water surface, mid-depth and 1m above sea bed,



except where the water depth less than 6m, the mid-depth may be omitted. If the water depth be equal to or less than 3m, only the mid-depth will be monitored).

5. Monitoring Results

5.0.1. 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 4.1**. The monitoring results are presented in according to the Individual Contract(s).

5.0.2. In the reporting month, the concurrent contracts are as follows:

- Contract no. HK/2009/01 – Wan Chai Development Phase II – Central-Wan Chai Bypass at Hong Kong Convention and Exhibition Centre; and
- Contract no. HK/2009/02 Wan Chai Development Phase II – Central-Wan Chai Bypass at Wan Chai East
- Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)
- Contract no. HK/2010/06 Wan Chai Development Phase II – Central-Wan Chai Bypass over MTR Tsuen Wan Line
- Contract no. HY/2009/19- Cental- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link
- Contract no. HK/2012/08 – Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West

5.0.3. The environment monitoring schedules for reporting month and coming month are presented in **Appendix 5.1**.

5.1 Noise Monitoring Results

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC, Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East and Contract no. HK/2010/06 Wan Chai Development Phase II – Central-Wan Chai Bypass over MTR Tsuen Wan Line

5.1.1. The proposed division of noise monitoring stations are summarized in **Table 5.2** below.

Table 5.2 Noise Monitoring Station for Contract nos. HK/2009/01, HK/2009/02 and HK/2010/06

Station	Description
M1a	Harbour Road Sports Centre

5.1.2. Daytime and evening period noise monitoring was conducted at the Harbour Road Sport Centre in the reporting month.

5.1.3. No exceedance was recorded in this reporting period. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

5.1.4. The noise monitoring for HY/2009/15 was commenced on 10 November 2010. The proposed division of noise monitoring stations are summarized in **Table 5.3** below.

Table 5.3 Noise Monitoring Station for Contract no. HY/2009/15

Station	Description
M2b	Noon Gun Area
M3a	Tung Lo Wan Fire Station

5.1.5. Noise monitoring results measured in the period of daytime and restricted hour are reviewed and summarized. No exceedance was recorded in this reporting period. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

5.1.6. The proposed division of noise monitoring stations are summarized in **Table 5.4** below.

Table 5.4 Noise Monitoring Station for Contract no. HY/2009/19

Station	Description
M3a	Tung Lo Wan Fire Station
M4b	Victoria Centre
M5b	City Garden
M6	HK Baptist Church Henrietta Secondary School

5.1.7. Four limit level exceedances were recorded on 3, 12, 16 and 23 April 2013 at M6 – HK Baptist Church Henrietta Secondary School in the reporting month.

5.1.8. Major traffic noise observed during monitoring on 3, 16 and 23 April 2013 and it was considered as the major noise contribution. As such, the limit level exceedances were concluded as non-project related.

5.1.9. Breaking works for pile head under HY/2009/19 were observed during monitoring on 12 April 2013. Despite nearby traffic was observed, it was considered that the breaking operation was the major noise contribution. As such, the limit level exceedance was concluded as project related. The temporary noise blanket at marine platform was confirmed in place and rectification measures including provision of additional noise blanket at top side of marine pier and reduction in the number of breakers in parallel use were implemented by the contractor after exceedance was identified

5.1.10. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**

5.2 Real-time Noise Monitoring

Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 5.2.1 As the land-based piling and filling works- DP3 at Tin Hau had been completed on 3 September 2012 and confirmed by RSS, the real-time noise monitoring results at FEHD Hong Kong Transport Section Whitfield Depot was excluded under EP-356/2009 since 28 November 2012.
- 5.2.2 The real-time noise monitoring at RTN2-Oil Street Community Liaison Centre has been relocated to City Garden Electric Centre (RTN2a- Electric Centre) on 5 Oct 2012, which is a representative of noise sensitive receiver- City Garden. The baseline noise level of RTN2a will adopt the results derived from the baseline noise monitoring conducted in Electric Centre from 4 December 2009 to 17 December 2009.
- 5.2.3 The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011 and the FEP-01/356/2009 was surrendered on 22 Oct 2012.
- 5.2.4 No limit level exceedance was recorded at RTN2a-Electric Centre in this reporting month.
- 5.2.5 Real-time noise monitoring at FEHD Hong Kong Transport Section Whitfield Depot commenced external wall renovation since 1 June 2012

Table 5.5 Real Time Noise Monitoring Station for Contract no. HY/2009/19

District	Station	Description
Tin Hau	RTN1	FEHD Hong Kong Transport Section Whitfield Depot
North Point	RTN2	Oil Street Community Liaison Centre
North Point	RTN2a	Electric Centre

- Real time noise monitoring results and graphical presentation during night time period are for information only.
- RTN2 had been relocated to RTN2a since 5 Oct 2012
- RTN1 monitoring had been finished on 28 Nov 2012

- 5.2.6 Details of real time noise monitoring results and graphical presentation can be referred to **Appendix 5.5.**

5.3 Air Monitoring Results

- 5.3.1. Due to extension of site boundary by contractor of HY/2009/19, location of air monitoring station CMA1b – Oil Street Community Liaison Centre has been finely adjusted on 21 April 2012.
- 5.3.2. Due to lack of electricity supply, the 24hr-TSP monitoring at the following stations were rescheduled:

CMA1b: from 19 April 2013 to 20 April 2013

CMA3a: from 8 April 2013 to 9 April 2013 and from 25 Apr 2013 to 26 Apr 2013

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

5.3.3. Air monitoring was commenced on 1 April 2011 in response to the commencement of the land-filling work for Contract no. HK/2009/01. The proposed divisions of air monitoring stations are summarized in **Table 5.7** below. No exceedance was recorded in the reporting month.

Table 5.7 Air Monitoring Stations for Contract no. HK/2009/01

Station	Description
CMA5a	Children Playgrounds opposite to Pedestrian Plaza
CMA6a	WDII PRE Site Office

5.3.4. One action level and no limit level exceedances were recorded during 1hr-TSP monitoring on 15 April 2013 at CMA6a – WD2 PRE Office in this reporting month. The exceedances were concluded as non-project related. After investigation, it was found that the high ambient air pollutant concentration was the major contribution to air quality impact and contractor dust mitigation measures were confirmed in place. As such, the exceedances were considered as non- project related. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**

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

5.3.5. Air monitoring was commenced in mid-January 2011 for the land-filling work for Contract no. HK/2009/02. The proposed division of air monitoring stations are summarized in **Table 5.8** below. No exceedance was recorded in the reporting month.

Table 5.8 Air Monitoring Station for Contract no. HK/2009/02

Station	Description
CMA4a	Society for the Prevention of Cruelty to Animals

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

5.3.6. Air monitoring was commenced on 15 March 2011 for the land filling work for Contract no. HY/2009/15. The proposed division of air monitoring stations are summarized in **Table 5.9** below.

Table 5.9 Air Monitoring Station for Contract no. HY/2009/15

Station	Description
CMA3a	CWB PRE Site Office

5.3.7. Two action level and no limit level exceedances were recorded at CMA3a- CWB PRE Site Office on 15 April 2013 during 1hr- TSP monitoring in the reporting month. After investigation, it was found that the high ambient air pollutant concentration was the major contribution to air quality impact and contractor dust mitigation measures were confirmed in place. As such, the exceedances were considered as non- project related. Air quality monitoring results measured

in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

5.3.8. The proposed division of air monitoring stations are summarized in Table 5.10 below. No exceedance was recorded in the reporting month.

