



**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,  
FEP-06/356/2009 AND FEP-07/356/2009**

**MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT**

**- AUGUST 2014 -**

**CLIENTS:**

**Civil Engineering and Development  
Department**

**and**

**Highways Department**

**PREPARED BY:**

**Lam Geotechnics Limited**

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

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

**CERTIFIED BY:**

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Raymond Dai  
Environmental Team Leader

**DATE:**

September 2014



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**EXECUTIVE SUMMARY**

- i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – August 2014 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, FEP-06/356/2009 and FEP-07/356/2009. This report presents the environmental monitoring findings and information recorded during the period July 2014 to August 2014. The cut-off date of reporting is at 27<sup>th</sup> 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:
- Rock trimming works
- iii. During this reporting period, the major work activities for Contract no. HK/2009/02 included:
- Road works
  - Connection works of temporary sewage pipe
  - Lighting installation
  - Granolithic finishing
  - Reclamation at WCR2
  - Excavation works
  - Construction of at-grade road
- iv. During this reporting period, the major work activities for Contract no. HY/2009/15 included:
- EVA construction at Eastern Breakwater
  - Reinstatement of Eastern Breakwater
  - Removal of Seawall Blocks at TPCWAE & TS4
  - Demolition of D-Wall at TS2, TPCWAE & TS4
  - Underwater Cutting of Temporary Diaphragm Walls at TS2, TS4 and TPCWAE
- v. During this reporting period, the major work activities for Contract no. HK/2010/06.
- Nil
- vi. During this reporting period, the major work activities for Contract no. HY/2009/19 included:
- Construction of Dolphin Cap
- vii. During this reporting period, the major work activities for Contract no. HK/2012/08 included:
- ELS for box culvert La at Lung King Street
  - Filling for seawall rock mound formation
  - Filling for reclamation
  - Dredging

- Sheet piling

- viii. During this reporting period, the major work activities for Contract no. HY/2010/08.
- Rock filling works
  - Dredging works
  - Seawall blocks installation

#### Noise Monitoring

- ix. One limit level exceedance at M6 – HK Baptist Church Henrietta Secondary School was recorded on 28 July 2014 in this reporting month. The exceedance was concluded as non-project related.
- x. One limit level exceedance at M2b – Noon Day Gun Area was recorded on 5 August 2014 in this reporting month. The exceedance was concluded as project related.
- xi. 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.

#### Real-time Noise Monitoring

- xii. 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 RTN1 - FEHD Hong Kong Transport Section Whitfield Depot was excluded under EP-356/2009 since 28 November 2012.
- xiii. 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.
- xiv. 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

- xv. Due to electricity interruption, the following 24hr TSP monitoring events were rescheduled in the reporting month.  
24hr TSP monitoring at CMA1b was rescheduled from 14 August 2014 and 20 August 2014 to 15 August 2014 and 21 August 2014 respectively.  
24hr TSP monitoring at CMA5a was rescheduled from 14 August 2014 and 20 August 2014 to 15 August 2014 to 21 August 2014 respectively.
- xvi. The odour patrol along the odour route with 7 sniffing locations was conducted by a qualified odour patrol member on 5 and 19 August 2014 at the concerned hours (afternoon for higher daily temperature). No Action and Limit Level was recorded during this reporting month.
- xvii. 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.

- xviii. The location ID of air monitoring station CMA1b was updated as Oil Street Site Office in April 2013.
- xix. 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.

#### Water Quality Monitoring

- xx. Due to the hoisting of amber rainstorm warning signal, the following water quality monitoring events were cancelled.  
WQM during flood tide was cancelled on 1 August 2014  
WQM during ebb tide was cancelled on 13 August 2014  
WQM during ebb tide was cancelled on 20 August 2014
- xxi. Action and Limit level of water quality monitoring was transited from dry season to wet season from 1 April 2014.
- xxii. As advised by WDII RSS, the water quality monitoring for WSD21 pump station with respect to HK/2009/02 was switched over to the relocated location since 12 March 2014. According to the EM&A Manual, the water quality monitoring station WSD21 was relocated to station RW21-P789 and the water quality monitoring at station WSD21 was temporarily suspended since 12 March 2014.
- xxiii. According to CWB RSS, oil dispersion at the culvert outfall location at SW corner of CBTS was observed on 6, 22, 24 and 28 Feb 2014. An ICC case (ICC ref: 2-92821253) regarding the above issue was lodged by CWB RSS team to request for follow-up action by relevant departments.
- xxiv. Oil dispersion at the culvert outfall location at Ex-Cargo handling area was observed on 28 Feb 2014 by CWB RSS. An ICC case (ICC ref: 2-125779508) regarding the above observation was lodged by CWB RSS team to request for follow-up action by relevant departments.
- xxv. With respect to the commencement of marine dredging works under contract HY/2010/08. The respective water quality monitoring station C7 were associated with HY/2009/15 and HY/2010/08
- xxvi. With respect to the commencement of marine dredging works under contract HK/2012/08. The respective water quality monitoring station WSD19, P1, P3, P4, and P5 were associated with Contract HK/2012/08 since September 2013.
- xxvii. With respect to the switching over of cooling water intake location, the water quality monitoring at the relocated intake station RW21-P789 under HK/2009/02 was commenced since 29 July 2013.
- xxviii. 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 and WQM events at monitoring stations C2, C3, C4e and C4w were temporarily suspended since 22 April 2013.
- xxix. 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.
- xxx. 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.
- xxxi. 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;
- xxxii. 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.
- xxxiii. 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.
- xxxiv. 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.
- xxxv. 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.
- xxxvi. 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.
- xxxvii. 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.
- xxxviii. Water quality monitoring at 10 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**.
- xxxix. RSS confirmed that all Type III Dredging works under HK/2009/01 have been completed since Oct 2012.



**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	C1	0	0	0	0	0	0	0	0	0	0	0	0
HK/2012/08	WSD19	0	0	0	0	0	0	0	0	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
HK/2009/02 Monitoring started on 8 Feb 2012	WSD9	0	0	0	0	0	0	0	0	0	0	0	0
	WSD17	0	0	0	0	0	0	0	0	0	0	0	0
Monitoring started on 29 July 2013	RW21-P789	0	0	0	0	0	0	0	0	0	0	0	0
HY/2009/15 & HY/2010/08	C7	0	0	0	0	0	0	0	0	0	1	0	0
<b>Total</b>		0	0	0	0	0	0	0	0	0	1	0	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.
- 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 temporarily 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.
  - C2, C3 C4e and C4w water quality monitoring station was temporarily suspended since 24 Apr 2013
  - C5e and C5w water quality monitoring station was temporarily suspended since 29 July 2013
  - WSD21 water quality monitoring station was temporarily suspended since 12 March 2014
  - Maintenance responsibility of silt screen C1, WSD19, P3, P4 and P5 are under Contract HK/2009/01.

- xli. There were no action level and 1 limit level exceedance of turbidity recorded in the reporting month. Investigation found that the exceedance was not related to Project works. The details of recorded exceedance can be referred to the **Section 6.4**.
- xli. 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	6	0	1
	Ex-WPCWA SE	1	6	0	0
Total		1	12	0	1

- xlii. There were 1 action level exceedance and 13 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**.
- xliii. 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.
- xliv. With respect to the commencement of dredging works under HK/2012/08 and the installation of MTR precast protection unit, the enhanced water quality monitoring for Culvert L was temporarily suspended since 24 July 2013.

