



Lam Geotechnics Limited

Contract No. HK/2009/05  
Wanchai Development Phase II and Central Wanchai Bypass  
Monthly EM&A Report (September 2010)

CONTRACT NO: HK/2009/05

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

ENVIRONMENTAL PERMIT NO. EP-364/2009/A,  
FURTHER ENVIRONMENTAL PERMIT NOS. FEP-01/364/2009,  
FEP-02/364/2009 AND FEP-03/364/2009

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

- SEPTEMBER 2010 -

CLIENTS:

Civil Engineering and Development  
Department

and

Highways Department

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CHECKED BY:

Raymond Dai  
Environmental Team Leader

DATE:

5 October 2010

Ref.: AACWBIECEM00\_0\_0528L.10

11 October 2010

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

By Post and Fax (2691 2649)

Attention: Mr. Kelvin CHENG

Dear Sir,

**Re: Contract No. HK/2009/05  
Wan Chai Development Phase II and Central-Wan Chai Bypass –  
Sampling, Field Measurement and Testing Work (Stage 1)  
Monthly Environmental Monitoring and Audit Report (September 2010)  
for EP-364/2009/A, FEP-01/364/2009, FEP-02/364/2009 and FEP-  
03/364/2009**

Reference is made to the Environmental Team's submission of the captioned Monthly Environmental Monitoring and Audit (EM&A) Report for September 2010 dated 5 October 2010.

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

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

Yours sincerely,



David Yeung  
Independent Environmental Checker

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

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## EXECUTIVE SUMMARY

- i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – September 2010 specific for Environmental Permit no. EP-364/2009/A, Further Environmental Permit nos. FEP-01/364/2009, FEP-02-364/2009 and FEP-03-364/2009. The EM&A report is prepared by the Environmental Team (ET) employed under Contract No. HK/2009/05 –Wanchai Development Phase II and Central Wanchai Bypass. This report presents the environmental monitoring findings and information recorded during the period 28<sup>th</sup> August 2010 to 27<sup>th</sup> September 2010. The cut-off date of reporting is at 27<sup>th</sup> of each reporting month.

- ii. In the reporting month, the principal work activities of individual contracts are included as follows:

Contract no. HY/2009/17 - Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

- Mobilization and plant setup for site preparation work.

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

- Modification of bus bays at the bus terminus;
- Widening of carriageway at the bus terminus; and
- Relocation of existing lay-bay at Man Kwong Street

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009 under FEP-02/364/2009

- No major construction activity was undertaken in reporting month.

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- No major construction activity was undertaken in reporting month.

### Noise Monitoring

- iii. Noise monitoring during daytime was conducted at the International Finance Centre (eastern and western podium) on a weekly basis. No action and limit exceedances were recorded in the reporting period.

### Air Monitoring

- iv. 1-hour and 24-hour Total Suspended Particle (TSP) monitoring were conducted at International Finance Centre (eastern and western podium) on every six days basis. No action and limit level exceedance were recorded in the reporting period.

### Complaints, Notifications of Summons and Successful Prosecutions

- v. No complaint, notification of summons and prosecution was recorded in the reporting month.

Site Inspections and Audit

- vi. The Environmental Team (ET) conducted weekly site inspections for Contract nos. HY/2009/17 and 04/HY/2006 in this reporting period. Major observations and recommendations made during the audit sessions were rectified by the Contractors. No non-conformance was identified during the site inspections.

Future Key Issues

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

Contract no. HY/2009/17 - Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

- Drilling, installation steel H-Pile & grouting

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

- Modification of bus bays at the bus terminus;
- Widening of carriageway at the bus terminus; and
- Relocation of existing lay-bay at Man Kwong Street

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- No major construction activities are anticipated in coming reporting month.

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- No major construction activities are anticipated in coming reporting month.

## 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-364/2009A and Further Environmental permit nos. FEP-01/364/2009, FEP-02/364/2009 and FEP-03/364/2009 to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) and in the EM&A Manual of the approved EIA Report for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-014/2001).
- 1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 10.3 of EM&A Manual and “*Environmental Monitoring and Audit Requirements*” under Particular Specification Section 27.
- 1.1.3. This report documents the finding of EM&A works for Environmental Permit (EP) no. EP-364/2009/A, Further Environmental Permit (FEP) nos. FEP-01-364/2009, FEP-02/364/2009 and FEP-03/364/2009 during the period 28<sup>th</sup> August to 27<sup>th</sup> September 2010. The cut-off date of reporting is at 27<sup>th</sup> of each reporting month.

### 1.2 Structure of the Report

- Section 1**      ***Introduction*** – details the scope and structure of the report.
- Section 2**      ***Project Background*** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.
- Section 3**      ***Status of Regulatory Compliance*** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.
- Section 4**      ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.
- Section 5**      ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.
- Section 6**      ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.
- Section 7**      ***Cumulative Construction Impact due to the Concurrent Projects*** – summarizes the relevant cumulative construction impact due to the concurrent



activities of the concurrent Projects.

**Section 8**      ***Site Inspection*** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.

**Section 9**      ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

**Section 10**     ***Conclusion***

## 2. PROJECT BACKGROUND

### 2.1 Background

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

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

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

### 2.2 Scope of the Project and Site Description

2.2.1. Design and Construction of Central – Wan Chai Bypass and Island Eastern Corridor Link under the Project involves the construction and operation of a trunk road and its road tunnel more than 800m in length between portals that is shown at **Figure 2.1**.

2.2.2. The study area encompasses existing developments from Central to North Point. The scope of the Central-Wanchai Bypass (CWB) and Island Eastern Corridor Link (IECL) includes:

- A dual three-lane trunk road, approximately 4.5 km in length, and tunnel approximately 3.7 km in length defined from the connection with the existing Rumsey Street Flyover in Central, through to a connection with the existing Island Eastern Corridor to the east of the Causeway Bay Typhoon Shelter(CBTS);
- The Central Interchange near the Rumsey Street Flyover to provide road connections to the Central area;
- Tunnel control buildings and ventilation buildings;
- Slip roads to connect the CWB to the local road system in the Wan Chai North and Causeway Bay area;
- Associated road lighting, road signing, traffic control and surveillance system; and
- Other associated works.

- 2.2.3. 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 such that the impact monitoring stations are sub-divided accordingly to facilitate the implementation of EM&A programme and to streamline the EM&A reporting for individual FEP holders correspondingly.
- 2.3.2. In the reporting month, the construction works for Contracts no. 04/HY/2006 was commenced in mid-September 2010. Advance piling work at FEHD Whitfield Depot under Contract no. HY/2009/17 is anticipated to be commenced in early of October 2010. 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
HY/2009/17	Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works.	DP1	Early of October 2010
04/HY/2006	Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street	DP1	September 2010

Contract No.	Contract Title	Associated DP(s)	Construction Commencement Date
HY/2009/17	Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works.	DP1	Early of October 2010
04/HY/2006	Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street	DP1	September 2010
HK/2009/01	Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works	DP1, DP2	Pending
HK/2009/02	Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East(CWB Tunnel) (CWB Tunnel)	DP1	Pending

## 2.4 Project Organization and Contact Personnel

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

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

**Table 2.3 Contact Details of Key Personnel**

Party	Role	Post	Name	Contact No.	Contact Fax
AECOM	Engineer for WDII	Principle Resident Engineer	Mr. Frankie Fan	2607 7801	2687 2322
	Engineer for CWB	Chief Resident Engineer	Mr. David Kwan	3916 1818	3529 2829
Lam Woo & CO., LTD.	Contractor under Contract no. HY/2009/17	Project Manager	Mr. K. S. Law	9090 1378	2566 7522
		Site Agent	Mr. Daniel Chan	9372 0495	
		Environmental Officer	Mr. Andy Mak	6461 3065	
Chiu Hing Construction & Transportation Co. Ltd.	Contractor under Contract no. 04/HY/2006	Contract Manager	Frederick Tsui	2967 6363	2967 6366
		Senior Site Agent	Alvin Ma	2967 6363	2967 6366
		Environmental Consultant	Jimmy Cheng	2965 0898	2556 9172
Chun Wo – Leader Joint Venture	Contractor under Contract no. HK/2009/01	Site Agent	Paul Yu	9456 9819	2634 1626
		Operation Manager	Ho Wing Tai	9306 1356	

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

2.4.3. In the reporting month, the principal work activities of individual contracts are included as follows:

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

- Modification of bus bays at the bus terminus;
- Widening of carriageway at the bus terminus; and
- Relocation of existing lay-bay at Man Kwong Street

Contract no. HY/2009/17 - Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

- Mobilization & Plant setup for site preparation work.

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- No major construction activity was undertaken in reporting month.

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009





- No major construction activity was undertaken in reporting month.

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

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

- Modification of bus bays at the bus terminus;
- Widening of carriageway at the bus terminus; and
- Relocation of existing lay-bay at Man Kwong Street

Contract no. HY/2009/17 - Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

- Drilling, installation of steel H-Pile and grouting.

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- No major construction activity is anticipated in coming reporting month.

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- No major construction activity is anticipated in coming reporting month.

### 3. STATUS OF REGULATORY COMPLIANCE

#### 3.1 Status of Environmental Licensing and Permitting under the Project

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

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

Permits and/or Licences	Reference No.	Issued Date	Status
Environmental Permit	EP-356/2009	30 Jul 2009	Valid
Environmental Permit	EP-364/2009	17 Aug 2009	Superseded
Environmental Permit	EP-364/2009/A	4 Aug 2010	Valid
Environmental Permit	EP-376/2009	13 Nov 2010	Valid
Further Environmental Permit	FEP-01/356/2009	18 Feb 2010	Valid
Further Environmental Permit	FEP-02/356/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-03/356/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-01/364/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-02/364/2009	21 Apr 2010	Valid
Further Environmental Permit	FEP-03/364/2009	12 July 2010	Valid

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

Contract no. HY/2009/17 - Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

- 3.1.3. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-03/364/2009 for contract no. HY/2009/17 are shown in **Table 3.2** and **Table 3.3**.

**Table 3.2 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/17**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-03/364/2009	12 Jul 2010	N/A	Valid
Notification of Works Under APCO	319348	13 Jul 2010	N/A	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Discharge Licence	WT00007212-2010	5 Aug 2010	5 Aug 2010 – 31 Aug 2015	Valid
Registration as a Waste Producer	5213-151-L2608-05	13 May 2010	N/A	Valid

**Table 3.3 Summary of submission status under FEP-03/364/2009 Condition**

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	18 September 2010
Conditions 2.7 and 2.8	Submission of works schedule and location plan	1 September 2010
Condition 2.9	Noise Management Plan	1 September 2010

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

- 3.1.4. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under EP-364/2009/A for contract no. 04/HY/2006 are shown in **Table 3.4** and **Table 3.5**.

**Table 3.4 Cumulative Summary of Valid Licences and Permits under Contract no. 04/HY/2006**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Environmental Permit	EP-364/2009/A	4 Aug 2010	N/A	Valid
Notification of Works Under APCO	322225	7 Oct 2010	N/A	Valid
Construction Noise Permit (CNP) for piling equipment	N/A	N/A	N/A	Construction Noise Permit (CNP) for piling equipment
Construction Noise Permit (CNP) for non-piling equipment	N/A	N/A	N/A	Construction Noise Permit (CNP) for non-piling equipment
Discharge Licence	N/A	N/A	N/A	Discharge Licence
Registration as a Waste Producer	7005123	9 March 2007	N/A	Registration as a Waste Producer

- 3.1.5. Contractor is strongly reminded that the Notification of Works under Air Pollution Control Ordinance and other necessary submission shall be submitted to EPD and copied to the Engineer timely during the work preparation stage.

**Table 3.5 Summary of submission status under EP-364/2009/A Condition**

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	11 June 2010
Conditions 2.7 and 2.8	Submission of works schedule and location plan	11 June 2010 and 5 August 2010
Condition 2.9	Noise Management Plan	End of September 2010

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- 3.1.6. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-02/364/2009 for contract no. HK/2009/01 are shown in **Table 3.6** and **Table 3.7**

**Table 3.6 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/01**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-02/356/2009	24 Mar 2010	N/A	Valid
Further Environmental Permit	FEP-02/364/2009	21 Apr 2010	N/A	Valid
Notification of Works Under APCO	313088	6 Jan 2010	N/A	Valid
Discharge Licence	WT00006220-2010	18 Mar 2010	31 Mar 2015	Valid
Registration as a Waste Producer	7010069	21 Jan 2010	N/A	Valid
Registration as a Chemical Waste Producer	WPN5213-134-C3585-01	21 Jan 2010	N/A	Valid

**Table 3.7 Summary of submission status under FEP-02/364/2009 Condition**

EP Condition	Submission	Date of Submission
NIL	NIL	NIL

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

3.1.7. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-01/364/2009 for contract no. HK/2009/02 are shown in **Table 3.8** and **Table 3.9**.

**Table 3.8 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/02**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-03/356/2009	24 Mar 2010	N/A	Valid
	FEP-01/364/2009	24 Mar 2010	N/A	Valid
Notification of Works Under APCO	313962	2 Feb 2010	N/A	Valid
Discharge Licence	WT00006249-2010	22 Mar 2010	31 Mar 2015	Valid
	WT00006436-2010	15 Apr 2010	30 Apr 2015	Valid
	WT00006673-2010	14 May 2010	31 Mar 2015	Valid
	WT00006757-2010	28 May 2010	31 May 2015	Valid
Billing Account under Waste Disposal Ordinance	7010255	10 Feb 2010	N/A	Valid
Registration as Chemical Waste Producer	WPN5213-135-C3593-01	10 Mar 2010	N/A	Valid

**Table 3.9 Summary of submission status under FEP-01/364/2009 Condition**

EP Condition	Submission	Date of Submission
NIL	NIL	NIL

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

#### 4. Monitoring Requirements

##### 4.1 Noise Monitoring

###### NOISE MONITORING STATIONS

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

**Table 4.1 Noise Monitoring Station**

Station	Description
M1a	Harbour Road Sports Centre
M2b	Noon Gun Area
M3a	Tung Lo Wan Fire Station
M4b	Victoria Centre
M5b	City Garden
M6	HK Baptist Church Henrietta Secondary School
M7e	International Finance Centre (Eastern End of Podium)
M7w	International Finance Centre (Western End of Podium)

- 4.1.2. Reviewed the past monitoring results and observation at Station M4a, the monitoring location at Causeway Bay Community Centre is facing and closed to the Island Eastern Corridor. Traffic noise is the major noise source obtained in the monitoring that cannot be reflected the fact of the construction noise from the construction site. Victoria Centre (Station ID: M4b) is proposed as alternative noise monitoring station, which is more appropriate and representative as noise monitoring station for monitoring the construction noise arising from the near construction site.

###### NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.1.3. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ).  $L_{eq}$  (30 minutes) shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods,  $L_{eq}$  (5 minutes) shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. Supplementary information for data auditing, statistical results such as L10 and L90 shall also be obtained for reference.
- 4.1.4. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:
- one set of measurements between 0700 and 1900 hours on normal weekdays.

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

#### MONITORING EQUIPMENT

- 4.1.6. As referred to in the Technical Memorandum <sup>TM</sup> issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.
- 4.1.7. 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.
- 4.1.8. The sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency before deployment to the site and during each site visit. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.

## **4.2 Air Monitoring**

### AIR QUALITY MONITORING STATIONS

- 4.2.1. The air monitoring stations for the Project are listed and shown in **Table 4.2** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

**Table 4.2 Air Monitoring Station**

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

### AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.
- 4.2.3. All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions, etc., shall be recorded down in detail.
- 4.2.4. For regular impact monitoring, the sampling frequency of at least once in every six-days, shall be strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs.

#### SAMPLING PROCEDURE AND MONITORING EQUIPMENT

- 4.2.5. High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:
- 0.6 - 1.7 m<sup>3</sup> per minute adjustable flow range;
  - Equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
  - Installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
  - Capable of providing a minimum exposed area of 406 cm<sup>2</sup>;
  - Flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
  - Equipped with a shelter to protect the filter and sampler;
  - Incorporated with an electronic mass flow rate controller or other equivalent devices;
  - Equipped with a flow recorder for continuous monitoring;
  - Provided with a peaked roof inlet;
  - Incorporated with a manometer;
  - Able to hold and seal the filter paper to the sampler housing at horizontal position;
  - Easily changeable filter; and
  - Capable of operating continuously for a 24-hour period.
- 4.2.6. Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. The concern parties such as IEC shall properly document the calibration data for future reference. All the data should be converted into standard temperature and pressure condition.

#### LABORATORY MEASUREMENT / ANALYSIS

- 4.2.7. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.





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- 4.2.8. Filter paper of size 8" x 10" shall be labeled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.
- 4.2.9. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.
- 4.2.10. All the collected samples shall be kept in a good condition for 6 months before disposal.
- 4.2.11. Current calibration certificates of equipments are presented in **Appendix 4.2.**

## 5. MONITORING RESULTS

5.0.1. The environmental monitoring will be implemented based on the division of works areas of each designed project managed under different contracts with separate FEP applied by individual contractors. Overall layout showing work areas of various contracts, latest status of work commencement and monitoring stations is shown in **Figure 2.1** and **Figure 4.1**. The monitoring results are presented in according to the Individual Contract(s).

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

- Contract no. 04/HY/2006 –Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street.

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

### 5.1 Noise Monitoring Results

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

5.1.1. The proposed division of noise monitoring stations for Contract no. HY/2009/17 are summarized in **Table 5.1** below:

**Table 5.1 Noise Monitoring Stations for Contract no. HY/2009/17**

Station	Description
M4b	Victoria Centre

5.1.2. Since only site preparation works was undertaken during the reporting month, no noise monitoring was conducted.

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

5.1.3. The proposed division of noise monitoring stations for Contract no. 04/HY/2006 are summarized in **Table 5.2** below:

**Table 5.2 Noise Monitoring Stations for Contract no. 04/HY/2006**

Station	Description
M7e	International Finance Centre (Eastern End of Podium)
M7w	International Finance Centre (Western End of Podium)

5.1.4. Daytime noise monitoring at stations M7e and M7w were commenced on 30 August 2010. No exceedance was recorded in the reporting month. Noise monitoring results measured in this

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

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009 and Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- 5.1.5. The commencement of construction works for Contract no. HK/2009/01 and HK/2009/02 under FEP-02/364/2009 and FEP-01/364/2009 respectively are pending. The proposed division of noise monitoring stations are summarized in **Table 5.3** below.

**Table 5.3 Noise Monitoring Station for Contract nos. HK/2009/01 and HK/2009/02**

Station	Description
M1a	Harbour Road Sports Centre

## 5.2 Air Monitoring Results

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works

- 5.2.1. The proposed division of air monitoring stations are summarized in **Table 5.4** below. Air monitoring for the piling works under contract no. HY/2009/17 is anticipated to be commenced in the early of October 2010.

**Table 5.4 Air Monitoring Stations for Contract no. HY/2009/17**

Station	Description
CMA2a	Causeway Bay Community Centre

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

- 5.2.2. The proposed division of air monitoring stations are summarized in **Table 5.5** below.

**Table 5.5 Air Monitoring Stations for Contract no. 04/HY/2006**

Station	Description
MA1e	International Finance Centre (Eastern End of Podium)
MA1w	International Finance Centre (Western End of Podium)

- 5.2.3. Air quality monitoring at MA1e and MA1w were commenced on 9 September 2010. No exceedance was recorded in the reporting month. Air quality monitoring results measured in

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

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- 5.2.4. Air quality monitoring will be commenced depending on the commencement of work for Contract no. HK/2009/01 under FEP-02/364/2009. The proposed division of air monitoring stations are summarized in **Table 5.6** below.

**Table 5.6 Air Monitoring Stations for Contract no. HK/2009/01**

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

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- 5.2.5. Air quality monitoring will be commenced depending on the commencement of work for Contract no. HK/2009/02 under FEP-01/364/2009. The proposed division of air monitoring stations are summarized in **Table 5.7** below.

**Table 5.7 Air Monitoring Station for Contract no. HK/2009/02**

Station	Description
CMA4a	Society for the Prevention of Cruelty to Animals

### 5.3 Waste Monitoring Results

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works

- 5.3.1. No inert and non-inert C&D waste was disposed of for the site preparation works in the reporting month. Details of the waste flow table are summarized in **Table 5.8**.