Table 5.10 Air Monitoring Stations for Contract no. HY/2009/19

Station	Description
CMA1b	Oil Street Site Office
CMA2a	Causeway Bay Community Centre

5.3.9. Two action level and no limit level exceedances were recorded at CMA1b- Oil Street Site Office on 15 April 2013 during 1hr- TSP monitoring in the reporting month. After investigation, it was found that the high ambient air pollutant concentration was the major contribution to air quality impact and contractor dust mitigation measure was confirmed in place. As such, the exceedances were considered as non- project related. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**.

5.4 Water Monitoring Results.

5.4.1. With respect to status of cooling intakes relocation, WQM events on 22 April 2013 at monitoring stations C2, C3, C4e and C4w were temporarily suspended to confirm the commissioning status of the relocated pump stations with the WDII RSS and the IEC for preparation of relocation of the WQM stations to the relocated cooling intake pump stations

5.4.2. WDII/RSS advised that the dredging works for submarine pipeline at Victoria Harbour had been completed in January 2012. Therefore, the concurrent dredging activities at Sewage Pipeline Zone and reclamation shoreline zone TCBR under the EP-356/2009 scenario 2B no longer exist. As such, with reference to Table 5.39 of the EIA Report for Wan Chai Development Phase II and Central-Wan Chai Bypass, the application of silt screen for cooling water intakes for Queensway Government Offices was suspended and the others remain unchanged.

5.4.3. Based on the joint inspection on 4 Jan 2012 for the NPR area, the 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8, C9 to confirm no water deterioration with respect to NPR was commenced since 7 Jan 2012 and it was completed on 6 February 2012.

5.4.4. Water quality monitoring at WSD10 and WSD15 was temporary suspended while water quality monitoring at WSD9 and WSD17 was implemented with respect to HK/2009/02 from 8 Feb 12 onwards;

- 5.4.5. Due to the marine piling under Contract no. HY/2009/19 was completed on 4 March 2013, the temporary suspension of impact water quality monitoring at C8 and C9 from 4 March 2013 have been monitored for 4-week period after the completion of marine works to confirm no water deterioration.
- 5.4.6. Based on the safety concern when external façade refurbishment was conducted by contractor employed by Provident Centre (C9) since 3 Feb 2012, there is a fine adjustment of the sampling location of water quality monitoring at C9 to the closest accessible point prior to the completion of the external façade refurbishment work.
- 5.4.7. With respect to the trial dredging at WCR2 was scheduled on 20, 22, 24, 25 March and 1, 3, 11, 13, 15, 17, 19, 20 Apr and 3 May 2012, on-going water quality monitoring results at WSD21 during this period was checked and indicated that there was no contribution due to the trial dredging operation. Enhanced review of water quality around WCR2 was also implemented and no deterioration in the water quality was observed.
- 5.4.8. Due to the access of water monitoring station at WSD19 was blocked by LCSD construction works from 3 April 2012 to 2 May 2012 and lead to the inaccessibility of sampling either land and marine, there is a fine adjustment of the sampling point of WSD 19 since 5 April 2012 to the closest accessible point prior to the completion of the construction activities.
- 5.4.9. Due to the dredging works for Cross Harbour Water Mains from Wan Chai to Tsim Sha Tsui-DP6 was completed on 26 March 2012, the temporary suspension of impact water quality monitoring at WSD7 and WSD20 after 27 April 2012 for the water quality monitoring at WSD7 and WSD20 have been monitored for 4-week period after the completion of DP6 to confirm no water deterioration.
- 5.4.10. Due to the presence of obstacle within the inner silt curtain frame at sampling point, water quality point at C7 was finely adjusted to the outside of the inner silt curtain frame since 29 Dec 2012.
- 5.4.11. As confirmed by CWB RSS, the marine piling works under contract HY/2009/19 was confirmed completed by 4 March 2013. The water quality monitoring at the respective monitoring stations C8 and C9 were temporarily suspended since 30 March 2013.
- 5.4.12. With respect to status of cooling intakes relocation, WQM events on 22 April 2013 at monitoring stations C2, C3, C4e and C4w were temporarily suspended to confirm the commissioning status of the relocated pump stations with the WDII RSS and the IEC for preparation of relocation of the WQM stations to the relocated cooling intake pump stations.
- 5.4.13. Upon confirmation with WDII RSS and the IEC, water quality monitoring at relocated intakes monitoring location P1, P3, P4 and P5 were commenced since 24 April 2013.

Table 5.11 Water Monitoring Stations for contracts with respect to remaining DP3 work areas after the completion of DP5 & DP6 in 2012 and intake diversion in 2013

Contract No.	Remaining DP3 and work area(s)	Relevant Water Monitoring Stations,	Division of WQM w.r.t tentative works commenced / to be commenced

HK/2009/01	WCR3	C1 ¹	Apr 2013
HK/2009/02	WCR3, WCR4, TWCR4	RW21-P789 ¹	Apr 2013
HK/2012/08	HKCEC2W, HKCEC2E	WSD19, P1 ³ , P3 ³ , P4 ³ , P5 ³	Aug 2013
HY/2009/15	TCBR2, TCBR3, TCBR1W, TPCWAE, TPCWAW	C6 ⁴ , C7, Ex-WPCWA SW, Ex-WPCWA SE (plus enhanced DO monitoring described in 4.6.3)	Nov 2010
HY/2010/08	TCBR3, TCBR4	C6 ⁴ , C7 (plus enhanced DO monitoring described in 4.6.3)	Mar 2014

Remarks:

-The water monitoring stations for WSD19, P1, P3, P4, P5 shall be associated with Contract No. HK/2009/01 prior to their transition to Contract HK/2012/08.

-4 intakes (re-provisioned Wanchai WSD intake, Great Eagle Centre, China Resources Centre & Sun Hung Kai Centre constructed adjacent to each other) taken as a single group for silt screen protection and monitoring.

-Re-provisioned intake reference: P1: HKCEC Phase 1; P3: APA, P4: Shui On; P5: Government Buildings (Wanchai Tower / Revenue Tower / Immigration Tower)

-Enhanced DO Monitoring at C6 since the intake abandon in May 2011.

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

5.4.14. Water monitoring for Contract no. HK/2009/01 was commenced on 23 July 2010. The proposed division of water monitoring stations are summarized in **Table 5.12** below.

Table 5.12 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
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	Great Eagle Centre	835932.8	815888.2
C4w	Wan Chai Tower	835629.8	815889.2
P1	HKCEC Phase I	835774.7	816179.4
P3	The Academy of performing Arts	835824.6	816212.0
P4	Shui on Centre	835865.6	816220.0
P5	Government Buildings (Wanchai Tower / Revenue Tower / Immigration Tower)	835895.2	816215.2

Remarks:

- The water monitoring stations for the dredging works under Contract No. HK/2009/01 should also include WSD9, WSD17, WSD 21 and C5 if water quality monitoring at these locations have not been carried out by others. Similarly, the water monitoring stations for the dredging works under Contract No. HK/2009/02 should also include WSD7, WSD9, WSD17, WSD 19, C1, C2, C3 and C4 if water quality monitoring at these locations have not been carried out by others.
- WSD7 and WSD20 water quality monitoring were temporarily suspended since 27 Apr 2012.

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

5.4.15. 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 5.13** below.

5.4.16. Due to the blockage of the road access to C5e and C5w on 27 Mar 2013 during mid-flood tide and the sample was taken under contingency C5 on 27 Mar 2013 during mid-flood.