Complaints, Notifications of Summons and Successful Prosecutions

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

Site Inspections and Audit

- xlvi. 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, HK/2012/08 and HY/2010/08 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

- xlvi. 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

- Rock trimming works

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

- Works of covered walkway at Expo Drive East
- Backfilling works
- ABWF works
- Construction of temporary covered walkway
- Installation of Bridge 1, 2 &3
- Construction of at-grade road
- Installation of street furniture and pavement works

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

- Construction works of East Ventilation Shaft
- Removal of Seawall Blocks at TPCWAE & TS4
- Underwater Cutting of Temporary Diaphragm Walls at TS4 and TPCWAE
- Demolition of D-Wall at TPCWAE &TS4

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

- Nil

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

- Construction of Dolphin Cap

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

- ELS for box culvert La at Lung King Street
- Filling for seawall rock mound formation
- Filling for reclamation

Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

- Rock filling works
- Dredging works
- Seawall block installation

## 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, FEP-06/356/2009 and FEP-07/356/2009 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, FEP-05/356/2009, FEP-06/356/2009 and FEP-07/356/2009 during the period of July 2014 to August 2014. The cut-off date of reporting is at 27<sup>th</sup> 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 water mains 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 (Completed)
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 (Completed)
HY/2009/17	Central – Wan Chai Bypass (CWB) at FEHD Whitfield Depot – Advanced piling works.	DP1	5 October 2010 (Completed)
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 II Central-Wan Chai Bypass at Wan Chai West	DP1,DP2, DP3	10 March 2014
HY/2010/08	Central- Wanchai Bypass Tunnel – Tunnel (Slip Road 8)	DP1, DP2, DP3	21 March 2013
HY/2011/08	Central-Wan Chai Bypass (CWB) – Tunnel Buildings, Systems and Fittings, and Works Associated with Tunnel Commissioning	DP1	To be commenced tentatively on 4 <sup>th</sup> quarter in 2014

## 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
	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. Simon Liu	9304 8355	2587 1878
		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. Kenneth Chan	9160 3850	
		Senior Environmental Engineer	Ms. Wendy Ng	9803 0057	
		Assistant Environmental Engineer	Miss. Connie Chan	6157 7057	
Chun Wo – CRGL Joint Venture	Contractor under Contract no. HK/2009/02	Project Manager	Mr. Alfred Leung	3658-3022	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	K C Cheung	3557 6399	2566 2192
		Site Manager	J H Chen	3557 6368	
		Contractor's Representative	Andrew Wong	3557 6358	
		Contractor's Representative	Gene Cheung	3557 6395	
		Senior Project Manager	Eddie Tang	35576452	
		Environmental Officer	Andy Mak	3557 6347	
Gammon -Leader JV	Contractor under Contract no. HK/2010/06	Project Manager	Mr. Paul Lui	9095 7922	2529 2880
		Site Agent	Mr. Eric Yip	2529 2068	
		Environmental Officer	Clement Pang	9735 9200	
		Environmental Supervisor	Jacky Cheung	9779 2292	
Chun Wo – CRGL –	Contractor under Contract no.	Project Manager	Mr. Rayland Lee	3758 8879	

Party	Role	Post	Name	Contact No.	Contact Fax
MBEC_ Joint Venture	HY/2009/19	Site Agent	Mr. Eric Yip	252902068	
		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	
China State	Contractor under Contract no. HY/2010/08	Project Director	Cheung Kit Cheung	3557 6399	2566 8061
		Project Manager	Chan Ying Lun	3418 3001	
		Deputy Project Manager	Chris Leung	3467 4299	
		Site Agent	Dave Chan	3467 4277	
		Environmental Officer	C.M. Wong	3557 6464	
		Environmental Supervisor	Desmond Ho Tsz Ho	3557 6466	
Leighton Joint Venture	Contractor under Contract no. HY/2011/08	Project Manager	Paul Evans	2823 1111	21406799
		Site Agent	Colman Wong	9730 0806	
		Environmental Officer	David Hung	9765 6161	
		Environmental Supervisor	Penny Yiu	2214 7738	
ENVIRON Hong Kong Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. David Yeung	3465 2888	3465 2899

Party	Role	Post	Name	Contact No.	Contact Fax
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:

- Rock trimming works

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

- Road works
- Connection works of temporary sewage pipe
- Lighting installation
- Granolithic finishing
- Reclamation at WCR2
- Excavation works
- Construction of at-grade road

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

- EVA construction at Eastern Breakwater
- Reinstatement of Eastern Breakwater
- Removal of Seawall Blocks at TPCWAE & TS4
- Demolition of D-Wall at TS2, TPCWAE & TS4
- Underwater Cutting of Temporary Diaphragm Walls at TS4 and TPCWAE

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

- Nil

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

- Construction of Dolphin Cap

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

- ELS for box culvert La at Lung King Street
- Filling for seawall rock mound formation
- Filling for reclamation
- Dredging
- Sheet piling

2.4.9. For Contract no. HY/2010/08, no principal work activities this reporting month.

- Rock filling works
- Dredging works
- Seawall blocks installation

2.4.10. 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

- Rock trimming works

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

- Works of covered walkway at Expo Drive East
- Backfilling works
- ABWF works
- Construction of temporary covered walkway
- Installation of Bridge 1, 2 &3
- Construction of at-grade road
- Installation of street furniture and pavement works

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

- Construction works of Est Ventilation Shaft
- Removal of Seawall Blocks at TPCWAE & TS4
- Demolition of D-Wall at TPCWAE &TS4
- Underwater Cutting of Temporary Diaphragm Walls at TS4 and TPCWAE

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

- Nil

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

- Construction of Dolphin Cap



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

- ELS for box culvert La at Lung King Street
- Filling for seawall rock mound formation
- Filling for reclamation

Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

- Rock filling works
- Dredging works
- Seawall blocks installation

### 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	17 Aug 2009	Superseded
Environmental Permit	EP-364/2009/A	4 Aug 2010	Superseded
Environmental Permit	EP-364/2009/B	20 Sep 2012	Superseded
Environmental Permit	EP-364/2009/C	11 Jul 2014	Valid
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	22 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/B	20 Sep 2012	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-07/356/2009	26 July 2013	Valid
Further Environmental Permit	FEP-10/364/2009/B	26 July 2013	Valid
Further Environmental Permit	FEP-11/362/2009/B	2 May 2014	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-RS0111-14	11 Feb 2014	15 Feb 2014 to 14 Aug 2014	Expired
	GW-RS0765-14	30 Jul 2014	15 Aug 2014 to 14 Feb 2015	Valid
	GW-RS0200-14	18 Mar 2014	21 Mar 2014 to 15 Sept 2014	Valid
	GW-RS0317-14	7 Apr 2014	8 Apr 2014 to 7 Oct 2014	Valid
	GW-RS0362-14	17 Apr 2014	20 Apr 2014 to 8 Oct 2014	Valid
	GW-RS0381-14	8 Apr 2014	9 May 2014 to 11 Nov 2014	Valid
	GW-RS0435-14	30 Apr 2014	13 May 2014 to 12 Nov 2014	Valid
	GW-RS0437-14	7 May 2014	8 May 2014 to 7 Nov 2014	Valid
	GW-RS0451-14	5 May 2014	12 May 2014 to 11 Nov 2014	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
	GW-RS0462-14	17 Apr 2014	18 Apr 2014 to 17 Oct 2014	Valid
	GW-RS0498-14	22 May 2014	24 May 2014 to 22 Nov 2014	Replaced by GW-RS0875-14
	GW-RS0875-14	21 Aug 2014	23 Aug 2014 to 21 Feb 2015	Valid
Discharge Licence	WT00018110-2014	6 Jan 2014	31 Mar 2015	Valid
	WT00006220-2010	18 Mar 2010	31 Mar 2015	Valid
	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
Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal)	EP/MD/14-010	24 Apr 2014	01 Jun 2014 to 30 Jun 2014	Expired