**Table 5.8 Details of Waste Disposal for Contract no. HY/2009/17**

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

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

- 5.3.2. Inert C&D waste was disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.9**.

**Table 5.9 Details of Waste Disposal for Contract no. 04/HY/2006**

Waste Type*	Quantity this month, m <sup>3</sup>	Cumulative-to-Date, m <sup>3</sup>	Disposal / Dumping Grounds
Inert C&D materials disposed	170m <sup>3</sup>	170m <sup>3</sup>	Chai Wan T.K.O. 137
Inert C&D materials recycled	NIL	NIL	N/A
Non-inert C&D materials disposed	NIL	NIL	N/A
Non-inert C&D materials recycled	NIL	NIL	N/A
Chemical waste disposed	NIL	NIL	N/A

Contract nos. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- 5.3.3. No inert and non-inert C&D waste was disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.10**.

**Table 5.10 Details of Waste Disposal for Contract no. HK/2009/01**

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

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- 5.3.4. No inert and no-inert C&D waste was disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.11**.

**Table 5.11 Details of Waste Disposal for Contract no. HK/2009/02**



Waste Type*	Quantity this month, m <sup>3</sup>	Cumulative-to-Date. m <sup>3</sup>	Disposal / Dumping Grounds
Inert C&D materials disposed	NIL	NIL	N/A
Inert C&D materials recycled	NIL	NIL	N/A
Non-inert C&D materials disposed	NIL	NIL	N/A
Non-inert C&D materials recycled	NIL	NIL	N/A
Chemical waste disposed	NIL	NIL	N/A

## **6. Compliance Audit**

6.0.1. The Event Action Plan for construction noise, air qualities are presented in **Appendix 6.1**.

### **6.1 Noise Monitoring**

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works

6.1.1. No noise monitoring was undertaken in the reporting month.

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

6.1.2. Noise monitoring at M7e and M7w were commenced on 30 August 2010. No exceedance was recorded in the reporting month.

Contract nos. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works and HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel)

6.1.3. No noise monitoring was undertaken in the reporting month.

### **6.2 Air Monitoring**

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works

6.2.1. No air quality monitoring was undertaken in the reporting month.

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under EP-364/2009/A

6.2.2. Air quality monitoring at MA1e and MA1w were commenced on 9 September 2010. No exceedance was recorded in the reporting month.

Contract nos. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works and HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East(CWB Tunnel)

6.2.3. No air quality monitoring was undertaken in the reporting month.



### **6.3 Review of the Reasons for and the Implications of Non-compliance**

- 6.3.1. There was no non-compliance from the site audits in the reporting period. The observations and recommendations made in each individual site audit session were presented in Section 8.
- 6.3.2. No project-related non-compliance from monitoring was recorded in the reporting month.

### **6.4 Summary of action taken in the event of and follow-up on non-compliance**

- 6.4.1. 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.



## **7. Cumulative Construction Impact due to the Concurrent Projects**

7.0.1. According to Condition 3.4 of the EP-364/2009/A, this section addresses the relevant cumulative construction impact due to the concurrent activities of the current projects including the Central Reclamation Phase III (CRIII), Wan Chai Development Phase II (WWDII), Central-WanChai Bypass (CWB) and Island Eastern Corridor Link projects (IECL).

7.0.2. From the Monthly EM&A report (August 2010) of Central Reclamation Phase III the key works in September 2010 are as follows:

- Type A filling in FRAW and FRAE above +2.5mPD
- General filling works above +2.5mPD in IRAE
- Surcharging in FRAW and FRAE
- Construction of cantilever slab at caisson
- Pile cap and base slab construction at Culvert F
- Construction of storm and foul drainage and gullies in hinterlands for Road P2, Road D7, and Road D9
- Construction of watermain at Road D7
- Road P2 Underpass ramp structures
- Precasting for retaining wall (offsite)
- Installation of cooling water mains for Tamar Development Project
- Installation of cooling mains discharge pipes in FRAE
- Diaphragm wall and barrettes for CWB Works
- Excavation to formation level at CWB works
- Construction of CWB structure
- Disposal of material off-site to Government fill banks

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 was the dredging works at North Point Reclamation Stage 1(NPR1), Wan Chai Reclamation Stage 1(WCR1) and cross-harbour water mains in the reporting month. The major environmental impact was water quality impact at North Point and Wan Chai. Land-based construction activity was only the modification works of bus terminus near Man Yiu Street and Man Kwong Street under CWB in the reporting month.

7.0.4. The major environmental impacts generated from the Central Reclamation Phase III were located along the coastline of Central and Admiralty while only modification works of bus terminus near Man Yiu Street and Man Kwong Street under CWB was undertaken in the reporting month. Since the modification of bus terminus was still under initial stage, no significant air and noise impact were anticipated in the reporting month. Besides, no environmental monitoring exceedance was recorded from the Project in the reporting month. Thus, it is evaluated that the cumulative construction impact from the concurrent projects including Wan Chai Development Phase II and Central Reclamation Phase III was insignificant.

## 8. Environmental Site Audit

8.0.1. During this reporting month, weekly environmental site audits were conducted for Contracts no. HY/2009/17 and 04/HY/2009. No non-conformance was identified during the site audits.

8.0.2. Two site inspections for Contract no. HY/2009/17 were carried out during this reporting period. The results of these inspections and outcomes are summarized in **Table 8.1**.

**Table 8.1 Summary of Environmental Inspections for Contract no. HY/2009/17**

Item	Date	Observations	Action taken by Contractor	Outcome
100915_01	15-Sep-10	Mud is observed in U-Channel. The contractor is reminded to clear it and place sand bags to prevent blocking.	Clear the mud.	Completion as observed on 22-Sep-10
100915_02	15-Sep-10	EP should be placed on all exits of construction site	Place EP on all exits.	Completion as observed on 22-Sep-10
100922_01	22-Sep-10	All holes shall be blocked to prevent any water leakage from the construction site / water shall be pumped out	Block all holes in the construction site	Completion as observed on 28-Sep-10

8.0.3. Four site inspections for Contract no. 04/HY/2006 were carried out during this reporting period. The results of these inspections and outcomes are summarized in Table 8.2.

**Table 8.2 Summary of Environmental Inspections for Contract no. 04/HY/2006**

Item	Date	Observations	Action taken by Contractor	Outcome
100910_1	09-Sep-10	The contractor is reminded to place sand bags at the exits of the construction site	Place sand bags at the exits of the construction site	Completion as observed on 13-Sep-10
100910_2	09-Sep-10	The contractor is reminded to cover all gullies in the area of the construction site	Cover all gullies at the area of construction site	Completion as observed on 13-Sep-10
100910_3	09-Sep-10	The contractor is reminded to provide of designated chemical waste storage area.	Cover all chemical waste containers.	Completion as observed on 13-Sep-10
100913_01	13-Sep-10	Sand & mud escaped outside the water barrier along Man Kong Street need to be cleaned	Place sand bags at the barrier of the construction site	Completion as observed on 20-Sep-10
100913_02	13-Sep-10	Refuse storage point housekeeping need to be improved	Improve housekeeping for point of refuse storage	Completion as observed on 20-Sep-10
100920_01	20-Sep-10	Gullies/ drainage U Channel shall be covered well to prevent sand and stone accumulation	Cover all U Channel	Completion as observed on 27-Sep-10
100927_01	27-Sep-10	Manhole shall be covered to prevent any sand and stone feed into the drainage system	Cover the manhole	Completion as observed on 4-Oct-10

## 9. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

9.0.1. No complaint, notification of summons and prosecution was received in the reporting month. The details of cumulative complaint log and updated summary of complaints are presented in **Appendix 9.1**.

9.0.2. Cumulative statistic on complaints and successful prosecutions are summarized in **Table 9.1** and **Table 9.2** respectively.

**Table 9.1 Cumulative Statistics on Complaints**

Reporting Period	No. of Complaints
September 2010	0
Project-to-Date	0

**Table 9.2 Cumulative Statistics on Successful Prosecutions**

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

## 10. CONCLUSION

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

10.0.2. The scheduled construction activities and the recommended mitigation measures for the coming month are listed in **Table 10.1**. The construction programmes of individual contracts are provided in **Appendix 10.1**.

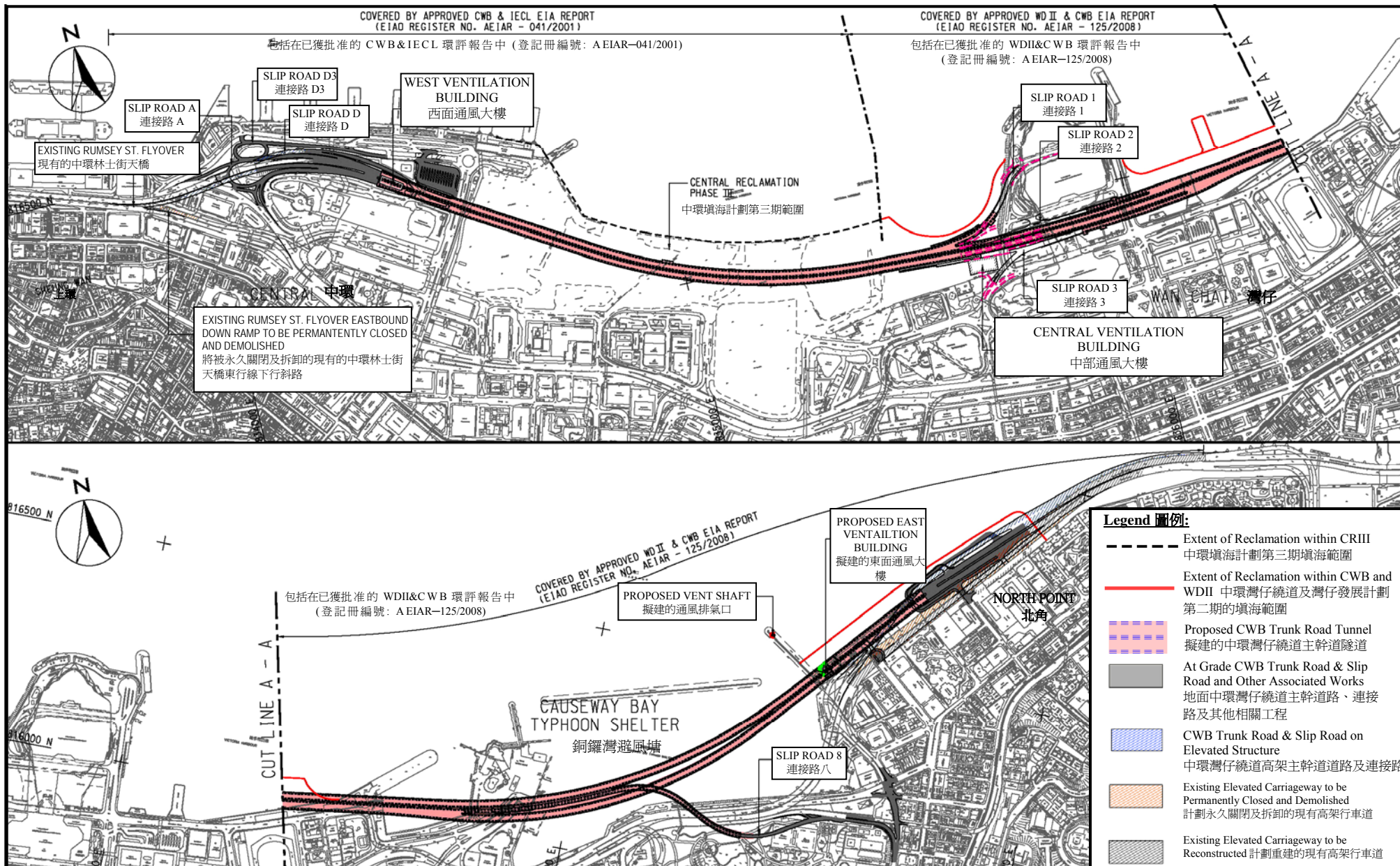
**Table 10.1 Summary of Key Construction Activities of Individual Contract(s) to be commenced in Coming Reporting Month**

Contract No.	Key Construction Works	Recommended Mitigation Measures
HY/2009/17	<ul style="list-style-type: none"> <li>Drilling, installation steel H-Pile &amp; grouting</li> </ul>	<ul style="list-style-type: none"> <li>Noise barrier shall be implement</li> <li>Watering any dust generating activities</li> </ul>
04/HY/2006	<ul style="list-style-type: none"> <li>Modification of bus bays at the bus terminus</li> <li>Widening of carriageway at the bus terminus</li> <li>Relocation of existing lay-bay at Man Kwong Street</li> </ul>	<ul style="list-style-type: none"> <li>Noise barrier shall be implement</li> <li>Watering any dust generating activities</li> </ul>



***Figure 2.1***

***Project Layout***



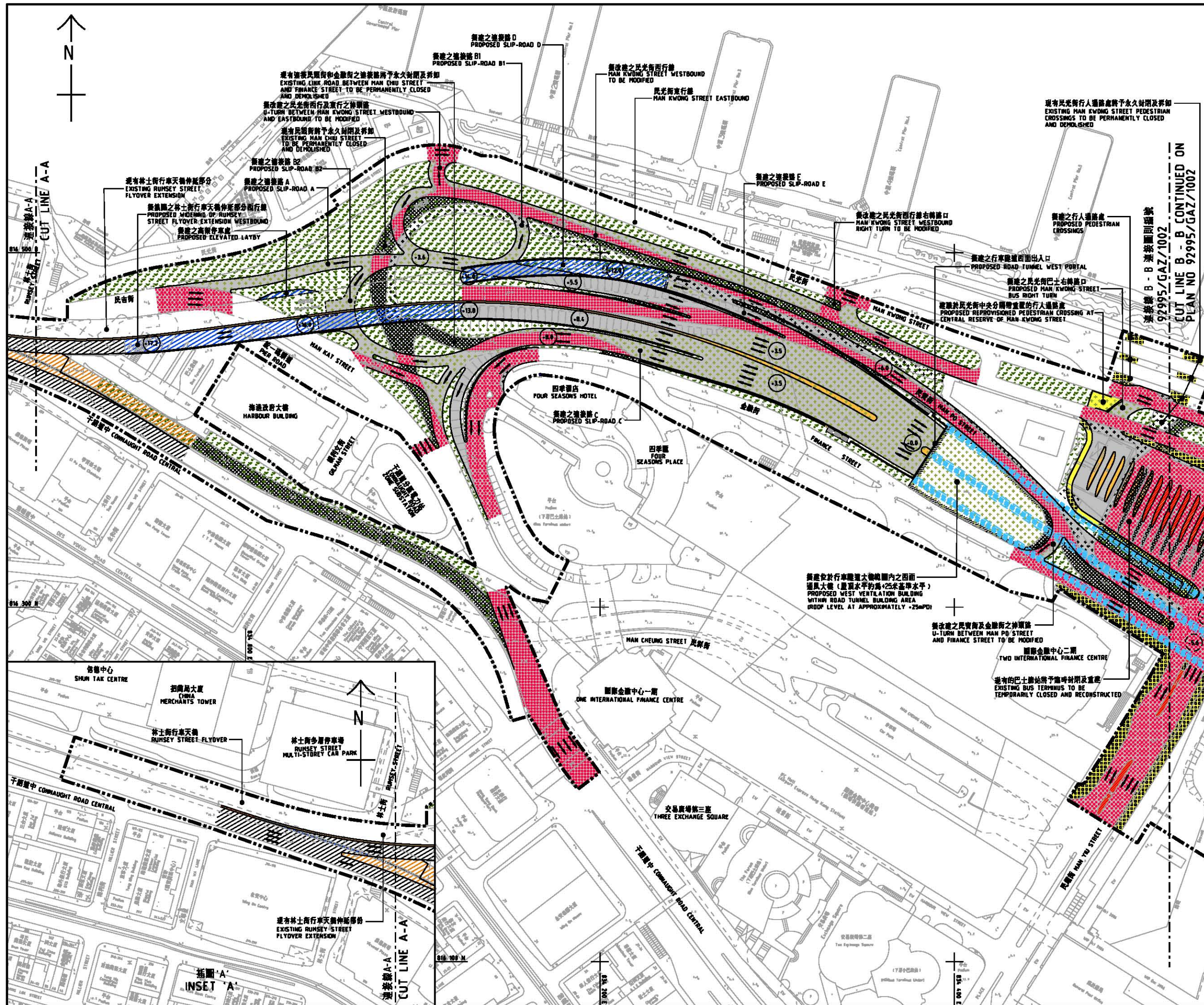
Project Title: Central-Wanchai Bypass (CWB) Including Its Road Tunnel and Slip Roads  
工程項目名稱: 中環灣仔繞道包括其行車隧道及連接路

Environmental Permit No.: EP-364/2009/A  
環境許可證編號: EP-364/2009/A

Figure 1: Location of the Project  
圖 1: 工程項目位置

(This figure was prepared based on Figure 1.1 of the Application for Environmental Permit (Application No.: AEP-364/2009))  
(本圖是根據環境許可證的申請(申請書編號 AEP-364/2009 圖 1.1 編製))





**註釋:**  
**NOTES:**

- 除在其他方面指定外,所有量度均以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
- 所有水平均為約數,以米為單位,並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
- 如有需要,施工區界內之現有道路及行人路之部分路段或會分期臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS AND FOOTPATHS WITHIN LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

**圖例:**  
**LEGEND:**

- 施工區界  
LIMIT OF WORKS AREA
- 行車道之行車線  
(每一箭頭表示一車行車線)  
TRAFFIC LANE FOR CARRIAGEWAY  
(ONE ARROW REPRESENTS ONE LANE)
- 露天/路旁和路旁平台/半開放式通風管下道橋之道路面水平(約數)  
PROPOSED ROAD LEVEL OF OPEN ROAD/ROAD UNDER ELEVATED LANDSCAPED DECK/ROAD UNDER ROSE SEMI-ENCLOSURE (APPROXIMATE)
- 行車道之道路面水平(約數)  
PROPOSED ROAD LEVEL WIDE ROAD TUNNEL (APPROXIMATE)
- 擬建之行人通道(通風管行人通道)  
PROPOSED ROAD TUNNEL (WITH EMERGENCY PEDESTRIAN WALKWAY)
- 擬建之行人通道  
PROPOSED AT-GRADE CARRIAGEWAY
- 擬建之行人路  
PROPOSED FOOTPATH
- 擬建之高架行車道  
PROPOSED ELEVATED CARRIAGEWAY
- 擬建之中央分隔帶/安全島  
PROPOSED CENTRAL RESERVE/REFUGE ISLAND
- 擬建之美化市容地帶  
PROPOSED AMENITY AREA
- 現有政府海濱或海濱予臨時填平,以便興建行車道  
EXISTING GOVERNMENT FORESHORE OR SEA-BED TO BE TEMPORARILY RECLAIMED FOR ROAD TUNNEL CONSTRUCTION
- 現有地面行車道將予臨時封閉及重建  
EXISTING AT-GRADE CARRIAGEWAY TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有地面行車道將予永久封閉及拆卸  
EXISTING AT-GRADE CARRIAGEWAY TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有高架行車道將予臨時封閉及重建  
EXISTING ELEVATED CARRIAGEWAY TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有高架行車道將予永久封閉及拆卸  
EXISTING ELEVATED CARRIAGEWAY TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有行人路將予永久封閉及拆卸  
EXISTING FOOTPATH TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有中央分隔帶/安全島將予重建  
EXISTING CENTRAL RESERVE/REFUGE ISLAND TO BE RECONSTRUCTED
- 現有中央分隔帶/安全島將予拆卸  
EXISTING CENTRAL RESERVE/REFUGE ISLAND TO BE DEMOLISHED
- 現有美化市容地帶將予重建  
EXISTING AMENITY AREA TO BE RECONSTRUCTED
- 現有美化市容地帶將予拆卸  
EXISTING AMENITY AREA TO BE DEMOLISHED
- 現有行人路將予臨時封閉及重建  
EXISTING FOOTPATH TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 擬建之行車道大廈範圍  
PROPOSED ROAD TUNNEL BUILDING AREA