Table 5.13 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

Station Ref.	Location	Easting	Northing
WSD9	Tai Wan	837921.0	818330.0
WSD17	Quarry Bay	839790.3	817032.2
Cooling Water Intake			
C5e	Sun Hung Kai Centre (Eastern)	836250.1	815932.2
C5w	Sun Hung Kai Centre (Western)	836248.1	815933.2

Remarks:

- The water monitoring stations for the dredging works under Contract No. HK/2009/01 should also include WSD9, WSD17, WSD 21 and C5 if water quality monitoring at these locations have not been carried out by others. Similarly, the water monitoring stations for the dredging works under Contract No. HK/2009/02 should also include WSD7, WSD9, WSD17, WSD 19, C1, C2, C3 and C4 if water quality monitoring at these locations has not been carried out by others.
- Water quality monitoring at WSD9 and WSD 17 was implemented with respect to HK/2009/02 from 8 Feb 2012.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line

5.4.17. Water monitoring for Contract no. HK/2010/06 was commenced on 8 March 2011. The proposed division of water monitoring stations are summarized in **Table 5.14** below.

Table 5.14 Water Monitoring Stations for Contract no. HK/2010/06

Station Ref.	Location	Easting	Northing
Cooling Water Intake			
C2	Telecom House	835647.9	815864.4
P1	HKCEC Phase I	835774.7	816179.4

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 5.4.18. As the removal of reclamation work of TS1 at CBTS has been completed, all procedures have been rectified and complied with the conditions set in EP-356/2009 and FEP-04/356/2009.
- 5.4.19. Due to the commencement of the maintenance dredging on 10 November 2010, water quality monitoring for Contract no. HY/2009/15 was commenced on 9 November 2010. The proposed division of water monitoring stations are summarized in Table 5.15 below.
- 5.4.20. Due to the presence of obstacle within the inner silt curtain frame at sampling point, water quality point at C7 was finely adjusted to the outside of the inner silt curtain frame since 29 Dec 2012.

Table 5.15 Water Monitoring Stations for Contract no. HY/2009/15

Station Ref.	Location	Easting	Northing
Cooling Water Intake			
C6	Excelsior Hotel	837009.6	815999.3
C7	Windsor House	837193.7	816150.0

Remarks: - The cessation of seawater intake operation for C6 was confirmed on 17 May 2011, the water monitoring at C6 was then terminated since 17 May 2011.

Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 5.4.21. Due to the commencement of the marine bored piling on 28 Jan 2012, water quality monitoring for Contract no. HY/2009/19 was commenced on 28 Jan 2012. The proposed division of water monitoring stations are summarized in *Table 5.16* below.
- 5.4.22. Due to the marine piling under Contract no. HY/2009/19 was completed on 4 March 2013, the temporary suspension of impact water quality monitoring at C8 and C9 from 4 March 2013 have been monitored for 4-week period after the completion of marine works to confirm no water deterioration.

Table 5.16 Water Monitoring Stations for Contract no. HY/2009/19

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

Remarks: C8 and C9 monitoring commenced on 28 Jan 2012 and suspended on 30 March 2013.

- 5.4.23. Based on the safety concern when external façade refurbishment was conducted by contractor employed by Provident Center (C9) between 9 January 2012 to 30 July 2012 which caused to the inaccessibility of sampling either land and marine since 3 Feb 2012, there is a fine adjustment of the sampling location of water quality monitoring at C9 since 10 March 2012 to the closest accessible point prior to the completion of the external façade refurbishment work.
- 5.4.24. Due to the access of water monitoring station at WSD19 was blocked by LCSD construction works from 3 April 2012 to 2 May 2012 and lead to the inaccessibility of sampling either land and marine, there is a fine adjustment of the sampling point of WSD 19 since 5 April 2012 to the closest accessible point prior to the completion of the construction activities.
- 5.4.25. As per the meeting with the representative of Excelsior Hotel and World Trade Centre on 17 May 2011, they confirmed that the seawater intake for The Excelsior was no longer in use and replaced by the connected permanent water supply from WSD pipelines since 11 January 2011. Thus, the impact water quality monitoring for the cooling intake - C6 was terminated effective from 26 May 2011.
- 5.4.26. 24 hours monitoring of turbidity at the cooling water intakes at C7 was conducted. With respect to the seawall collapsing at TS4 on 17 November 2011, the 24 hours turbidity monitoring and was kept in November 2011. Since the reinstating the seawall was completed on 13 January 2012 and no any water deterioration was performed, 24 hour turbidity monitoring was then suspended on 27 January 2012.
- 5.4.27. Water monitoring results measured in this reporting period are reviewed and summarized. Details of water quality monitoring results and graphical presentation can be referred in **Appendix 5.4.**

Table 5.17 Summary of Water Quality Monitoring Exceedances in Reporting Month

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
HK/2009/01	WSD19	0	0	0	0	0	0	0	0	1	3	1	2
	C1	0	0	0	0	0	0	0	0	0	0	0	0
	C3	0	5	0	0	0	0	0	5	0	0	0	0
	C4e	0	5	0	0	1	0	0	4	0	1	0	0
	C4w	1	3	0	0	1	0	1	4	0	0	0	0
	P1	0	0	0	0	0	0	0	0	0	0	0	0
	P3	0	0	0	0	0	0	0	0	0	0	0	0
	P4	0	0	0	0	0	0	0	0	0	0	0	0
	P5	0	0	0	0	0	0	0	0	0	0	0	0
Monitoring finished on 27 April 2012	WSD20	0	0	0	0	0	0	0	0	0	0	0	0
	WSD7	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/01 & HK/2010/06	C2	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/02 Monitoring started on 8 Feb 2012	C5e	0	0	0	0	0	0	0	0	0	0	0	0
	C5w	0	0	0	0	0	0	0	0	0	0	0	0
	WSD21	0	0	0	0	2	0	0	0	0	0	0	0
	WSD9	0	0	0	0	0	0	0	0	0	0	0	0
	WSD17	0	0	0	0	1	0	0	0	0	0	0	0
HY/2009/15	C7	0	0	0	0	0	0	0	0	0	0	0	0
HY/2009/19 Monitoring started on 28 Jan 2012	C8	0	0	0	0	0	0	0	0	0	0	0	0
	C9	0	0	1	0	0	0	0	0	0	0	0	0
Total		1	13	1	0	5	0	1	13	1	4	1	2

- Remarks: - The cessation of seawater intake operation for C6 was confirmed on 17 May 2011, the water monitoring at C6 was then terminated since 17 May 2011.
- WSD9 and WSD17 were implemented with respect to HK/2009/02 from 8 Feb 2012.
 - 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8, C9 were completed on 6 Feb 2012.
 - C8 and C9 were implemented with respect to HY/2009/19 from 28 Jan 2012.
 - C8 & C9 was temporary suspended on 30 March 2013 due to the marine works for Contract no. HY/2009/19 had been completed on 4 March 2013
 - WSD7 and WSD20 were temporarily suspended from 27 Apr 2012

5.4.28. Investigation revealed that exceedances from 8 to 12 April 2013 at C3, C4e and C4w were project-related exceedances. All the other remaining exceedances were concluded as non-project-related. The details of the recorded exceedances can be referred to the Section 6.4.

5.4.29. Enhanced DO monitoring at 4 monitoring stations in Causeway Bay Typhoon Shelter and Ex-Public Cargo Works Area was conducted three days per week during the reporting period.

The action and limit level exceedances of water quality monitoring are summarized in **Table 5.18**.

Table 5.18 Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Month

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
HY/2009/15	C6	0	0	0	0
	C7	0	0	0	0
	Ex-WPCWA SW	0	0	1	1
	Ex-WPCWA SE	0	0	2	0
Total		0	0	3	1

5.4.30. There were 3 action level exceedances and 1 limit level exceedances recorded in enhanced dissolved oxygen monitoring in this reporting period.