**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

EP Condition	Submission	Date of Submission
	Silt Curtain Deployment Plan (Rev. 3)	27 June 2012
	Silt Curtain Deployment Plan	19 Apr 2010
Condition 2.9	Silt Screen Deployment Plan (Rev. 6)	20 Aug 2014
	Silt Screen Deployment Plan (Rev.5)	24 Jul 2013
	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
Condition 1.12	Notification of Commencement Date	20 Jun 2011
Condition 2.6 to 2.8	Management Organization, Works Schedule and Location Plan	18 May 2011
Condition 2.9	Silt Screen Deployment Plan	10 Jun 2011
Condition 2.18	Landscape Plan	31 Oct 2013

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-RS0067-14	29 Jan 2014	15 Feb 2014 to 14 Aug 2014	Expired
	GW-RS0112-14	13 Jan 2014	16 Feb 2014 to 13 Aug 2014	Expired
	GW-RS0161-14	7 Mar 2014	11 Mar 2014 to 10 Sep 2014	Valid
	GW-RS0162-14	7 Mar 2014	20 Mar 2014 to 19 Sep 2014	Valid
	GW-RS0233-14	21 Mar 2014	25 Mar 2014 to 24 Sep 2014	Valid
	GW-RS0269-14	28 Mar 2014	7 Apr 2014 to 6 Oct 2014	Valid
	GW-RS0319-14	7 Apr 2014	18 Apr 2014 to 17 Oct 2014	Valid
	GW-RS0407-14	25 Apr 2014	28 Apr 2014 to 16 Oct 2014	Valid
	GW-RS0421-14	30 Apr 2014	30 Apr 2014 to 15 Oct 2014	Valid
	GW-RS0460-14	9 May 2014	10 May 2014 to 9 Nov 2014	Valid
	GW-RS0491-14	16 May 2014	17 May 2014 to 16 Nov 2014	Valid
	GW-RS0494-14	16 May 2014	22 May 2014 to 21 Nov 2014	Valid
	GW-RS0482-14	13 May 2014	14 May 2014 to 6 Nov 2014	Valid
	GW-RS0461-14	9 May 2014	10 May 2014 to 9 Nov 2014	Valid
	GW-RS0422-14	30 Apr 2014	2 May 2014 to 16 Oct 2014	Valid
	GW-RS0515-14	26 May 2014	29 May 2014 to 25 Nov 2014	Valid
GW-RE0565-14	30 May 2014	30 May 2014 to 29 Nov 2014	Valid	

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
	GW-RS0637-14	26 Jun 2014	2 Jul 2014 to 25 Nov 2014	Valid
	GW-RS0742-14	25 Jul 2014	15 Aug 2014 to 14 Feb 2015	Valid
	GW-RS0745-14	25 Jul 2014	14 Aug 2014 to 13 Feb 2015	Valid
	<a href="#">GW-RS0840-14</a>	<a href="#">18 Aug 2014</a>	<a href="#">23 Aug 2014 to 22 Sep 2014</a>	<a href="#">Valid</a>
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 Apr 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/15-046	24 Jun 2014	1 Jul 2014 to 31 Dec 2014	Valid
Dumping Permit (Type 2 – Confined Marine Disposal)	<a href="#">EP/MD/15-089</a>	<a href="#">14 Aug 2014</a>	<a href="#">23 Aug 2014 to 22 Sep 2014</a>	<a href="#">Valid</a>

**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

EP Condition	Submission	Date of Submission
	Silt Curtain Deployment Plan (Revision B)	25 May 2010
	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
Condition 2.9	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

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Notification of Works Under APCO	321822	24 Sep 2010	N/A	Valid
Construction Noise Permit (CNP) for concreting works at Eastern Breakwater of CBTS	GW-RS0095-14	10 Feb 2014	19 Feb 2014 to 18 Aug 2014	Expired
Construction Noise Permit (CNP) for Pre-treatment, ELS and rock breaking works at TS4/ME4	GW-RS0649-14	26 Jun 2014	1 Jul 2014 to 31 Dec 2014	Cancelled
Construction Noise Permit (CNP) for D-wall cutting and seawall removal works at TS4/ME4	GW-RS0721-14	16 Jul 2014	18 Jul 2014 to 15 Jan 2015	Valid
Construction Noise Permit (CNP) for maintenance dredging	GW-RS0368-14	22 Apr 2014	1 May 2014 to 31 Oct 2014	Valid
Construction Noise Permit (CNP) for P3 Mooring	GW-RS0191-14	12 Mar 2014	12 Mar 2014 to 11 Sep 2014	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	30 Jun 2014	17 Jul 2014 to 16 Oct 2014	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/15-063	16 Jul 2014	28 Jul 2014 to 27 Jan 2015	Valid
Dumping Permit (Type 1 – Open Sea Disposal(Dedicated Site) and Type 2 – Confined Marine Disposal)	EP/MD/15-055	9 Jul 2014	13 Jul 2014 to 12 Aug 2014	Valid
	EP/MD/15-085	12 Aug 2014	15 Aug 2014 to 14 Sep 2014	Valid
Dumping Permit (Type 3 – Special Treatment/Disposal contained in Geosynthetic Containers)	EP/MD/15-054	11 Jul 2014	15 Jul 2014 to 14 Aug 2014	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



FEP Condition	Submission	Date of Submission
	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
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 is 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-RS0030-13	19 Dec 2013	6 Jan 14 – 5 Jul 14	Expired
Billing Account under Waste Disposal Ordinance	7012338	16 Feb 2011	N/A	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 2.23	Noise Management Plan	11 March 2011
Condition 2.6	Management Organization of Main Construction Companies	29 April 2013
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
	Revised Silt Curtain Deployment Plan	28 January 2013
Condition 2.9	Silt Screen Deployment Plan	11 April 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 Portion Vi Marine)	GW-RS10073-14	06-Feb-14	02-Aug-14	Cancelled
	GW-RS0507-14	23-May-14	14-Nov-14	Valid
Discharge License (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	-

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
Water Discharge Licence	WT00018223-2014	28 Jan 2014	31 Jan 2019	Valid
Construction Noise Permit	GW-RS0193-14	13 Mar 2014	27 Mar 2014 to 26 Sep 2014	Valid
	GW-RS0232-14	21 Mar 2014	23 Mar 2014 to 20 Sep 2014	Valid
	GW-RS0257-14	26 Mar 2014	28 Mar 2014 to 25 Sep 2014	Valid
	GW-RS0293-14	1 Apr 2014	1 Apr 2014 to 30 Sep 2014	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/15-039	1 Jul 2014	31 Dec 2014	Valid
Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal)	EP/MD/15-059	15 Jul 2014	24 Aug 2014	Expired
	EP/MD/15-087	11 Aug 2014	24 Sep 2014	Valid

**Table 3.14 Summary of submission status under EP-356/2009 and FEP-06/356/2009 Condition**

FEP Condition	Submission	Date of Submission
Condition 2.8	Silt Curtain Deployment Plan (Rev. 3)	Submitted on 25 Nov 2013 was returned to CSLJV by EPD.
Condition 2.9	Silt Screen Deployment Plan (Rev. 2)	Generally in order as commented by EPD on 19 Sep 2013

FEP Condition	Submission	Date of Submission
Condition 2.23	Noise Management Plan (Rev. 2)	Generally in order as commented by EPD on 15 Aug 2013
Condition 2.24	Landscape Plan (Rev. 3)	Generally in order as commented by EPD on 31 Oct 2013

Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

3.1.10. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HY/2010/08 under EP-356/2009 are shown in Table 3.15 and Table 3.16.