**工程名稱** Project title  
**工務計劃項目** 第6579TH號  
中環灣仔繞道和東區走廊連接路  
PWP ITEM NO. 6579TH  
CENTRAL - WAN CHAI BYPASS AND ISLAND EASTERN CORRIDOR LINK

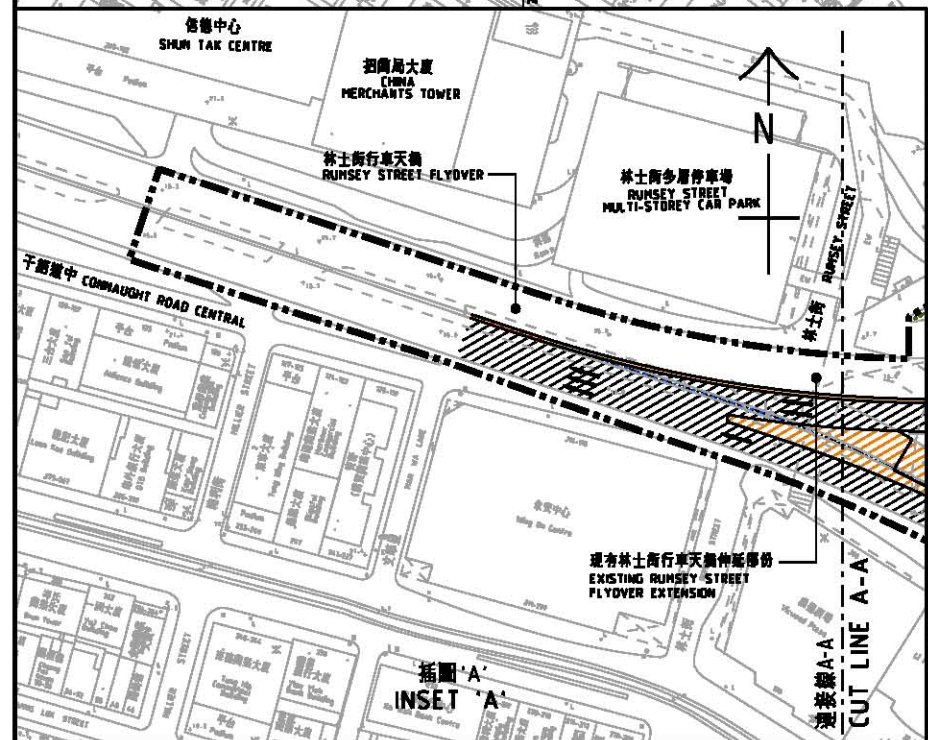
**圖則名稱** Plan title  
根據道路(工程、使用及補償)條例(第370章)而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

**圖則編號** Plan no.  
**92995/GAZ/1001**

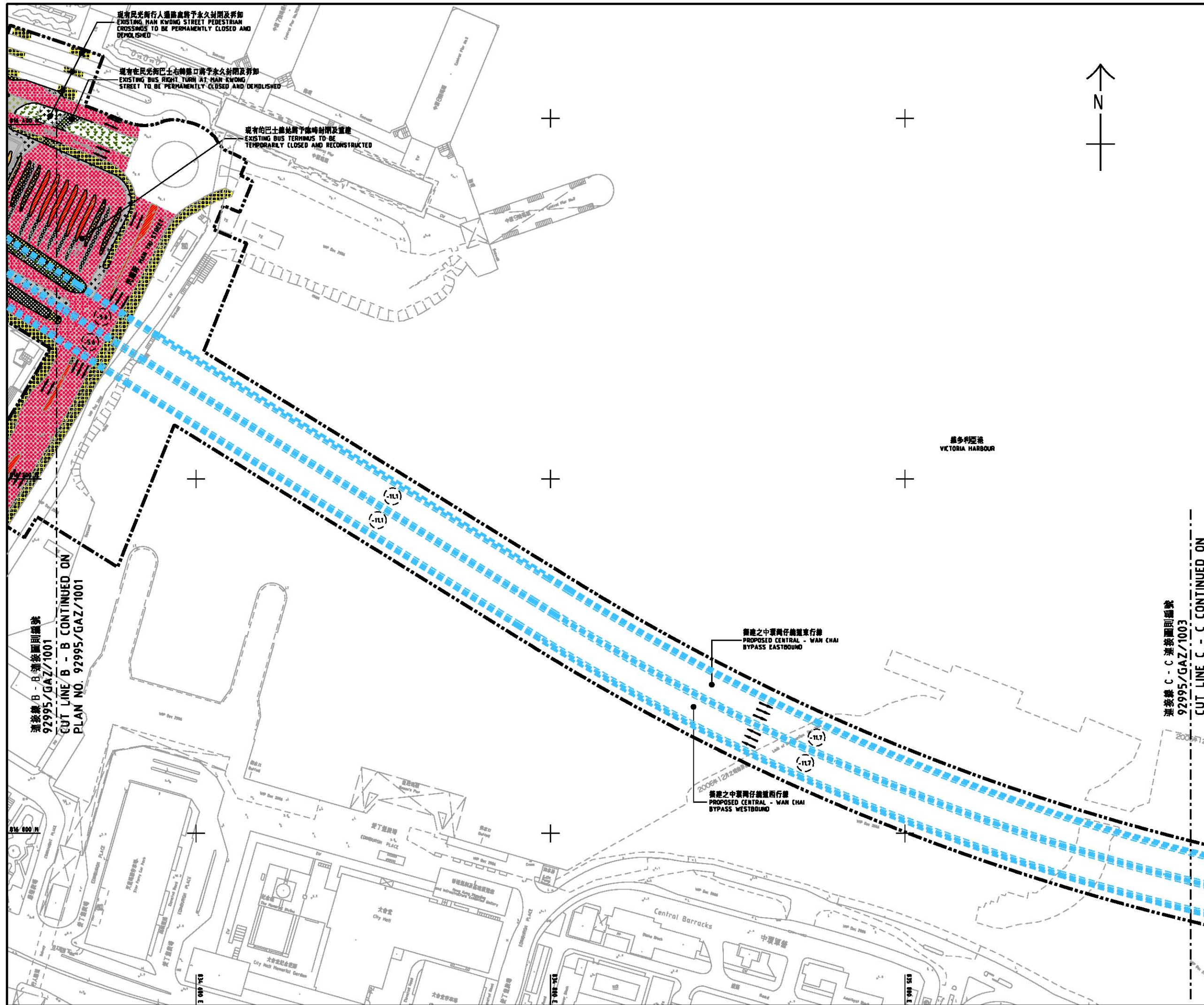
**圖則比例** Plan scale  
A1 1:1000  
A3 1:2000

**辦事處** Office  
主要工程管理處  
Major Works Project Management Office

**路政署**  
HIGHWAYS DEPARTMENT







**註釋:**  
**NOTES:**

- 除在其他方面註定外,所有量度以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
- 所有水平均為約數,以米為單位,並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
- 如有需要,施工區界內之現有行車道及行人路之部分路段或會分期臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS AND FOOTPATHS WITHIN LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

**圖例:**  
**LEGEND:**

- 施工區界  
LIMIT OF WORKS AREA
- 行車道之行車線  
(每一箭頭表示一條行車線)  
TRAFFIC LANE FOR CARRIAGEWAY  
(ONE ARROW REPRESENTS ONE LANE)
- 露天/於高架橋面下/半開放式隔音罩下道路之建議路面水平(約數)  
PROPOSED ROAD LEVEL OF OPEN ROAD/ROAD UNDER ELEVATED LANDSCAPED DECK/ROAD UNDER NOISE SEMI-ENCLOSURE (APPROXIMATE)
- 行車隧道之建議路面水平(約數)  
PROPOSED ROAD LEVEL INSIDE ROAD TUNNEL (APPROXIMATE)
- 擬建之行車隧道(連緊急行人通道)  
PROPOSED ROAD TUNNEL (WITH EMERGENCY PEDESTRIAN WALKWAY)
- 擬建之地面行車道  
PROPOSED AT-GRADE CARRIAGEWAY
- 擬建之行人路  
PROPOSED FOOTPATH
- 擬建之高架行車道  
PROPOSED ELEVATED CARRIAGEWAY
- 擬建之中央分隔帶/安全島  
PROPOSED CENTRAL RESERVE/REFUGE ISLAND
- 擬建之美化市容地帶  
PROPOSED AMENITY AREA
- 現有政府填海或填海填平,以便興建行車隧道  
EXISTING GOVERNMENT FORESHORE OR SEA-BED TO BE TEMPORARILY RECLAIMED FOR ROAD TUNNEL CONSTRUCTION
- 現有地面行車道將予臨時封閉及重建  
EXISTING AT-GRADE CARRIAGEWAY TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有地面行車道將予永久封閉及拆卸  
EXISTING AT-GRADE CARRIAGEWAY TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有高架行車道將予臨時封閉及重建  
EXISTING ELEVATED CARRIAGEWAY TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有高架行車道將予永久封閉及拆卸  
EXISTING ELEVATED CARRIAGEWAY TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有行人路將予永久封閉及拆卸  
EXISTING FOOTPATH TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有中央分隔帶/安全島將予重建  
EXISTING CENTRAL RESERVE/REFUGE ISLAND TO BE RECONSTRUCTED
- 現有中央分隔帶/安全島將予拆卸  
EXISTING CENTRAL RESERVE/REFUGE ISLAND TO BE DEMOLISHED
- 現有美化市容地帶將予重建  
EXISTING AMENITY AREA TO BE RECONSTRUCTED
- 現有美化市容地帶將予拆卸  
EXISTING AMENITY AREA TO BE DEMOLISHED
- 現有行人路將予臨時封閉及重建  
EXISTING FOOTPATH TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 擬建之行車隧道大廈範圍  
PROPOSED ROAD TUNNEL BUILDING AREA

工務計劃項目第6579TH號  
中環灣仔繞道和東區走廊連接路  
PWP ITEM NO. 6579TH  
CENTRAL - WAN CHAI BYPASS AND ISLAND EASTERN CORRIDOR LINK

根據道路(工程、使用及補償)條例(第370章)而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

圖則編號 Plan no.  
**92995/GAZ/1002**

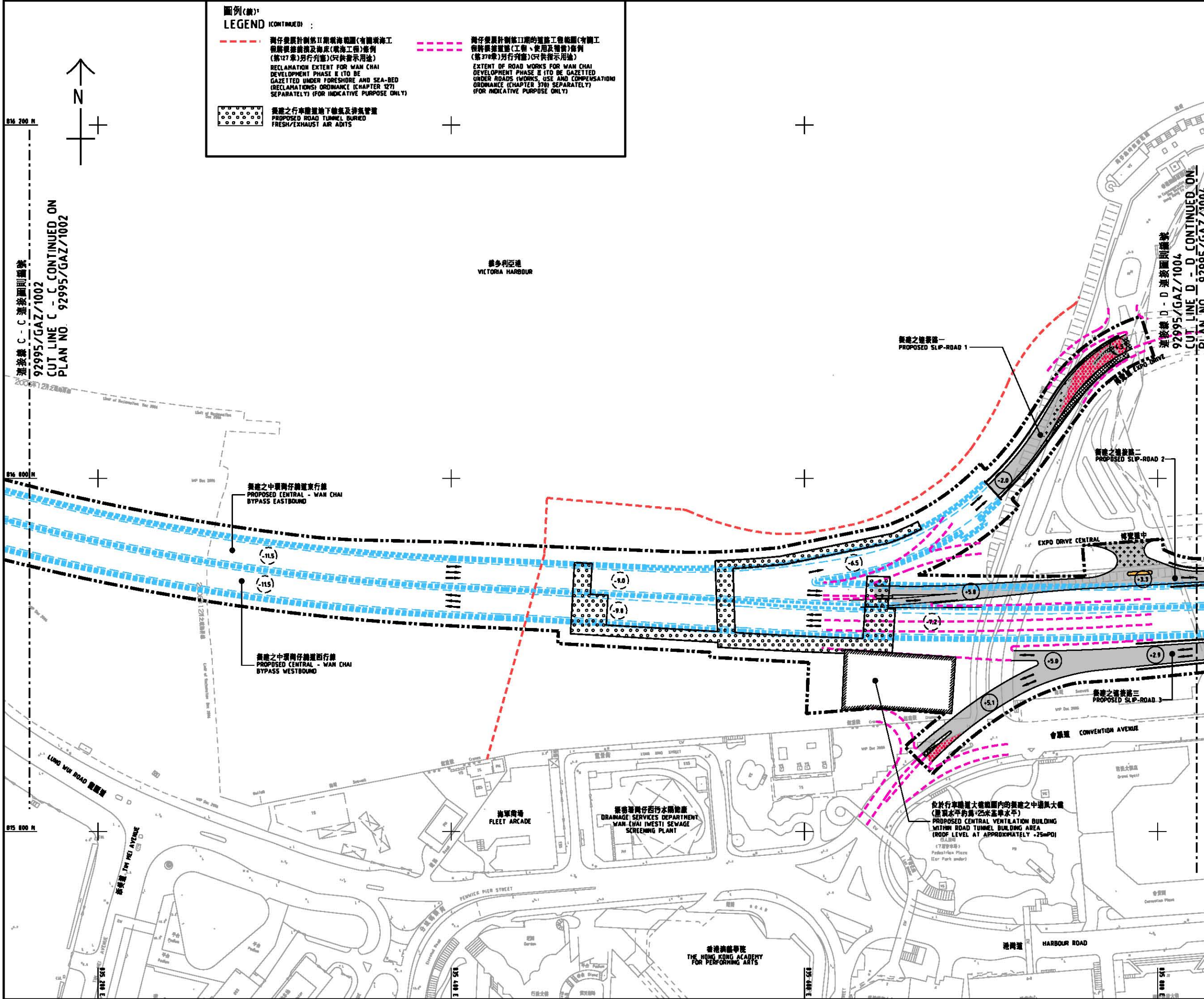
比例 scale  
A1 1:1000  
A3 1:2000

辦事處 Office  
主要工程管理處  
Major Works Project Management Office

路政署  
HIGHWAYS DEPARTMENT







**圖例(續):**  
**LEGEND (CONTINUED):**

- 海仔發展計劃第II期填海範圍(有關填海工程將根據填海及填海(填海工程)條例(第127章)另行刊憲)(只供指示用途)  
RECLAMATION EXTENT FOR WAN CHAI DEVELOPMENT PHASE II (TO BE GAZETTED UNDER FORESHORE AND SEA-BED RECLAMATION ORDINANCE (CHAPTER 127) SEPARATELY) (FOR INDICATIVE PURPOSE ONLY)
- 海仔發展計劃第II期的道路工程範圍(有關工程將根據道路(工程、使用及補償)條例(第370章)另行刊憲)(只供指示用途)  
EXTENT OF ROAD WORKS FOR WAN CHAI DEVELOPMENT PHASE II (TO BE GAZETTED UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370) SEPARATELY) (FOR INDICATIVE PURPOSE ONLY)
- 擬建之行人隧道地下輸氣及排氣管  
PROPOSED ROAD TUNNEL BURIED FRESH/EXHAUST AIR ADITS

**註釋:**  
**NOTES:**

- 除在其它方面指定外,所有量度以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
- 所有水平均為約數,以米為單位,並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
- 如有需要,施工區界內之現有行人道及行人路之部分路段或會分段臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS AND FOOTPATHS WITHIN LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

**圖例:**  
**LEGEND:**

- 施工區界  
LIMIT OF WORKS AREA
- 行車道的行車線  
(每一箭頭表示一車道)  
TRAFFIC LANE FOR CARRIAGEWAY  
(ONE ARROW REPRESENTS ONE LANE)
- 露天/於高架橋下/半開放式通風管下之道路路面水平(約數)  
PROPOSED ROAD LEVEL OF OPEN ROAD/ROAD UNDER ELEVATED LANDSCAPED DECK/ROAD UNDER SEMI-ENCLOSURE (APPROXIMATE)
- 行車隧道之道路路面水平(約數)  
PROPOSED ROAD LEVEL INSIDE ROAD TUNNEL (APPROXIMATE)
- 擬建之行人隧道(連緊急行人通道)  
PROPOSED ROAD TUNNEL (WITH EMERGENCY PEDESTRIAN WALKWAY)
- 擬建之地面行車道  
PROPOSED AT-GRADE CARRIAGEWAY
- 擬建之行人路  
PROPOSED FOOTPATH
- 擬建之高架行車道  
PROPOSED ELEVATED CARRIAGEWAY
- 擬建之中央分隔帶/安全島  
PROPOSED CENTRAL RESERVE/REFUGE ISLAND
- 擬建之美化市容地帶  
PROPOSED AMENITY AREA
- 現有政府填海或填海予臨時填平,以便興建行車道  
EXISTING GOVERNMENT FORESHORE OR SEA-BED TO BE TEMPORARILY RECLAIMED FOR ROAD TUNNEL CONSTRUCTION
- 現有地面行車道將予臨時封閉及重建  
EXISTING AT-GRADE CARRIAGEWAY TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有地面行車道將予永久封閉及拆卸  
EXISTING AT-GRADE CARRIAGEWAY TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有高架行車道將予臨時封閉及重建  
EXISTING ELEVATED CARRIAGEWAY TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有高架行車道將予永久封閉及拆卸  
EXISTING ELEVATED CARRIAGEWAY TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有行人路將予永久封閉及拆卸  
EXISTING FOOTPATH TO BE PERMANENTLY CLOSED AND DEMOLISHED
- 現有中央分隔帶/安全島將予重建  
EXISTING CENTRAL RESERVE/REFUGE ISLAND TO BE RECONSTRUCTED
- 現有中央分隔帶/安全島將予拆卸  
EXISTING CENTRAL RESERVE/REFUGE ISLAND TO BE DEMOLISHED
- 現有美化市容地帶將予重建  
EXISTING AMENITY AREA TO BE RECONSTRUCTED
- 現有美化市容地帶將予拆卸  
EXISTING AMENITY AREA TO BE DEMOLISHED
- 現有行人路將予臨時封閉及重建  
EXISTING FOOTPATH TO BE TEMPORARILY CLOSED AND RECONSTRUCTED
- 擬建之行人隧道大廈範圍  
PROPOSED ROAD TUNNEL BUILDING AREA

**工程名稱** Project title  
工務計劃項目第6579TH號  
中環灣仔繞道和東區走廊連接路  
PWP ITEM NO. 6579TH  
CENTRAL - WAN CHAI BYPASS AND ISLAND EASTERN CORRIDOR LINK

