

CONTRACT NO: HK/2011/07**WANCHAI DEVELOPMENT PHASE II AND CENTRAL
WANCHAI BYPASS
SAMPLING, FIELD MEASUREMENT AND TESTING WORK
(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****QUARTERLY ENVIRONMENTAL MONITORING
AND AUDIT REPORT****- SEPTEMBER 2013 TO NOVEMBER 2013 -****CLIENTS:****Civil Engineering and Development
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Ref.: AACWBIECEM00_0_4719L.13

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By Post and Fax (2691 2649)

Attention: Mr. Conrad NG

Dear Sir,

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

Reference is made to the Environmental Team's submission of the Quarterly Environmental Monitoring and Audit (EM&A) Report for September to November 2013 received by email on 18 December 2013.

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

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

Yours sincerely,



David Yeung
Independent Environmental Checker

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
1. INTRODUCTION	13
1.1 Scope of the Report	13
1.2 Structure of the Report.....	13
2. PROJECT BACKGROUND	14
2.1 Background	14
2.2 Scope of the Project and Site Description	14
2.3 Division of the Project Responsibility	15
2.4 Project Organization and Contact Personnel.....	16
2.5 Principal Work and Activities.....	19
3. MONITORING REQUIREMENTS	24
3.1. Noise Monitoring	24
3.2. Air Monitoring	25
3.3. Water Quality Monitoring.....	28
4. MONITORING RESULTS	34
4.1. Noise Monitoring Results	34
4.2. Real Time Noise Monitoring Results.....	35
4.3. Air Monitoring Results	36
4.4. Water Monitoring Results.....	38
4.5. Waste Monitoring Results	43
5. COMPLIANCE AUDIT	49
5.1. Noise Monitoring	49
5.2. Real-time Noise Monitoring.....	49
5.3. Air Monitoring	49
5.4. Water Quality Monitoring.....	49
5.5. Site Audit	51
5.6. Review of the Reasons for and the Implications of Non-compliance.....	51
5.7. Summary of action taken in the event of and follow-up on non-compliance	51
6. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION	51
7. CUMULATIVE CONSTRUCTION IMPACT DUE TO THE CONCURRENT PROJECTS	53
8. CONCLUSION	53

LIST OF TABLES

Table I	Principal Work Activities for Contract no. HK/2009/01
Table II	Principal Work Activities for Contract no. HK/2009/02
Table III	Principal Work Activities for Contract no. HY/2009/15
Table IV	Principal Work Activities for Contract no. HK/2010/06
Table V	Principal Work Activities for Contract no. HY/2009/19
Table VI	Principal Work Activities for Contract no. HK/2012/08
Table 2.1	Schedule 2 Designated Projects under this Project
Table 2.2	Details of Individual Contracts under the Project
Table 2.3	Contact Details of Key Personnel
Table 2.4	Principal Work Activities for Contract no. HK/2009/01
Table 2.5	Principal Work Activities for Contract no. HK/2009/02
Table 2.6	Principal Work Activities for Contract no. HY/2009/15
Table 2.7	Principal Work Activities for Contract no. HK/2010/06
Table 2.8	Principal Work Activities for Contract no. HY/2009/19
Table 2.9I	Principal Work Activities for Contract no. HK/2012/08
Table 3.1	Noise Monitoring Stations
Table 3.2	Real Time Noise Monitoring Station
Table 3.3	Air Monitoring Stations
Table 3.4	Marine Water Quality Stations for Water Quality Monitoring
Table 3.5	Marine Water Quality Monitoring Frequency and Parameters
Table 3.6	Marine Water Quality Stations for Enhanced Water Quality Monitoring
Table 3.7	Marine Water Quality Stations for Additional DO Monitoring
Table 4.1	Noise Monitoring Station for Contract nos. HK/2009/01 and HK/2009/02 and HK/2010/06
Table 4.2	Noise Monitoring Station for Contract nos. HY/2009/15
Table 4.3	Noise Monitoring Stations for Contract no. HY/2009/19
Table 4.4	Real Time Noise Monitoring Station for Contract no. HY/2009/11 and HY/2009/19
Table 4.6	Air Monitoring Stations for Contract no. HK/2009/01
Table 4.7	Air Monitoring Station for Contract no. HK/2009/02
Table 4.8	Air Monitoring Station for Contract no. HY/2009/15
Table 4.9	Air Monitoring Stations for Contract no. HY/2009/19
Table 4.10	Water Monitoring Stations for Contract no. HY/2009/11
Table 4.11	Water Monitoring Stations for Contract no. HK/2009/01
Table 4.12	Water Monitoring Stations for Contract no. HK/2009/02
Table 4.13	Water Monitoring Stations for Contract no. HK/2010/06
Table 4.14	Water Monitoring Stations for Contract no. HY/2009/15
Table 4.15	Water Monitoring Stations for Contract no. HY/2009/19
Table 4.16	Summary of Water Quality Monitoring Exceedances in Reporting period
Table 4.16a	Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting period
Table 4.18	Details of Waste Disposal for Contract no. HK/2009/01
Table 4.19	Details of Waste Disposal for Contract no. HK/2009/02
Table 4.20	Details of Waste Disposal for Contract no. HY/2009/15
Table 4.21	Details of Waste Disposal for Contract no. HK/2010/06
Table 4.22	Details of Waste Disposal for Contract no. HY/2009/19
Table 5.1	Summary of Water Quality Monitoring Exceedances in Reporting period
Table 5.1a	Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting period
Table 6.1	Cumulative Statistics on Complaints
Table 6.2	Cumulative Statistics on Successful Prosecutions



LIST OF FIGURES

- Figure 2.1 Project Layout
- Figure 2.2 Project Organization Chart
- Figure 3.1 Locations of Environmental Monitoring Stations

LIST OF APPENDICES

- Appendix 2.1 Environmental Mitigation Implementation Schedule
- Appendix 3.1 Action and Limit Level
- Appendix 4.1 Noise Monitoring Graphical Presentations
- Appendix 4.2 Air Quality Monitoring Graphical Presentations
- Appendix 4.3 Water Quality Monitoring Graphical Presentations
- Appendix 4.3a Additional Dissolved Oxygen Monitoring Results
- Appendix 4.4 Real-time Noise Monitoring Results and Graphical Presentations
- Appendix 5.1 Event Action Plans
- Appendix 6.1 Complaint Log
- Appendix 7.1 Construction Programme of Individual Contracts

EXECUTIVE SUMMARY

i. This is the Quarterly Environmental Monitoring and Audit (EM&A) Report – September 2013 to November 2013 prepared for the Project of Wan Chai Development Phase II and Central-Wanchai Bypass under Environmental Permit no. EP-356/2009 and Further Environmental permit nos. FEP-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 and audit findings and information during the period from September 2013 to November 2013. The cut-off date of reporting is at 27th of each reporting period.

Construction Activities for the Reported Period

ii. During this reporting period, the principal work activities for Contract no. HK/2009/01 are summarized as below:

Table I Principal Work Activities for Contract no. HK/2009/01

September 2013	October 2013	November 2013
<p>Marine Works (at Wan Chai)</p> <ul style="list-style-type: none"> • Rockfilling at Area 3 (East of Expo Bridge). Rockfilling work in accordance with proposed alignment up to +2.5mPD. Rock materials from HATS. • Bottom slab of Bay 8. Preparation work for blinding layer at Bay 9. • Fabrication work for steel bridge on the top of temporary open channel along Convention Avenue. 5 nos. pre-bored H-piles were installed. • Pre-drilling for D-walls at Area 8 (interface wall, bulkhead). Installation of sleeve pipe for predrilling work in order to remove the G75 rock before site investigation. • Ground treatment work and guide wall construction. Formation for soil platform. Plate load test. <p>Cross-Harbour Watermains Installation (CHA & CHB) and Marine Works (at TST)</p> <ul style="list-style-type: none"> • The stage 2 & 3 connection. The stage 4 capping works for XHWM. <p>XHWM, Cooling Watermains, Salt Watermains and Sewer (On Land)</p> <ul style="list-style-type: none"> • Design of the additional 	<p>Marine Works (at Wan Chai)</p> <ul style="list-style-type: none"> • Rock filling up to +4.2 mPD for D-wall construction. • Bottom slab of Bay 8. Preparation work for blinding layer at Bay 9. Water leakage was found and re-grouting. • Fabrication work for steel bridge on the top of temporary open channel along Convention Avenue. • Pre-drilling for D-walls at Area 8 (interface wall, bulkhead). • Ground treatment work and guide wall construction. <p>XHWM, Cooling Watermains, Salt Watermains and Sewer (On Land)</p> <ul style="list-style-type: none"> • Design of the additional anode between the new pipe and existing pipeline. • Reinstatement works at HKCEC north & northwest. Reinstatement works at West Foyer of HKCEC. Planter reinstatement, kerbworks, hard paving and all other minor reinstatement works. • Cooling main works in Zone C1-2. Cooling main works along Expo Drive East and Fleming Road. • Salt watermain laying works along west of Convention Avenue, J/O Convention Avenue & Fenwick Per Street, 	<p>Marine Works (at Wan Chai)</p> <ul style="list-style-type: none"> • Further rock filling from HATS at East side in order to extend the work area. • Concreting at base slab of bay 8 and bay 9. Wall and roof slab construction work and he box culvert. • Fabrication work for steel bridge on the top of temporary open channel along Convention Avenue. • First panel at temporary bulk head wall and C1/C2 interface wall • Installation of end plates to block the existing intakes P7 & P9. • Outfall construction for discharge pipes at Expo Drive East. <p>Cooling Watermains, Salt Watermains and Sewer (On Land)</p> <ul style="list-style-type: none"> • Design of the additional anode between the new pipe and existing pipeline. • Reinstatement works at HKCEC north & northwest. • Cooling main laying works along Expo Drive East in Zone C2-1 and C1-3. • Salt watermain laying works along west of Convention Avenue, J/O Convention

September 2013	October 2013	November 2013
<p>anode between the new pipe and existing pipeline.</p> <ul style="list-style-type: none"> • Reinstatement works at West Foyer of HKCEC. Planter reinstatement, kerbworks, hard paving. All reinstatement works. • Cooling main works in Zone C1-2. Cooling main works along Expo Drive East and Fleming Road.. • Salt watermain laying works along west of Convention Avenue, J/O Convention Avenue & Fenwick Per Street, Harbour Road in Zone A3-5C, A3-1, A3-5B, A2-4A, A5-5 and A5-2. Salt watermain laying works along west of Convention Avenue near Grand Hyatt Hotel in Zone A1-5C, A1-5A3. • Temporary ducting and cabling works at junction between Expo Drive East and Expo Drive Central. <p>Tunnel Works</p> <ul style="list-style-type: none"> • Installation of pre-bored H-pile in CWB Stage 2 Atrium Link (from CH120 to CH220). 45 nos. pre-bored H-piles had been excavated. 32 nos. pre-bored H-piles were grouted i.e. 22 nos. drilled and 26 nos. grouted. • Construction of the Common D-wall. • Filling of the existing open water channel from CH100 to CH206. • Demolition of the Promenade Deck. Installation of sheet pile for demolition of P5 Pump house. • ELS work at bottom-up area. Fabrication of steel strutting members. Installation of ELS. 	<p>Harbour Road in Zone A3-5C, A3-1, A3-5B, A2-4A, A5-5 and A5-2. Salt watermain laying works along west of Convention Avenue near Grand Hyatt Hotel in Zone A1-5C, A1-5A3.</p> <ul style="list-style-type: none"> • Relocation works of fire hydrant in Zone X2-1. • Temporary ducting and cabling works at junction between Expo Drive East and Expo Drive Central. <p>Tunnel Works</p> <ul style="list-style-type: none"> • Installation of pre-bored H-pile in CWB Stage 2 Atrium Link (from CH120 to CH220). • Construction of the Common D-wall. • Filling of the existing open water channel from CH100 to CH206. Further filling to P7 & P9. • Demolition of the Promenade Deck. Installation of sheet pile for demolition of P5 Pump house and the works for tie-back. • Installation of ELS at first layer for Stage 1. 	<p>Avenue & Fenwick Per Street, Harbour Road in Zone A3-5C, A3-1, A3-5B, A2-4A, A5-5 and A5-2. Salt watermain laying works along west of Convention Avenue near Grand Hyatt Hotel in Zone A1-5C, A1-5A3.</p> <p>Tunnel Works</p> <ul style="list-style-type: none"> • Installation of pre-bored H-pile in CWB Stage 2 Atrium Link (from CH120 to CH220). • Construction of the Common D-wall. • Filling of the existing open water channel from CH100 to CH206. Further filling to P7 & P9. • Demolition of the Promenade Deck. Installation of sheet pile for demolition of P5 Pump house and the works for tie-back. • Installation of ELS at first layer for Stage 1.

iii. During this reporting period, the principal work activities for Contract no. HK/2009/02 are summarized as below:

Table II Principal Work Activities for Contract no. HK/2009/02

September 2013	October 2013	November 2013
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September 2013	October 2013	November 2013
<ul style="list-style-type: none"> Modification of existing covered walkway along Expo Drive East. The outstanding VSD parts for P7 Cooling Water Pumping Station reinstalled . The 60 days for T&C period of P7 cooling water system. The T&C period of P9. The temporary EVA construction for P7, P8 and P9 Cooling Water Pumping Stations. Rectification works for P8 discharge mains near Gate No.1 60-Day T&C for P9 Cooling Water Pumping Station. Installation of Aeration and Chlorination Pipes at Salt Water Intake Culvert Bay 2 to Bay 5. Temporary discharge pipe near CHS8A 160m. Trench excavation and ELS installation for the Y-section connecting with the existing DN600 watermains at Hung Hing Road. Pipe fabrication for the Y-Section. Additional horizontal gate valve chamber under VO No.114 located at CHS8A230m. The remaining ABWF works and boundary wall in WSD Salt Water Pumping Station, including maintenance platform and external finishes. The base slab, wall and top slab at Bay 5. Blinding layer for 1050mm FRP pipe near Bay 4 and Bay 5. The access shafts of inspection manholes IM-01 and IM-02 at Bay 5. Construction of stoplog chamber extension SLO-01, SLO-02 and SLO-03 at Bay 6. The stoplog installation. Formwork erection and rebar fixing for the 6nos. Temporary Covered Walkway in the vicinity of Ferry Pier. 	<ul style="list-style-type: none"> Modification of existing covered walkway along Expo Drive East. 60-Day Trial Operation for P7 Cooling Water Pumping Station. Fire Certificate for all P7, P8 and P9 Cooling Water Pumping Stations. Leakage rectification works for P8 discharge mains near Gate No.1. The DN150 washout pipe testing under VO No.114 located at CHS8A230m. All necessary fittings and ready for gate valve installation by WSD. Pressure test to Y-Section for connection with the existing DN600 pipe at Hung Hing Road had been completed. The remaining ABWF works and boundary wall in WSD Salt Water Pumping Station, including maintenance platform and external finishes. Bulkhead Removal at Bay 5 and Bay 6. The guiderail installation at stoplog chambers at Bay 6. The remedial works at Bay 3 and Bay 6. Revised certified ELS design for modifying the existing ELS for the construction of Manhole No. FRP-N-MH2. The 6nos. Temporary Covered Walkway in the vicinity of Ferry Pier . Installation of base plates for seatings at Observation Deck Level of Ferry Pier. Remedial works for the Eastern Bulkhead Wall. <p>Hung Hing Road Flyover Diversion (Stage 1):</p> <ul style="list-style-type: none"> The road modification works along Wan Shing Street for HHR Flyover Diversion (Stage 1). Pavement works at Wan Shing Street next to SPCA's Main Vehicular Access. 	<ul style="list-style-type: none"> Modification of existing covered walkway along Expo Drive East. Modification of road junction between Expo Drive and Expo Drive East. Mainline of P8 discharge mains was tested. The leakage portion near Gate No.1 had been fixed. The 60-day trial operation for P7 Cooling Water Pumping Station. Rectification works of the special movement joint for P8 discharge main at CHB152m. Defected special movement joint was delivered off site for repairing works. Backfilling between CHAI 80 and CHAI 160, and CHAG 150m and CHAG 210m (Except the combined area). Installation of 3 standpipes and the Water Tightness Test of Salt Water Intake Culvert. For DN800 pipe, horizontal gate valve installation. Beforehead, epoxy coating and flange adaptor installation. The remaining ABWF works and boundary wall in WSD Salt Water Pumping Station, including maintenance platform and external finishes. Stoplog installation at Bay 6 of Box Culvert N1. The remedial works at Bay 6 of Box Culvert N1. Modifying the existing ELS for the construction of Manhole No. FRP-N-MH2. DSD had accepted the Box Culvert N1 Bay 1 to Bay 6. Another site inspection for stoplog removal trial was conducted with DSD. The Wall of FRP-N-MH2 construction and beforehead, the 1050mm FRP pipe Installation between Bay 4 and Bay 5. Water infilling to Box Culvert N1 for subsequent

September 2013	October 2013	November 2013
<ul style="list-style-type: none"> Interface coring and shear pin installation for the Eastern Bulkhead Wall. The road modification works along Wan Shing Street for HHR Flyover Diversion (Stage 1). Pavement works at Wan Shing Street next to ECO gas infill station. Trimming of lifted-in sheetpile in front of SPCA's Guard Room. Breaking up the existing carriageway next to SPCA's Main Vehicular Access. 90.7% of seawall blocks installation at WCR4/TWCR4 (844nos. out of 936nos.). 95% of geotextile at WCR4/TWCR4 area 	<ul style="list-style-type: none"> Backfilling works at Wan Shing Street next to HEC station entrance. Pavement works. Sorted public fill at WCR4/TWCR4. Seawall blocks installation at WCR4/TWCR4. Geotextile at WCR4/TWCR4 area.. 	<p>waternightness test. Remedial works to stop leakage at 1050mm FRP pipe.</p> <ul style="list-style-type: none"> Backfilling for 1050mm FRP installation. Remaining connection between FRP-N-MH2 and SLO-03. Excavation to the formation level for the Temporary Covered Walkway footing (GL5) in the vicinity of Ferry Pier. Sand replacement test. Re-grouting works for the Eastern Bulkhead Wall. Proof drilling for re-grouting works for the Eastern Bulkhead Wall. <p>Hung Hing Road Flyover Diversion (Stage 1):</p> <ul style="list-style-type: none"> Pavement works at Wan Shing Street next to HEC station entrance. All road markings and traffic sign installation. Implementation of HHR Flyover Diversion (Stage 1). <p>WCR4/TWCR4 Reclamation:</p> <ul style="list-style-type: none"> Public fill at WCR4/TWCR4. Seawall blocks installation at WCR4/TWCR4. Geotextile at WCR4/TWCR4 area.

iv. Contract no. HY/2009/15 was commenced on 10 November 2010. During this reporting period, the principal work activities for Contract no. HY/2009/15 are summarized as below:

Table III Principal Work Activities for Contract no. HY/2009/15

September 2013	October 2013	November 2013
<ul style="list-style-type: none"> Construction of EVA 	<ul style="list-style-type: none"> Construction of EVA 	<ul style="list-style-type: none"> Construction of EVA Maintenance dredging

v. Contract no. HK/2010/06 was commenced on 22 March 2011. During this reporting period, the principal work activities for Contract no. HK/2010/06 are summarized as below:

Table IV Principal Work Activities for Contract no. HK/2010/06

September 2013	October 2013	November 2013
• Sheet piling works	• Sheet piling works	• Sheet piling works

vi. Contract no. HY/2009/19 was commenced on 24 March 2011. During this reporting period, the principal work activities for Contract no. HY/2009/19 are summarized as below:

Table V Principal Work Activities for Contract no. HY/2009/19

September 2013	October 2013	November 2013
<ul style="list-style-type: none"> • D-wall and Barrette Construction • Construction works for Box Culvert T1 • Backfill works for Box Culvert U1 • Removal of marine platform • Construction of pile cap, pier & cross head (Marine) • Installation of dewatering well • Laying of 1500φ pipe • Launching of segments • Extraction of temporary pile from marine section • Construction of bridge truss TA1 	<ul style="list-style-type: none"> • D-wall and Barrette Construction • Removal of strut at ELS • Construction works for Box Culvert T1 • Removal of marine platform • Construction of pile cap, pier & cross head (Marine) • ELS and Cut & Cover Tunnel • Installation of dewatering well • Laying of 1500φ pipe • Launching of segments • Extraction of temporary pile from marine section • Construction of bridge truss TA1 • Demolition of parapet at IEC link • Construction of King Post at ELS 	<ul style="list-style-type: none"> • D-wall and Barrette Construction • Removal of strut at ELS will commence • Construction works for Box Culvert T1 • Removal of marine platform • Construction of pile cap, pier & cross head (Marine) • ELS, EVB and Cut & Cover Tunnel • Installation of dewatering well • Laying of 1500φ pipe • Launching of segments • Extraction of temporary pile from marine section • Construction of bridge truss TA1 • Demolition of parapet at IEC link • Construction of King Post at ELS

vii. Contract no. HK/2012/08 was commenced on 5 March 2013. During this reporting period, the principal work activities for Contract no. HK/2012/08 are summarized as below:

Table VI Principal Work Activities for Contract no. HK/2012/08

September 2013	October 2013	November 2013
<ul style="list-style-type: none"> • Site preparation works • Site survey • ELS for box culvert La at Lung King Street • Dredging • Demolition of the existing Expo Drive West Bridge 	<ul style="list-style-type: none"> • Site preparation works • Site survey • ELS for box culvert La at Lung King Street • Dredging • Preparation works for abandoning watermains at Lung King Street 	<ul style="list-style-type: none"> • Site preparation works • Site survey • ELS for box culvert La at Lung King Street • Dredging • Preparation works for abandoning watermains at Lung King Street • Seawall rock mound formation

viii. Contract no. HY/2010/08 was commenced on 21 March 2013. During this reporting period, no principal work activities for Contract no. HK/2012/08.

Noise Monitoring

- ix. Noise monitoring during day time and evening time were conducted at the M1a, M2b, M3a, M4b, M5b and M6 on a weekly basis in the reporting period. The Action and Limit level exceedances recorded in the reporting period are listed below. Investigation found that exceedances were not related to the Project. Investigation found that exceedances were not related to the Project.
- x. Nine limit level exceedances were recorded at M6 on 6, 10, 17 and 26 September 2013, 3 and October 2013, 5, 18 and 26 November 2013. The limit level exceedances were considered as non-project related.
- xi. Due to adverse weather condition, the noise monitoring at the following stations were rescheduled:
 - M2b: From 3 September 2013 to 6 September 2013
 - M6: From 3 September 2013 to 6 September 2013

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 FEHD Hong Kong Transport Section Whitfield Depot was excluded under EP-356/2009 since 28 November 2012.
- xiii. Real-time noise monitoring at FEHD Hong Kong Transport Section Whitefield Depot and Oil Street Community Centre have been commenced on 5 October 2010 for the filling works of Contract no. HY/2009/11.
- xiv. Real-time noise monitoring at FEHD Hong Kong Transport Section Whitefield Depot commenced external wall renovation since 1 June 2012
- xv. Oil Street Community Liaison Centre was confirmed to be demolished in mid-October by CWB RSS. This presented a need for relocation of RTN2 – Oil Street Community Liaison Centre. After liaison with Hong Kong Electric, permission was granted on 21 Sep 2012 for real time noise monitoring set up at City Garden Electric Centre (RTN2a – Electric Centre), which is a representative of the noise sensitive receiver City Garden. 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. 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.
- xvi. No project related exceedance was recorded in September, October and November reporting month at RTN2a-Hong Kong Electric Centre during this reporting quarter.

Air Quality Monitoring

- 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. Due to interruption of electric supply, the 24-hr TSP monitoring at the following stations were rescheduled as below:

CMA3a: from 16 October 2013 to 17 October 2013

CMA5a: from 14 November 2013 to 15 November 2013.

xx. Due to the hoisting of Gale warning signal no.8, the 24hr TSP monitoring events on was rescheduled from 23 September 2013 to 24 September 2013.

xi. 1hr and 24hr TSP monitoring were conducted at CMA1b, CMA2a, CMA3a, CMA4a, CMA5a and CMA6a in the reporting period.

xii. The odour patrol along the odour route with 7 sniffing locations was conducted by a qualified odour patrol member on 3 and 17 September 2013 at the concerned hours (afternoon for higher daily temperature). No Action and Limit Level was recorded during this reporting month.

Water Quality Monitoring

xxiii. Water quality monitoring was conducted at 11 monitoring stations namely WSD9, WSD17, WSD19, WSD 21, C1, C7, P1, P3, P4, P5 and RW21-P789 during the reporting period.

xxiv. Due to the Amber Rainstorm Warning was hoisted on 4 September 2013, water quality monitoring at ebb tide was cancelled.

xxv. Due to the Gale warning signal no.8 was hoisted on 23 September 2013, water quality monitoring at flood tide were cancelled.

xxvi. Due to obstruction by construction material on 31 August 2013, water quality monitoring at water quality monitoring station P4 during flood tide was cancelled.

xxvii. Due to damaged geotextile enclosing the silt screen on 15 October 2013, water quality monitoring at P3 during flood tide was cancelled.

xxviii. Action and Limit level of water quality monitoring was transited from wet season to dry season from 1 October 2013.

xxix. Due to out of order of the lighting system on 4 November 2013, water quality monitoring at RW21-P789 during flood tide was cancelled.

xxx. Since marine dredging works was commenced under contract HK/2012/08. The respective water quality monitoring station WSD19, P1, P3, P4, and P5 have been started under contract HK/2012/08 September 2013.

xxxi. 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.

xxxii. 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.

xxxiii. Total 17 DO exceedances, 45 turbidity exceedances and 15 SS exceedances were recorded during mid-flood while 21 DO exceedance, 29 turbidity exceedances and 8 SS exceedances were recorded during mid-ebb in the reporting period. All the exceedances were concluded as non-project-related. The details of the recorded exceedances can be referred to the **Section 5.4.**

xxxiv. Enhanced DO monitoring at 4 monitoring stations in Causeway Bay Typhoon Shelter and Ex-Public Cargo Works Area was conducted three days per week during the reporting period. There were 46 DO exceedance during mid-flood and 41 DO exceedances during mid-ebb

recorded in this reporting period. Investigation found that all exceedances were not project-related.

xxxv. 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.

xxxvi. 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.

xxxvii. 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;

xxxviii. 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.

xxxix. 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.

xl. 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.

xli. 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.

xlii. 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.

xlii. 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.



Complaints, Notifications of Summons and Successful Prosecutions

xliv. There was no environmental complaint recorded in the reporting period.

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 10.4 of EM&A Manual and “*Environmental Monitoring and Audit Requirements*” under Particular Specification Section 27.
- 1.1.3. This report documents the finding of EM&A works during the period from September 2013 to November 2013.

1.2 Structure of the Report

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

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

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

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

Section 5 *Compliance Audit* – summarizes the auditing of monitoring results, all exceedances environmental parameters.

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

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

Section 8 *Conclusion*

2. PROJECT BACKGROUND

2.1 Background

- 2.1.1. "Wan Chai Development phase II and Central-Wan Chai Bypass" and "Central-Wan Chai Bypass and Island Eastern Corridor Link" (hereafter called "the Project") are Designed Project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). The Environmental Impact Assessment (EIA) Reports for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-041/2001) and Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) have been approved on 31 August 2001 and 11 December 2008 respectively.
- 2.1.2. The key purpose of Wan Chai Development Phase II (WDII) is to provide land at Wan Chai North and North Point for construction of the Central-Wan Chai Bypass and Island Eastern Corridor Link (CWB). Land formed under the project will be developed as a world-class waterfront promenade joining that at the new Central waterfront for public enjoyment.
- 2.1.3. There is a compelling and present need for the CWB to provide relief to the very congested east-west Connaught Road Central/Harcourt Road / Gloucester Road Corridor (the Corridor) which is currently operating beyond its capacity. The CWB will provide relief to the existing congestion along the Corridor and cater for the anticipated growth of traffic on Hong Kong Island. Without the CWB and its access roads, there will not be sufficient capacity to serve the heavy traffic demands at both strategic and local levels.

2.2 Scope of the Project and Site Description

- 2.2.1. The Project is located mainly in Wan Chai North, Causeway Bay and North Point, and is demarcated by Gloucester Road and Victoria Park Road to the south, Fenwick Pier Street to the west and Tong Shui Road Interchange to the east, as shown in **Figure 2.1**.
- 2.2.2. The study area encompasses existing developments along the Wan Chai, Causeway Bay and North Point shorelines. Major land uses include the Hong Kong Convention & Exhibition Centre (HKCEC) Extension, the Wan Chai Ferry Pier, the ex-Wan Chai Public Cargo Working Area (ex-PCWA), the Royal Hong Kong Yacht Club (RHKYC), the Police Officers' Club, the Causeway Bay Typhoon Shelter (CBTS) and commercial and residential developments.
- 2.2.3. The scope of the Project comprises:
 - Land formation for key transport infrastructure and facilities, including the Trunk Road (i.e. CWB) and the associated slip roads for connection to the Trunk Road and for through traffic from Central to Wan Chai and Causeway Bay. The land formed for the above transport infrastructure will provide opportunities for the development of an attractive waterfront promenade for the enjoyment of the public
 - Reprovisioning / protection of the existing facilities and structures affected by the land formation works mentioned above

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

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

Table 2.1 Schedule 2 Designated Projects under this Project

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

2.3 Division of the Project Responsibility

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

2.3.2. 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	5 March 2013

2.4 Project Organization and Contact Personnel

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

2.4.2. The proposed project organization and lines of communication with respect to environmental protection works are shown in **Figure 2.2**. Key personnel and contact particulars are summarized in **Table 2.3**:

Table 2.3 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.	Contact Fax

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. PL Yue	2162 9909	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. Jack Chu	9775 3008	
		Environmental Officer (Compliance Manager)	Mr. Andy Mak	9103 2370	
		Environmental Supervisor	Fan Chun Wai	6487 4488	
Chun Wo – CRGL Joint Venture	Contractor under Contract no. HK/2009/02	Project Manager	Mr. David Lau	3658-3022	2827 9996
		Quality & Environmental Manager (Environmental Officer)	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	
		Head of Construction Manager	Roger Cheung	3557 6371	
		Senior Construction Manager	Gene Cheung	3557 6395	
		Environmental Officer	Mr. Daniel Sin	3557 6347	
		Project Manager	Mr. Paul Lui	9095 7922	
Gammon -Leader JV	Contractor under Contract no. HK/2010/06	Site Agent	Mr. Eric Yip	2529 2068	2529 2880
		Environmental Officer	Clement Pang	9735 9200	

Party	Role	Post	Name	Contact No.	Contact Fax
		Environmental Supervisor	Jacky Cheung	9779 2292	
Chun Wo - CRGL - MBEC Joint Venture	Contractor under Contract no. HY/2009/19	Project Manager	Mr. Rayland Lee	3758 8879	2570 8013
		Site Agent	Mr. Paul Yu	9456 9819	
		Environmental Engineer	Mr. Calvin Leung	9286 9208	
		Environmental Manager / Environmental Officer	Mr. M.H. Isa	9884 0810	
		Construction Manager (Marine)	William Luk	9610 1101	
		Construction Manager (Land)	Patrick Cheung	9643 3012	
		Construction Manager (Land)	Eric Fong	6191 9337	
		Operation Manager (Land)	Yung Kwok Wah	9834 1010	
China State-Leader JV	Contractor under Contract no. HK/2012/08	Project Director	Andrew Tse	9137 1811	2877 1522
		Project Manager	Victor Wu	9193 8871	
		Deputy Project Manager	George Cheung	9268 1918	
		Site Agent	Paul Lui	9095 7922	
		Environmental Officer	James Ma	9130 9549	
		Environmental Supervisor	Ching Man, Chan	6050 4919	
China State	Contractor under Contract no. HY/2010/08	Project Director	Cheung Kit Cheung	3557 6399	2566 8061
		Project Manager	Chan Ying Lun	9812 0592	
		Deputy Project Manager	Chris Leung	3467 4299	
		Site Agent	Dave Chan	3467 4277	
		Environmental Officer	C.M. Wong	3557 6464	
		Environmental Supervisor	Louis Lam Tsz Kwan	3557 6470	
ENVIRON Hong Kong	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. David Yeung	34652888	34652899

Party	Role	Post	Name	Contact No.	Contact Fax
Limited					
Lam Geotechnics Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939	2882 3331

2.5 Principal Work and Activities

2.5.1. During this reporting period, the principal work activities for Contract no. HK/2009/01 are summarized in **Table 2.4**.

Table 2.4 Principal Work Activities for Contract no. HK/2009/01

September 2013	October 2013	November 2013
Marine Works (at Wan Chai) <ul style="list-style-type: none"> Rockfilling at Area 3 (East of Expo Bridge). Rockfilling work in accordance with proposed alignment up to +2.5mPD. Rock materials from HATS. Bottom slab of Bay 8. Preparation work for blinding layer at Bay 9. Fabrication work for steel bridge on the top of temporary open channel along Convention Avenue. 5 nos. pre-bored H-piles were installed. Pre-drilling for D-walls at Area 8 (interface wall, bulkhead). Installation of sleeve pipe for predrilling work in order to remove the G75 rock before site investigation. Ground treatment work and guide wall construction. Formation for soil platform. Plate load test. Cross-Harbour Watermains Installation (CHA & CHB) and Marine Works (at TST) <ul style="list-style-type: none"> The stage 2 & 3 connection. The stage 4 capping works for XHWM. XHWM, Cooling Watermains, Salt Watermains and Sewer (On Land) <ul style="list-style-type: none"> Design of the additional anode between the new pipe and existing pipeline. Reinstatement works at HKCEC north & northwest. Reinforcement works at West Foyer of HKCEC. Planter reinstatement, kerbworks, hard paving and all other minor reinstatement works. Cooling main works in Zone C1-2. Cooling main works along Expo Drive East and Fleming Road. Salt watermain laying works along west of Convention Avenue, J/O Convention Avenue & Fenwick Per Street, Harbour Road in Zone A3-5C, A3-1, A3-5B, A2-4A, A5-5 and A5-2. Salt watermain laying 	Marine Works (at Wan Chai) <ul style="list-style-type: none"> Rock filling up to +4.2 mPD for D-wall construction. Bottom slab of Bay 8. Preparation work for blinding layer at Bay 9. Water leakage was found and re-grouting. Fabrication work for steel bridge on the top of temporary open channel along Convention Avenue. Pre-drilling for D-walls at Area 8 (interface wall, bulkhead). Ground treatment work and guide wall construction. XHWM, Cooling Watermains, Salt Watermains and Sewer (On Land) <ul style="list-style-type: none"> Design of the additional anode between the new pipe and existing pipeline. Reinstatement works at HKCEC north & northwest. Reinforcement works at West Foyer of HKCEC. Planter reinstatement, kerbworks, hard paving and all other minor reinstatement works. Cooling main works in Zone C1-2. Cooling main works along Expo Drive East and Fleming Road. Salt watermain laying works along west of Convention Avenue, J/O Convention Avenue & Fenwick Per Street, Harbour Road in Zone A3-5C, A3-1, A3-5B, A2-4A, A5-5 and A5-2. Salt watermain laying 	Marine Works (at Wan Chai) <ul style="list-style-type: none"> Further rock filling from HATS at East side in order to extend the work area. Concreting at base slab of bay 8 and bay 9. Wall and roof slab construction work and he box culvert. Fabrication work for steel bridge on the top of temporary open channel along Convention Avenue. First panel at temporary bulk head wall and C1/C2 interface wall Installation of end plates to block the existing intakes P7 & P9. Outfall construction for discharge pipes at Expo Drive East. Cooling Watermains, Salt Watermains and Sewer (On Land) <ul style="list-style-type: none"> Design of the additional anode between the new pipe and existing pipeline. Reinstatement works at HKCEC north & northwest. Cooling main laying works along Expo Drive East in Zone C2-1 and C1-3. Salt watermain laying works along west of Convention Avenue, J/O Convention Avenue & Fenwick Per Street, Harbour Road in Zone A3-5C, A3-1, A3-5B, A2-4A, A5-5

September 2013	October 2013	November 2013
<p>West Foyer of HKCEC. Planter reinstatement, kerbworks, hard paving. All reinstatement works.</p> <ul style="list-style-type: none"> • Cooling main works in Zone C1-2. Cooling main works along Expo Drive East and Fleming Road.. • Salt watermain laying works along west of Convention Avenue, J/O Convention Avenue & Fenwick Per Street, Harbour Road in Zone A3-5C, A3-1, A3-5B, A2-4A, A5-5 and A5-2. Salt watermain laying works along west of Convention Avenue near Grand Hyatt Hotel in Zone A1-5C, A1-5A3. • Temporary ducting and cabling works at junction between Expo Drive East and Expo Drive Central. <p>Tunnel Works</p> <ul style="list-style-type: none"> • Installation of pre-bored H-pile in CWB Stage 2 Atrium Link (from CH120 to CH220). 45 nos. pre-bored H-piles had been excavated. 32 nos. pre-bored H-piles were grouted i.e. 22 nos. drilled and 26 nos. grouted. • Construction of the Common D-wall. • Filling of the existing open water channel from CH100 to CH206. • Demolition of the Promenade Deck. Installation of sheet pile for demolition of P5 Pump house. • ELS work at bottom-up area. Fabrication of steel strutting members. Installation of ELS. 	<p>works along west of Convention Avenue near Grand Hyatt Hotel in Zone A1-5C, A1-5A3.</p> <ul style="list-style-type: none"> • Relocation works of fire hydrant in Zone X2-1. • Temporary ducting and cabling works at junction between Expo Drive East and Expo Drive Central. <p>Tunnel Works</p> <ul style="list-style-type: none"> • Installation of pre-bored H-pile in CWB Stage 2 Atrium Link (from CH120 to CH220). • Construction of the Common D-wall. • Filling of the existing open water channel from CH100 to CH206. Further filling to P7 & P9. • Demolition of the Promenade Deck. Installation of sheet pile for demolition of P5 Pump house and the works for tie-back. • Installation of ELS at first layer for Stage 1. 	<p>and A5-2. Salt watermain laying works along west of Convention Avenue near Grand Hyatt Hotel in Zone A1-5C, A1-5A3.</p> <p>Tunnel Works</p> <ul style="list-style-type: none"> • Installation of pre-bored H-pile in CWB Stage 2 Atrium Link (from CH120 to CH220). • Construction of the Common D-wall. • Filling of the existing open water channel from CH100 to CH206. Further filling to P7 & P9. • Demolition of the Promenade Deck. Installation of sheet pile for demolition of P5 Pump house and the works for tie-back. • Installation of ELS at first layer for Stage 1.

2.5.2. During this reporting period, the principal work activities for Contract no. HK/2009/02 are summarized in **Table 2.5**.

Table 2.5 Principal Work Activities for Contract no. HK/2009/02

September 2013	October 2013	November 2013
<ul style="list-style-type: none"> • Modification of existing covered walkway along Expo 	<ul style="list-style-type: none"> • Modification of existing covered walkway along 	<ul style="list-style-type: none"> • Modification of existing covered walkway along Expo

September 2013	October 2013	November 2013
<p>Drive East.</p> <ul style="list-style-type: none"> The outstanding VSD parts for P7 Cooling Water Pumping Station reinstalled . The 60 days for T&C period of P7 cooling water system. The T&C period of P9. The temporary EVA construction for P7, P8 and P9 Cooling Water Pumping Stations. Rectification works for P8 discharge mains near Gate No.1 60-Day T&C for P9 Cooling Water Pumping Station. Installation of Aeration and Chlorination Pipes at Salt Water Intake Culvert Bay 2 to Bay 5. Temporary discharge pipe near CHS8A 160m. Trench excavation and ELS installation for the Y-section connecting with the existing DN600 watermains at Hung Hing Road. Pipe fabrication for the Y-Section. Additional horizontal gate valve chamber under VO No.114 located at CHS8A230m. The remaining ABWF works and boundary wall in WSD Salt Water Pumping Station, including maintenance platform and external finishes. The base slab, wall and top slab at Bay 5. Blinding layer for 1050mm FRP pipe near Bay 4 and Bay 5. The access shafts of inspection manholes IM-01 and IM-02 at Bay 5. Construction of stoplog chamber extension SLO-01, SLO-02 and SLO-03 at Bay 6. The stoplog installation. Formwork erection and rebar fixing for the 6nos. Temporary Covered Walkway in the vicinity of Ferry Pier. Interface coring and shear pin installation for the Eastern Bulkhead Wall. The road modification works 	<p>Expo Drive East.</p> <ul style="list-style-type: none"> 60-Day Trial Operation for P7 Cooling Water Pumping Station. Fire Certificate for all P7, P8 and P9 Cooling Water Pumping Stations. Leakage rectification works for P8 discharge mains near Gate No.1. The DN150 washout pipe testing under VO No.114 located at CHS8A230m. All necessary fittings and ready for gate valve installation by WSD. Pressure test to Y-Section for connection with the existing DN600 pipe at Hung Hing Road had been completed. The remaining ABWF works and boundary wall in WSD Salt Water Pumping Station, including maintenance platform and external finishes. Bulkhead Removal at Bay 5 and Bay 6. The guiderail installation at stoplog chambers at Bay 6. The remedial works at Bay 3 and Bay 6. Revised certified ELS design for modifying the existing ELS for the construction of Manhole No. FRP-N-MH2. The 6nos. Temporary Covered Walkway in the vicinity of Ferry Pier . Installation of base plates for seatings at Observation Deck Level of Ferry Pier. Remedial works for the Eastern Bulkhead Wall. <p>Hung Hing Road Flyover Diversion (Stage 1):</p> <ul style="list-style-type: none"> The road modification works along Wan Shing Street for HHR Flyover Diversion (Stage 1). Pavement works at Wan Shing Street next to SPCA's Main Vehicular Access. 	<p>Drive East.</p> <ul style="list-style-type: none"> Modification of road junction between Expo Drive and Expo Drive East. Mainline of P8 discharge mains was tested. The leakage portion near Gate No.1 had been fixed. The 60-day trial operation for P7 Cooling Water Pumping Station. Rectification works of the special movement joint for P8 discharge main at CHB152m. Defected special movement joint was delivered off site for repairing works. Backfilling between CHAI 80 and CHAI 160, and CHAG 150m and CHAG 210m (Except the combined area). Installation of 3 standpipes and the Water Tightness Test of Salt Water Intake Culvert. For DN800 pipe, horizontal gate valve installation. Beforehead, epoxy coating and flange adaptor installation. The remaining ABWF works and boundary wall in WSD Salt Water Pumping Station, including maintenance platform and external finishes. Stoplog installation at Bay 6 of Box Culvert N1. The remedial works at Bay 6 of Box Culvert N1. Modifying the existing ELS for the construction of Manhole No. FRP-N-MH2. DSD had accepted the Box Culvert N1 Bay 1 to Bay 6. Another site inspection for stoplog removal trial was conducted with DSD. The Wall of FRP-N-MH2 construction and beforehead, the 1050mm FRP pipe Installation between Bay 4 and Bay 5. Water infilling to Box Culvert N1 for subsequent watertightness test. Remedial works to stop

September 2013	October 2013	November 2013
<p>along Wan Shing Street for HHR Flyover Diversion (Stage 1).</p> <ul style="list-style-type: none"> Pavement works at Wan Shing Street next to ECO gas infill station. Trimming of lifted-in sheetpile in front of SPCA's Guard Room. Breaking up the existing carriageway next to SPCA's Main Vehicular Access. 90.7% of seawall blocks installation at WCR4/TWCR4 (844nos. out of 936nos.). 95% of geotextile at WCR4/TWCR4 area 	<ul style="list-style-type: none"> Backfilling works at Wan Shing Street next to HEC station entrance. Pavement works. Sorted public fill at WCR4/TWCR4. Seawall blocks installation at WCR4/TWCR4. Geotextile at WCR4/TWCR4 area.. 	<p>leakage at 1050mm FRP pipe.</p> <ul style="list-style-type: none"> Backfilling for 1050mm FRP installation. Remaining connection between FRP-N-MH2 and SLO-03. Excavation to the formation level for the Temporary Covered Walkway footing (GL5) in the vicinity of Ferry Pier. Sand replacement test. Re-grouting works for the Eastern Bulkhead Wall. Proof drilling for re-grouting works for the Eastern Bulkhead Wall. <p>Hung Hing Road Flyover Diversion (Stage 1):</p> <ul style="list-style-type: none"> Pavement works at Wan Shing Street next to HEC station entrance. All road markings and traffic sign installation. Implementation of HHR Flyover Diversion (Stage 1). <p>WCR4/TWCR4 Reclamation:</p> <ul style="list-style-type: none"> Public fill at WCR4/TWCR4. Seawall blocks installation at WCR4/TWCR4. Geotextile at WCR4/TWCR4 area.

2.5.3. Major construction activities for Contract no. HY/2009/15 was commenced on 10 November 2010. During this reporting period, the principal work activities for Contract no. HY/2009/15 are summarized as below:

Table 2.6 Principal Work Activities for Contract no. HY/2009/15

September 2013	October 2013	November 2013
<ul style="list-style-type: none"> Construction of EVA 	<ul style="list-style-type: none"> Construction of EVA 	<ul style="list-style-type: none"> Construction of EVA Maintenance dredging

2.5.4. Contract no. HK/2010/06 was commenced on 22 March 2011. During this reporting period, the principal work activities for Contract no. HK/2010/06 are summarized as below:

Table 2.7 Principal Work Activities for Contract no. HK/2010/06

September 2013	October 2013	November 2013
• Sheet piling works	• Sheet piling works	• Sheet piling works

2.5.5. Contract no. HY/2009/19 was commenced on 24 March 2011. During this reporting period, the principal work activities for Contract no. HY/2009/19 are summarized as below:

Table 2.8 Principal Work Activities for Contract no. HY/2009/19

September 2013	October 2013	November 2013
<ul style="list-style-type: none"> • D-wall and Barrette Construction • Construction works for Box Culvert T1 • Backfill works for Box Culvert U1 • Removal of marine platform • Construction of pile cap, pier & cross head (Marine) • Installation of dewatering well • Laying of 1500φ pipe • Launching of segments • Extraction of temporary pile from marine section • Construction of bridge truss TA1 	<ul style="list-style-type: none"> • D-wall and Barrette Construction • Removal of strut at ELS • Construction works for Box Culvert T1 • Removal of marine platform • Construction of pile cap, pier & cross head (Marine) • ELS and Cut & Cover Tunnel • Installation of dewatering well • Laying of 1500φ pipe • Launching of segments • Extraction of temporary pile from marine section • Construction of bridge truss TA1 • Demolition of parapet at IEC link • Construction of King Post at ELS 	<ul style="list-style-type: none"> • D-wall and Barrette Construction • Removal of strut at ELS will commence • Construction works for Box Culvert T1 • Removal of marine platform • Construction of pile cap, pier & cross head (Marine) • ELS, EVB and Cut & Cover Tunnel • Installation of dewatering well • Laying of 1500φ pipe • Launching of segments • Extraction of temporary pile from marine section • Construction of bridge truss TA1 • Demolition of parapet at IEC link • Construction of King Post at ELS

2.5.6. Contract no. HK/2012/08 was commenced on March 2013. During this reporting period, the principal work activities for Contract no. HK/2012/08 are summarized as below:

Table 2.9I Principal Work Activities for Contract no. HK/2012/08

September 2013	October 2013	November 2013
<ul style="list-style-type: none"> • Site preparation works • Site survey • ELS for box culvert La at Lung King Street • Dredging • Demolition of the existing Expo Drive West Bridge 	<ul style="list-style-type: none"> • Site preparation works • Site survey • ELS for box culvert La at Lung King Street • Dredging • Preparation works for abandoning watermains at Lung King Street 	<ul style="list-style-type: none"> • Site preparation works • Site survey • ELS for box culvert La at Lung King Street • Dredging • Preparation works for abandoning watermains at Lung King Street • Seawall rock mound formation

2.5.7. Implementation status of the recommended mitigation measures during this reporting period is presented in [Appendix 2.1](#).

3. MONITORING REQUIREMENTS

3.1. Noise Monitoring

NOISE MONITORING STATIONS

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

Table 3.1 Noise Monitoring Stations

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

REAL TIME NOISE MONITORING STATIONS

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

Table 3.2 Real Time Noise Monitoring Station

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

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

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

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

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

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

3.1.5. Real time noise shall be carried out at the designated monitoring stations. The following is an initial guide on the regular monitoring frequency for each station on a 24 hours daily basis when noise generating activities are underway:

- One set of measurements between 0700 and 1900 hours on normal weekdays.
- One set of measurements between 1900 and 2300 hours on normal weekdays and 0700 and 2300 hours on public holidays.
- One set of measurements between 2300 and 0700 hours on next day on everyday.

MONITORING EQUIPMENT

3.1.6. As referred to in the Technical Memorandum ™ 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.

3.1.7. 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.

3.2. Air Monitoring

AIR QUALITY MONITORING STATIONS

3.2.1. The air monitoring stations for the Project are listed and shown in **Table 3.3** and **Figure 3.1**. **Appendix 3.1** shows the established Action/Limit Levels for the monitoring works.

Table 3.3 Air Monitoring Stations

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

Station ID	Monitoring Location	Description
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

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

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

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

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

3.2.5 High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:

- 0.6 - 1.7 m³ per minute adjustable flow range;
- equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
- installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
- capable of providing a minimum exposed area of 406 cm²;
- flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
- equipped with a shelter to protect the filter and sampler;
- incorporated with an electronic mass flow rate controller or other equivalent devices;
- equipped with a flow recorder for continuous monitoring;
- provided with a peaked roof inlet;
- incorporated with a manometer;
- able to hold and seal the filter paper to the sampler housing at horizontal position;
- easily changeable filter; and
- capable of operating continuously for a 24-hour period.

3.2.6 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

3.2.7 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.

3.2.8 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 to the measurement performed by the laboratory to ensure the accuracy of measurement results.

3.2.9 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.

3.2.10 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.

3.2.11 All the collected samples shall be kept in a good condition for 6 months before disposal.

IMPACT MONITORING FOR ODOUR PATROL

3.2.12 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

3.2.13 Odour patrol shall be conducted by independent trained personnel / competent persons patrolling and sniffing around the shore as shown in ***Figure 3.1*** to detect any odour at the concerned hours (afternoon is preferred for higher daily temperature).

3.2.14 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.

3.2.15 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.

3.2.16 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 3.1](#).

3.3 Water Quality Monitoring

3.3.1. The EIA Report has identified that the key water quality impact would be associated with the dredging works during the construction phase. Marine water quality monitoring for dissolved oxygen (DO), suspended solid (SS) and turbidity is therefore recommended to be carried out at selected WSD flushing water intakes. The impact monitoring should be carried out during the proposed dredging works to ensure the compliance with the water quality standards.

3.3.2. 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

3.3.3. It is proposed to monitor the water quality at 9 WSD salt water intakes and 14 cooling water intakes along the seafront of the Victoria Harbour. The proposed water quality monitoring stations of the Project are shown in [Table 3.4](#) and [Figure 3.1](#). [Appendix 3.1](#) shows the established Action/Limit Levels for the monitoring works.

Table 3.4 Marine Water Quality Stations for Water Quality Monitoring

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
WSD9	Tai Wan	837921.0	818330.0
WSD17	Quarry Bay	839790.3	817032.2
WSD19	Sheung Wan	833415.0	816771.0
WSD21	Wan Chai	836220.8	815940.1
Cooling Water Intake			
C1	HKCEC Extension	835885.6	816223.0
C7	Windsor House	837193.7	816150.0

Station Ref.	Location	Easting	Northing
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
RW21-P789	Great Eagle Centre/ Sun Hung Kai Centre/CWB	836268.0	816020.0

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.
- WSD7 and WSD20 water quality monitoring were temporarily suspended from 27 Apr 2012.
- C5e and C5w water quality monitoring station was temporarily suspended since 29 July 2013
- C2, C3 C4e and C4w water quality monitoring station was temporarily suspended since 24 Apr 2013

WATER QUALITY PARAMETERS AND FREQUENCY

3.3.4. 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.

3.3.5. 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.

3.3.6. 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 3.5** 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 3.5 Marine Water Quality Monitoring Frequency and Parameters

Activities	Monitoring Frequency ¹	Parameters ²
During the 4-week baseline monitoring period	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity
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

Activities	Monitoring Frequency ¹	Parameters ²
After completion of marine construction works	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity

Notes:

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

DISSOLVED OXYGEN AND TEMPERATURE MEASURING EQUIPMENT

3.3.7. 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

3.3.8. 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).

3.3.9. 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

3.3.10 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

3.3.11 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

3.3.12 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

3.3.13 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

3.3.14 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

3.3.15 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

3.3.16 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.

3.3.17 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.

3.3.18 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.

LABORATORY MEASUREMENT / ANALYSIS

3.3.19 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

3.3.10. 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.

3.3.11. 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 3.6** and **Figure 3.1**.

Table 3.6 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

3.3.12. 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 less than 3m, only the mid-depth will be monitored).

DAILY SS MONITORING AND 24 HOURS TURBIDITY MONITORING SYSTEM

3.3.13. 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.

3.3.14. 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

3.3.15. 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.

3.3.16. 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

3.3.17. The proposed DO monitoring stations of the Project are shown in Table 3.7

Table 3.7 Marine Water Quality Stations for Additional DO Monitoring

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

3.3.18 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).

4. MONITORING RESULTS

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

4.0.2 The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The FEP surrender application was submitted to EPD by contractor on 16 Jan 2012 that they would surrender the permit on 1 Jan 2012. Moreover, the construction site was handed over to contractor HY/2009/19 on 4 January 2012. However, the surrender of the FEP for HY/2009/11 withdrew by contractor on 14 February 2012 due to some outstanding works was confirmed by RSS on 10 Feb 2012. Therefore, the noise, air and water quality monitoring were keeping in view for the commencement of the works under this contract. No construction activity was conducted by HY/2009/11 up to 4 January 2012.

4.0.3 According to EP-364/2009/A Part B, "Scale and Scope of Designated Project", Remarks (c), "The permanent and temporary reclamation and associated dredging works related to the CWB construction are separately covered by environmental permit No. EP-356/2009 issued to Civil Engineering and Development Department", and marine piling works to be conducted by the Contractor of Contract no. HY/2009/19 from 28 January 2012 was considered to be governed under EP-356/2009. As the construction site area of Contract no. HY/2009/11 had already been handed over to Contract no. HY/2009/19, the designated noise, water and air quality monitoring stations for Contract no. HY/2009/11 would be shared with Contract no. HY/2009/19 from 28 January 2012.

4.1. Noise Monitoring Results

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

4.1.1. The proposed divisions of noise monitoring stations are summarized in **Table 4.1** below.

Table 4.1 Noise Monitoring Station for Contract nos. HK/2009/01 and HK/2009/02 and HK/2010/06

Station	Description
M1a	Harbour Road Sports Centre

4.1.2. No exceedance was recorded in this reporting period. Details of noise monitoring results and graphical presentation can be referred in Appendix 4.1

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

4.1.3. The noise monitoring for HY/2009/15 was commenced on 10 November 2010. The proposed division of noise monitoring stations are summarized in **Table 4.2** below.

Table 4.2 Noise Monitoring Station for Contract nos. HY/2009/15

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

4.1.4. No exceedance was recorded in this reporting period. Details of noise monitoring results and graphical presentation can be referred in **Appendix 4.1**

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

4.1.5. Noise quality monitoring at M4b and M5b have been implemented with respect to HY/2009/19 since the marine bore piling work started on 28 Jan 2012.

4.1.6. The proposed division of noise monitoring stations for Contract no. HY/2009/19 are summarized in **Table 4.3** below:

Table 4.3 Noise Monitoring Stations for Contract no. HY/2009/19

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

4.1.7. Nine limit level exceedances were recorded at M6 on 6, 10, 17 and 26 September 2013, 3 and 16 October 2013, 5, 18 and 26 November 2013. The limit level exceedances were considered as non-project related.

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

4.2. Real Time Noise Monitoring Results

4.2.1 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.

4.2.2 The real-time noise monitoring results at RTN1 (FEHD Hong Kong Transport Section Whitfield Depot) was excluded under EP-356/2009 since 28 October 2012, as the land-based piling and filling works- DP3 at Tin Hau had been completed on 3 September 2012 and confirmed by RSS

4.2.3 Oil Street Community Liaison Centre was confirmed to be demolished in mid-October by CWB RSS. This presented a need for relocation of RTN2 – Oil Street Community Liaison Centre. After liaison with Hong Kong Electric, permission was granted on 21 Sep 2012 for real time noise monitoring set up at City Garden Electric Centre (RTN2a – Electric Centre), which is a representative of the noise sensitive receiver City Garden. 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. 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.

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

4.2.4 The proposed divisions of real time noise monitoring stations are summarized in **Table 4.4** below. Real time noise monitoring for the marine bored piling works under contract no. HY/2009/19 was commenced on 28 January 2012.

4.2.5 Real-time noise monitoring at FEHD Hong Kong Transport Section Whitefield Depot commenced external wall renovation since 1 June 2012

4.2.6 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 in this reporting period and the FEP-01/356/2009 was surrendered on 22 October 2012. The monitoring was temporary suspended since 5 January 2012.

4.2.7 No project related exceedance was recorded in September, October and November reporting month at RTN2a-Hong Kong Electric Centre during this reporting quarter.

4.2.8 Details of real time noise monitoring results and graphical presentation can be referred to **Appendix 4.2**

Table 4.4 Real Time Noise Monitoring Station for Contract no. HY/2009/19

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

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

4.3. Air Monitoring Results

4.3.1. Due to interruption of electric supply, the 24-hr TSP monitoring at the following stations were rescheduled as below:

CMA3a: from 16 October 2013 to 17 October 2013
 CMA5a: from 14 November 2013 to 15 November 2013.

4.3.2. Due to the hoisting of Gale warning signal no.8, the 24hr TSP monitoring events on was rescheduled from 23 September 2013 to 24 September 2013.

4.3.3. 1hr and 24hr TSP monitoring were conducted at CMA1b, CMA2a, CMA3a, CMA4a, CMA5a and CMA6a in the reporting period.

4.3.4. The odour patrol along the odour route with 7 sniffing locations was conducted by a qualified odour patrol member on 3 and 17 September 2013 at the concerned hours (afternoon for higher daily temperature). No Action and Limit Level was recorded during this reporting month.

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

4.3.5. 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 and the FEP-01/356/2009 was surrendered on 22 October 2012. The monitoring for the contract was temporary suspended on 6 January 2012.

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

4.3.6. 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 division of air monitoring stations are summarized in **Table 4.6** below.

4.3.7. No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized.

Table 4.6 Air Monitoring Stations for Contract no. HK/2009/01

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

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

4.3.8. 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 is summarized in **Table 4.7** below. No exceedance was recorded in the reporting period.

Table 4.7 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)

4.3.9. 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 4.8** below.

4.3.10. No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized.

Table 4.8 Air Monitoring Station for Contract no. HY/2009/15

Station	Description
CMA3a	CWB site office at Wanchai Waterfront Promenade

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

4.3.11. Air monitoring at CMA1b and CMA2a have been implemented with respect to HY/2009/19 since the marine bore piling works started on 28 Jan 2012. No exceedance was recorded in the reporting period.

4.3.12. No exceedance was recorded in the reporting month. Air quality monitoring results measured in this reporting period are reviewed and summarized.

4.3.13. The proposed division of air monitoring stations is summarized in **Table 4.9** below.

Table 4.9 Air Monitoring Stations for Contract no. HY/2009/19

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

4.4 Water Monitoring Results

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

4.4.1. Water quality monitoring for Contract no. HK/2009/01 was commenced on 23 July 2010. The proposed division of water monitoring stations is summarized in **Table 4.10** below.

4.4.2. Water quality monitoring station RW21-P789 has been implemented with respect to HK/2009/02 started on 29 July 2013.

Table 4.10 Water Monitoring Stations for Contract no. HK/2009/01

Station Ref.	Location	Easting	Northing
Cooling Water Intake			
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

4.4.3. Water quality monitoring for Contract no. HK/2009/02 was commenced on 8 July 2010. The proposed division of water monitoring stations is summarized in **Table 4.11** below.