5.4.31. In response to the Condition 2.18 of the Environmental Permit no. EP-356/2009 requiring that a silt curtain / impermeable barrier system be installed to channel water discharge flow from Culvert L to locations outside the embayment area, a proposed replacement of the requirement with additional dissolved oxygen monitoring has been conducted at three monitoring stations, namely A, B and C between the eastern seawall of Central Reclamation Phase III and the HKCEC Extension since November 2011 under EP-356/2009 so that DO level between the eastern seawall of Central Reclamation Phase II and the HKCEC extension could be continuously monitored. Details of additional DO monitoring results can be referred in **Appendix 5.4a**.

5.5 Waste Monitoring Results

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

5.5.1. Inert C&D waste was disposed and no non- inert C&D waste was recycled of in this reporting month. Details of the waste flow table are summarized in **Table 5.19**.

Table 5.19 Details of Waste Disposal for Contract no. HK/2009/01

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	117.40	22379.215	TKO137, TM38
Inert C&D materials recycled, m ³	0	5104.5	N/A
Non-inert C&D materials disposed, m ³	17.16	1280.8	SENT Landfill

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Non-inert C&D materials recycled, kg	0	151143	N/A
Chemical waste disposed, kg	100	9300	N/A
*Marine Sediment (Type 1 – Open Sea Disposal), m ³	0 (Bulk Volume)	97428.2 (Bulk Volume)	South of Cheung Chau
* Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m ³	0 (Bulk Volume)	52250 (Bulk Volume)	East of Cha Chau
Dredged Sediment Requiring Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers	0 (Bulk Volume)	6773 (Bulk Volume)	East of Cha Chau

- 5.5.2. There were no marine sediment Type 1- Open Sea Disposal and marine sediments Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal disposed in this reporting month.

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

- 5.5.3. Inert C&D waste and Non-inert C&D waste were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.20**.

Table 5.20 Details of Waste Disposal for Contract no. HK/2009/02

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	795.2	231688.18	TKO137 / TM 38
Inert C&D materials recycled, m ³	NIL	18161	N/A
Non-inert C&D materials disposed, m ³	30.07	862.19	SENT Landfill
Non-inert C&D materials recycled, m ³	N/A	N/A	N/A
Chemical waste disposed, kg	700	6736	SENT Landfill
Marine Sediment (Type 1 – Open Sea Disposal), m ³	27254	182081 (Bulk volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate	5016	129320 (Bulk volume)	East of Sha Chau

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Sites) & Type 2 – Confined Marine Disposal) , m ³			

There are marine Sediment Type1- Open Sea Disposal and there are Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal was disposed of in this reporting month.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 5.5.4. No Inert C&D waste and no non- inert C&D waste were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.21**

Table 5.21 Details of Waste Disposal for Contract no. HY/2009/15

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	NIL	141579.2	Tuen Mun Area 38
	NIL	65216	TKO137 FB
Inert C&D materials recycled, m ³	NIL	304	ex-PCWA
	NIL	111.9	TS4
Non-inert C&D materials disposed, m ³	NIL	252.2	SENT Landfill
Non-inert C&D materials recycled, kg	NIL	299361.5	N/A
Chemical waste disposed, kg	NIL	8,200	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m ³	0 (Bulk Volume)	100208 (Bulk Volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m ³	0 (Bulk Volume)	218665 (Bulk Volume)	East of Sha Chau
Marine Sediment (Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers)	NIL	7,050 (Bulk Volume)	East of Sha Chau
Marine Sediment (Type 2 – Confined Marine Disposal), m ³	5240 (Bulk Volume)	6100 (Bulk Volume)	East of Sha Chau

There was no marine sediment Type 1 Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal was disposed of in this reporting month.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central – Wan Chai Bypass over MTR Tsuen Wan Line

5.5.5. Inert C&D waste was disposed and no non-Inert C&D waste was recycled in this reporting month. Details of the waste flow table are summarized in **Table 5.22**.

Table 5.22 Details of Waste Disposal for Contract no. HK/2010/06

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	165	12081.4	TM38
Inert C&D materials recycled, m ³	NIL	267	HK/2009/01
Non-inert C&D materials disposed, m ³	25.47	161.95	SENT/TKO137SF
Non-inert C&D materials recycled, T	NIL	60.58	Recyclers
Chemical waste disposed, L	0	2200	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m ³	0	3,891 (Bulk Volume)	South Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m ³	0	12,586 (Bulk Volume)	East Sha Chau

There was no marine sediments Type1- Open Sea Disposal and no Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal was disposed of in this reporting month.

Contract no. HY/2009/19 –Central- WanChai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

5.5.6. Inert C&D waste was disposed of and non-inert C&D waste were disposed and recycled in this reporting month. Details of the waste flow table are summarized in **Table 5.23**.

Table 5.23 Details of Waste Disposal for Contract no. HY/2009/19

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	8568.69	177096.81	TM38
Inert C&D materials recycled, m ³	17930.45	19253.45	N/A
Non-inert C&D materials disposed, m ³	14.92	314.83	N/A
Non-inert C&D materials recycled, kg	37.32	224.77	N/A
Chemical waste disposed, L	0	0.46	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m ³	0	83	South Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m ³	0	681	East Sha Chau

There was no marine sediment Type1- Open Sea Disposal and there was no Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal generated were disposed



in this reporting month.

6. Compliance Audit

- 6.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in Appendix 6.1.

6.1 Noise Monitoring

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

- 6.1.1 No exceedance was recorded in the reporting month.

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

- 6.1.2 No exceedance was recorded in the reporting month.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 6.1.3 No exceedance was recorded in the reporting month.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line

- 6.1.4 No exceedance was recorded in the reporting month.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 6.1.5 Four limit level exceedances were recorded on 3, 12, 16 and 23 April 2013 at M6 – HK Baptist Church Henrietta Secondary School in the reporting month. Investigations found that on 3, 16 and 23 April 2013, major traffic noise was contributed in the noise monitoring and exceedances were not related to the Project. On 12 April 2013, investigation found that breaking works operation was the major noise contribution despite nearby IEC traffic and the exceedance was considered as Project-related.

6.2 Real-time noise Monitoring

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 6.2.1 Non project related limit level exceedance was recorded at RTN2a- Electric Centre on 28 March 2013. Investigation found that exceedances were contributed by IEC traffic.

6.3 Air Monitoring

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

- 6.3.1 One action level and no limit level exceedances were recorded during 1hr-TSP monitoring on 15 April 2013 at CMA6a – WD2 PRE Office in this reporting month. The exceedances were concluded as non-project related. After investigation, it was found that the high ambient air pollutant concentration was the major contribution to air quality impact and contractor dust

mitigation measures were confirmed in place. As such, the exceedances were considered as non- project related.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 6.3.2 Two action level exceedances were recorded at CMA3a- CWB PRE Site Office on 15 April 2013 during 1hr-TSP monitoring in the reporting month. Ambient air pollutant concentration was considered as the contribution to air quality impact. As such, the exceedances were concluded as non project related.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 6.3.3 Two action level exceedances were recorded at CMA1b- Oil Street Site Office on 15 April 2013 during 1hr-TSP monitoring in the reporting month. Ambient air pollutant concentration was considered as the contribution to air quality impact. As such, the exceedances were concluded as non project related.

