



03-Aug-2017

Your Ref: FEP-11/364/2009/E
Our Ref: H2613-LJV-EN-LE-6244

The EIA Ordinance Register Office
Environmental Protection Department
27/F, Southorn Centre
130 Hennessy Road
Wan Chai, Hong Kong

Dear Sir,

Contract No. HY/2011/08
Central-Wan Chai Bypass – Tunnel Buildings, Systems and Fittings, and Works
Associated with Tunnel Commissioning
Operational Air Quality Management Plan – EP2.13(b) Construction of the Central Ventilation Building (CVB)

I refer to the conversation between your Mr. Billy Ma and our Mr. Malcolm Leung on 3 August 2017 that the captioned submission ref. H2613-LJV-EN-LE-5050 dated 2 March 2017 had not yet received. Hence, I am pleased to provide you copies for your information.

Should you have any query, please do not hesitate to contact our Mr. Malcolm Leung at 6323 9478, or malcolm.leung@leightonasia.com.

Yours faithfully
For and on behalf of
Leighton Joint Venture


Colman Wong
Project Director


CW / PT / ML / IL / CTS

Encl.

c.c. AECOM - Mr. David Kwan, CRE (w/o)
LAM - Mr. Raymond Dai, ETL (w/o)
ENVIRON - Mr. David Yeung, IEC (w/o)



Leighton Joint Venture

c/o 39th Floor
Sun Hung Kai Centre
30 Harbour Road
Hong Kong

t: +852 2823 1111
f: +852 2529 8784

02-Mar-2017

Your Ref:
Our Ref: H2613-LJV-EN-LE-5050

COPY

The EIA Ordinance Register Office
Environmental Protection Department
27/F, Southorn Centre
130 Hennessy Road
Wan Chai, Hong Kong

Dear Sir,

Contract No. HY/2011/08
Central-Wan Chai Bypass – Tunnel Buildings, Systems and Fittings, and Works
Associated with Tunnel Commissioning
Operational Air Quality Management Plan – EP2.13(b) Construction of the Central Ventilation Building (CVB)

Pursuant to Condition 2.13(b) of the Environmental Permit no. FEP-11/364/2009/E, we enclose four hard copies and one electronic copy for the captioned submission with ET's certification letter and IEC's verification letter for your information.

Should you have any query, please do not hesitate to contact our Mr. Malcolm Leung at 6323 9478, or malcolm.leung@leightonasia.com.

Yours faithfully
For and on behalf of
Leighton Joint Venture

Colman Wong
Project Director

CW / PT / ML / CTS

Encl.

c.c.	AECOM	- Mr. David Kwan, CRE	(CD only)
	LAM	- Mr. Raymond Dai, ETL	(CD only)
	ENVIRON	- Mr. David Yeung, IEC	(CD only)

Our Ref: H2613-LJV-EN-LE-5050

Page 1 of 1

LEIGHTON



Contract No. HY/2011/08
Central-Wan Chai Bypass – Tunnel Building,
Systems and Fittings, and Works Associated with
Tunnel Commissioning

**Operational Air Quality Management Plan -
Central Ventilation Building (CVB)**

Prepared by:

A handwritten signature in blue ink, appearing to read 'Malcolm Leung', positioned above a horizontal line.

Malcolm Leung
Environmental Officer

Approved by:

A handwritten signature in blue ink, appearing to read 'Colman Wong', positioned above a horizontal line.

Colman Wong
Site Agent



Lam Geotechnics Limited

Ground Investigation & Instrumentation Professionals

華益土力有限公司

Ref : G1525/CS/L362/LJV
Date : 2 March 2017

Leighton Joint Venture
39/F Sun Hung Kai Centre
30 Harbour Road
Wan Chai

Attn: Site Agent, Mr. Colman Wong

Dear Mr. Wong,

Contract No. HY/2011/08
Central-Wanchai Bypass – Tunnel Buildings, Systems and Fittings, and
Works Associated with Tunnel Commissioning

Operational Air Quality Management Plan - Central Ventilation Building (CVB) Rev. 0

Referring to the captioned submission dated 2 March 2017 received through email on 2 March 2017, we have reviewed your submitted details and hereby certified this submission in accordance with Condition 2.13 (b) of FEP-11/364/2009/E.