Table 4.11 Water Monitoring Stations for Contract no. HK/2009/02

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
WSD21	Wan Chai	836220.8	815940.1
WSD9	Tai Wan	837921.0	818330.0
WSD17	Quarry Bay	839790.3	817032.2
Cooling Water Intake			
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

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

4.4.4. 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 4.12** below.

Table 4.12 Water Monitoring Stations for Contract no. HK/2012/08

Station Ref.	Location	Easting	Northing
WSD Salt Water Intake			
WSD19	Sheung Wan	833415.0	816771.0
Cooling Water Intake			
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)

4.4.5. 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 is summarized in **Table 4.13** below.

Table 4.13 Water Monitoring Stations for Contract no. HY/2009/15

Station Ref.	Location	Easting	Northing
Cooling Water Intake			
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

4.4.6. 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.

4.4.7. 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.

4.4.8. 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.

4.4.9. 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;

4.4.10. 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.

4.4.11. 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.

4.4.12. 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.

4.4.13. 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.

4.4.14. 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.

4.4.15. 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.

4.4.16. 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.

4.4.17. The enhanced water quality monitoring at C6, C7, Ex-WPCWA-SW and Ex-WPCWA-SE was commenced on 13 January 2011.

4.4.18. Water monitoring results measured in this reporting period are reviewed and summarized in **Table 4.15**. Details of water quality monitoring results and graphical presentation can be referred in **Appendix 4.3**.

Table 4.15 Summary of Water Quality Monitoring Exceedances in Reporting period

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	1	0	0	1	2	0	1	0	0	0
HK/2012/08	WSD19	0	0	6	10	1	3	1	0	1	12	0	30
	P1	0	0	0	0	0	0	0	0	1	0	0	0
	P3	1	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	1	1	0	0	0	0	0	0	0	0
HK/2009/02 Monitoring started on 8 Feb 2012	WSD21	7	4	3	4	2	5	8	6	5	1	0	4
	WSD9	0	0	3	0	0	1	0	0	2	1	0	1
	WSD17	0	0	8	4	4	0	1	2	3	1	0	0
	RW21-P789	0	0	1	3	0	0	0	0	1	1	0	0
HY/2009/15	C7	4	1	0	0	0	0	0	1	1	0	0	0
Total		12	5	23	22	5	10	12	9	14	15	0	8

Remarks:

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

4.4.19. 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 4.15a.**

Table 4.15a Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting period

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
HY/2009/15	C6	0	0	0	0
	C7	12	2	8	0
	Ex-WPCWA SW	1	10	1	13
	Ex-WPCWA SE	10	11	4	15

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
Total		23	23	13	28

4.4.20. There were 36 action level exceedances and 51 limit level exceedances of enhanced dissolved oxygen recorded in this reporting month. Investigation found that the exceedances are not related to the Project works. Details of graphical presentation can be referred in [**Appendix 4.3**](#).

4.4.21. 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 4.3a**](#).

4.4.22. 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

4.5 Waste Monitoring Results

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

4.5.1. No Inert C&D waste was recycled and non-inert C&D waste was disposed of for the site works in this reporting period. Details of the waste flow table are summarized in [**Table 4.16**](#).

Table 4.16 Details of Waste Disposal for Contract no. HK/2009/01

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	7564.81	37416.995	TKO137, TM38
Inert C&D materials recycled, m ³	0	5104.5	N/A
Non-inert C&D materials disposed, m ³	88.98	1500.84	SENT Landfill
Non-inert C&D materials recycled, kg	0	151143	N/A
Chemical waste disposed, kg	100	10050	N/A
Marine Sediment (Type 1 – Open Sea	0	97428.2	South of Cheung Chau

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Disposal) , m ³	(Bulk Volume)	(Bulk Volume)	
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m ³	0 (Bulk Volume)	52250 (Bulk Volume)	East of Cha Chau
Dredged Sediment Requiring Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers	0 (Bulk Volume)	6773 (Bulk Volume)	East of Cha Chau

4.5.2. There were no Marine Sediment (Type 1 – Open Sea Disposal) and no Marine Sediment (Type 1- Open Sea Disposal (Dedicate Sites) & Type 2- Confined Marine Disposal) disposed of in this reporting quarter.

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

4.5.3. Inert and non-inert C&D waste were disposed of for the site works in this reporting period. Details of the waste flow table are summarized in **Table 4.17**.

Table 4.17 Details of Waste Disposal for Contract no. HK/2009/02

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	5618.26	241800.025	TKO137/ TM 38
Inert C&D materials recycled, m ³	NIL	18161	N/A
Non-inert C&D materials disposed, m ³	179.2	1209.4	SENT Landfill
Non-inert C&D materials recycled, m ³	NIL	NIL	N/A
Chemical waste disposed, kg	2800	11636	SENT Landfill
Marine Sediment (Type 1 – Open Sea Disposal), m ³	0	184167 (Bulk volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal), m ³	0	129320 (Bulk volume)	East of Sha Chau

4.5.4. There were no Marine Sediment (Type 1 – Open Sea Disposal) and no Marine Sediment (Type 1- Open Sea Disposal (Dedicate Sites) & Type 2- Confined Marine Disposal) disposed of in this reporting quarter.

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

4.5.5. No inert and non-inert C&D waste were disposed of for the site works in this reporting period. Details of the waste flow table are summarized in **Table 4.18**.

Table 4.18 Details of Waste Disposal for Contract no. HY/2009/15

Waste Type	Quantity this quarter	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	NIL	141579.2	Tuen Mun Area 38
	NIL	65216	TKO137 FB
Inert C&D materials recycled, m ³	NIL	304	Ex-PCWA
	NIL	111.9	TS4
Non-inert C&D materials disposed, m ³	NIL	252.2	SENT Landfill
Non-inert C&D materials recycled, kg	NIL	299361.5	N/A
Chemical waste disposed, kg	NIL	8,200	N/A
Marine Sediment (Type 1 – Open Sea Disposal) , m ³	NIL	100,208 (Bulk Volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m ³	4100	222,765 (Bulk Volume)	East of Sha Chau
Marine Sediment (Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers)	1140	8190 (Bulk Volume)	East of Sha Chau
Marine Sediment (Type 2 – Confined Marine Disposal), m3	0	9350 (Bulk Volume)	East of Sha Chau

4.5.6. There was Marine Sediment (Type 2 – Confined Marine Disposal) were disposed in this reporting quarter.

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

4.5.7. No non-inert C&D and no Inert C&D waste were disposed of for the site works in this reporting period. Details of the waste flow table are summarized in **Table 4.19**.

Table 4.19 Details of Waste Disposal for Contract no. HK/2010/06

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	0	12567.88	TM38
Inert C&D materials recycled, m ³	0	267	HK/2009/01
Non-inert C&D materials disposed, m ³	0	369.48	SENT/TKO137SF
Non-inert C&D materials recycled, m ³	0	60.58	Recyclers
Chemical waste disposed, L	0	2600	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m ³	0 (Bulk Volume)	3,891 (Bulk Volume)	South Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m ³	0 (Bulk Volume)	12,586 (Bulk Volume)	East Sha Chau

4.5.8. There was no Marine Sediment (Type 1- Open Sea Disposal) and no Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) were disposed in this reporting quarter.

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

4.5.9. Inert and non-inert C&D waste were disposed of in this reporting quarter

Table 4.20 Details of Waste Disposal for Contract no. HY/2009/19

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	62849.77	29580.86	TM38
Inert C&D materials recycled, m ³	3804.63	51347.97	N/A
Non-inert C&D materials disposed, m ³	105.15	517.6	N/A
Non-inert C&D materials recycled, kg	23.18	303.6	N/A
Chemical waste disposed, L	0.31	0.77	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m ³	0	162	South Cheung Chau
Marine Sediment (Type 2 – Confined Marine Disposal) , m ³	0	681	East Sha Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m ³	0	4976.00	N/A

4.5.10. There were no marine sediments Type1- Open Sea Disposal and there were no Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal in the reporting period.

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

4.5.11. Inert and non-inert C&D waste were disposed of in this reporting quarter. Details of the waste flow table are summarized in Table 4.21.

Table 4.21 Details of Waste Disposal for Contract no. HK/2012/08

Waste Type	Quantity this period	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	845	1175	TM38
Inert C&D materials recycled, m ³	NIL	NIL	N/A
Non-inert C&D materials disposed, m ³	0	20	N/A
Non-inert C&D materials recycled, kg	NIL	NIL	N/A
Chemical waste disposed, L	NIL	NIL	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m ³	23108	23108	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m3	75839	95335	East of Sha Chau

Remarks: - The cumulative quantity-to-date of Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) disposed in m³ was updated October.

4.5.12. There were Marine Sediment (Type 1 – Open Sea Disposal) and marine sediment Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal generated were disposed in this reporting period.

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

4.5.13. No Inert C&D waste and non-inert C&D waste were disposed in this reporting period. Details of the waste flow table are summarized in Table 4.22

Table 4.22 Details of Waste Disposal for Contract no. HY/2010/08

Waste Type	Quantity this period	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	NIL	NIL	N/A
Inert C&D materials recycled, m ³	NIL	NIL	N/A
Non-inert C&D materials	NIL	NIL	N/A

Waste Type	Quantity this period	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
disposed, m3			
Non-inert C&D materials recycled, kg	NIL	NIL	N/A
Chemical waste disposed, L	NIL	NIL	N/A
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m3	NIL	NIL	N/A

5. COMPLIANCE AUDIT

5.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in [Appendix 5.1](#).

5.1. Noise Monitoring

5.1.1 Nine limit level exceedances were recorded at M6 on 6, 10, 17 and 26 September 2013, 3 and 16 October 2013, 5, 18 and 26 November 2013. The limit level exceedances were considered as non-project related

5.1.2 Noise monitoring results measured in this reporting period are reviewed and summarized. Details of graphical presentation can be referred in [Appendix 4.1](#).

5.2. Real-time Noise Monitoring

5.2.1 No project related exceedance was recorded in September, October and November reporting month at RTN2a-Hong Kong Electric Centre during this reporting quarter.

5.2.2 Details of real time noise monitoring results and graphical presentation can be referred to [Appendix 4.2](#)

5.3. Air Monitoring

5.3.1 No exceedance was recorded in 1-hr TSP and 24-hrs TSP monitoring in the reporting period.

5.4. Water Quality Monitoring

5.4.1. The summary of water quality exceedances recorded in reporting period is presented in the [Table 5.1](#) and [Table 5.1a](#).

Table 5.1 Summary of Water Quality Monitoring Exceedances in Reporting period

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	1	0	0	1	2	0	1	0	0	0
HK/2012/08	WSD19	0	0	6	10	1	3	1	0	1	12	0	30
	P1	0	0	0	0	0	0	0	0	1	0	0	0
	P3	1	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	1	1	0	0	0	0	0	0	0	0
HK/2009/02 Monitoring started on 8 Feb 2012	WSD21	7	4	3	4	2	5	8	6	5	1	0	4
	WSD9	0	0	3	0	0	1	0	0	2	1	0	1
	WSD17	0	0	8	4	4	0	1	2	3	1	0	0
	RW21-P789	0	0	1	3	0	0	0	0	1	1	0	0
HY/2009/15	C7	4	1	0	0	0	0	0	1	1	0	0	0
Total		12	5	23	22	5	10	12	9	14	15	0	8

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

- WSD9 and WSD17 were implemented with respect to HK/2009/02 from 8 Feb 2012.
- 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8 and C9 were completed on 6 Feb 2012.
- C8 and C9 were implemented with respect to HY/2009/19 from 28 Jan 2012.
- C8 & C9 was temporary suspended on 30 March 2013 due to the marine works for Contract no. HY/2009/19 had been completed on 4 March 2013
- WSD7 and WSD20 were temporary suspended since 27 April 2012

5.4.2. All exceedances in Table 5.1 have been investigated. Total 17 DO exceedances, 45 turbidity exceedances and 15 SS exceedances were recorded during mid-flood while 21 DO exceedance, 29 turbidity exceedances and 8 SS exceedances were recorded during mid-ebb in the reporting period. All the exceedances were concluded as non-project-related.

Table 5.1a Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting period

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
HY/2009/15	C6	0	0	0	0
	C7	12	2	8	0
	Ex-WPCWA SW	1	10	1	13
	Ex-WPCWA SE	10	11	4	15
Total		23	23	13	28

5.4.3. All exceedances in Table 5.1a have been investigated and were considered unlikely to be related to project works. The low DO levels were possible in relation to the low flow and recorded low water depth. In view that no odour nuisance was detected during monitoring, the DO exceedances were considered not related to the Project. These DO exceedances were considered as the natural variation and not related to the Project works.

5.5. Site Audit

5.5.1. There was no non-compliance from the site audits in the reporting period. During environmental site inspections conducted during the reporting period, minor deficiencies were noted.

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

5.6.1 There was no non-compliance from the site audits in the reporting period.

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

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

6. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

6.0.1. There was no complaint received in this reporting period.

6.0.2. The details of cumulative complaint log and summary of complaints are presented in **Appendix 6.1**.

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

Table 6.1 Cumulative Statistics on Complaints

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

Table 6.2 Cumulative Statistics on Successful Prosecutions

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

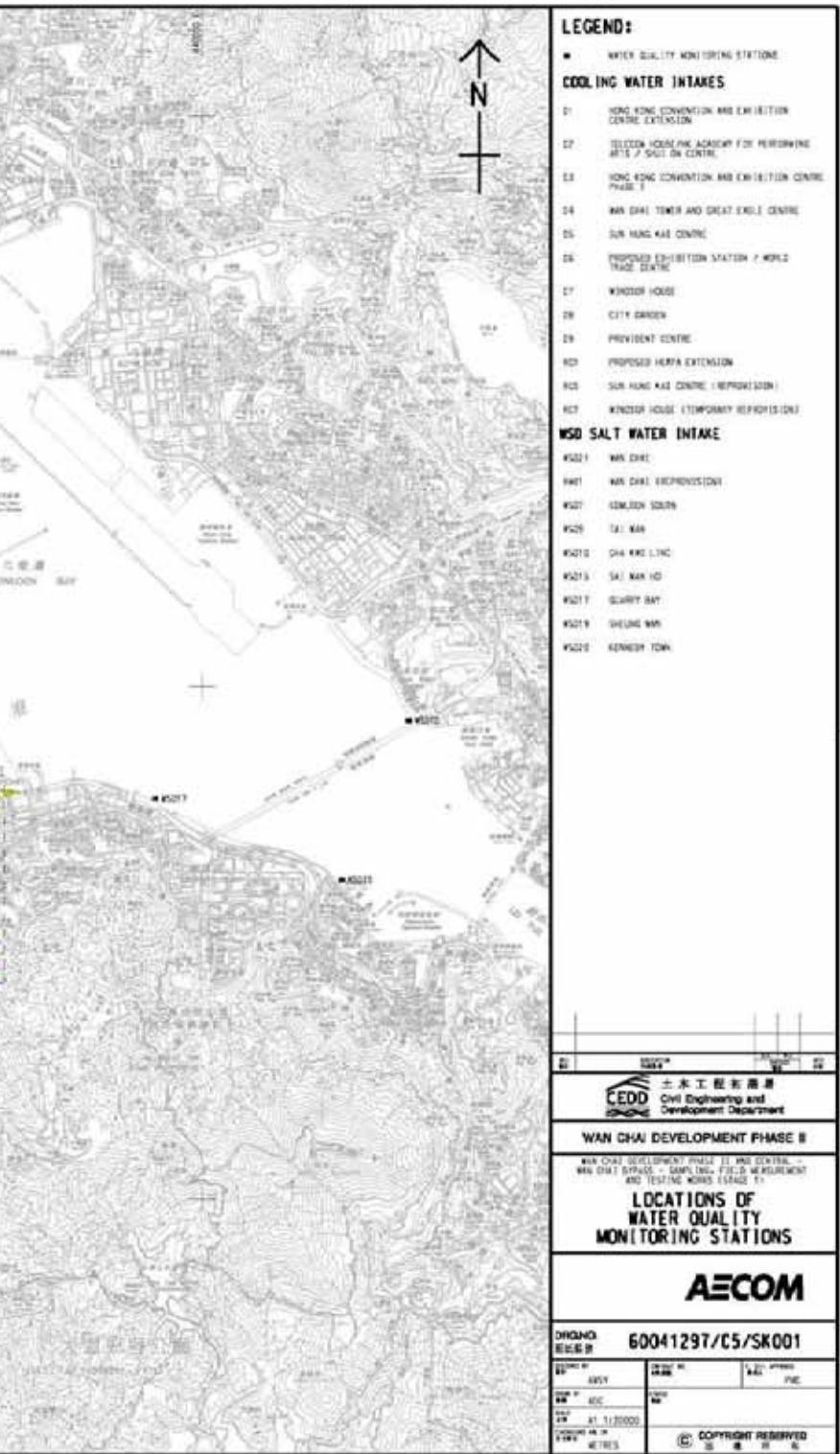
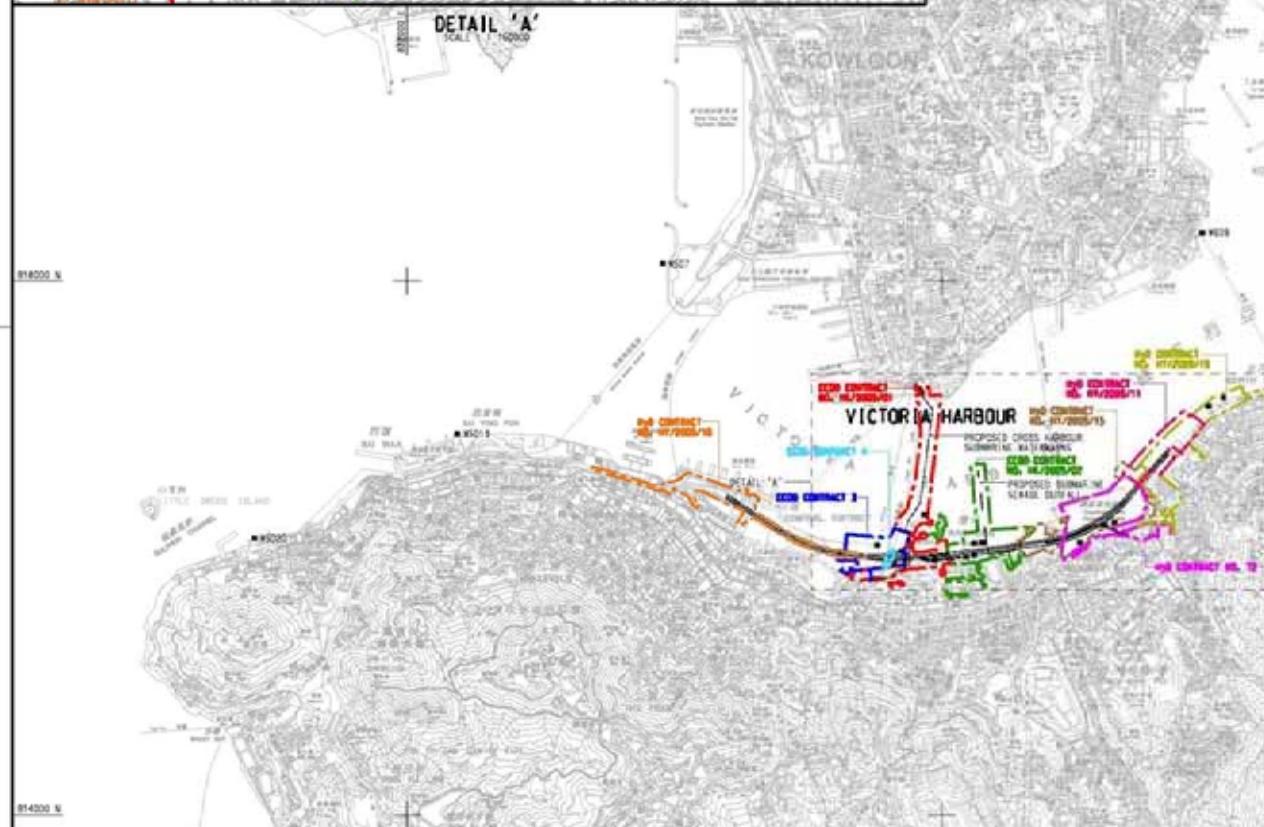
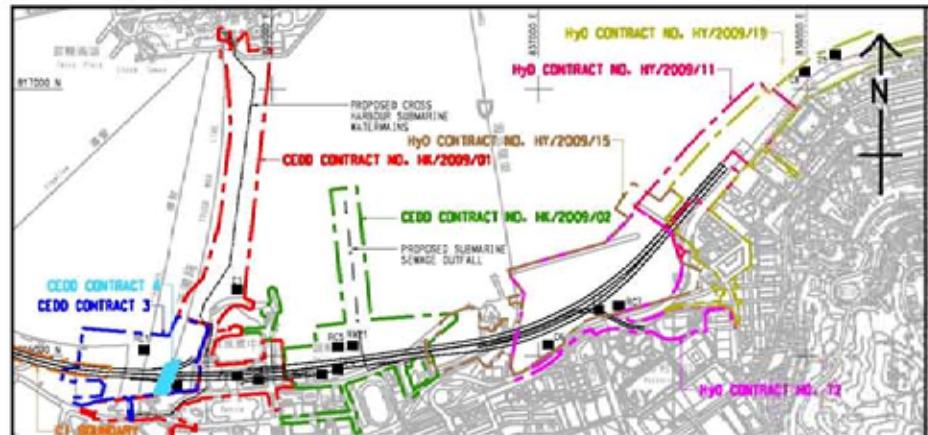
7. CUMULATIVE CONSTRUCTION IMPACT DUE TO THE CONCURRENT PROJECTS

- 7.0.1. According to Condition 3.4 of the EP-356/2009, this section addresses the relevant cumulative construction impact due to the concurrent activities of the current projects including the Central Reclamation Phase III, Central-Wanchai Bypass and Island Eastern Corridor Link projects.
- 7.0.2. According to the Monthly EM&A report (October 2013) of Central Reclamation Phase III (CRIII) , remaining soft landscaping work behind GPO boundary wall and remaining footpath construction at Edinburgh Place were performed in the November 2013 reporting month. The water quality monitoring was completed in October 2011 and no Project-related exceedance was recorded for air and noise monitoring. It can be concluded that cumulative construction impact due to the concurrent activities of the current projects with the Central Reclamation Phase III (CRIII) was insignificant
- 7.0.3. According to the construction programme of Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects, the major construction activity under Wan Chai Development Phase II were marine works at HKCEC areas, cross-harbour Watermains, Fresh Watermains and Cooling Watermains Installations, tunnel works at Wan Chai East, the major construction activities under Central-Wan Chai Bypass and Island Eastern Corridor Link Projects were ELS work and tunnel water proofing works at TS4 and cut and cover tunnel construction at TPCWAE. Bridge construction and tunnel works at Central Interchange, ELS segment launching works and IEC parapet demolition at North Point area. The major environmental impact was water quality impact at Causeway Bay and Wan Chai. Land-based construction activities were excavation at TS2, ELS work and tunnel water proofing works at TS4, cut and cover tunnel construction at TPCWAE, tunnel works at Central and ELS work at North Point and tunnel works at Wan Chai East in the reporting month.
- 7.0.4. The major environmental impacts generated from tunnel works at Central and tunnel works at Wan Chai East, IECL and Causeway Bay Typhoon Shelter were undertaken in the reporting month. No significant air impact from construction activities was anticipated in the reporting month. Besides, there was works-related limit level exceedance during water quality monitoring event in the reporting month and rectification measures have been implemented by contractor. Thus, it is evaluated that the cumulative construction impact from the concurrent projects including Wan Chai Development Phase II was insignificant.

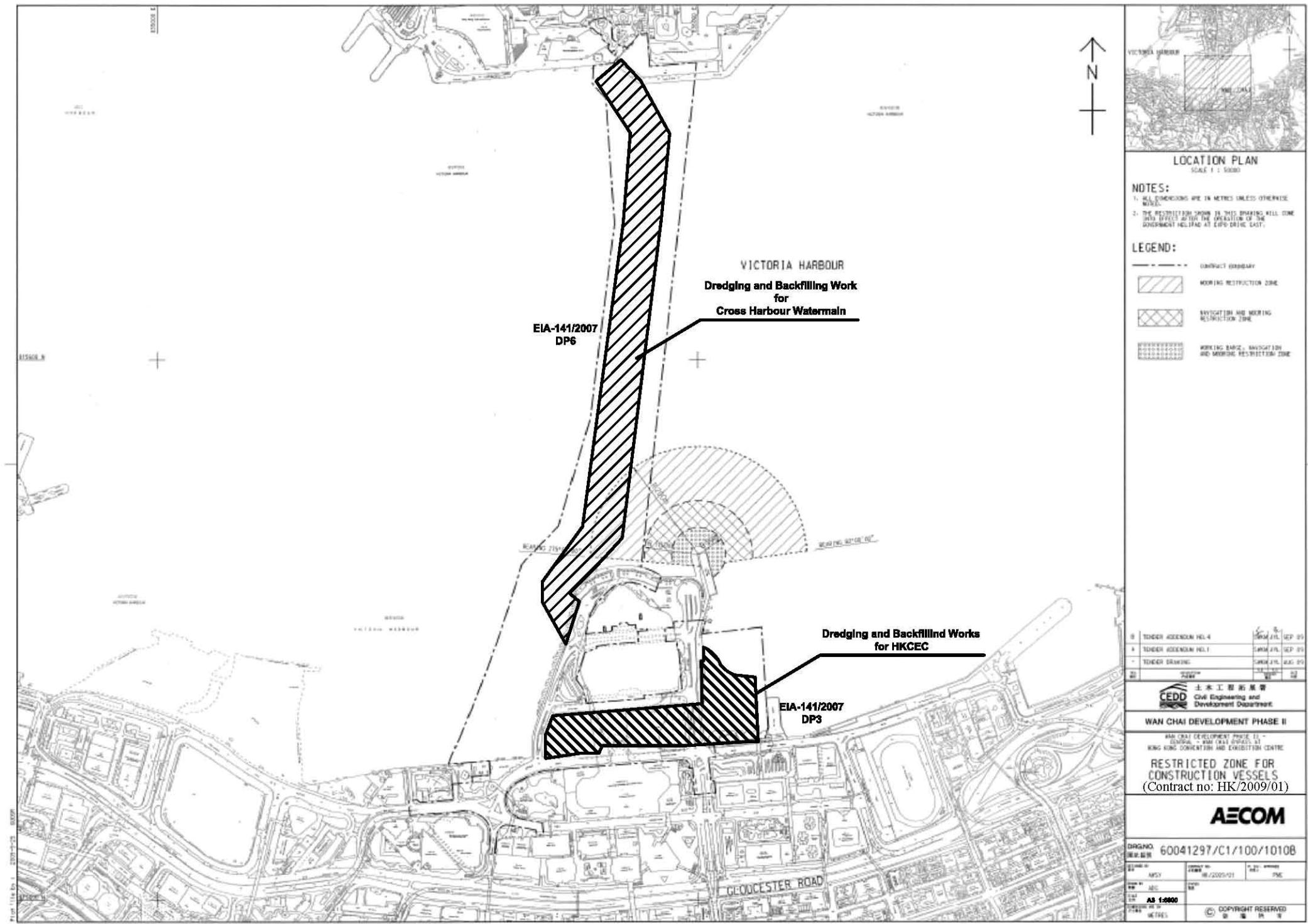
8. CONCLUSION

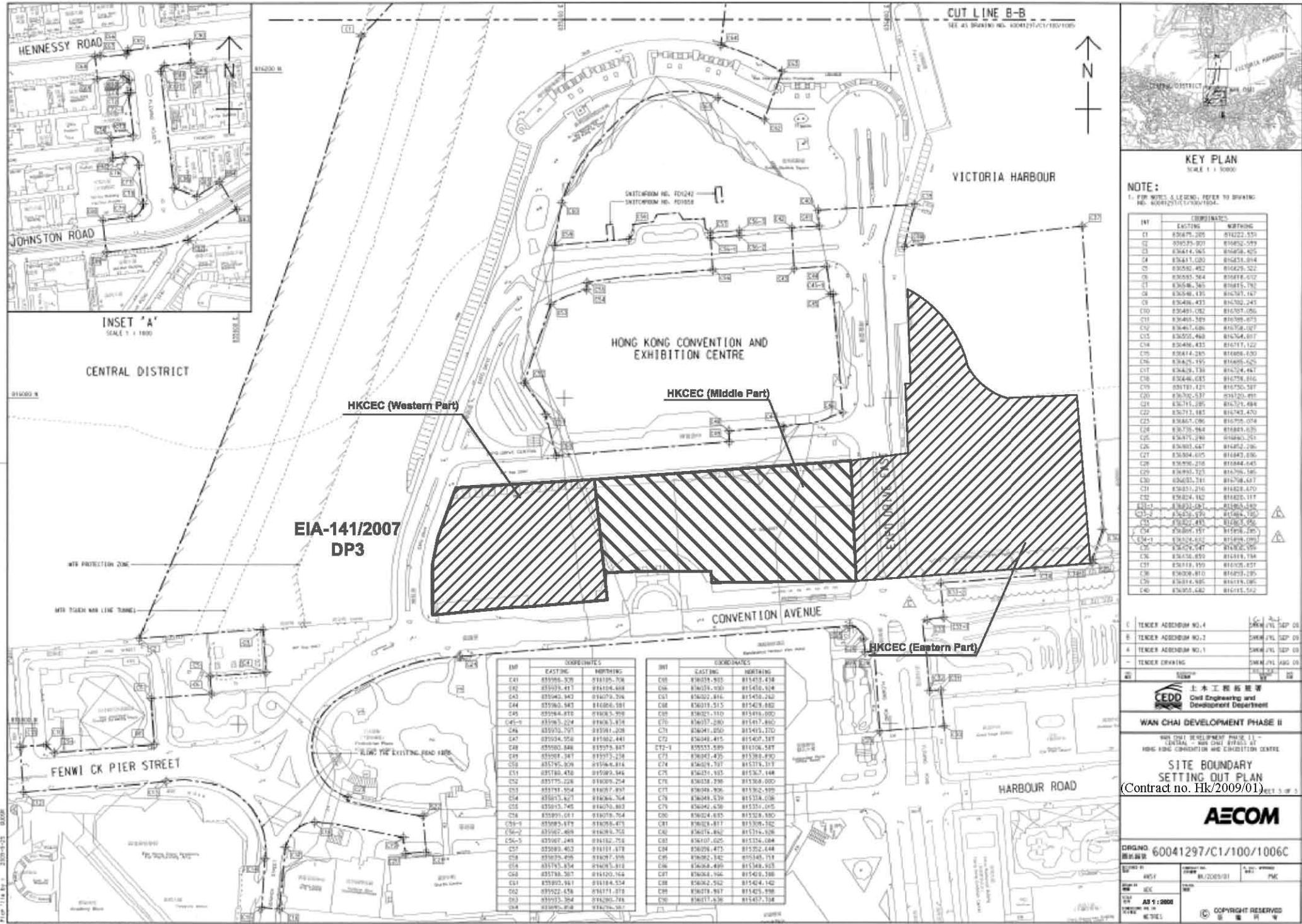
- 8.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.
- 8.0.2. No non-compliance was noted and no prosecution was received during the reporting period.
- 8.0.3. The construction programmes of individual contracts are provided in [Appendix 8.1.](#)

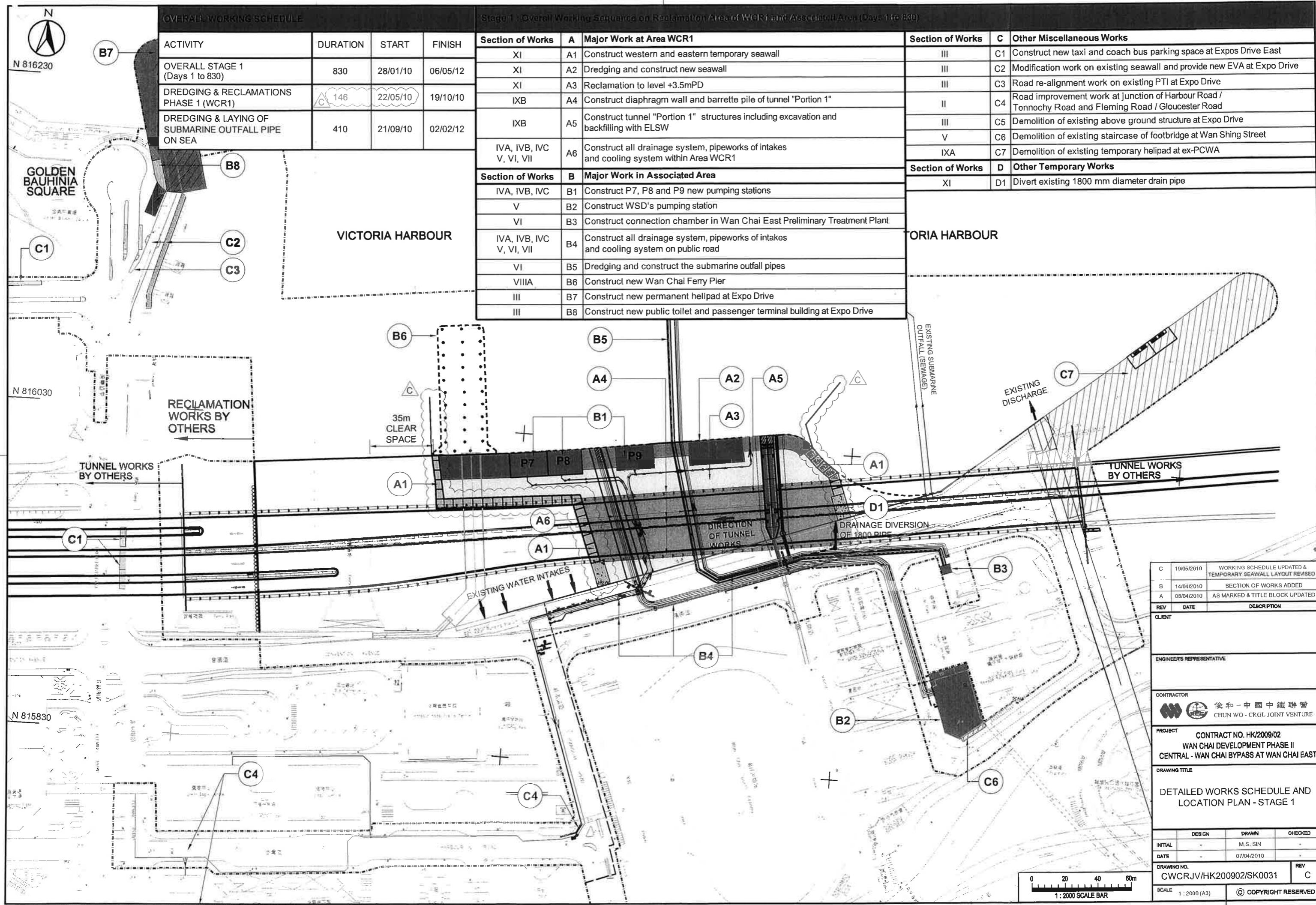
Figure 2.1***Project Layout***



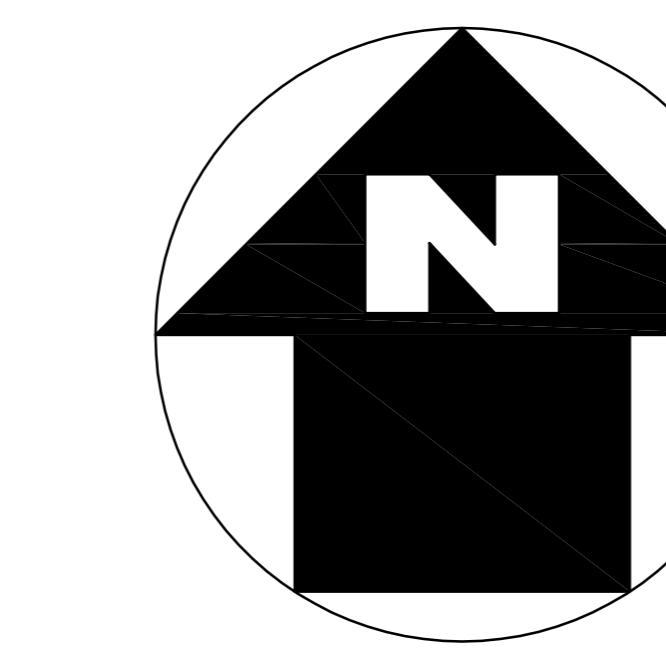
DESIGNATED PROJECTS (DP)	WORKS CONTRACT	DESIGN/ID PROJECT NUMBER	CONSTRUCTION COMMENCEMENT
DP1 - CENTRAL-WAN CHAI BYPASS (CWB) INCLUDING ITS ROAD TUNNEL, AND SLIP ROADS	CE00 CONTRACT NO. HK/2009/01	SP1- SP3- SP6	APRIL 2010
DP2 - ROAD P2 AND OTHER ROADS (PRIMARY / DISTRICT DISTRIBUTOR ROADS)	CE00 CONTRACT NO. HK/2009/02	SP1- SP3- SP5	APRIL 2010
DP3 - PERMANENT AND TEMPORARY RECLINATION WORKS (INCLUDING ASSOCIATED DREDGING WORKS) IN WAN CHAI DEVELOPMENT PHASE II (WCDII) AREA	CE00 CONTRACT 3	SP1- SP3	JUNE 2011
DP4 - TEMPORARY PRIMROSE SHOWER I (SP4 NOT TO BE IMPLEMENTED)	CE00 CONTRACT 4	SP1- SP3	JUNE 2012
DP5 - WAN CHAI EAST SEWAGE OUTFALL	CE00 CONTRACT 5	SP2	2013
DP6 - DREDGING FOR THE CROSS-HARBOUR WATER MAINS	Hy0 CONTRACT NO. HY/2005/11	SP3	18 MARCH 2010
	Hy0 CONTRACT NO. HY/2005/15	SP1- SP3	SEPTEMBER 2010
	Hy0 CONTRACT NO. HY/2005/18	SP1	OCTOBER 2010
	Hy0 CONTRACT NO. HY/2005/19	SP1	SEPTEMBER 2010
DP1 IS COVERED BY EP - 31A/2008	Hy0 CONTRACT NO. HY/2005/12	SP1- SP3	MID 2013
DP2 IS COVERED BY EP - 31B/2008			
DP3, DP5 AND DP6 ARE COVERED BY EP - 35G/2009			







港口
HARBOUR




LEGEND:

WORKS AREA

DREDGING AREA FOR
MITIGATION OF ODOUR(DP3)

SITE BOUNDARY



中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGRG. (HONG KONG) LTD.

Highways Department
CONTRACT NO. HY/2009/15
CENTRAL-WAN CHAI BYPASS -TUNNEL
(CAUSEWAY BAY TYPHOON
SHELTER SECTION)

TITLE
LOCATION PLAN OF WORKS AREA

DRG. NO.
CWB/T/EPD/001B

SCALE
1:1000 @ A0

STATUS
DIMENSIONS ARE IN
MILLIMETERS

COPYRIGHT RESERVED

維多利亞公園
Victoria Park

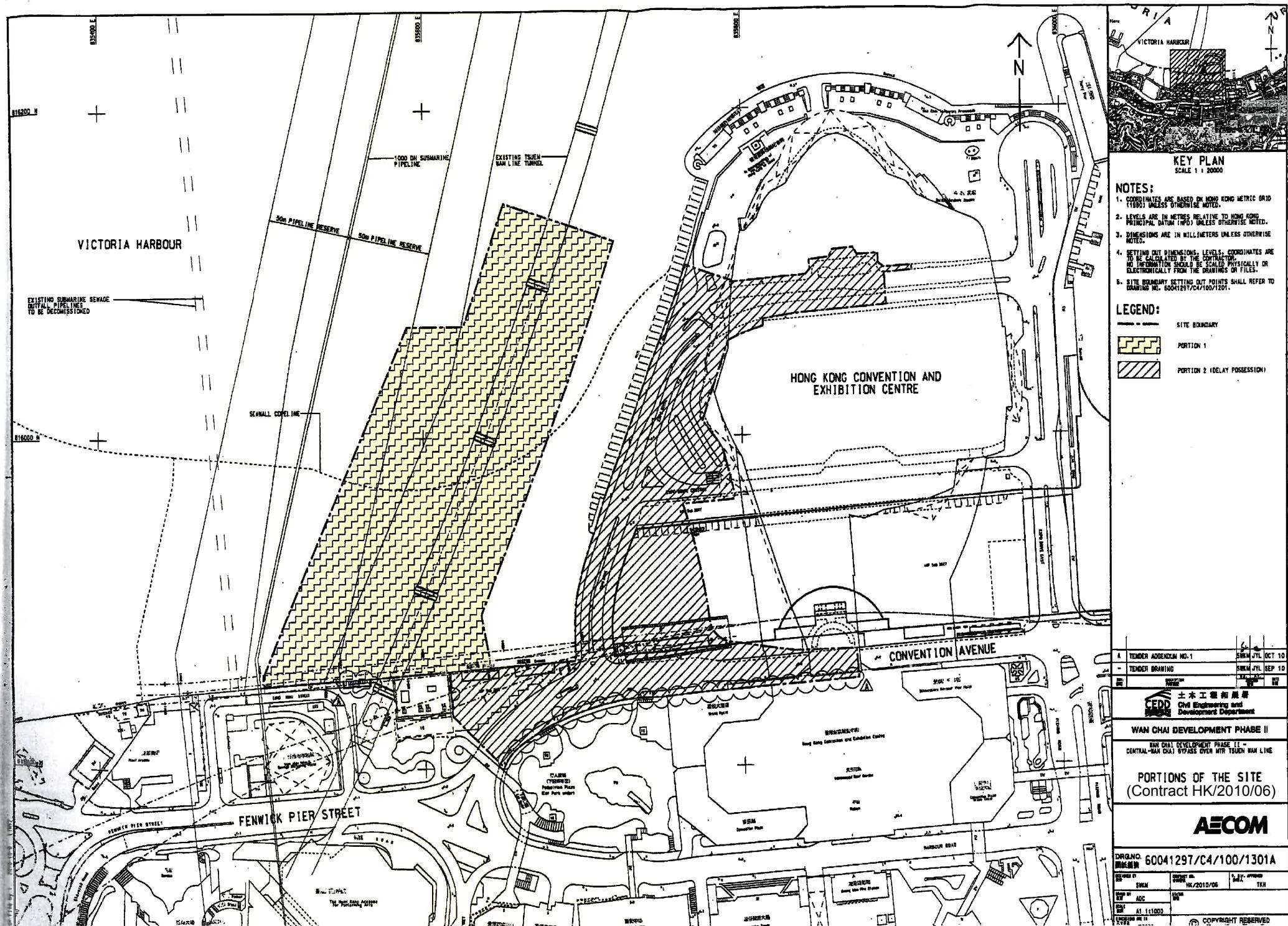


Figure 2.2

Project Organization Chart

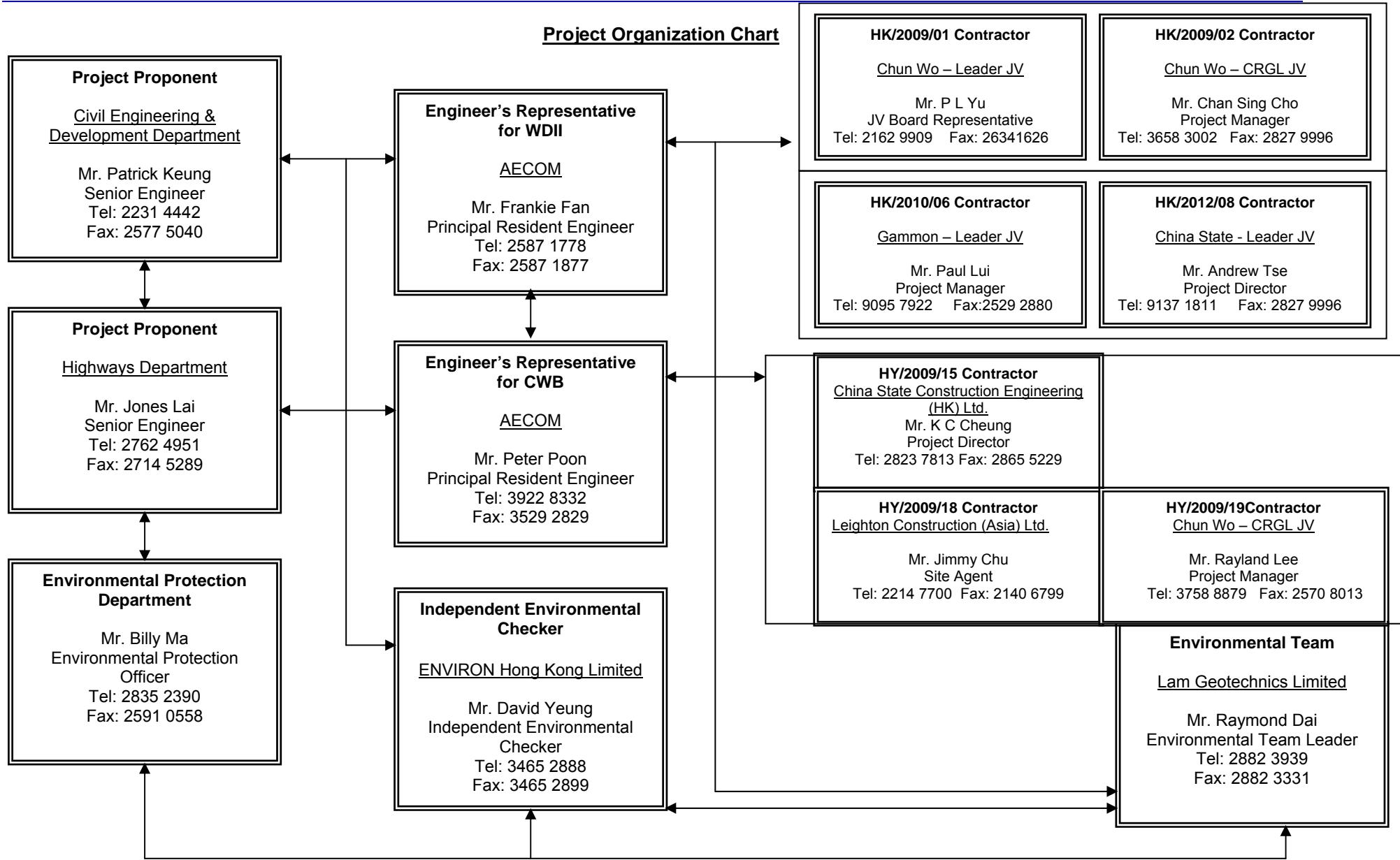
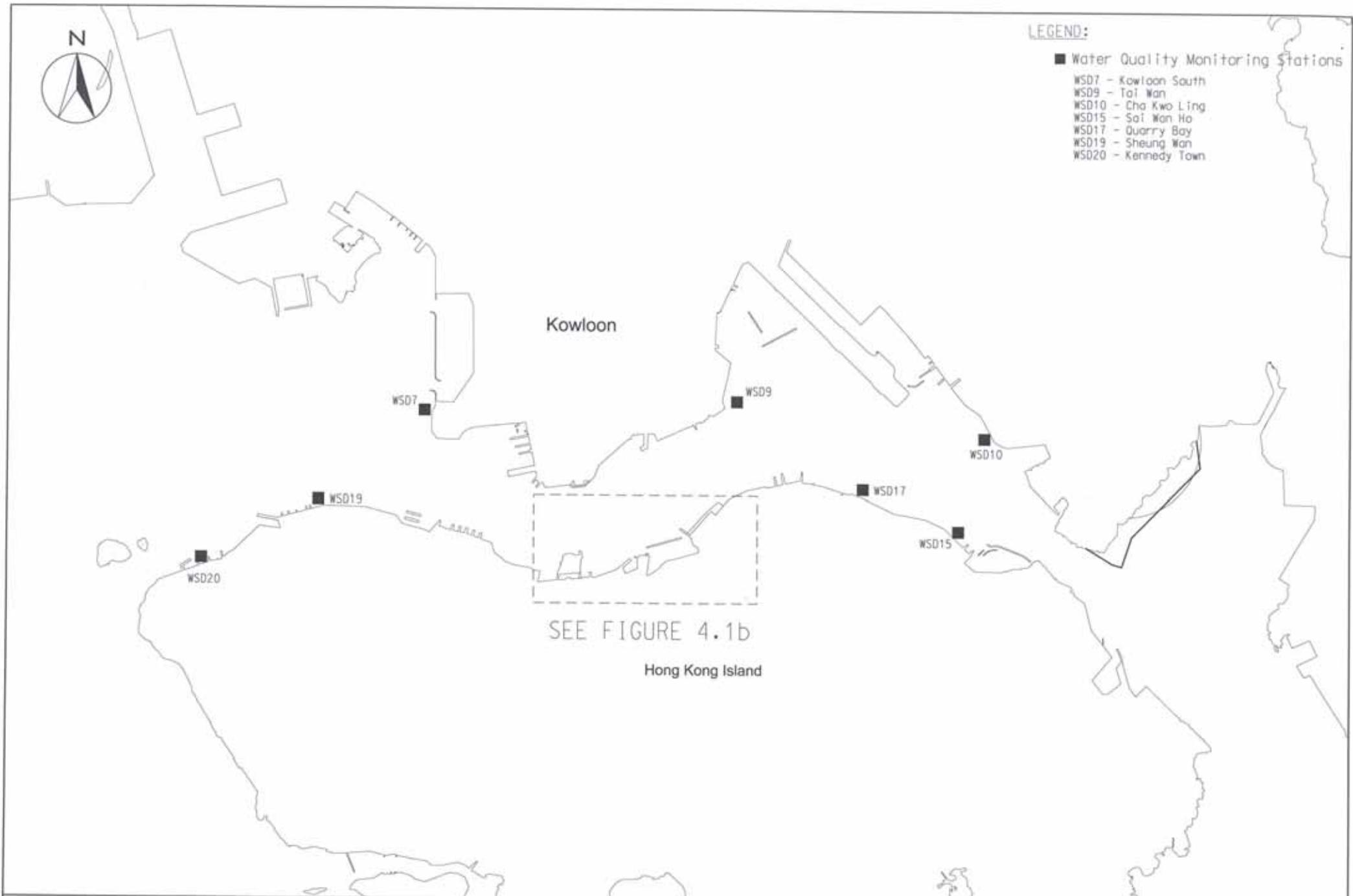


Figure 3.1

Locations of Monitoring Stations

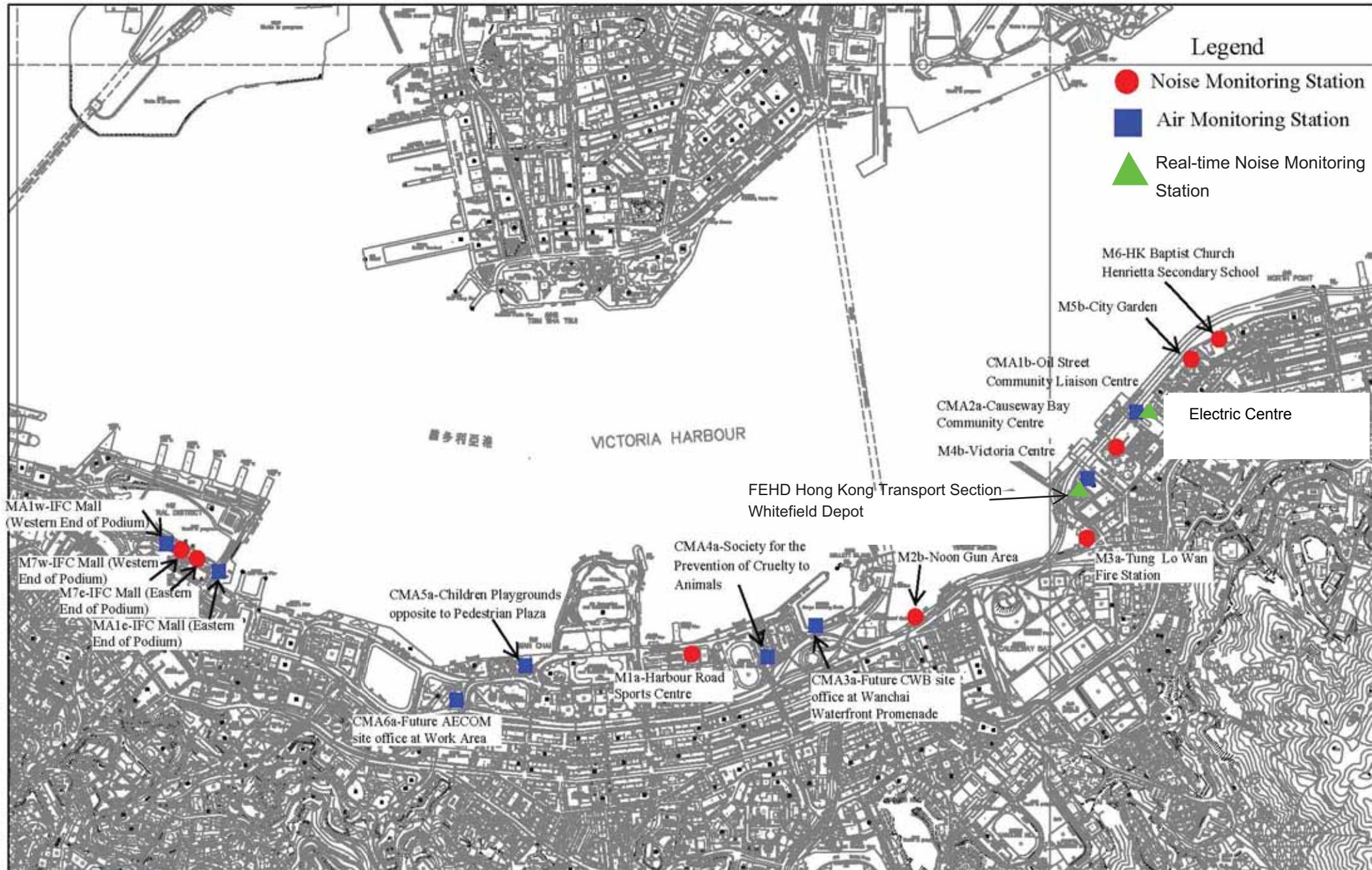


LEGEND:

WATER QUALITY MONITORING STATIONS

- C1 HONG KONG CONVENTION AND EXHIBITION CENTRE EXTENSION
- C2 TELECOM HOUSE/HK ACADEMY FOR PERFORMING/ SHUI ON CENTRE
- C3 HONG KONG CONVENTION AND EXHIBITION CENTRE PHASE I
- C4 WAN CHAI TOWER AND GREAT EAGLE CENTRE
- C5 SUN HUNG KAI CENTRE
- C6 PROPOSED EXHIBITION STATION / WORLD TRADE CENTRE
- C7 WINDSOR HOUSE
- C8 CITY GARDEN
- C9 PROVIDENT CENTRE
- RC1 PROPOSED HKAPA EXTENSION
- RC5 SUN HUNG KAI CENTRE (REPROVISION)
- RCT WINDSOR HOUSE (TEMPORARY REPROVISION)
- WS021 WAN CHAI
- RW1 WAN CHAI (REPROVISION)