6.4 Water Quality Monitoring

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

- 6.4.1 There was SS exceedence at C4e recorded during flood tide on 29 Mar 2013 in this reporting month. According to the information reported by Contractor HK/2009/01 on 29 Mar 2013, rock filling work on east bridge was conducted on that day. Checking with contractor's inspection record, the silt screen and silt curtain were in proper condition on that day. In the view that the silt screen and silt curtain were in proper condition, it was considered not related to Project works.
- 6.4.2 There was turbidity exceedence at C9 recorded during flood tide on 29 Mar 2013 in this reporting month. According to the information reported by Contractor HY/2009/19 on 29 Mar 2013, no related marine work was performed during time of monitoring, the exceedence was considered to be caused from the accumulation of particles discharged from the outfalls near monitoring station and not related to the Project works.
- 6.4.3 There was DO exceedence at C4w recorded during ebb tide on 5 April 2013 in this reporting month. According to the information reported by Contractor HK/2009/01 on 5 April 2013, rock filling work on east bridge and backfilling at Victoria Harbour were conducted on that day. Checking with contractor's inspection record, the silt screen and silt curtain were in proper condition on that day. In view that the water quality at monitoring stations located nearest the marine work site were well below the Action level, the silt screen and silt curtain were in proper condition, it was considered not related to Project works.
- 6.4.4 There was DO exceedence at C3, C4e and C4w recorded during both flood and ebb tide on 8 April 2013 in this reporting month. Deterioration of water circulation within the water channel underneath HKCEC resulted from partial blockage of water flow at HKCEC3E was observed and was considered as the major contribution of the low DO level recorded. The Contractor, RE and IEC were informed when the exceedances were recorded. ET recommended the

- contractor to clear the partial blockage and implement appropriate mitigation measures to restore the water quality (DO) at the concerned area. Upon considering the exceedance is related to the Project, the filling works at HKCEC3E was suspended on 13 April 2013. Mitigation measures including provision of water pump and opening of silt curtain enclosure at the concerned area which block the water circulation without adversely impact nearby water quality. The effectiveness of the mitigation measure is closely reviewed at the concerned area and the trend of DO is closely monitored. Rock filling at East side of Expo Drive East and backfilling works at Victoria Harbour was conducted by contract HK/2009/01 on 8 April 2013. The partial blockage of water flow leading to the deterioration of water circulation was considered as the major contribution of the low DO level. As such, the exceedance was considered to be related to the Project. The trend of water quality (DO) was closely monitored on 10 Apr 2013.
- 6.4.5 There was DO exceedance at C3, C4e and C4w recorded during both flood and ebb tide on 10 April 2013 in this reporting month. Deterioration of water circulation within the water channel underneath HKCEC resulted from partial blockage of water flow at HKCEC3E was observed and was considered as the major contribution of the low DO level recorded. The Contractor, RE and IEC were informed when the exceedances were recorded. ET recommended the contractor to suspend the filling work at HKCEC3E, clear the partial blockage and implement appropriate mitigation measures to restore the water quality (DO) at the concerned area. Upon considering the exceedance is related to the Project, the filling works at HKCEC3E was suspended on 13 April 2013. Mitigation measures including provision of water pump and opening of silt curtain enclosure at the concerned area which block the water circulation without adversely impact nearby water quality. The effectiveness of the mitigation measure is closely reviewed at the concerned area and the trend of DO is closely monitored. Backfilling works at Victoria Harbour was conducted by contract HK/2009/01 on 10 April 2013. The partial blockage of water flow leading to the deterioration of water circulation was considered as the major contribution of the low DO level. Continuous low DO level was hence recorded and the exceedance was considered as project related. The trend of water quality (DO) was closely monitored on 12 Apr 2013.
- 6.4.6 There was DO exceedance at C3, C4e and C4w recorded during both flood and ebb tide on 12 April 2013 in this reporting month. Deterioration of water circulation within the water channel underneath HKCEC resulted from partial blockage of water flow at HKCEC3E was observed and was considered as the major contribution of the low DO level recorded. The Contractor, RE and IEC were informed when the exceedances were recorded. A water pump was provided by the contractor at the water intake wells underneath HKCEC. ET recommended the contractor to suspend the filling work at HKCEC3E, clear the partial blockage and review the mitigation measures implemented to restore the water quality (DO) at the concerned area. Upon considering the exceedance is related to the Project, the filling works at HKCEC3E was suspended on 13 April 2013. Mitigation measures including provision of water pump and opening of silt curtain enclosure at the concerned area which blocks the water circulation without adversely impact nearby water quality. The effectiveness of the mitigation measure is closely reviewed at the concerned area and the trend of DO is closely monitored. Rock filling at east side of Expo Drive East and Backfilling works at Victoria Harbour was conducted by contract HK/2009/01 on 12 April 2013. The partial blockage of water flow at HKCEC3E

- leading to reduced water circulation at the water channel underneath HKCEC was considered as the major contribution of low DO level. Continuous low DO level was hence recorded despite the provision of water pump by contractor at the concerned area. The exceedance was considered as project related. The trend of water quality (DO) was closely monitored on 15 April 2013.
- 6.4.7 There was DO exceedance at C3, C4e and C4w recorded during both flood and ebb tide on 15 April 2013 in this reporting month. Accumulation of pollutant discharged from nearby outfall at the water channel was observed and was considered as the major contribution of the low DO level recorded. The Contractor, RE and IEC were informed when the exceedances were recorded. Filling work at HKCEC3E (Area 8 & 9) was suspended since 13 April 2013. Water pump was provided by the contractor at the water intake wells underneath HKCEC. The partial blockage of water flow at HKCEC3E was improved by opening up part of the silt curtain enclosure which block the water circulation without adversely impacting nearby water quality. ET recommended the contractor to review the effectiveness of the mitigation measures and take action to further enhance the dispersion of the accumulated substances discharged from nearby outfall to restore the water quality (DO) at the concerned area. No further filling work was conducted by contract HK/2009/01 since 13 April 2013. The accumulation of outfall discharge within the water channel underneath the HKCEC was considered as the major contribution of the exceedance. As such, the exceedance was considered non-project related.
- 6.4.8 There was DO exceedance at C3, C4e and C4w recorded during both flood and ebb tide on 17 April 2013 in this reporting month. Accumulation of discharge from nearby outfall and DO depleted waterbody at the water channel were observed and was considered as the major contribution of the low DO level recorded. The Contractor, RE and IEC were informed when the exceedances were recorded. Filling work at HKCEC3E (Area 8 & 9) was suspended since 13 April 2013. Water pump and additional re-aeration pump were provided by the contractor at the water intake wells underneath HKCEC and opening of the silt curtain enclosure was maintained enclosure to minimize the effect of partial blockage to water flow without adversely impacting nearby water quality. Persistent low DO level was recorded despite the implementation of the aforesaid mitigation measures, ET recommended the contractor to further review the effectiveness of mitigation measures and provide additional mitigation measures to enhance the dispersion of the accumulated discharge and DO depleted waterbody from nearby outfall to restore the water quality (DO) at the concerned area. Persistent low DO level was recorded despite the implementation of the aforesaid mitigation measures, ET recommended the contractor to further review the effectiveness of mitigation measures and provide additional mitigation measures to enhance the dispersion of the accumulated discharge and DO depleted waterbody from nearby outfall to restore the water quality (DO) at the concerned area.
- 6.4.9 There was DO exceedance at C3, C4e and C4w recorded during both flood and ebb tide on 19 April 2013 in this reporting month. Accumulation of discharge from nearby outfall and DO depleted waterbody at the water channel were observed and was considered as the major contribution of the low DO level recorded. The Contractor, RE and IEC were informed when the exceedances were recorded. Filling work at HKCEC3E (Area 8 & 9) was suspended since 13 April 2013. Water pump and aeration pump were provided by the contractor at the water intake wells underneath HKCEC to further enhance DO and opening of the silt curtain

enclosure was maintained enclosure to minimize the effect of partial blockage to water flow without adversely impacting nearby water quality. Persistent low DO level was recorded despite the implementation of the aforesaid mitigation measures, the contractor was advised to review and promptly provide additional mitigation measures to enhance the dispersion of the accumulated discharge and DO depleted waterbody at the water channel to restore the water quality (DO) at the concerned area. No further filling work was conducted by contract HK/2009/01 since 13 April 2013. The accumulation of outfall discharge within the water channel underneath the HKCEC was observed and considered to continuously contribute to the exceedance. As such, the exceedance was considered non-project related.