**Table 3.15 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2010/08**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-07/356/2009	26 Jul 2013	NA	Valid
	FEP-10/364/2009/B	26 Jul 2013	NA	Valid
Notification of Works Under APCO	357176	2 Apr 2013	NIL	Valid
Registration as a Chemical Waste Producer	WPN5213-147-C11 69-44	27 Mar 2013	NIL	Valid
Billing Account under Waste Disposal Ordinance	7017170	27 Mar 2013	NIL	Valid
Water Discharge Licence	WT00016561-2013	9 Jul 2013	31 Jul 2018	Valid
Construction Noise Permit	GW-RS0701-14	4 Jul 2014	31 Dec 2014	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/15-033	9 Jun 2014	9 Dec 2014	Valid
Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal)	EP/MD/15-056	15 Jul 2014	14 Aug 2014	Expired
	EP/MD/15-082	15 Aug 2014	14 Sep 2014	Valid

**Table 3.16 Summary of submission status under EP-356/2009 and FEP-07/356/2009 Condition**

FEP Condition	Submission	Date of Submission
Condition 2.8	Silt Curtain Deployment Plan (rev02)	26 Aug 2014



FEP Condition	Submission	Date of Submission
Condition 2.9	Silt Screen Deployment Plan (rev01)	29 Nov 2013
Condition 2.23	Noise Management Plan (rev02)	25 Mar 2014
Condition 2.24	<a href="#">Landscape Plant (rev03)</a>	<a href="#">5 Aug 2014</a>

## 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 RTN1 - 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
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

#### 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 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 <sup>TM</sup> 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 m<sup>3</sup> 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 cm<sup>2</sup>;
  - 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 3 WSD salt water intakes and 8 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
<b>WSD Salt Water Intake</b>			
WSD9	Tai Wan	837921.0	818330.0
WSD17	Quarry Bay	839790.3	817032.2
WSD19	Sheung Wan	833415.0	816771.0
<b>Cooling Water Intake</b>			
C1	HKCEC Extension	835885.6	816223.0
C7	Windsor House	837193.7	816150.0
P1	HKCEC Phase I	835774.7	816179.4
P3	The Academy of performing Arts	835824.6	816212.0

Station Ref.	Location	Easting	Northing
P4	Shui on Centre	835865.6	816220.0
P5	Government Buildings (Wanchai Tower / Revenue Tower / Immigration Tower)	835895.2	816215.2
RW21-P789	Great Eagle Centre/ Sun Hung Kai Centre/CWB	836268.0	816020.0

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 <sup>1</sup>	Parameters <sup>2</sup>
During the 4-week baseline monitoring period	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity
During marine construction works	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity
After completion of marine construction works	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity

Notes:

- 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.
- 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
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. With respect to the commencement of dredging works under HK/2012/08 and the installation of MTR precast protection unit, the enhanced water quality monitoring for Culvert L was temporarily suspended since 24 July 2013
- 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- Central- 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
- Contract no. HY/2010/08 – Central- Wanchai Bypass Tunnel (Slip Road 8 Section)

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. One limit level exceedance was recorded on 5 August 2014 at M2b – Noon Day Gun Area in the reporting month.
- 5.1.6. Barge operation and concrete breaking works at TS4 under HY/2009/15 were observed during monitoring on 5 August 2014. It was considered that the operation of derrick barge and nearby breaking works at TS4 were the major noise contribution. As such, the limit level exceedance was concluded as project related. Rectification measures including provision of noise blanket for breakers and provision of noise screen for engine at the derrick barrage were implemented by the contractor. Additional monitoring was conducted and no exceedance was identified.
- 5.4.1. 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](#).

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

- 5.1.7. 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
M4b	Victoria Centre
M5b	City Garden
M6	HK Baptist Church Henrietta Secondary School

- 5.1.8. One limit level exceedance was recorded on 28 July 2014 at M6 – HK Baptist Church Henrietta Secondary School in the reporting month.
- 5.1.9. Major traffic noise observed during monitoring on 28 July 2014 and it was considered as the major noise contribution. As such, the limit level exceedance was concluded as non-project related.



- 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](#).

Contract no. HY/2010/08-Central-Wanchi Bypass Tunnel (Slip Road 8 Section)

- 5.1.11. The proposed division of noise monitoring stations are summarized in **Table 5.5** below.

**Table 5.5 Noise Monitoring Station for Contract no. HY/2010/08**

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

- 5.1.12. No exceedance was recorded in this reporting month.
- 5.1.13. 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 Real-time noise monitoring at FEHD Hong Kong Transport Section Whitfield Depot commenced external wall renovation since 1 June 2012

**Table 5.6 Real Time Noise Monitoring Station for Contract no. HY/2009/19**

District	Station	Description
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

5.2.5 Limit level exceedances were recorded at RTN2a-Electric Centre during daytime on 5, 13, 16, 21 and 23 August 2014 and during restricted hours on 1 August 2014 in the reporting month. After checking with Contractor, bored piling was conducted at the concerned location on 5, 13 and 16 during the recorded period and bored piling and breaking works was conducted on 21 and 23 August 2014, contractor mitigation measures including erection of temporary noise barrier was in place. In view of the exceedances are non-continuous, the exceedances are considered to be non-project related and contributed by nearby IEC traffic. On 1 August 2014, bored piling was conducted at the concerned location during the monitoring period. Temporary noise barrier was implemented by the Contractor and the CNP GW-RS0752-14 was in place and complied. The exceedance was considered as non-project related and considered to be contributed by nearby IEC traffic.

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**

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

5.3.1. 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

5.3.1 No exceedance was recorded in the reporting month. 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

5.3.2. 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)

- 5.3.3. 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

- 5.3.4. No exceedance was recorded in the reporting month. 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**.
- 5.3.5. The odour patrol along the odour route with 7 sniffing locations was conducted by a qualified odour patrol member on 5 and 19 August 2014 at the concerned hours (afternoon for higher daily temperature). No Action and Limit Level was recorded during this reporting month. The details of the odour patrol results and meteorological conditions and on the date of odour patrol are shown in **Appendix 5.3**.

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

- 5.3.6. 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

- 5.3.7. No exceedance was recorded in the reporting month. 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/2012/08- Wan Chai Development Phase II – Central-Wan Chai Bypass at Wan Chai West

- 5.3.8. The proposed division of air monitoring stations are summarized in Table 5.11 below. No exceedance was recorded in the reporting month.

**Table 5.11 Air Monitoring Stations for Contract no. HY/2012/08**

Station	Description
CMA5a	Children Playgrounds opposite to Pedestrian Plaza

- 5.3.9. No exceedance was recorded in the reporting month. 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/2010/08- Central-Wanchai Bypass Tunnel (Slip Road 8 Section)

- 5.3.10. The proposed division of air monitoring stations are summarized in Table 5.12 below. No exceedance was recorded in the reporting month.