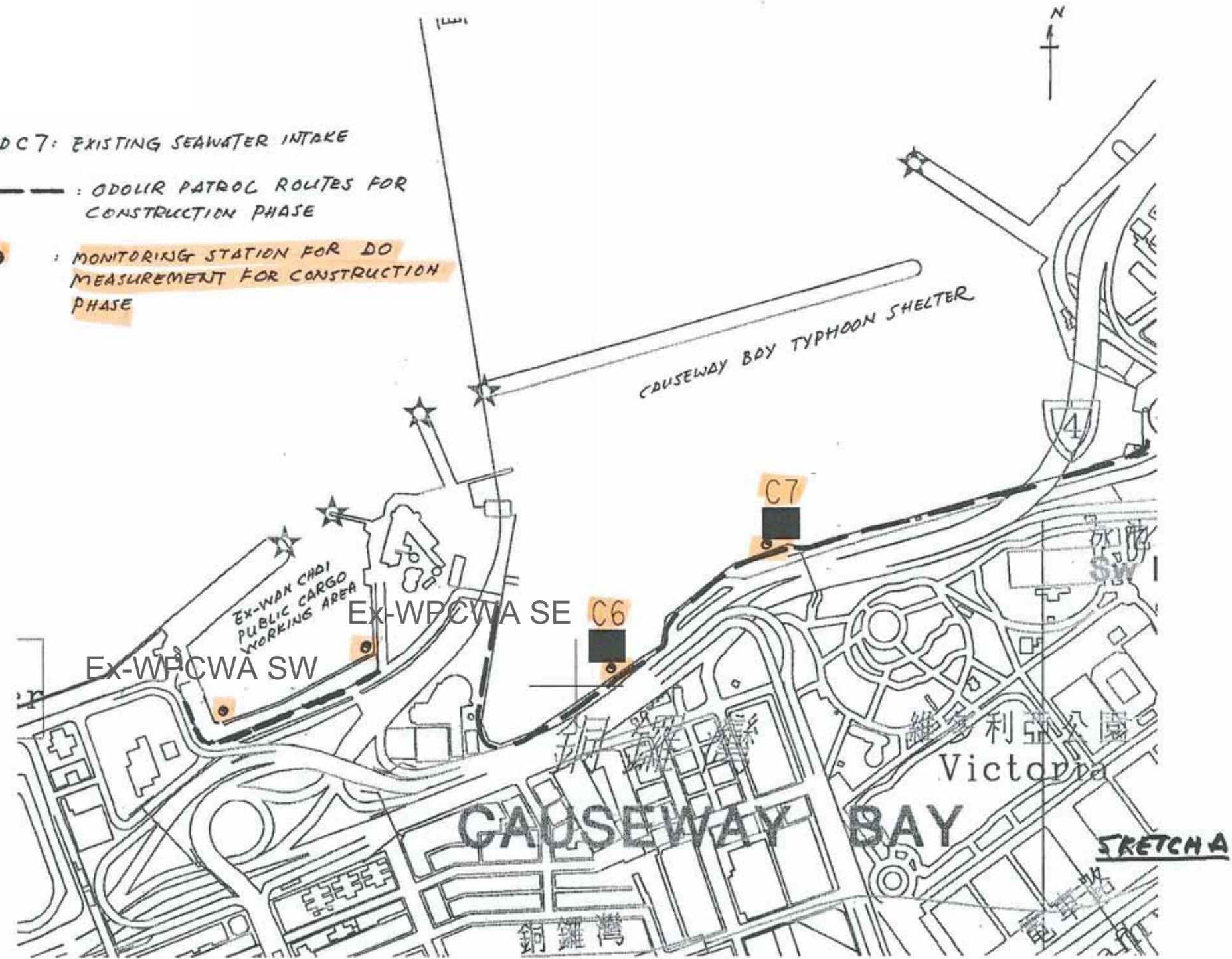




C6 AND C7: EXISTING SEAWATER INTAKE

— — — : ODOLIR PATROL ROUTES FOR CONSTRUCTION PHASE

● : MONITORING STATION FOR DO MEASUREMENT FOR CONSTRUCTION PHASE



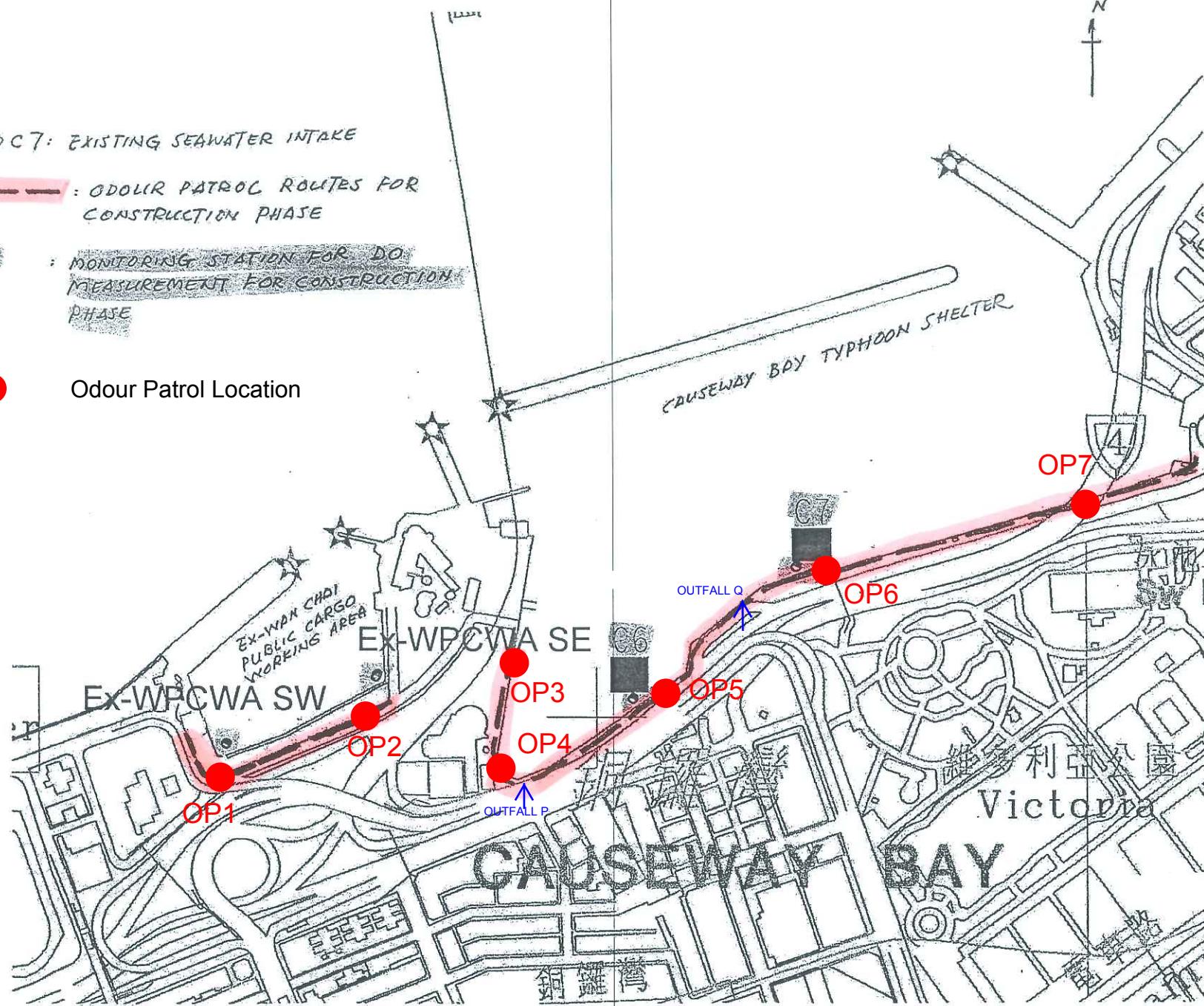
C6 AND C7: EXISTING SEAWATER INTAKE

— : ODOUR PATROL ROUTES FOR CONSTRUCTION PHASE

● : MONITORING STATION FOR DO MEASUREMENT FOR CONSTRUCTION PHASE



Odour Patrol Location

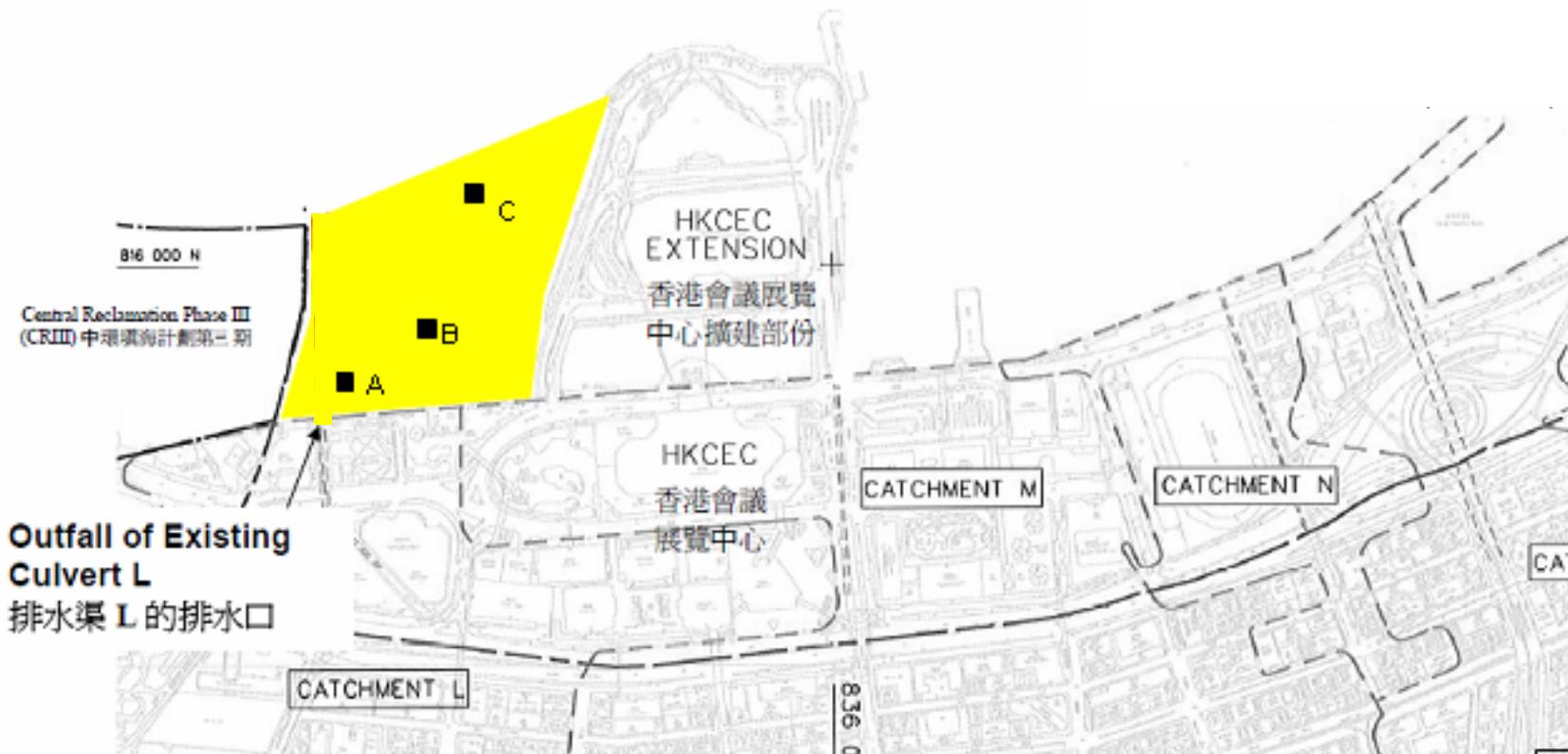


中環填海計劃
第三期邊界
CR III

灣仔發展計劃
第二期區域
WDII REVIEW
LIMIT STUDY AREA

Embayment Area

■ Additional DO Monitoring Station
(A: 835468E, 815857N
B: 835572E, 815961N
C: 835659E, 816271N)



lam

Location Plan of Additional Dissolved Oxygen Monitoring Stations
for Culvert L Water Discharge Flow

Legend

Water Quality Monitoring Stations

- C1 Hong Kong Convention and Exhibition Centre Extension
- C2 Telecom House/ HK Academy For Performing Art/ Shui On Centre
- C3 Hong Kong Convention and Exhibition Centre Phase 1
- C4 Wan Chai Tower and Great Eagle Centre
- C5 Sun Hung Kai Centre
- C6 Proposed Exhibition Station/ World Trade Centre
- C7 Windsor House
- C8 City Garden
- C9 Provident Centre

CEDD CONTRACT NO. HK/2009/01

CEDD CONTRACT NO. HK/2010/06

CEDD CONTRACT NO. HK/2012/08

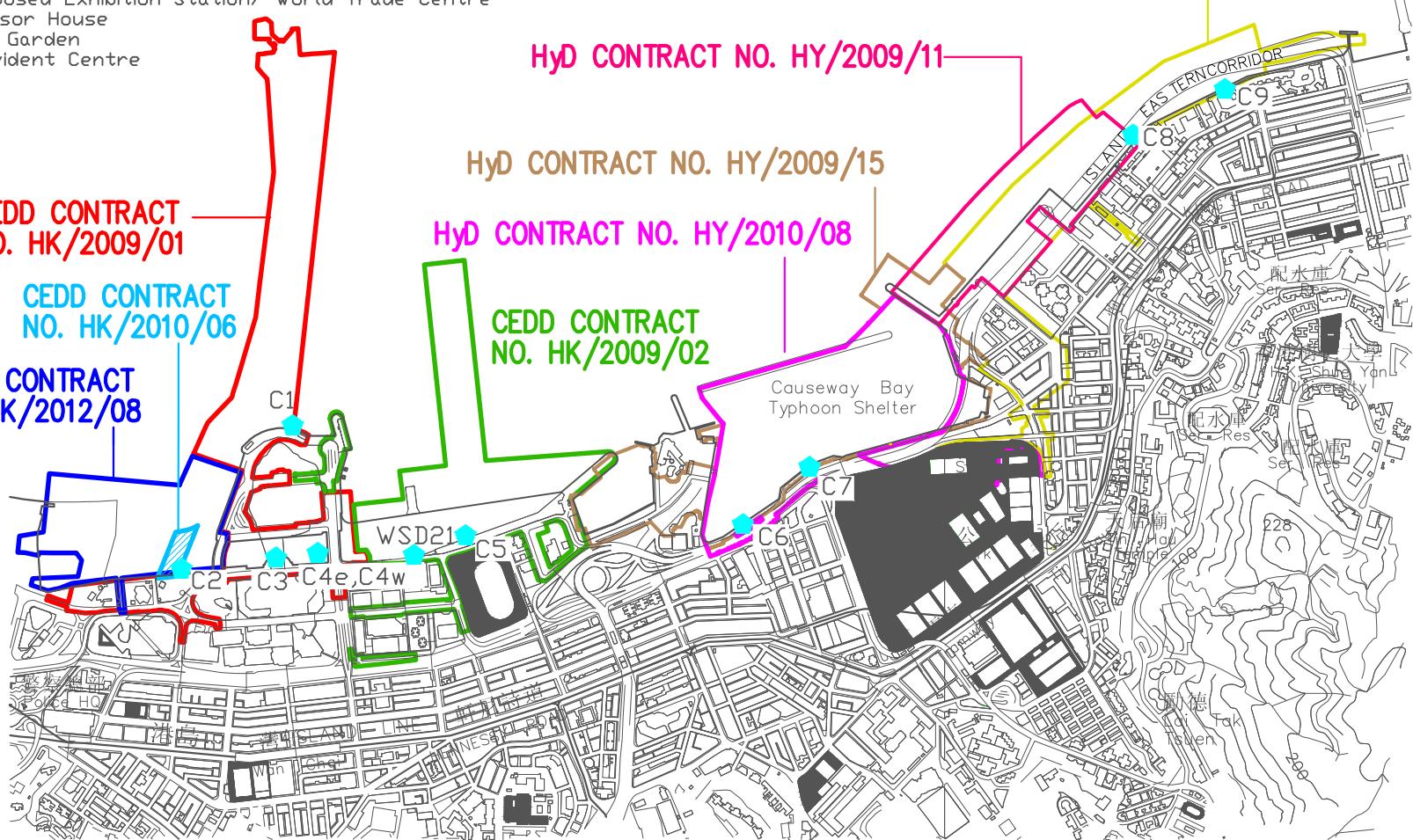
HyD CONTRACT NO. HY/2009/19

HyD CONTRACT NO. HY/2009/11

HyD CONTRACT NO. HY/2009/15

HyD CONTRACT NO. HY/2010/08

CEDD CONTRACT NO. HK/2009/02



LOCATIONS OF WATER QUALITY MONITORING STATIONS

Legend

Water Quality Monitoring Stations

RW21-P789 (Wanchai WSD intake/ Great Eagle Centre/ China Resources Centre/ Sun Hung Kai Centre)

C1 Hong Kong Convention and Exhibition Centre Extension

P1 Hong Kong Convention and Exhibition Centre Phase 1

P3 HK Academy For Performing Art

P4 Shui On Centre

P5 Government buildings (Wanchai Tower/ Revenue Tower/ Immigration Tower)

C6 Proposed Exhibition Station/ World Trade Centre

C7 Windsor House

HyD CONTRACT NO. HY/2009/19

HyD CONTRACT NO. HY/2009/11

HyD CONTRACT NO. HY/2009/15

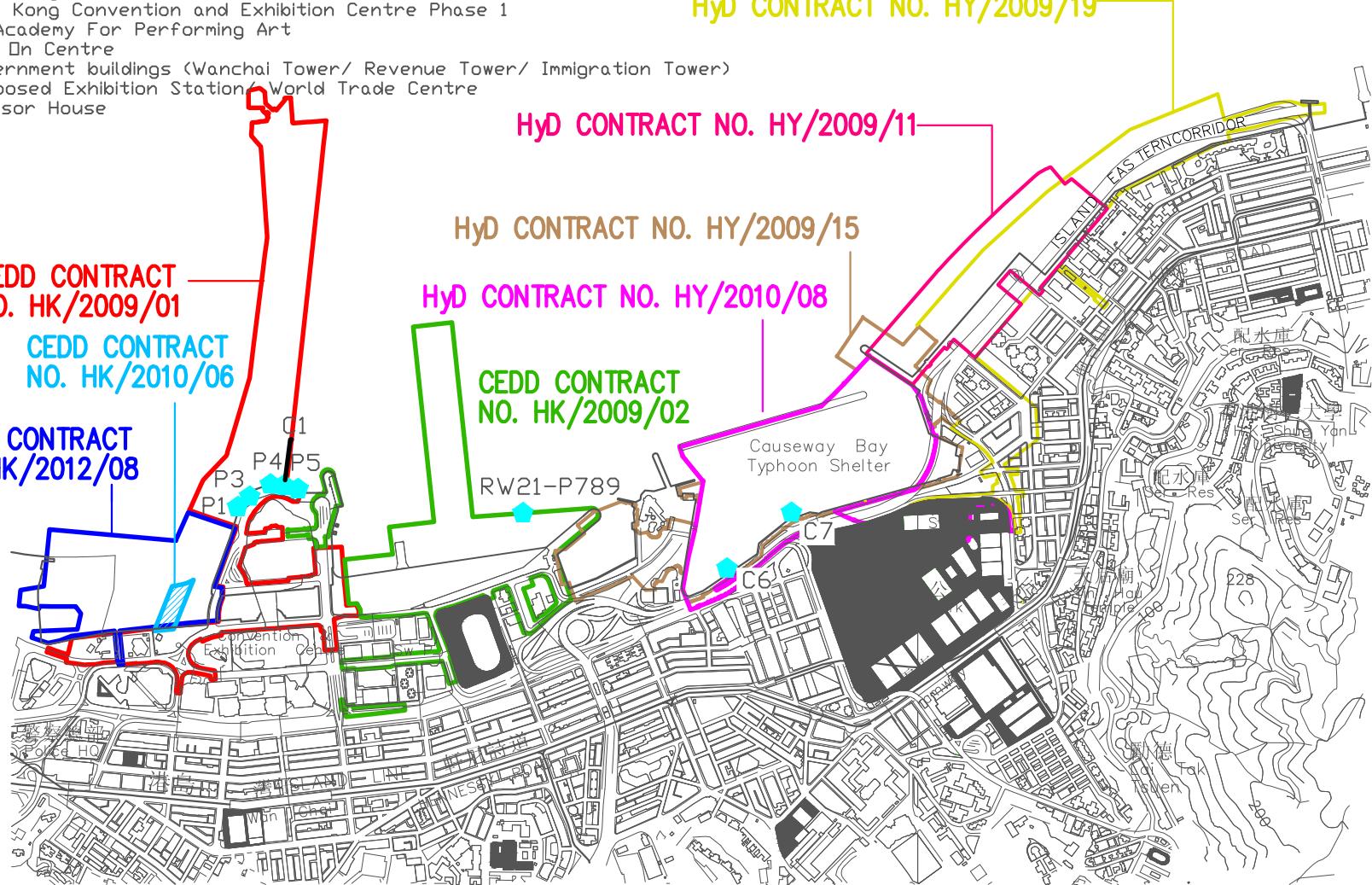
HyD CONTRACT NO. HY/2010/08

CEDD CONTRACT NO. HK/2009/02

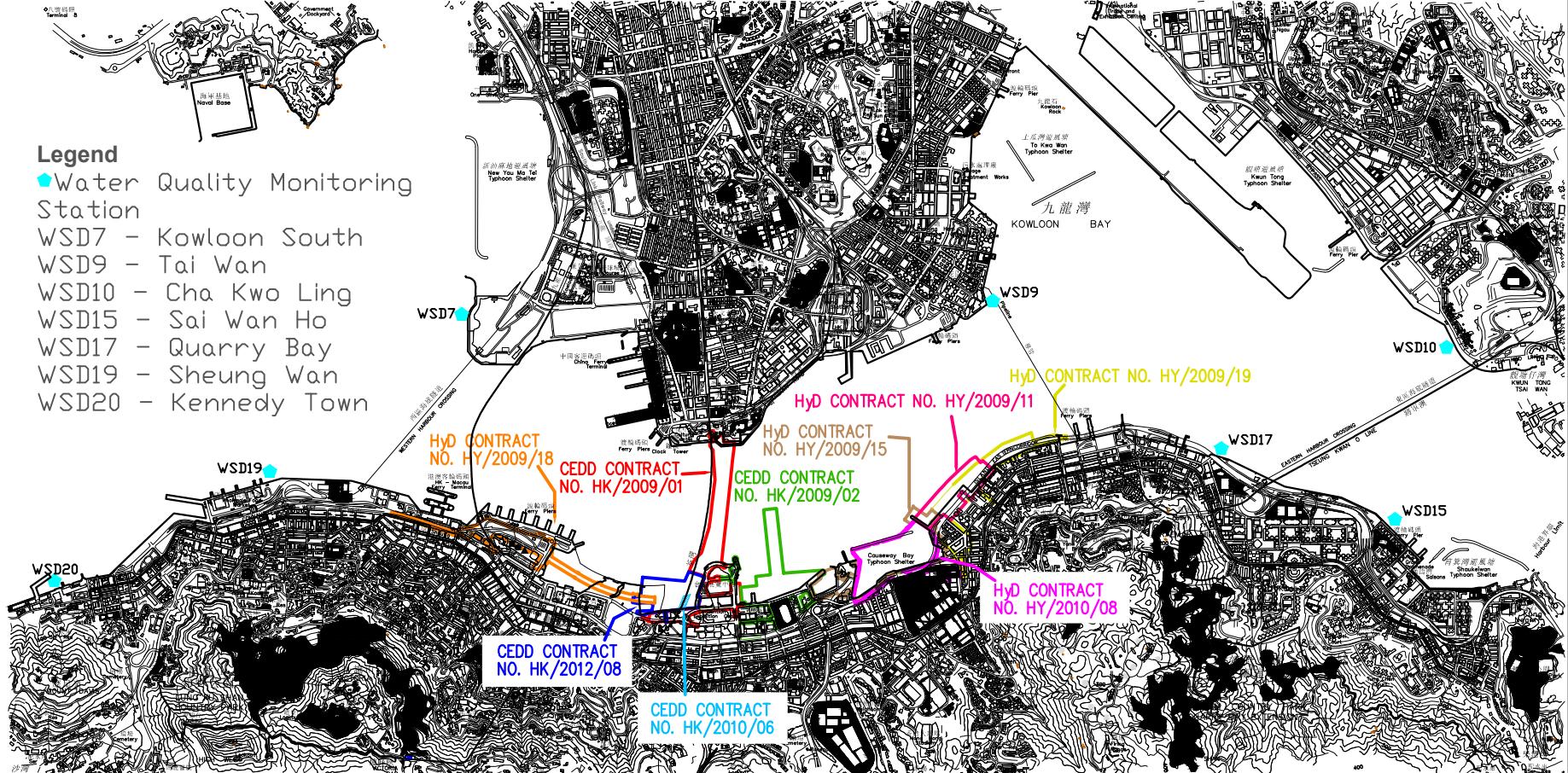
CEDD CONTRACT NO. HK/2009/01

CEDD CONTRACT NO. HK/2010/06

CEDD CONTRACT NO. HK/2012/08



LOCATIONS OF WATER QUALITY MONITORING STATIONS



LOCATIONS OF WATER QUALITY MONITORING STATIONS

Legend

- Additional DO Monitoring Station

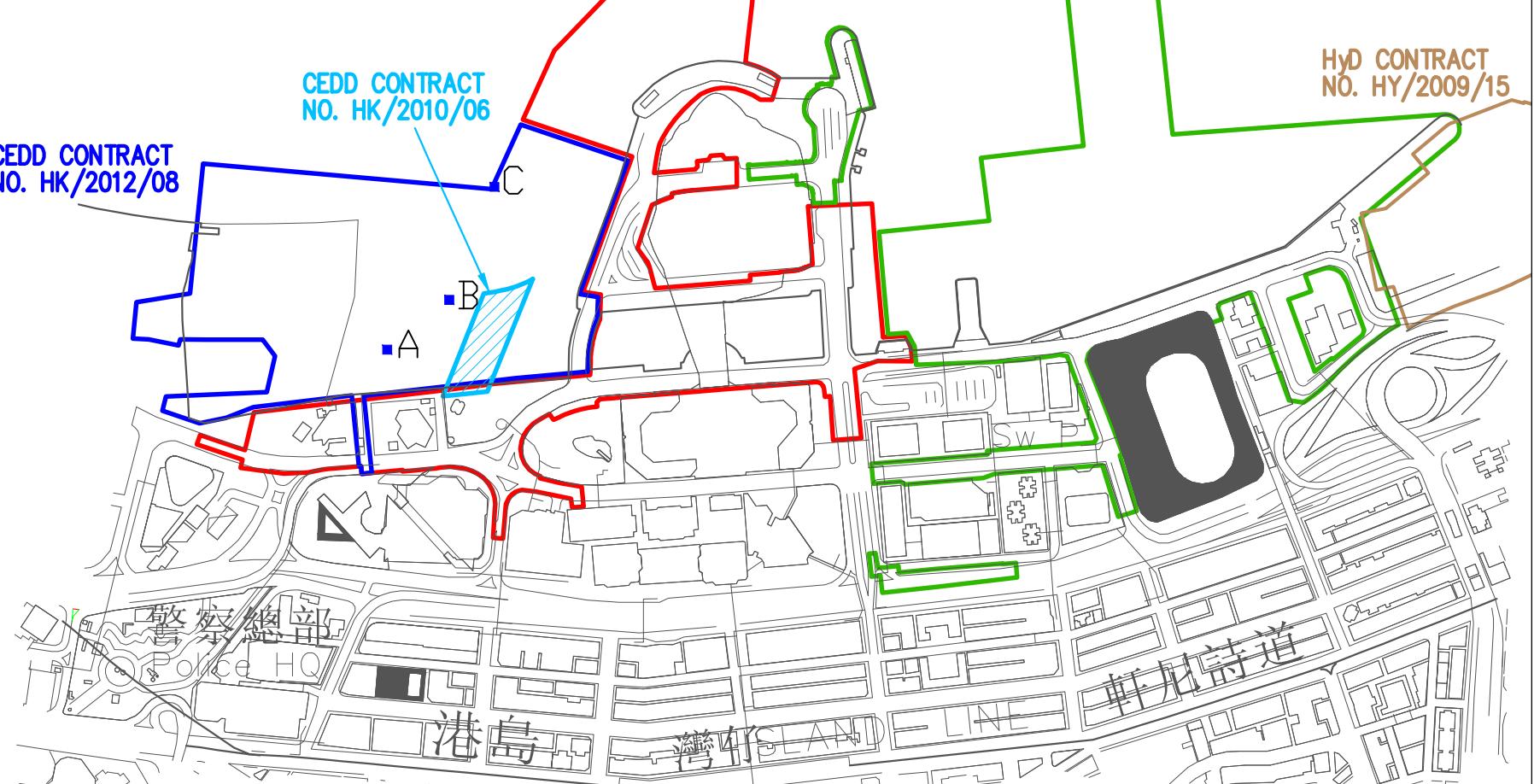
CEDD CONTRACT
NO. HK/2012/08

CEDD CONTRACT
NO. HK/2010/06

CEDD CONTRACT
NO. HK/2009/01

CEDD CONTRACT
NO. HK/2009/02

HyD CONTRACT
NO. HY/2009/15



**LOCATIONS OF ADDITIONAL DISSOLVED OXYGEN MONITORING STATIONS
FOR CULVERT L WATER DISCHARGE FLOW**

Appendix 2.1

Environmental Mitigation Implementation Schedule

Environmental Mitigation Implementation Schedule

Implementation Schedule for Air Quality Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines				
				Des	C	O	Dec					
Construction Phase												
<i>For the Whole Project</i>												
S3.6.5	Four times a day watering of the work site with active operations.	Work site / during construction	Contractor		√			EIAO-TM				
S3.8.1	<p>Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimise cumulative dust impacts.</p> <ul style="list-style-type: none"> • Strictly limit the truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition; • Watering during excavation and material handling; • Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary; and • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. 	Work site / during construction	Contractor		√							

Appendix 2.1

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

¹ CEDD will identify an implementation agent.² CEDD will identify an implementation agent.

Appendix 2.1

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

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

Appendix 2.1

Table A13.2 Implementation Schedule for Noise Control

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

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.9.4	<p>Good Site Practice:</p> <ul style="list-style-type: none"> Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program. Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program. Mobile plant, if any, shall be sited as far away from NSRs as possible. Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum. Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities. 	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
<i>For DP1 – CWB (Within the Project Boundary)</i>								

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.8.3 – S4.8.5	<p>Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks:</p> <ul style="list-style-type: none"> Slip road 8 tunnel Construction of diaphragm wall and substructures of the tunnel approach ramp Excavation Construction of slabs Backfill Demolition and construction of substructures for the IEC Demolition works of existing piers and crossheads of the marine section of the existing IEC <p>Use of PME grouping for the following tasks:</p> <ul style="list-style-type: none"> At-grade road construction Substructure for IECL connection 	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
<i>For DP2 – WDII Major Roads (Road P2)</i>								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks:	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
<i>For DP3 – Reclamation Works</i>								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following task:	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
For DP5 – Wan Chai East Sewage Outfall								
S4.8.3 – S4.8.4	<p>Use of quiet powered mechanical equipment for the following tasks:</p> <ul style="list-style-type: none"> Submarine pipelines (marine section) <p>Use of quiet powered mechanical equipment and movable noise barrier for the following tasks:</p> <ul style="list-style-type: none"> Installation of a new pipeline (land section) 	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
For DP6 – Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui								
S4.8.3 – S4.8.4	<p>Use of quiet powered mechanical equipment for the following tasks:</p> <ul style="list-style-type: none"> Submarine pipelines (marine section) • 	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO

Appendix 2.1

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

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.8.14 – S4.8.18	<ul style="list-style-type: none"> For Existing NSRs about 235m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC about 230m length of noise semi-enclosure with transparent panel covering the main carriageways (eastbound and westbound) of the CWB and IEC about 135m length of 5.5m high cantilevered noise barrier with 3m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC about 95m length of 5.5m high cantilevered noise barrier with 1m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC about 350m length of 3.5m high vertical noise barrier with transparent panel on the eastbound slip road to the IEC low noise road surfacing for the trunk road (except tunnel section and beneath the landscaped deck at the eastern portal area) with speed limit of 70 km/hour <p>For Future/Planned NSRs</p> <ul style="list-style-type: none"> about 265m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC 	<p>Near North Point / Before commencement of operation of road project</p> <p>In between the Electric Centre (next to City Garden) and CDA(1) site / Before occupation of Planned NSRs in CDA and CDA(1) sites.</p>	HyD	√	√	√		EIAO-TM

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<ul style="list-style-type: none"> The openable windows of the temple, if any, should be orientated so as to avoid direct line of sight to the existing Victoria Park Road as far as practicable. 	Near Causeway Bay Fire Station / During detailed design of the re-provisioned Tin Hau Temple	Project Proponent for the re-provisioned Tin Hau Temple	√				

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

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

Appendix 2.1

Table A13.3 Implementation Schedule for Water Quality Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines				
				Des	C	O	Dec					
Construction Phase												
<i>For DP3 – Reclamation Works, DP5 (Wan Chai East Sewage Outfall), DP6 (Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui), DP1 – CWB (within the Project Boundary)</i>												
S5.8	A phased reclamation approach is planned for the WDII. Containment of fill within each of the reclamation phases by seawalls is proposed, with the seawall constructed first (above high water mark) with filling carried out behind the completed seawalls. Any gaps that may need to be provided for marine access will be shielded by silt curtains to control sediment plume dispersion away from the site. Filling for seawall construction should be carried out behind the silt curtain	Work site / During the construction period	Contractor		✓			EIAO-TM, WPCO				
S5.8	Dredging shall be carried out by closed grab dredger for the following works: <ul style="list-style-type: none"> • Seawall construction in all the reclamation areas; • Construction of the CWB Tunnel • Construction of the proposed WSD water mains; and • Construction of the proposed Wan Chai East sewage outfall pipelines. 	Work site / During the construction period	Contractor		✓			EIAO-TM, WPCO				
S5.8, Figure 5.3	Dredging for the Wan Chai East sewage outfall pipelines shall not be carried out concurrently with the following activities: <ul style="list-style-type: none"> • Dredging along the proposed cross-harbour water mains; • Dredging along the seawall in the Wan Chai Reclamation (WCR) zone (area between HKCEC Extension and PCWA). 	Work site / During the construction period	Contractor		✓			EIAO-TM, WPCO				

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines																										
				Des	C	O	Dec																											
Construction Phase																																		
<i>For DP3 – Reclamation Works, DP5 (Wan Chai East Sewage Outfall), DP6 (Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui), DP1 – CWB (within the Project Boundary)</i>																																		
S5.8	The water body behind the temporary reclamations within the Causeway Bay typhoon shelter shall not be fully enclosed.	Work site / During the construction period	Contractor		✓			EIAO-TM, WPCO																										
S5.8	As a mitigation measure, to avoid the accumulation of water borne pollutants within the temporary embayment between CRIII and HKCEC1, an impermeable barrier, suspended from a floating boom on the water surface and extending down to the seabed, will be erected by the contractor before the HKCEC1 commences. The barrier will channel the stormwater discharge flows from Culvert L to the outside of the embayment. The contractor will maintain this barrier until the reclamation works in HKCEC2W are carried out and the new Culvert L extension is constructed.	Work site / During the construction period	Contractor		✓			EIAO-TM, WPCO																										
S5.8, Figure 5.3	The total dredging rates in each of the marine works zones shall not be more than the maximum production rates stated in the table below. These are the production rates without considering the effect of silt curtain.	Work site / During the construction period	Contractor		✓			EIAO-TM, WPCO																										
<table border="1"> <thead> <tr> <th rowspan="2">Reclamation Area</th> <th colspan="2">Maximum Dredging Rate</th> <th rowspan="2">Maximum Dredging Rate (m³ per week)</th> </tr> <tr> <th>m³ per day</th> <th>m³ per hour (for 16 hrs per day)</th> </tr> </thead> <tbody> <tr> <td>Dredging along seawall or breakwater</td> <td></td> <td></td> <td></td> </tr> <tr> <td>North Point Shoreline Zone (NPR)</td> <td>6,000</td> <td>375</td> <td>42,000</td> </tr> <tr> <td>Causeway Bay</td> <td>1,500</td> <td>94</td> <td>10,500</td> </tr> <tr> <td>Shoreline Zone</td> <td>6,000</td> <td>375</td> <td>42,000</td> </tr> <tr> <td>PCWA Zone</td> <td>5,000</td> <td>313</td> <td>35,000</td> </tr> </tbody> </table>									Reclamation Area	Maximum Dredging Rate		Maximum Dredging Rate (m ³ per week)	m ³ per day	m ³ per hour (for 16 hrs per day)	Dredging along seawall or breakwater				North Point Shoreline Zone (NPR)	6,000	375	42,000	Causeway Bay	1,500	94	10,500	Shoreline Zone	6,000	375	42,000	PCWA Zone	5,000	313	35,000
Reclamation Area	Maximum Dredging Rate		Maximum Dredging Rate (m ³ per week)																															
	m ³ per day	m ³ per hour (for 16 hrs per day)																																
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Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines																							
				Des	C	O	Dec																								
	<table border="1"> <tr><td>Wan Chai Shoreline Zone (WCR)</td><td>6,000</td><td>375</td><td>42,000</td></tr> <tr><td>HKCEC Shoreline Zone (HKCEC)</td><td>HKCEC Stage 1 & 3</td><td>1,500</td><td>94</td><td>10,500</td></tr> <tr><td></td><td>HKCEC Stage 2 (HKCEC)</td><td>6,000</td><td>375</td><td>42,000</td></tr> <tr><td>Cross Harbour Water Mains</td><td></td><td>1,500</td><td>94</td><td>10,500</td></tr> <tr><td>Wan Chai East Submarine Sewage Pipeline</td><td></td><td>1,500</td><td>94</td><td>10,500</td></tr> </table> <p>Note: 1,500 m³ per day shall be applied for construction of the western seawall of WCR1.</p>	Wan Chai Shoreline Zone (WCR)	6,000	375	42,000	HKCEC Shoreline Zone (HKCEC)	HKCEC Stage 1 & 3	1,500	94	10,500		HKCEC Stage 2 (HKCEC)	6,000	375	42,000	Cross Harbour Water Mains		1,500	94	10,500	Wan Chai East Submarine Sewage Pipeline		1,500	94	10,500						
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Wan Chai East Submarine Sewage Pipeline		1,500	94	10,500																											
S5.8, Figure 5.3	Dredging along the seawall at WCR1 shall be undertaken initially at 1,500m ³ per day for construction of the western seawall (which is in close proximity of the WSD intake), followed by partial seawall construction at the western seawall (above high water mark) to protect the adjacent intakes as much as possible from further dredging activities.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																							
S5.8, Figure 5.3	For dredging within the Causeway Bay typhoon shelter, seawall shall be partially constructed to protect the nearby seawater intakes from further dredging activities. For example, at TCBR1W, the southern and eastern seawalls shall be constructed first (above high water mark) so that the seawater intakes at the inner water would be protected from the impacts from the remaining dredging activities along the northern boundary.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																							
S5.8, Figure 5.3	Silt curtains shall be deployed around the closed grab dredgers during seawall dredging and seawall trench filling in the areas of HKCEC, WCR, TCBR and NP.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																							
S5.8, Figure 5.3	Silt screens shall be applied to seawater intakes at interim construction stages as stated below:	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																							
	<table border="1"> <tr><th>Interim Construction Stage</th><th>Location of Applications</th></tr> <tr><td>Scenario 2A in early 2009 with concurrent dredging activities at HKCEC, WCR, TPCWA,</td><td>WSD saltwater intakes at Sai Wan Ho, Quarry Bay, Sheung Wan, Wan Chai, Kowloon South</td></tr> <tr><td></td><td>Cooling water intakes for Hong Kong Convention and Exhibition Centre Extension, Hong Kong</td></tr> </table>	Interim Construction Stage	Location of Applications	Scenario 2A in early 2009 with concurrent dredging activities at HKCEC, WCR, TPCWA,	WSD saltwater intakes at Sai Wan Ho, Quarry Bay, Sheung Wan, Wan Chai, Kowloon South		Cooling water intakes for Hong Kong Convention and Exhibition Centre Extension, Hong Kong																								
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Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p>TBW, NP and Water Mains Zone</p> <p>Convention and Exhibition Centre Phase I, Telecom House / HK Academy for Performing Arts / Shun On Centre, Wan Chai Tower / Revenue Tower / Immigration Tower and Sun Hung Kai Centre</p> <p>Scenario 2B in late 2009/2010 with concurrent dredging activities at Sewage Pipelines Zone and TCBR.</p> <p>Scenario 2C in 2011 with concurrent dredging activities at HKCEC and TCBR.</p> <p>WSD saltwater intakes at Sheung Wan, Wan Chai</p> <p>Cooling water intakes for Queensway Government Offices, Excelsior Hotel, World Trade Centre and Windsor House.</p> <p>WSD saltwater intakes at Sheung Wan and Reprovisioned WSD Wan Chai saltwater intake.</p> <p>Cooling water intakes for MTR South, Excelsior Hotel & World Trade Centre and reprovisioned Windsor House.</p>							
S5.8	Other mitigation measures include: <ul style="list-style-type: none"> mechanical grabs, if used, shall be designed and maintained to avoid spillage and sealed tightly while being lifted. For dredging of any contaminated mud, closed watertight grabs must be used; all vessels shall be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; all hopper barges and dredgers shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material; construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds; loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water. Barges or hoppers shall not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation; and 	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<ul style="list-style-type: none"> before commencement of the reclamation works, the holder of Environmental Permit has to submit plans showing the phased construction of the reclamation, design and operation of the silt curtain. 							
S5.8	<p>Silt screens are recommended to be deployed at the seawater intakes during the reclamation works period. Installation of silt screens at the seawater intake points may cause a potential for accumulation and trapping of pollutants, floating debris and refuse behind the silt screens and may lead to potential water quality deterioration at the seawater intake points. Major sources of pollutants and floating refuse include the runoff and storm water discharges from the nearby coastal areas. As a mitigation measure to avoid the pollutant and refuse entrapment problems and to ensure that the impact monitoring results are representative, regular maintenance of the silt screens and refuse collection shall be performed at the monitoring stations at regular intervals on a daily basis. The Contractor shall be responsible for keeping the water behind the silt screen free from floating rubbish and debris during the impact monitoring period.</p>	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

Appendix 2.1

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

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
For the Whole Project								
S5.8	<ul style="list-style-type: none"> Construction Runoff and Drainage use of sediment traps, wheel washing facilities for vehicles leaving the site, and adequate maintenance of drainage systems to prevent flooding and overflow; Permanent drainage channels shall incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC PN 1/94; a sediment tank constructed from pre-formed individual cells of approximately 6 - 8 m³ capacity can be used for settling ground water prior to disposal; oil interceptors shall be provided in the drainage system for the tunnels and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor shall have a bypass to prevent flushing during periods of heavy rain; precautions and actions to be taken when a rainstorm is imminent or forecast, and during or after rainstorms. Particular attention shall be paid to the control of any silty surface runoff during storm events; on-site drainage system shall be installed prior to the commencement of other construction activities. Sediment traps shall be installed in order to minimise the sediment loading of the effluent prior to discharge; All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge shall be adequately designed for the controlled release of storm flows. All sediment control measures shall be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage shall be reinstated to its original condition when the construction work is finished or the temporary diversion is no longer 	<ul style="list-style-type: none"> Work site / During the construction period 	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

³ CEDD will identify an implementation agent.

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	required.							
	<ul style="list-style-type: none"> All fuel tanks and store areas shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity. 							
	<ul style="list-style-type: none"> Minimum distances of 100 m shall be maintained between the storm water discharges and the existing or planned WSD flushing water intakes during construction phase. 							
S5.8	<i>Sewage from Construction Work Force</i>							
S5.8	Construction work force sewage discharges on site shall be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage shall be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)
S5.8	<i>Floating Debris and Refuse</i>							
S5.8	Collection and removal of floating refuse shall be performed at regular intervals on a daily basis. The contractor shall be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish.	Work site and adjacent water / During the construction period	Contractor		√			WPCO

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	<p><i>Storm Water Discharges</i></p> <p>Minimum distances of 100 m shall be maintained between the existing or planned stormwater discharges and the existing or planned WSD flushing water intakes.</p>	Work site and adjacent water / During the design and construction period.	Contractor	✓	✓			WPCO
Operation Phase								
DPI – CWB (within the Project Boundary)								
S5.8	<p>For the operation of CWB, a surface water drainage system would be provided to collect road runoff. The following operation stage mitigation measures are recommended to ensure road runoff would comply with the TM under the WPCO:</p> <ul style="list-style-type: none"> The drainage from tunnel sections shall be directed through petrol interceptors to remove oil and grease before being discharged to the nearby foul water manholes. Petrol interceptors shall be regularly cleaned and maintained in good working condition. Oily contents of the petrol interceptors shall be properly handled and disposed of, in compliance with the requirements of the Waste Disposal Ordinance. Sewage arising from ancillary facilities of CWB (for examples, car park, 	CWB/During design and operational period	HyD/TD ³	✓		✓		WPCO

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p>control room, ventilation and administration buildings and tunnel portals) shall be connected to public sewerage system. Sufficient capacity in public sewerage shall be made available to the proposed facilities.</p> <ul style="list-style-type: none"> Road drainage shall also be provided with adequately designed silt trap to minimize discharge of silty runoff. The design of the operational stage mitigation measures for CWB shall take into account the guidelines published in ProPECC PN 5/93 "Drainage Plans subject to Comment by the EPD." All operational discharges from the CWB into drainage or sewerage systems are required to be licensed by EPD under the WPCO. 							

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

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

Appendix 2.1

Table A13.4 Implementation Schedule for Waste Management

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

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.5	It will be the responsibility of the Contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to be dredged have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal Sediment Quality Report to the DEP, at least 3 months prior to the dredging contract being tendered							
S6.7.6	During transportation and disposal of the dredged marine sediments requiring Type 1 and Type 2 disposal, the following measures shall be taken to minimise potential impacts on water quality: <ul style="list-style-type: none"> Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved. 							

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<ul style="list-style-type: none"> Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP. Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation. 							
S6.6.12	<p>Floating Refuse</p> <p>During the construction phase, the project proponent's contractor will be responsible for the collection of any refuse within their works area. Floating booms will be provided on the water surface to confine the refuse from the working barges as well as to avoid the accumulation of pollutants within temporary embayment as mentioned in Table 13.3.</p>	Work site / During the construction period	Contractor		√			
<u>For the Whole Project</u>								

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.7	<p>Good Site Practices</p> <p>Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; training of site personnel in proper waste management and chemical waste handling procedures; provision of sufficient waste disposal points and regular collection for disposal; appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). 	Work site / During the construction period	Contractor		√			Waste Disposal Ordinance (Cap.354)

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.8	<p><i>Waste Reduction Measures</i></p> <p>Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; to encourage collection of aluminium cans, PET bottles and paper, separate labelled bins shall be provided to segregate these wastes from other general refuse generated by the work force; any unused chemicals or those with remaining functional capacity shall be recycled; use of reusable non-timber formwork, such as in casting the tunnel box sections, to reduce the amount of C&D material. prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill; proper storage and site practices to minimise the potential for damage or contamination of construction materials; and plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 	Work site / During planning and design stage, and construction stage	Contractor	√	√			

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.10	<p><i>General Refuse</i></p> <p>General refuse shall be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D material.</p> <p>A collection area shall be provided where wastes can be stored and loaded prior to removal from site. An enclosed and covered area is recommended to reduce the occurrence of 'wind blow' light material.</p>	Work site / During the construction period	Contractor		√			Public Health and Municipal Services Ordinance (Cap. 132)
S6.7.11	<i>Chemical Wastes</i>	Work site / During the construction period	Contractor		√			<p>Waste Disposal (Chemical Waste) (General) Regulation</p> <p>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</p>
S6.7.12	<i>Construction and Demolition Material</i>	Work site / During the construction period	Contractor		√			ETWB TCW No. 33/2002, 31/2004, 19/2005

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.13	In order to monitor the disposal of public fill and C&D waste at public filling facilities and landfills, respectively, and to control fly tipping, a trip-ticket system shall be included as one of the contractual requirements and implemented by the Environmental Team undertaking the environmental monitoring and audit work. An Independent Environment Checker shall be responsible for auditing the results of the system.	Work site / During the construction period	Contractor and Independent Environmental Checker		√			ETWB TCW No. 31/2004
S6.7.14	<p><i>Bentonite Slurry</i></p> <p>The disposal of residual used bentonite slurry shall follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage" and listed as follows:</p> <ul style="list-style-type: none"> • If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis. • If the used bentonite slurry is intended to be disposed of through the public drainage system, it shall be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the Technical Memorandum of Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. • If the used bentonite slurry is intended to be disposed to public fill reception facilities, it will be mixed with dry soil on site before disposal. 	Work site / During the construction period	Contractor		√			ProPECC PN 1/94

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

Appendix 2.1

Table A13.5 Implementation Schedule for Land Contamination

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines				
				Des	C	O	Dec					
Construction Phase												
<i>For the Whole Project</i>												
S.12.6	<ul style="list-style-type: none"> • The contaminated site shall be cleaned up before commencement of site clearance and construction work at the concerned area which may disturb the ground. 	A King Marine / Before commencement of construction activities at A King Marine.	Project proponent for the re-provisioned Tin Hau Temple	√				<p>"Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards, and Car Repair/Dismantling Workshops" published by EPD, HKSAR</p> <p>EPD ProPECC Note No. 3/94</p>				
S7.10	<p>During soil remediation works, the Contractor for the excavation works shall take note of the following points for excavation:</p> <ul style="list-style-type: none"> • Excavation profiles must be properly designed and executed; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; • Quantities of soil to be excavated must be estimated; • It maybe necessary to split quantities of soil according to soil type, degree and nature of contamination. • Temporary storage of soil at intermediate depot or on-site 	A King Marine / During soil remediation works	Contractor	√				<p>Air Pollution Control Ordinance</p> <p>Noise Control Ordinance</p> <p>Waste Disposal Ordinance</p> <p>Waste Disposal (Chemical Waste) (General) Regulation</p>				

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	maybe required. The storage site shall include protection facilities for leaching into the ground. eg. Liner maybe required.							
	<ul style="list-style-type: none"> Supply of suitable clean backfill materials is needed after excavation. Care must be taken of existing buildings and utilities. Precautions must be taken to control of ground settlement Speed controls for vehicles shall be imposed on dusty site areas. Vehicle wheel and body washing facilities at the site's exit points shall be established and used. <p>The following environmental mitigation measures shall be strictly followed during the operation and/or maintenance of the CS/S facilities:</p>							Water Pollution Control Ordinance

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p><i>Air Quality Mitigation Measures</i></p> <ul style="list-style-type: none"> The loading, unloading, handling, transfer or storage of cement shall be carried out in an enclosed system. The loading, unloading, handling, transfer or storage of other materials which may generate airborne dust emissions such as untreated soil and oversize materials sorted out from the screening plant and stabilized soil stockpiled in the designated handling area, shall be carried out in such a manner to prevent or minimise dust emissions. These materials shall be adequately wetted prior to and during the loading, unloading and handling operations. All practicable measures, including speed controls for vehicles, shall be taken to prevent or minimize the dust emission caused by vehicle movement. Tarpaulin or low permeable sheet shall be put on dusty vehicle loads transported between site locations. 							
	<p><i>Noise Mitigation Measures</i></p> <ul style="list-style-type: none"> The mixing facilities shall be sited as far as practicable to the nearby noise sensitive receivers. Simultaneous operation of mixing facilities and other equipment shall be avoided. Mixing process and other associated material handling activities shall be properly scheduled to minimise potential cumulative noise impact on the nearby noise sensitive receivers. Construction Noise Permit shall be applied for the operation of powered mechanical equipment during restricted hours (if any). 							

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p>Water Quality Mitigation Measures</p> <ul style="list-style-type: none"> Stockpile of untreated soil shall be covered as far as practicable to prevent the contaminated material from leaching out. The leachate shall be discharged following the requirements of WPCO. <p>Waste Mitigation Measures</p> <ul style="list-style-type: none"> Treated oversize materials will be used as filling material for backfilling within the site. Sorted materials of size smaller than 5 cm will be collected and transferred to the mixing plant for further decontamination treatment. Stabilized soils shall be broken into suitable size for backfilling or reuse on site. A high standard of housekeeping shall be maintained within the mixing plant area. If necessary, there shall be clear and separated areas for stockpiling of untreated and treated materials. 							

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

Appendix 2.1

Table A13.6 Implementation Schedule for Marine Ecology

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

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S.9.7.4	<p>During dredging and filling operations, a number of mitigation measures to control water quality shall be adopted to confine sediment plume within reclamation area and protect marine fauna in proximity to the reclamation. The mitigation measures include the following:</p> <ul style="list-style-type: none"> • Installation of silt curtains during dredging activities • Use of tightly-closed grab dredger • Reduction of dredging rate • Control of grab descending speed • Construction of leading edges of seawall in the early stages of the reclamation works 	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
	• Adoption of multiple-phase construction schedule							

Appendix 2.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S.9.7.6	<p>To minimize potential disturbance impacts on the foraging ardeid population in the CBTS, particularly in the area near the A King Shipyard, appropriate mitigation measures shall be adopted particularly during the construction phase. The following measures are recommended:</p> <ul style="list-style-type: none"> • Use of Quiet Mechanical Plant during the construction phase shall be adopted wherever possible. • Adoption of multiple-phase construction schedule. • General measures to reduce noise generated during the construction phase (see noise impact assessment) shall be effectively implemented. 	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
S.9.7.7	Seawalls shall be constructed in advance around the reclamation areas within the area of the CBTS to screen adjacent feeding ground from construction phase activities, reduce noise disturbance to the associated seabirds and also to restrict access to this habitat adjacent to works areas by ship traffic.	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
S.9.7.8	Loss of artificial seawall habitats shall be reinstated by the construction of about 1 km vertical wave absorbing seawall along the coastlines of the new reclamation around the HKCEC and at North Point. The new seawalls are expected to provide large area of hard substrata for settlement and recruitment of intertidal fauna similar to those previously recorded from existing intertidal habitats.	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.

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

Appendix 2.1

Table A13.7 Implementation Schedule for Landscape and Visual

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

Appendix 2.1

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

Appendix 2.1

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

Appendix 2.1

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

⁴ CEDD will identify an implementation agent

Appendix 2.1

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

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

⁵ CEDD will identify an implementation agent

Appendix 3.1***Action and Limit Level***

Action and Limit Level***Action and Limit Level for Noise Monitoring***

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

Note 1:

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

Action and Limit Level for Air Monitoring

Monitoring Location	1-hour TSP Level in $\mu\text{g}/\text{m}^3$		24-hour TSP Level in $\mu\text{g}/\text{m}^3$	
	Action Level	Limit Level	Action Level	Limit Level
CMA1b ^{Note 2}	320.1	500	176.7	260
CMA2a	323.4	500	169.5	260
CMA3a ^{Note 2}	311.3	500	171.0	260
CMA4a	312.5	500	171.2	260
CMA5a ^{Note 2}	332.0	500	181.0	260
CMA6a ^{Note 2}	300.1	500	187.3	260

Note 2:

- As per facing owner's rejection in allowing the implementation of long-term air quality impact monitoring at their premises, alternative monitoring stations and justification were proposed for IEC verification and EPD approval.
- The established Action and Limit Levels from the baseline air monitoring will be adopted to the alternative monitoring stations.

Action and Limit Level for Water Monitoring

Parameters	Dry Season		Wet Season	
	Action	Limit	Action	Limit
WSD Salt Water Intake				
SS in mg L^{-1}	13.00	14.43	16.26	19.74
Turbidity in NTU	8.04	9.49	10.01	11.54
DO in mg/L	3.66	3.28	3.17	2.63
Cooling Water Intake				
SS in mg L^{-1}	15.00	22.13	18.42	27.54
Turbidity in NTU	9.10	10.25	11.35	12.71
DO in mg/L	3.36	2.73	3.02	2.44

Remarks:

- Action and Limit Level for the wet season are applied after the EPD approval of Updated EM&A Manual on 29 April 2011.

Action and Limit Levels for Odour Patrol

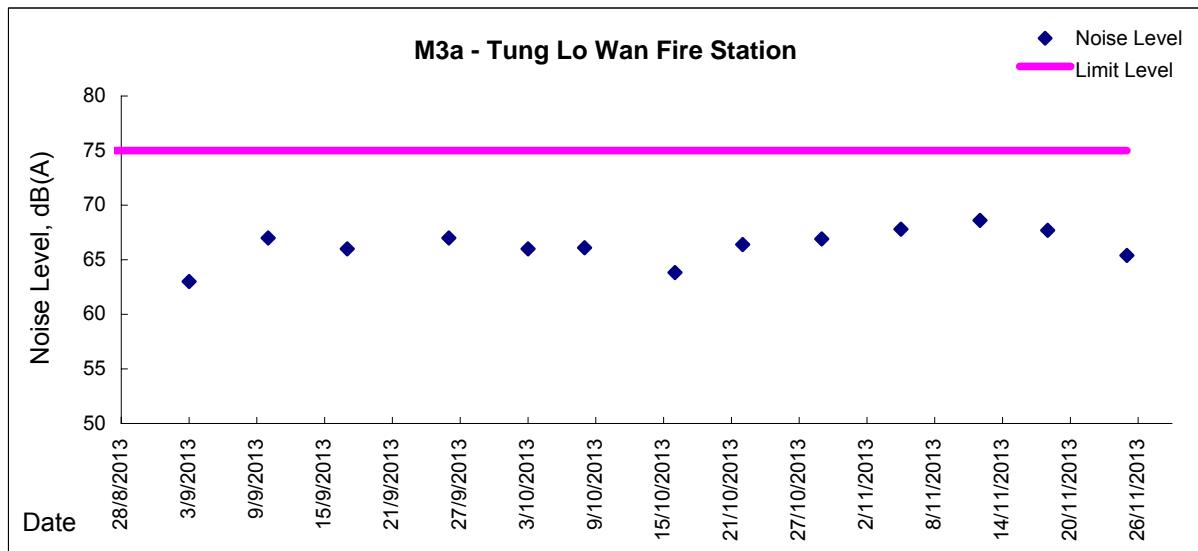
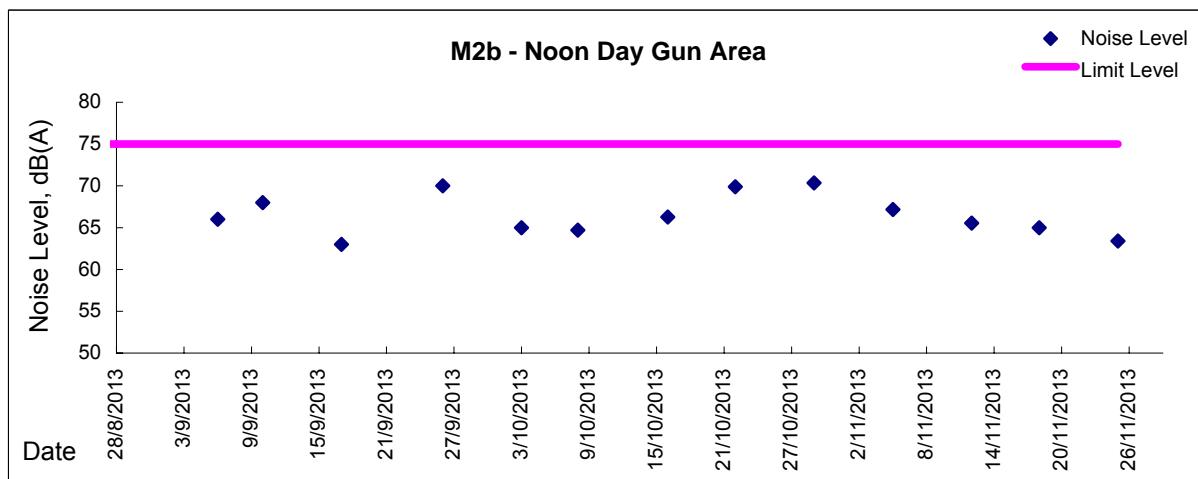
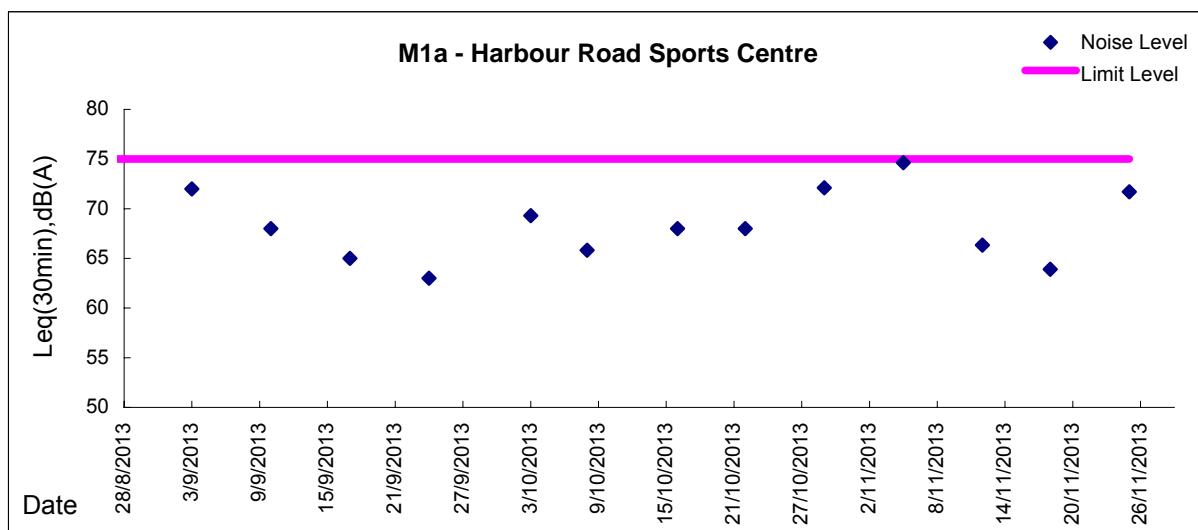
Parameters	Action	Limit
Odour Nuisance (from odour intensity analysis or odour patrol)	<ul style="list-style-type: none"> When two documented complaints are received; or Odour Intensity of 2 is measured from odour intensity analysis. 	<ul style="list-style-type: none"> Five or more consecutive genuine documented complaints within a week; or Odour Intensity of 3 or above is measured from odour intensity analysis.