- 6.4.10 There were turbidity and SS exceedances at WSD19 recorded during Ebb tide on 8, 12, 24 and 27 April 2013. In view that the water quality at monitoring stations located nearest the marine work site were well below Action Level and the silt screen was in proper condition, the exceedances were possible in relation to the changes of water quality in the vicinity of the water quality monitoring station and not project related.

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

- 6.4.11 There were SS exceedances recorded at WSD21 on 1 and 3 April 2013 during flood tide. Confirmed with Contractor, there was no marine work conducted during the water quality monitoring. The exceedance was considered as natural variation or changes of water quality in the vicinity of the water quality monitoring station and not project related.
- 6.4.12 There was SS exceedance recorded at WSD17 on 27 April 2013 during flood tide. Confirmed with Contractor, there was no marine work conducted during the water quality monitoring. The exceedance was considered as natural variation or changes of water quality in the vicinity of the water quality monitoring station and not project related.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 6.4.13 There were occasionally DO exceedances at Ex-WPCWA SE and Ex-WPCWA SW recorded in this reporting month. No odour nuisance was noted during DO monitoring. After checking with Contractor, there was no marine work undertaken at ex-WPCWA. The exceedances were possible in relation to the accumulation of organic particles discharge from culvert near monitoring station and considered not related to the Projects works.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line

- 6.4.14 No exceedance was recorded in this reporting month.

Contract no. HY/2009/19- Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

6.4.15 There were occasionally turbidity and turbidity exceedances at C9 recorded on 29 Mar 2013 in this reporting month. Confirmed with Contractor, there was no marine work conducted near C9. The exceedances was possible in relation to the accumulation of particles discharged from outfalls near monitoring stations and not related to project.

6.4.16 Summary for notification of exceedances can be referred to **Appendix 6.2**.

6.5 Review of the Reasons for and the Implications of Non-compliance

6.5.1 There was no non-compliance from the site audits in the reporting period. The observations and recommendations made in each individual site audit session were presented in Section 8.

6.5.2 One project related exceedances from noise monitoring was recorded in the reporting month.

6.5.3 One project related exceedances from water monitoring was recorded in the reporting month.

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

6.6.1 There was no particular action taken since no non-compliance was recorded from the site audits in the reporting period.

6.6.2 There was one limit level exceedances of noise monitoring recorded on 12 April 2013 at M6-HK Henrietta Secondary School that was considered in relation to pile head breaking works conducted during monitoring.

6.6.3 Following the Event and Action Plan, additional noise monitoring was conducted on 15 April 2013 and a proposal for remediation measures was submitted by the contractor after the exceedance was identified.

6.6.4 The temporary noise blanket at marine platform was confirmed in place and rectification measures including provision of additional noise blanket at top side of marine pier and reduction in the number of breakers in parallel use were implemented by the contractor.

6.6.5 There was DO exceedance at C3, C4e and C4w recorded during both flood and ebb tide from 8 to 12 April 2013 in this reporting month. Deterioration of water circulation within the water channel underneath HKCEC resulted from partial blockage of water flow at HKCEC3E was observed and was considered as the major contribution of the low DO level recorded.

6.6.6 The Contractor, RE and IEC were informed when the exceedances were recorded. A water pump was provided by the contractor at the water intake wells underneath HKCEC. ET recommended the contractor to suspend the filling work at HKCEC3E, clear the partial blockage and review the mitigation measures implemented to restore the water quality (DO) at the concerned area.

6.6.7 Upon considering the exceedance is related to the Project, the filling works at HKCEC3E was suspended on 13 April 2013. Mitigation measures including provision of water pump and opening of silt curtain enclosure at the concerned area which blocks the water circulation without adversely impact nearby water quality.

6.6.8 The effectiveness of the mitigation measure is closely reviewed at the concerned area and the trend of DO is closely monitored. Rock filling at east side of Expo Drive East and Backfilling works at Victoria Harbour was conducted by contract HK/2009/01 on 12 April 2013. The partial



blockage of water flow at HKCEC3E leading to reduced water circulation at the water channel underneath HKCEC was considered as the major contribution of low DO level. Continuous low DO level was hence recorded despite the provision of water pump by contractor at the concerned area. The exceedance was considered as project related. The trend of water quality (DO) was closely monitored from 10 to 19 April 2013.

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 Phase III, Central-Wanchai Bypass and Island Eastern Corridor Link projects.
- 7.0.2. According to the Monthly EM&A report (March 2013) of Central Reclamation Phase III (CRIII), filling works, road works, landscape works, building construction works and drainage works were performed in the April 2013 reporting month. The water quality monitoring was completed in October 2011 and no Project-related exceedance was recorded for air and noise monitoring. It can be concluded that cumulative construction impact due to the concurrent activities of the current projects with the Central Reclamation Phase III (CRIII) was insignificant
- 7.0.3. According to the construction programme of Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects, the major construction activity under Wan Chai Development Phase II were marine works at HKCEC areas, cross-harbour Watermains, Fresh Watermains and Cooling Watermains Installations, tunnel works at Wan Chai East, ELS work at TS4 and deep excavation at TPCWAE TCBR1W. Excavation and tunnel works at Central Interchange, ELS and box culvert construction at North Point area. The major environmental impact was water quality impact at Causeway Bay and Wan Chai. Land-based construction activities were diaphragm wall construction at TS2, ELS work at TS4, deep excavation at TPCWAE TCBR1W, tunnel works at Central and ELS work at North Point and tunnel works at Wan Chai East in the reporting month.
- 7.0.4. The major environmental impacts generated from tunnel works at Central and tunnel works at Wan Chai East, IECL and Causeway Bay Typhoon Shelter were undertaken in the reporting month. No significant air impact was anticipated in the reporting month. Besides, no project-related exceedances were recorded during the air environmental monitoring events in the reporting month. There was one project related limit level exceedances during noise monitoring event in the reporting month and rectification measures have been implemented by contractor. There was project related limit level exceedances during water quality monitoring event in the reporting month and rectification measures have been implemented by contractor. Thus, it is evaluated that the cumulative construction impact from the concurrent projects including Wan Chai Development Phase II was insignificant.

8. Environmental Site Audit

8.0.1. During this reporting month, weekly environmental site audits were conducted for Contracts no. HK/2009/01, HK/2009/02, HY/2009/15, HK/2010/06, HY/2009/19 and HK/2012/08. No non-conformance was identified during the site audits.

8.0.2. Four site inspections for Contract no. HK/2009/01 was carried out on 3, 10, 18 and 24 April 2013 in reporting month. Results of these inspections and outcomes are summarized in Table 8.1.