**Table 5.12 Air Monitoring Stations for Contract no. HY/2009/19**

Station	Description
CMA3a	CWB PRE Site Office

- 5.3.11. No exceedance was recorded in the reporting month. 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. [Due to the hoisting of amber rainstorm warning signal, the following water quality monitoring events were cancelled.](#)

[WQM during flood tide was cancelled on 1 August 2014](#)

[WQM during ebb tide was cancelled on 13 August 2014](#)

[WQM during ebb tide was cancelled on 20 August 2014](#)

- 5.4.2. Action and Limit level of water quality monitoring was transited from dry season to wet season from 1 April 2014.

- 5.4.3. According to CWB RSS, oil dispersion at the culvert outfall location at SW corner of CBTS was observed on 6, 22, 24 and 28 Feb 2014. An ICC case (ICC ref: 2-92821253) regarding the above issue was lodged by CWB RSS team to request for follow-up action by relevant departments.

- 5.4.4. Another oil dispersion at the culvert outfall location at Ex-Cargo handling area was observed on 28 Feb 2014 by CWB RSS. An ICC case (ICC ref: 2-125779508) regarding the above observation was lodged by CWB RSS team to request for follow-up action by relevant departments.

- 5.4.5. [With respect to the switching over of cooling water intake location, the water quality monitoring at the relocated intake station RW21-P789 under HK/2009/02 was commenced since 29 July 2013 and monitoring station C5e and C5w were temporarily suspended and switched over to monitoring station RW21-P789 on 29 July 2013 due to suspension of pump house operation.](#)

- 5.4.6. As advised by WDII RSS, the water quality monitoring for WSD21 pump station with respect to HK/2009/02 was switched over to the relocated location since 12 March 2014. According to the EM&A Manual, the water quality monitoring station WSD21 was relocated to station RW21-P789 and the water quality monitoring at station WSD21 was temporarily suspended since 12 March 2014.
- 5.4.7. WQM events on 22 April 2013 at monitoring stations C2, C3, C4e and C4w were temporarily suspended. 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.
- 5.4.8. 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.
- 5.4.9. 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.
- 5.4.10. 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;
- 5.4.11. 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.
- 5.4.12. The water quality monitoring at the respective monitoring station C8 and C9 were temporarily suspended from 30 March 2013.
- 5.4.13. 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.
- 5.4.14. 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.
- 5.4.15. 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.

- 5.4.16. 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.
- 5.4.17. 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 5.13 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 <sup>1</sup>	Apr 2013
HK/2009/02	WCR3, WCR4, TWCR4	RW21-P789 <sup>1</sup>	Apr 2013
HK/2012/08	HKCEC2W, HKCEC2E	WSD19, P1 <sup>3</sup> , P3 <sup>3</sup> , P4 <sup>3</sup> , P5 <sup>3</sup>	Aug 2013
HY/2009/15	TCBR2, TCBR3, TCBR1W, TPCWAE, TPCWAW	C6 <sup>4</sup> , C7, Ex-WPCWA SW, Ex-WPCWA SE (plus enhanced DO monitoring described in 4.6.3)	Nov 2010
HY/2010/08	TCBR3, TCBR4	C6 <sup>4</sup> , 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

- 5.4.18. 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 5.14** below.

**Table 5.14 Water Monitoring Stations for Contract no. HK/2009/01**

Station Ref.	Location	Easting	Northing
<b>Cooling Water Intake</b>			
C1	HKCEC Extension	835885.6	816223.0

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.
- C2, C3 C4e and C4w water quality monitoring station was temporarily suspended since 24 Apr 2013

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

5.4.19. 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 5.15** below.

**Table 5.15 Water Monitoring Stations for Contract no. HK/2009/02**

Station Ref.	Location	Easting	Northing
<b>WSD Salt Water Intake</b>			
WSD9	Tai Wan	837921.0	818330.0
WSD17	Quarry Bay	839790.3	817032.2
<b>Cooling Water Intake</b>			
RW21-P789	Great Eagle Centre/ Sun Hung Kai Centre/CWB	836268.0	816020.0

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.
- C5e and C5w water quality monitoring station was temporarily suspended since 29 July 2013
- WSD21 water quality monitoring station was temporarily suspended since 12 March 2014

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

5.4.20. Water monitoring for Contract no. HK/2012/08 was commenced on 5 March 2013. The proposed division of water monitoring stations are summarized in **Table 5.16** below.

**Table 5.16 Water Monitoring Stations for Contract no. HK/2012/08**

Station Ref.	Location	Easting	Northing
<b>WSD Salt Water Intake</b>			
WSD19	Sheung Wan	833415.0	816771.0
<b>Cooling Water Intake</b>			
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



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

- 5.4.21. 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.
- 5.4.22. 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.
- 5.4.23. 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 5.17 Water Monitoring Stations for Contract no. HY/2009/15**

Station Ref.	Location	Easting	Northing
<b>Cooling Water Intake</b>			
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

- 5.4.24. 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.
- 5.4.25. 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.
- 5.4.26. 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.
- 5.4.27. 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.
- 5.4.28. 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.
- 5.4.29. 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.

- 5.4.30. 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 5.18 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	C1	0	0	0	0	0	0	0	0	0	0	0	0
HK/2012/08	WSD19	0	0	0	0	0	0	0	0	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
HK/2009/02 Monitoring started on 8 Feb 2012	WSD9	0	0	0	0	0	0	0	0	0	0	0	0
	WSD17	0	0	0	0	0	0	0	0	0	0	0	0
Monitoring started on 29 July 2013	RW21-P789	0	0	0	0	0	0	0	0	0	0	0	0
HY/2009/15 & HY/2010/08	C7	0	0	0	0	0	0	0	0	0	1	0	0
<b>Total</b>		0	0	0	0	0	0	0	0	0	1	0	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.
- 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
  - C2, C3 C4e and C4w water quality monitoring station was temporarily suspended since 24 Apr 2013
  - C5e and C5w water quality monitoring station was temporarily suspended since 29 July 2013
  - WSD21 water quality monitoring station was temporarily suspended since 12 March 2014
  - Maintenance responsibility of silt screen C1, WSD19, P3, P4 and P5 are under Contract HK/2009/01.

5.4.31. There were no action level and 1 limit level exceedance of turbidity recorded in the reporting month. Investigation found that the exceedance was not related to Project works. The details of recorded exceedance can be referred to the **Section 6.4**.

5.4.32. 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 5.19**.