Appendix 4.1

Noise Monitoring Graphical Presentations

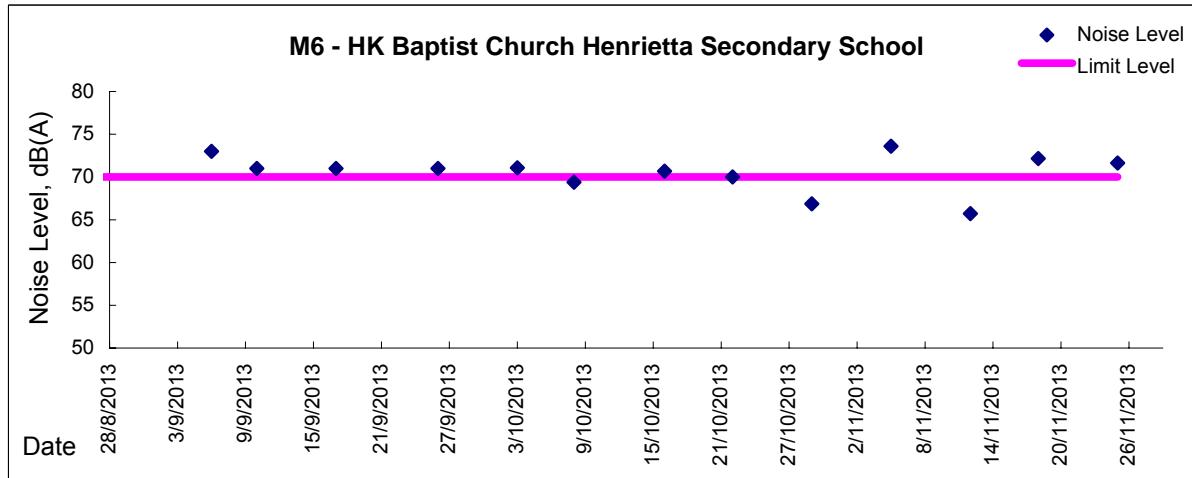
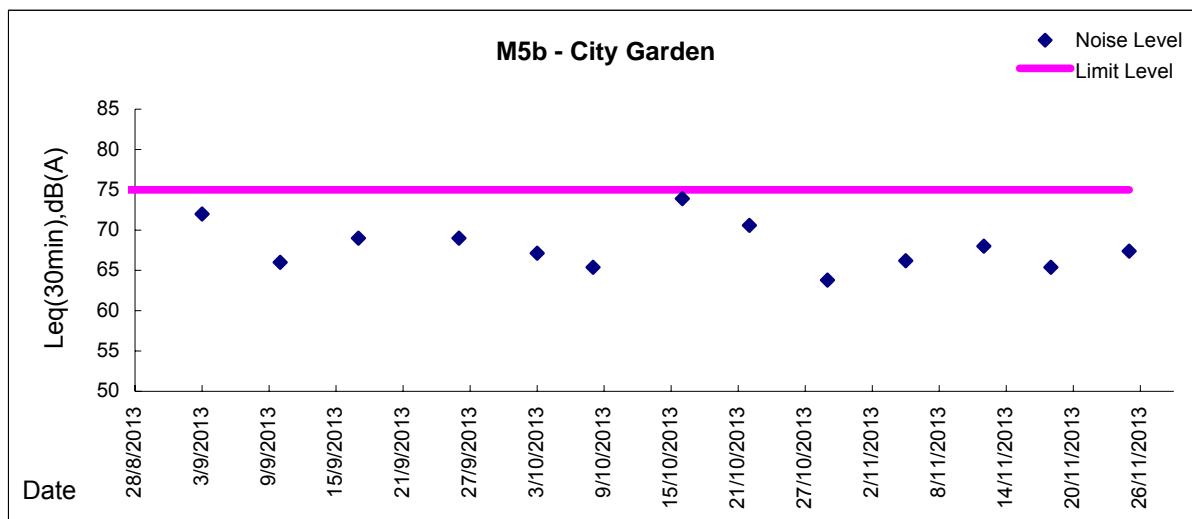
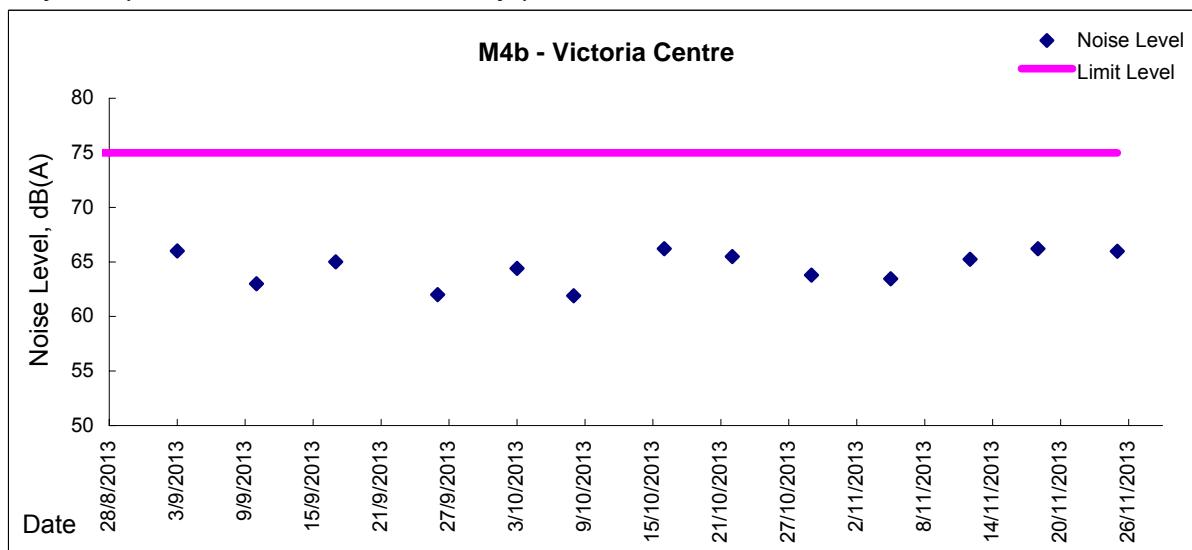
Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)



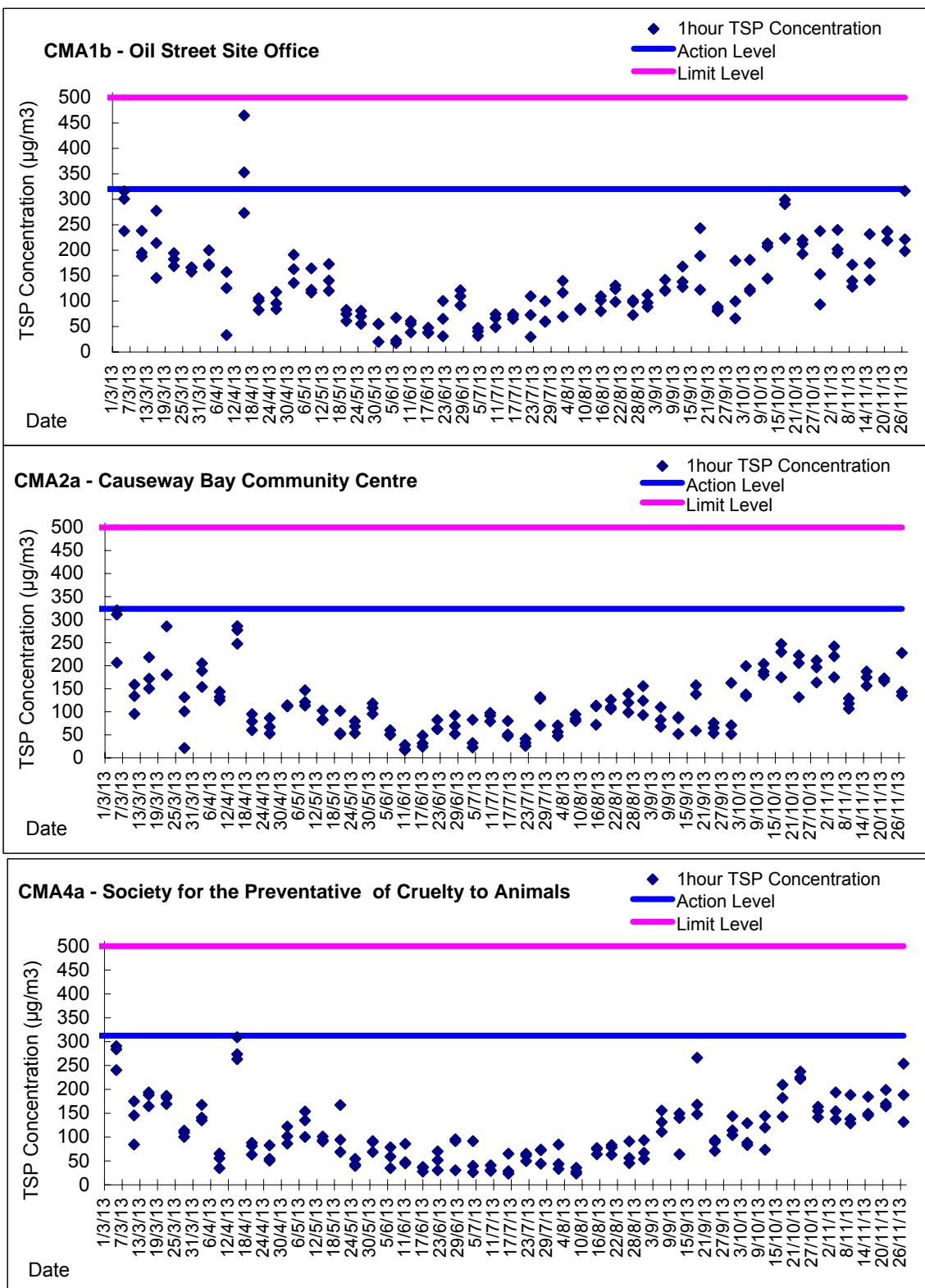
Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

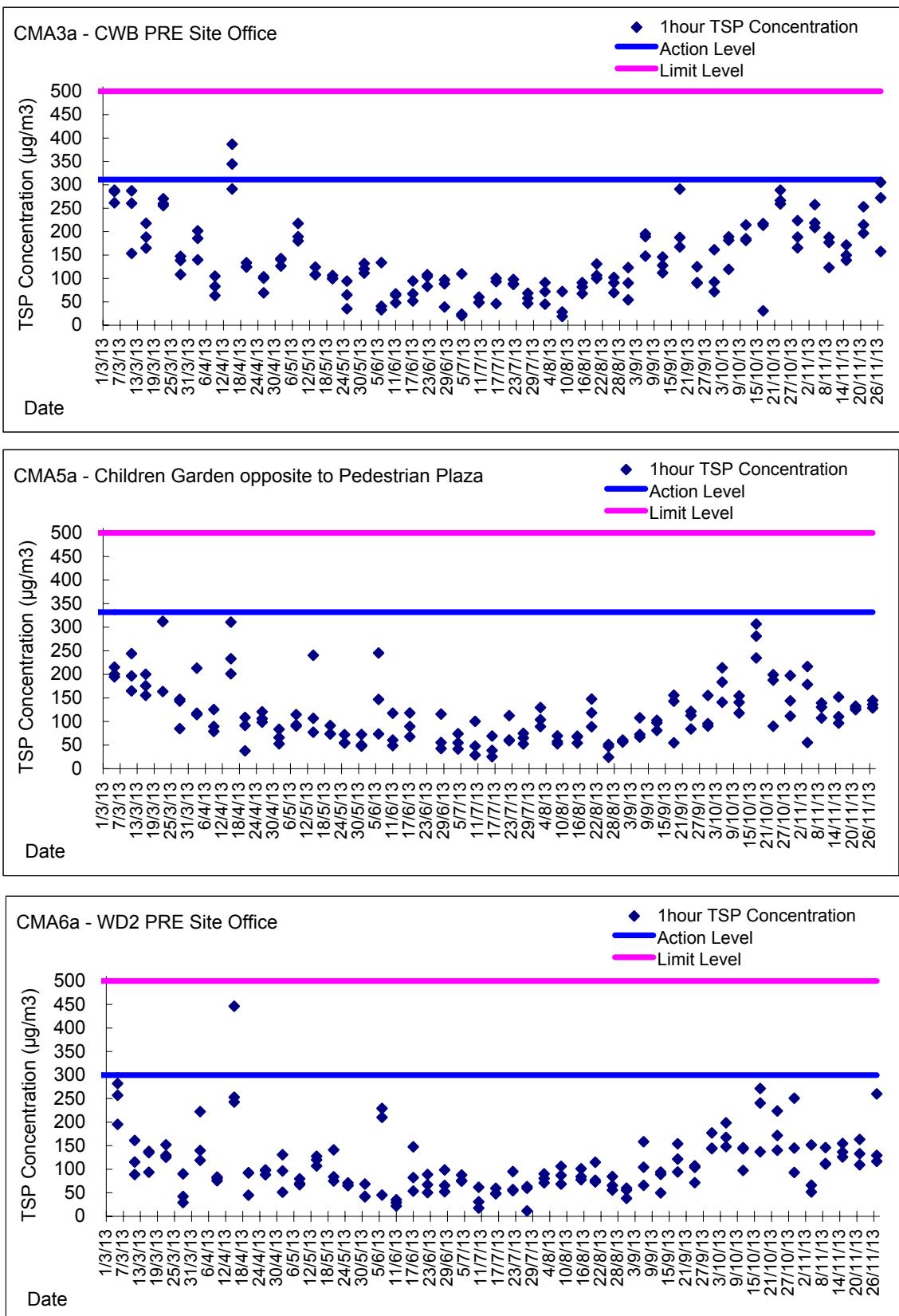


Appendix 4.2
Air Quality Monitoring Graphical Presentations

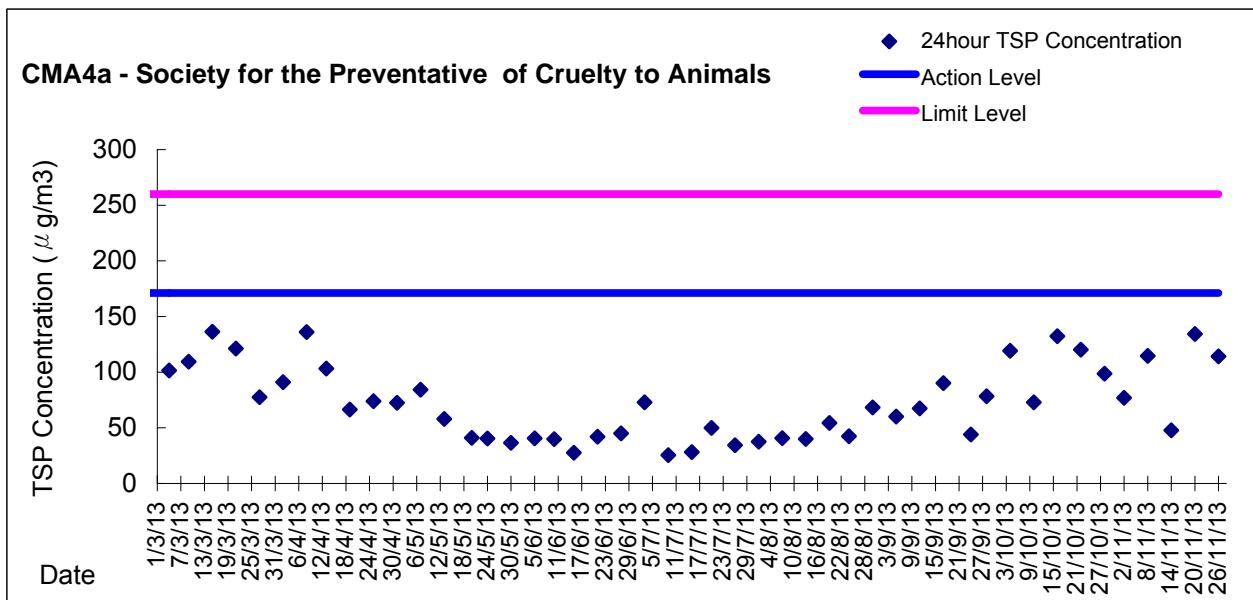
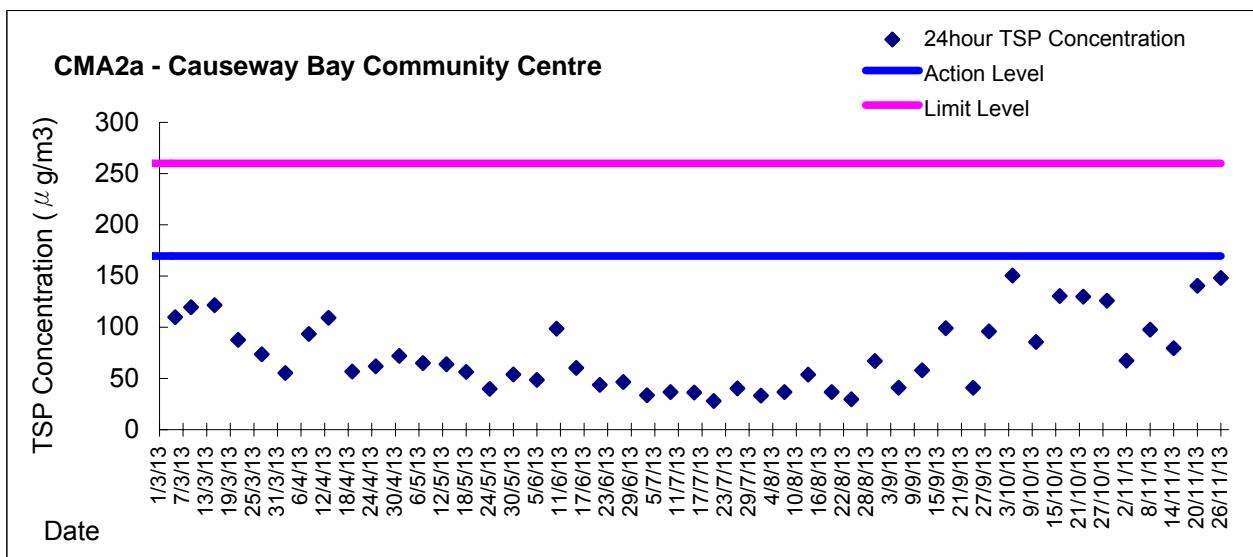
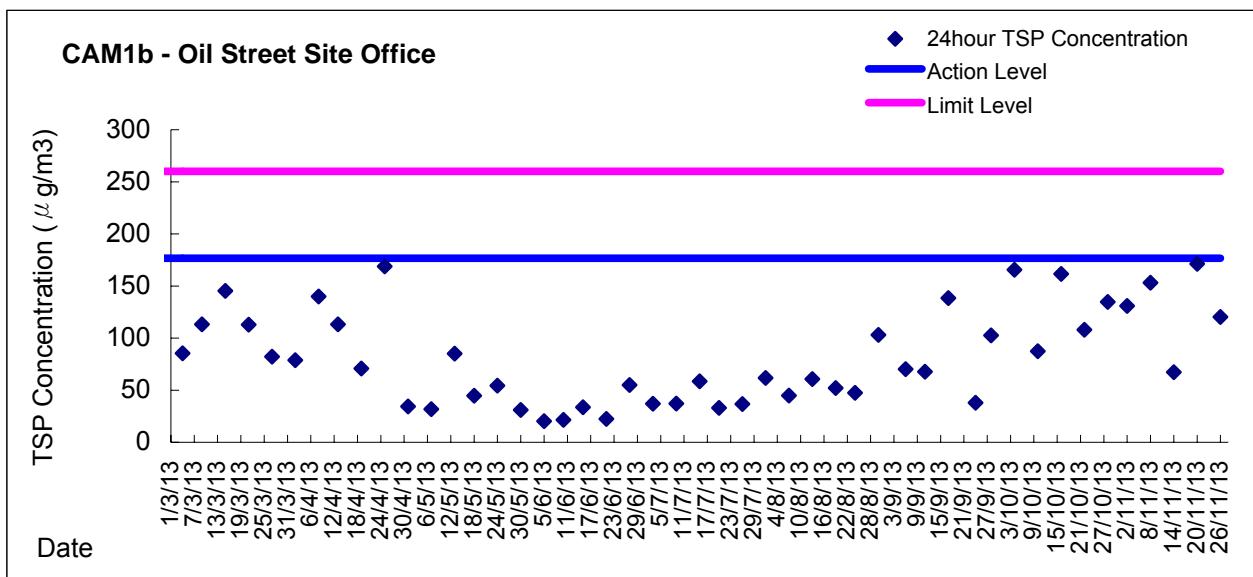
Graphic Presentation of 1 hour TSP Result



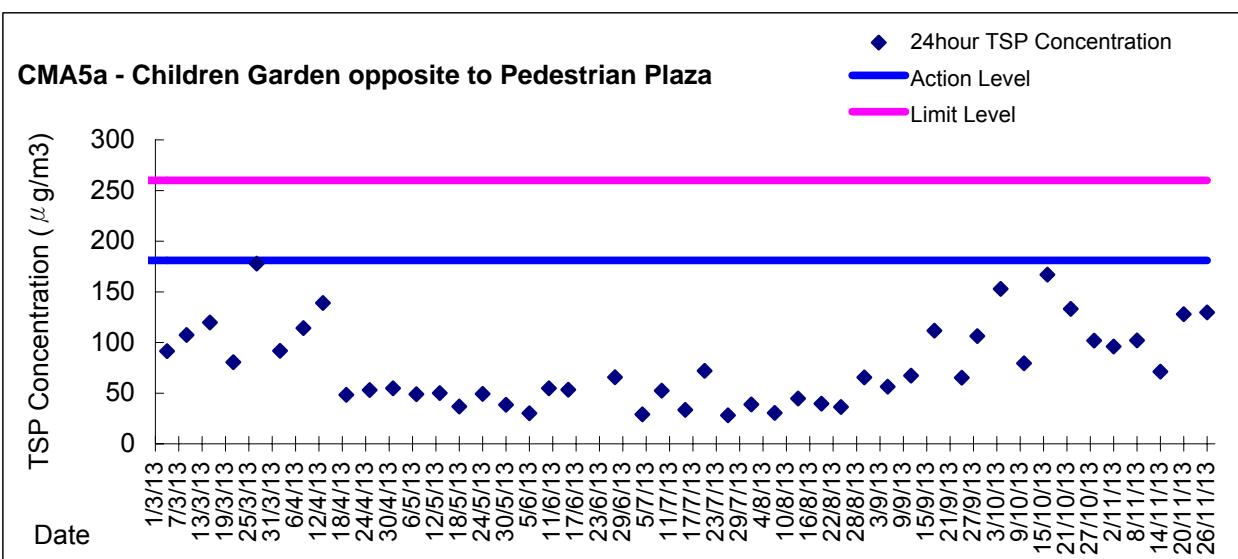
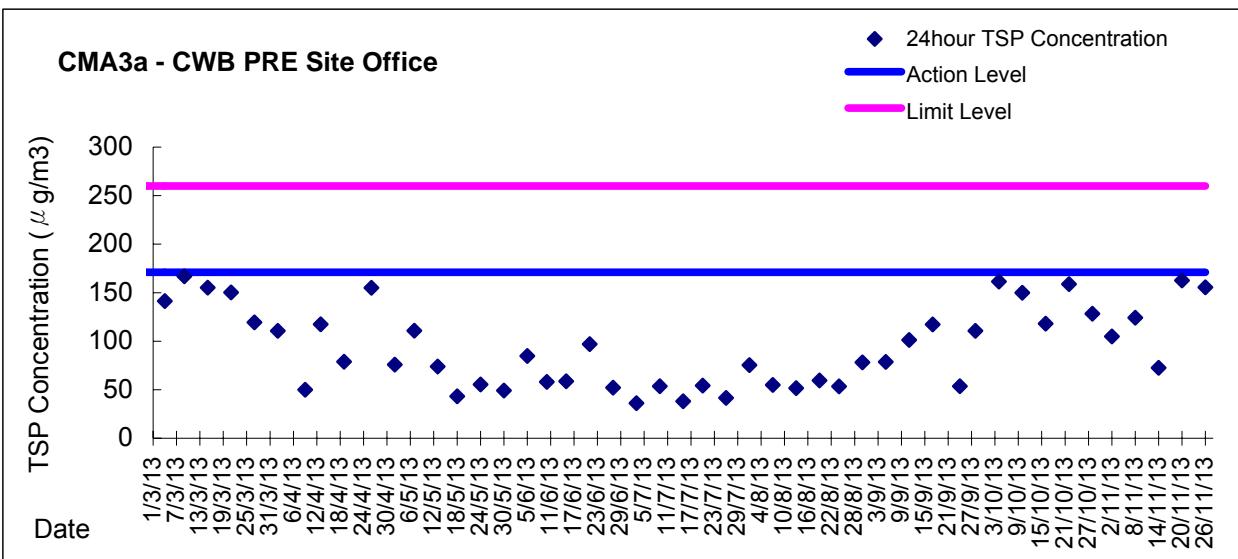
Graphic Presentation of 1 hour TSP Result



Graphic Presentation of 24 hour TSP Result



Graphic Presentation of 24 hour TSP Result



**Field Data Record Sheet**

Monitoring 03 September 2013 Weather Condition: Drizzle Tidal Ebb
Date:
Temperature: 28.2⁰C – 30.2⁰C Relative Humidity: 72.4%-84.6%
Condition:

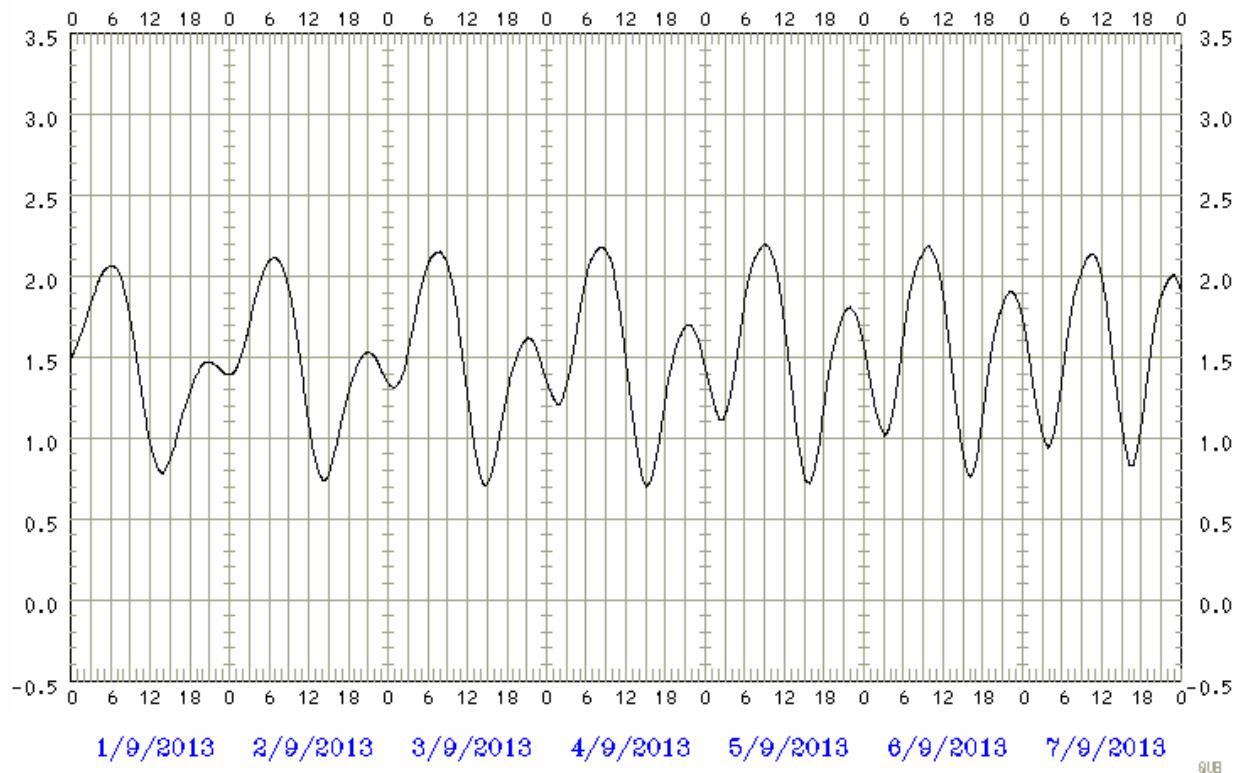
Location	Time	Temperature (°C)	Relative Humidity (%)	Odour Intensity	Odour Nature	Possible Odour Sources	Duration	Wind Speed(m/s)	Wind Direction	Remarks
OP7	13:21	30.2	72.4	0				0.4	NE	
OP6	13:30	29.5	79.1	0				1.8	N	
OP5	13:38	29.3	78.5	0				0.3	N	
OP4	13:42	28.6	84.6	0 - 1	Rubbish	Sea	Intermittent	3.0	NE	
OP3	13:46	29.5	79.6	0				0.8	NE	
OP2	13:51	29.9	80.2	0				0.6	NE	
OP1	13:54	28.2	79.4	1	Rubbish	Sea	Intermittent	1.5	N	

Remarks for Odour Intensity: 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 characterised 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 level

Meteorological Conditions on 03 September 2013

• The tidal data at Quarry Bay Station

Tide Time	Tide Height (m)
0:53	1.3
07:36	2.2
14:46	0.7
21:17	1.6



**Field Data Record Sheet**

Monitoring 17 September 2013 Weather Condition: Sunny Tidal Ebb
 Date:
 Temperature: 30.2⁰C – 32.9⁰C Relative Humidity: 52.7%-59.6%
 Condition:

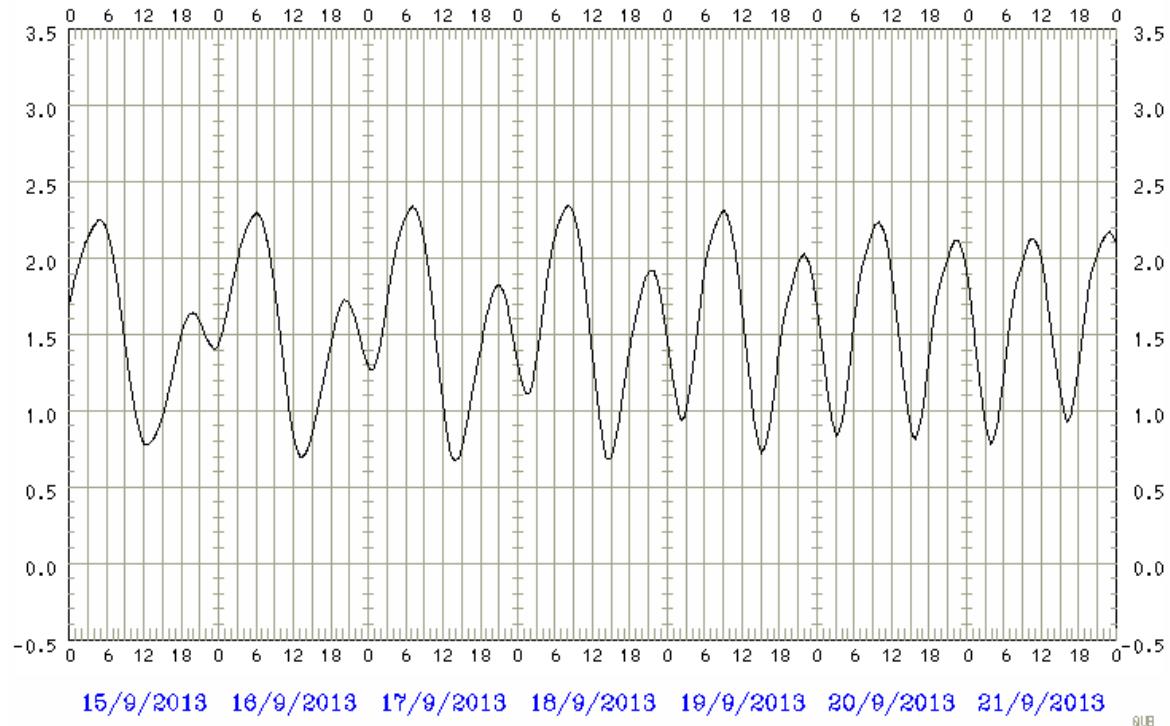
Location	Time	Temperature (°C)	Relative Humidity (%)	Odour Intensity	Odour Nature	Possible Odour Sources	Duration	Wind Speed(m/s)	Wind Direction	Remarks
OP7	13:27	30.6	58.5	0-1			Intermittent	2.4	NW	Incense burning
OP6	13:36	31.6	53.4	0				0.4	NE	
OP5	13:39	32.9	52.7	0				2.9	E	
OP4	13:46	30.6	59.6	0-1	Waste / Rubbish	Sea	Intermittent	0.7	NW	
OP3	13:51	30.2	59.4	0				3.1	NE	
OP2	13:55	30.6	55.9	0				2.1	E	
OP1	13:58	30.3	58.4	1	Waste / Rubbish	Sea	Intermittent	0.6	NE	

Remarks for Odour Intensity: 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 characterised 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 level

Meteorological Conditions on 17 September 2013

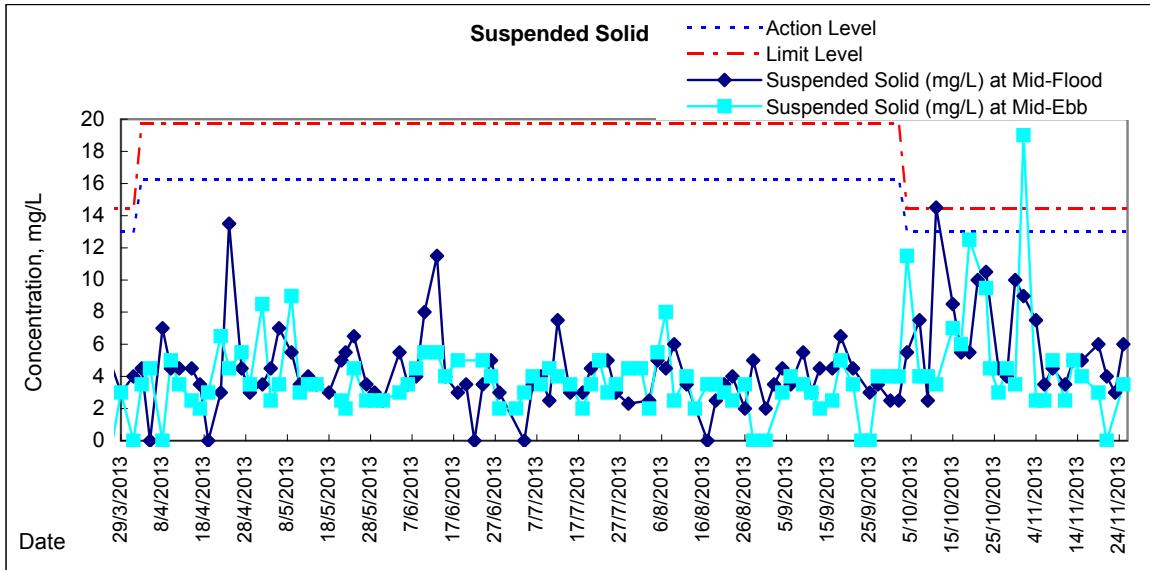
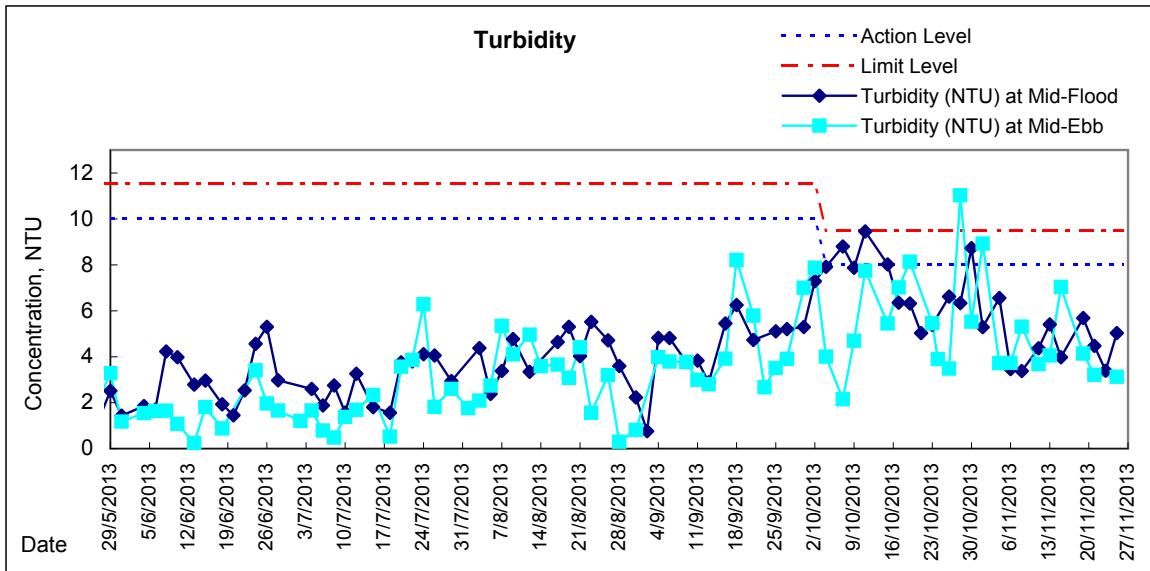
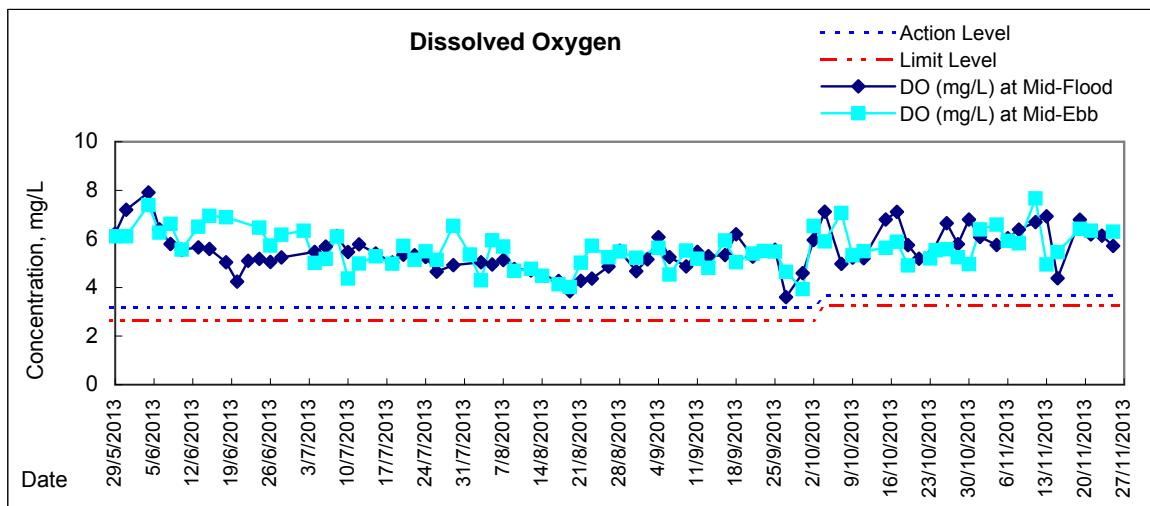
- The tidal data at Quarry Bay Station

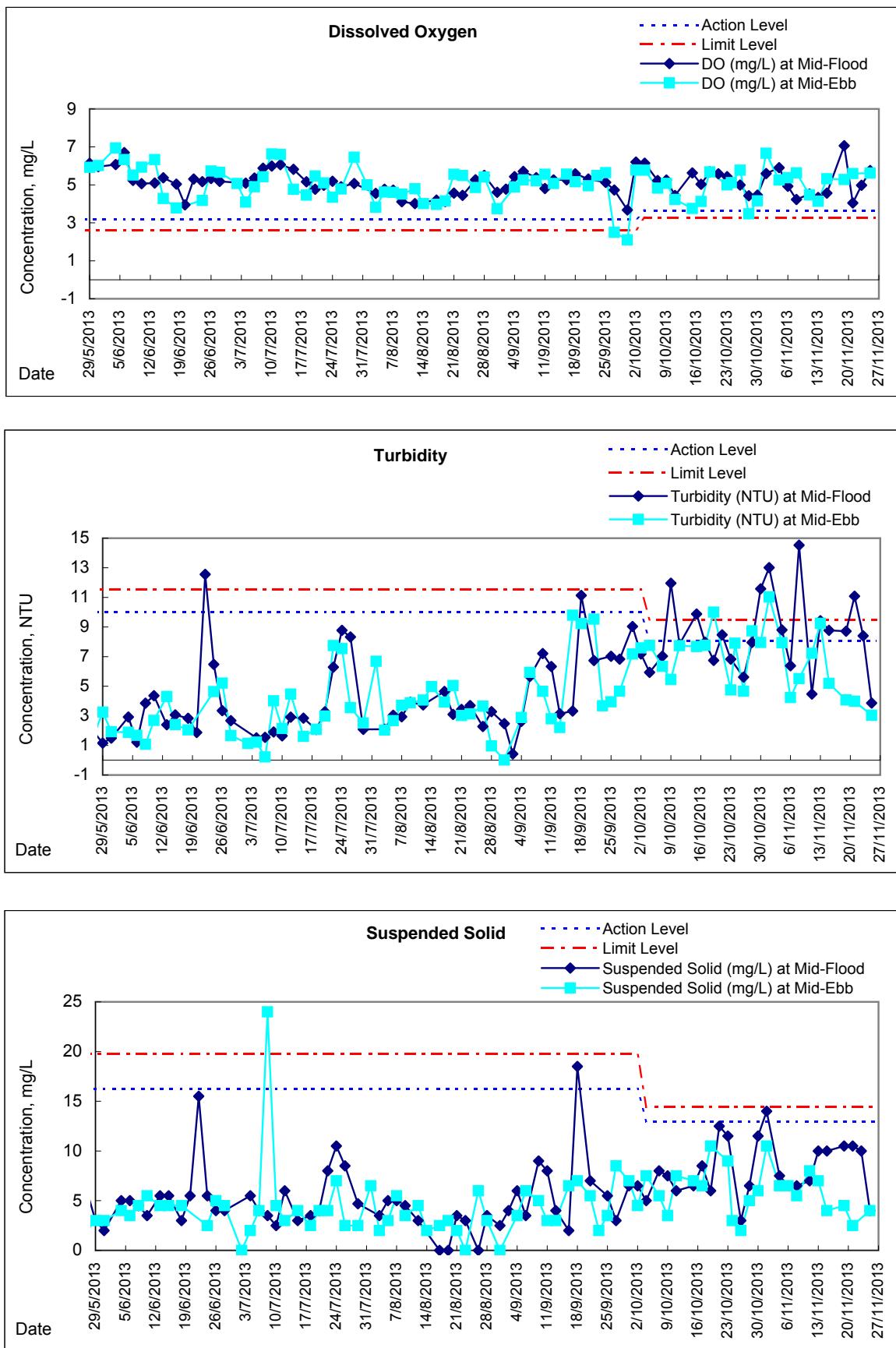
Tide Time	Tide Height (m)
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07:09	2.3
13:56	0.7
20:55	1.8

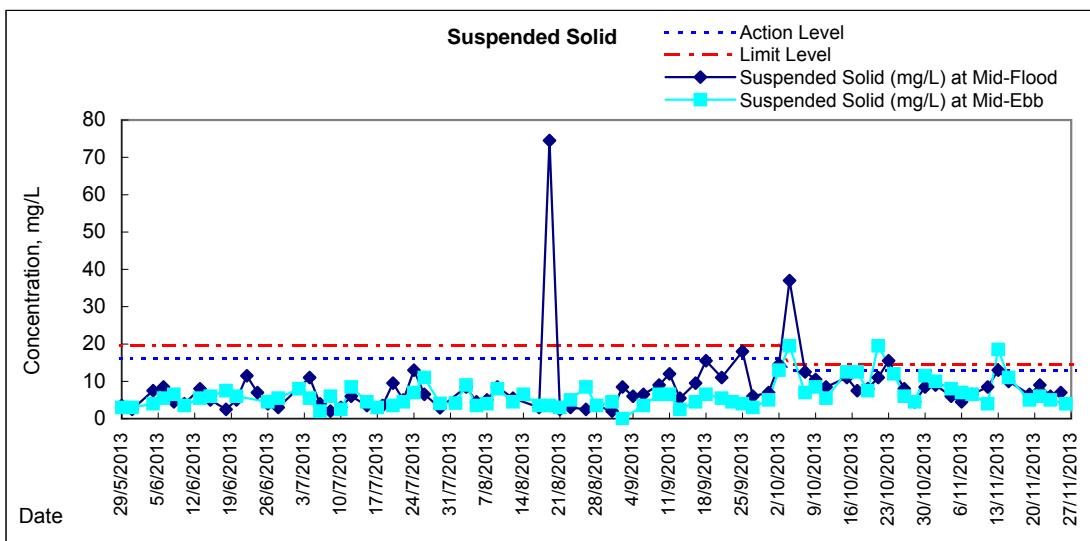
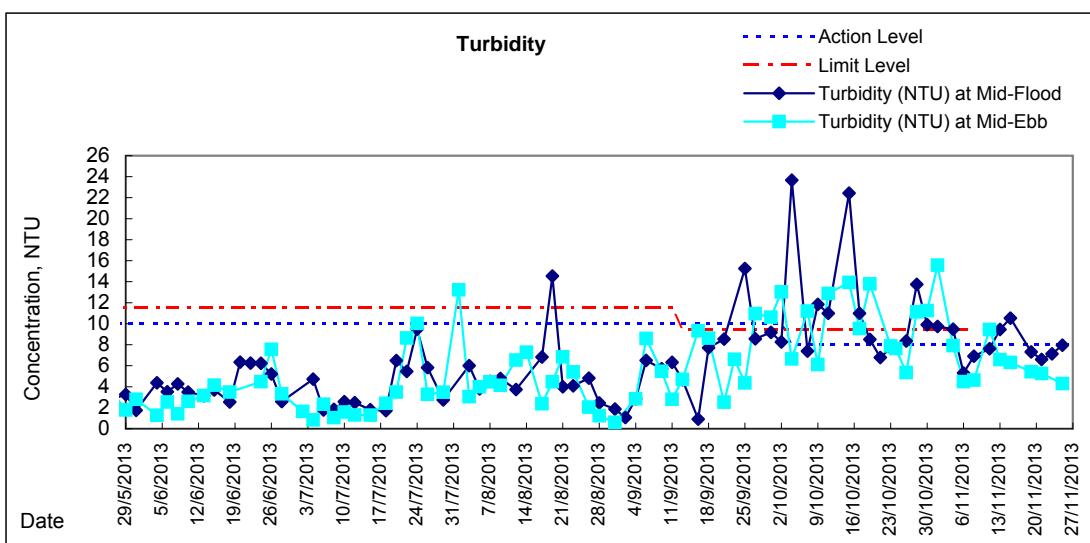
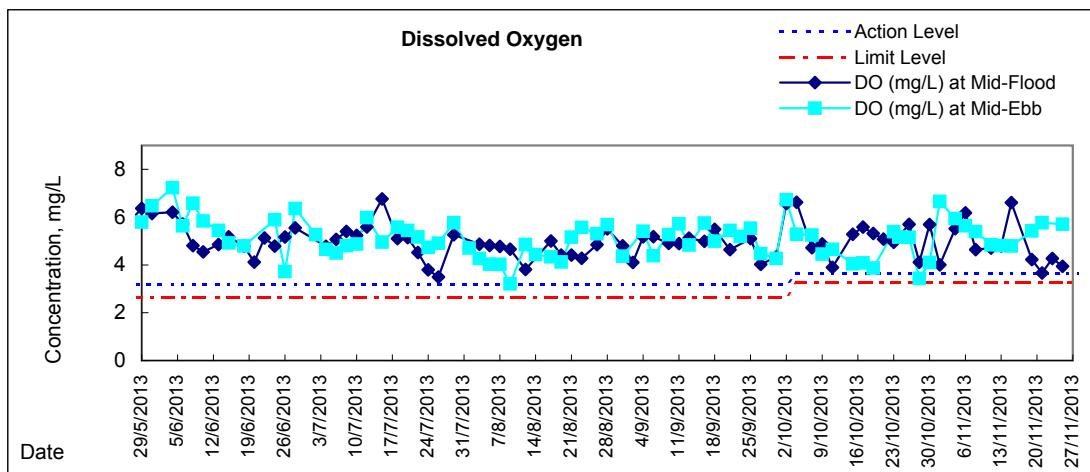


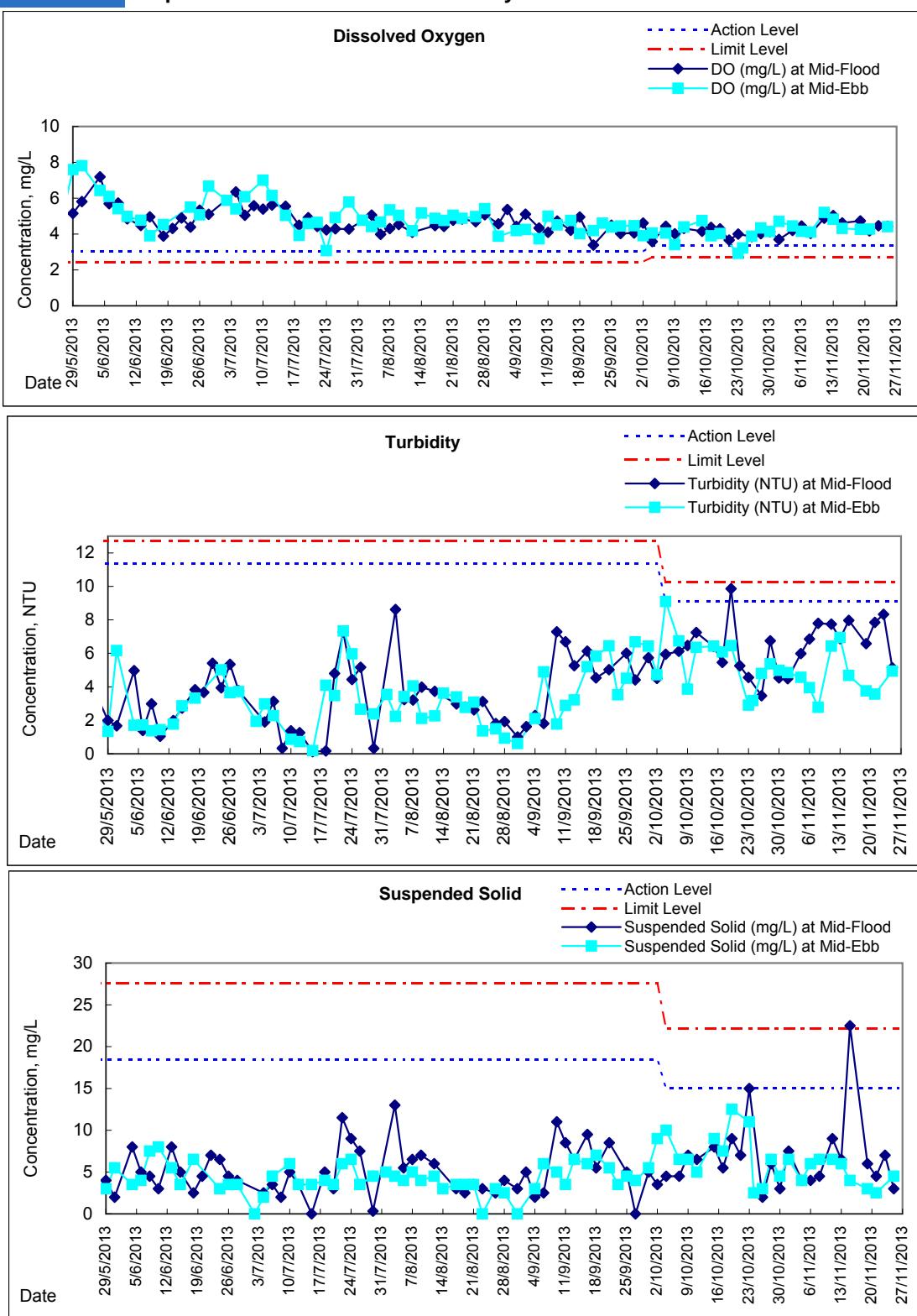
Appendix 4.3

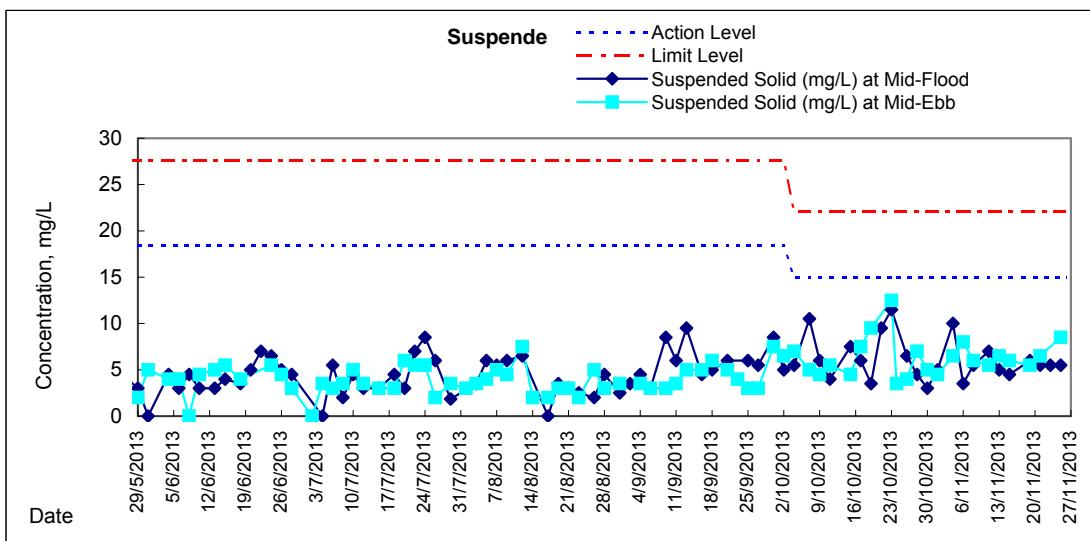
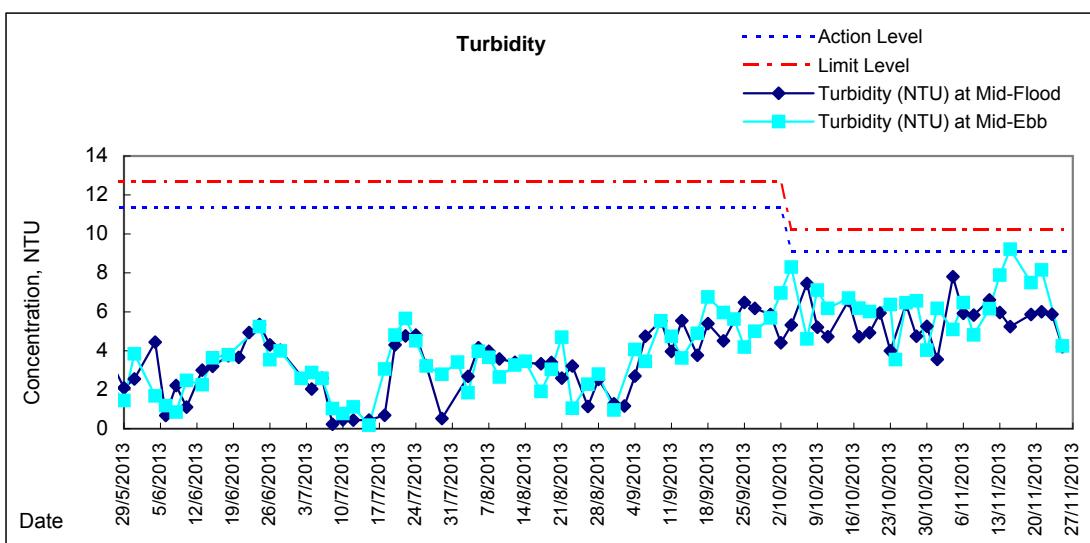
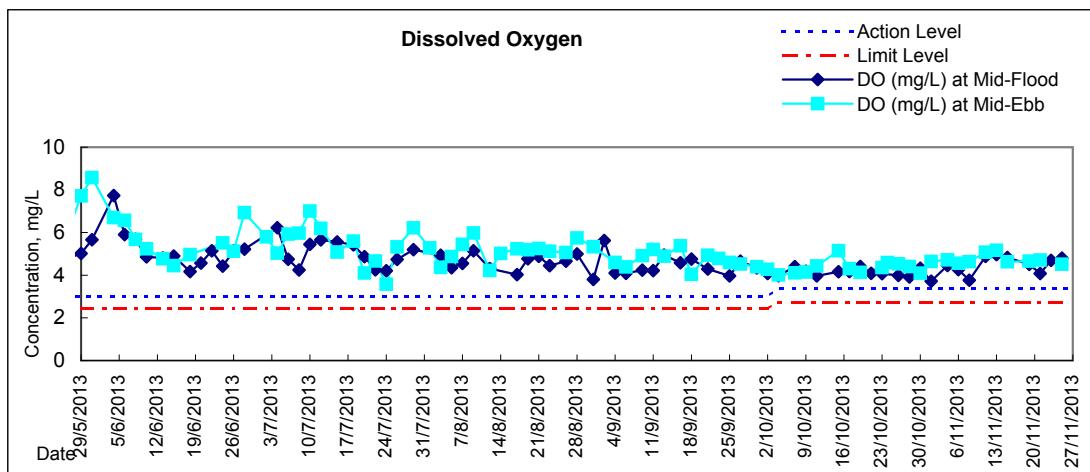
Water Quality Monitoring Graphical Presentations

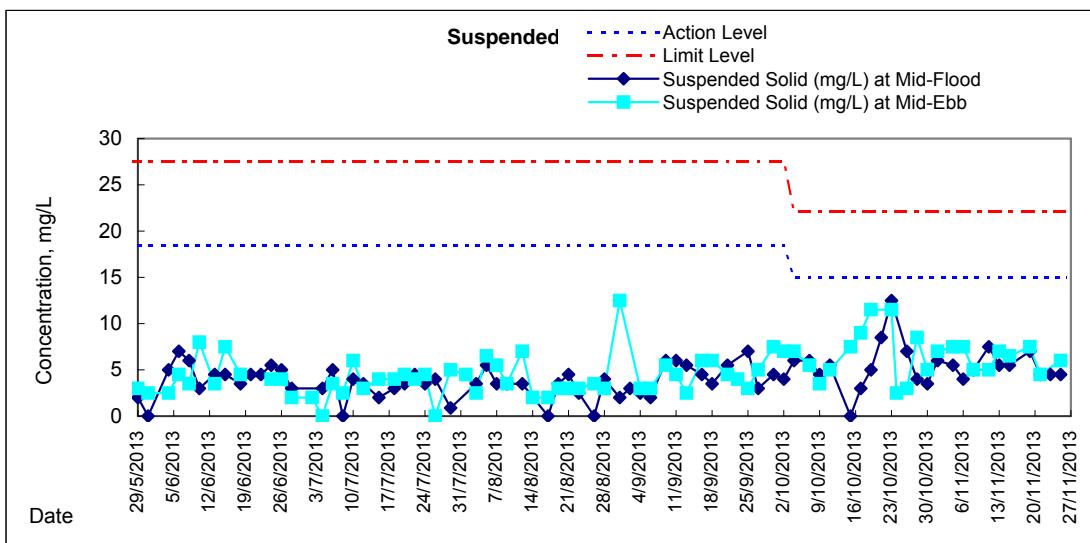
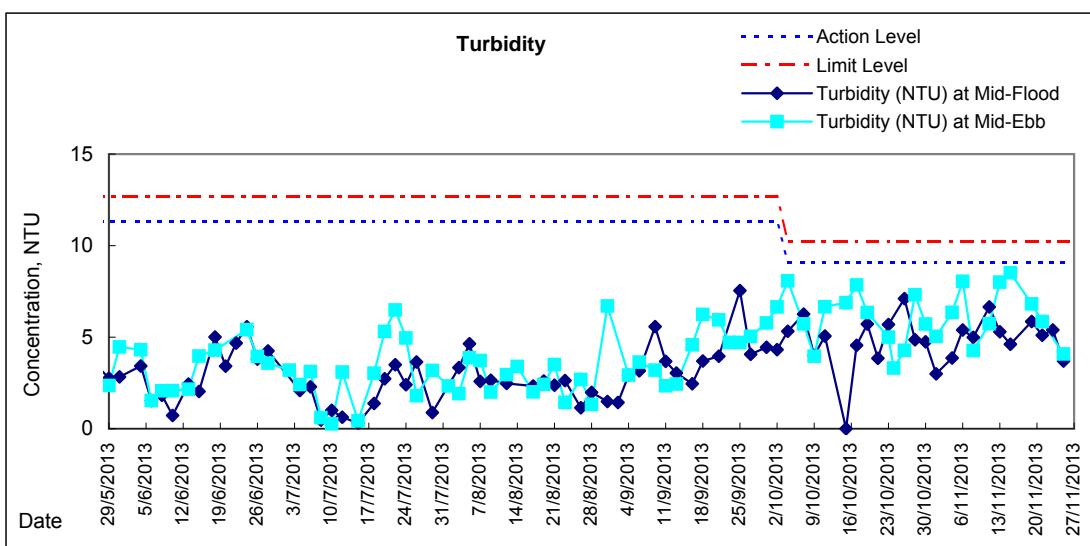
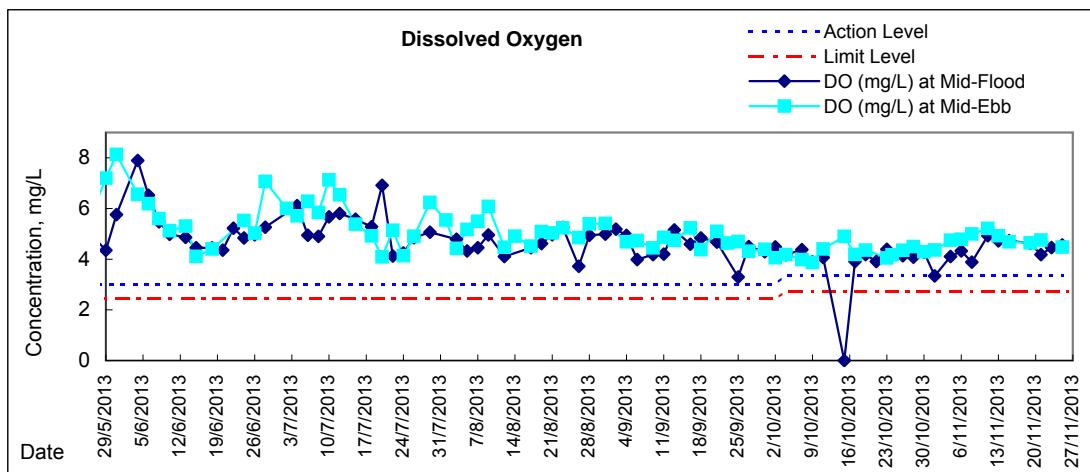