Table 8.1 Summary of Environmental Inspections for Contract no. HK/2009/01

Item	Date	Observations	Action taken by Contractor	Outcome
130403_01	3-Apr-13	Drip tray should be properly maintained and preventing from leakage of water or oil.(West Ferry Pier)	Drip tray were properly provided.	Completion as observed on 10 April 13
130410_01	10-Apr-13	The entent of filled material above water mark was observed which affect the water circulation of the HKCEC3E and water channel under HKCEC. Measures and mitigation should be provided to improve the water circulation to water intake	Contractor had no futher filling since 13 April 2013	Completion as observed on 18 April 13
130418_01	18-Apr-13	Stockpile should be covered to prevent flushing into the sea (Water Channel)	Stockpile was covered	Completion as observed on 24 April 13
130418_02	18-Apr-13	Silt curtain should be properly maintained to prevent flowing out of muddy water (Expo drive East)	Silt curtain was properly deployed	Completion as observed on 24 April 13
130424_01	24-Apr-13	Equipment should be preventing from spillage oil on the ground(A2-2)	Spillage was prevented	Completion as observed on 2 May 13

8.0.3. Five site inspections for Contract no. HK/2009/02 was carried out on 28 March 2013, 5, 11, 17 and 25 April 2013 during this reporting period. The results of these inspections and outcomes are summarized in **Table 8.2**.

Table 8.2 Summary of Environmental Inspections for Contract no. HK/2009/02

Item	Date	Observations	Action taken by Contractor	Outcome
130328_01	28-Mar-13	Silt curtain should be properly deployed	Silt curtain was properly deployed	Completion as observed on 5 April 2013
130417_01	17-Apr-2013	Muddy water from pipe pilling should be collected and treated. The muddy water should be prevent from getting into the hual road(New Ferry Pier)	Muddy water was not observed on hual road.	Completion as observed on 25 April 2013

8.0.4. Four site inspections for Contract no. HY/2009/15 was carried out on 2, 9, 16 and 23 April 2013 in reporting month. The results of these inspections and outcomes are summarized in **Table 8.3**.

Table 8.3 Summary of Environmental Inspections for Contract no. HY/2009/15

Item	Date	Observations	Action taken by Contractor	Outcome
130402_01	2-Apr-13	Silt curtain deployed for dredging work area and around derrick barge should be tightened to avoid gap (Eastern Breakwater)	Silt curtain enclosures were tightened	Completion as observed on 9 April 2013
130402_02	2-Apr-13	Mud resting at the edge of the seawall block should be cleared (TS2)	Mud residue was cleared	Completion as observed on 9 April 2013
130409_01	9-Apr-13	Provision of drip tray to oil storage (TS4)	Drip tray was provided	Completion as observed on 16 April 2013
130409_02	9-Apr-13	Oil stain should be cleaned up	Oil stain found was removed	Completion as observed on 16 April 2013
130416_01	16-Apr-13	Perimeter drainage channel should be cleared more regularly to keep clear of mud slurry to maintain adequate flow and to prevent overflow (TS2)	Partial clearing of perimeter channel was provided	Completion as observed on 23 April 2013
130416_02	16-Apr-13	Suspended floc were observed at wastewater treatment outfall location and in wastewater treatment tank. Wastewater treatment process and procedure should be reviewed to prevent improper discharge (TS2)	Treatment process was reviewed and adjusted, no further suspended floc was discharged	Completion as observed on 23 April 2013
130416_03	16-Apr-13	Silt curtain should be provided around derrick barge in active operation conducting dredging works (Eastern Breakwater)	Additional silt curtain was provided at the concerned area.	Completion as observed on 23 April 2013
130423_02	23-Apr-13	Drip tray should be provided to oil buckets (TS4)	Oil buckets were removed.	Completion as observed on 30 April 2013
130423_03	23-Apr-13	Mud residue resting at the edge of seawall near mud pit should be cleared to prevent drop-off to nearby water (TS2)	Mud residue was cleared	Completion as observed on 7 May 2013.

8.0.5. Five site inspections for Contract no. HK/2010/06 was carried out on 2, 8, 18 and 22 and 29 April 2013 in reporting month. The results of these inspections and outcomes are summarized in Table 8.4.

Table 8.4 Summary of Environmental Inspections for Contract no. HK/2010/06

Item	Date	Observations	Action taken by Contractor	Outcome
130418_01	18-Apr-13	Chemical container should be properly stored or clean up as chemical waste(Portion 2)	Chemical container have been removed	Completion as observed on 22 April 13
130418_02	18-Apr-13	C&D waste should be properly clean and should not place near the retained tree (Children Playground)	C&D waste have been removed	Completion as observed on 22 April 13

8.0.6. Four site inspections for Contract no. HY/2009/19 was carried out on 3, 10, 17 and 24 April 2013 in reporting month. No observation is found in the reporting month

8.0.7. Four site inspections for Contract no. HK/2012/08 was carried out on 2, 9, 16 and 23 April 2013 in this reporting period. No observation is found in the reporting month.

9. Complaints, Notification of Summons and Prosecution

- 9.0.1. No environmental complaint was received in the reporting period.
- 9.0.2. The details of cumulative complaint log and updated summary of complaints are presented in **Appendix 9.1**
- 9.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in **Table 9.1** and **Table 9.2** respectively.

Table 9.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
Commencement works (Mar 2010) to last reporting month	28
April 2013	0
Project-to-Date	28

Table 9.2 Cumulative Statistics on Successful Prosecutions

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

10. Conclusion

- 10.0.1. 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.
- 10.0.2. WDII/RSS advised that the dredging works for submarine pipeline at Victoria Harbour had been completed in January 2012. Therefore, the concurrent dredging activities at Sewage Pipeline Zone and reclamation shoreline zone TCBR under the EP-356/2009 scenario 2B no longer exist. As such, with reference to Table 5.39 of the EIA Report for Wan Chai Development Phase II and Central-Wan Chai Bypass, the application of silt screen for cooling water intakes for Queensway Government Offices was suspended and the others were remains unchanged.
- 10.0.3. As the land-based piling and filling works- DP3 at Tin Hau had been completed on 3 September 2012 and confirmed by RSS, the real-time noise monitoring results at FEHD Hong Kong Transport Section Whitfield Depot was excluded under EP-356/2009 since 28 November 2012.
- 10.0.4. The real-time noise monitoring at RTN2-Oil Street Community Liaison Centre has been relocated to City Garden Electric Centre (RTN2a- Electric Centre) on 5 Oct 2012, which is a representative of noise sensitive receiver- City Garden. The baseline noise level of RTN2a will adopt the results derived from the baseline noise monitoring conducted in Electric Centre from 4 December 2009 to 17 December 2009.
- 10.0.5. Water quality monitoring at WSD10 and WSD15 will be temporary suspended while water quality monitoring at WSD9 and WSD17 were implemented with respect to HK/2009/02 for the water quality monitoring scheduled on 8 Feb 12 onwards;
- 10.0.6. Due to the marine piling under Contract no. HY/2009/19 was completed on 4 March 2013, the temporary suspension of impact water quality monitoring at C8 and C9 from 4 March 2013 have been monitored for 4-week period after the completion of marine works to confirm no water deterioration.
- 10.0.7. Water quality monitoring at C8 & C9 was temporary suspended on 30 March 2013 due to the marine works for Contract no. HY/2009/19 had been completed on 4 March 2013, and conclude if any water deterioration had been identified during the 4-week water quality monitoring.
- 10.0.8. Based on the safety concern when external façade refurbishment was conducted by contractor employed by Provident Centre (C9) between 9 January 2012 to 30 July 2012 which caused to the inaccessibility of sampling either land and marine since 3 Feb 2012, there is a fine adjustment of the sampling location of water quality monitoring at C9 since 10 March 2012 to the closest accessible point prior to the completion of the external façade refurbishment work.
- 10.0.9. Due to the access of water monitoring station at WSD19 was blocked by LCSD construction works from 3 April 2012 to 2 May 2012 and lead to the inaccessibility of sampling either land and marine, there is a fine adjustment of the sampling point of WSD 19 since 5 April 2012 to the closest accessible point prior to the completion of the construction activities.