**圖則名稱** Plan title  
根據道路(工程、使用及補償)條例(第370章)而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

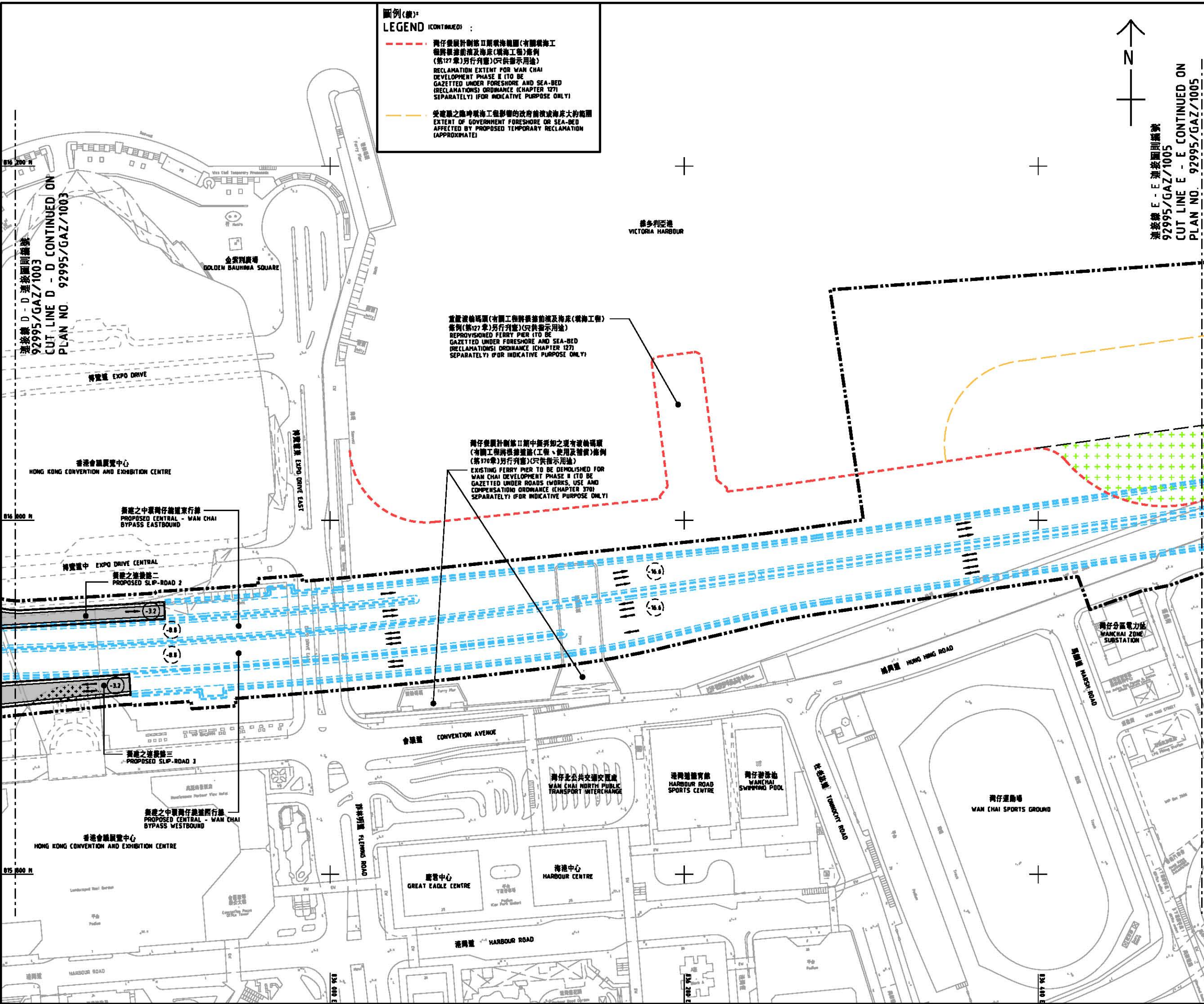
**圖則編號** Plan no.  
92995/GAZ/1003

**圖則比例** Scale  
A1 1:1000  
A3 1:2000

**辦事處** Office  
主要工程管理處  
Major Works Project Management Office

**路政署**  
HIGHWAYS DEPARTMENT





**圖例 (續) :**  
**LEGEND (CONTINUED) :**

- 灣仔發展計劃第II期填海範圍(有關填海工程將填海填海及填海(填海工程)條例(第127章)另行刊憲)(只供指示用途)  
RECLAMATION EXTENT FOR WAN CHAI DEVELOPMENT PHASE II (TO BE GAZETTED UNDER FORESHORE AND SEA-BED RECLAMATIONS ORDINANCE (CHAPTER 127) SEPARATELY) (FOR INDICATIVE PURPOSE ONLY)
- 受建議之臨時填海工程影響之政府填海或填海(填海工程)條例(第127章)另行刊憲)(只供指示用途)  
EXTENT OF GOVERNMENT FORESHORE OR SEA-BED AFFECTED BY PROPOSED TEMPORARY RECLAMATION (APPROXIMATE)

**註釋:**  
**NOTES :**

- 除在圖中另有註明外,所有量度均以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
- 所有水平均為約數,以米為單位,並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
- 如有需要,施工範圍內之現有道路及行人路之部分路段或會分期臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS AND FOOTPATHS WITHIN LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

**圖例:**  
**LEGEND:**

- 施工區界線  
LIMIT OF WORKS AREA
- 行車道之行車線  
(每一箭頭表示一車行車線)  
TRAFFIC LANE FOR CARRIAGEWAY  
(ONE ARROW REPRESENTS ONE LANE)
- 露天/於高架橋下/半開式兩旁下道  
之道路路面水平(約數)  
PROPOSED ROAD LEVEL OF OPEN ROAD/  
ROAD UNDER ELEVATED LANDSCAPED DECK/  
ROAD UNDER ROOFED SEMI-ENCLOSURE  
(APPROXIMATE)
- 行車道之道路路面水平(約數)  
PROPOSED ROAD LEVEL INSIDE  
ROAD TUNNEL (APPROXIMATE)
- 擬建之行人通道(過路行人通道)  
PROPOSED ROAD TUNNEL (WITH  
EMERGENCY PEDESTRIAN WALKWAY)
- 擬建之地面行車道  
PROPOSED AT-GRADE CARRIAGEWAY
- 擬建之行人路  
PROPOSED FOOTPATH
- 擬建之高架行車道  
PROPOSED ELEVATED  
CARRIAGEWAY
- 擬建之中央分隔帶/安全島  
PROPOSED CENTRAL  
RESERVE/REFUGE ISLAND
- 擬建之美化市容地帶  
PROPOSED AMENITY AREA
- 現有政府填海或填海(填海工程)條例(第127章)另行刊憲)  
以便興建行車道  
EXISTING GOVERNMENT FORESHORE OR  
SEA-BED TO BE TEMPORARILY RECLAIMED  
FOR ROAD TUNNEL CONSTRUCTION
- 現有地面行車道將予臨時封閉及重建  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有地面行車道將予永久封閉及拆卸  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
- 現有高架行車道將予臨時封閉及重建  
EXISTING ELEVATED CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有高架行車道將予永久封閉及拆卸  
EXISTING ELEVATED CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
- 現有行人路將予永久封閉及拆卸  
EXISTING FOOTPATH TO BE PERMANENTLY  
CLOSED AND DEMOLISHED
- 現有中央分隔帶/安全島將予重建  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE RECONSTRUCTED
- 現有中央分隔帶/安全島將予拆卸  
REFUGE ISLAND TO BE DEMOLISHED
- 現有美化市容地帶將予重建  
EXISTING AMENITY AREA TO BE  
RECONSTRUCTED
- 現有美化市容地帶將予拆卸  
EXISTING AMENITY AREA TO BE  
DEMOLISHED
- 現有行人路將予臨時封閉及重建  
EXISTING FOOTPATH TO BE  
TEMPORARILY CLOSED AND  
RECONSTRUCTED
- 擬建之行車道大廈範圍  
PROPOSED ROAD TUNNEL BUILDING AREA

**工務計劃項目第6579TH號**  
**中環灣仔繞道和東區走廊連接路**  
**PWP ITEM NO. 6579TH**  
**CENTRAL - WAN CHAI BYPASS AND**  
**ISLAND EASTERN CORRIDOR LINK**

**圖則名稱 Plan title**  
**根據道路(工程、使用及補償)條例**  
**(第370章)而在憲報公布之圖則**  
**PLAN FOR GAZETTING UNDER ROADS**  
**(WORKS, USE AND COMPENSATION)**  
**ORDINANCE (CHAPTER 370)**

**圖則編號 Plan no.**  
**92995/GAZ/1004**

**比例 scale**  
**A1 1 : 1000**  
**A3 1 : 2000**

**辦事處 Office**  
**主要工程管理局**  
**Major Works Project Management Office**

**路政署**  
**HIGHWAYS**  
**DEPARTMENT**



連接線 E - E 連接圖則編號  
92995/GAZ/1004  
CUT LINE E - E CONTINUED ON  
PLAN NO. 92995/GAZ/1004

圖例(續):  
LEGEND (CONTINUED):

受建議之臨時填海工程影響的政府前線或海岸大約範圍  
EXTENT OF GOVERNMENT FORESHORE OR SEA-BED  
AFFECTED BY PROPOSED TEMPORARY RECLAMATION  
(APPROXIMATE)

連接線 H - H 連接圖則編號  
92995/GAZ/1008

CUT LINE H - H CONTINUED ON  
PLAN NO. 92995/GAZ/1008

維多利亞港  
VICTORIA HARBOR

前公眾貨物裝卸區  
EX-PUBLIC CARGO WORKING AREA

香港遊艇會  
ROYAL HONG KONG YACHT CLUB

側道灣避風塘  
CAUSEWAY BAY TYPHOON SHELTER

擬建之中環灣仔繞道東行線  
PROPOSED CENTRAL - WAN CHAI  
BYPASS EASTBOUND

擬建之橋接路 8  
PROPOSED SLP-ROAD 8

擬建之中環灣仔繞道西行線  
PROPOSED CENTRAL - WAN CHAI  
BYPASS WESTBOUND

警務處  
POLICE OFFICERS' CLUB

牛車水  
THE NODDWAY CUN

告士打道  
GLOUCESTER ROAD

側道灣行人車通道工程及  
填海填土工程範圍(進行中)  
EXTENT OF ROAD WORKS  
OF RECONSTRUCTION  
OF CAUSEWAY BAY FLYOVER  
AND ASSOCIATED WIDENING OF  
VICTORIA PARK ROAD ON PROGRESS

註釋:  
NOTES:

- 除在其他方面指定外,所有高度以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS  
OTHERWISE STATED.
- 所有水平均為約數,以米為單位,並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN  
METRES ABOVE HONG KONG PRINCIPAL DATUM.
- 如有需要,施工區界內之現有行車道及行人路之部分路段  
或會分期臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS AND FOOTPATHS  
WITHIN LIMIT OF WORKS AREA MAY BE TEMPORARILY  
CLOSED IN PHASES AS AND WHEN REQUIRED.

圖例:  
LEGEND:

- 施工區界  
LIMIT OF WORKS AREA
- 行車道的行車線  
(每一箭頭表示一車行車線)  
TRAFFIC LANE FOR CARRIAGEWAY  
(ONE ARROW REPRESENTS ONE LANE)
- 露天/外海填海平台/半開放式橋樑下通車  
之道路面水平(約數)  
PROPOSED ROAD LEVEL OF OPEN ROAD/  
ROAD UNDER ELEVATED LANDSCAPED DECK/  
ROAD UNDER ROOF SEMI-ENCLOSURE  
(APPROXIMATE)
- 行車道之道路面水平(約數)  
PROPOSED ROAD LEVEL INSIDE  
ROAD TUNNEL (APPROXIMATE)
- 擬建之行人通道(連緊急行人通道)  
PROPOSED ROAD TUNNEL (WITH  
EMERGENCY PEDESTRIAN WALKWAY)
- 擬建之地面行車道  
PROPOSED AT-GRADE CARRIAGEWAY
- 擬建之行人路  
PROPOSED FOOTPATH
- 擬建之高架行車道  
PROPOSED ELEVATED  
CARRIAGEWAY
- 擬建之中央分隔帶/安全島  
PROPOSED CENTRAL  
RESERVE/REFUGE ISLAND
- 擬建之美化市地帶  
PROPOSED AMENITY AREA
- 現有政府前線或海岸填海工程範圍,  
以便興建行車道  
EXISTING GOVERNMENT FORESHORE OR  
SEA-BED TO BE TEMPORARILY RECLAIMED  
FOR ROAD TUNNEL CONSTRUCTION
- 現有地面行車道將予臨時封閉及重建  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有地面行車道將予永久封閉及拆卸  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
- 現有高架行車道將予臨時封閉及重建  
EXISTING ELEVATED CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有高架行車道將予永久封閉及拆卸  
EXISTING ELEVATED CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
- 現有行人路將予永久封閉及拆卸  
EXISTING FOOTPATH TO BE PERMANENTLY  
CLOSED AND DEMOLISHED
- 現有中央分隔帶/安全島將予重建  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE RECONSTRUCTED
- 現有中央分隔帶/安全島將予拆卸  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE DEMOLISHED
- 現有美化市地帶將予重建  
EXISTING AMENITY AREA TO BE  
RECONSTRUCTED
- 現有美化市地帶將予拆卸  
EXISTING AMENITY AREA TO BE  
DEMOLISHED
- 現有行人路將予臨時封閉及重建  
EXISTING FOOTPATH TO BE TEMPORARILY  
CLOSED AND RECONSTRUCTED
- 擬建之行車隧道大範圍  
PROPOSED ROAD TUNNEL BUILDING AREA

工程名稱 Project title  
工務計劃項目第6579TH號  
中環灣仔繞道和東區走廊連接路  
PWP ITEM NO. 6579TH  
CENTRAL - WAN CHAI BYPASS AND  
ISLAND EASTERN CORRIDOR LINK

圖則名稱 Plan title  
根據道路(工程、使用及補償)條例  
(第370章)而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS  
(WORKS, USE AND COMPENSATION)  
ORDINANCE (CHAPTER 370)

圖則編號 Plan no.  
92995/GAZ/1005

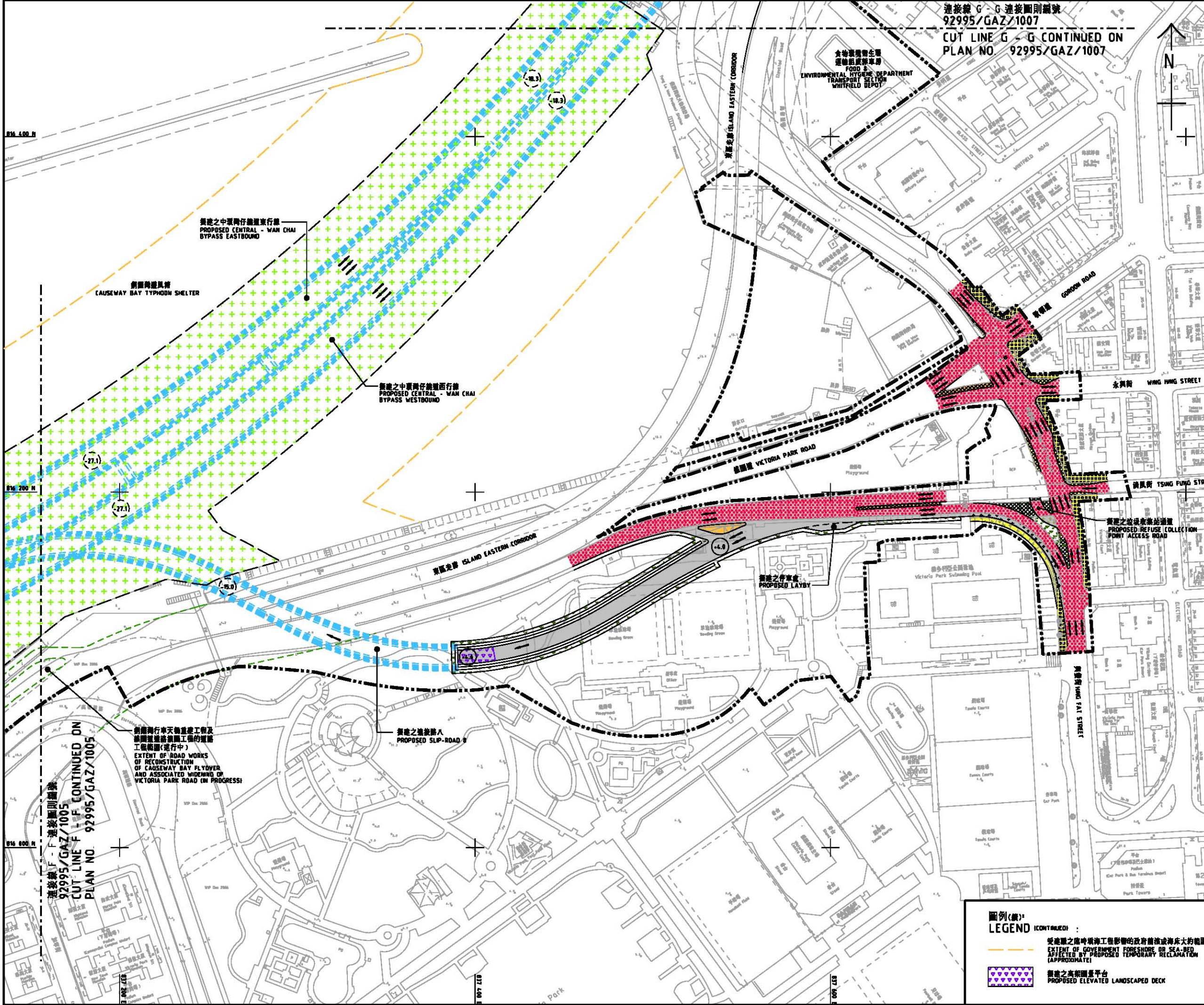
圖則比例 Scale  
A1 1:1000  
A3 1:2000

圖則日期 Date  
2005年11月  
圖則編號 Plan no.  
92995/GAZ/1005

圖則比例 Scale  
A1 1:1000  
A3 1:2000

圖則日期 Date  
2005年11月





連接線 G - G 連接圖則編號  
92995/GAZ/1007  
CUT LINE G - G CONTINUED ON  
PLAN NO. 92995/GAZ/1007

註釋:  
NOTES:  
1. 除在圖則內註明外,所有量度均以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.  
2. 所有水平均為約數,以米為單位,並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.  
3. 如有需要,施工區界內之現有行車道及行人路之部分路段或會分期臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS AND FOOTPATHS WITHIN LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

- 圖例:  
LEGEND:
- 施工區界  
LIMIT OF WORKS AREA
  - 行車道之行車線  
(每一箭頭表示一條行車線)  
TRAFFIC LANE FOR CARRIAGEWAY  
(ONE ARROW REPRESENTS ONE LANE)
  - 露天/於高架橋面下/半開放式兩旁單車道  
之建議路面水平(約數)  
PROPOSED ROAD LEVEL OF OPEN ROAD/  
ROAD UNDER ELEVATED DECK/  
ROAD UNDER ROOSE SEMI-ENCLOSURE  
(APPROXIMATE)
  - 行車道之建議路面水平(約數)  
PROPOSED ROAD LEVEL INSIDE  
ROAD TUNNEL (APPROXIMATE)
  - 擬建之行車隧道(油蔴地行人通道)  
PROPOSED ROAD TUNNEL (WITH  
EMERGENCY PEDESTRIAN WALKWAY)
  - 擬建之地面行車道  
PROPOSED AT-GRADE CARRIAGEWAY
  - 擬建之行人路  
PROPOSED FOOTPATH
  - 擬建之高架行車道  
PROPOSED ELEVATED  
CARRIAGEWAY
  - 擬建之中央分隔帶/安全島  
PROPOSED CENTRAL  
RESERVE/REFUGE ISLAND
  - 擬建之美化市容地帶  
PROPOSED AMENITY AREA
  - 現有政府前濱或海床予臨時填平,  
以便興建行車隧道  
EXISTING GOVERNMENT FORESHORE OR  
SEA-BED TO BE TEMPORARILY RECLAIMED  
FOR ROAD TUNNEL CONSTRUCTION
  - 現有地面行車道將予臨時封閉及重建  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
  - 現有地面行車道將予永久封閉及拆卸  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
  - 現有高架行車道將予臨時封閉及重建  
EXISTING ELEVATED CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
  - 現有高架行車道將予永久封閉及拆卸  
EXISTING ELEVATED CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
  - 現有行人路將予永久封閉及拆卸  
EXISTING FOOTPATH TO BE PERMANENTLY  
CLOSED AND DEMOLISHED
  - 現有中央分隔帶/安全島將予重建  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE RECONSTRUCTED
  - 現有中央分隔帶/安全島將予拆卸  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE DEMOLISHED
  - 現有美化市容地帶將予重建  
EXISTING AMENITY AREA TO BE  
RECONSTRUCTED
  - 現有美化市容地帶將予拆卸  
EXISTING AMENITY AREA TO BE  
DEMOLISHED
  - 現有行人路將予臨時封閉及重建  
EXISTING FOOTPATH TO BE TEMPORARILY  
CLOSED AND RECONSTRUCTED
  - 擬建之行車隧道大廈範圍  
PROPOSED ROAD TUNNEL BUILDING AREA

圖例(續):  
LEGEND (CONTINUED):

- 受填海之臨時填海工程影響的政府前濱或海床大約範圍  
EXTENT OF GOVERNMENT FORESHORE OR SEA-BED  
AFFECTED BY PROPOSED TEMPORARY RECLAMATION  
(APPROXIMATE)
- 擬建之高架橋面平台  
PROPOSED ELEVATED LANDSCAPED DECK