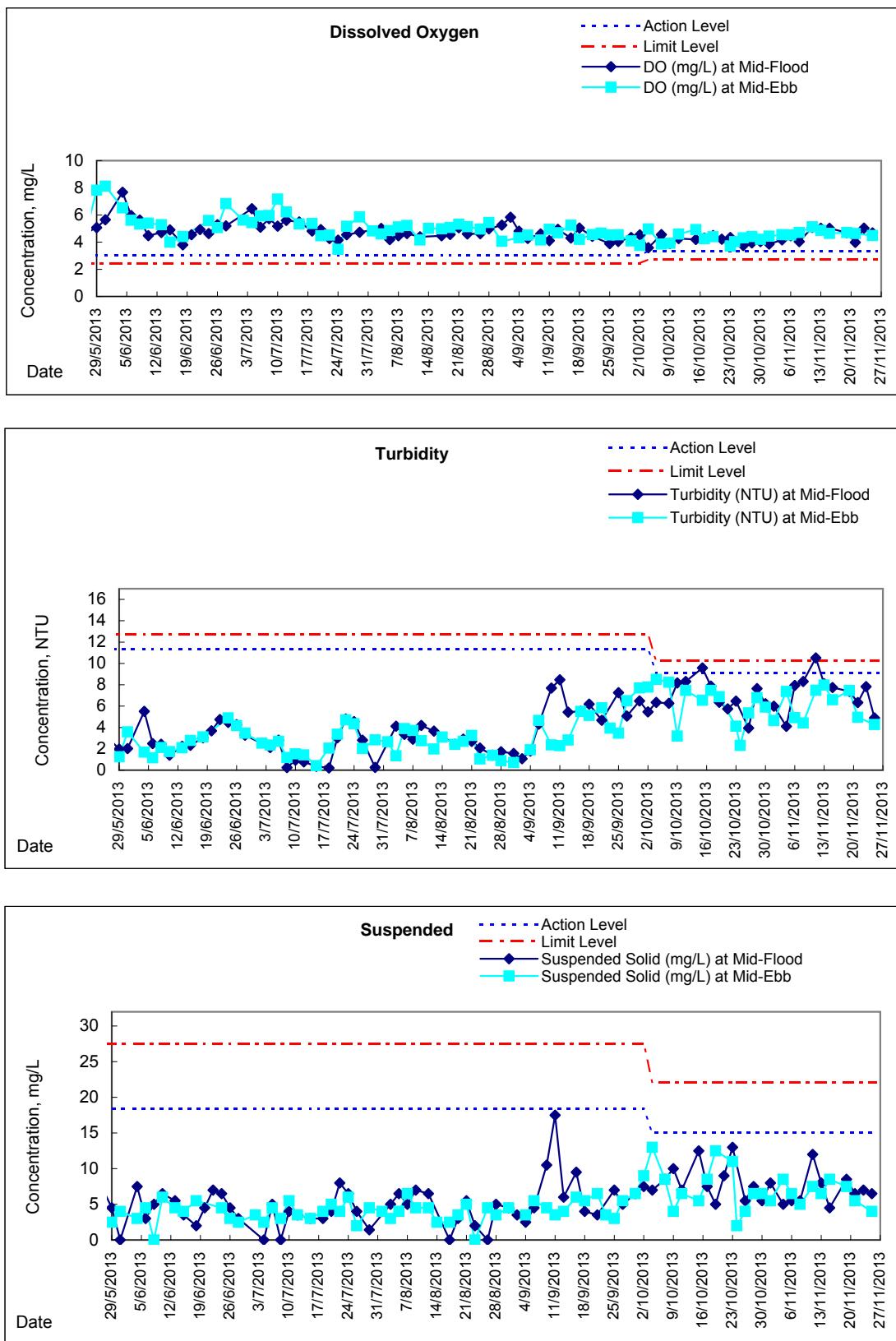


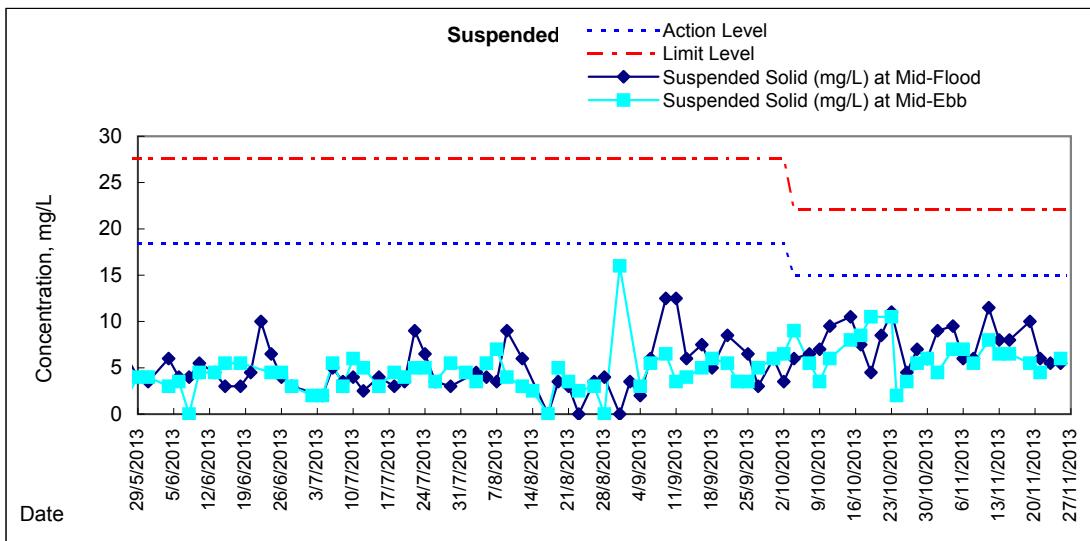
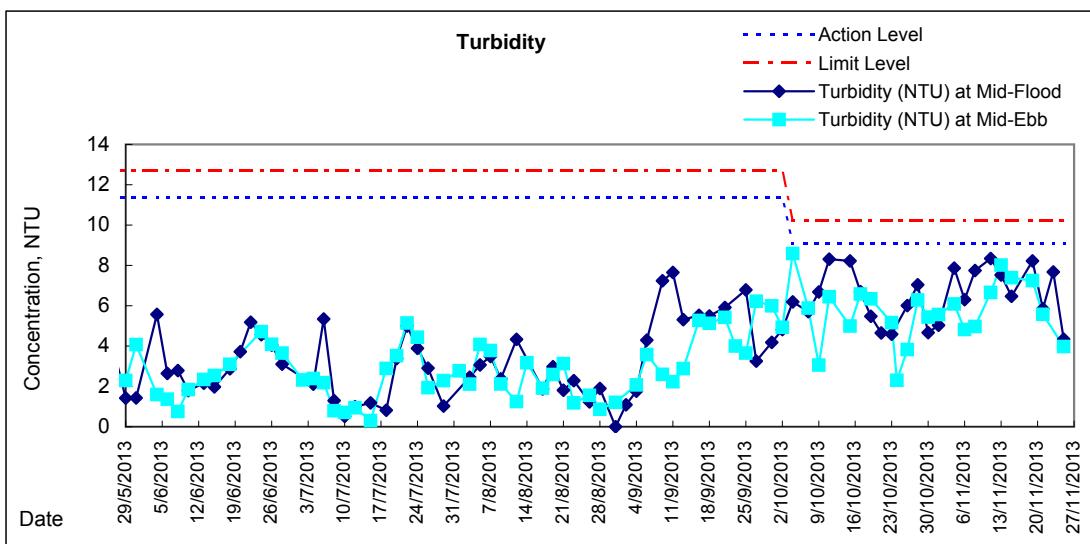
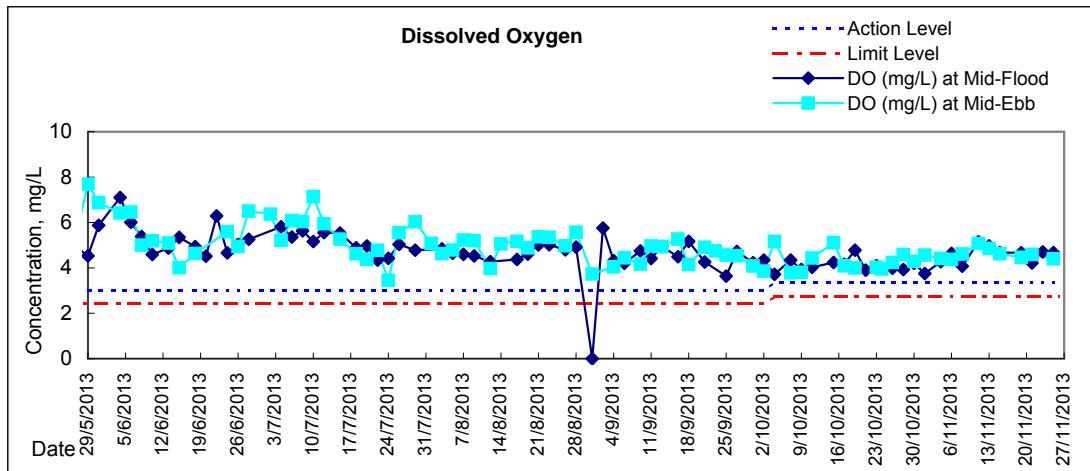


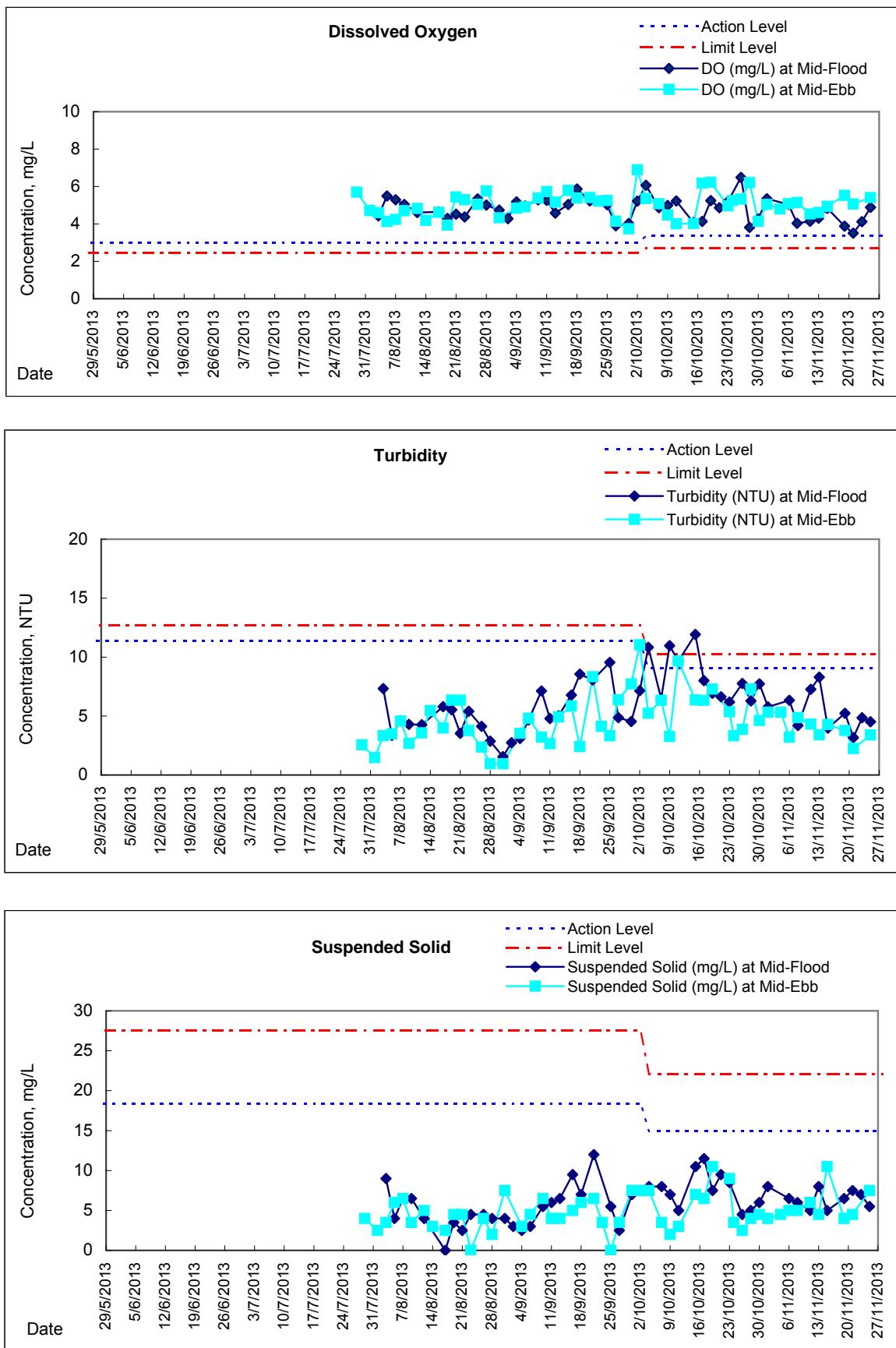


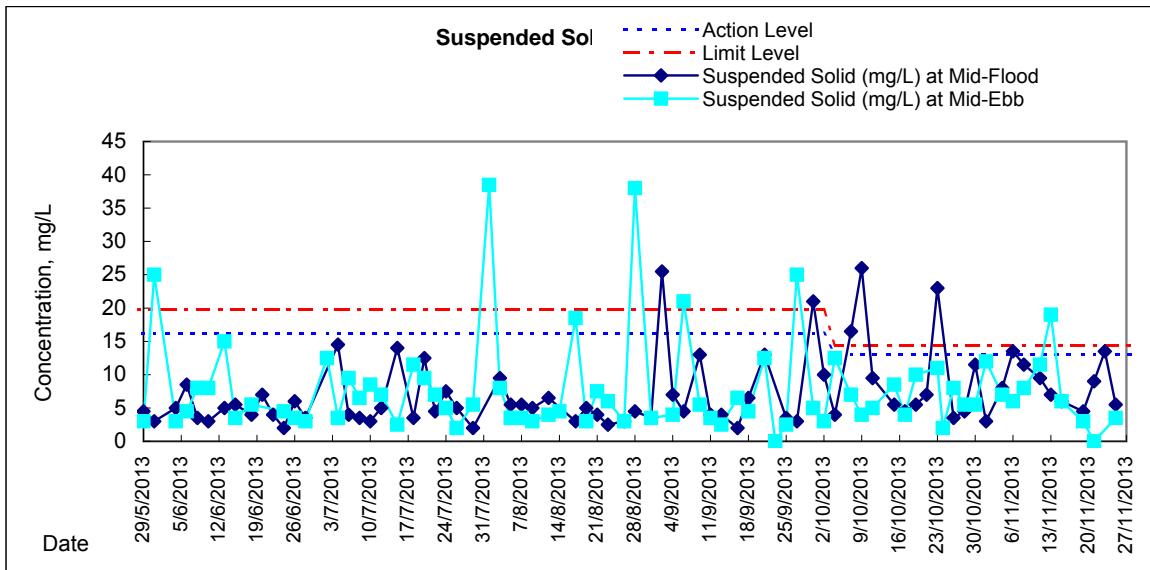
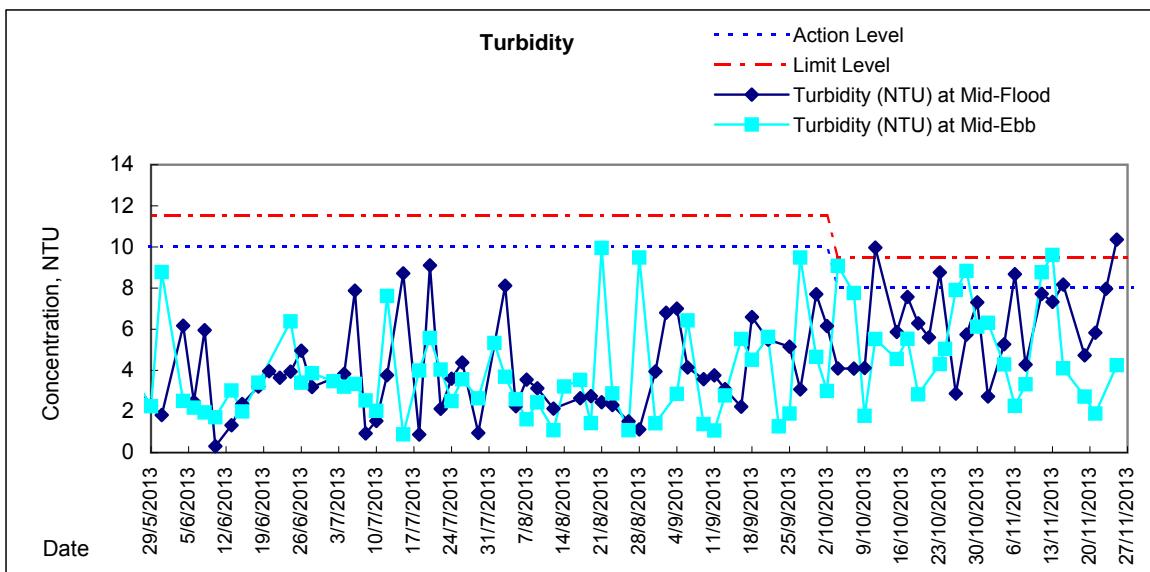
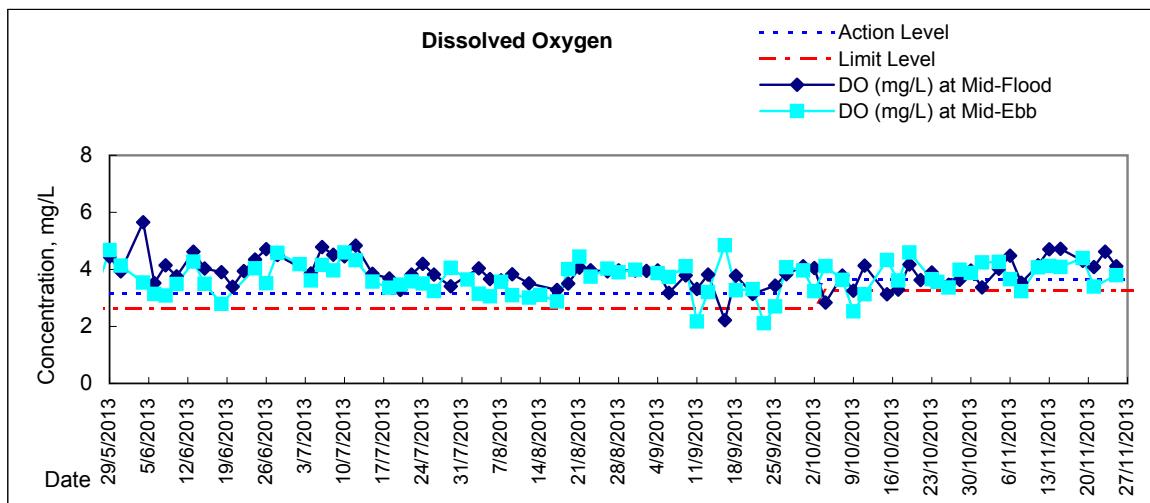


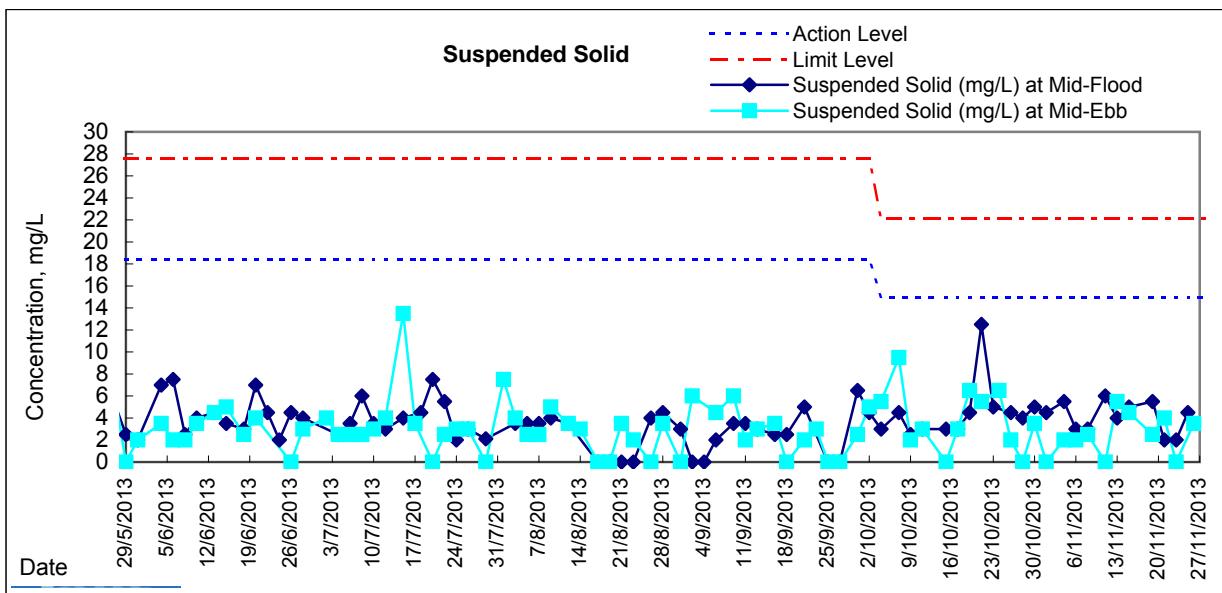
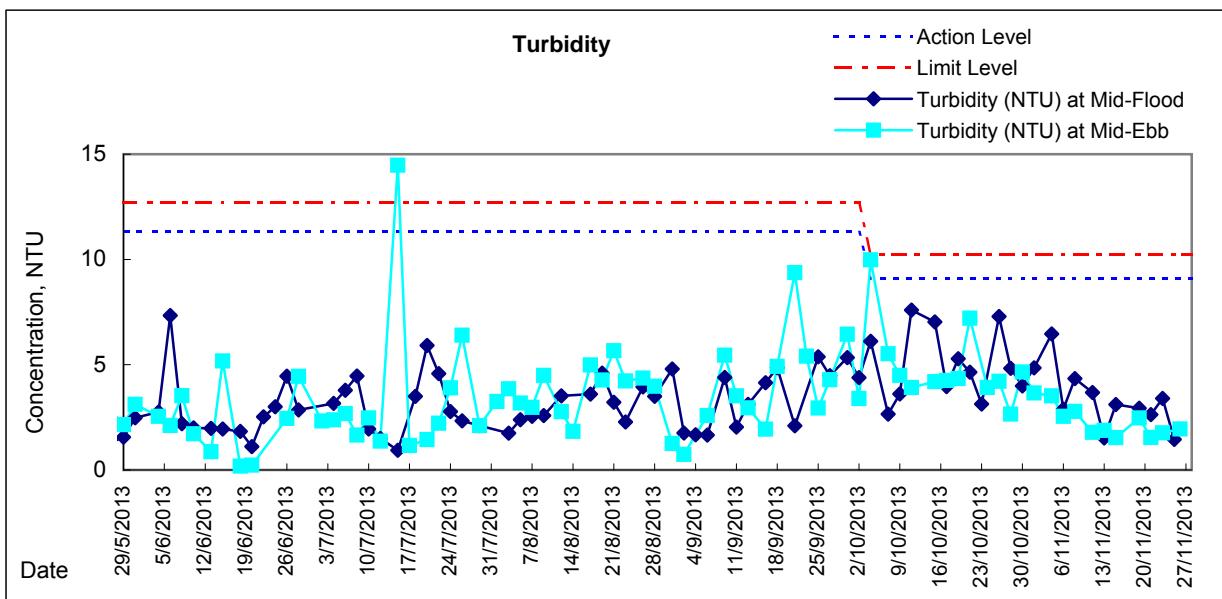
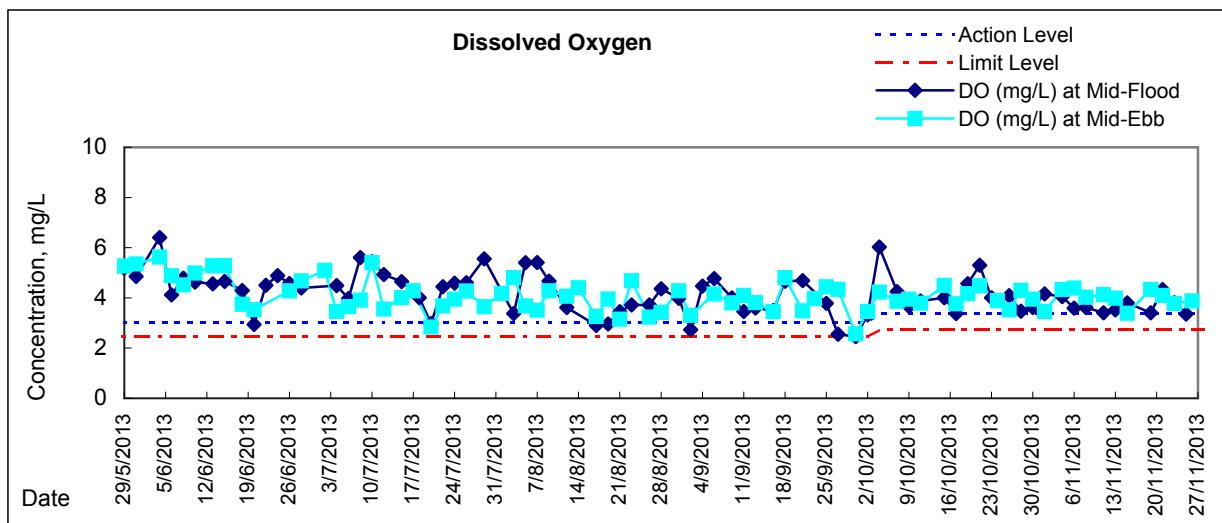




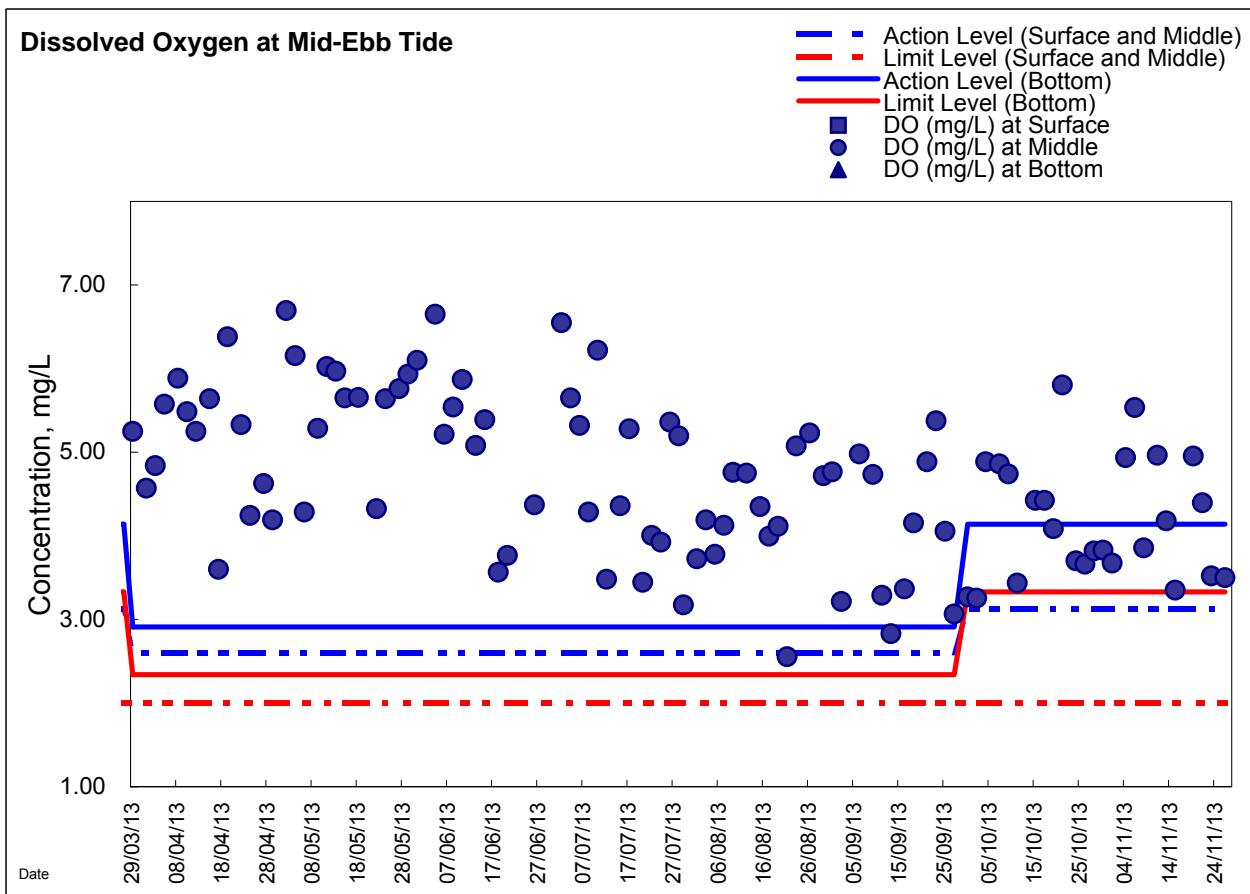
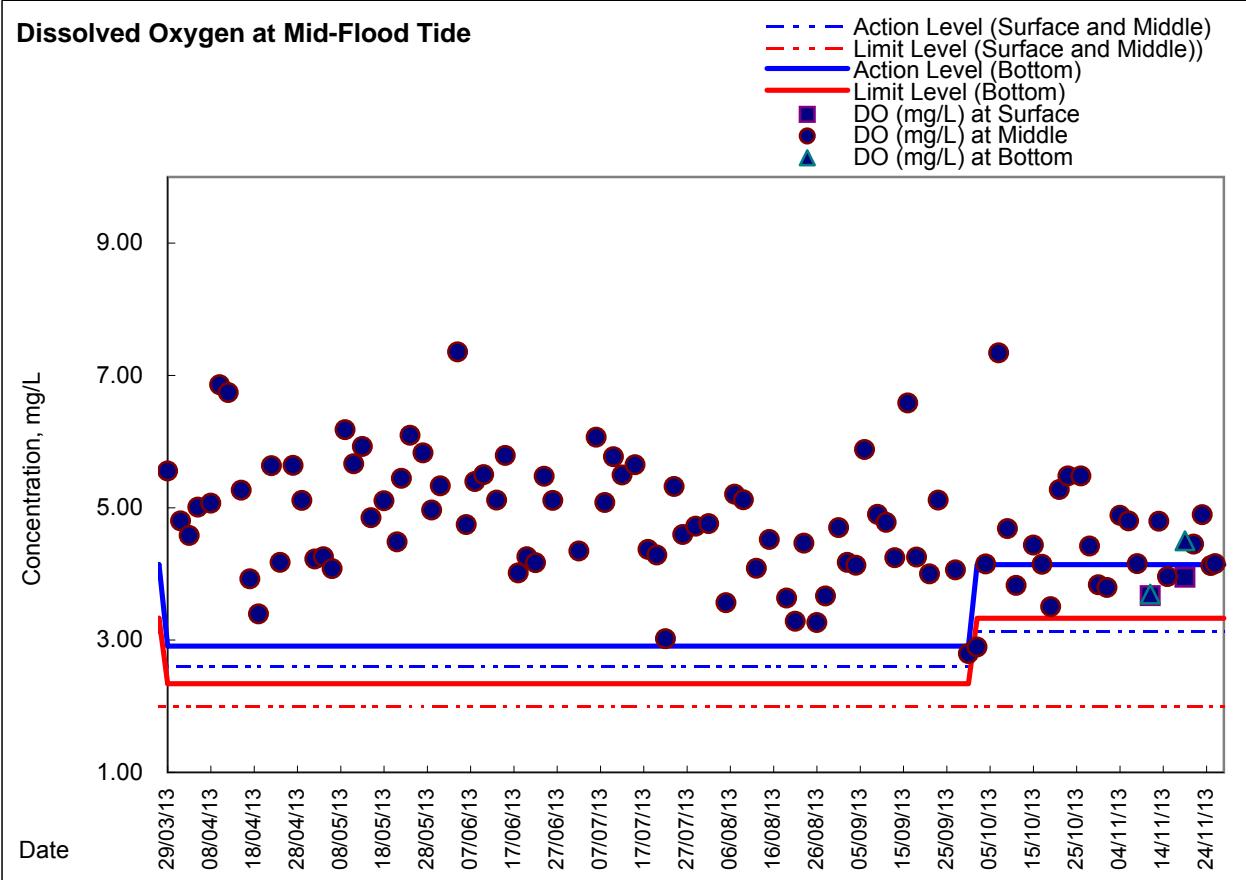




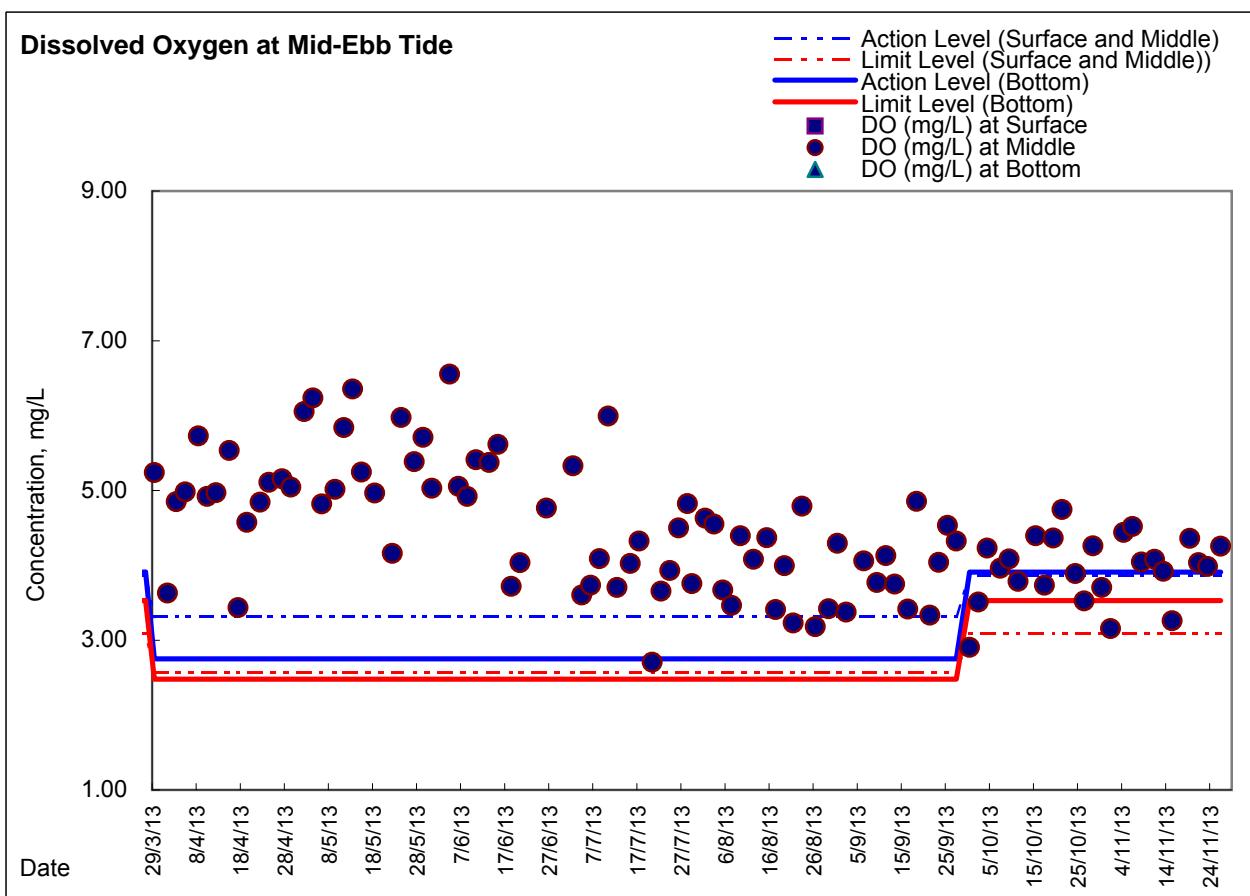
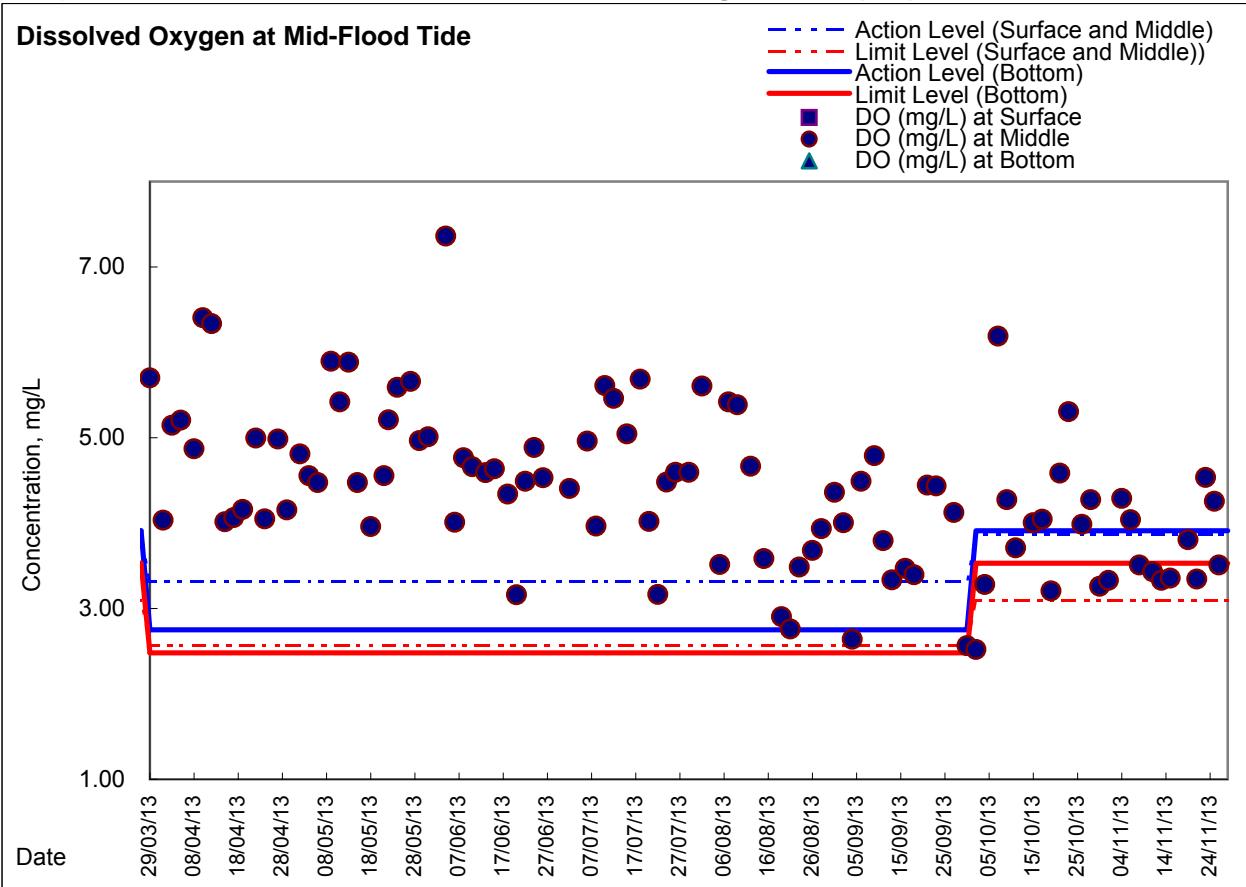




Graphic Presentation of Enhanced Water Monitoring Results (DO) at C6 - Excelsior Hotel

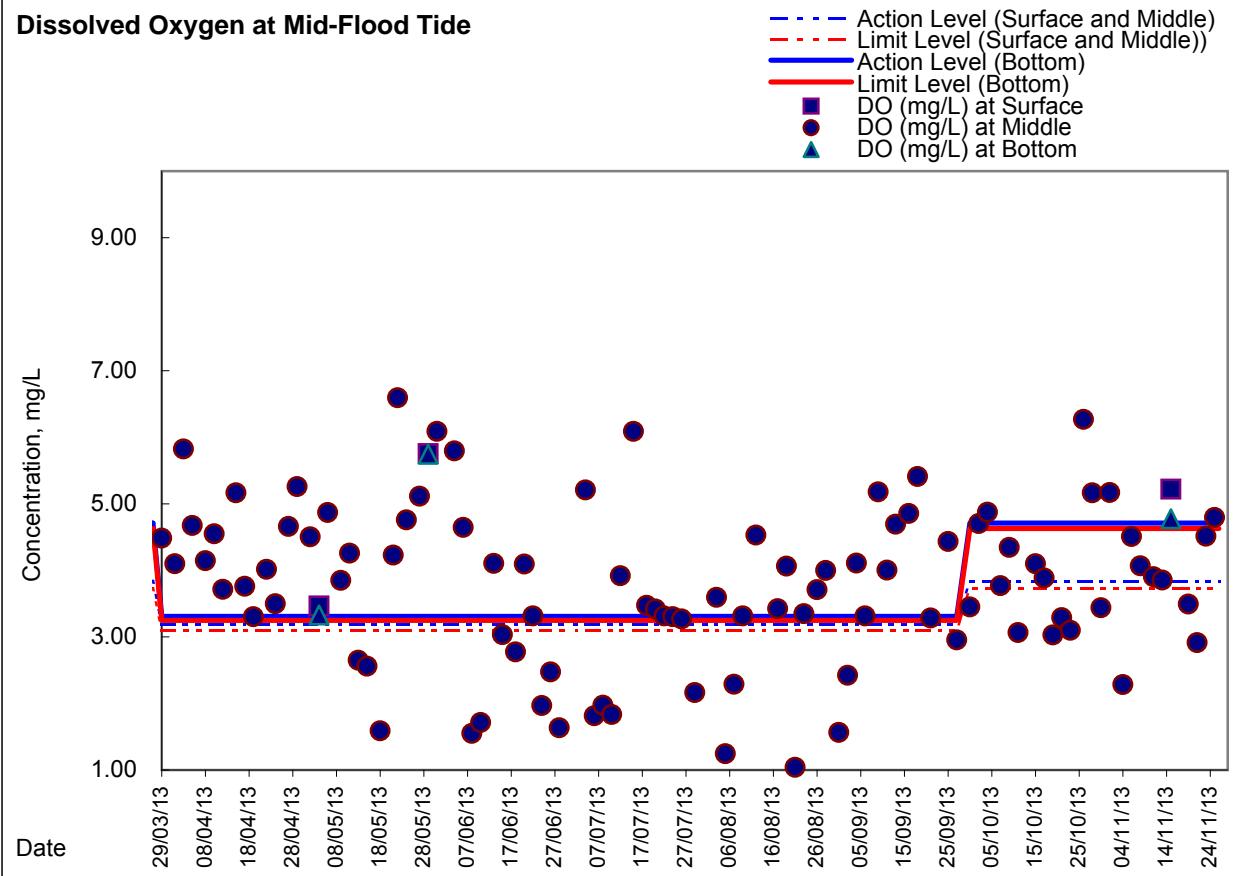


Graphic Presentation of Enhanced Water Monitoring Results (DO) at C7 - Windsor House

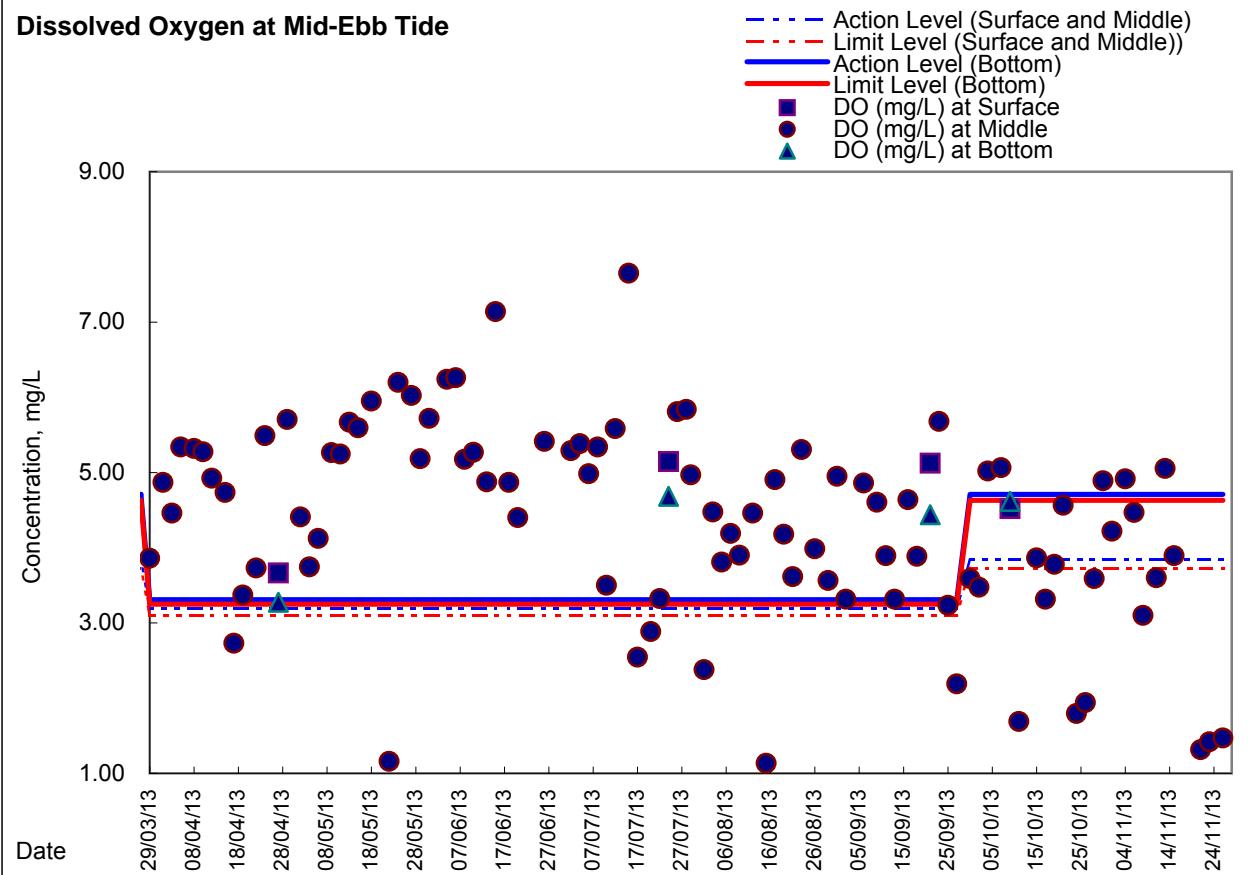


Graphic Presentation of Enhanced Water Monitoring Results (DO) at Ex-WPCWA SW - South-western corners of ex-Public Cargo Works Area

Dissolved Oxygen at Mid-Flood Tide

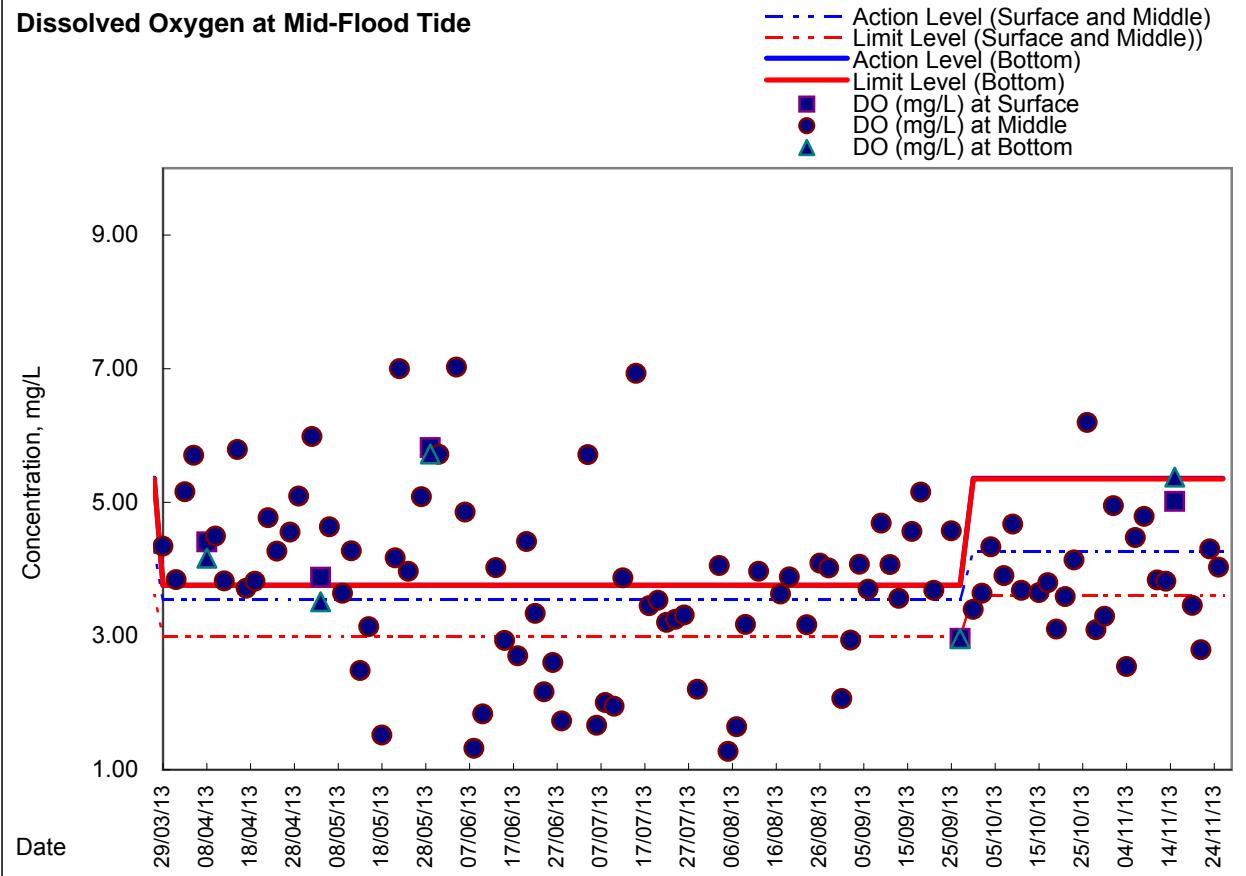


Dissolved Oxygen at Mid-Ebb Tide

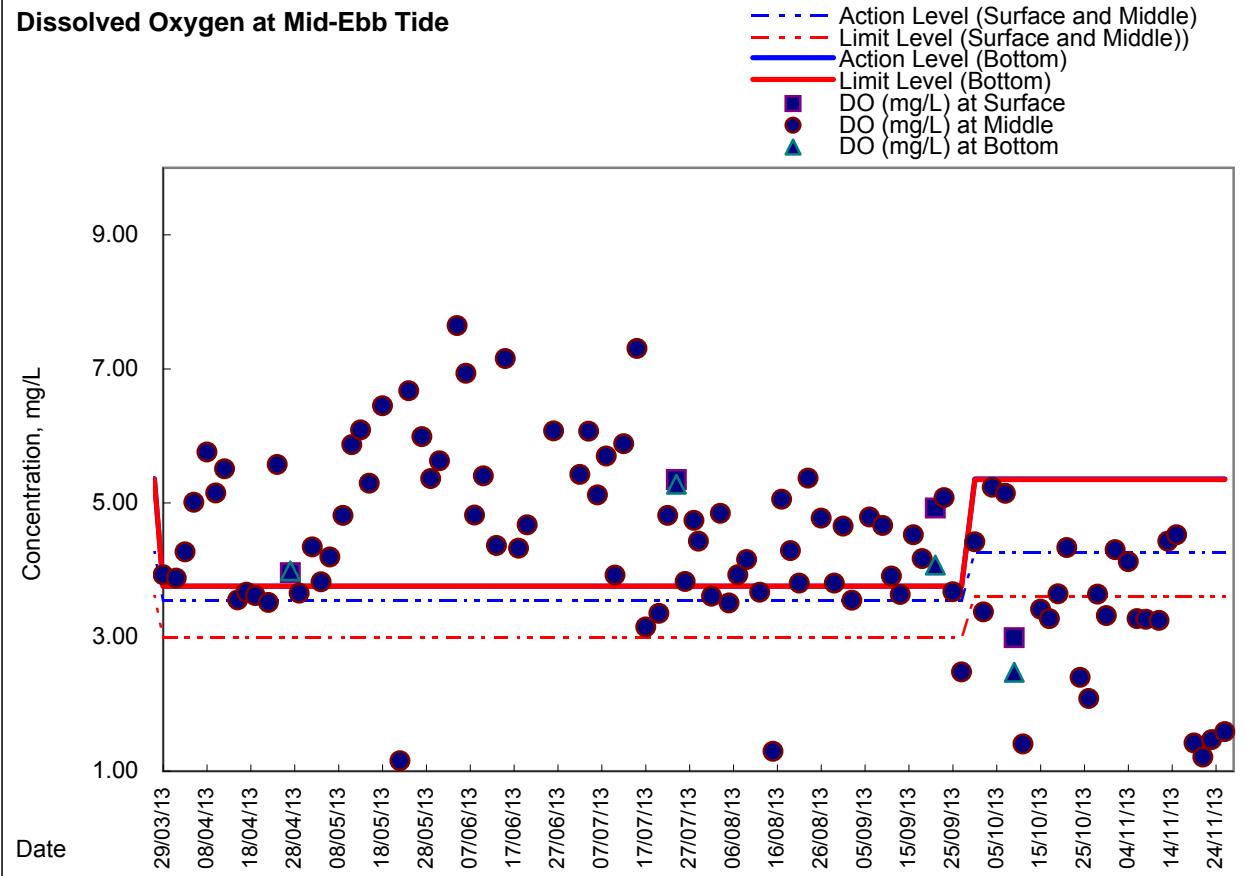


Graphic Presentation of Enhanced Water Monitoring Results (DO) at Ex-WPCWA SE - South-eastern corners of ex-Public Cargo Works Area

Dissolved Oxygen at Mid-Flood Tide



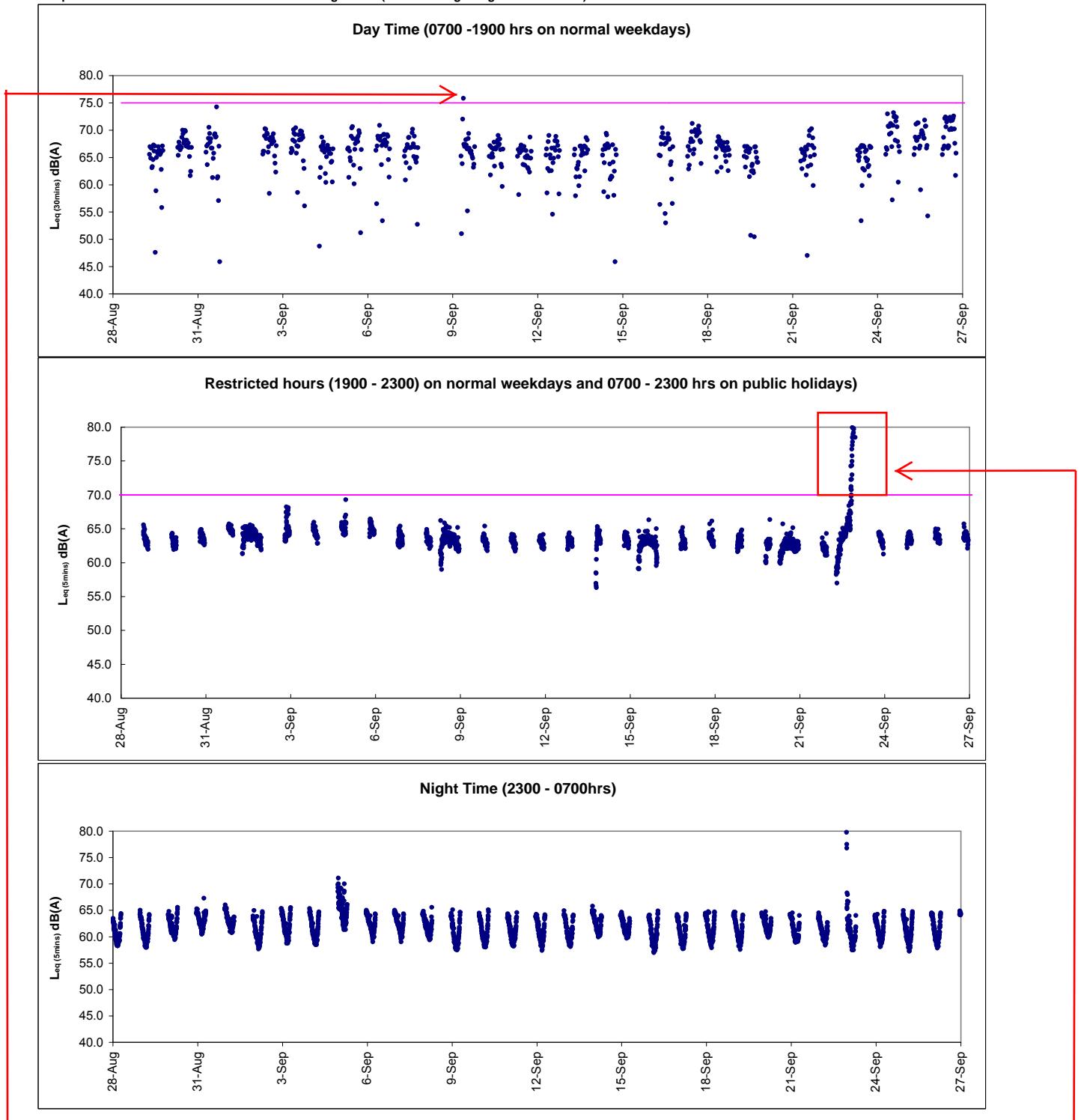
Dissolved Oxygen at Mid-Ebb Tide



Appendix 4.4

Real-time Noise Monitoring Results and Graphical Presentations

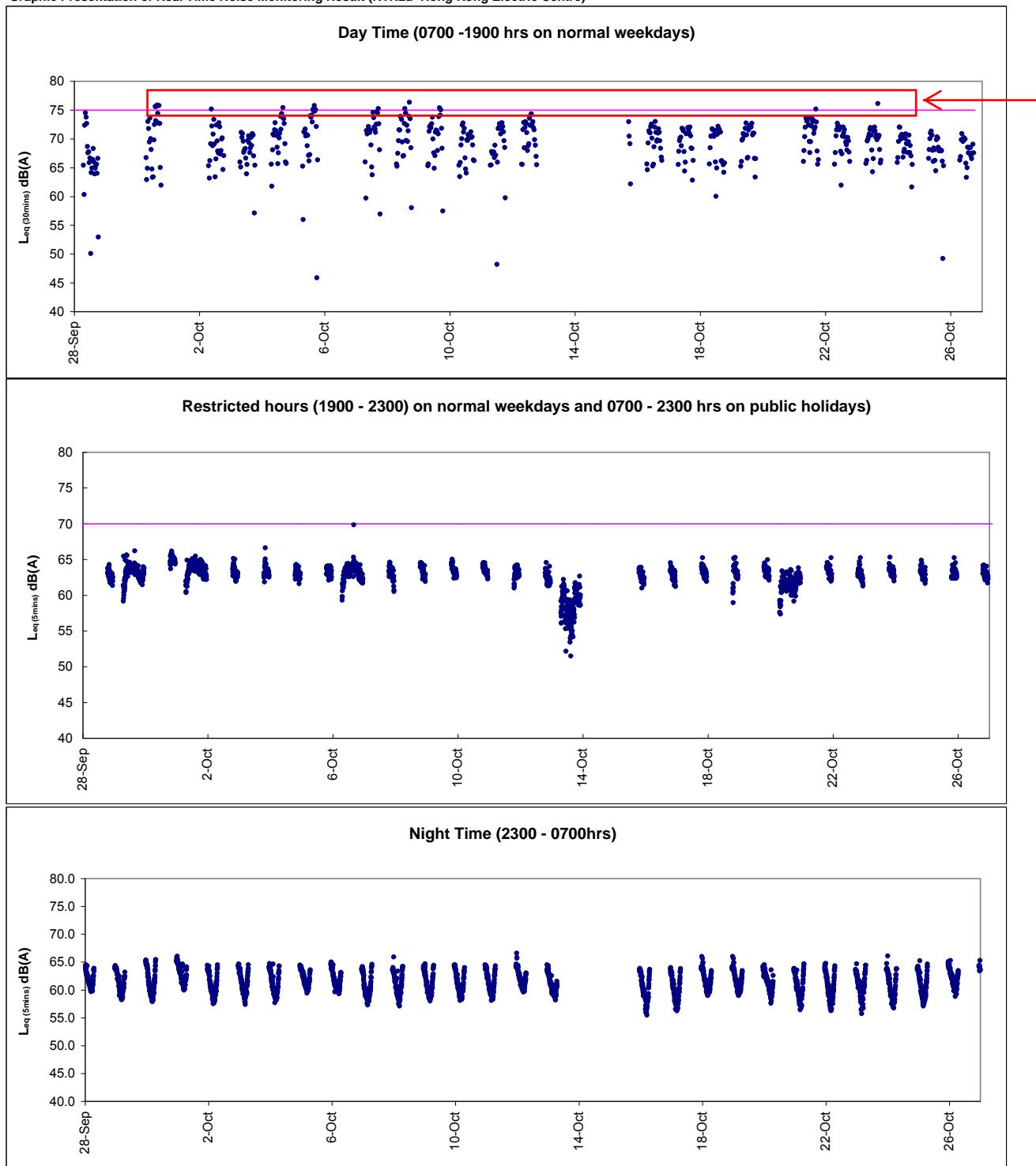
Graphic Presentation of Real Time Noise Monitoring Result (RTN2a- Hong Kong Electric Centre)



After checking with contractor HY/2009/19, no major noisy construction works were conducted at the concerned location during the recorded period and the exceedance was non-continuous. As such, the exceedances were considered to be contributed by nearby IEC traffic

After checking with contractor HY/2009/19, no construction work was conducted at the concerned location during the recorded period. The continuous exceedances were considered to be contributed by adverse weather condition during hoisting of Gale warning signal.