**Table 5.19 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	6	0	1
	Ex-WPCWA SE	1	6	0	0
Total		1	12	0	1

- 5.4.33. There were 1 action level exceedance and 13 limit level exceedances of enhanced dissolved oxygen recorded in this reporting month. Investigation found that the exceedances were not related to the Project works. The details of the recorded exceedances can be referred to the [Section 6.4](#).
- 5.4.34. 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](#).
- 5.4.35. With respect to the commencement of dredging works under HK/2012/08 and the installation of MTR precast protection unit, the enhanced water quality monitoring for Culvert L was temporarily suspended since 24 July 2013

**5.5 Waste Monitoring Results**

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

5.5.1. No inert C&D waste and non- inert C&D waste disposed 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/2009/01**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	NIL	62116.405	TKO137, TM38
Inert C&D materials recycled, m <sup>3</sup>	NIL	5856.5	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	1673.69	SENT Landfill
Non-inert C&D materials recycled, kg	NIL	203993	N/A
Chemical waste disposed, kg	NIL	10250	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	NIL (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 <sup>3</sup>	NIL (Bulk Volume)	52250 (Bulk Volume)	East of Cha Chau
Dredged Sediment Requiring Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers	NIL (Bulk Volume)	6773 (Bulk Volume)	East of Cha Chau

5.5.2. There were no marine sediment Type 1- Open Sea Disposal and no 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. No Inert C&D waste and Non-inert C&D waste 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. HK/2009/02**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	NIL	263704.45	TKO137 / TM 38
Inert C&D materials recycled, m <sup>3</sup>	NIL	18161	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	1515.103	SENT Landfill
Non-inert C&D materials recycled, m <sup>3</sup>	N/A	N/A	N/A
Chemical waste disposed, kg	NIL	13860	SENT Landfill
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	NIL	186070 (Bulk volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup>	NIL	129320 (Bulk volume)	East of Sha Chau

5.5.4. There was no Marine Sediment disposed in this reporting month.

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

5.5.5. No Inert C&D waste and no non- inert C&D waste disposed of 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. HY/2009/15**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds	Remarks
Inert C&D materials disposed, m <sup>3</sup>	NIL	141579.2	Tuen Mun Area 38	NIL
	NIL	65216	TKO137 FB	NIL
Inert C&D materials recycled, m <sup>3</sup>	NIL	304	ex-PCWA	NIL
	NIL	111.9	TS4	NIL
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	252.2	SENT Landfill	NIL
Non-inert C&D materials recycled, kg	NIL	299361.5	N/A	NIL
Chemical waste disposed, kg	NIL	8,200	N/A	NIL
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	3280 (Bulk Volume)	103488 (Bulk Volume)	Cheung Chau South	Dredging from TCBR1E / TCBR1W / TCBR2/ TCBR3 / TCBR4 / Maintenance dredging
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup>	7380 (Bulk Volume)	251325 (Bulk Volume)	East of Sha Chau / South of the Brothers	Dredging from TCBR1E / TCBR1W / TCBR2/ TCBR3 / TCBR4 / Maintenance dredging
Marine Sediment (Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers) m <sup>3</sup>	NIL (Bulk Volume)	12640 (Bulk Volume)	East of Sha Chau / South of the Brothers	Dredging from TCBR1W / Maintenance dredging
Marine Sediment (Type 2 – Confined Marine Disposal), m <sup>3</sup>	NIL	9350 (Bulk Volume)	East of Sha Chau	Dredging from Eastern Breakwater of CBTS
Marine Sediment (Type 1 – Open Sea Disposal) , m3	NIL (Bulk Volume)	600 (Bulk Volume)	East Sha Chau / South of The Brothers	Dredging from Phase 3 Mooring Re-arrangement

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds	Remarks
Marine Sediment (Type 2 – Confined Marine Disposal) , m3	NIL (Bulk Volume)	14,780 (Bulk Volume)	South of The Brothers	Dredging from Phase 3 Mooring Re-arrangement
Marine Sediment (Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers) , m3	NIL (Bulk Volume)	2,760 (Bulk Volume)	South of The Brothers	Dredging from Phase 3 Mooring Re-arrangement

- 5.5.6. There were marine sediment Type 1 – Open Sea Disposal and Type 1 Open Sea Disposal & Type 2 – Confined Marine Disposal disposed in this reporting month.

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

- 5.5.7. No 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 5.23**.

**Table 5.23 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 <sup>3</sup>	NIL	12567.88	TM38
Inert C&D materials recycled, m <sup>3</sup>	NIL	267	HK/2009/01
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	369.48	SENT/TKO137SF
Non-inert C&D materials recycled, T	NIL	60.58	Recyclers
Chemical waste disposed, L	NIL	2600	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	NIL	3,891 (Bulk Volume)	South Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup>	NIL	12,586 (Bulk Volume)	East Sha Chau

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

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

5.5.9. No inert C&D waste and non-inert C&D waste disposed in this reporting month. Details of the waste flow table are summarized in **Table 5.24**.

**Table 5.24 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 <sup>3</sup>	NIL	355921.04	TM38
Inert C&D materials recycled, m <sup>3</sup>	NIL	59367	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	1068.6	N/A
Non-inert C&D materials recycled, kg	NIL	333.14	N/A
Chemical waste disposed, L	NIL	2.12	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	NIL	162	South Cheung Chau
Marine Sediment (Type 2 – Confined Marine Disposal) , m <sup>3</sup>	NIL	681	East Sha Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup>	NIL	4976.00	

5.5.10. 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.

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

5.5.11. No inert C&D waste was disposed and non-inert C&D waste were disposed in this reporting month. Details of the waste flow table are summarized in **Table 5.25**.

**Table 5.25 Details of Waste Disposal for Contract no. HK/2012/08**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	NIL	1247	TM38
Inert C&D materials recycled, m <sup>3</sup>	NIL	NIL	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	315	N/A
Non-inert C&D materials recycled, kg	NIL	NIL	N/A



Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Chemical waste disposed, L	NIL	NIL	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	85 (Bulk volume)	31759 (Bulk volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m3	NIL (Bulk volume)	108485 (Bulk volume)	South of The Brothers (from 27 Aug 2013 onwards)

5.5.12. Marine Sediment Type 1 – Open Sea Disposal was disposed and no marine sediment Type 1 – Open Sea Disposal (Delicate Sites) & Type 2 – Confined Marine Disposal was disposed in this reporting month.

Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)

5.5.13. No Inert C&D waste and non-inert C&D waste disposed in this reporting month. Details of the waste flow table are summarized in **Table 5.26**

**Table 5.26 Details of Waste Disposal for Contract no. HY/2010/08**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	NIL	NIL	N/A
Inert C&D materials recycled, m <sup>3</sup>	NIL	NIL	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	NIL	N/A
Non-inert C&D materials recycled, kg	NIL	NIL	N/A
Chemical waste disposed, L	NIL	NIL	N/A
Dumping Permit (Type 1 – Open Sea Disposal)	NIL	16130	South Cheung Chau
Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal)	NIL	17820	Brothers Island

5.5.14. There was marine sediment Type 1 – Open Sea Disposal disposed and no Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal 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 One limit level exceedance was recorded on 5 August 2014 at M2b – Noon Day Gun Area in the reporting month.

- 6.1.4 Barge operation and concrete breaking works at TS4 under HY/2009/15 were observed during monitoring on 5 August 2014. It was considered that the operation of derrick barge and nearby breaking works at TS4 were the major noise contribution. As such, the limit level exceedance was concluded as project related. Rectification measures including provision of noise blanket for breakers and provision of noise screen for engine at the derrick barge were implemented by the contractor. Additional monitoring was conducted and no exceedance was identified.

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

- 6.1.5 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

- 6.1.6 One limit level exceedance was recorded on 28 July 2014 at M6 – HK Baptist Church Henrietta Secondary School in the reporting month. Investigations found that on 28 July 2014, traffic noise was major contribution in the noise monitoring and exceedance was not related to the Project.