工程名稱 Project title  
工務計劃項目第6579TH號  
中環灣仔繞道和東區走廊連接路  
PWP ITEM NO. 6579TH  
CENTRAL - WAN CHAI BYPASS AND  
ISLAND EASTERN CORRIDOR LINK

圖則名稱 Plan title  
根據道路(工程、使用及補償)條例  
(第370章)而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS  
(WORKS, USE AND COMPENSATION)  
ORDINANCE (CHAPTER 370)

圖則編號 Plan no.  
92995/GAZ/1006

比例 scale  
A1 1:1000  
A3 1:2000

辦事處 Office  
主要工程管理局  
Major Works Project Management Office

路政署  
HIGHWAYS  
DEPARTMENT







圖例(續)  
LEGEND (CONTINUED)

- 擬建之行人隧道/排氣管  
PROPOSED ROAD TUNNEL BURNED  
FRESH/EXHAUST AIR ADITS
- 受建議之臨時填海工程影響的政府前線或海岸大約範圍  
EXTENT OF GOVERNMENT FORESHORE OR SEA-BED  
AFFECTED BY PROPOSED TEMPORARY RECLAMATION  
(APPROXIMATE)
- 受建議之臨時防波堤影響的政府前線或海岸大約範圍  
EXTENT OF GOVERNMENT FORESHORE OR SEA-BED  
AFFECTED BY PROPOSED TEMPORARY BREAKWATER  
(APPROXIMATE)

維多利亞港  
VICTORIA HARBOUR

擬建之臨時防波堤  
PROPOSED TEMPORARY  
BREAKWATER

高水位線  
HIGH WATER MARK

臨時填海區  
TEMPORARY FILLING AREA

擬建之臨時排浪式防波堤  
PROPOSED TEMPORARY  
PILED WAVE WALL

東面通風大樓的擬建之通風管排氣口  
(最高水平約為+25米基準水平)  
PROPOSED EXHAUST VENT SHAFT  
OF EAST VENTILATION BUILDING  
(MAXIMUM LEVEL AT APPROXIMATELY  
+25mPD)

擬建之中環灣仔繞道西行線  
PROPOSED CENTRAL - WAN CHAI  
BYPASS WESTBOUND

擬建之中環灣仔繞道東行線  
PROPOSED CENTRAL - WAN CHAI  
BYPASS EASTBOUND

創展灣避風港  
CAUSEWAY BAY TYPHOON SHELTER

連接線 H - H 連接圖則編號  
92995/GAZ/1005

CUT LINE H - H CONTINUED ON  
PLAN NO. 92995/GAZ/1005

連接線 J - J 連接圖則編號  
92995/GAZ/1007

CUT LINE J - J CONTINUED ON  
PLAN NO. 92995/GAZ/1007



註釋  
NOTES:

- 除在圖則中另有註明外,所有量度均以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS  
OTHERWISE STATED.
- 所有水平均為約數,以米為單位,並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN  
METRES ABOVE HONG KONG PRINCIPAL DATUM.
- 如有需要,施工區界內之現有行車道及行人路之部分路段  
或會分期臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS AND FOOTPATHS  
WITHIN LIMIT OF WORKS AREA MAY BE TEMPORARILY  
CLOSED IN PHASES AS AND WHEN REQUIRED.

圖例  
LEGEND:

- 施工區界  
LIMIT OF WORKS AREA
- 行車道的行車線  
(每一箭頭表示一車行車線)  
TRAFFIC LANE FOR CARRIAGEWAY  
(ONE ARROW REPRESENTS ONE LANE)
- 露天/於高架橋上平台下/半開放式兩層單下道  
之道路路面水平(約數)  
PROPOSED ROAD LEVEL OF OPEN ROAD/  
ROAD UNDER ELEVATED LANDSCAPED DECK/  
ROAD UNDER ROSE SEMI-ENCLOSURE  
(APPROXIMATE)
- 行車道之道路路面水平(約數)  
PROPOSED ROAD LEVEL INSIDE  
ROAD TUNNEL (APPROXIMATE)
- 擬建之行人隧道(連緊急行人通道)  
PROPOSED ROAD TUNNEL (WITH  
EMERGENCY PEDESTRIAN WALKWAY)
- 擬建之地面行車道  
PROPOSED AT-GRADE CARRIAGEWAY
- 擬建之行人路  
PROPOSED FOOTPATH
- 擬建之高架行車道  
PROPOSED ELEVATED  
CARRIAGEWAY
- 擬建之中央分隔帶/安全島  
PROPOSED CENTRAL  
RESERVE/REFUGE ISLAND
- 擬建之美化市容地帶  
PROPOSED AMENITY AREA
- 現有政府前線或海岸予臨時填平,  
以便興建行車道  
EXISTING GOVERNMENT FORESHORE OR  
SEA-BED TO BE TEMPORARILY RECLAIMED  
FOR ROAD TUNNEL CONSTRUCTION
- 現有地面行車道將予臨時封閉及重建  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有地面行車道將予永久封閉及拆卸  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
- 現有高架行車道將予臨時封閉及重建  
EXISTING ELEVATED CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有高架行車道將予永久封閉及拆卸  
EXISTING ELEVATED CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
- 現有行人路將予永久封閉及拆卸  
EXISTING FOOTPATH TO BE PERMANENTLY  
CLOSED AND DEMOLISHED
- 現有中央分隔帶/安全島將予重建  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE RECONSTRUCTED
- 現有中央分隔帶/安全島將予拆卸  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE DEMOLISHED
- 現有美化市容地帶將予重建  
EXISTING AMENITY AREA TO BE  
RECONSTRUCTED
- 現有美化市容地帶將予拆卸  
EXISTING AMENITY AREA TO BE  
DEMOLISHED
- 現有行人路將予臨時封閉及重建  
EXISTING FOOTPATH TO BE  
TEMPORARILY CLOSED AND  
RECONSTRUCTED
- 擬建之行人隧道大樓範圍  
PROPOSED ROAD TUNNEL BUILDING AREA

工程名稱 Project title  
工務計劃項目第6579TH號  
中環灣仔繞道和東區走廊連接路  
PWP ITEM NO. 6579TH  
CENTRAL - WAN CHAI BYPASS AND  
ISLAND EASTERN CORRIDOR LINK

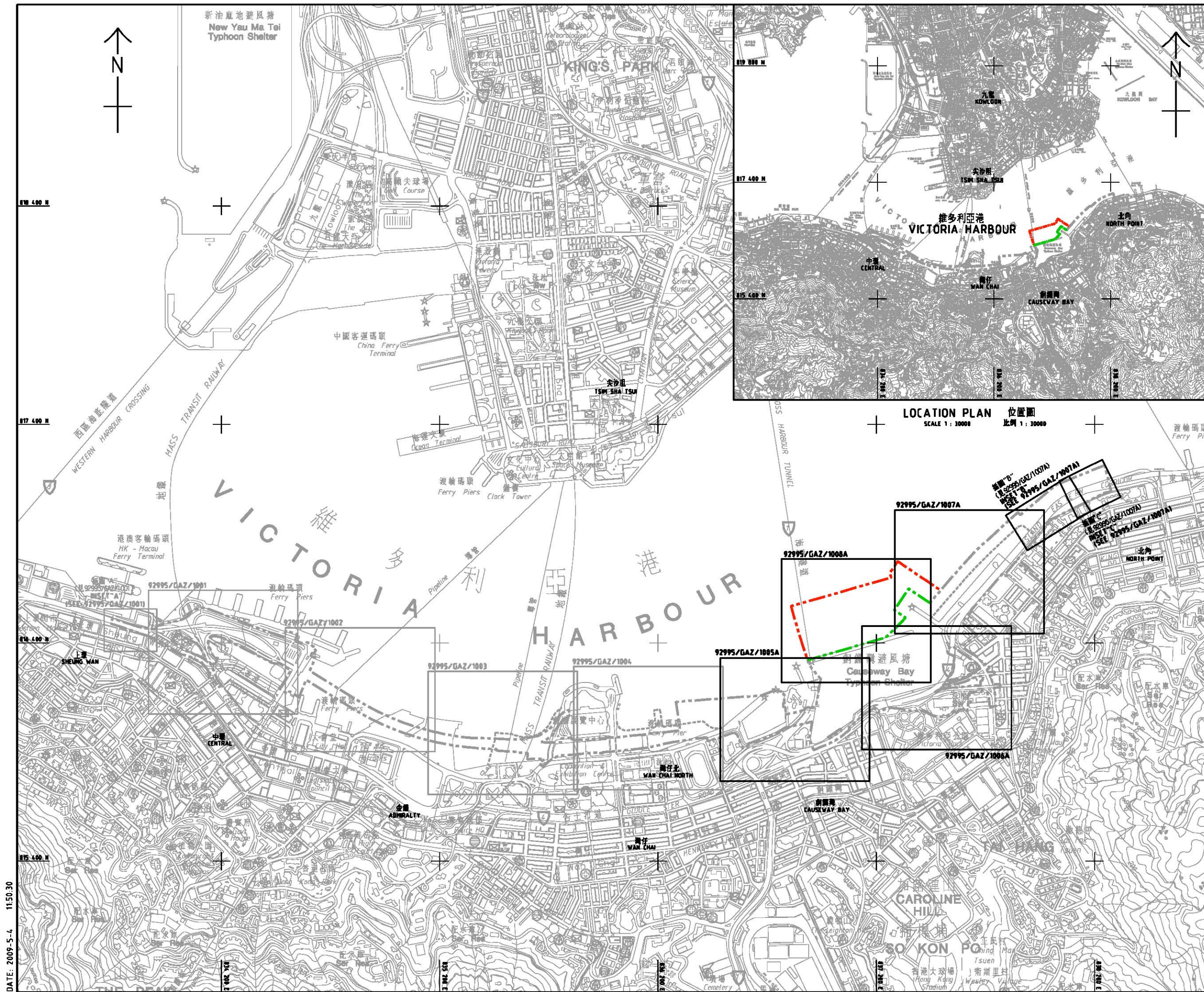
圖則名稱 Plan title  
根據道路(工程、使用及補償)條例  
(第370章)而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS  
(WORKS, USE AND COMPENSATION)  
ORDINANCE (CHAPTER 370)

圖則編號 Plan no.  
92995/GAZ/1008

圖則比例 scale  
A1 1:1000  
A3 1:2000

辦事處 Office  
主要工程管理處  
Major Works Project Management Office  
路政署  
HIGHWAYS  
DEPARTMENT





**圖例: LEGEND:**  
**原有部分 ORIGINAL**  
--- 施工區界限 LIMIT OF WORKS AREA  
--- 灣仔發展計劃第II期填海範圍(有關填海工程將根據填海及海床(填海工程)條例(第127章)另行刊憲)(只供指示用途) RECLAMATION EXTENT FOR WAN CHAI DEVELOPMENT PHASE II (TO BE GAZETTED UNDER FORESHORE AND SEA-BED RECLAMATIONS) ORDINANCE (CHAPTER 127) SEPARATELY (FOR INDICATIVE PURPOSE ONLY)

**修訂部分 AMENDMENT**  
--- 原有建議的施工區界限將予取消 ORIGINALLY PROPOSED LIMIT OF WORKS AREA TO BE DELETED  
--- 修訂後的施工區界限 AMENDED LIMIT OF WORKS AREA

**LOCATION PLAN 位置圖**  
SCALE 1 : 30000 比例 1 : 30000

**工務計劃項目第6579TH號**  
中環灣仔繞道和東區走廊連接路  
PWP ITEM NO. 6579TH  
CENTRAL - WAN CHAI BYPASS AND ISLAND EASTERN CORRIDOR LINK

**圖則名稱 Plan title**  
根據道路(工程、使用及補償)條例(第370章)而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

**圖則編號 Plan no.**  
92995/GAZ/1000A

**圖則比例 scale**  
A1 1 : 8000  
A3 1 : 16000

**辦事處 Office**  
主要工程管理處  
Major Works Project Management Office

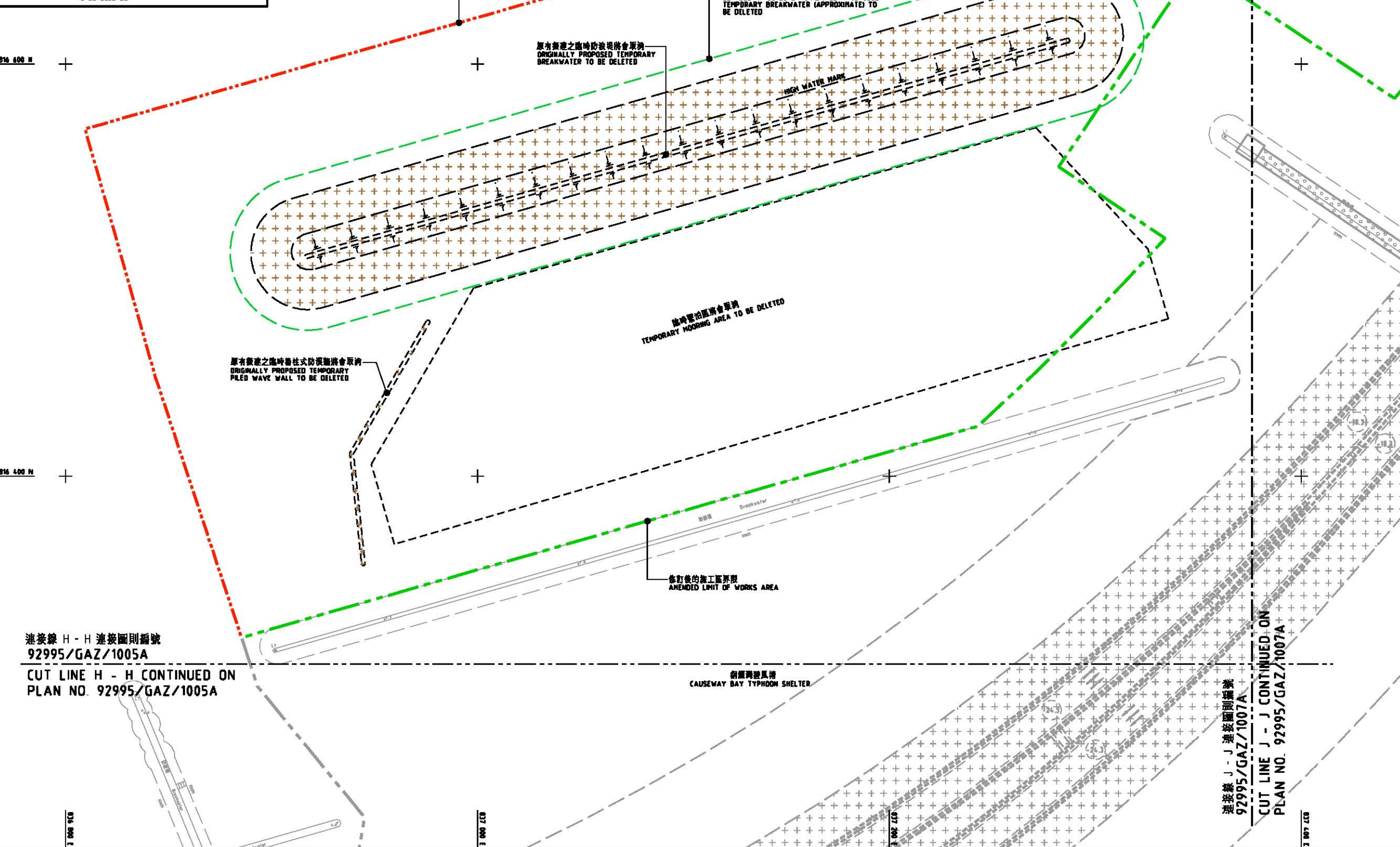
**路政署 HIGHWAYS DEPARTMENT**

DATE: 2009-5-4 11:50:30



圖例(續)  
LEGEND (CONTINUED)  
原有部分 ORIGINAL

- 擬建之行人車道地下輸氣/排氣管  
PROPOSED ROAD TUNNEL BURIED  
FRESH/EXHAUST AIR ADITS
- 受建議之臨時防波堤影響的政府前濱或海床大約範圍  
EXTENT OF GOVERNMENT FORESHORE OR SEA-BED  
AFFECTED BY PROPOSED TEMPORARY BREAKWATER  
(APPROXIMATE)
- 受建議之臨時填海工程影響的政府前濱或海床大約範圍  
EXTENT OF GOVERNMENT FORESHORE OR SEA-BED  
AFFECTED BY PROPOSED TEMPORARY RECLAMATION  
(APPROXIMATE)
- 修訂部分 AMENDMENT
- 原有建議的施工區界線將被取消  
ORIGINALLY PROPOSED LIMIT OF  
WORKS AREA TO BE DELETED
- 修訂後的施工區界線  
AMENDED LIMIT OF WORKS AREA
- 原有受建議之臨時防波堤影響的政府前濱或海床  
大約範圍將被取消  
EXTENT OF GOVERNMENT FORESHORE OR SEA-BED  
AFFECTED BY ORIGINALLY PROPOSED TEMPORARY  
BREAKWATER (APPROXIMATE) TO BE DELETED
- 原有建議之填海工程將予臨時填平以便興建車道  
的現有政府前濱或海床將被取消  
EXISTING GOVERNMENT FORESHORE OR SEA-BED  
ORIGINALLY PROPOSED TO BE TEMPORARILY  
RECLAIMED FOR ROAD TUNNEL CONSTRUCTION  
TO BE DELETED



- 註釋  
NOTES
- 除在其他方面指定外,所有量度以米為單位。  
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
  - 所有水平均為約數,以米為單位,並基於香港主水平基準上。  
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
  - 如有需要,施工區界內之現有行車道及行人路之部分路段或會分期或臨時封閉。  
SECTIONS OF EXISTING CARRIAGEWAYS AND FOOTPATHS WITHIN LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

圖例  
LEGEND  
原有部分 ORIGINAL

- 施工區界線  
LIMIT OF WORKS AREA
- 行車道的行車線  
(每一箭頭表示一條行車線)  
TRAFFIC LANE FOR CARRIAGEWAY  
(ONE ARROW REPRESENTS ONE LANE)
- 露天/於高架面或平台下/半開式路旁圍下道  
之建議路面水平(約數)  
PROPOSED ROAD LEVEL OF OPEN ROAD/  
ROAD UNDER ELEVATED LANDSCAPED DECK/  
ROAD UNDER HOSE SEMI-ENCLOSURE  
(APPROXIMATE)
- 行車道之建議路面水平(約數)  
PROPOSED ROAD LEVEL INSIDE  
ROAD TUNNEL (APPROXIMATE)
- 擬建之行人車道(連緊急行人通道)  
PROPOSED ROAD TUNNEL WITH  
EMERGENCY PEDESTRIAN WALKWAY
- 擬建之地面行車道  
PROPOSED AT-GRADE CARRIAGEWAY
- 擬建之行人路  
PROPOSED FOOTPATH
- 擬建之高架行車道  
PROPOSED ELEVATED  
CARRIAGEWAY
- 擬建之中央分隔帶/安全島  
PROPOSED CENTRAL  
RESERVE/REFUGE ISLAND
- 擬建之美化市容地帶  
PROPOSED AMENITY AREA
- 現有政府前濱或海床將予臨時填平,  
以便興建行車道  
EXISTING GOVERNMENT FORESHORE OR  
SEA-BED TO BE TEMPORARILY RECLAIMED  
FOR ROAD TUNNEL CONSTRUCTION
- 現有地面行車道將予臨時封閉及重建  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有地面行車道將予永久封閉及拆卸  
EXISTING AT-GRADE CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
- 現有高架行車道將予臨時封閉及重建  
EXISTING ELEVATED CARRIAGEWAY TO BE  
TEMPORARILY CLOSED AND RECONSTRUCTED
- 現有高架行車道將予永久封閉及拆卸  
EXISTING ELEVATED CARRIAGEWAY TO BE  
PERMANENTLY CLOSED AND DEMOLISHED
- 現有行人路將予永久封閉及拆卸  
EXISTING FOOTPATH TO BE PERMANENTLY  
CLOSED AND DEMOLISHED
- 現有中央分隔帶/安全島將予重建  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE RECONSTRUCTED
- 現有中央分隔帶/安全島將予拆卸  
EXISTING CENTRAL RESERVE/REFUGE  
ISLAND TO BE DEMOLISHED
- 現有美化市容地帶將予重建  
EXISTING AMENITY AREA TO BE  
RECONSTRUCTED
- 現有美化市容地帶將予拆卸  
EXISTING AMENITY AREA TO BE  
DEMOLISHED
- 現有行人路將予臨時封閉及重建  
EXISTING FOOTPATH TO BE  
TEMPORARILY CLOSED AND  
RECONSTRUCTED
- 擬建之行車道大廈範圍  
PROPOSED ROAD TUNNEL BUILDING AREA