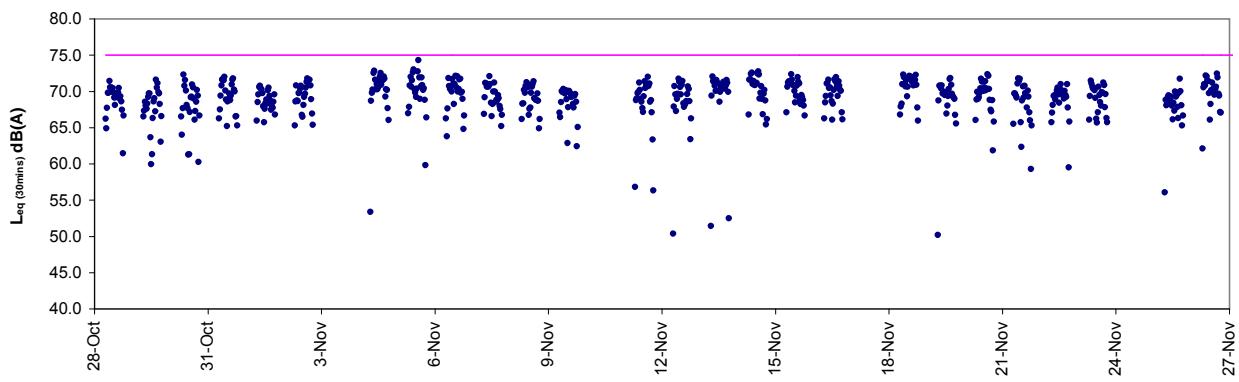
Graphic Presentation of Real Time Noise Monitoring Result (RTN2a- Hong Kong Electric Centre)



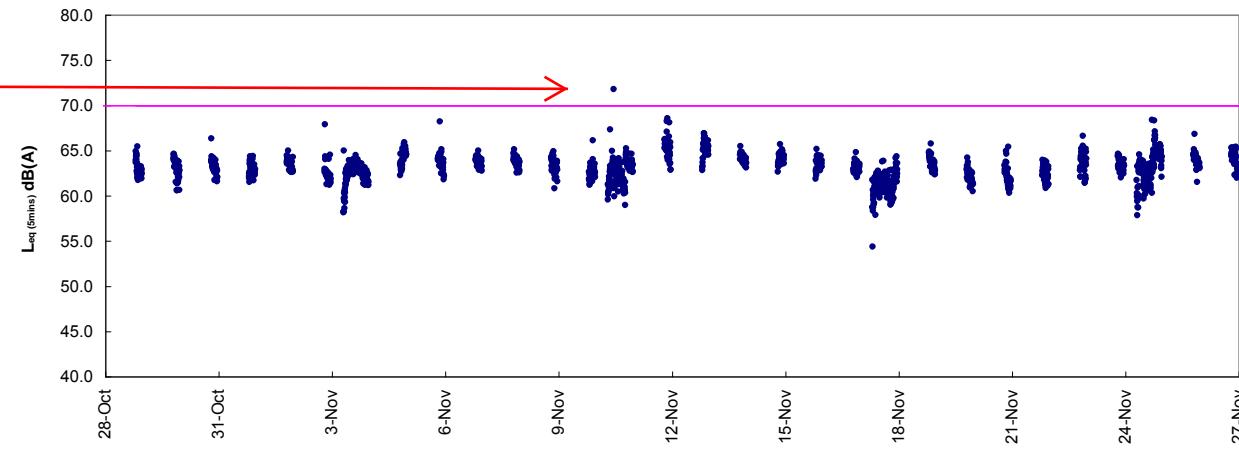
After checking with contractor HY/2009/19, no major noisy construction works were conducted at the concerned location during the recorded period. On-going Breaking works and piling works was observed undertaken at adjacent non-CWB Project construction sites. As such, the exceedances were considered to be contributed by non-CWB Project works.

Graphic Presentation of Real Time Noise Monitoring Result (RTN2a- Hong Kong Electric Centre)

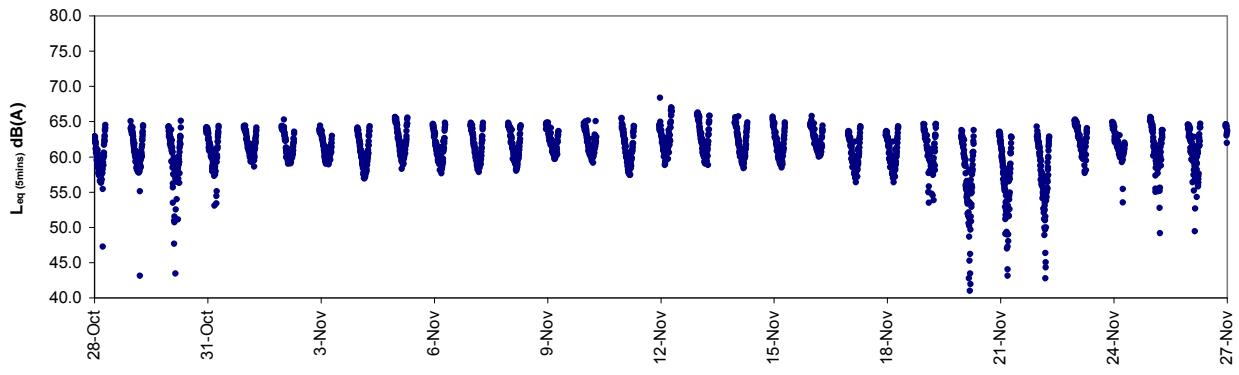
Day Time (0700 -1900 hrs on normal weekdays)



Restricted hours (1900 - 2300) on normal weekdays and 0700 - 2300 hrs on public holidays



Night Time (2300 - 0700hrs)



After checking with contractor HY/2009/19, no construction works were conducted at the concerned location during the recorded period . As such, the exceedances were considered to be contributed by nearby IEC traffic



Appendix 5.1

Event Action Plans

Event/Action Plan for Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	<ol style="list-style-type: none"> 1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified)

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit Level being exceeded	<ol style="list-style-type: none"> 1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p>	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p>	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p>	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated. <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p>

Event / Action Plan for Construction Air Quality

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

Event and Action Plan for Marine Water Quality

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

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

Appendix 6.1

Complaints Log

Environmental Complaints Log

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
100321a	21/3/2010	ICC Case no. 1-224618029, Ms. Tsang	Location near Tin Hau	Complaint regarding the loud noise and dark smoke in the course of dredging works on 21 March 2010 (Sunday).	<ul style="list-style-type: none"> 1) A valid Construction Noise Permit no. GW-RS0119-10 was granted from EPD since 18th Feb. 2010 for the dredging works which carry out at area for North Point Reclamation. 2) Officer from Marine Department, Police and EPD's officer attended the scene for inspection and investigation. 3) The Contractor (CHEC-CRBC JV) strictly comply all the conditions in CNP and take all mitigation measures in order to minimize the potential impacts to surrounding sensitive receivers. A formal letter was issued out by CHEC-CRBC JV and to explain the status of the recent construction activities. 4) No limit level exceedance was recorded on the noise measurement during day time and evening time noise measurement on 23 March 2010. Additional restrict hours noise monitoring at Causeway Bay Community and City Garden was conducted on 5 April 2010 (Public Holiday). No limit level exceedance was recorded in the monitoring. 5) No further complaints were received from Mr. Tsang in the reporting month. The complaint is considered closed. 	Closed
100321b	21/3/2010	Unknown	Near the eastern breakwater of the Causeway Bay Typhoon Shelter	A public complaint and enquiry regarding loud noises emanated from dredging activities on 21/3/2010 (Sunday) until 2220 hours and between 1920-1946 hours in the evening of 22 March 2010(Monday).	<ul style="list-style-type: none"> 1) A valid Construction Noise Permit no. GW-RS0119-10 was granted from EPD since 18th Feb. 2010 for the dredging works at area for North Point Reclamation during general holidays including Sunday between 0700-2300 hours and any day not being a general holiday between 1900-2300hours. It is complied with the condition of CNP. 2) Officer from Marine Department, Police and EPD's officer attended the scene for inspection and investigation. 3) No limit level exceedance was recorded on the noise measurement during day time and evening time noise measurement on 23 March 2010. Additional restrict hours noise monitoring at Causeway Bay Community and City Garden was conducted on 5 April 2010 (Public Holiday). No limit level exceedance was recorded in the monitoring. 4) No further complaints were received in the reporting month. The complaint is considered closed. 	Closed

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

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
101108	8/11/2010	Mr. Nip received by ICC (CC Case)	Sai Wan Ho	Visual concern around the seaside silt screen outside the WSD freshwater intake pump at Sai Wan Ho (Monitoring station ref no.. WSD15)	<ol style="list-style-type: none"> 1) Contractor for HY/2009/11 has been regular checked of condition and removal of trapped rubbish before the dismantling of the floating silt screen to be replaced by wall mount silt screen. 2) Follow-up action had been immediately carried out to check and clear the floating refuse around the seaside silt screen after receipt of the complaint. 3) Removal of seaside silt screen outside the WSD freshwater intake (WSD15) by contractor HY/2009/11 was checked and confirmed dated 9 November 2010. Silt screen has been deployed into the existing steel frame at WSD15 for the protection of WSD salt water intake. 	Closed
101110	10/11/2010	Mr. Wong, Harbour Heights (Management) Ltd.	Harbour Heights	Management office received their resident complained on the noise nuisance from the power mechanical equipment during the 0700 to 2200hrs	<ol style="list-style-type: none"> 1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0870-10 for their dredging works during evening time. Contractor has implemented mitigation measures to reduce the working hour not later than 2230. 2) No noise exceedance was recorded at noise monitoring station at Victoria Centre on 4 and 10 November 2010 during daytime and evening time period. 3) It is considered as invalid complaint. No further complaints were received in the reporting month. The complaint is considered closed. 	Closed
101203	3/12/2010, 01:45a.m.	The resident of Block 11, City Garden by ICC referral from Marine Department	North Point	Bad odour was generated from the dredging plant off North Point	<ol style="list-style-type: none"> 1) The first investigation was carried out by Marine Department patrol in the morning on 3 Dec 2010 at around 10:00 and revealed that a few working barges were anchoring in the vicinity without carrying out dredging work. 2) A further specific investigation inspection on contractor's backhoe barge in the vicinity of City Garden was jointly conducted with Engineer Representatives (AECOM/RSS), and ET on 8 Dec 2010 at 11:30. No bad odour was noted during the investigation. 3) Routine dredging operation of the backhoe barge was performed during the jointed investigation inspection and it was revealed that no bad odour was attributed by the dredged materials inspected. 	Closed
101206	6/12/2010	Ms Lui, the resident of 27/F, Block 10, City	City Garden, North Point	Two barges were generating noise at 22:00 on 6 December 2010 in which the noise from	<ol style="list-style-type: none"> 1) ET confirmed the following information with resident site staff on the complaint: <ul style="list-style-type: none"> • It was referred to the filling operation at North Point 	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
		Garden by ICC (ICC case: 1-266039336)		<p>filling operation was louder than the traffic noise & visual impact was generated due to the spotlight pointing directly to the complainant flat, suspected the filling operation was part of Wanchai Development Phase II;</p> <p>Complainant also raised the same complaint to District Councillor, Mr. Hui on 7 Dec 2010 regarding the night-time noise and suspected earlier start of work at 06:30. Complaint also requested for limiting the plant operating hours from 09:00-21:00.</p>	<p>Reclamation of Central Wan Chai Bypass site area instead of part of Wanchai Development Phase II;</p> <ul style="list-style-type: none"> Two derrick barges were in operation at the time of complaint for placing 400 rockfill onto the excavation trench and for levelling the formation level to receive the pre-cast caisson seawall; Flood light on the control mast of derrick barge have no lighting shields for the prevention of glare of flood lights; No starting work on 7 Dec 2010 at 0630hours. <p>2) PME used in restricted hours were checked and confirmed compliant with valid CNP no. GW-RS0870-10. The noise level recorded on 6 Dec 2010 was complied with the noise criteria during restricted hour;</p> <p>3) It was found that the occasional noise nuisance might be caused by the hitting or scratching onto the rock surface during loading down the grab onto the Grade 400 rockfill;</p> <p>4) The absence of the lighting shields at flood light results in visual glare to the complainant at night-time.</p> <p>5) Contractor was advised to minimize the finishing time of placing Grade 400 rockfill at 2100hrs and switch off all unnecessary flood lights apart from the light for the safety and security purpose;</p> <p>6) No further complaint was received after implementation of proposed measures</p>	
110415	15/04/2011	The resident, Mr Law at Victoria Centre by ICC (ICC#1-281451236)	North Point	A dust generation and a concern of mosquitoes breeding complaint in which suspected the filling operation was part of North Point Reclamation.	<p>1) The concerned stockpile was a working stockpile under Contract HY/209/15 and was covered at night time after work.</p> <p>2) Water spraying on the haul road and potential dust generating material at least 4 times a day was conducted by contractor that complies with the requirement.</p> <p>3) It is considered invalid but preventive actions can be taken because the stockpile is relatively large and easily visible by complainant.</p> <p>4) It was recommended that increasing the frequency of water spraying shall be conducted to all potential dust generating materials and activities. Besides, Contractor should consider to cover the idle part of the stockpile</p> <p>5) The concern of mosquitoes breeding is out the scope of EM&A, the follow-up action is not reported in this monthly EM&A report.</p>	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
110419	19/04/2011	Ms Chiu at Victoria Centre at Victoria Centre by ICC (ICC# 1-272874759)	North Point	The episode of night noise on 19/4/11 and 20/4/11 at 2:50 am and the noise lasted for 30 minutes per night.	<ul style="list-style-type: none"> 1) According to the RSS's record, there was no construction works undertaken under the EP-356/2009 during the concern time period. 2) There was no abnormal real-time noise monitoring data recorded in RTN1 - FEHD Hong Kong Transport Section Whitefield Depot which is next to the Victoria Centre. 3) It is considered as invalid complaint under this Project. 	Closed
110617	9/06/2011	Mr. Law from Victoria Centre Management Office	North Point	An odour nuisance suspected generating from the discharge point – Channel T at Watson Road in part of the site area was related to CWB under Contract no. HY/2009/11	<ul style="list-style-type: none"> 1) The complaint was received by ET on 13 Jun 2011. During the weekly site inspection on 7 and 17 June 2011, there was no any odour impact detected in the site area. 2) According to the site record, there was muddy water discharged from the unknown source at upstream of Channel T during heavy rainstorm. No any site surface runoff to the Channel T and out of site boundary was observed in the inspection. 3) In order to prevent muddy water washing out to the water body under heavy rainstorm, a silt curtain was installed at the outfall of the channel by Contractor. ET confirmed with the Resident Site Staff that a silt curtain was installed at the outfall of the channel to prevent muddy water washing out to the water body under heavy rainstorm. Besides, regular cleaning of refuse in the channel has been conducted by Contractor. 4) A further site investigation on 28 June 2011 revealed that no odour nuisance was detected at the upstream of the Channel T and no source of odour nuisance was identified at site. As such, it was concluded that the source of odour nuisance was not related to the Project works. 5) Although no source of odour nuisance was identified at site, the muddy water and dirt from the unknown source at upstream of Channel T may cause a potential smell during low tide and low water flow. Contractor was reminded to remove the silt curtain at the channel on non-rainy day so as to avoid the accumulation of the sediment and dirt in the water channel. 	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
110709	09/07/2011	Mr. Au from City Garden Management Office	North Point	A complaint letter to Contractor HY/2009/11 was raised by Cayley Property Management Limit on 9 July 2011 regarding a series of pump breakdown events at seawater intake of City Garden on 4, 6, 7 and 8 July 2011. A lot of rubbish such as plastic bags, nylon bags, nylon-wire mesh was observed sucking from the seawater intake at the seawater front of Block 7 of City Garden affecting the operation of seawater pump plant.	<ul style="list-style-type: none"> 1) Contractor conducted formation works for installation of caisson seawall at C27, C28, C29 and C30 on 4, 6, 7 and 8 July 2011 and no dredging work was conducted during this time period 2) Water mitigation measures of an 80m long silt curtain at the site boundary in front of City Garden Relocation of silt curtain and silt curtain at the outfall of the channel were provided and maintained to accommodate the site works. All vessels are equipped with rubbish collection facilities and disposed the rubbish regularly. Also, daily cleaning actions had been taken by contractor to minimize floating refuse within the site boundary. 3) Moreover, it has been reported several times that discharged from outfall pipeline outside the site boundary near the intake of the pump maybe considered as another source of rubbish generation. 4) Referring to the record provided by Cayley Property Management Limit, the trapped rubbish was unlikely generated from the construction works. It was considered that complaint is invalid and not related to project. 	Closed
110710	09/07/2011	Complainant by ICC (ICC no. 1-301520309	North Point	It was received at 00:56 on 10 July 2011. There was complained a derrick barge unloading rockfill material off the shore facing the Harbour Grant HK Hotel causing noise nuisance.	<ul style="list-style-type: none"> 1) ET confirmed with the Resident Site Staff that the complaint was referred to Contract HY/2009/15 for the loading and unloading of fill material at two barges operation in the sea at around 300m adjacent to Island Eastern Corridor (Oil Street Chainage) where is outside the Site of HY/2009/15 in the period of around 19:45 on 9 July to 1:00 on 10 July 2011. 2) The material loading and unloading operation processed in restricted hours was checked without a valid CNP. It was found that the operation was due to an unexpected water leakage of the hopper barge and considered an incident. 3) According to the incident report provided from RSS on 20 July 2011, around 7:30 pm the barge S22 was inclined slightly and slightly water leakage might occur. Due to marine safety concern, the hopper barge would open the hopper to release the contained materials in order to reduce the weight and stabilize the barge. In consider of slight water leakage, the operator decided to use the nearby Derrick Barge ST32 to help for unload the general fill materials first and the unloading operation was started at around 7:45pm, and end at around 1:00 am. Contractor was reminder to provide frequent check of vessel condition 	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					so as to prevent recurrent by barge defect	
110723a	23/07/2011	Ms. Law at Victoria Centre by ICC no. 1-303887687	North Point	She concerned that Highways Department published a notice in their Management Office about construction works will be conducted from 0700 hours to 2300 hours during July to December 2011 including Saturday, Sunday and public holiday.	<p>1) It was referred by AECOM to ET on 28 July 2011</p> <p>2) RSS confirmed that the notice was prepared by Victoria Centre's Management office to their resident and the advice was only given on the extension construction works (for Contract HY/2009/15) to 7am-9pm from Monday to Saturday except Public Holidays and Sundays.</p> <p>3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am and is expected to be completed by mid-August 2011.</p> <p>4) No noise exceedance was recorded at construction noise monitoring station at Victoria Centre on 19 and 25 July 2011 during daytime while breaking and excavation works were undertaken during monitoring.</p> <p>5) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. The complainant was satisfied with the arrangement and no further complaint was received after proposed measures.</p>	Closed
110723b	23/07/2011	Ms. Yau at Block 2, Victoria Centre by ICC no. 1-304013959	North Point	Reclamation work was conducted at Causeway Bay Typhoon Shelter at 7am on 23 July 2011. She complained that the works shall be started later to minimize the noise nuisance to the vicinity of the residents in early morning	<p>1) It was referred by AECOM to ET on 8 August 2011</p> <p>2) With reference to the construction noise monitoring at Vitoria Centre, no exceedance was recorded on 19 and 25 July 2011 during daytime while breaking and excavation works were undertaken during monitoring</p> <p>3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am and is expected to be completed by mid-August 2011.</p> <p>4) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. The complainant was satisfied with the arrangement and no further complaint was received after proposed measures.</p>	Closed
110727a	27/07/2011	Mr. Law from Victoria Centre Management Office by ICC no. 1-304616162	North Point	It was complained by Mr. Law from Victoria Centre Management Office on 27 July 2011 regarding construction noise generated by the construction operations of	<p>1) It was referred by AECOM to ET on 28 July 2011</p> <p>2) RSS confirmed to start the rock breaking activities for Contract HY/2009/15 at 8am as a mitigation measure to minimize the noise nuisance in the vicinity of the residents.</p> <p>3) No noise exceedance was recorded at construction noise</p>	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				Central-Wanchai Bypass at noon rather than in morning at 7am.	<p>monitoring station at Victoria Centre on 25 July and 4 August 2011 during daytime while breaking and excavation works were undertaken during monitoring.</p> <p>4) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. No further complaint from complainant was received after proposed the mitigation measure.</p>	
110727b	27/07/2011	Ms. Chiu by ICC no.1-304615409	North Point	Noise nuisance from the excavation works for the Highways Department adjacent to the Victoria Centre was conducted from 7am	<p>1) It was referred by AECOM to ET on 28 July 2011</p> <p>2) With reference to the construction noise monitoring at Victoria Centre, no exceedance was recorded on 25 July and 4 and 10 August 2011 during daytime while breaking and excavation works were undertaken during monitoring.</p> <p>3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am.</p>	Closed
	08/08/2011				<p>4) However, complainant did not satisfy with the response on the noise nuisance from the rock-breaking during morning in front of Victoria Centre and then further complaint via 1823 on 7 August 2011.</p> <p>5) Highways contacted the complainant on 15 August 2011 that the noisy rock breaking operation had been completed.</p> <p><i>Remarks: There will be counted as two complaints in this complaint log.</i></p>	
110810	10/08/2011	Mr. Yip by ICC no. 1 - 306740207	North Point	Muddy water was discharged from work site to the seafront near Oil Street during heavy rain. The environmental protection measures were not good enough and are needed to rectify.	<p>1) It was referred by AECOM to ET on 17 August 2011.</p> <p>2) Confirmed with RE, Muddy water was caused by a heap of earth being washed to the sea by heavy rain. The heap of earth was referred as a small stockpile placed close to the seafront in front of Oil Street within the site area under handover transition period from contract HY/2009/11 to contract HY/2009/19. The necessary mitigation measures to protect the small stockpile against rainfall were missing at the time of complaint.</p> <p>3) Due to the missing of mitigation measures to protect the small stockpile during handover transition period, loose material was washed into the harbour when heavy rain came. Muddy water was formed and dispersed in the sea that caused the water quality and visual concern to the public. The complaint was considered as valid.</p> <p>4) Contractors were advised to relocate the loose materials</p>	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					away from the coastline as far as practicable. Any loose material placed which needed to be placed near the coastline shall be properly compacted or covered as appropriate. To avoid any further environmental deficiency, Contractors shall ensure all necessary environmental mitigation measures will not be missing during site area handover.	
110826	26/08/2011	Grand Hyatt and a complainant by ICC	Wan Chai	Construction noise and vibration nuisance generated from the works at Convention Avenue and inside the HKCEC1 reclamation area.	<ol style="list-style-type: none"> Confirmed with the Resident Site Staff that the construction works were referred to the Contractor HK/2009/01. The Excavator mounted breaker at Convention Avenue and Drilling rig at HKCEC1 reclamation area were the dominant construction noise source during this period. The drilling rig at HKCEC1 reclamation area and excavator mounted breaker at Convention Avenue were then temporary suspended after received the complaint. Investigation revealed that the erected noise barrier (4m cantilevered movable noise barrier for the drilling rig and 1m movable noise barrier for the excavator mounted breaker) were not located close to the plants to provide adequate noise screening. Contractor was advised to avoid concurrent operation of construction plants at site. Further enhancement of movable noise barriers at HKCEC1 and providing noise enclosure for the excavator mounted breaker at Convention Avenue are needed. Further site investigation and checking on 31 August and 7 September 2011 revealed that the implemented noise mitigation measures were in proper and minimize the noise impact. 	Closed
110826A	26/08/2011	A complaint letter from Mr. Au of Cayley Property of City Garden	North Point	Harbor front adjacent to their cooling water intake suction which caused 3 times of system breakdown of the sea water pump on 9, 22 and 25 August 2011.	<ol style="list-style-type: none"> It was referred by AECOM to ET on 29 August 2011. Confirmed with the Resident Site Staff that the <ul style="list-style-type: none"> construction works were referred to the Contractors HY/2009/11 and HY/2009/19. The pump is located on the site area of HY/2009/19 A temporary garbage defender was installed on 23 July 2011 by HY/2009/11 and the shape of the defender was adjusted on 8 August 2011 in order to exclude the outfall. An ad hoc inspection of the effectiveness of garbage defender was conducted with RSS (CWB project 	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					<p>team), contractor of HY/200911 and HY/2009/19 and IECon 29 August 2011. Inspection report of it was submitted to RSS on 19 September 2011.</p> <ul style="list-style-type: none"> • Daily cleaning near the water intake was conducted twice a day by contractor HY/2009/19. • In response to City Garden request, the contractors have set up the temporary garbage defencer in function and collect the floating refuses, but cannot eliminate all refuses, in particular the refuse coming from the seabed <p>2) According to the complaint letter from Cayley Property, the outcomes of the preventive measures were not complying with their expectation.</p> <p>3) During on-site inspection, floating refuses observed occasionally outside the garbage defencer. No conclusion could be made for the source of these floating refuses. On the other hand, some of the refuses were observed floating behind the garbage defencer during investigation.</p> <p>4) All daily cleaning actions had been taken by contractor to minimize floating refuse inside the construction site.</p> <p>5) It was noted that the cooling water intake was accessible to the public. As such, fish breeding and fishing activities were observed even though a notice has already hoisted. Also, tripping of rubbish by the passers-by could result in a lot of rubbish accumulated around the intake point.</p> <p>6) Referring to the record provided by CPML, there were a lot of nylon/ plastic bags and nylon wire mesh that matched those rubbishes generated from the public activities.</p> <p>7) Contractors have fulfilled the requirement of site cleanliness and no exceedance was recorded during Water Quality Monitoring. It is considered the cause of this complaint is not related to project and environmental issue in this project as well. No more complaint received after ad-hoc inspection</p>	
111014	14/10/2011	The complainant, Ms. Tam complained via hotline 1823	Wan Chai	The polluted fumes and exhaust from the excavation by sub-contractor of CEDD on pedestrian way outside no.25 Harbour Road (in front of the Harbour Centre)	<p>1) RSS notified ET to carry out investigation on 17 October 2011.</p> <p>2) ET confirmed with the Resident Site Staff that the location of the excavator was within site area of Contract no. HK/2009/02 undertaking the water cooling main reprovision works along the Harbour Road. The plants including the excavator have been checked before using</p>	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					<p>at the site. However, the polluted fumes and exhausted from the excavator was caused due to insufficient maintenance of the plant after using at site.</p> <p>3) After receiving the complaint, the excavator was then removal off-site for checking and maintenance works on 17 October 2011.</p> <p>4) Contractor was reminded to enhance regular checking and maintenance to all plants at site.</p> <p>5) RSS has replied to the complainant on the arrangement of the measures taken on 17 October 2011. Complainant was satisfied with the response and follow-up action taken by the Contractor.</p>	
111104	04/11/2011	Mr. Liu from LCSD complained via Contractor Complaint Hotline	Wan Chai	Complain about a tree near the site of pipe installation works outside Wan Chai Swimming Pool at Harbour Road, the status is not healthy and roof ball of two trees inside the site near Renaissance Hong Kong Harbour View Hotel at Convention Avenue were half cut.	<p>1) ET confirmed with the Resident Site Staff that</p> <ul style="list-style-type: none"> A tree near the site of pipe installation works outside Wan Chai Swimming Pool at Harbour Road is the Tree no. TA1122 under Contract no. HK/2009/02. Leaves of a branch of this tree were shrivelled. Two trees inside the site near Renaissance Hong Kong Harbour View Hotel at Convention Avenue are the tree nos. A160 and A161 under Contract no. HK/2009/01. Part of roof ball of these two trees was covered by the metal plate. <p>2) Independent Tree Specialists for these two inspected the trees. Contractor HK/2009/01 has taken the measure as recommend downgrading the soil level around the trunk base. Reinstating of the ground works will be conducted in mid-December 2011. For the tree no. TA1122 under Contract no. HK/2009/02, the brown leaves were removed and fenced the tree with orange net is provided to prevent damage of tree trunk by construction works. The distance between the tree and the edge of the trench is kept approximate 2m. Two Contractors were reminded to carry out regular watering to the trees within their site area.</p>	Waiting RSS respond
111106	06/11/2011	Police officer	Wan Chai	Construction noise generated from the site at about 6:30 a.m on 6 November 2011 and require to stop the machine operation	<p>1) According to the information reported by Contractor, one BC cutter and hoist were operated for Diaphragm Wall construction of Shatin-Central Link to inspect bentonite pipes and ensure no damages and all the joints are tightened in good position. Then, the subcontractor for Diaphragm wall, SAMBO Korean foreman stopped the engine of the BC cutter immediately. The police officer recorded the details and HKID number of the foreman and then left. Due to the different language communication between the police officer and the Korean foreman, no</p>	Keep in view for three months from the date of complaint received

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					<p>CNP was checked by the police officer.</p> <p>2) ET confirmed with the Resident Site Staff that same issue was also raised out by RSS at about 7:00a.m on the same day. Besides, it was confirmed that there is no valid Construction Noise Permit for the conducted construction works in the period between 2300 and 0700.</p> <p>3) Due to insufficient communication between Contractor HK/2009/01 and their Korean Sub-contractor, Korean Sub-contractor had not notified to Contractor before carrying out the inspection of the BC cutter, hoists and bentonite pipes at about 6:00a.m to ensure no damages and all the pipe joints should be tightened and in good position.</p> <p>4) Contractor was advised to enhance the communication between Contractor and sub-contractor and provide sufficient environmental training to all foreman and operators on restricted hour operation. Furthermore, Construction Noise Permit should be checked and in place for the construction works during restricted hour</p> <p>5) This complaint was considered in relation to the conducted construction works during restricted hours without valid Construction Noise Permit. No more construction works were conducted during night time period. The construction works will be conducted in accordance with the time period stated in valid CNP. This complaint will be kept in view of any follow-up action from the relevant government activities.</p>	
120405	05/04/2012	N/A	North Point	A complaint regarding excessive noise from construction sites of CBTS was observed daily before 7:30am except on public holidays, and the noise source was mainly from piling works. The complainant requested that construction works should start after 8:30am to avoid nuisance to nearby residents and a speedy follow-up and reply.	<p>1) RSS notified ET on 5 April 2012.</p> <p>2) ET confirmed with the Resident Site Staff that no piling works were performed during the concerned period.</p> <p>3) After reviewing the results of noise monitoring (M2b and M3a), no exceedance was recorded during daytime period and the noise level was below 75dB(A). Site inspection for HY/2009/15 was conducted on 10 April 2012. The condition of noise mitigation measures around CBTS was found satisfactory. RSS confirmed that no pilings were performed during the concerned period. The major works included drilling, diaphragm wall construction and excavations.</p> <p>4) HyD made a reply to the complainant on 16 April 2012 via 1823. HyD replied that the current works at CBTS were drilling, diaphragm wall construction and deep excavations. In order to minimize the noise generated</p>	Closed

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					from the above works, the Contractor had erected temporary noise barriers and provided noise blankets on plants. RSS would continue to work with the Contractor on the effectiveness of the environmental mitigation measures implemented on site. No further complaint was received after the response.	
130308	06/03/2013	ICC Case#1-407181502	Tin Hau	<p>A complaint regarding the dropping of fine rock material into surrounding waterbody was observed during rock breaking operation with two excavators in active operation at the Eastern Breakwater of Causeway Bay Typhoon Shelter near the North Point lighthouse.</p>	<p>1) RSS notified ET on 8 March 2013 2) ET confirmed with RSS that excavation works, installation of buoy, flashing light and silt curtain and dredging works were undertaken at Eastern Breakwater during the concerned period on 6 March 2013. One backhoe equipped with breaker and one derrick barge were confirmed in operation while another backhoe was at idle during the concerned period on 6 March 2013. 3) Reviewing the photo record provided by RSS, the condition of the silt curtain deployed around the Eastern Breakwater on 6 March 2013 was found to be in good condition. It is considered that the silt curtain was properly in place during the concerned period and the concerned act of dropping of fine rock material was confined within the silt curtain boundary without adverse impact to the nearby water quality.</p> <p>Further follow up was conducted on 12 March 2013 during weekly environmental audit inspection, the silt curtain deployed around the concerned area was found to be maintained in good condition and the water quality at the concerned work area was generally satisfactory. No violation of the Environmental Permit condition was found.</p> <p>The contractor was advised and committed to implement preventive measures to minimize the potential impact of work including conducting regular diver check to ensure the integrity and the extend of silt curtain deployment and to provide adequate back up stock of silt curtain for emergency use.</p>	Closed

Appendix 7.1

Construction Programme of Individual Contracts

Contract No. HK/2009/01

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

Working Programme for Marine Works (Dredging and Backfilling)

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

ID	Task Name	Duration	Start	Timeline																
				Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	HK/2009/02-Marine & Reclamation Works	2008 d	Thu 28/1/10																	
2	Contract Commencement	0 d	Thu 28/1/10																	
3	General	1879 d	Mon 22/2/10																	
4	Submission & obtain approval for marine GI	21 d	Mon 22/2/10																	
5	Stage 1 Marine GI for reclamation	30 d	Mon 15/3/10																	
6	Engineer's Design review for Dredging of WCR1, WCR2 & WCR4	30 d	Mon 22/3/10																	
7	Relocation of New Star Ferry Pier	0 d	Tue 18/3/14																	
8	Demolition of Existing Star Ferry Pier	100 d	Tue 18/3/14																	
9	Stage 2 Marine GI for Reclamation	14 d	Tue 18/3/14																	
10	Engineer's Design review for Dredging of WCR3	21 d	Tue 25/3/14																	
11	Complete Diversion of Hung Hing Road Traffic Back to Original	20 d	Fri 6/2/15																	
12	Excavate & remove top of d-wall for permanent seawall construction	50 d	Wed 25/2/15																	
13	Submarine Outfall	500 d	Tue 21/9/10																	
14	Dredging, Laying and Backfilling of Submarine Outfall Pipe at Sea	500 d	Tue 21/9/10																	
15	Phase 1 - WCR1	158 d	Wed 21/4/10																	
16	Mobilization of plants	1 d	Wed 21/4/10																	
17	Seabed dredging	63 d	Wed 21/4/10																	
18	Bedding Filling and Permanent seawall (precast cassion)	60 d	Tue 22/6/10																	
19	Bulk reclamation	37 d	Fri 20/8/10																	
20	Phase 2 - WCR2	149 d	Thu 1/3/12																	
21	Mobilization of plants	1 d	Thu 1/3/12																	
22	Temp seawall and Seabed dredging	77 d	Thu 1/3/12																	
23	Bulk reclamation	73 d	Wed 16/5/12																	
24	Phase 3 - WCR4 & WCR4	98 d	Sat 28/4/12																	
25	Mobilization of plants	1 d	Sat 28/4/12																	
26	Temp Seawall and Seabed dredging	75 d	Sat 28/4/12																	
27	Bulk & temp reclamation	24 d	Wed 11/7/12																	
28	Phase 4 - WCR3	294 d	Tue 18/3/14																	
29	Mobilization of plants	1 d	Tue 18/3/14																	
30	Seabed dredging for Permanent Seawall	112 d	Tue 18/3/14																	
31	Backfill and permanent seawall (precast cassion)	108 d	Tue 8/7/14																	
32	Bulk reclamation	74 d	Fri 24/10/14																	
33	Phase 5 - Construct Permanent Seawall Blocks along curved coastline & Remove TWCR4	105 d	Wed 15/4/15																	
34	Mobilization of plants	1 d	Wed 15/4/15																	
35	Dredging and Filling for permanent seawall construction	50 d	Wed 15/4/15																	
36	Construction of Permanent Seawall Blocks for curved coastline	56 d	Wed 3/6/15																	
37	Remove temp seawall and reinstate the location of TWCR4	30 d	Mon 29/6/15																	

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

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

Activity ID	Cal ID	Activity Description	Orig Dur	Early Start	Early Finish	2010	2011	2012	2013	2014	2015	2016	2017
TCBR1E (TS1 Area)													
105	1	TCBR1E(TS1)-dredging+rockfill(prep. for seawall)	86	03DEC10*	26FEB11								
110	1	TCBR1E (TS1)-temporary reclamation	69	28JAN11*	06APR11								
155	1	TCBR1E (TS1)- removal of temporary reclamation	27	30JAN12*	25FEB12								
TCBR4													
100	1	Maintenance dredging for navigation safety for	7	20NOV10*	26NOV10								
TCBR2 + TCBR3 (TS2 Area)													
115	1	TCBR2&TCBR3(TS2)- Maintenance dredging for	5	15NOV10*	19NOV10								
117	1	TCBR2&TCBR3(TS2)-dredge+rockfill seabed	64	16DEC11*	17FEB12								
120	1	TCBR2&TCBR3(TS2) --temporary reclamation	115	26FEB12*	19JUN12								
160	1	TCBR2&TCBR3(TS2)-removal temporary reclamation	57	18AUG13*	13OCT13								
TCBR1W (TS4 Area)													
125	1	TCBR1W(TS4)-dredging+rockfill(prep. for seawall)	40	19DEC10*	27JAN11								
130	1	TCBR1W(TS4) --temporary reclamation	68	28JAN11	05APR11								
165	1	TCBR1W(TS4)--removal temporary reclamation	26	27OCT13*	21NOV13								
TPCWAE													
135	1	TPCWAE-dredging+rockfill(prep. for seawall)	55	03DEC10*	26JAN11								
140	1	TPCWAE --temporary reclamation	77	27JAN11	13APR11								
170	1	TPCWAE--removal temporary reclamation	28	28SEP13*	25OCT13								
TPCWAW													
145	1	TPCWAW-dredging+rockfill(prep. for seawall)	47	28OCT13*	13DEC13								
150	1	TPCWAW --temporary reclamation	83	14DEC13	06MAR14								
175	1	TPCWAW--removal temporary reclamation	50	02JUL15*	20AUG15								

TCBR1E(TS1)-dredging+rockfill(prep. for seawall)

TCBR1E (TS1)-temporary reclamation

TCBR1E (TS1)- removal of temporary reclamation

Maintenance dredging for navigation safety for relocation of RHKYC mooring at Area B

TCBR2&TCBR3(TS2)- Maintenance dredging for navigation safety at Area A for relocation of commercial vessels

TCBR2&TCBR3(TS2)-dredge+rockfill seabed (preparation for seawall)

TCBR2&TCBR3(TS2) --temporary reclamation

TCBR2&TCBR3(TS2)-removal temporary reclamation

TCBR1W(TS4)-dredging+rockfill(prep. for seawall)

TCBR1W(TS4) --temporary reclamation

TCBR1W(TS4)--removal temporary reclamation

TPCWAE-dredging+rockfill(prep. for seawall)

TPCWAE --temporary reclamation

TPCWAE--removal temporary reclamation

TPCWAW-dredging+rockfill(prep. for seawall)

TPCWAW --temporary reclamation

TPCWAW--removal temporary reclamation



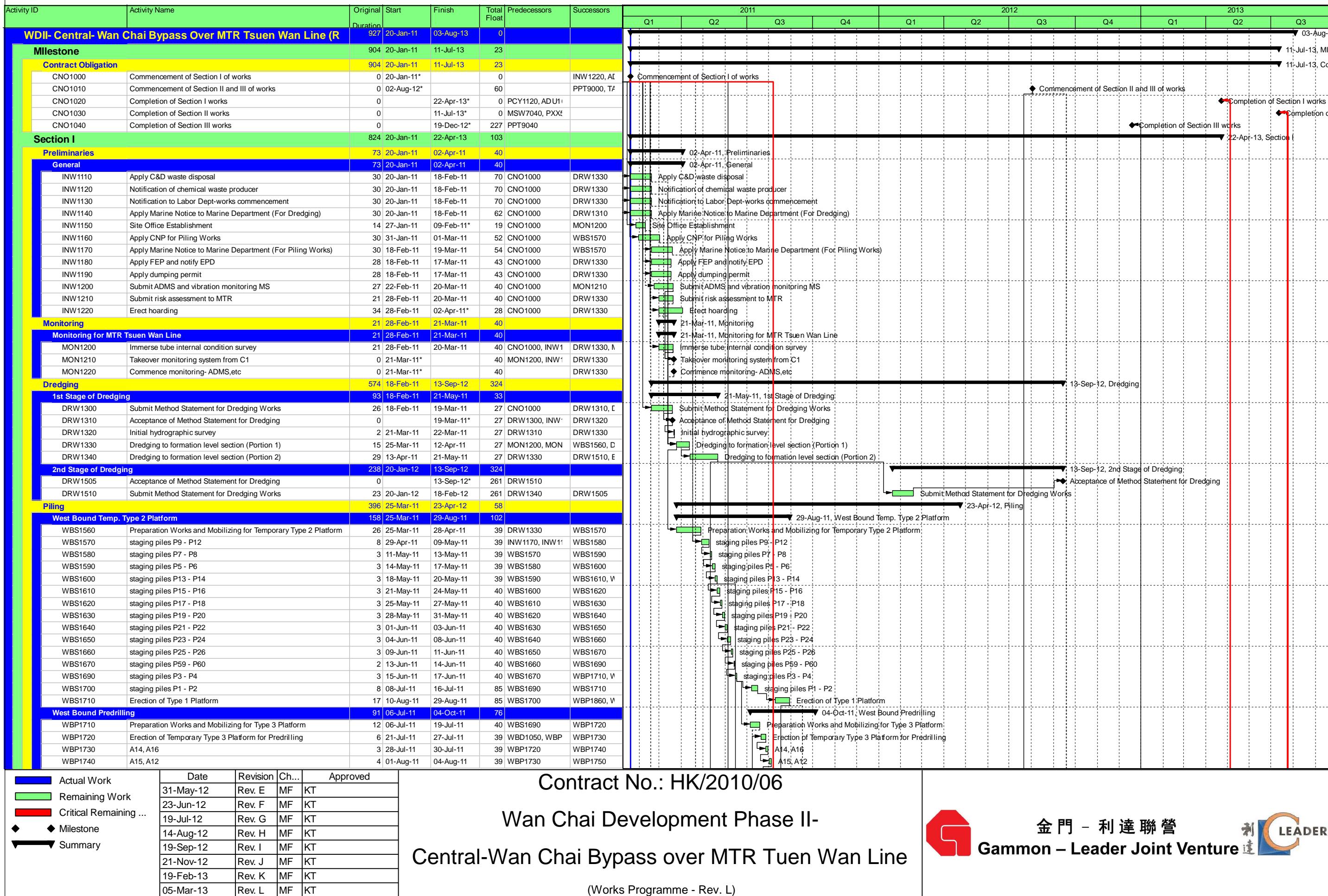
EP02

CHINA STATE CONSTRUCTION ENGG LTD

Sheet 1 of 1 Prepared based on IWP Rev. 0

CONTRACT NO. HY/2009/15: CENTRAL
WAN CHAI BYPASS- TUNNEL (CBTS SECTION)

Date Prepared: 28 Oct 2010



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors
WBP1750	A11	2	05-Aug-11	06-Aug-11	39	WBP1740	WBP1755
WBP1755	A13	2	08-Aug-11	09-Aug-11	39	WBP1750	WBP1760
WBP1760	A10	6	10-Aug-11	16-Aug-11	39	WBP1755	WBP1765
WBP1765	A28	3	13-Aug-11	16-Aug-11	39	WBP1760	WBP1770
WBP1770	A29	4	17-Aug-11	20-Aug-11	39	WBP1765	WBP1780
WBP1780	A18, A22	4	22-Aug-11	25-Aug-11	39	WBP1770	WBP1790
WBP1790	A19, A23	4	26-Aug-11	30-Aug-11	39	WBP1780	WPP1400, V
WBP1800	A20, A24	4	31-Aug-11	03-Sep-11	64	WBP1790	WBP1810
WBP1810	A21, A25	4	05-Sep-11	08-Sep-11	64	WBP1800	WBP1820
WBP1820	A26, A27	4	09-Sep-11	14-Sep-11	64	WBP1810	WBP1830
WBP1830	A4, A6	4	15-Sep-11	19-Sep-11	64	WBP1820	WBP1840
WBP1840	A5, A8	4	20-Sep-11	23-Sep-11	64	WBP1830	WBP1850
WBP1850	A7, A9	4	24-Sep-11	28-Sep-11	64	WBP1840	WBP1860
WBP1860	A3	4	29-Sep-11	04-Oct-11	64	WBP1850, WBS	EBP2610, W
West Bound Bored Pile Construction Works		265	27-Jun-11	17-Mar-12	72		
Driving of 2650mm dia. casing		83	27-Jun-11	17-Sep-11	104		
WBD1000	A14	2	27-Jun-11	28-Jun-11	39	WBS1600	WBD1010
WBD1010	A16	2	30-Jun-11	02-Jul-11	39	WBD1000	WBD1020
WBD1020	A18	2	08-Jul-11	09-Jul-11	39	WBD1010	WBD1030
WBD1030	A12	3	11-Jul-11	13-Jul-11	39	WBD1020	WBD1040
WBD1040	A10	3	14-Jul-11	16-Jul-11	39	WBD1030	WBD1050
WBD1050	A20	3	18-Jul-11	20-Jul-11	39	WBD1040	WBP1720, V
WBD1060	A22	3	21-Jul-11	23-Jul-11	104	WBD1050	WBD1070
WBD1070	A24	3	25-Jul-11	27-Jul-11	104	WBD1060	WBD1080
WBD1080	A26	3	28-Jul-11	30-Jul-11	104	WBD1070	WBD1090
WBD1090	A28	3	01-Aug-11	03-Aug-11	104	WBD1080	WBD1100
WBD1100	T5	3	04-Aug-11	06-Aug-11	104	WBD1090	WBD1110
WBD1110	A8	3	30-Aug-11	01-Sep-11	85	WBD1100, WBS	WBD1120
WBD1120	A6	3	02-Sep-11	05-Sep-11	85	WBD1110	WBD1130, V
WBD1130	A4	10	06-Sep-11	17-Sep-11	85	WBD1120	WPP1500
Excavation to Rockhead Level		123	31-Aug-11	31-Dec-11	86		
WPP1400	A15	5	31-Aug-11	05-Sep-11	39	WBP1790	WPP1410
WPP1410	A11	3	08-Sep-11	10-Sep-11	39	WPP1400	WPP1420
WPP1420	A17	4	14-Sep-11	17-Sep-11	39	WPP1410	WPP1430
WPP1430	A13	2	19-Sep-11	20-Sep-11	39	WPP1420	WPP1440
WPP1440	A21	3	23-Sep-11	26-Sep-11	39	WPP1430	WPP1450
WPP1450	A27	5	30-Sep-11	07-Oct-11	39	WPP1440	WPP1460
WPP1460	A12	2	08-Oct-11	10-Oct-11	39	WPP1450	WBC2010, V
WPP1470	A19	4	11-Oct-11	14-Oct-11	55	WPP1460	WPP1480
WPP1480	A29	5	17-Oct-11	21-Oct-11	55	WPP1470	WPP1490
WPP1490	A16	3	22-Oct-11	25-Oct-11	55	WPP1480	WPP1500
WPP1500	A5	4	26-Oct-11	29-Oct-11	55	WPP1490, WBD	WPP1510
WPP1510	A20	5	31-Oct-11	04-Nov-11	55	WPP1500	WPP1520
WPP1520	A25	5	05-Nov-11	10-Nov-11	55	WPP1510	WPP1530
WPP1530	A9	4	11-Nov-11	15-Nov-11	55	WPP1520	WPP1540
WPP1540	A14	3	16-Nov-11	18-Nov-11	55	WPP1530	WPP1560, V
WPP1550	A10	2	23-Nov-11	24-Nov-11	55	EPP1480	WPP1570
WPP1560	A23	5	19-Nov-11	24-Nov-11	69	WPP1540	WPP1580
WPP1570	A3	6	25-Nov-11	01-Dec-11	55	WBP1860, WPP	WPP1590
WPP1580	A18	5	25-Nov-11	30-Nov-11	69	WPP1560	WPP1600
WPP1590	A7	5	02-Dec-11	07-Dec-11	55	WPP1570, WBD	WPP1610
WPP1600	A28	5	01-Dec-11	06-Dec-11	69	WPP1580	WPP1620
WPP1610	A4	5	08-Dec-11	13-Dec-11	55	WPP1590	WPP1630, V
WPP1620	A22	5	07-Dec-11	12-Dec-11	69	WPP1600	WPP1640
WPP1630	A8	5	14-Dec-11	19-Dec-11	57	WPP1610	EPP1490
WPP1640	A26	5	13-Dec-11	17-Dec-11	69	WPP1620	WPP1650
WPP1650	A6	5	19-Dec-11	23-Dec-11	69	WPP1640	WPP1660
WPP1660	A24	5	24-Dec-11	31-Dec-11	69	WPP1650	EPP1510
Rock Excavation and Concreting		145	25-Oct-11	17-Mar-12	72		
WBC2010	A12	13	25-Oct-11	08-Nov-11	39	WPP1460	WBC2040

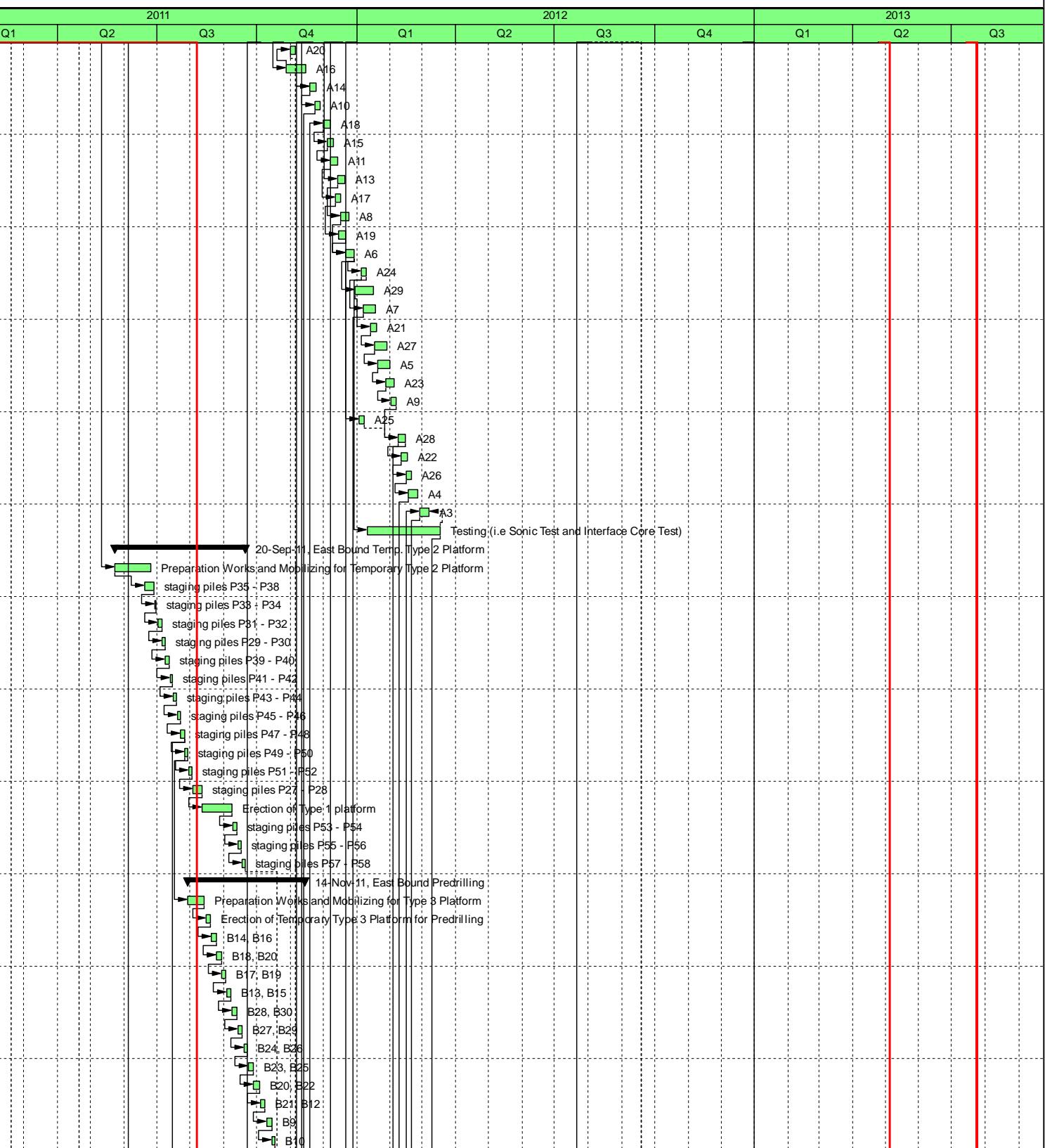


	Date	Revision	Ch...	Approved
	31-May-12	Rev. E	MF	KT
	23-Jun-12	Rev. F	MF	KT
◆◆ Milestone	19-Jul-12	Rev. G	MF	KT
	14-Aug-12	Rev. H	MF	KT
	19-Sep-12	Rev. I	MF	KT
	21-Nov-12	Rev. J	MF	KT
	19-Feb-13	Rev. K	MF	KT
	05-Mar-13	Rev. L	MF	KT

Contract No.: HK/2010/06
 Wan Chai Development Phase II-
 Central-Wan Chai Bypass over MTR Tuen Wan Line
 (Works Programme - Rev. L)