- 10.0.10. With respect to the trial dredging at WCR2 was scheduled on 20, 22, 24, 25 March and 1, 3, 11, 13, 15, 17, 19, 20 Apr and 3 May 2012, on-going water quality monitoring results at WSD21 during this period was checked and indicated that there was no contribution due to the trial dredging operation. Enhanced review of water quality around WCR2 was also implemented and no deterioration in the water quality was observed.
- 10.0.11. Due to the dredging works for Cross Harbour Water Mains from Wan Chai to Tsim Sha Tsui- DP6 was completed on 26 March 2012, the temporary suspension of impact water quality monitoring at WSD7 and WSD20 after 27 April 2012 for the water quality monitoring at WSD7 and WSD20 have been monitored for 4-week period after the completion of DP6 to confirm no water deterioration.
- 10.0.12. The scheduled construction activities and the recommended mitigation measures for the coming month are listed in **Table 10.1**.

Table 10.1 Construction Activities and Recommended Mitigation Measures in Coming Reporting Month

Contract No.	Key Construction Works	Recommended Mitigation Measures
HK/2009/01	<p>Marine Works</p> <ul style="list-style-type: none"> • Filling works up to +4.0mPD. • Steel bridge construction over temporary open channel between CH220 and CH260. • Construction of mass concrete coping for new seawall. • Installation of ELS for construction of proposed box culvert Bay 8 and Bay 9. Subsequent Box Culvert construction for Bay 8 & 9. • Backfilling to temporary water channel for subsequent demolition of promenade deck and pumping station at HKCEC Water Channel. • Connection works of Pipeline D to exiting mains at Wan Chai. • Connection works of Pipeline C to exiting mains at Wan Chai. <p>Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)</p>	<ul style="list-style-type: none"> • To conform the installation and setting as in the silt screen deployment plan • Frequency spray water on the dry dusty road and on the surface of concrete breaking • To cover the dusty material or stockpile by impervious sheet • To space out noisy equipment and position as far as possible from sensitive receiver. • To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance. • Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum • Daily visual inspection of silt screen and silt curtain to ensure its operation properly

Contract No.	Key Construction Works	Recommended Mitigation Measures
	<ul style="list-style-type: none"> • Works at Zone B6-1B, B6-2A, B6-4, B6-5B, A2-3A, A1-5C, A3-3C, C1-2 and X2-1. • Mainlaying works at Zone A2-3A and A1-5C. • Mainlaying works in Zone C1-2. • Mainlaying works for proposed sewerage system in Zone B6-1B, B6-2A, B6-4. • Mainlaying works at Zone X2-1. <p>Tunnel Works</p> <ul style="list-style-type: none"> • Installation of pre-bored H-pile in CWB Stage 1B under the atrium link (from Ch80 to Ch220). • Installation of pre-bored H-pile in CWB Stage 1B under the atrium link (from Ch120 to Ch220). • 3rd Piling rig for pre-bored H piling works under atrium would be mobilized to Site. • CWB diaphragm wall construction under the atrium lin. • Construction of bulkhead Wall at Ch120. • Pre-drilling works for CWB (Stage 3). • Demolition of the promenade deck and pumping stations at HKCEC Water Channel. <p>E&M Works</p> <ul style="list-style-type: none"> • Full commissioning for Cooling Water Pumping Station P5. • Handover inspection for Cooling Water Pumping Station P3. • Handover inspection for Cooling 	

Contract No.	Key Construction Works	Recommended Mitigation Measures
	<p>Water Pumping Station P5.</p> <p>Application of Epoxy Lining to Existing Box Culvert M (VO No.31)</p> <ul style="list-style-type: none"> • Epoxy lining application to the western box of the existing Box Culvert M. 	
HK/2009/02	<ul style="list-style-type: none"> • Footpath reinstatement works of cooling mains near Harbour Centre / Great Eagle Centre. • Remedial works and subsequent T&C for CRB intake pipes within WCR1 area. Notification to stakeholder for switching over for the proposed cooling water intake system. • Construction of pile caps for rectifying the subsided intake pipes for both GE/HC and SHK. • Remaining DN800 salt watermins (CHS8A) installation and backfilling works inside Ex-pet Garden. • Construction of remedial works for the concrete plug at Bay 1B and the subsequent construction of Bay 1B and Bay 2B Intake Culvert. • All mainlaying works and prepare for connection with the existing DN600 salt watermins at Hung Hing Road. • Leakage test for the installed stoplog at Bay 2A of Intake Culvert • Synthetic woods and façade 	<ul style="list-style-type: none"> • To cover the dusty material or stockpile by impervious sheet; • Frequency spray water on the dry dusty road and on the surface of concrete breaking • To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance and dark smoke emission • To conform the installation and setting as in the silt screen and silt curtain deployment plan • Movable noise barrier shall be deployed for demolition works • Daily visual inspection of silt screen and silt curtain to ensure its operation properly • Review silt screen deployment and silt curtain deployment and resubmit associate plans to EPD • Implement silt screen and silt curtain in accordance with the associated plans submitted to EPD.

Contract No.	Key Construction Works	Recommended Mitigation Measures
	<p>works for the external wall of WSD Salt Water Pumping Station.</p> <ul style="list-style-type: none"> • Backfilling to Bay 6 to Bay 11 of Intake Culvert. • PLC & SCADA functional and performance tests after completion of training to WSD staff. • Reinstatement works of DSD receiving pit at Hung Hing Road. • Construction of Bay 4 & Bay 5 of the proposed Box Culvert N1. • ABWF in Ferry Pier. • Installation of moveable ramp system included the commencement of ramp installation • Civil works above the caisson seawall 2X including staircase ST-1 and the plant room underneath the western staircase. • Late cast portion for Roof RC Superstructure above the machine room in Level M. • Lift installation at Ferry Pier. 	
HY/2009/15	<ul style="list-style-type: none"> • Removal of eastern breakwater of CBTS • Installation of temporary wave protection barrier at eastern breakwater • Temporary works for EVA 	<ul style="list-style-type: none"> • Daily visual inspection of silt screen and silt curtain to ensure its operation properly • Implement silt screen and silt curtain in accordance with the associated plans submitted to EPD.
HK/2010/06	<ul style="list-style-type: none"> • Sheet Piling Works • Utility Diversion Works • Road surfacing works • Precast Unit Box Installation 	<ul style="list-style-type: none"> • To conform the installation and setting as in the silt screen and silt curtain deployment plan • To space out noisy equipment and position as far as possible from sensitive receiver.

Contract No.	Key Construction Works	Recommended Mitigation Measures
	Preparation Works (mainland China)	<ul style="list-style-type: none"> • Daily visual inspection of silt screen and silt curtain to ensure its operation properly
HY/2009/19	<ul style="list-style-type: none"> • Bored piling (Land) • D-wall and Barrette Construction • Construction works for Box Culvert T1 • Construction works for Culvert U1 • Construction of Pile cap (Land) • Demolition of parapet at IEC Link • Construction of dewatering well for Cut & Cover Tunnel • Construction of pile cap, column & cross head (Marine) • D8-D9 Gantry Fabrication for precast segment • ELS for Cut & Cover Tunnel • Laying of 1500φ pipe 	<ul style="list-style-type: none"> • To conform the installation and setting as in the silt screen and silt curtain deployment plan
HK/2012/08	<ul style="list-style-type: none"> • Hoarding erection • Marine GI 	<ul style="list-style-type: none"> • To conform the installation and setting as in the silt screen and silt curtain deployment plan