工程名稱 Project title  
工務計劃項目第6579TH號  
中環及灣仔繞道和東區走廊連接路  
PWP ITEM NO. 6579TH  
CENTRAL - WAN CHAI BYPASS AND  
ISLAND EASTERN CORRIDOR LINK

圖則名稱 Plan title  
根據道路(工程、使用及補償)條例  
(第370章)而在憲報公布之圖則  
PLAN FOR GAZETTING UNDER ROADS  
(WORKS, USE AND COMPENSATION)  
ORDINANCE (CHAPTER 370)

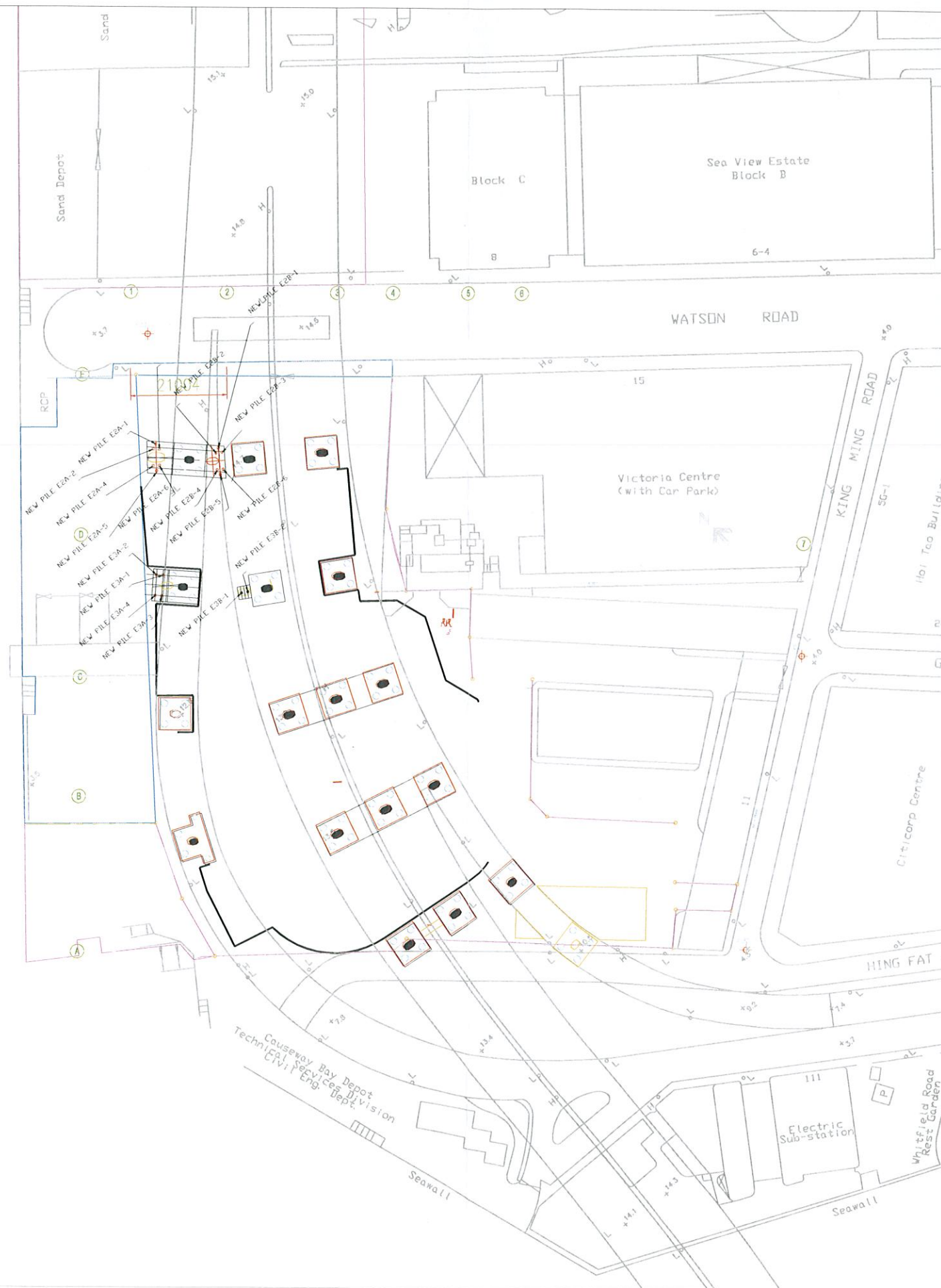
圖則編號 Plan no.  
92995/GAZ/1008A

比例 scale  
A1 1:1000  
A3 1:2000

辦事處 Office  
主要工程管理處  
Major Works Project Management Office

路政署  
HIGHWAYS  
DEPARTMENT





1 Co-ordinates are relative to Hong Kong Metric Grid (1980)

Legend:

REV.	DATE	DESCRIPTION	CHK.BY	AUTH.BY

Highways Department 路政署  
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LIN

PWP ITEM NO. 579 TH K  
務計劃項目編號

Project:  
CENTRAL - WAN CHAI BYPASS - FEND WHITFIELD DEPOT RE-PROVISIONING WORKS

AECOM

Drawing Title  
PILING PLAN FOR MODIFIED ICE BRIDGE

Contractor  
LAM WOO & COMPANY LIMITED

DRAWING NO. 0020

SURVEY DATE 12-06-2010

DRAWN BY KENG

CHECKED BY

SCALE 1:1000 SHEET 1

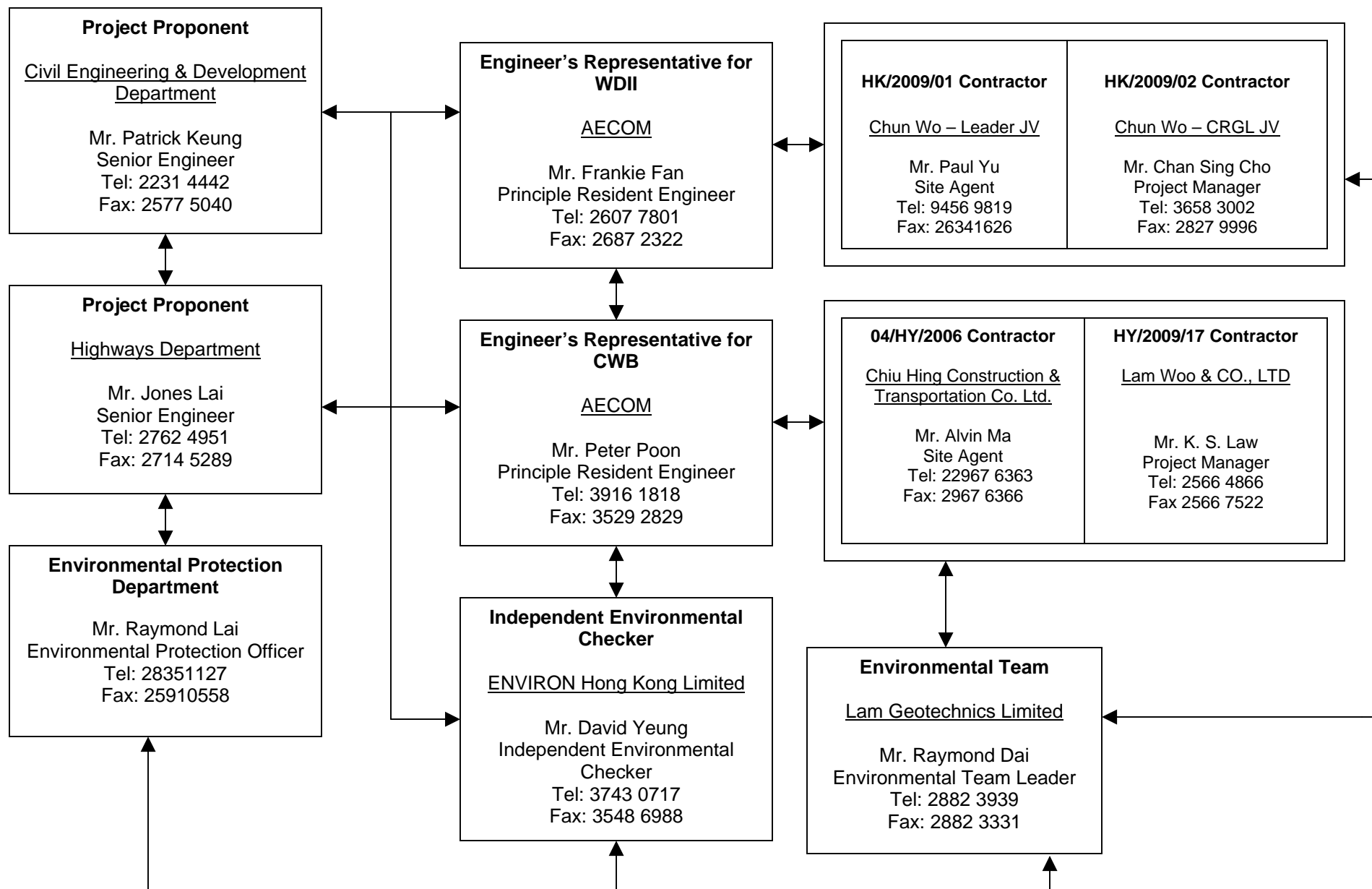


***Figure 2.2***

***Project Organization Chart***



**Project Organization chart**

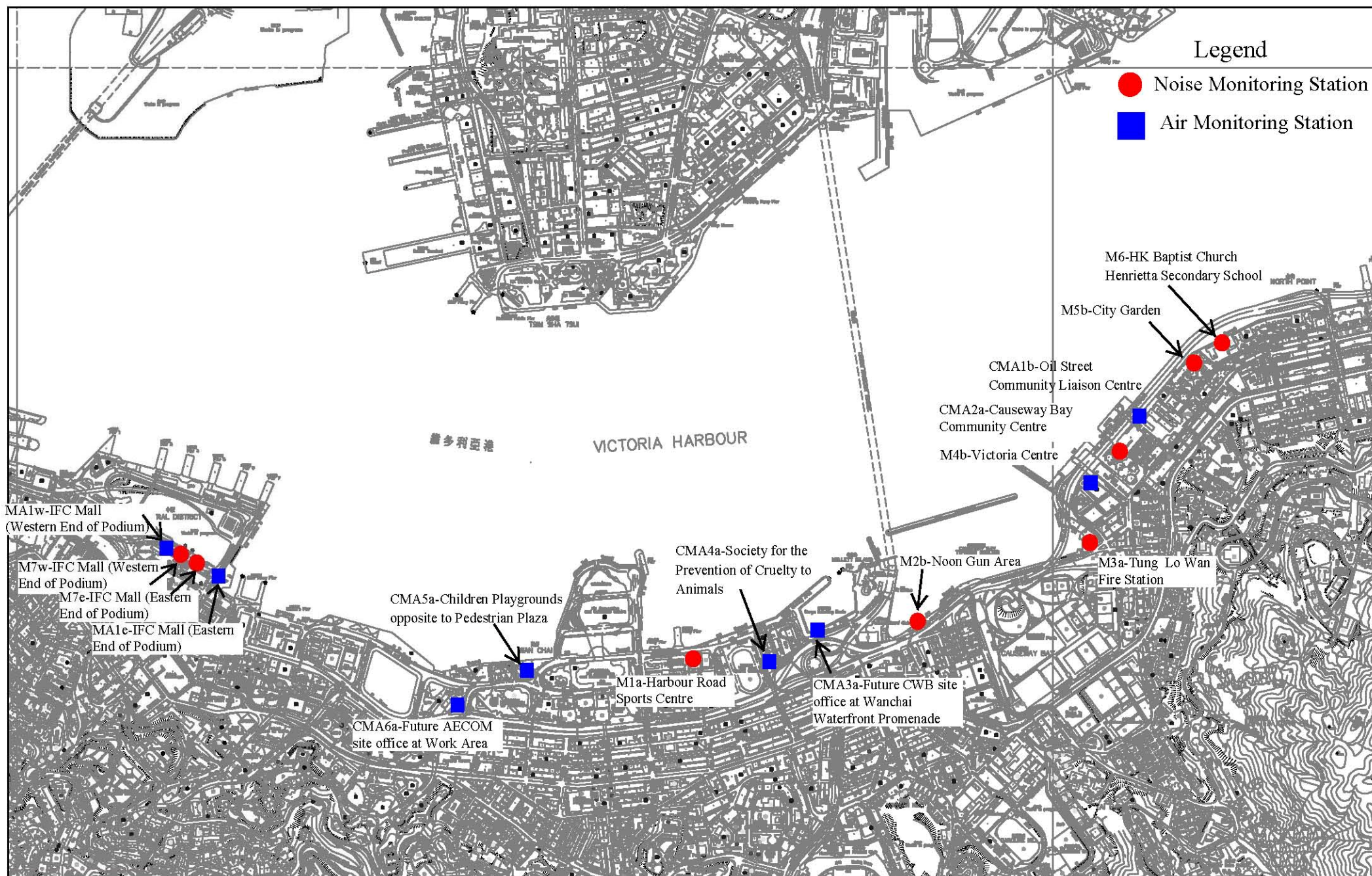




***Figure 4.1***

***Locations of Monitoring Stations***







***Appendix 3.1***

***Environmental Mitigation Implementation Schedule***

## IMPLEMENTATION SCHEDULE OF THE PROPOSED MITIGATION MEASURES

**Table A.1 Implementation Schedule for Air Quality Control**

WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
S3.6.5	Four times a day watering of the work site with active operations.	Work site / during construction	Contractor		√			EIAO-TM
S3.8.1	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimise cumulative dust impacts. <ul style="list-style-type: none"><li>Strictly limit the truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition;</li><li>Watering during excavation and material handling;</li><li>Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary; and</li><li>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li></ul>	Work site / during construction	Contractor		√			
Operational Phase								
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 of Volume 1 of the WDII & CWB EIA Report.	East and Central Ventilation Buildings / During operation of the Trunk Road	HyD			√		
S3.10.2	Air quality monitoring for the operation performance of the East Ventilation Building and associated East Vent Shaft will be conducted.	East Vent Shaft / During operation of the East Ventilation Building and associated East Vent Shaft	HyD			√		EIAO-TM

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

**Table A.2 Implementation Schedule for Noise Control**

WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
S4.9.3	Good Site Practice: <ul style="list-style-type: none"><li>Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.</li><li>Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.</li><li>Mobile plant, if any, shall be sited as far away from NSRs as possible.</li><li>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.</li><li>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.</li><li>Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li></ul>	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
S4.8.1 – S4.8.11	Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks: <ul style="list-style-type: none"><li>Slip road 8 tunnel</li><li>Construction of diaphragm wall and substructures of the tunnel approach ramp</li><li>Excavation</li><li>Construction of slabs</li><li>Backfill</li></ul>	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO



WDH & CWB EIA Report 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"> <li>Demolition and construction of substructures for the IEC</li> <li>Demolition works of existing piers and crossheads of the marine section of the existing IEC</li> </ul> <p>Use of PME grouping for the following tasks:</p> <ul style="list-style-type: none"> <li>At-grade road construction</li> <li>Substructure for IECL connection</li> </ul>							
<b>Operation Phase</b>								
S4.8.12 – S4.8.23	<p>For Existing NSRs</p> <ul style="list-style-type: none"> <li>about 235m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC</li> <li>about 230m length of noise semi-enclosure with transparent panel covering the main carriageways (eastbound and westbound) of the CWB and IEC</li> <li>about 135m length of 5.5m high cantilevered noise barrier with 4.5m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC (amended under EP-364/2009/A)</li> <li>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</li> <li>about 350m length of 3.5m high vertical noise barrier with transparent panel on the eastbound slip road to the IEC</li> <li>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</li> </ul>	Near North Point / Before commencement of operation of road project	HyD	√	√	√		EIAO-TM

WDH & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p>For Future/Planned NSRs</p> <ul style="list-style-type: none"> <li>about 265m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC</li> <li>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.</li> </ul>	<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> <p>Near Causeway Bay Fire Station / During detailed design of the re-provisioned Tin Hau Temple</p>	<p>HyD</p> <p>Project Proponent for the re-provisioned Tin Hau Temple</p>	<p>√</p> <p>√</p>	<p>√ #</p>			

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

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

**Table A.3 Implementation Schedule for Water Quality Control**

WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
S5.8	<p><i>Construction Runoff and Drainage</i></p> <p>Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of sediment traps and adequate maintenance of drainage systems to prevent flooding and overflow.</p> <p>Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.</p> <p>Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.</p> <p>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;</p> <p>Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m3 should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</p>	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

WDH & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	<p>Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.</p> <p>Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.</p> <p>Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.</p> <p>All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.</p>	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)
S5.8	<p>It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There shall be no direct discharge of effluent from the site into the sea.</p> <p>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 required.</p>	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)

WDH & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	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.							
S5.8	<i>Sewage from Construction Work Force</i>  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>  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
S5.8	<i>Storm Water Discharges</i>  Minimum distances of 100 m shall be maintained between the existing or planned stormwater discharges and the existing or planned WSD flushing water intakes.	Work site and adjacent water / During the design and construction period.	Contractor	√	√			WPCO
<b>Operation Phase</b>								
S5.8	For the operation of CWB, a surface water drainage system would be provided to collect road runoff. The following operation stage mitigation measures are recommended to ensure road runoff would comply with the TM under the WPCO: <ul style="list-style-type: none"><li>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.</li><li>Petrol interceptors shall be regularly cleaned and maintained in good working condition.</li></ul>	CWB/During design and operational period	HyD/TD <sup>3</sup>	√		√		WPCO

WDH & CWB EIA Report 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"> <li>Oily contents of the petrol interceptors shall be properly handled and disposed of, in compliance with the requirements of the Waste Disposal Ordinance.</li> <li>Sewage arising from ancillary facilities of CWB (for examples, car park, 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.</li> <li>Road drainage shall also be provided with adequately designed silt trap to minimize discharge of silty runoff.</li> <li>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.</li> </ul>							

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

<sup>3</sup> if employ Management, Operation and Maintenance (MOM) Contract

**Table A.4 Implementation Schedule for Waste Management**

WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction Phase								
S6.5.14	<b><i>Floating Refuse</i></b> 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 D9.3.	Work site / During the construction period	Contractor		√			
S6.6.1	<b><i>Good Site Practices</i></b> Recommendations for good site practices during the construction activities include: <ul style="list-style-type: none"><li>• 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;</li><li>• training of site personnel in proper waste management and chemical waste handling procedures;</li><li>• provision of sufficient waste disposal points and regular collection for disposal;</li><li>• appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li><li>• regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and</li><li>• a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).</li></ul>	Work site / During the construction period	Contractor		√			Waste Disposal Ordinance (Cap.354)

WDH & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.6.2	<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"> <li>• 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;</li> <li>• 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;</li> <li>• any unused chemicals or those with remaining functional capacity shall be recycled;</li> <li>• use of reusable non-timber formwork, such as in casting the tunnel box sections, to reduce the amount of C&amp;D material.</li> <li>• prior to disposal of C&amp;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;</li> <li>• proper storage and site practices to minimise the potential for damage or contamination of construction materials; and</li> <li>• plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	Work site / During planning and design stage, and construction stage	Contractor	√	√			



WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.6.4	<p><i>General Refuse</i></p> <p>General refuse shall be stored in enclosed bins or compaction units separate from C&amp;D material. A licensed waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&amp;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)
S6.6.5	<p><i>Chemical Wastes</i></p> <p>After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) shall be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals shall be collected by a licensed collector for disposal at the CWTF or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>	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>
S6.6.6	<p><i>Construction and Demolition Material</i></p> <p>C&amp;D material shall be sorted on-site into inert C&amp;D material (that is, public fill) and C&amp;D waste. All the suitable inert C&amp;D material shall be broken down to 250 mm in size for reuse as public fill in the WDII reclamation. C&amp;D waste, such as wood, glass, plastic, steel and other metals shall be reused or recycled and, as a last resort, disposed of to landfill. A suitable area shall be designated to facilitate the sorting process and a temporary stockpiling area will be required for the separated materials.</p>	Work site / During the construction period	Contractor		√			ETWB TCW No. 33/2002, 31/2004, 19/2005

WDH & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.6.7	In order to monitor the disposal of public fill and C&D waste at public fill reception 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
S6.6.8	<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"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>	Work site / During the construction period	Contractor		√			ProPECC PN 1/94

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

**Table A.5 Implementation Schedule for Land Contamination**

WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction and Operation Phase								
S.7.1.1	As no potential contaminative land uses were identified within the Study Area, adverse land contamination impacts associated with the construction and operation of the Project is not expected. As such, environmental protection and mitigation measures are considered not necessary and will not be covered in this EM&A Manual.	-	-					-

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

**Table A.6 Implementation Schedule for Marine Ecology**

WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Construction & Operation Phases								
S.9.7.1	As no adverse ecological impact on marine habitats and associated wildlife is identified, no necessary mitigation measure is considered as required in this assessment. The mitigation measures recommended in the water quality impact assessment to control water quality would also serve to protect marine ecological resources from indirect impacts and ensure no adverse impact on marine life would be resulted from this designated project. Hence EM&A for marine ecology will not be covered in this EM&A Manual.	-	-					-

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

**Table A.7 Implementation Schedule for Landscape and Visual**

WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures		Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
					Des	C	O	Dec	
Construction Phase									
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
Operation Phase									
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	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

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



***Appendix 4.1***

***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) <sup>Note 1</sup>

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
CMA1a	320.1	500	176.7	260
CMA2a	323.4	500	169.5	260
CMA3	311.3	500	171.0	260
CMA4a	312.5	500	171.2	260
CMA5	332.0	500	181.0	260
CMA6	300.1	500	187.3	260
MA1e	325.1	500	173.4	260
MA1w	325.1	500	173.4	260

-



***Appendix 4.2***

***Copies of Calibration Certificates***

# Calibration Certificate

Certificate No. 96127

Page 1 of 4 Pages

**Customer :** Lam Environmental Services Ltd

**Address :** 11/F, Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong.

**Order No. :** Q92434

**Date of receipt :** 24-Nov-09

## Item Tested

**Description :** Precision Integrating Sound Level Meter

**Manufacturer :** ACO

**Model :** Type 6224

**Serial No. :** 30148

## Test Conditions

**Date of Test :** 26-Nov-09

**Supply Voltage :** --

**Ambient Temperature :**  $(23 \pm 3)^{\circ}\text{C}$

**Relative Humidity :**  $(50 \pm 25) \%$

## Test Specifications

Calibration check.

Ref. Document/Procedure: Z01.

## Test Results

All results were within the IEC 651 Type 1 & 804 Type I Specification.

The results are shown in the attached page(s).

Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S017	Multi-Function Generator	C081456	18-Mar-10	SCL-HKSAR
S024	Sound Level Calibrator	93758	16-Jul-10	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

**Calibrated by :** 

P.F. Wong

**Approved by :** 

Dorothy Cheuk

**Date:** 27-Nov-09

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong

Tel: 2425 8801 Fax: 2425 8646

The copyright of this certificate is owned by Hong Kong Calibration Ltd. It may not be reproduced except in full.



# Calibration Certificate

Certificate No. 96127

Page 2 of 4 Pages

Results :

## 1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Time Const.		
20 – 100	L <sub>A</sub>	Fast	94.03	94.3
		Slow		94.3
	L <sub>C</sub>	Fast		94.3
		Slow		94.3
30 – 120	L <sub>A</sub>	Fast	94.03	94.5
		Slow		94.5
	L <sub>C</sub>	Fast		94.5
		Slow		94.5
30 – 120	L <sub>A</sub>	Fast	113.97	114.2
		Slow		114.2
	L <sub>C</sub>	Fast		114.2
		Slow		114.2

IEC 651 Type 1 Spec. :  $\pm 0.7$  dB

Uncertainty :  $\pm 0.1$  dB

## 2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. :  $\pm 0.3$  dB

Uncertainty :  $\pm 0.01$  dB

## 3. Linearity

### 3.1 Level Linearity

UUT Range (dB)	Applied Value (dB)	UUT Rdg (dB)	Variation (dB)	IEC 651 Type 1 Spec. (Primary Indicator Range)
140	114.0	114.6	+0.1	$\pm 0.7$ dB
130	104.0	104.7	+0.2	
120	94.0	94.5 (Ref.)	--	
110	84.0	84.5	0.0	
100	74.0	74.2	-0.3	
90	64.0	64.0	-0.5	
80	54.0	54.0	-0.5	

Uncertainty :  $\pm 0.1$  dB

# Calibration Certificate

Certificate No. **96127**

Page 3 of 4 Pages

## 3.2 Differential level linearity

UUT Range	Applied Value (dB)	UUT Rdg (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	84.4	-0.1	± 0.4
	94.0	94.5 (Ref.)	- -	
	95.0	95.5	0.0	± 0.2
	104.0	104.5	0.0	± 0.3
	105.0	105.5	0.0	± 1.0

Uncertainty : ± 0.1 dB

## 4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-39.0	- 39.4 dB, ± 1.5 dB
63 Hz	-25.8	- 26.2 dB, ± 1.5 dB
125 Hz	-15.7	- 16.1 dB, ± 1 dB
250 Hz	-8.3	- 8.6 dB, ± 1 dB
500 Hz	-3.0	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref)	0 dB, ± 1 dB
2 kHz	+1.2	+ 1.2 dB, ± 1 dB
4 kHz	+0.8	+ 1.0 dB, ± 1 dB
8 kHz	-1.3	- 1.1 dB, + 1.5 dB ~ -3 dB
16 kHz	-5.9	- 6.6 dB, + 3 dB ~ - ∞

Uncertainty : ± 0.1 dB



# Calibration Certificate

Certificate No. 96127

Page 4 of 4 Pages

## 4. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	40.0	--
1/10	40.0	39.9	± 0.5 dB
1/10 <sup>2</sup>	40.0	40.1	
1/10 <sup>3</sup>	40.0	40.2	± 1.0 dB
1/10 <sup>4</sup>	40.0	40.3	

Uncertainty : ± 0.1 dB

Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure : 1 010 hPa.

----- END -----





# Calibration Certificate

Certificate No. 03250A

Page 1 of 3 Pages

**Customer :** Lam Geotechnics Limited

**Address :** 11/F., Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong

**Order No. :** Q01282

**Date of receipt :** 14-Jun-10

## Item Tested

**Description :** Precision Integrating Sound Level Meter

**Manufacturer :** ONO SOKKI

**Model :** LA-5110

**Serial No. :** 72302293

## Test Conditions

**Date of Test :** 21-Jun-10

**Supply Voltage :** --

**Ambient Temperature :**  $(23 \pm 3)^{\circ}\text{C}$

**Relative Humidity :**  $(50 \pm 25) \%$

## Test Specifications

Calibration check.

Ref. Document/Procedure: Z01.

## Test Results

All results were within the IEC 651 Type 1 & IEC 804 Class 1 specification.

The results are shown in the attached page(s).

Main Test equipment used:


<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S017	Multi-Function Generator	C101623	SCL-HKSAR
S024	Sound Level Calibrator	93758	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

**Calibrated by :**   
P. F. Wong

**Approved by :**   
Dorothy Cheuk

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

**Date:** 8-Oct-10



# Calibration Certificate

Certificate No. 03250A

Page 2 of 3 Pages

Results :

## 1. SPL Accuracy

UUT Setting		Frequency Weighting	Dynamic Characteristic	Applied Value (dB)	UUT Reading (dB)
Level Range	Filter				
40 - 100 dB	OFF	A	FAST	94.03	94.0
			SLOW		94.0
		C	FAST		94.0
60 - 120 dB	OFF	A	FAST	94.03	94.0
			SLOW		94.0
		C	FAST		94.0
60 - 120 dB	OFF	A	FAST	113.97	113.9
			SLOW		113.9
		C	FAST		113.9

IEC 651 Type 1 Spec. :  $\pm 0.7$  dB

Uncertainty :  $\pm 0.1$  dB

## 2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. :  $\pm 0.3$  dB

Uncertainty :  $\pm 0.01$  dB

## 3. Linearity

### 3.1 Level Linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec. (Primary Indicator Range)
130	114.0	114.1	+0.1	$\pm 0.7$ dB
130	104.0	104.1	+0.1	
120	94.0	94.0 (Ref.)	--	
110	84.0	84.0	0.0	
100	74.0	74.1	+0.1	
90	64.0	64.1	+0.1	
80	54.0	54.0	0.0	

Uncertainty :  $\pm 0.1$  dB



# Calibration Certificate

Certificate No. 03250A

Page 3 of 3 Pages

## 3.2 Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	84.0	0.0	$\pm 0.4$
	94.0	94.0 (Ref.)	--	
	95.0	95.0	0.0	$\pm 0.2$

Uncertainty :  $\pm 0.1$  dB

## 4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-40.5	- 39.4 dB, $\pm 1.5$ dB
63 Hz	-26.9	- 26.2 dB, $\pm 1.5$ dB
125 Hz	-16.9	- 16.1 dB, $\pm 1$ dB
250 Hz	-9.1	- 8.6 dB, $\pm 1$ dB
500 Hz	-3.5	- 3.2 dB, $\pm 1$ dB
1 kHz	0.0 (Ref.)	0 dB, $\pm 1$ dB
2 kHz	+1.5	+ 1.2 dB, $\pm 1$ dB
5 kHz	+1.2	+ 1.0 dB, $\pm 1$ dB
8 kHz	-1.0	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	-7.0	- 6.6 dB, + 3 dB ~ $\infty$

Uncertainty :  $\pm 0.1$  dB

## 5. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	40.0	--
1/10	40.0	40.0	$\pm 0.5$ dB
$1/10^2$	40.0	40.0	
$1/10^3$	40.0	40.1	$\pm 1.0$ dB
$1/10^4$	40.0	39.9	

Uncertainty :  $\pm 0.1$  dB

Remarks : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure : 1 000 hPa.

4. This certificate is supersede our former certificate no. 03250.

----- END -----



# Calibration Certificate

Certificate No. 96128

Page 1 of 2 Pages

Customer : Lam Environmental Services Ltd

Address : 11/F, Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong.

Order No. : Q92434

Date of receipt : 24-Nov-09

## Item Tested

Description : Sound Level Calibrator ( EL469 )

Manufacturer : ACO

Model : --

Serial No. : 050213

## Test Conditions

Date of Test : 26-Nov-09

Supply Voltage : --

Ambient Temperature :  $(23 \pm 3)^{\circ}\text{C}$

Relative Humidity :  $(50 \pm 25) \%$

## Test Specifications

Calibration check.

Ref. Document/Procedure: F21, Z02.

## Test Results

All results were within the IEC 942 Class 1 specification after adjustment.

The results are shown in the attached page(s).


Main Test equipment used:


Equipment No.	Description	Cert. No.	Due Date	Traceable to
S014	Spectrum Analyzer	93091	18-Jun-10	NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	93758	16-Jul-10	NIM-PRC & SCL-HKSAR
S041	Universal Counter	94005	6-Aug-10	SCL-HKSAR
S206	Sound Level Meter	93966	5-Aug-10	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by :   
P.F. Wong

Approved by :   
Dorothy Cheuk

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8901 Fax: 2425 8646

Date: 27-Nov-09

# Calibration Certificate

Certificate No. **96128**

Page 2 of 2 Pages

Results :

## 1. Level

UUT Nominal Value (dB)	Measured Value (dB)		IEC 942 Class 1 Spec.
	Before adjust.	After adjust.	
94	*93.52	94.11	± 0.3 dB

The above measured values are the mean of 3 measurements.

Uncertainty : ± 0.1 dB

## 2. Frequency

UUT Nominal Value	Measured Value	IEC 942 Class 1 Spec.
1 kHz	1.016 kHz	± 2 %

Uncertainty : ± 3.6 x 10<sup>-6</sup>

## 3. Level Stability : 0.0 dB

IEC 942 Class 1 Spec. : ± 0.1 dB

Uncertainty : ± 0.01 dB

## 4. Total Harmonic Distortion : < 2.9 %

IEC 942 Class 1 Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure : 1010 hPa.

4. \*Out of Specification.

----- END -----



# Calibration Certificate

Certificate No. 03445

Page 1 of 2 Pages

Customer : Lam Geotechnics Limited

Address : 11/F., Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong

Order No. : Q01282

Date of receipt : 14-Jun-10

## Item Tested

Description : Sound Level Calibrator (EL078)

Manufacturer : ONO SOKKI

Model : SC-2110

Serial No. : 00393

## Test Conditions

Date of Test : 21-Jun-10

Supply Voltage : --

Ambient Temperature :  $(23 \pm 3)^{\circ}\text{C}$

Relative Humidity :  $(50 \pm 25) \%$

## Test Specifications

Calibration check.

Ref. Document/Procedure: Z02.

## Test Results

All results were within the IEC 942 Class 2 specification.

The results are shown in the attached page(s).

Main Test equipment used:


<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceable to</u>
S024	Sound Level Calibrator	93758	16-Jul-10	NIM-PRC & SCL-HKSAR
S041	Universal Counter	94005	6-Aug-10	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by :   
P. F. Wong

Approved by :   
Dorothy Cheuk

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8846

Date: 25-Jun-10





# Calibration Certificate

Certificate No. 03445

Page 2 of 2 Pages

Results :

## 1. Level Accuracy (at 1 kHz)

UUT Nominal Value (dB)	Measured Value (dB)	IEC 942 Class 2 Spec.
94	94.05	$\pm 0.5$ dB

Uncertainty :  $\pm 0.2$  dB

## 2. Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	IEC 942 Class 2 Spec.
1	0.998	$\pm 4$ %

Uncertainty :  $\pm 0.1$  %

## 3. Level Stability : 0.0 dB

IEC 942 Class 2 Spec. :  $\pm 1.2$  dB

Uncertainty :  $\pm 0.01$  dB

## 4. Total Harmonic Distortion : $< 1.2$ %

IEC 942 Class 1 Spec. :  $< 3$  %

Uncertainty :  $\pm 2.3$  % of reading

Remark : 1. UUT : Unit-Under-Test

2. The above measured values are the mean of 3 measurements.

3. The uncertainty claimed is for a confidence probability of not less than 95%.

4. Atmospheric Pressure : 1 000 hPa.

----- END -----





Lam Geotechnics Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : IFC-E

Equipment no. : EL455

Calibration Date : 08-Sep-10

Calibration Due Date : 08-Nov-10

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, $T_a$	304	Kelvin	Pressure, $P_a$
			1012 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, $m_c$	1.99628	Intercept, $b_c$	-0.06990
Last Calibration Date	28-Jun-10	$\left( H \times P_a / 1013.3 \times 298 / T_a \right)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	28-Jun-11				

Calibration of RSP						
Calibration  Point	Manometer Reading			$Q_{std}$	Continuous Flow	IC
	H (inches of water)			(m <sup>3</sup> / min.)	Recorder, W	(W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31)
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis
1	6.2	6.2	12.4	1.7804	60	59.3668
2	5.1	5.1	10.2	1.6180	51	50.4618
3	4.3	4.3	8.6	1.4885	44	43.5357
4	2.6	2.6	5.2	1.1653	33	32.6518
5	1.6	1.6	3.2	0.9217	24	23.7467

By Linear Regression of Y on X

Slope, m = 40.3272      Intercept, b = -14.2941

Correlation Coefficient\* = 0.9941

Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

\_\_\_\_\_

Calibrated by : Derek Lo

Date : 08-Sep-10

Checked by : Cherry Mak

Date : 08-Sep-10



Lam Geotechnics Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : IFC-W

Equipment no. : EL080

Calibration Date : 08-Sep-10

Calibration Due Date : 08-Nov-10

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, $T_a$	304	Kelvin	Pressure, $P_a$
			1012 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, $m_c$	1.99628	Intercept, $b_c$	-0.06990
Last Calibration Date	28-Jun-10	$\left( H \times P_a / 1013.3 \times 298 / T_a \right)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	28-Jun-11				

Calibration of RSP						
Calibration  Point	Manometer Reading			$Q_{std}$	Continuous Flow	IC
	H (inches of water)			(m <sup>3</sup> / min.)	Recorder, W	(W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31)
	(up)	(down)	(difference)	X-axis	(CFM)	Y-axis
1	6.0	6.0	12.0	1.7520	57	56.3985
2	4.9	4.9	9.8	1.5866	49	48.4829
3	4.2	4.2	8.4	1.4715	42	41.5568
4	2.5	2.5	5.0	1.1433	32	31.6623
5	1.4	1.4	2.8	0.8644	20	19.7889

By Linear Regression of Y on X

Slope, m = 39.9142      Intercept, b = -14.8478

Correlation Coefficient\* = 0.9951

Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

\_\_\_\_\_

Calibrated by : Derek Lo

Date : 08-Sep-10

Checked by : Cherry Mak

Date : 08-Sep-10



***Appendix 5.1***

***Monitoring Schedules for Reporting Month and Coming Reporting Month***

**Contract No. HK/2009/05**  
**Wan Chai Development Phase II and Central-Wan Chai Bypass**  
**Sampling, Field Measurement and Testing Works (Stage 1)**

**Environmental Monitoring Schedule**  
**September 2010**

<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>
<b>29-Aug</b>	30-Aug	31-Aug	1-Sep	2-Sep	3-Sep	4-Sep
	Noise (Day time)					
<b>5-Sep</b>	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep
	Noise (Day time)			24hr TSP	1hr TSP x 3	
<b>12-Sep</b>	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep
		Noise (Day time)	24hr TSP	1hr TSP x 3		
<b>19-Sep</b>	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep
		24hr TSP Noise (Day time)	1hr TSP x 3	<b>Public Holiday</b>		
<b>26-Sep</b>	27-Sep					
	24hr TSP					

**Contract No. HK/2009/05**  
**Wan Chai Development Phase II and Central-Wan Chai Bypass**  
**Sampling, Field Measurement and Testing Works (Stage 1)**

**Tentative Environmental Monitoring Schedule**  
**September - October 2010**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		28-Sep 1hr TSP x 3 Noise (Day time)	29-Sep	30-Sep	1-Oct <b>Public Holiday</b>	2-Oct 24hr TSP
3-Oct	4-Oct 1hr TSP x 3	5-Oct Noise (Day time)	6-Oct	7-Oct	8-Oct 24hr TSP	9-Oct 1hr TSP x 3
10-Oct	11-Oct	12-Oct Noise (Day time)	13-Oct	14-Oct 24hr TSP	15-Oct 1hr TSP x 3	16-Oct
17-Oct	18-Oct	19-Oct Noise (Day time)	20-Oct 24hr TSP	21-Oct 1hr TSP x 3	22-Oct	23-Oct
24-Oct	25-Oct	26-Oct 24hr TSP Noise (Day time)	27-Oct 1hr TSP x 3			

**Contract No. HK/2009/05**  
**Wan Chai Development Phase II and Central-Wan Chai Bypass**  
**Sampling, Field Measurement and Testing Works (Stage 1)**  
**Tentative Environmental Monitoring Schedule**

Remarks (Air)

1. Cut-off date is at the 27th of each reporting month.
2. Actual monitoring will subject to change due to any safety concern or adverse weather condition.
3. Air Quality Monitoring Stations corresponding to active contracts are sub-divided below:
  - Contract HK/2009/01: CMA5a, CMA6a (To be commenced when site formation works within reclaimed area)
  - Contract HK/2009/02: CMA4a (To be commenced when site formation works within reclaimed area)
  - Contract nos. HY/2009/17: CMA2a (To be commenced in Oct 2010)
  - Contract nos. HY/2009/15 and HY/2009/19: CMA3a (To be commenced in Nov 2010)
  - Contract 04/HY/2006: MA1e and MA1w (Commenced on 9 Sep 2010)

Remarks (Noise)

1. Cut-off date is at the 27th of each reporting month.
2. Actual monitoring will subject to change due to any safety concern or adverse weather condition.
3. Noise Monitoring Stations corresponding to active contracts are sub-divided below:
  - Contract HK/2009/01 and HK/2009/02: M1a (To be commenced when Pier demolition work & PTI reconstruction)
  - Contract HY/2009/15: M2b (Contract to be commenced in Oct 2010)
  - Contract HY/2009/17: M4b (To be commenced when advance piling work start)
  - Contract HY/2009/19: M3a, M4b, M5b, M6 (Contract to be commenced in Nov 2010)
  - Contract 04/HY/2006: M7e, M7w (Commenced on 30 Aug 2010)
4. Day time noise will be monitored for Leq(30min) during the period between 07:00 and 19:00 for active contract(s).