金門 - 利達聯營
 Gammon - Leader Joint Venture


Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors
WBC200	A20	5	01-Nov-11	05-Nov-11	39	WBC2040	EBC2000
WBC2040	A16	16	28-Oct-11	15-Nov-11	39	WBC2010	WBC2020
WBC2050	A14	5	19-Nov-11	24-Nov-11	55	EBC2000, WPP1	WBC2060
WBC2060	A10	5	23-Nov-11	28-Nov-11	55	WBC2050	EBC2010
WBC2070	A18	6	01-Dec-11	07-Dec-11	55	EBC2010	WBC2080
WBC2080	A15	6	05-Dec-11	10-Dec-11	55	WBC2070	WBC2090
WBC2090	A11	6	08-Dec-11	14-Dec-11	55	WBC2080	WBC2150
WBC2100	A13	6	14-Dec-11	20-Dec-11	55	WPP1610	WBC2160
WBC2150	A17	6	12-Dec-11	17-Dec-11	55	WBC2090	WBC2165
WBC2160	A8	7	17-Dec-11	24-Dec-11	55	WBC2100	WBC2170
WBC2165	A19	6	15-Dec-11	21-Dec-11	55	WBC2150	WBC2170
WBC2170	A6	5	22-Dec-11	29-Dec-11	55	WBC2165, WBC	WBC2190, V
WBC2180	A24	4	05-Jan-12	09-Jan-12	55	WBC2170	WBC2320, V
WBC2190	A29	14	30-Dec-11	16-Jan-12	55	WBC2170	WBC2210
WBC2200	A7	10	07-Jan-12	18-Jan-12	60	WBC2180	EBC2060
WBC2210	A21	6	13-Jan-12	19-Jan-12	55	WBC2190	WBC2220
WBC2220	A27	8	17-Jan-12	28-Jan-12	55	WBC2210	WBC2230
WBC2230	A5	7	20-Jan-12	31-Jan-12	55	WBC2220	WBC2240
WBC2240	A23	7	28-Jan-12	04-Feb-12	55	WBC2230	WBC2250
WBC2250	A9	5	01-Feb-12	06-Feb-12	55	WBC2240	WBC2270
WBC2260	A25	5	03-Jan-12	07-Jan-12	78	WBC2170	WBC2270
WBC2270	A28	6	08-Feb-12	14-Feb-12	55	WBC2260, WBC	EBC2015, W
WBC2280	A22	5	11-Feb-12	16-Feb-12	55	WBC2270	WBC2290
WBC2290	A26	5	15-Feb-12	20-Feb-12	55	WBC2280	WBC2300
WBC2300	A4	8	17-Feb-12	25-Feb-12	55	WBC2290	EBC2160
WBC2310	A3	8	28-Feb-12	07-Mar-12	55	WBC2320, EBC2	EBC2170
WBC2320	Testing (i.e. Sonic Test and Interface Core Test)	55	11-Jan-12	17-Mar-12	55	WBC2180	PCW1800, V
East Bound Temp. Type 2 Platform							
EBS2210	Preparation Works and Mobilizing for Temporary Type 2 Platform	29	23-May-11	25-Jun-11	27	DRW1340	EBS2260
EBS2260	staging piles P35 - P38	8	20-Jun-11	28-Jun-11	27	EBS2210	EBS2270
EBS2270	staging piles P33 - P34	2	29-Jun-11	30-Jun-11	27	EBS2260	EBS2280
EBS2280	staging piles P31 - P32	3	02-Jul-11	05-Jul-11	27	EBS2270	EBS2290
EBS2290	staging piles P29 - P30	3	06-Jul-11	08-Jul-11	27	EBS2280	EBS2300
EBS2300	staging piles P39 - P40	3	09-Jul-11	12-Jul-11	27	EBS2290	EBS2310
EBS2310	staging piles P41 - P42	3	13-Jul-11	15-Jul-11	27	EBS2300	EBS2320
EBS2320	staging piles P43 - P44	3	16-Jul-11	19-Jul-11	27	EBS2310	EBS2330
EBS2330	staging piles P45 - P46	3	20-Jul-11	22-Jul-11	27	EBS2320	EBS2340
EBS2340	staging piles P47 - P48	3	23-Jul-11	26-Jul-11	27	EBS2330	EBS2350, EE
EBS2350	staging piles P49 - P50	3	27-Jul-11	29-Jul-11	58	EBS2340	EBC2310, EE
EBS2360	staging piles P51 - P52	3	30-Jul-11	02-Aug-11	91	EBS2350	EBS2365
EBS2365	staging piles P27 - P28	8	03-Aug-11	11-Aug-11	91	EBS2360	EBS2367
EBS2367	Erection of Type 1 platform	24	12-Aug-11	08-Sep-11	91	EBS2365	EBS2370
EBS2370	staging piles P53 - P54	3	09-Sep-11	12-Sep-11	91	EBS2367	EBS2380
EBS2380	staging piles P55 - P56	3	14-Sep-11	16-Sep-11	91	EBS2370	EBS2390
EBS2390	staging piles P57 - P58	3	17-Sep-11	20-Sep-11	91	EBS2380	EBC2580
East Bound Predrilling							
EBC2310	Preparation Works and Mobilizing for Type 3 Platform	14	29-Jul-11	13-Aug-11	58	EBS2350	EBC2330
EBC2330	Erection of Temporary Type 3 Platform for Predrilling	5	15-Aug-11	19-Aug-11	58	EBC2310	EBC2430
EBC2430	B14, B16	4	20-Aug-11	24-Aug-11	58	EBC2330	EBC2440
EBC2440	B18, B20	4	25-Aug-11	29-Aug-11	58	EBC2430	EBC2450
EBC2450	B17, B19	4	30-Aug-11	02-Sep-11	58	EBC2440	EBC2460
EBC2460	B13, B15	4	03-Sep-11	07-Sep-11	58	EBC2450	EBC2470
EBC2470	B28, B30	4	08-Sep-11	12-Sep-11	58	EBC2460	EBC2480
EBC2480	B27, B29	4	14-Sep-11	17-Sep-11	58	EBC2470	EBC2490
EBC2490	B24, B26	4	19-Sep-11	22-Sep-11	58	EBC2480	EBC2500
EBC2500	B23, B25	4	23-Sep-11	27-Sep-11	58	EBC2490	EBC2510
EBC2510	B20, B22	4	28-Sep-11	03-Oct-11	58	EBC2500	EBC2520
EBC2520	B21, B12	4	04-Oct-11	08-Oct-11	58	EBC2510	EBC2530
EBC2530	B9	5	10-Oct-11	14-Oct-11	58	EBC2520	EBC2540
EBC2540	B10	2	15-Oct-11	17-Oct-11	58	EBC2530	EBC2550



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	21-Nov-12	Rev. J	MF	KT
	19-Feb-13	Rev. K	MF	KT
	05-Mar-13	Rev. L	MF	KT

Contract No.: HK/2010/06

Wan Chai Development Phase II-

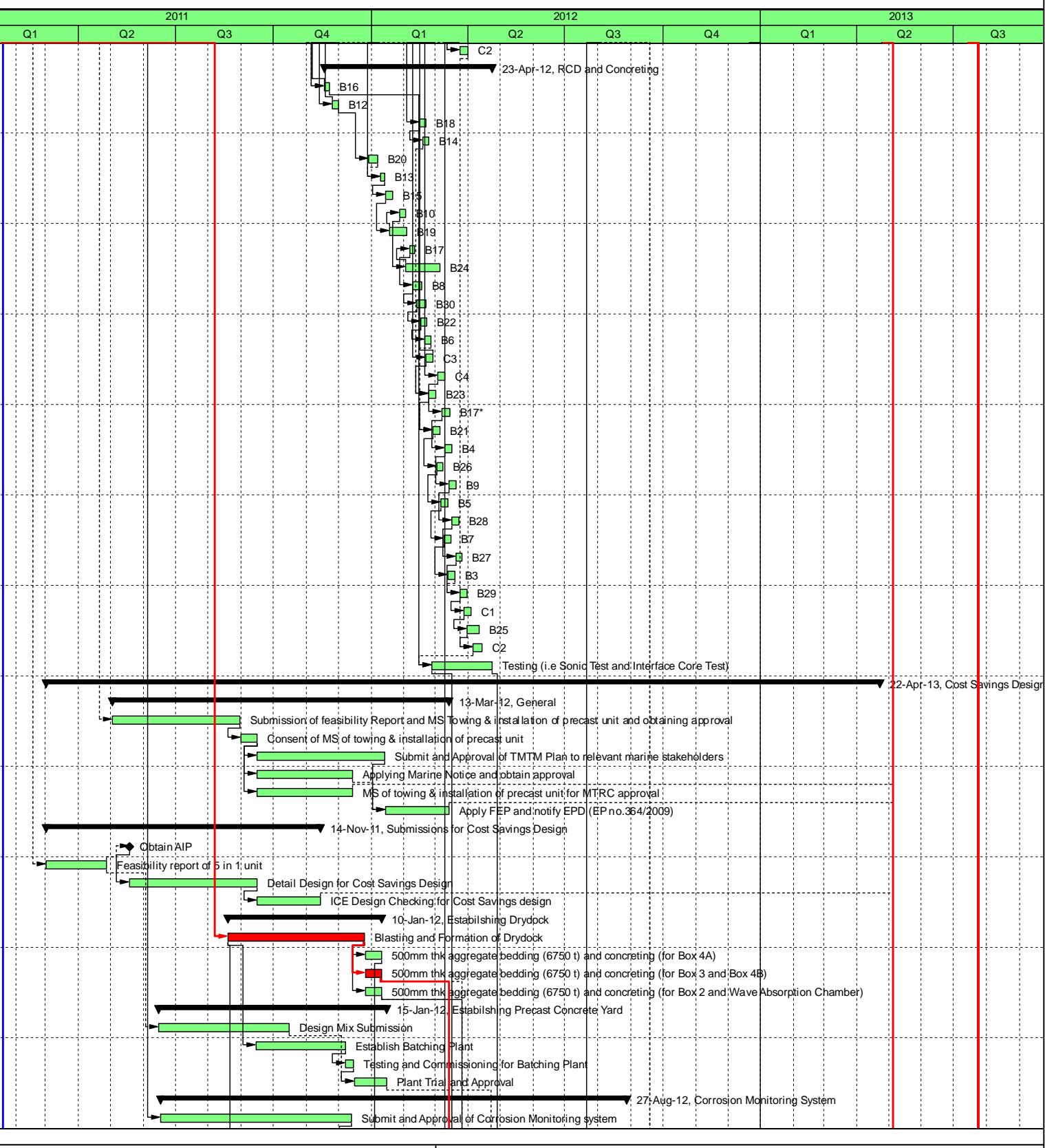
Central-Wan Chai Bypass over MTR Tuen Wan Line

(Works Programme - Rev. L)



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors	2011				2012				2013		
								Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
EBP2550	B8	6	18-Oct-11	24-Oct-11	58	EPP2540	EBP2560											
EBP2560	B7	2	25-Oct-11	26-Oct-11	58	EPP2550	EBP2570											
EBP2570	B6	4	27-Oct-11	31-Oct-11	58	EPP2560	EBP2580											
EBP2580	B5	2	01-Nov-11	02-Nov-11	58	EBS2390, EBP25	EBP2590											
EBP2590	B4	3	03-Nov-11	05-Nov-11	58	EPP2580	EBP2600											
EBP2600	B3	6	08-Nov-11	14-Nov-11	58	EPP2590	EPP1550, EF											
EBP2610	B27	3	04-Oct-11	07-Oct-11	64	WBP1860	EBP2620											
EBP2620	C4	6	08-Oct-11	14-Oct-11	64	EPP2610	EBP2630											
EBP2630	C3	6	15-Oct-11	21-Oct-11	64	EPP2620	EBP2640											
EBP2640	C1	4	22-Oct-11	26-Oct-11	64	EPP2630	EBP2650											
EBP2650	C2	5	27-Oct-11	01-Nov-11	64	EPP2640	EPP1700											
East Bound Bored Pile Construction Work		271	28-Jul-11	23-Apr-12	58													
Driving of 2650mm dia. Casing		83	28-Jul-11	18-Oct-11	71													
EBD1010	B16	3	28-Jul-11	30-Jul-11	27	EBS2340	EBD1020											
EBD1020	B14	3	01-Aug-11	03-Aug-11	27	EBD1010	EBD1030											
EBD1030	B12	3	04-Aug-11	06-Aug-11	27	EBD1020	EBD1040											
EBD1040	B18	3	08-Aug-11	10-Aug-11	27	EBD1030	EBD1050											
EBD1050	B20	3	11-Aug-11	13-Aug-11	27	EBD1040	EBD1060											
EBD1060	B22	3	15-Aug-11	17-Aug-11	27	EBD1050	EBD1070											
EBD1070	B24	3	18-Aug-11	20-Aug-11	27	EBD1060	EBD1080											
EBD1080	B26	3	22-Aug-11	24-Aug-11	27	EBD1070	EBD1090											
EBD1090	B28	3	25-Aug-11	27-Aug-11	27	EBD1080	EBD1100											
EBD1100	B10	3	29-Aug-11	31-Aug-11	27	EBD1090	EBD1110											
EBD1110	B8	3	01-Sep-11	03-Sep-11	27	EBD1100	EBD1130											
EBD1130	B30	3	05-Sep-11	07-Sep-11	27	EBD1110	EPP1400, EF											
EBD1140	T9	2	13-Oct-11	14-Oct-11	59	EBD1130	EBD1150											
EBD1150	B6	1	15-Oct-11	15-Oct-11	59	EBD1140	EBD1155											
EBD1155	T6	1	17-Oct-11	17-Oct-11	59	EBD1150	EBD1160											
EBD1160	B4	1	18-Oct-11	18-Oct-11	59	EBD1155	EPP1490, EF											
Excavation to Rockhead Level		208	06-Sep-11	31-Mar-12	74													
EPP1400	B13	5	06-Sep-11	10-Sep-11	27	EBD1130	EPP1410											
EPP1410	B15	4	15-Sep-11	19-Sep-11	27	EPP1400	EPP1420											
EPP1420	B21	15	23-Sep-11	12-Oct-11	27	EPP1410	EPP1430											
EPP1430	B25	7	18-Oct-11	25-Oct-11	27	EPP1420	EPP1440											
EPP1440	B17	4	26-Oct-11	29-Oct-11	27	EPP1430	EPP1450											
EPP1450	B9	4	03-Nov-11	07-Nov-11	27	EPP1440	EPP1460											
EPP1460	B19	5	08-Nov-11	12-Nov-11	27	EPP1450	EPP1470											
EPP1470	B16	4	14-Nov-11	17-Nov-11	27	EPP1460	EBC2000, EF											
EPP1480	B12	4	18-Nov-11	22-Nov-11	55	EPP2600, EPP14	WPP1550											
EPP1490	B18	5	20-Dec-11	24-Dec-11	57	EBD1160, WPP1	EPP1500, EF											
EPP1500	B23	3	28-Dec-11	30-Dec-11	65	EPP1490	EPP1530											
EPP1510	B14	4	03-Jan-12	06-Jan-12	69	WPP1660	EPP1520											
EPP1520	B20	4	03-Jan-12	06-Jan-12	69	EPP1510	EPP1550											
EPP1530	B7	5	30-Dec-11	05-Jan-12	65	EPP1500	EPP1540											
EPP1540	B5	4	06-Jan-12	10-Jan-12	65	EPP1530	EPP1550											
EPP1550	B3	6	12-Jan-12	18-Jan-12	65	EPP1540, EPP14	EPP1560											
EPP1560	B10	6	19-Jan-12	28-Jan-12	65	EPP1550	EPP1570											
EPP1570	B6	6	30-Jan-12	04-Feb-12	65	EPP1560	EPP1580											
EPP1580	B8	4	06-Feb-12	09-Feb-12	65	EPP1570	EPP1590											
EPP1590	B22	4	10-Feb-12	14-Feb-12	65	EPP1580	EPP1600											
EPP1600	B26	7	15-Feb-12	22-Feb-12	65	EPP1590	EPP1662											
EPP1610	B27	8	28-Dec-11	06-Jan-12	57	EPP1490	EPP1620											
EPP1620	B29	9	07-Jan-12	17-Jan-12	57	EPP1610	EPP1630											
EPP1630	B24	36	18-Jan-12	02-Mar-12	57	EPP1620	EPP1640, EF											
EPP1640	B30	10	02-Feb-12	13-Feb-12	59	EPP1630	EPP1650											
EPP1650	C3	7	14-Feb-12	21-Feb-12	59	EPP1640	EPP1662											
EPP1662	C4	7	22-Feb-12	29-Feb-12	59	E												

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors	
EPP1700	C2	7	24-Mar-12	31-Mar-12	57	EPP2650, EPP16	EBC2320	
RCD and Concreting		158	18-Nov-11	23-Apr-12	58			
EBC2000	B16	4	18-Nov-11	22-Nov-11	27	EPP1470, WBC2	WBC2050, E	
EBC2010	B12	6	25-Nov-11	01-Dec-11	55	WBC2060	EBC2050, W	
EBC2015	B18	6	15-Feb-12	21-Feb-12	64	WBC2270	EBC2040	
EBC2040	B14	6	18-Feb-12	24-Feb-12	64	EBC2015	EBC2180	
EBC2050	B20	7	29-Dec-11	06-Jan-12	62	EBC2010	EBC2060	
EBC2060	B13	4	10-Jan-12	13-Jan-12	60	WBC2200, EBC2	EBC2070	
EBC2070	B15	7	14-Jan-12	21-Jan-12	60	EBC2060	EBC2090	
EBC2080	B10	5	28-Jan-12	02-Feb-12	60	EBC2090	EBC2110	
EBC2090	B19	12	18-Jan-12	03-Feb-12	60	EBC2070	EBC2080	
EBC2100	B17	5	06-Feb-12	10-Feb-12	60	EBC2110	EBC2120	
EBC2110	B24	28	02-Feb-12	05-Mar-12	60	EBC2080	EBC2100	
EBC2120	B8	8	09-Feb-12	17-Feb-12	60	EBC2100	EBC2130	
EBC2130	B30	8	13-Feb-12	21-Feb-12	60	EBC2120	EBC2140	
EBC2140	B22	6	16-Feb-12	22-Feb-12	60	EBC2130	EBC2150	
EBC2150	B6	6	20-Feb-12	25-Feb-12	60	EBC2140	EBC2200	
EBC2160	C3	6	21-Feb-12	27-Feb-12	55	WBC2300	EBC2180, W	
EBC2170	C4	7	03-Mar-12	10-Mar-12	55	WBC2310	EBC2190	
EBC2180	B23	6	24-Feb-12	01-Mar-12	59	EBC2040, EBC2	EBC2200	
EBC2190	B17*	7	07-Mar-12	14-Mar-12	55	EBC2170	EBC2210	
EBC2200	B21	6	28-Feb-12	05-Mar-12	59	EBC2150, EBC2	EBC2220	
EBC2210	B4	6	10-Mar-12	16-Mar-12	55	EBC2190	EBC2230	
EBC2220	B26	6	02-Mar-12	08-Mar-12	59	EBC2200	EBC2240	
EBC2230	B9	6	14-Mar-12	20-Mar-12	55	EBC2210	EBC2250	
EBC2240	B5	6	06-Mar-12	12-Mar-12	59	EBC2220	EBC2260	
EBC2250	B28	6	17-Mar-12	23-Mar-12	55	EBC2230	EBC2270	
EBC2260	B7	6	09-Mar-12	15-Mar-12	59	EBC2240	EBC2280	
EBC2270	B27	6	20-Mar-12	26-Mar-12	55	EBC2250	EBC2290	
EBC2280	B3	6	13-Mar-12	19-Mar-12	59	EBC2260	EBC2290	
EBC2290	B29	6	24-Mar-12	30-Mar-12	55	EBC2270, EBC2	EBC2300	
EBC2300	C1	6	28-Mar-12	03-Apr-12	55	EBC2290	EBC2310	
EBC2310	B25	6	31-Mar-12	11-Apr-12	55	EBC2300	EBC2320	
EBC2320	C2	6	05-Apr-12	14-Apr-12	55	EBC2310, EPP1	EBC2330	
EBC2330	Testing (i.e. Sonic Test and Interface Core Test)		45	27-Feb-12	23-Apr-12	27	EBC2320, EBC2	PCW1815, F
Cost Savings Design for Precast Box Unit		784	01-Mar-11	22-Apr-13	103			



	Date	Revision	Ch...	Approved
Actual Work	31-May-12	Rev. E	MF	KT
Remaining Work	23-Jun-12	Rev. F	MF	KT
Critical Remaining ...	19-Jul-12	Rev. G	MF	KT
Milestone	14-Aug-12	Rev. H	MF	KT
Summary	19-Sep-12	Rev. I	MF	KT
	21-Nov-12	Rev. J	MF	KT
	19-Feb-13	Rev. K	MF	KT
	05-Mar-13	Rev. L	MF	KT

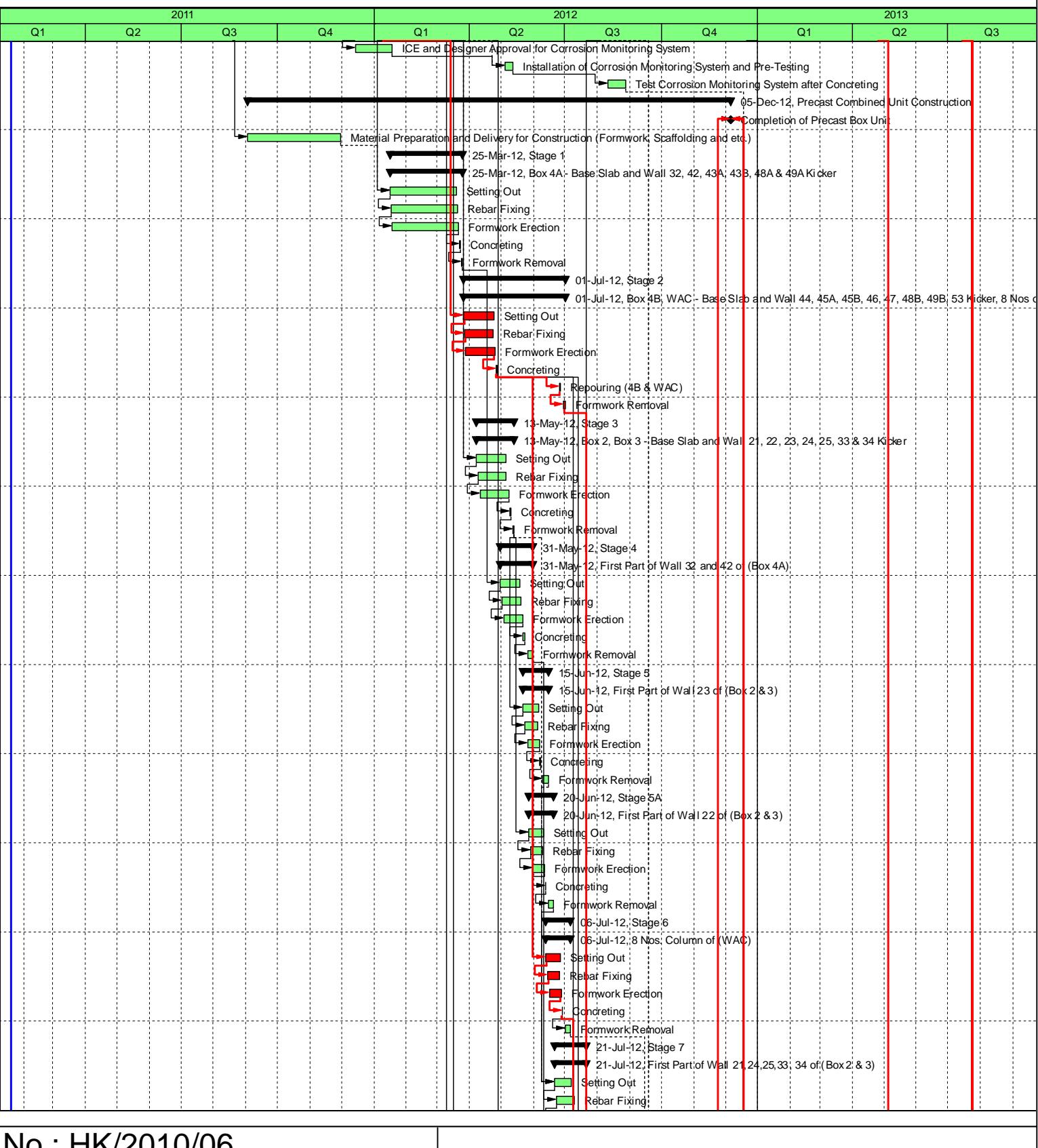
Contract No.: HK/2010/06

Wan Chai Development Phase II-
Central-Wan Chai Bypass over MTR Tuen Wan Line

(Works Programme - Rev. L)



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors
CMS5010	ICE and Designer Approval for Corrosion Monitoring System	36	14-Dec-11	18-Jan-12	100	CMS5000	CMS5020
CMS5020	Installation of Corrosion Monitoring System and Pre-Testing	8	05-May-12	12-May-12	100	EPY4041, CMS5	CMS5030
CMS5030	Test Corrosion Monitoring System after Concreting	17	11-Aug-12	27-Aug-12	100	CMS5020	PPC6000
Precast Combined Unit Construction		461	02-Sep-11	05-Dec-12	0		
PPC6000	Completion of Precast Box Unit	0		05-Dec-12*	0	STG9005, STG1	
PPC6010	Material Preparation and Delivery for Construction (Formwork, S	90	02-Sep-11	30-Nov-11	108	EDK2020	STG1001
Stage 1		70	16-Jan-12	25-Mar-12	62		
Box 4A - Base Slab and Wall 32, 42, 43A, 43B, 48A & 49A Kicker							
STG1001	Setting Out	60	16-Jan-12	19-Mar-12	62	EDK2060, PPC6	STG1002
STG1002	Rebar Fixing	60	17-Jan-12	20-Mar-12	62	STG1001	STG1003
STG1003	Formwork Erection	60	18-Jan-12	21-Mar-12	62	STG1002	STG1004
STG1004	Concreting	2	22-Mar-12	23-Mar-12	62	STG1003	STG1005
STG1005	Formwork Removal	2	24-Mar-12	25-Mar-12	62	STG1004	STG4001
Stage 2		98	26-Mar-12	01-Jul-12	0		
Box 4B, WAC - Base Slab and Wall 44, 45A, 45B, 46, 47, 48B, 49B, 53 Kicker, 8							
STG2001	Setting Out	30	26-Mar-12	24-Apr-12	0	EDK2070, EDK2	STG2002
STG2002	Rebar Fixing	28	27-Mar-12	23-Apr-12	0	STG2001	STG2003
STG2003	Formwork Erection	29	28-Mar-12	25-Apr-12	0	STG2002	STG2004
STG2004	Concreting	2	26-Apr-12	27-Apr-12	0	STG2003	STG6001, S
STG2005	Repouring (4B & WAC)	1	26-Jun-12	26-Jun-12	0	STG2004	STG2006
STG2006	Formwork Removal	3	29-Jun-12	01-Jul-12	0	STG2005	STG1110
Stage 3		37	07-Apr-12	13-May-12	97		
Box 2, Box 3 - Base Slab and Wall 21, 22, 23, 24, 25, 33 & 34 Kicker							
STG3001	Setting Out	29	07-Apr-12	05-May-12	97	EDK2070, EDK2	STG3002
STG3002	Rebar Fixing	27	09-Apr-12	05-May-12	97	STG3001	STG3003
STG3003	Formwork Erection	28	11-Apr-12	08-May-12	97	STG3002	STG3004
STG3004	Concreting	2	09-May-12	10-May-12	97	STG3003	STG3005
STG3005	Formwork Removal	2	12-May-12	13-May-12	97	STG3004	STG7001, S
Stage 4		32	30-Apr-12	31-May-12	62		
First Part of Wall 32 and 42 of (Box 4A)							
STG4001	Setting Out	19	30-Apr-12	18-May-12	62	STG1005	STG4002
STG4002	Rebar Fixing	18	02-May-12	19-May-12	62	STG4001	STG4003
STG4003	Formwork Erection	18	04-May-12	21-May-12	62	STG4002	STG4004
STG4004	Concreting	2	22-May-12	23-May-12	62	STG4003	STG4005
STG4005	Formwork Removal	6	26-May-12	31-May-12	62	STG4004	STG8001
Stage 5		25	22-May-12	15-Jun-12	102		
First Part of Wall 23 of (Box 2 & 3)							
STG5001	Setting Out	15	22-May-12	05-Jun-12	102	STG3005	STG5002
STG5002	Rebar Fixing	12	24-May-12	04-Jun-12	102	STG5001	STG5003
STG5003	Formwork Erection	12	26-May-12	06-Jun-12	102	STG5002	STG5004
STG5004	Concreting	1	07-Jun-12	07-Jun-12	102	STG5003	STG5005
STG5005	Formwork Removal	6	10-Jun-12	15-Jun-12	102	STG5004	STG7001
Stage 5A		25	27-May-12	20-Jun-12	97		
First Part of Wall 22 of (Box 2 & 3)							
SGA5001	Setting Out	15	27-May-12	10-Jun-12	97	STG3005	SGA5002
SGA5002	Rebar Fixing	12	29-May-12	09-Jun-12	97	SGA5001	SGA5003
SGA5003	Formwork Erection	12	31-May-12	11-Jun-12	97	SGA5002	SGA5004
SGA5004	Concreting	1	12-Jun-12	12-Jun-12	97	SGA5003	SGA5005
SGA5005	Formwork Removal	6	15-Jun-12	20-Jun-12	97	SGA5004	STG7001
Stage 6		25	12-Jun-12	06-Jul-12	82		
8 Nos. Column of (WAC)							
STG6001	Setting Out	15	12-Jun-12	26-Jun-12	0	STG2004	STG6002
STG6002	Rebar Fixing	12	14-Jun-12	25-Jun-12	0	STG6001	STG6003
STG6003	Formwork Erection	12	16-Jun-12	27-Jun-12	0	STG6002	STG6004
STG6004	Concreting	1	28-Jun-12	28-Jun-12	0	STG6003	SGA1010, S
STG6005	Formwork Removal	6	01-Jul-12	06-Jul-12	82	STG6004	STG1310
Stage 7		31	21-Jun-12	21-Jul-12	97		
First Part of Wall 21,24,25,33, 34 of (Box 2 & 3)							
STG7001	Setting Out	17	21-Jun-12	07-Jul-12	97	STG3005, STG5	STG7002
STG7002	Rebar Fixing	17	23-Jun-12	09-Jul-12	97	STG7001	STG7003



	Date	Revision	Ch...	Approved
	31-May-12	Rev. E	MF	KT
	23-Jun-12	Rev. F	MF	KT
◆◆ Milestone	19-Jul-12	Rev. G	MF	KT
◆◆ Summary	14-Aug-12	Rev. H	MF	KT
	19-Sep-12	Rev. I	MF	KT
	21-Nov-12	Rev. J	MF	KT
	19-Feb-13	Rev. K	MF	KT
	05-Mar-13	Rev. L	MF	KT

Contract No.: HK/2010/06

Wan Chai Development Phase II-

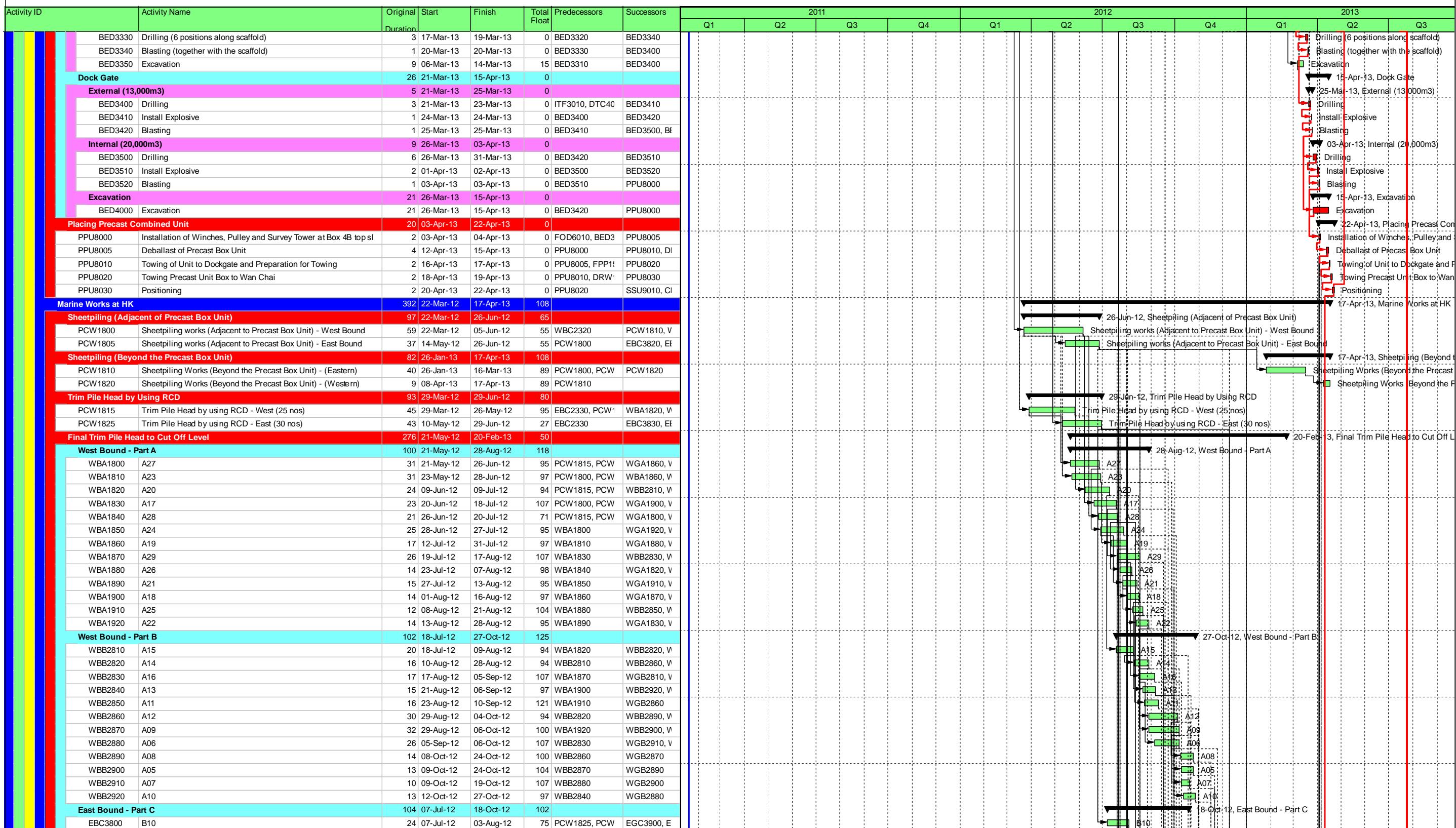
Central-Wan Chai Bypass over MTR Tuen Wan Line

(Works Programme - Rev. L)



Activity ID		Activity Name		Original Duration	Start	Finish	Total Float	Predecessors	Successors	2011				2012				2013			
										Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
STG7003	Formwork Erection			17	25-Jun-12	11-Jul-12	97	STG7002	STG7004												
STG7004	Concreting			2	12-Jul-12	13-Jul-12	97	STG7003	STG7005												
STG7005	Formwork Removal			6	16-Jul-12	21-Jul-12	97	STG7004	STG1210												
Stage 8		First Part of Wall 48A, 49A(Side Wall) & 43A(Double Wall) of Box 4A and 43B		32	23-Jun-12	24-Jul-12	62														
STG8001	Setting Out			20	23-Jun-12	12-Jul-12	62	STG4005	STG8002												
STG8002	Rebar Fixing			20	25-Jun-12	14-Jul-12	62	STG8001	STG8003												
STG8003	Formwork Erection			22	27-Jun-12	18-Jul-12	62	STG8002	STG8004												
STG8004	Concreting			2	19-Jul-12	20-Jul-12	62	STG8003	STG8005												
STG8005	Formwork Removal			3	22-Jul-12	24-Jul-12	62	STG8004	STG1410												
Stage 9		First Part of Wall 46 & 48B of (Box 4B)		27	21-Jul-12	16-Aug-12	111														
STG9001	Setting Out			15	21-Jul-12	04-Aug-12	111	STG2004	STG9002												
STG9002	Rebar Fixing			13	23-Jul-12	04-Aug-12	111	STG9001	STG9003												
STG9003	Formwork Erection			13	25-Jul-12	06-Aug-12	111	STG9002	STG9004												
STG9004	Concreting			2	07-Aug-12	08-Aug-12	111	STG9003	STG9005												
STG9005	Formwork Removal			6	11-Aug-12	16-Aug-12	111	STG9004	PPC6000												
Stage 10		First Part of Wall 47 (Internal Wall) (WAC)		22	26-Jul-12	16-Aug-12	74														
STG1010	Setting Out			15	26-Jul-12	09-Aug-12	74	STG2004	STG1020												
STG1020	Rebar Fixing			12	28-Jul-12	08-Aug-12	74	STG1010	STG1030												
STG1030	Formwork Erection			12	30-Jul-12	10-Aug-12	74	STG1020	STG1040												
STG1040	Concreting			1	11-Aug-12	11-Aug-12	74	STG1030	STG1050												
STG1050	Formwork Removal			3	14-Aug-12	16-Aug-12	74	STG1040	STG1510												
Stage 10A		Intermediate Slab (Panel Slot Slab) and First Part of Wall 53, 54 & 55 of WAC		27	21-Jul-12	16-Aug-12	74														
SGA1010	Setting Out			14	21-Jul-12	03-Aug-12	0	STG6004	SGA1020												
SGA1020	Falsework Erection			12	23-Jul-12	03-Aug-12	0	SGA1010	SGA1030												
SGA1030	Formwork Erection			11	25-Jul-12	04-Aug-12	0	SGA1020	SGA1040												
SGA1040	Rebar Fixing			11	27-Jul-12	06-Aug-12	0	SGA1030	SGA1050												
SGA1050	Concreting			1	07-Aug-12	07-Aug-12	0	SGA1040	STG1310, S												
SGA1060	Formwork and Falsework Removal			5	12-Aug-12	16-Aug-12	74	SGA1050	STG1510												
Stage 11		First Part of Wall 44,45A,45B, 49B of (Box 4B)		29	02-Aug-12	30-Aug-12	97														
STG1110	Setting Out			15	02-Aug-12	16-Aug-12	0	STG2006	STG1120												
STG1120	Rebar Fixing			13	04-Aug-12	16-Aug-12	0	STG1110	STG1130												
STG1130	Formwork Erection			13	06-Aug-12	18-Aug-12	0	STG1120	STG1140												
STG1140	Concreting			1	19-Aug-12	19-Aug-12	0	STG1130	STG1610, S												
STG1150	Formwork Removal			8	23-Aug-12	30-Aug-12	97	STG1140	PPC6000												
Stage 12		Top Slab of Box 2 & 3		42	20-Jul-12	30-Aug-12	97														
STG1210	Setting Out			19	20-Jul-12	07-Aug-12	97	STG7005	STG1220												
STG1220	Falsework Erection			17	22-Jul-12	07-Aug-12	97	STG1210	STG1230												
STG1230	Formwork Erection			17	24-Jul-12	09-Aug-12	97	STG1220	STG1240												
STG1240	Rebar Fixing			17	26-Jul-12	11-Aug-12	97	STG1230	STG1250												
STG1250	Concreting			2	12-Aug-12	13-Aug-12	97	STG1240	STG1260												
STG1260	Formwork and Falsework Removal			8	18-Oct-12	19-Oct-12	97	STG1250	PPC6000												
Stage 13		Wall 52 (lower) -5.25 to 0.5 + Lower Roof Slab		23	27-Sep-12	19-Oct-12	0														
STG1310	Setting Out			15	27-Sep-12	11-Oct-12	0	STG6005, SGA1	STG1320												
STG1320	Rebar Fixing			11	29-Sep-12	09-Oct-12	0	STG1310	STG1330												
STG1330	Formwork Erection			11	01-Oct-12	11-Oct-12	0	STG1320	STG1340												
STG1340	Concreting			1	12-Oct-12	12-Oct-12	0	STG1330	STG1350												
STG1350	Formwork Removal			2	18-Oct-12	19-Oct-12	0	STG1340	PPC6000, S												
Stage 14		Top Slab of Box 4A		32	03-Sep-12	04-Oct-12	62														
STG1410	Setting Out			11	03-Sep-12	13-Sep-12	62	STG8005	STG1420												
STG1420	Falsework Erection			11	06-Sep-12	16-Sep-12	62	STG1410	STG1430		</td										

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors	2011				2012				2013		
								Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
STG1450	Concreting	2	20-Sep-12	21-Sep-12	62	STG1440	STG1460											
STG1460	Falsework and Formwork Removal	8	27-Sep-12	04-Oct-12	62	STG1450	ITF3010, PP											
Stage 15	Wall 52 (Up to Top Slab)	21	30-Oct-12	19-Nov-12	0													
STG1510	Setting Out	10	30-Oct-12	08-Nov-12	0	STG1050, STG1	STG1520											
STG1520	Falsework Erection	8	01-Nov-12	08-Nov-12	0	STG1510	STG1530											
STG1530	Formwork Erection	8	03-Nov-12	10-Nov-12	0	STG1520	STG1540											
STG1540	Rebar Fixing	8	05-Nov-12	12-Nov-12	0	STG1530	STG1550											
STG1550	Concreting	1	13-Nov-12	13-Nov-12	0	STG1540	STG1560											
STG1560	Formwork and Falsework Removal	3	17-Nov-12	19-Nov-12	0	STG1550	STG1710, C											
Stage 16	Top Slab of 4B	22	14-Oct-12	04-Nov-12	0													
STG1610	Setting Out	14	14-Oct-12	27-Oct-12	0	STG1140	STG1620											
STG1620	Falsework Erection	11	14-Oct-12	24-Oct-12	0	STG1610	STG1630											
STG1630	Formwork Erection	11	15-Oct-12	25-Oct-12	0	STG1620	STG1640											
STG1640	Rebar Fixing	11	16-Oct-12	26-Oct-12	0	STG1630	STG1650											
STG1650	Concreting	2	27-Oct-12	28-Oct-12	0	STG1640	STG1660											
STG1660	Falsework and Formwork Removal	4	01-Nov-12	04-Nov-12	0	STG1650	PPC6000, IT											
Stage 17	Wall 52 (Jumping Slab)	19	17-Nov-12	05-Dec-12	0													
STG1710	Setting Out	12	17-Nov-12	28-Nov-12	0	STG1560	STG1720											
STG1720	Falsework Erection	10	18-Nov-12	27-Nov-12	0	STG1710	STG1730											
STG1730	Formwork Erection	10	18-Nov-12	27-Nov-12	0	STG1720	STG1740											
STG1740	Rebar Fixing	10	20-Nov-12	29-Nov-12	0	STG1730	STG1750											
STG1750	Concreting	1	30-Nov-12	30-Nov-12	0	STG1740	STG1760											
STG1760	Formwork & Falsework Removal	3	03-Dec-12	05-Dec-12	0	STG1750	FOD6010, P											
Transporting and Navigating		268	29-Jul-12	22-Apr-13	0													
Site Clearance		104	03-Oct-12	14-Jan-13	67													
Coating Works		38	08-Dec-12	14-Jan-13	67													
CWW1000	Waterproofing Coating	9	06-Jan-13	14-Jan-13	62	STG1460	FOD6010											
CWW1010	Protective Coating at WAC	23	08-Dec-12	30-Dec-12	75	STG1560	BED3000, Bt											
Turret		87	10-Oct-12	04-Jan-13	70													
SCT2000	Turret Construction	87	10-Oct-12	04-Jan-13	65	STG1460	FOD6010											
Installation of Towing Furniture		95	03-Oct-12	05-Jan-13	68													
ITF3010	Box 2/3 and Box 4A	59	03-Oct-12	30-Nov-12	82	STG1460	DTC4010, BI											
ITF3020	Box 4B	41	26-Nov-12	05-Jan-13	63	STG1660	BED3400											
Dismantle of Tower Crane		18	06-Dec-12	23-Dec-12	87													
DTC4010	Dismantle of Tower Crane	18	06-Dec-12	23-Dec-12	82	ITF3010	BED3400											
Flooding of Drydock 1		20	08-Jan-13	27-Jan-13	67													
FOD6010	Flooding from -9.0 to -5.6mCD	1	08-Jan-13	08-Jan-13	62	CWW1000, STG	PPU8000, F											
FOD6020	Watertightness Test (Stage 1)	2	09-Jan-13	10-Jan-13	62	FOD6010	FOD6030											
FOD6030	Flooding from -5.6 to -3.5mCD	1	11-Jan-13	11-Jan-13	62	FOD6020	FOD6040											
FOD6040	Watertightness Test (Stage 2)	3	12-Jan-13	14-Jan-13	62	FOD6030	FOD6050											
FOD6050	Testing of Ballast Tank (Stage 1)	13	15-Jan-13	27-Jan-13	62	FOD6040	FOD7010											
Flooding of Drydock 2		11	28-Jan-13	07-Feb-13	67													
FOD7010	Injection Grout at Base Slab (Box 4B & Box 3)	5	28-Jan-13	01-Feb-13	62	FOD6050	FOD7020											
FOD7020	Flooding from -3.5mCD to -2mCD	1	30-Jan-13	30-Jan-13	62	FOD7010	FOD7030											
FOD7030	Ballast Tank Water Tightness Test (Stage 2)	8	31-Jan-13	07-Feb-13	62	FOD7020	PPU8010											
Blasting & Excavate the Navigation and Dock Gate		261	29-Jul-12	15-Apr-13	0													
BED3000	Erection Protective Fence for Blasting	4	03-Jan-13	06-Jan-13	81	CWW1010	PPU8000											
Navigation Channel		235	29-Jul-12	20-Mar-13	13													
Blasting and Excavation by Drilling Barge		186	29-Jul-12	30-Jan-13	0													
BED3100	Blasting and Excavation by Drilling Barge	186	29-Jul-12*	30-Jan-13	0		BED3200, Bt											
Drilling/Blasting by Scaffold Platform		12	31-Jan-13	11-Feb-13	50													
BED3200	Erect Scaffold Platform	9	31-Jan-13	08-Feb-13	45	BED3100	BED3210											
BED3210	Drilling	3	09-Feb-13	11-Feb-13	50	BED3200	PPU8000											
Drilling/Blasting by Floating Platform		52	28-Jan-13	20-Mar-13	9													
BED3300	Assembly of Floating Platform	4	28-Jan-															



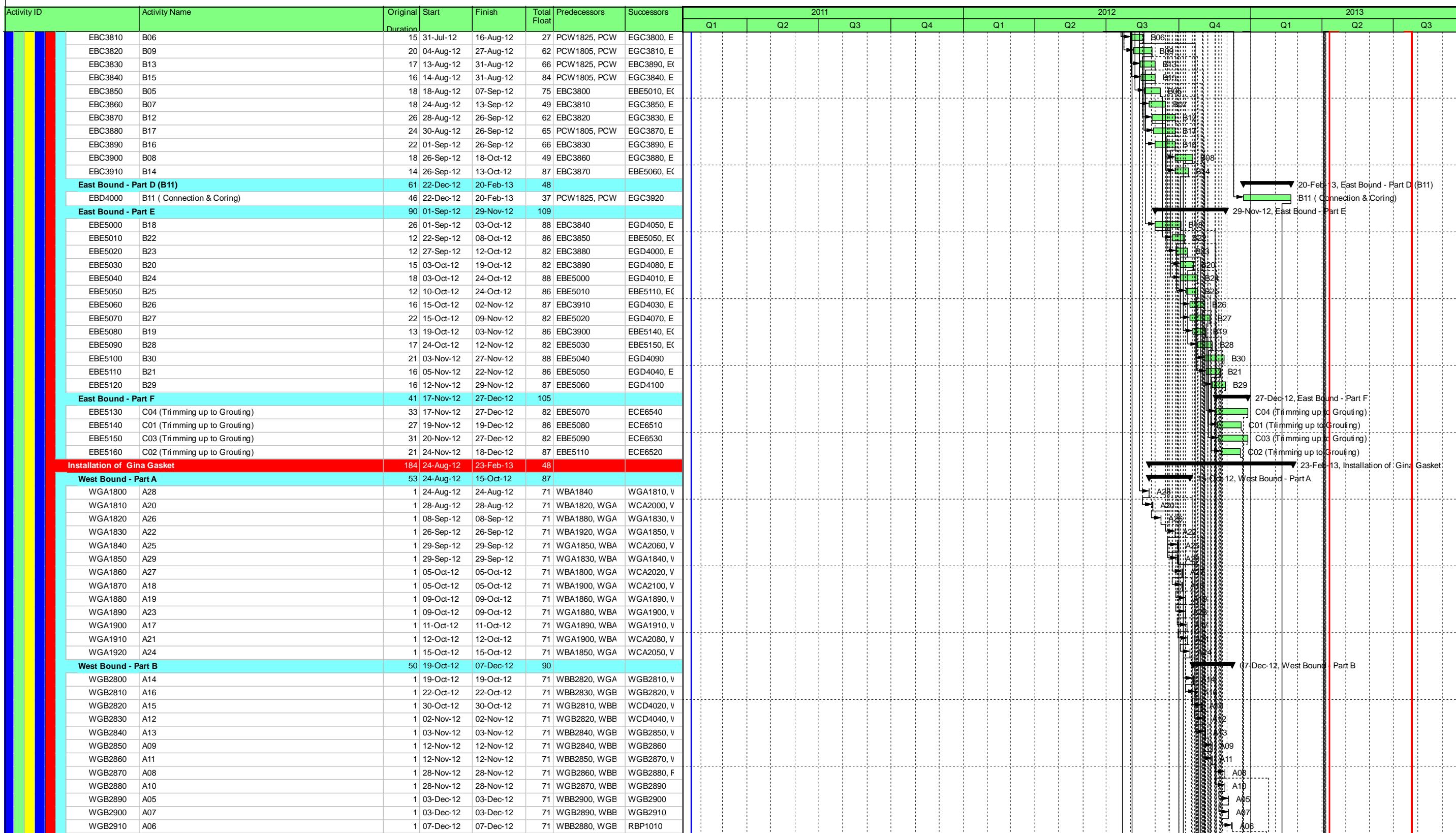
Contract No.: HK/2010/06

Wan Chai Development Phase II-

Central-Wan Chai Bypass over MTR Tuen Wan Line

(Works Programme - Rev. L)

金門 - 利達聯營
Gammon - Leader Joint Venture



	Date	Revision	Ch...	Approved
Actual Work	31-May-12	Rev. E	MF	KT
Remaining Work	23-Jun-12	Rev. F	MF	KT
Critical Remaining ...	19-Jul-12	Rev. G	MF	KT
Milestone	14-Aug-12	Rev. H	MF	KT
Summary	19-Sep-12	Rev. I	MF	KT
	21-Nov-12	Rev. J	MF	KT
	19-Feb-13	Rev. K	MF	KT
	05-Mar-13	Rev. L	MF	KT

Contract No.: HK/2010/06

Wan Chai Development Phase II-

Central-Wan Chai Bypass over MTR Tuen Wan Line

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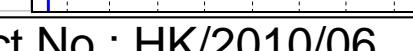


金門 - 利達聯營
Gammon - Leader Joint Venture



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors	2011				2012				2013		
								Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	East Bound - Part C		17	03-Nov-12	19-Nov-12	113										19-Nov-12, East Bound - Part C		
EGC3800	B06		1	03-Nov-12	03-Nov-12	27	EBC3810	EGC3810								B06		
EGC3810	B09		1	06-Nov-12	06-Nov-12	27	EGC3800, EBC3	EGC3820								B09		
EGC3820	B05		1	07-Nov-12	07-Nov-12	27	EGC3810, EBC3	EGC3830								B05		
EGC3830	B12		1	10-Nov-12	10-Nov-12	27	EGC3820, EBC3	RBP2080, E								B12		
EGC3840	B15		1	10-Nov-12	10-Nov-12	27	EBC3840, EGC3	EGC3860, E								B15		
EGC3850	B07		1	13-Nov-12	13-Nov-12	27	EGC3860, EBC3	EGC3870								B07		
EGC3860	B13		1	13-Nov-12	13-Nov-12	27	EGC3840, EBC3	EGC3850, E								B13		
EGC3870	B17		1	14-Nov-12	14-Nov-12	27	EGC3850, EBC3	ECC5030, E								B17		
EGC3880	B08		1	15-Nov-12	15-Nov-12	27	EGC3890, EBC3	EGC3900, E								B08		
EGC3890	B16		1	15-Nov-12	15-Nov-12	27	EBC3890, EGC3	EGC3880, E								B16		
EGC3900	B10		1	19-Nov-12	19-Nov-12	91	EBC3800, EGC3	EGC3910, R								B10		
EGC3910	B14		1	19-Nov-12	19-Nov-12	91	EGC3900, EBC3	ECC5010								B14		
East Bound - Part C (B11)			3	21-Feb-13	23-Feb-13	48										23-Feb-13, East Bound - Part C (B11)		
EGC3920	B11 (Installation of Gina Gasket)		3	21-Feb-13	23-Feb-13	37	EBD4000	RBP2060, RI								B11 (Installation of Gina Gasket)		
East Bound - Part D			30	09-Nov-12	08-Dec-12	105										08-Dec-12, East Bound - Part D		
EGD4000	B23		1	09-Nov-12	09-Nov-12	83	EBE5020	EGD4010, E								B23		
EGD4010	B24		1	23-Nov-12	23-Nov-12	83	EBE5040, EGD4	EGD4020, E							B24			
EGD4020	B25		1	23-Nov-12	23-Nov-12	83	EGD4010, EBE5	EGD4030, E							B25			
EGD4030	B26		1	24-Nov-12	24-Nov-12	83	EBE5060, EGD4	ECE6000, E							B26			
EGD4040	B21		1	27-Nov-12	27-Nov-12	83	EBE5110, EGD4	EGD4050, E							B21			
EGD4050	B18		1	28-Nov-12	28-Nov-12	83	EGD4040, EBE5	EGD4060, E							B18			
EGD4060	B22		1	29-Nov-12	29-Nov-12	83	EBE5010, EGD4	EGD4070, E							B22			
EGD4070	B27		1	29-Nov-12	29-Nov-12	83	EBE5070, EGD4	ECE6010, E							B27			
EGD4080	B20		1	30-Nov-12	30-Nov-12	83	EBE5030, EGD4	EGD4090, E							B20			
EGD4090	B30		1	04-Dec-12	04-Dec-12	83	EBE5100, EGD4	EGD4100, E							B30			
EGD4100	B29		1	05-Dec-12	05-Dec-12	83	EGD4090, EBE5	ECE6050, E							B29			
EGD4110	B19		1	06-Dec-12	06-Dec-12	83	EBE5080, EGD4	EGD4120, E							B19			
EGD4120	B28		1	08-Dec-12	08-Dec-12	84	EBE5090, EGD4	ECE6060							B28			
Dismantle of Staging Platform and Pile			193	15-Aug-12	23-Feb-13	76										23-Feb-13, Dismantle of Staging Platform and Pile		
West Bound - Part 1			35	08-Nov-12	12-Dec-12	105										12-Dec-12, West Bound - Part 1		
WSPA1000	P59-P60 (Staging Platform and Pile)		6	08-Nov-12	14-Nov-12	84	WGA1850	WSPA1010								P59-P60 (Staging Platform and Pile)		
WSPA1010	P25-P26 (Staging Platform and Pile)		2	15-Nov-12	16-Nov-12	84	WSPA1000	WSPA1020								P25-P26 (Staging Platform and Pile)		
WSPA1020	P23-P24 (Staging Platform and Pile)		2	17-Nov-12	19-Nov-12	84	WSPA1010	WSPA1030								P23-P24 (Staging Platform and Pile)		
WSPA1030	P21-P22 (Staging Platform and Pile)		2	19-Nov-12	20-Nov-12	84	WSPA1020	WSPA1040								P21-P22 (Staging Platform and Pile)		
WSPA1040	P19-P20 (Staging Platform and Pile)		2	21-Nov-12	22-Nov-12	84	WSPA1030	WSPA1050								P19-P20 (Staging Platform and Pile)		
WSPA1050	P17-P18 (Staging Platform and Pile)		2	23-Nov-12	24-Nov-12	84	WSPA1040	WSPA1060								P17-P18 (Staging Platform and Pile)		
WSPC2070	P13-P14 (Staging Platform and Pile)		1	12-Dec-12	12-Dec-12	84	WSPA1060	WSPC2000								P13-P14 (Staging Platform and Pile)		
West Bound - Part 2			10	18-Dec-12	27-Dec-12	107										27-Dec-12, West Bound - Part 2		
WSPC2000	BP1-BP2 (Staging Platform and Pile)		2	18-Dec-12	19-Dec-12	84	WSPC2070	WSPC2010								BP1-BP2 (Staging Platform and Pile)		
WSPC2010	P01-P02 (Staging Platform and Pile)		1	20-Dec-12	20-Dec-12	84	WSPC2000	WSPC2020								P01-P02 (Staging Platform and Pile)		
WSPC2020	P03-P04 (Staging Platform and Pile)		1	21-Dec-12	21-Dec-12	84	WSPC2010	WSPC2030								P03-P04 (Staging Platform and Pile)		
WSPC2030	P05-P06 (Staging Platform and Pile)		1	22-Dec-12	22-Dec-12	84	WSPC2020	WSPC2040								P05-P06 (Staging Platform and Pile)		
WSPC2040	P07-P08 (Staging Platform and Pile)		1	27-Dec-12	27-Dec-12	84	WSPC2030	WSPC2050								P07-P08 (Staging Platform and Pile)		
WSPC2050	P09-P10 (Staging Platform and Pile)		1	27-Dec-12	27-Dec-12	84	WSPC2040	WSPC2060								P09-P10 (Staging Platform and Pile)		
WSPC2060	P11-P12 (Staging Platform and Pile)		1	27-Dec-12	27-Dec-12	84	WSPC2050	DRW1520								P11-P12 (Staging Platform and Pile)		
East Bound - Part 1			4	15-Aug-12	18-Aug-12	213										18-Aug-12, East Bound - Part 1		
ESPD3000	P57-P58 (Staging Platform and Pile)		2	15-Aug-12	16-Aug-12	173	EBC3800	ESPD3100								P57-P58 (Staging Platform and Pile)		
ESPD3100	P61-P62-P63 (Staging Platform and Pile)		2	17-Aug-12	18-Aug-12	173	ESPD3000	ESPD4000								P61-P62-P63 (Staging Platform and Pile)		
East Bound - Part 2			12	24-Dec-12	04-Jan-13	32										04-Jan-13, East Bound - Part 2		
ESPB3070	PB5-PB3-PB4 (Staging Platform and Pile)		8	24-Dec-12	04-Jan-13	27												

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors	2011				2012				2013		
								Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
ESPD4050	P45-P46 (Staging Platform and Pile)	1	15-Jan-13	15-Jan-13	60	ESPD4040	ESPD4060									P45-P46 (Staging Platform and Pile)		
ESPD4060	P43-P44 (Staging Platform and Pile)	2	15-Jan-13	16-Jan-13	60	ESPD4050	ESPD4070									P43-P44 (Staging Platform and Pile)		
ESPD4070	P39-P40 (Staging Platform and Pile)	4	15-Jan-13	18-Jan-13	60	ESPD4060	ESPD4080									P39-P40 (Staging Platform and Pile)		
ESPD4080	P41-P42 (Staging Platform and Pile)	2	17-Jan-13	18-Jan-13	60	ESPD4070	ESPB3000									P41-P42 (Staging Platform and Pile)		
East Bound - Part 4								36	19-Jan-13	23-Feb-13	76					23-Feb-13, East Bound - Part 4		
ESPB3000	P37-P38 (Staging Platform and Pile)	2	19-Jan-13	21-Jan-13	60	ESPD4080	ESPB3010									P37-P38 (Staging Platform and Pile)		
ESPB3010	P35-P36 (Staging Platform and Pile)	28	19-Jan-13	23-Feb-13	60	ESPB3000	ESPB3020								P35-P36 (Staging Platform and Pile)			
ESPB3020	P33-P34 (Staging Platform and Pile)	22	26-Jan-13	23-Feb-13	60	ESPB3010	ESPB3030								P33-P34 (Staging Platform and Pile)			
ESPB3030	P31-P32 (Staging Platform and Pile)	22	26-Jan-13	23-Feb-13	60	ESPB3020	DRW1520								P31-P32 (Staging Platform and Pile)			
Cut Steel Casing of Bored Piles								139	13-Oct-12	28-Feb-13	48					28-Feb-13, Cut Steel Casing of Bored Piles		
West Bound - Part 1								36	13-Oct-12	17-Nov-12	98					12-Nov-12, West Bound - Part 1		
WCA2000	A20	3	13-Oct-12	16-Oct-12	78	WGA1810	WCA2010								A20			
WCA2010	A26	2	22-Oct-12	24-Oct-12	78	WGA1820, WCA	WCA2020								A26			
WCA2020	A27	2	29-Oct-12	30-Oct-12	78	WGA1860, WCA	WCA2030								A27			
WCA2030	A28	2	31-Oct-12	01-Nov-12	78	WCA2020, WGA	WCA2040								A28			
WCA2040	A29	2	02-Nov-12	03-Nov-12	78	WGA1850, WCA	WCA2050								A29			
WCA2050	A24	2	05-Nov-12	06-Nov-12	78	WGA1920, WCA	WCA2060								A24			
WCA2060	A25	2	05-Nov-12	06-Nov-12	78	WCA2050, WGA	WCA2070								A25			
WCA2070	A23	2	07-Nov-12	08-Nov-12	78	WCA2060, WGA	WCA2080								A23			
WCA2080	A21	2	12-Nov-12	13-Nov-12	78	WGA1910, WCA	WCA2090								A21			
WCA2090	A22	2	12-Nov-12	13-Nov-12	78	WGA1830, WCA	WCA2100								A22			
WCA2100	A18	2	15-Nov-12	16-Nov-12	78	WGA1870, WCA	WCA2110								A18			
WCA2110	A19	2	15-Nov-12	16-Nov-12	78	WCA2100, WGA	WCA2120								A19			
WCA2120	A17	2	16-Nov-12	17-Nov-12	78	WCA2110, WGA	WCD4000								A17			
West Bound - Part 2								8	16-Nov-12	23-Nov-12	98					23-Nov-12, West Bound - Part 2		
WCD4000	A16	2	16-Nov-12	17-Nov-12	78	WGB2810, WCA	WCD4010								A16			
WCD4010	A14	2	19-Nov-12	20-Nov-12	78	WCD4000, WGE	WCD4020								A14			
WCD4020	A15	2	19-Nov-12	20-Nov-12	78	WGB2820, WCE	WCD4030								A15			
WCD4030	A13	2	20-Nov-12	21-Nov-12	78	WCD4020, WGE	WCD4040								A13			
WCD4040	A12	2	22-Nov-12	23-Nov-12	78	WCD4030, WGE	WCD4050								A12			
WCD4050	A11	2	22-Nov-12	23-Nov-12	78	WCD4040, WGE	ECC5000								A11			
East Bound - Part 3								5	03-Dec-12	07-Dec-12	98					07-Dec-12, East Bound - Part 3		
ECC5000	B16	2	03-Dec-12	04-Dec-12	78	ECC3890, WCD	ECC5010								B16			
ECC5010	B14	2	05-Dec-12	06-Dec-12	78	ECC5000, EGC3	ECC5020								B14			
ECC5020	B15	2	05-Dec-12	06-Dec-12	78	ECC3840, ECC5	ECC5030								B15			
ECC5030	B17	2	06-Dec-12	07-Dec-12	78	ECC5020, EGC3	ECC5040								B17			
ECC5040	B13	2	06-Dec-12	07-Dec-12	78	ECC3860, ECC5	ECE6000								B13			
East Bound - Part 4								20	10-Dec-12	29-Dec-12	101					29-Dec-12, East Bound - Part 4		
ECE6000	B26	2	10-Dec-12	11-Dec-12	78	EGD4030, ECC5	ECE6010								B26			
ECE6010	B27	2	11-Dec-12	12-Dec-12	78	EGD4070, ECE6	ECE6020								B27			
ECE6020	B18	2	11-Dec-12	12-Dec-12	78	EGD4050, ECE6	ECE6030								B18			
ECE6030	B19	2	13-Dec-12	14-Dec-12	78	EGD4110, ECE6	ECE6040								B19			
ECE6040	B20	2	13-Dec-12	14-Dec-12	78	EGD4080, ECE6	ECE6050								B20			
ECE6050	B22	2	17-Dec-12	18-Dec-12	78	EGD4100, ECE6	ECE6060								B22			
ECE6060	B28	2	17-Dec-12	18-Dec-12	78	EGD4120, ECE6	ECE6070								B28			
ECE6070	B29	2	17-Dec-12	18-Dec-12	78	EGD4060, ECE6	ECE6080								B29			
ECE6080	B30	2	19-Dec-12	20-Dec-12	78	EGD4090, ECE6	ECE6090								B30			
ECE6090	B21	2	24-Dec-12	27-Dec-12	78	EGD4040, ECE6	ECE6100								B21			
ECE6100	B23	2	24-Dec-12	27-Dec-12	78	EGD4000, ECE6	ECE6110								B23			
ECE6110	B24	2	28-Dec-12	29-Dec-12	78	EGD4010, ECE6	ECE6120								B24			
ECE6120	B25	2	28-Dec-12	29-Dec-12	78	EGD4020, ECE6	ECE6510								B25			
East Bound - Part 5								3	02-Jan-13	04-Jan-13	99					04-Jan-13, East Bound - Part 5		