### 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. Limit level exceedances were recorded at RTN2a-Electric Centre during daytime on 5, 13, 16, 21 and 23 August 2014 and during restricted hours on 1 August 2014 in the reporting month. After checking with Contractor, bored piling was conducted at the concerned location on 5, 13 and 16 during the recorded period and bored piling and breaking works was conducted on 21 and 23 August 2014, contractor mitigation measures including erection of temporary noise barrier was in place. In view of the exceedances are non-continuous, the exceedances are

considered to be non-project related and contributed by nearby IEC traffic. On 1 August 2014, bored piling was conducted at the concerned location during the monitoring period. Temporary noise barrier was implemented by the Contractor and the CNP GW-RS0752-14 was in place and complied. The exceedance was considered as non-project related and considered to be contributed by nearby IEC traffic.

### **6.3 Air Monitoring**

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

6.3.1 No exceedance was recorded in the reporting month.

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

6.3.2 No exceedance was recorded in the reporting month.

6.3.3 No Action and Limit Level was recorded for odour patrol during this reporting month.

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

6.3.4 No exceedance was recorded in the reporting month.

### **6.4 Water Quality Monitoring**

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

6.4.1 No exceedance was recorded in this reporting month

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

6.4.2 No exceedance was recorded in this reporting month.

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

6.4.3 No exceedance was recorded in this reporting month

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

6.4.4 There were occasionally DO exceedances at Ex-WPCWA SW and Ex-WPCWA SW recorded on 28 July, 3, 4, 6, 11, 13, 25 and 27 August 2014. No odour nuisance was noted during DO monitoring.

6.4.5 After checking with Contractor, temporary reclamation removal works were conducted during on the monitoring dates on 28 July, 3, 4, 6, 11, 13, 25 and 27 August 2014 at Ex-WPCWA. No dredging works for marine sediments conducted during those monitoring dates. Contractor

- mitigation measures including the use of silt curtain was generally in place. The exceedances were possible in relation to upstream discharge at the concerned location as it have been consistently observed such that it was considered the exceedances were not related to Project.
- 6.4.6 One limit level turbidity exceedance at C7 cooling water intake monitoring station was recorded on 25 August 2014.
- 6.4.7 After checking with contractor's works, dredging works was conducted during the monitoring date on 25 August 2014 at Victoria Harbour. Contractor mitigation measures including use of frame type silt curtain was in place and effective. In addition, the installed silt screen at monitoring station was properly maintained. Fine particulates that were observed in the vicinity of monitoring station and was considered not due to project works as it was possibly in relation to natural variation or changes of water quality in the vicinity of water quality monitoring station. Nevertheless, the particulates were cleared subsequently and turbidity level was restored to normal range within the same date on 25 August 2014 during flood tide. In the view of exceedance was not continuous, it was considered not project related.
- Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line
- 6.4.8 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
- 6.4.9 No exceedance was recorded in this reporting month.
- Contract no. HK/2012/08- Wan Chai Development Phase II – Central- Wan Chai Bypass at Wan Chai West
- 6.4.10 No exceedance was recorded in this reporting month.
- Contract no. HY/2010/08 –Central - Wan Chai Bypass (CWB) –Tunnel (Slip Road 8)
- 6.4.11 One limit level turbidity exceedance at C7 cooling water intake monitoring station was recorded on 25 August 2014.
- 6.4.12 After checking with contractor's works, dredging works was conducted during the monitoring date on 25 August 2014 at Victoria Harbour. Contractor mitigation measures including use of frame type silt curtain was in place and effective. In addition, the installed silt screen at monitoring station was properly maintained. Fine particulates that were observed in the vicinity of monitoring station and was considered not due to project works as it was possibly in relation to natural variation or changes of water quality in the vicinity of water quality monitoring station. Nevertheless, the particulates were cleared subsequently and turbidity level was restored to

normal range within the same date on 25 August 2014 during flood tide. In the view of exceedance was not continuous, it was considered not project related.

**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 No non-compliances from 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.

## **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 Final EM&A Report of Central Reclamation Phase III (CRIII) for Contract HK 12/02, the major construction activities were completed by end of January 2014 and no construction activities were undertaken thereafter and 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 Central-Wanchai Bypass at Wanchai West at the Central Reclamation Phase III area, Diaphragm wall construction and pipe pile wall construction were performed in August 2014 reporting month. As no project related exceedance were recorded during the reporting period, cumulative construction impact due to the concurrent activities of the current projects with the Central Reclamation Phase III (CRIII) was considered as insignificant.
- 7.0.4. 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, tunnel works at Wan Chai East and filling works at Wan Chai West. The major construction activities under Central-Wan Chai Bypass and Island Eastern Corridor Link Projects were bridge construction and tunnel works at Central Interchange, land base bored piling works at Victoria Park Road and ELS, segment launching works and tunnel works at North Point area. The major environmental impact was water quality impact at Causeway Bay and Wan Chai. Marine-based construction activities were filling works at WanChai West and removal of temporary reclamation at TS4, TS2 and EX-PCWA at Wan Chai East in the reporting month.
- 7.0.5. No significant air impact from construction activities was anticipated in the reporting month. Besides, project related exceedances were recorded during the air and noise environmental monitoring events in the reporting month were rectified. Thus, it is evaluated that the cumulative construction impact from the concurrent projects including Central Reclamation Phase III (CRIII), Wan Chai Development Phase II (WDII), Central-WanChai Bypass (CWB), Island Eastern Corridor Link projects (IECL) 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, HK/2012/08 and HY/2010/08. No non-conformance was identified during the site audits.

8.0.2. Five site inspections for Contract no. HK/2009/01 were conducted on 30 July, 6, 13, 21 and 27 August 2014 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
140806_01	6-Aug-14	Drip tray should be provided for oil container	The oil container was taken away and stored in a proper storage area.	Completion as observed on 13 August 2014
140813_01	13-Aug-14	Chemical containers shall be placed and stored properly at Area 8	Chemical containers were stored properly in designated area.	Completion as observed on 21 August 2014
140827_01	27-Aug-14	Drip tray should be provided for oil container at Stage 2 area	Drip tray was provided for oil container at Stage 2 area.	Completion as observed on 3 September 2014

8.0.3. Four site inspections for Contract no. HK/2009/02 were carried out on 31 July, 7, 14 and 20 August 2014 in reporting month. 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
140731_01	31-Jul-14	Floating refuse shall be cleaned up such that the possible of odour nuisance could be minimized.	Floating refuses were cleared.	Completion as observed on 8 Aug 2014
140807_01	7-Aug-14	Empty oil cans shall be taken away (Portion 3&4)	The oil can was stored in a proper designated area.	Completion as observed on 14 Aug 2014
140820_01	20-Aug-14	Drip trays should be provided for oil chemical containers at Portion 2	Drip tray was provided for oil chemical containers at Portion 2.	Completion as observed on 28 Aug 2014