## ***Appendix 5.2***

### ***Noise Monitoring Results and Graphical Presentations***





## Noise Monitoring Result

### Day Time (0700 - 1900hrs on normal weekdays)

Location: M7e - International Finance Centre (Eastern End of Podium)

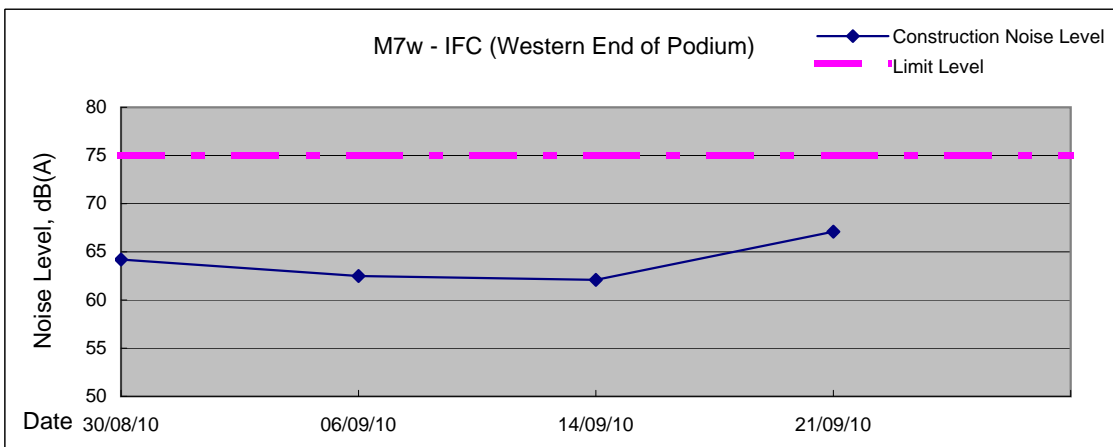
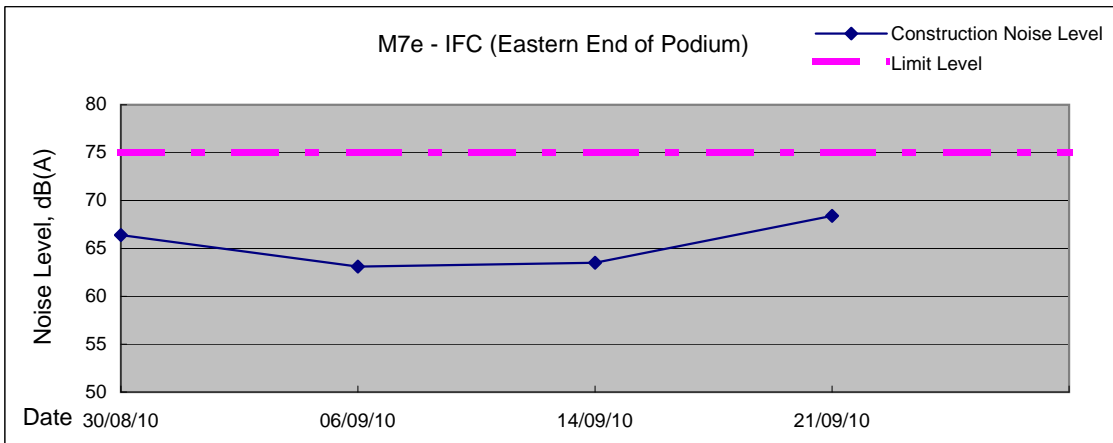
Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
			Unit: dB(A), (30-min)					
30/08/10	9:50	Fine	66.4	67.4	62.9	-	66	75
06/09/10	11:30	Fine	63.1	64.3	61.0	-	63	75
14/09/10	10:30	Sunny	63.5	65.0	61.5	-	64	75
21/09/10	10:32	Rainy	68.4	70.5	68.1	-	68	75

Location: M7w - International Finance Centre (Western End of Podium)

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
			Unit: dB(A), (30-min)					
30/08/10	9:15	Fine	64.2	65.7	61.3	-	64	75
06/09/10	10:17	Fine	62.5	63.4	60.2	-	63	75
14/09/10	9:50	Sunny	62.1	63.7	60.2	-	62	75
21/09/10	11:15	Rainy	67.1	68.6	64.4	-	67	75

# Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)





### ***Appendix 5.3***

#### ***Air Quality Monitoring Results and Graphical Presentations***



Location: MA1e - International Finance Centre (Eastern Wing)

Report on 24-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 173.4

Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 260

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
09-Sep-10	08:00	Cloudy	201089	2.7798	2.9190	5705.75	5729.74	23.99	1.32	1.27	1.30	1867	75
15-Sep-10	08:00	Sunny	201173	2.7886	2.8644	5732.75	5756.75	24.00	1.30	1.30	1.30	1868	41
21-Sep-10	09:00	Sunny	201139	2.7873	2.8323	5732.75	5756.75	24.00	1.30	1.34	1.32	1902	24
27-Sep-10	08:00	Sunny	201134	2.7866	2.8716	5786.70	5810.42	23.72	1.30	1.30	1.30	1851	46

Report on 1-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 325.1

Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
10-Sep-10	08:53	Sunny	201091	2.7865	2.7984	5729.74	5730.74	1.00	1.34	1.34	1.34	81	148
10-Sep-10	10:05	Sunny	201093	2.7963	2.8021	5730.74	5731.75	1.01	1.34	1.34	1.34	81	71
10-Sep-10	11:11	Sunny	201103	2.7768	2.7862	5731.75	5732.75	1.00	1.34	1.34	1.34	81	117
16-Sep-10	09:45	Sunny	201144	2.7900	2.8003	5756.75	5757.75	1.00	1.37	1.35	1.36	81	126
16-Sep-10	11:05	Sunny	201146	2.7998	2.8073	5757.75	5758.75	1.00	1.42	1.44	1.43	86	87
16-Sep-10	13:00	Sunny	201148	2.7895	2.7980	5759.75	5760.75	1.00	1.35	1.35	1.35	81	105
22-Sep-10	09:10	Sunny	201131	2.7865	2.7904	5759.75	5760.75	1.00	1.25	1.25	1.25	75	52
22-Sep-10	10:10	Sunny	201132	2.7827	2.7859	5759.75	5760.75	1.00	1.30	1.30	1.30	78	41
22-Sep-10	11:10	Sunny	201133	2.7881	2.7927	5759.75	5760.75	1.00	1.35	1.35	1.35	81	57



Location: MA1w - International Finance Centre (Western Wing)

Report on 24-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 173.4

Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 260

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{\text{si}}$	Final, $Q_{\text{sf}}$	Average		
09-Sep-10	08:00	Cloudy	201104	2.7797	2.8862	8848.09	8872.09	24.00	1.16	1.16	1.16	1668	64
15-Sep-10	08:00	Sunny	201172	2.7901	2.8641	8875.10	8899.10	24.00	1.09	1.09	1.09	1565	47
21-Sep-10	08:00	Cloudy	201140	2.7882	2.8367	8902.06	8926.26	24.20	1.37	1.25	1.31	1906	25
27-Sep-10	08:00	Sunny	201138	2.7916	2.8676	8929.00	8952.81	23.81	1.33	1.32	1.33	1895	40

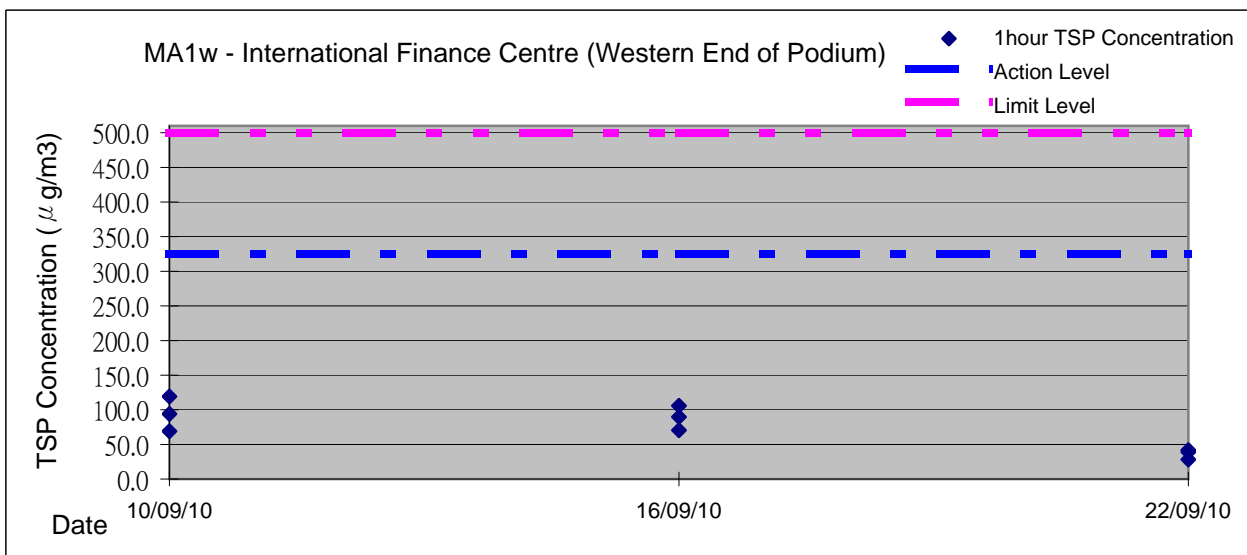
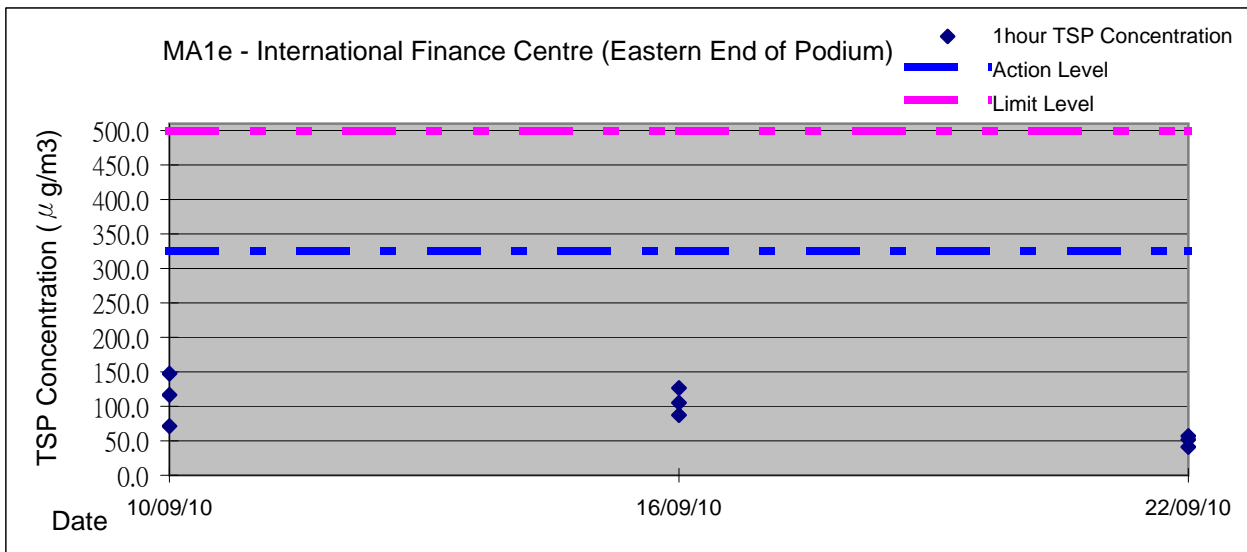
Report on 1-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 325.1

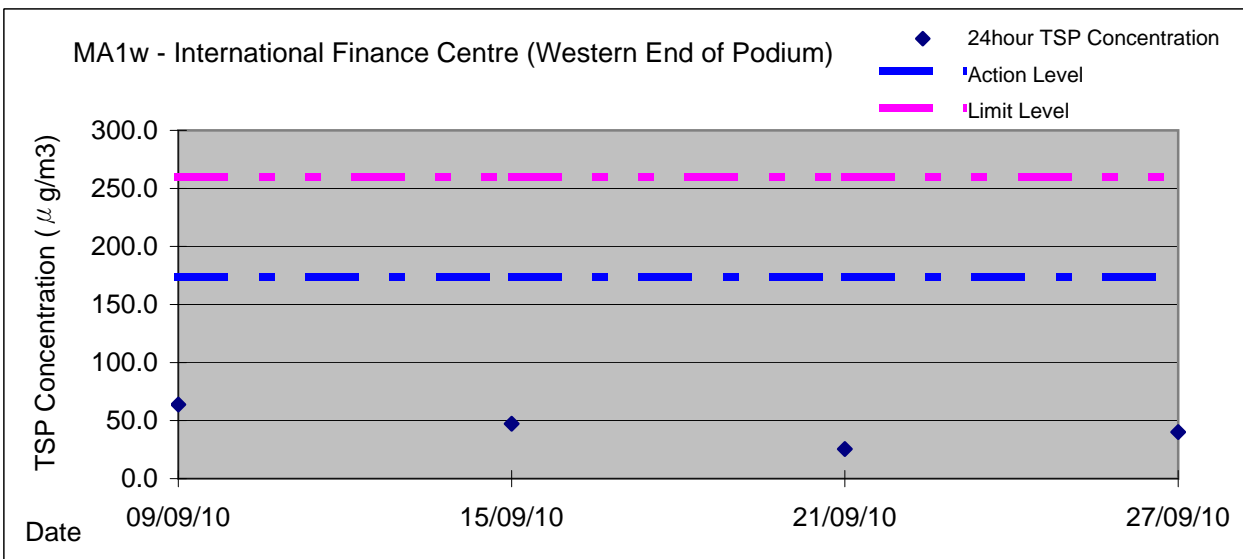
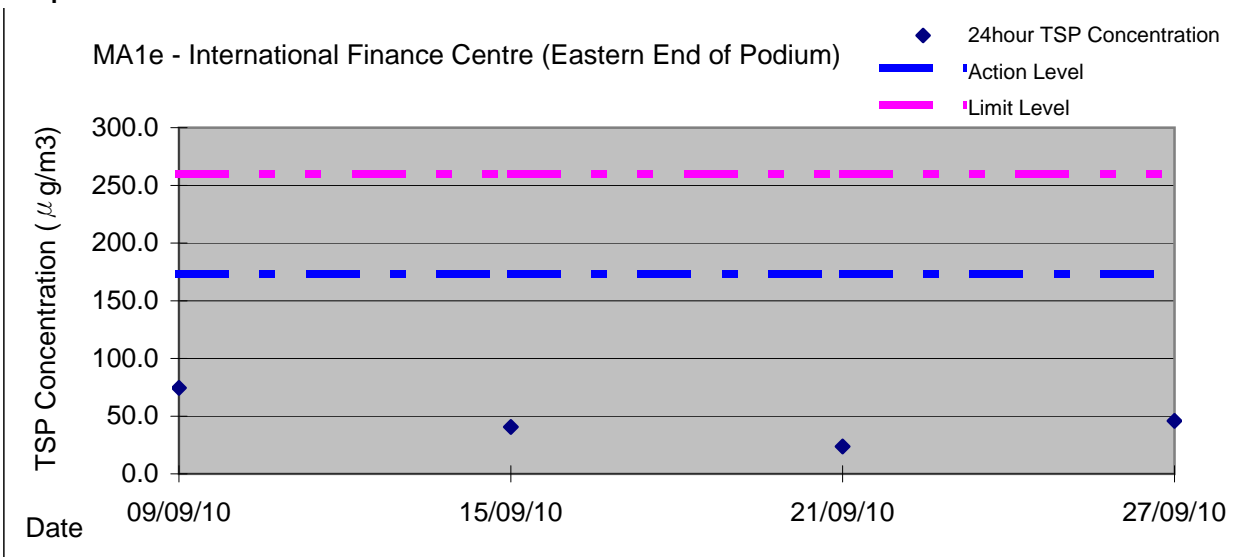
Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{\text{si}}$	Final, $Q_{\text{sf}}$	Average		
10-Sep-10	08:39	Sunny	201090	2.7833	2.7915	8872.09	8873.10	1.01	1.13	1.13	1.13	69	119
10-Sep-10	09:49	Sunny	201092	2.7953	2.8017	8873.10	8874.10	1.00	1.13	1.13	1.13	68	94
10-Sep-10	10:03	Sunny	201094	2.7787	2.7836	8874.10	8875.10	1.00	1.18	1.18	1.18	71	69
16-Sep-10	09:30	Sunny	201145	2.8022	2.8066	8899.10	8900.10	1.00	1.04	1.04	1.04	62	71
16-Sep-10	10:40	Sunny	201147	2.7964	2.8025	8900.10	8901.10	1.00	1.13	1.13	1.13	68	90
16-Sep-10	13:00	Sunny	201149	2.7910	2.7982	8902.10	8903.10	1.00	1.13	1.13	1.13	68	106
22-Sep-10	08:50	Cloudy	201135	2.7909	2.7941	8926.06	8927.06	1.00	1.28	1.28	1.28	77	42
22-Sep-10	09:50	Cloudy	201136	2.7838	2.7860	8927.06	8928.06	1.00	1.30	1.30	1.30	78	28
22-Sep-10	10:50	Cloudy	201137	2.7760	2.7790	8928.06	8929.06	1.00	1.28	1.28	1.28	77	39

### Graphic Presentation of 1 hour TSP Result



### Graphic Presentation of 24 hour TSP Result







***Appendix 6.1***

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



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



***Appendix 9.1***

***Complaint Log***



### ***Environmental Complaints Log***

No environmental complaint was received in the reporting month.

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
-	-	-	-	-	-	-



***Appendix 10.1***

***Construction Programme of Individual Contracts***







Contract no. HY/2009/17

Contract Title : Central - Wan Chai Bypass - FEHD Whitfield Depot Re-provisioning Works

Works Schedule for the Advance Piling Works

ACTIVITY	Duration	START	FINISH	2010						2011
				July	August	September	October	November	December	January
<u>Submissions before Commencement of Piling Works</u>										
Notification of Commencement Date of Construction	1	16/7/2010	16/7/2010	◆						
Organization Chart of Environmental Management Team	1	16/7/2010	16/7/2010	◆						
Works Schedule	1	16/7/2010	16/7/2010	◆						
Location and Layout Plan	1	31/8/2010	31/8/2010		◆					
Construction Noise Management Plan	1	31/8/2010	31/8/2010		◆					
<u>Installation of Piles</u>										
Plants Set-up	7	24/9/2010	30/9/2010				■			
Installation of pipes E3b	70	2/10/2010	10/12/2010				■	■	■	
Installation of pipes E3a	60	2/10/2010	30/11/2010				■	■	■	
Installation of pipes E2a	60	12/10/2010	10/12/2010				■	■	■	
Installation of pipes E2b	70	14/10/2010	22/12/2010				■	■	■	
Testing	14	23/12/2010	6/1/2011							■