Wan Chai Development Phase II-

Central-Wan Chai Bypass over MTR Tuen Wan Line

Works Programme - Rev. L)



金門 - 利達聯營



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Predecessors	Successors	2011				2012				2013		
								Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
P1A1040	Subbase, Kerb	6	01-Jan-13	06-Jan-13	0	P1A1030	P1A1050									Subbase, Kerb		
P1A1050	Surfacing	4	07-Jan-13	10-Jan-13	0	P1A1040	P1A1200									Surfacing		
Phase II A		30	11-Jan-13	09-Feb-13	0											09-Feb-13, Phase II A		
P1A1200	Excavation	7	11-Jan-13	17-Jan-13	0	P1A1050	P1A1210									Excavation		
P1A1210	Drainages	10	15-Jan-13	24-Jan-13	0	P1A1200	P1A1220									Drainages		
P1A1220	Ducts (Street Lighting, Traffic Lights, Telecom)	10	22-Jan-13	31-Jan-13	0	P1A1210	P1A1230									Ducts (Street Lighting, Traffic Lights, Telecom)		
P1A1230	Backfill	7	29-Jan-13	04-Feb-13	0	P1A1220	P1A1240									Backfill		
P1A1240	Subbase, Kerb	6	02-Feb-13	07-Feb-13	0	P1A1230	P1A1250									Subbase, Kerb		
P1A1250	Surfacing	4	06-Feb-13	09-Feb-13	0	P1A1240	P1A2060									Surfacing		
Phase IA - (2) (Expo Drive Central)		29	10-Feb-13	10-Mar-13	0											10-Mar-13, Phase IA - (2) (Expo Drive Ce		
P1A2060	Excavation	4	10-Feb-13	13-Feb-13	0	P1A1250	P1A2070									Excavation		
P1A2070	Drainages	10	14-Feb-13	23-Feb-13	0	P1A2060	P1A2080									Drainages		
P1A2080	Ducts (Street Lighting, Traffic Lights)	5	21-Feb-13	25-Feb-13	0	P1A2070	P1A2090									Ducts (Street Lighting, Traffic Lights)		
P1A2090	Backfill	5	26-Feb-13	02-Mar-13	0	P1A2080	P1A2100									Backfill		
P1A2100	Subbase, Kerb	6	01-Mar-13	06-Mar-13	0	P1A2090	P1A2110									Subbase, Kerb		
P1A2110	Surfacing	4	07-Mar-13	10-Mar-13	0	P1A2100	P1B2000									Surfacing		
Phase IB (Expo Drive)		30	11-Mar-13	09-Apr-13	0											09-Apr-13, Phase IB (Expo Drive)		
P1B2000	Excavation	5	11-Mar-13	15-Mar-13	0	P1A2110	P1B2010									Excavation		
P1B2010	Drainages	7	16-Mar-13	22-Mar-13	0	P1B2000	P1B2020									Drainages		
P1B2020	Ducts (Street Lighting, Traffic Lights)	7	20-Mar-13	26-Mar-13	0	P1B2010	P1B2030									Ducts (Street Lighting, Traffic Lights)		
P1B2030	Backfill	4	27-Mar-13	30-Mar-13	0	P1B2020	P1B2040									Backfill		
P1B2040	Subbase, Kerb	10	31-Mar-13	09-Apr-13	0	P1B2030	P1B2050									Subbase, Kerb		
P1B2050	Surfacing	6	04-Apr-13	09-Apr-13	0	P1B2040	P2B2100									Surfacing		
Phase II B (1)		28	10-Apr-13	07-May-13	0											07-May-13, Phase II B (1)		
P2B2100	Excavation	7	10-Apr-13	16-Apr-13	0	P1B2050	P2B2110									Excavation		
P2B2110	Ducts (Street Lighting, Traffic Lights)	10	14-Apr-13	23-Apr-13	0	P2B2100	P2B2120									Ducts (Street Lighting, Traffic Lights)		
P2B2120	Kerb	6	24-Apr-13	29-Apr-13	0	P2B2110	P2B2130									Kerb		
P2B2130	Footway	8	30-Apr-13	07-May-13	0	P2B2120	P2B2200									Footway		
Phase II B (2)		25	08-May-13	01-Jun-13	0											01-Jun-13, Phase II B (2)		
P2B2200	Excavation	10	08-May-13	17-May-13	0	P2B2130	P2B2210									Excavation		
P2B2210	Ducts (Street Lighting, Traffic Lights)	11	13-May-13	23-May-13	0	P2B2200	P2B2220									Ducts (Street Lighting, Traffic Lights)		
P2B2220	Backfill	7	18-May-13	24-May-13	0	P2B2210	P2B2230									Backfill		
P2B2230	Subbase, Kerb	10	23-May-13	01-Jun-13	0	P2B2220	P2B2240									Subbase, Kerb		
P2B2240	Surfacing	4	28-May-13	31-May-13	0	P2B2230	P3B3000									Surfacing		
Phase III B		27	01-Jun-13	27-Jun-13	0											27-Jun-13, Phase III B		
P3B3000	Excavation	7	01-Jun-13	07-Jun-13	0	P2B2240	P3B3010									Excavation		
P3B3010	Ducts (Street Lighting, Traffic Lights)	10	08-Jun-13	17-Jun-13	0	P3B3000	P3B3020									Ducts (Street Lighting, Traffic Lights)		
P3B3020	Backfill	7	18-Jun-13	24-Jun-13	0	P3B3010	P3B3030									Backfill		
P3B3030	Subbase	7	21-Jun-13	27-Jun-13	0	P3B3020	P3B3040									Subbase		
P3B3040	Surfacing	4	24-Jun-13	27-Jun-13	0	P3B3030	CNO1030									Surfacing		
Phase IC (Convention Avenue)		100	20-Feb-13	30-May-13	0											30-May-13, Phase IC (C		
P1C4000	Excavation	7	20-Feb-13	26-Feb-13	0	TAR8000, TAR8C	P1C4010									Excavation		
P1C4010	Drainages	18	24-Feb-13	13-Mar-13	0	P1C4000	P1C4020									Drainages		
P1C4020	Ducts (Street Lighting, Traffic Lights)	21	06-Mar-13	26-Mar-13	0	P1C4010	P1C4030, M									Ducts (Street Lighting, Traffic Lights)		
P1C4030	Sewerage	21	06-Mar-13	26-Mar-13	0	P1C4020	P1C4040									Sewerage		
P1C4040	Fresh Water Main	21	11-Mar-13	31-Mar-13	0	P1C4030	P1C4050									Fresh Water Main		
P1C4050	HEC Duct	21	11-Mar-13	31-Mar-13	0	P1C4040	P1C4060, M									HEC Duct		
P1C4060	Telecom Duct	21	11-Mar-13	31-Mar-13	0	P1C4050	P1C4070, M									Telecom Duct		
P1C4070	Backfill	14	21-Mar-13	03-Apr-13	0	P1C4060	P1C4080									Backfill		
P1C4080	Subbase, Kerb	12	28-Mar-13	08-Apr-13	0	P1C4070	P1C4090, P2									Subbase, Kerb		
P1C4090	Surfacing	4	27-May-13	30-May-13	0	P1C4080	MSW7, CNO1030									Surfacing		
Phase II C (Convention Avenue)		38	13-Apr-13	20-May-13	0											20-May-13, Phase II C (C		
P2C4100	Excavation	7	13-Apr-13	19-Apr-13	0	P1C4080	P2C4110									Excavation		
P2C4110	Drainages	14	18-Apr-13	01-May-13	0	P2C4100	P2C4120, P2									Drainages		
P2C4120	Duct (Traffic Light)	5	27-Apr-13	01-May-13	7	P2C4110	P2C4150									Duct (Traffic Light)		
P2C4130	Sewerage	21	18-Apr-13	08-May-13	0	P2C4120	P2C4140									Sewerage		
P2C4140	Fresh Water Main	21	18-Apr-13	08-May-13	0	P2C4130	P2C4150									Fresh Water Main		
P2C4150	Backfill	4	09-May-13	12-May-13	0	P2C4140, P2C41	P2C4160									Backfill		
P2C4160	Subbase	4	13-May-13	16-May-13	0	P2C4150	P2C4170									Subbase		
P2C4170	Surfacing	4	17-May-13	20-May-13	0	P2C4160	P3C4200									Surfacing		

	Date	Revision	Ch...	Approved
Actual Work	31-May-12	Rev. E	MF	KT
Remaining Work	23-Jun-12	Rev. F	MF	KT
Critical Remaining ...	19-Jul-12	Rev. G	MF	KT
◆ ◆ Milestone	14-Aug-12	Rev. H	MF	KT
▼▼ Summary	19-Sep-12	Rev. I	MF	KT
	21-Nov-12	Rev. J	MF	KT
	19-Feb-13	Rev. K	MF	KT
	05-Mar-13	Rev. L	MF	KT

Contract No.: HK/2010/06

Wan Chai Development Phase II-

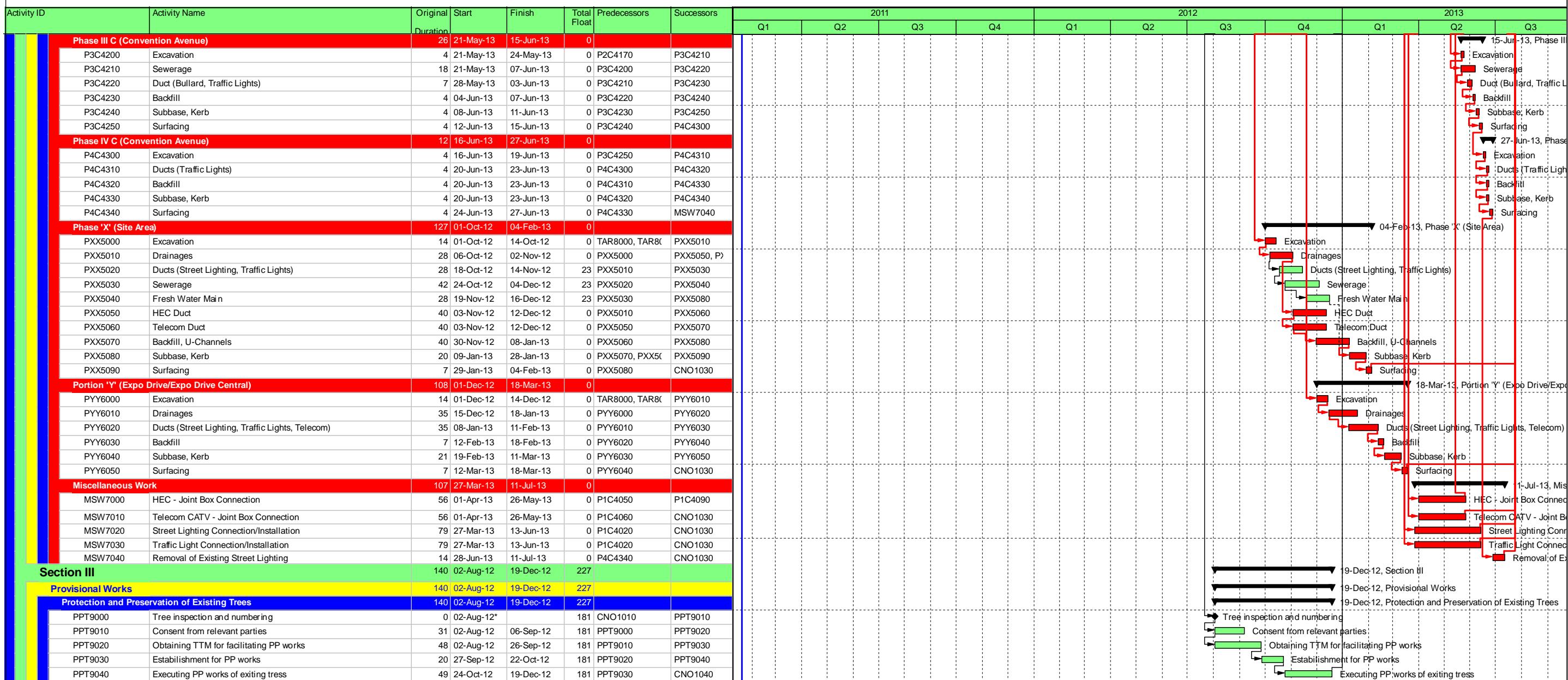
Central-Wan Chai Bypass over MTR Tuen Wan Line

Works Programme - Rev. L)



金門 - 利達聯營 Gammon - Leader Joint Venture

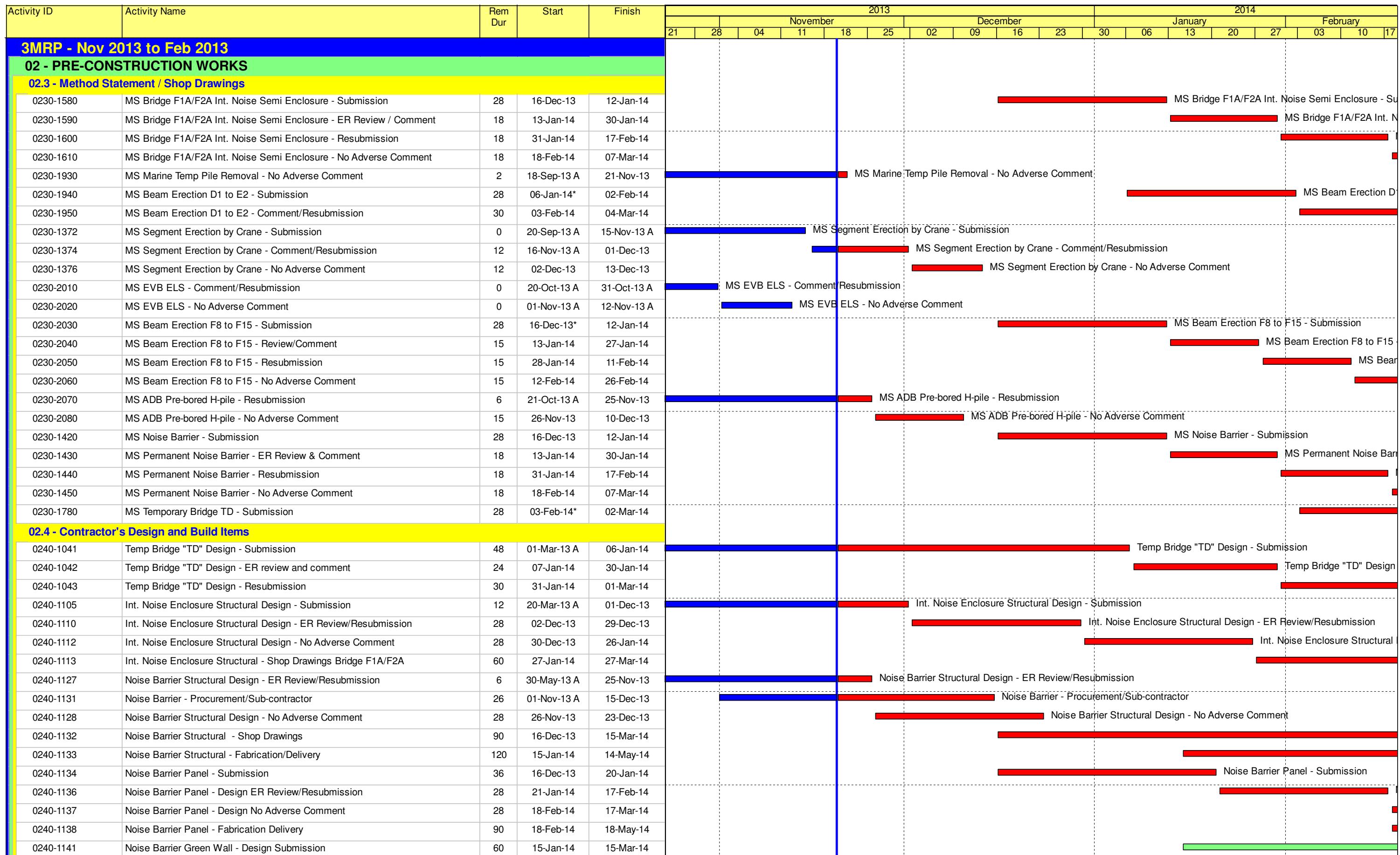




	Date	Revision	Ch...	Approved
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◆◆	19-Jul-12	Rev. G	MF	KT
◆◆	14-Aug-12	Rev. H	MF	KT
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◆◆	19-Feb-13	Rev. K	MF	KT
◆◆	05-Mar-13	Rev. L	MF	KT

Contract No.: HK/2010/06
Wan Chai Development Phase II-
Central-Wan Chai Bypass over MTR Tuen Wan Line
(Works Programme - Rev. L)

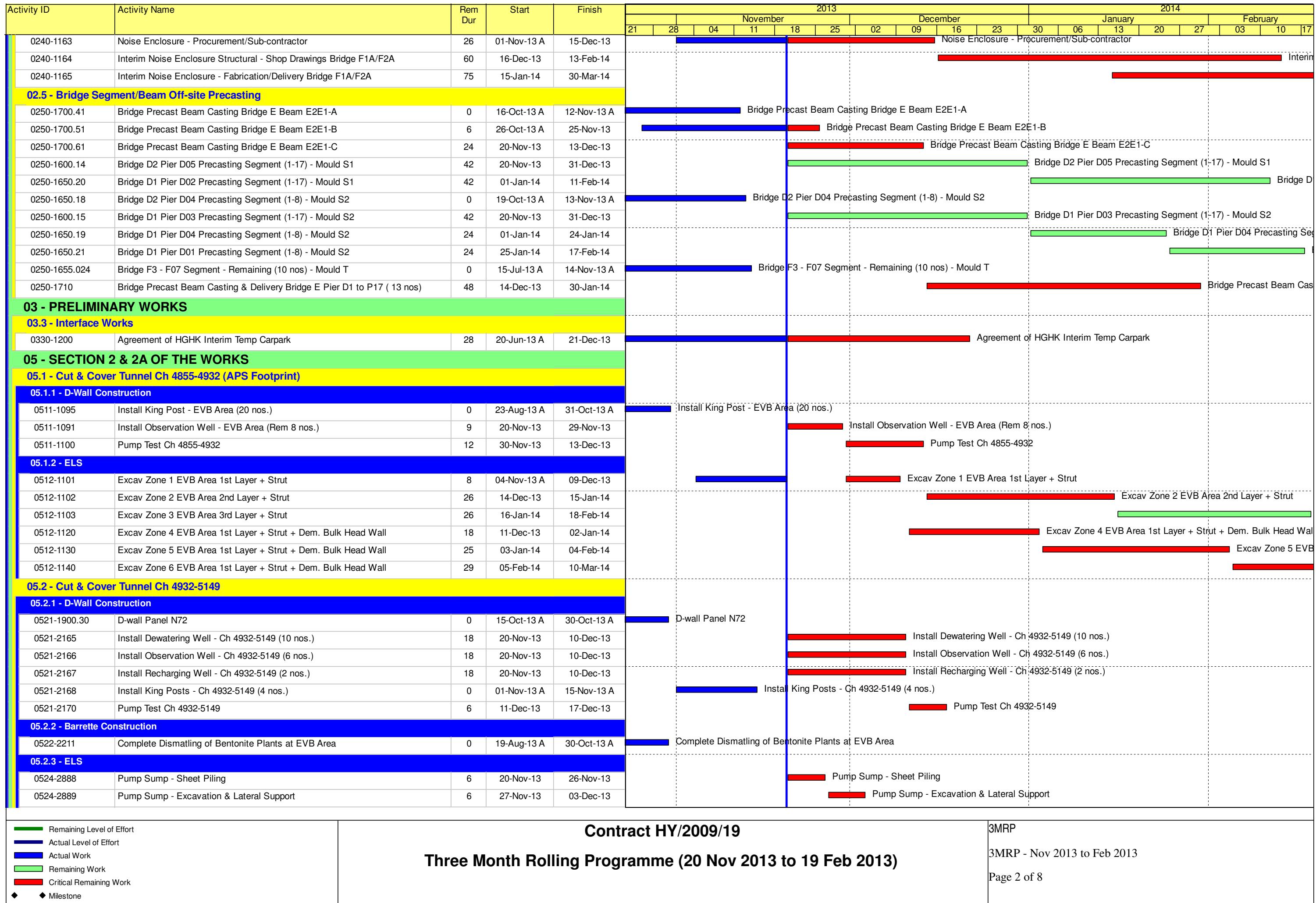




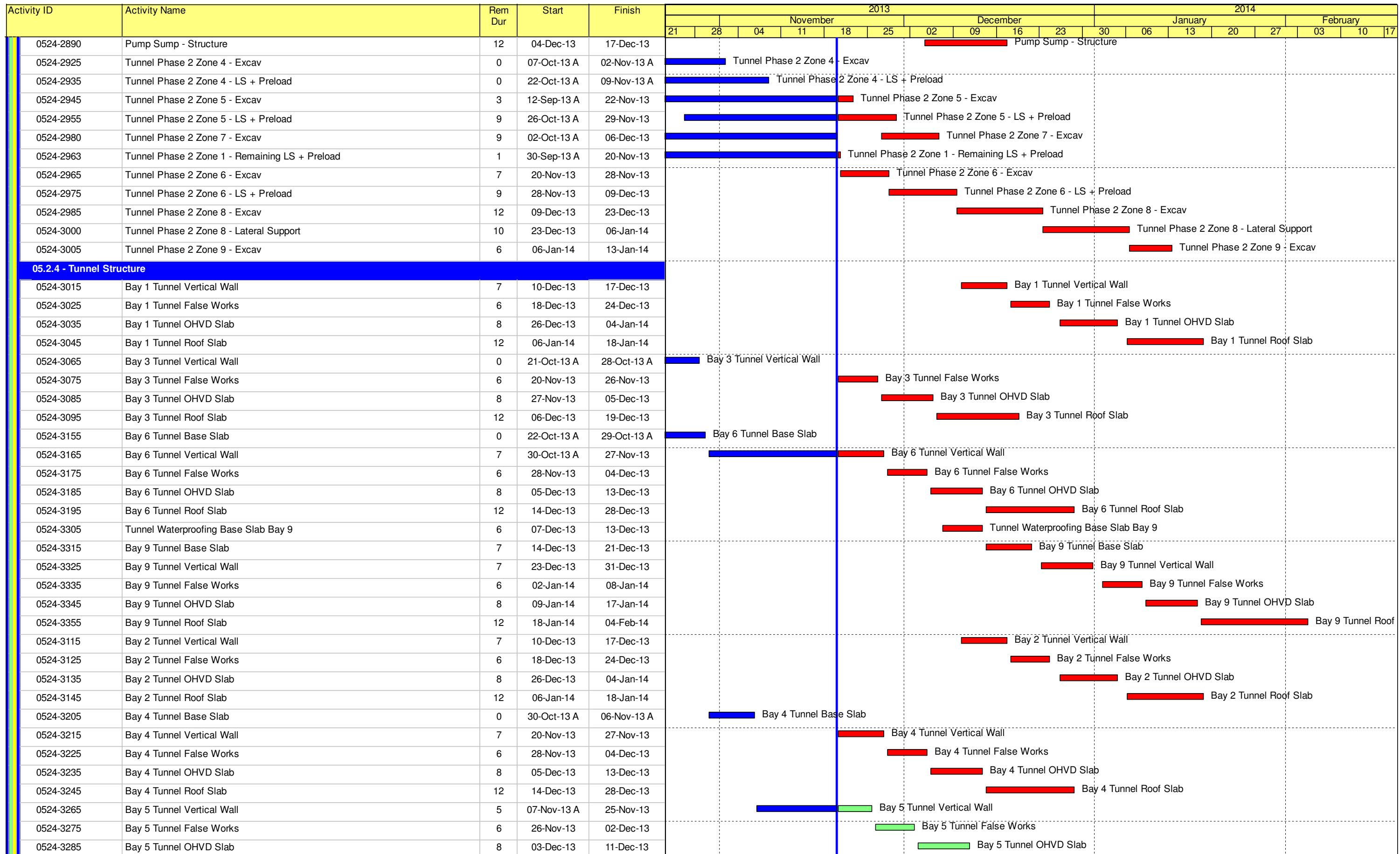
Contract HY/2009/19
Three Month Rolling Programme (20 Nov 2013 to 19 Feb 2013)

3MRP
 3MRP - Nov 2013 to Feb 2013
 Page 1 of 8

- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone



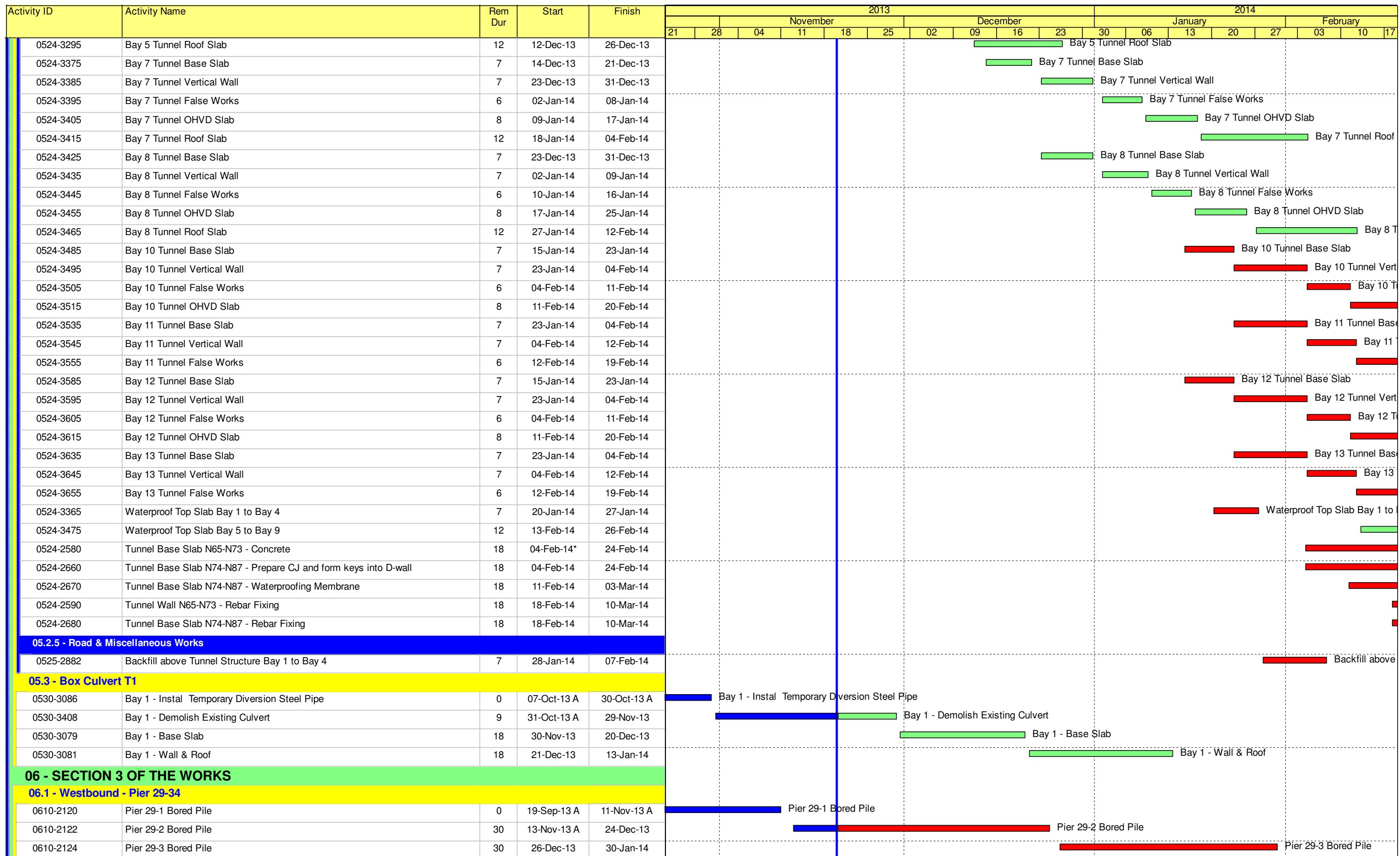
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- Actual Level of Effort
- Actual Work
- Remaining Work
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- ◆ Milestone



- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
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Contract HY/2009/19
Three Month Rolling Programme (20 Nov 2013 to 19 Feb 2013)

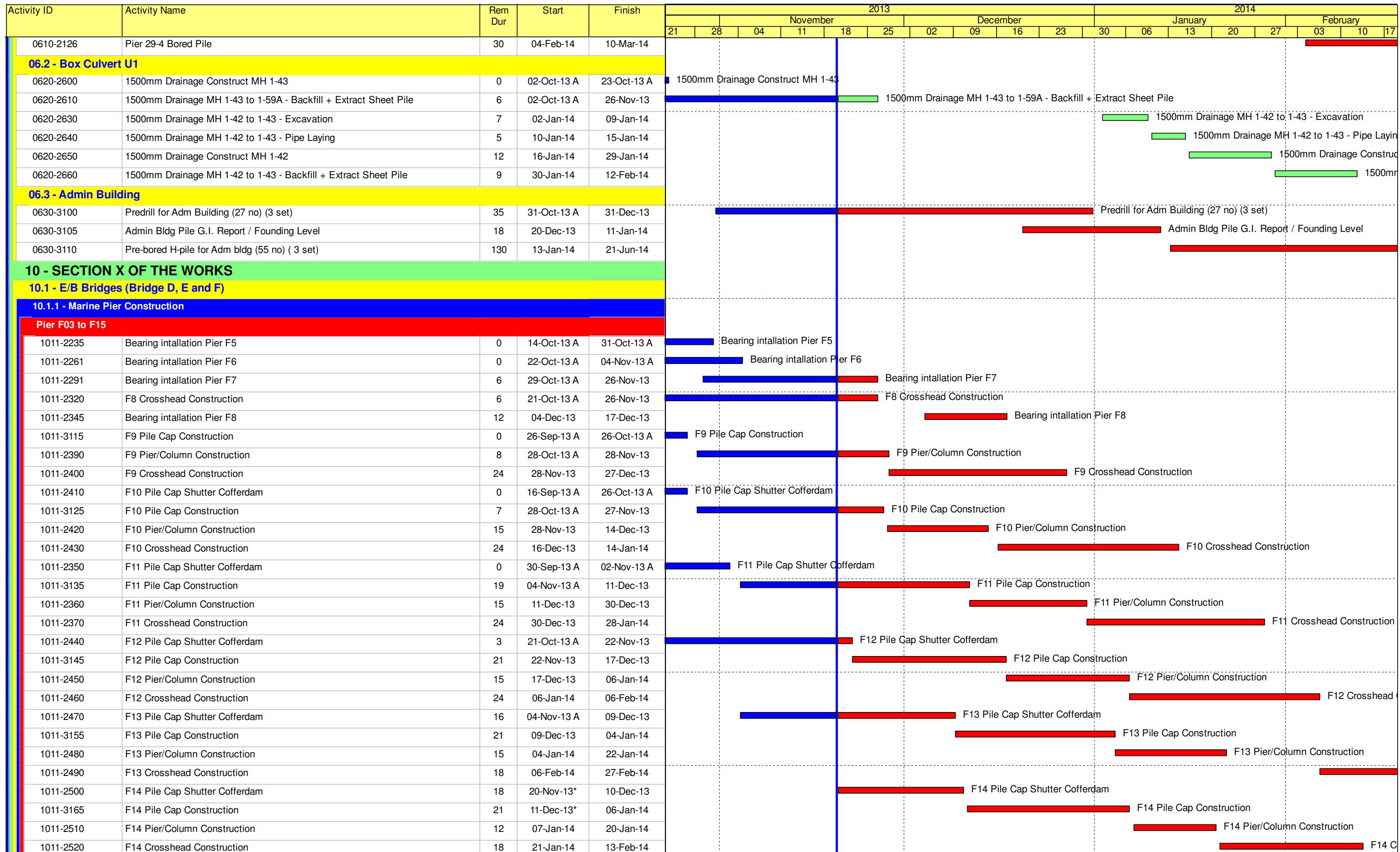
3MRP
3MRP - Nov 2013 to Feb 2013
Page 3 of 8



Contract HY/2009/19
Three Month Rolling Programme (20 Nov 2013 to 19 Feb 2013)

3MRP
 3MRP - Nov 2013 to Feb 2013
 Page 4 of 8

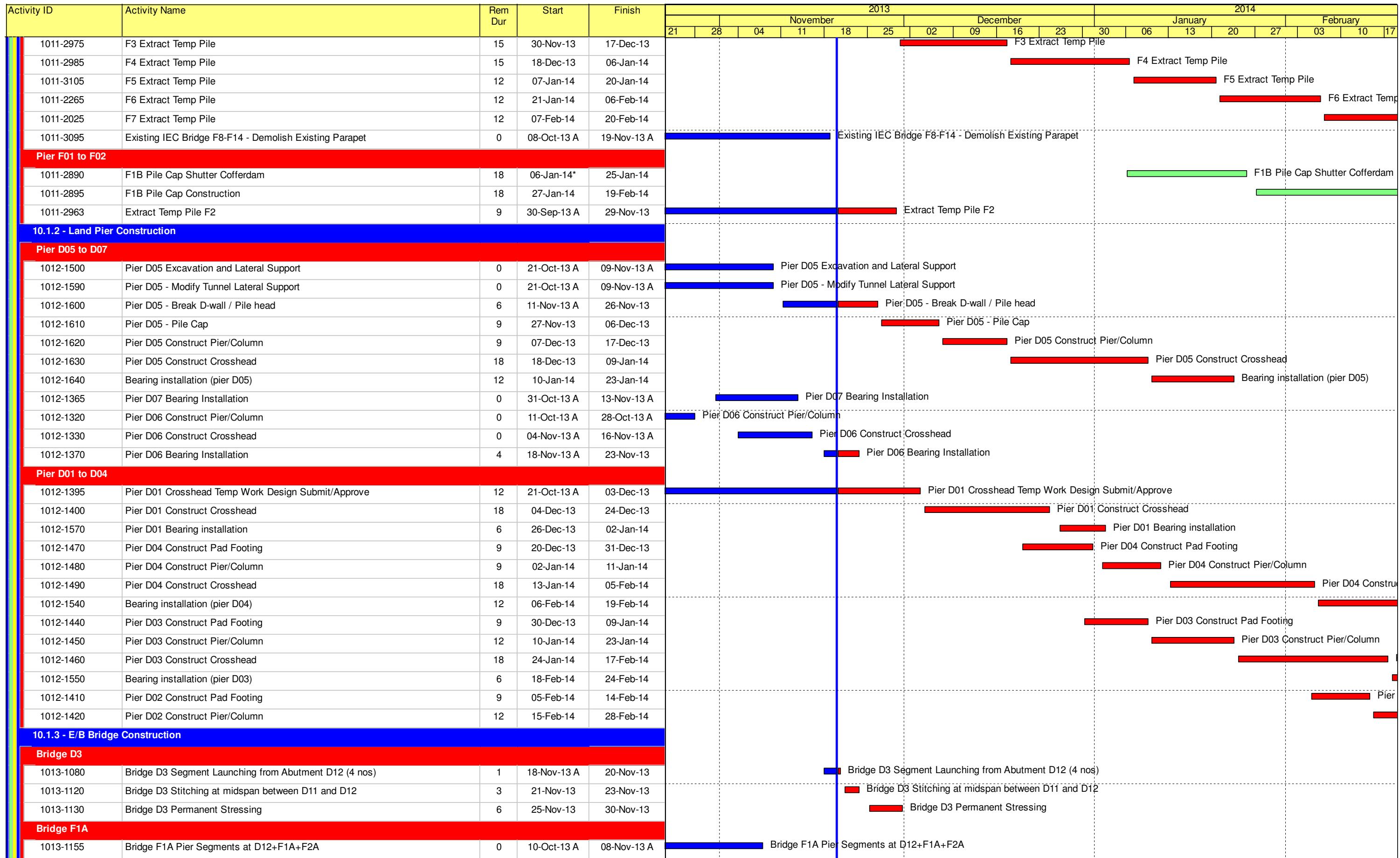
- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone



 Remaining Level of Effort
 Actual Level of Effort
 Actual Work
 Remaining Work
 Critical Remaining Work
 Milestone

Contract HY/2009/19
Three Month Rolling Programme (20 Nov 2013 to 19 Feb 2013)

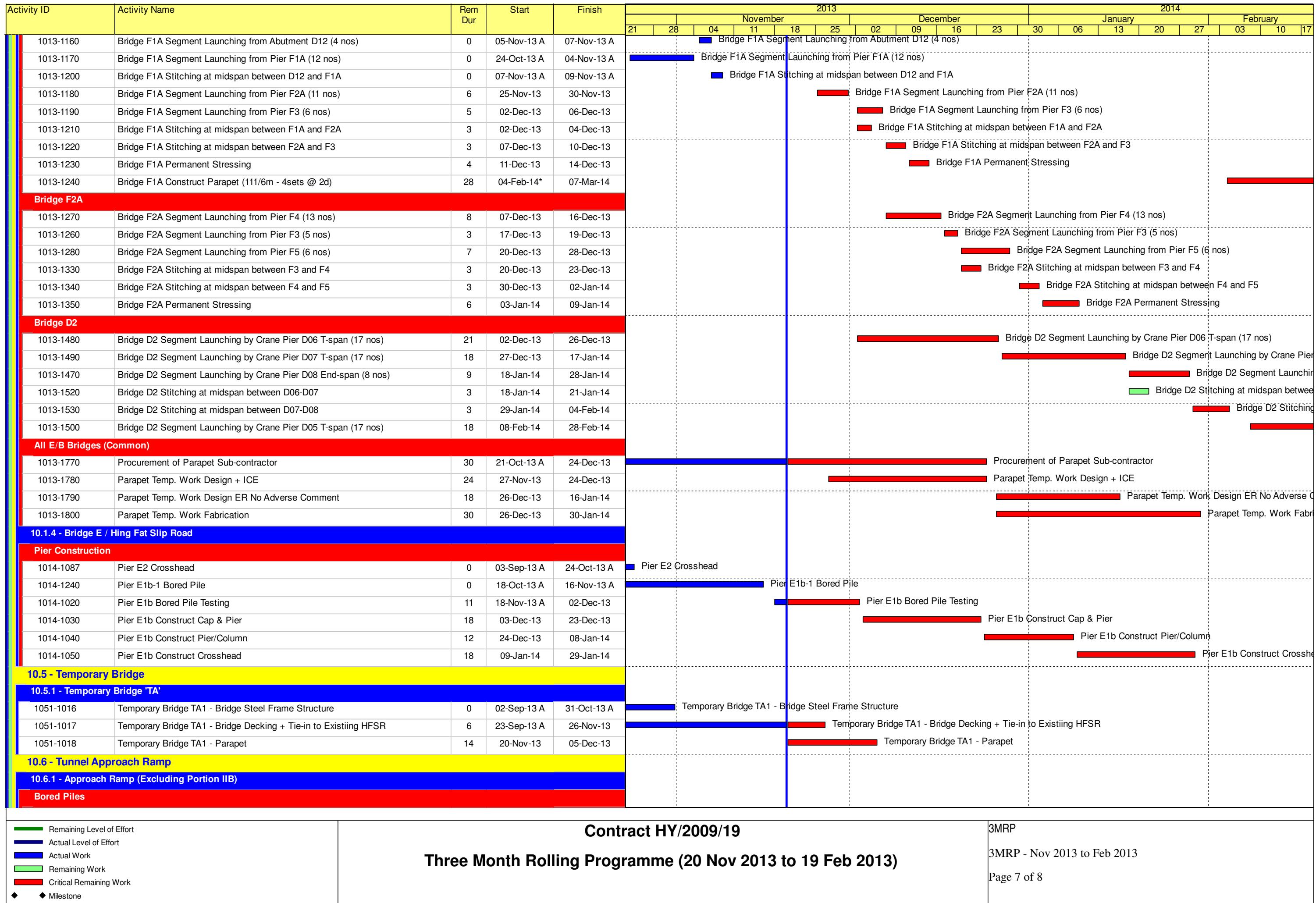
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 3MRP - Nov 2013 to Feb 2013
 Page 5 of 8

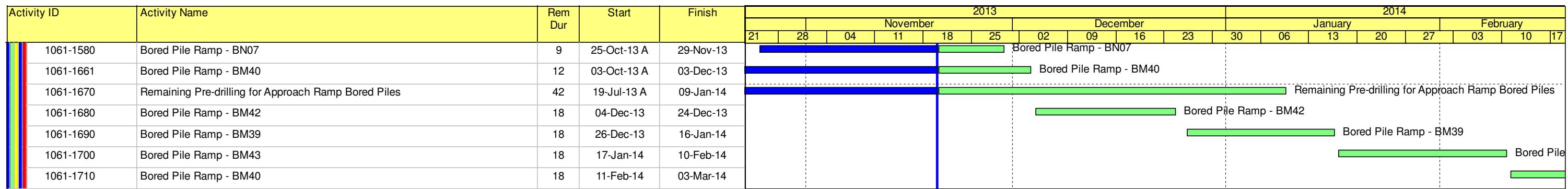


Contract HY/2009/19
Three Month Rolling Programme (20 Nov 2013 to 19 Feb 2013)

3MRP
 3MRP - Nov 2013 to Feb 2013
 Page 6 of 8

- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone





 Remaining Level of Effort
 Actual Level of Effort
 Actual Work
 Remaining Work
 Critical Remaining Work
 Milestone

Contract HY/2009/19
Three Month Rolling Programme (20 Nov 2013 to 19 Feb 2013)

3MRP
 3MRP - Nov 2013 to Feb 2013
 Page 8 of 8

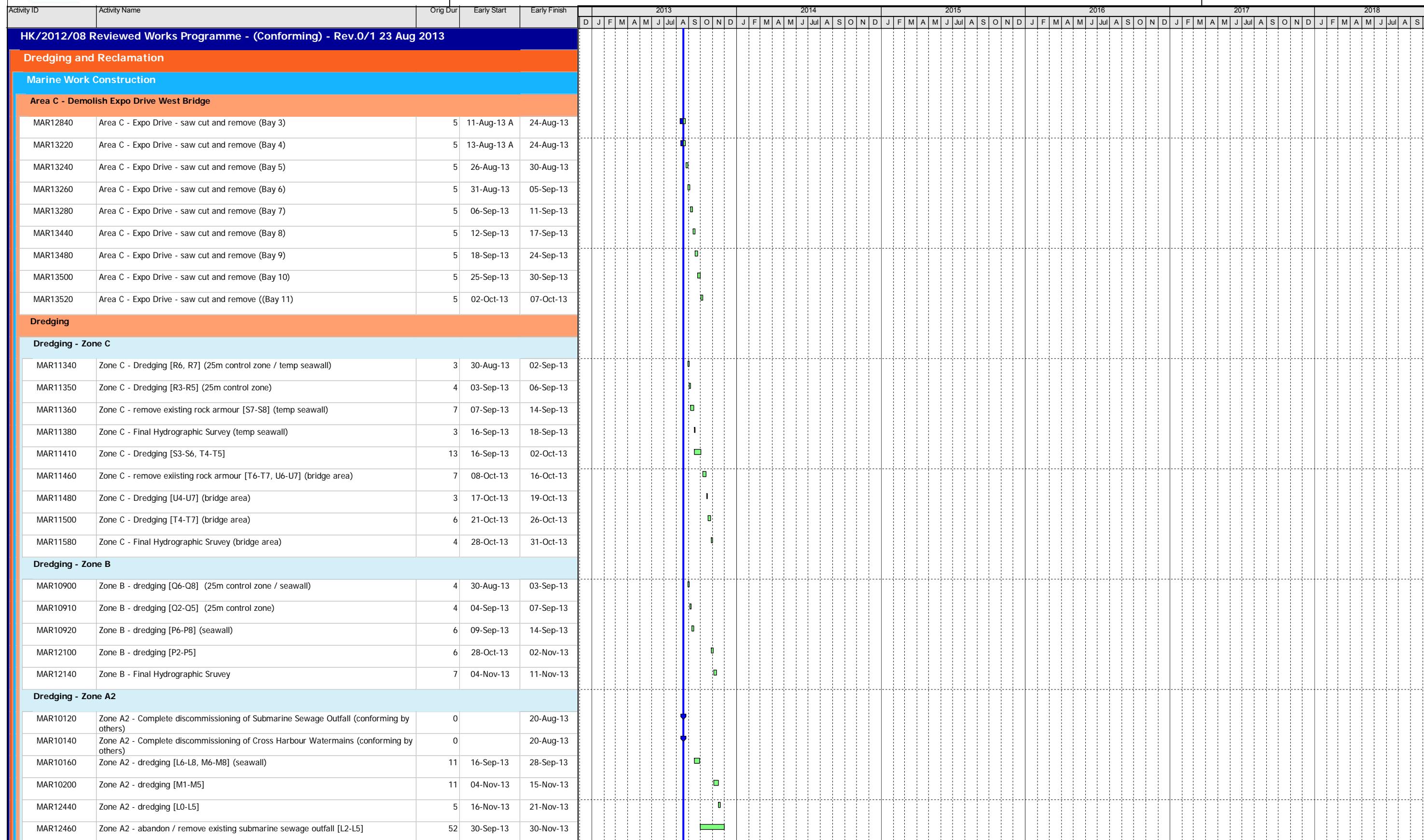


LEADER

中國建築 - 利達聯營
CHINA STATE - LEADER JOINT VENTURE

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

Page: 1/2

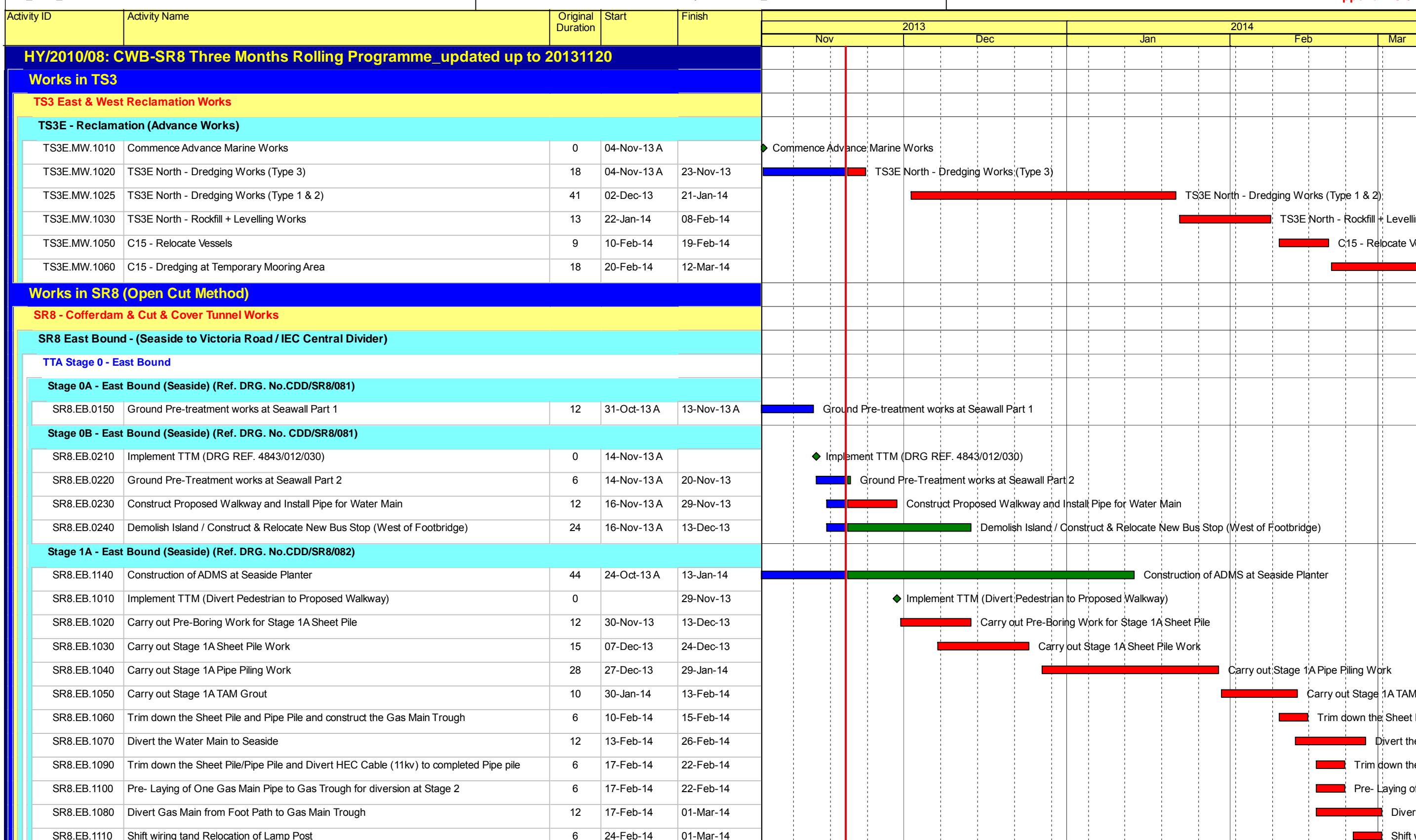


Data Date:
20-Aug-13

◆ Current Milestone
■ Actual Work
■ Critical Remaining Work
■ Remaining Work
■ Remaining Level of Effort

3 Months Rolling Programme for Area Outside Zone CR III

Date	Revision	Checked	Approved
29-Aug-13	Rev. 0/1		



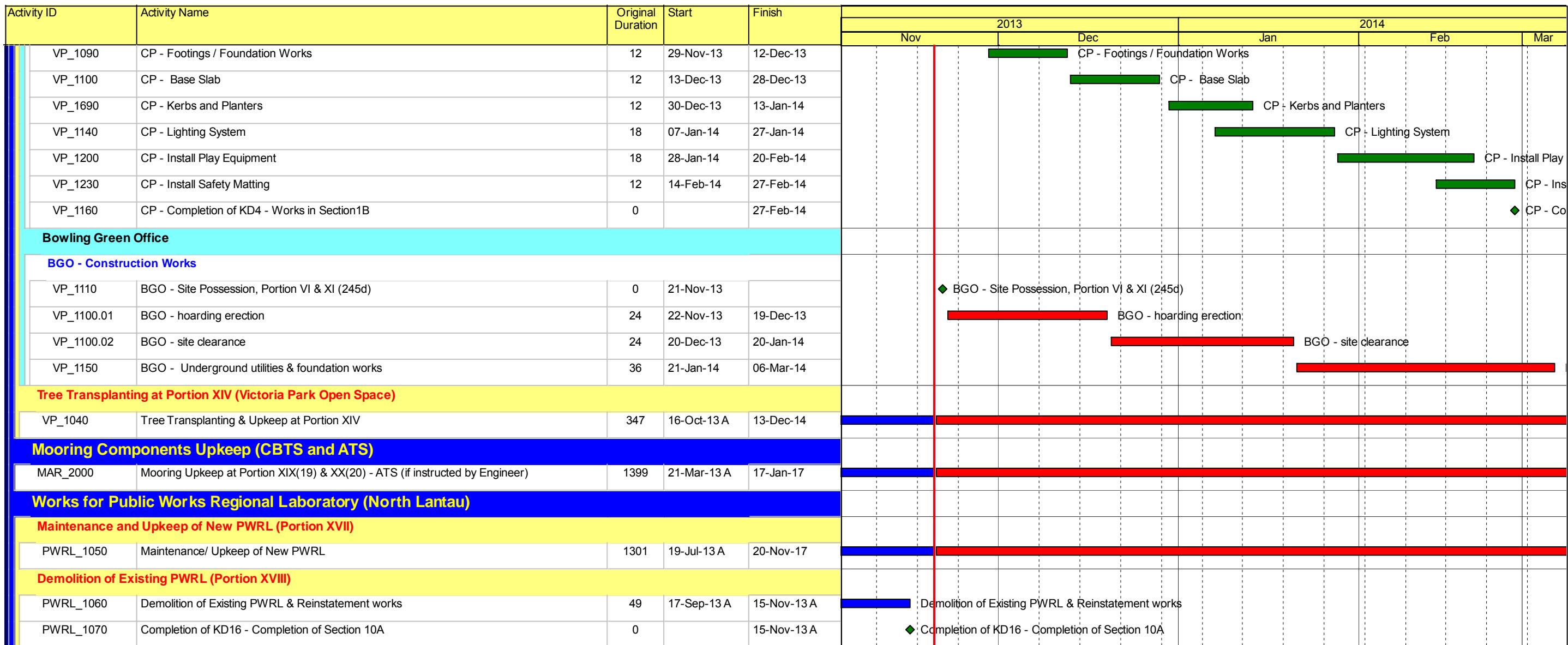
 Actual Work
 Remaining Work
 Critical Remaining Work
 Milestone

Page 1 of 3

Contract No. HY/2010/08: Central - Wanchai Bypass Tunnel +(Slip Road 8 Section) - 3 Months Rolling Programme

Date	Revision	Checked	Approved
27-Nov-13	Updated to 20th Nov 2013	DML/WC	

Activity ID	Activity Name	Original Duration	Start	Finish	2013		2014			
					Nov	Dec	Jan	Feb	Mar	
SR8.EB.1120	Shift Wiring and Relocation of Traffic Control Box	6	24-Feb-14	01-Mar-14						Shift V
SR8.EB.1130	Relocation of Hydrant	6	24-Feb-14	01-Mar-14						Reloc
Stage 1B - East Bound (Seaside) (Ref. DRG. No.CDD/SR8/082)										
SR8.EB.1210	Carry-out preboring for Stage 1B Sheet Pile	11	27-Feb-14	11-Mar-14						
SR8 West Bound - Ch. 369.000 to 495.000 (Victoria Road / IEC Central Divider)										
TTA Stage 0 (West Bound)										
Stage 1A - West Bound (Inside VP) (Ref. DRG. No.CDD/SR8/085)										
SR8.WB.1030	Carry out stage 1A1 Sheet Pile Work (Row A)	22	16-Oct-13 A	09-Nov-13 A	Carry out stage 1A1 Sheet Pile Work (Row A)					
SR8.WB.1040	Trial Test Pile + Test Report	5	06-Nov-13 A	11-Nov-13 A	Trial Test Pile + Test Report					
SR8.WB.1050	Carry out stage 1A1 Pipe Piling Work (Row A)	73	12-Nov-13 A	11-Feb-14		Carry out stage 1A1 Pipe P				
SR8.WB.1060	Site formation / Construct temporary platform	12	13-Nov-13 A	25-Nov-13	Site formation / Construct temporary platform					
SR8.WB.1090	Permanent Diversion of 11kV cable	80	19-Nov-13 A	27-Feb-14		Permanent				
SR8.WB.1070	Carry out Stage 1A2 Sheet Pile Work (Row B)	21	26-Nov-13	19-Dec-13		Carry out Stage 1A2 Sheet Pile Work (Row B)				
SR8.WB.1080	Carry out Stage 1A2 Pipe Piling Work (Row B)	63	20-Dec-13	10-Mar-14			Carry out Stage 1A2 Pipe P			
SR8.WB.1035	Install Sheet Pile for Road Diversion (Row C)	28	23-Dec-13	27-Jan-14			Install Sheet Pile for Road Diversion (Row C)			
SR8.WB.1100	Install King Post for Traffic Deck	18	18-Feb-14	10-Mar-14						
SR8.WB.1110	Relocate Fire Hydrant and divert the water main	12	25-Feb-14	10-Mar-14						
SR8 Ch.369.000 to Ch.317.500 - (Inside Victoria Park to Tunnel Portal)										
Stage 4 - SR8 Ch.369.000 to Ch317.500 (Tunnel Portal) (Ref. DRG. No.CDD/SR8/087)										
SR8.VP.4010	Carry Out Stage 4 Sheet Pile Works	90	21-Feb-14	13-Jun-14						
Tsing Fung St - RW & Subway Extension & Toe Wall at Hing Fat St										
Ret. Wall & TF Subway Extension (Portion V)										
Retaining Wall at Tsing Fung Street (Portion V)										
VP_1215	Construct Temporary Pedestrian Walkway	60	20-Nov-13	04-Feb-14		Construct Temporary Pedestrian W				
Works in Victoria Park										
Re-Provisioning Works										
Children's Playground										
Procurement										
VP_0120	Material/Equipment- fabrication	90	30-Jul-13 A	14-Nov-13 A	Material/Equipment- fabrication					
VP_0125	Material/Equipment- delivery	48	15-Nov-13 A	13-Jan-14		Material/Equipment- delivery				
Construction Works										
VP_1060.02	CP - Initial works, site clearance	6	01-Nov-13 A	07-Nov-13 A	CP - Initial works, site clearance					
VP_1080.01	CP - Demolition of Water Pond	6	08-Nov-13 A	14-Nov-13 A	CP - Demolition of Water Pond					
VP_1080.02	CP - Backfill and Site Formation Works	6	15-Nov-13 A	21-Nov-13	CP - Backfill and Site Formation Works					
VP_1080.03	CP - Catchpits + U-Channel Drainage System	12	22-Nov-13	05-Dec-13	CP - Catchpits + U-Channel Drainage System					



 Actual Work
 Remaining Work
 Critical Remaining Work
 Milestone

Page 3 of 3

Contract No. HY/2010/08: Central - Wanchai Bypass Tunnel +(Slip Road 8 Section) - 3 Months Rolling Progamme

Date	Revision	Checked	Approved
27-Nov-13	Updated to 20th Nov 2013	DML/WC	