8.0.4. Five site inspections for Contract no. HY/2009/15 were carried out on 29 July, 5, 12, 19 and 26 August 2014 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
140729_01	29-Jul-14	Provide impermeable layer at the dredging work area as per method statement (TS4)	No further dredging works was conducted.	Completion as observed on 26 Aug 2014
140729_02	29-Jul-14	Deploy the silt curtain properly to prevent seepage of muddy effluent and conduct regular checking of condition of deployment	The condition of the silt curtain was improved	Completion as observed on 5 Aug 2014
140805_01	5-Aug-14	Drip tray should be provided for chemical containers (TS4)	Chemical container has been removed.	Completion as observed on 12 Aug 2014
140805_02	5-Aug-14	Silt curtain shall be properly deployed around the derrick barge (TS4)	The condition of the silt curtain was improved	Completion as observed on 26 Aug 2014
140805_03	5-Aug-14	Acoustic blanket shall be provided to breakers (TS2)	Acoustic screen have been provided to breaker.	Completion as observed on 12 Aug 2014
140805_04	5-Aug-14	Removal of floating refuse and oil or grease within embayed water	Floating refuse and oil or grease was cleared	Completion as observed on 12 Aug 2014
140812_01	12-Aug-14	Floating refuses and oil formed on waterbody shall be cleared (TS4, Ex-pcwa)	Floating refuse and oil or grease was cleared	Completion as observed on 19 Aug 2014
140812_02	12-Aug-14	Drip tray or waste collection point shall be provided to chemical waste (TS4)	Chemical container has been removed.	Completion as observed on 19 Aug 2014
140812_03	12-Aug-14	Silt curtain shall be provided to surround the temporary cut slope to prevent muddy seepage (TS2, Ex-pcwa)	Protection to temporary cut slope was provided	Completion as observed on 26 Aug 2014
140819_01	19-Aug-14	Provide noise screen or acoustic blanket to beaker (TS4)	Acoustic screen have been provided to breaker.	Completion as observed on 26 Aug 2014
140826_01	26-Aug-14	Wastewater collection point shall be properly connected to prevent surface overflow of construction effluent (TS4)	Wastewater collection point has been rectified, no further surface runoff was observed	Completion as observed on 2 September 2014
140826_02	26-Aug-14	Silt curtain shall be provided to the D-wall cutting and filled material excavation to mitigate turbid dispersion (TS4)	No further muddy dispersion/ seepage was observed and the D-wall cutting area was provided with silt curtain	Completion as observed on 2 September 2014
140826_03	26-Aug-14	Floating refuses and scum shall be cleaned (TS4, EX-PCWA)	Floating refuse and scum was cleared	Completion as observed on 2 September 2014
140826_04	26-Aug-14	Protection shall be provided to temporary cut slope to mitigate	Protection to temporary cut	Completion as observed on 2



Item	Date	Observations	Action taken by Contractor	Outcome
		muddy dispersion (EX-PCWA)	slope was provided	September 2014

8.0.5. Five site inspections for Contract no. HK/2010/06 were carried out on 28 July, 4, 11, 21 and 25 August 2014 in reporting month. No particular finding was observed in this reporting month.

8.0.6. Five site inspections for Contract no. HY/2009/19 were carried out on 30 July, 6, 13, 20 and 27 August 2014 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. HY/2009/19**

Item	Date	Observations	Action taken by Contractor	Outcome
140827_01	27-Aug -14	Provide dust mitigation measures to dusty surface (TD Bridge)	Watering was provided to dusty surfaces	Completion as observed on 3 September 2014

8.0.7. Five site inspections for Contract no. HK/2012/08 were carried out on 30 July, 5, 12, 19 and 26 August 2014 in this reporting period. The results of these inspections and outcomes are summarized in **Table 8.5**

**Table 8.5 Summary of Environmental Inspections for Contract no. HK/2012/08**

Item	Date	Observations	Action taken by Contractor	Outcome
140730_01	30-Jul-14	Drip tray should be provided for oil cans.	Drip tray was provided for oil cans	Completion as observed on 5 August 2014
140826_01	26-Aug-14	It is required to identify the source of muddy water seepage and conduct proper action to prevent any seepage into the ocean.	The source of seepage has been identified and action was taken to prevent any potential seepage.	Completion as observed on 2 Sep 2014

8.0.8. Four site inspections for Contract no. HY/2010/08 were carried out on 31 July, 8, 14 and 21 July 2014 in this reporting period. The results of these inspections and outcomes are summarized in **Table 8.6**.

**Table 8.6 Summary of Environmental Inspections for Contract no. HY/2010/08**

Item	Date	Observations	Action taken by Contractor	Outcome
140731_01	31-Jul-14	Clear the chemical waste container	Chemical waste container have	Completion as observed on 8



Item	Date	Observations	Action taken by Contractor	Outcome
		(Victoria Park)	been removed	Aug 2014
140808_01	8-Aug-14	Silt curtain should be properly deployed to mitigate against muddy seepage (Victoria Park Road)	The condition of the silt curtain was improved and properly deployed	Completion as observed on 14 Aug 2014
140821_01	21-Aug-14	Silt curtain enclosing the dredging operation shall be properly deployed (TS3)	Silt curtain for dredging operation was rectified	Completion as observed on 28 Aug 2014

**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	30
August 2014	0
<b>Total</b>	<b>30</b>

**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
<b>Total</b>	<b>-</b>	<b>0</b>	<b>0</b>

## 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	<ul style="list-style-type: none"> <li>Rock trimming works</li> </ul>	<ul style="list-style-type: none"> <li>To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance and dark smoke emission</li> </ul>
HK/2009/02	<ul style="list-style-type: none"> <li>Works of covered walkway at Expo Drive East</li> <li>Backfilling works</li> <li>ABWF works</li> <li>Construction of temporary covered walkway</li> <li>Installation of Bridge 1, 2 &amp;3</li> <li>Construction of at-grade road</li> <li>Installation of street furniture and pavement works</li> </ul>	<ul style="list-style-type: none"> <li>To cover the dusty material or stockpile by impervious sheet;</li> <li>To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance and dark smoke emission</li> <li>To conform the installation and setting as in the silt screen and silt curtain deployment plan</li> <li>Movable noise barrier shall be deployed for demolition works</li> <li>Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> <li>Review silt screen deployment and silt curtain deployment and resubmit associate plans to EPD</li> <li>Implement silt screen and silt curtain in accordance with the associated plans submitted to EPD.</li> </ul>
HY/2009/15	<ul style="list-style-type: none"> <li>Construction works of East Ventilation Shaft</li> <li>Removal of Seawall Blocks at TPCWAE &amp; TS4</li> <li>Demolition of D-Wall at TPCWAE</li> </ul>	<ul style="list-style-type: none"> <li>Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> <li>Implement silt curtain in accordance with the associated plans submitted to EPD.</li> </ul>

Contract No.	Key Construction Works	Recommended Mitigation Measures
	&TS4 <ul style="list-style-type: none"> <li>Underwater Cutting of Temporary Diaphragm Walls at TS4 and TPCWAE</li> </ul>	
HK/2010/06	<ul style="list-style-type: none"> <li>Nil</li> </ul>	<ul style="list-style-type: none"> <li>Nil</li> </ul>
HY/2009/19	<ul style="list-style-type: none"> <li>Construction of Dolphin Cap</li> </ul>	<ul style="list-style-type: none"> <li>To space out noisy equipment and position as far as possible from sensitive receiver.</li> </ul>
HK/2012/08	<ul style="list-style-type: none"> <li>ELS for box culvert La at Lung King Street</li> <li>Filling for seawall rock mound formation</li> <li>Filling for reclamation</li> </ul>	<ul style="list-style-type: none"> <li>To conform the installation and setting as in the silt screen and silt curtain deployment plan</li> <li>To space out noisy equipment and position as far as possible from sensitive receiver.</li> <li>Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> </ul>
HY/2010/08	<ul style="list-style-type: none"> <li>To be updated</li> </ul>	<ul style="list-style-type: none"> <li>To conform the installation and setting as in the silt screen and silt curtain deployment plan</li> <li>Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> </ul>