Should you have any enquiry, please feel free to contact the undersigned at 2839 5666.

Yours faithfully,

Raymond Dai
Environmental Team Leader

C.C.

HyD	- Mr. Eddy Wu	(By Fax: 2714 5289)
AECOM	- Mr. Peter Poon	(By Fax: 3912 3090)
AECOM	- Mr. Frankie Fan	(By Fax: 2587 1877)
Ramboll Environ	- Mr. David Yeung	(By Fax: 3548 6988)



Ref.: AACWBIECEM00_0_9126L.17

2 March 2017

By Post

Leighton Joint Venture
39/F, Sun Hung Kai Centre
30 Harbour Road
Hong Kong

Attention: Site Agent, Mr. Colman Wong

Dear Mr. Wong,

**Re: Contract No. HY/2011/08
Central – Wan Chai Bypass – Tunnel Buildings, Systems and Fittings,
and Works Associated with Tunnel Commissioning
Operational Air Quality Management Plan – Central Ventilation Building
(CVB) (Revision 0)**

Reference is made to the captioned submission received on 2 March 2017.

Please be informed that we have no comments on the captioned submission. We write to verify it in accordance with Condition 2.13(b) of FEP-11/364/2009/E.

Thank you for your kind attention.

Yours sincerely,



David Yeung
Independent Environmental Checker

c.c.	HyD	Mr. Eddy Wu	by fax: 2714 5289
	AECOM	Mr. Peter Poon	by fax: 3912 3010
	AECOM	Mr. Frankie Fan	by fax: 2587 1877
	LAM	Mr. Raymond Dai (ETL)	by fax: 2882 3331

Q:\Projects\AACWBIECEM00\Corr\AACWBIECEM00_0_9126L.17.doc

Operational Air Quality Management Plan - Central Ventilation Building (CVB)

1.	INTRODUCTION.....	3
2.	PROJECT BACKGROUND (CONTRACT NO. HY/2011/08)	3
3.	LOCATION OF THE CENTRAL VENTILATION BUILDING.....	3
4.	EXHAUST RELATED DESIGN CRITERIA	4

Appendices

Appendix A	Contract Layout Plan
Appendix B	Location of the Central Ventilation Building
Appendix C	Exhaust Related Design Criteria

Revision	Date	Section/Description	Prepared	Reviewed	Authorised by
00	02.03.2017	Issue for Construction	Malcolm Leung	Malcolm Leung	Colman Wong

1. INTRODUCTION

1.1.1 To comply with the Condition 2.13(b) under Environmental Permit (EP) number: FEP-11/364/2009/E, an operational air quality management plan is prepared to demonstrate a series of air quality mitigation measures include:

(a) the construction of Central Ventilation Building (CVB) at the location as shown in Figure 1 of the EP, and that CVB shall follow the exhaust related design criteria as shown in Table 1B of the EP.

1.1.2 This plan also provides the project background and the layout plan from the construction of the Central - Wan Chai Bypass - Tunnel Building, Systems and Fittings and Works Associated with Tunnel Commissioning (Contract No. HY/2011/08, hereinafter referred to as "the CWB-CC" and the contract was awarded to Leighton Joint Venture "LJV").

2. PROJECT BACKGROUND (CONTRACT NO. HY/2011/08)

2.1.1 The CWB-CC is one of the Central - Wan Chai Bypass (CWB) contracts for the CWB project. The extent of the CWB-CC alignment is extensive from Sheung Wan, via Central - Wan Chai - Causeway Bay - Tin Hau, to North Point, as shown in **Appendix A**.

2.1.2 The scope of the CWB-CC's works mainly includes:

- construction of the tunnel control buildings and ventilation buildings including Administration Building (ADB), West Ventilation Building (WVB), Central Ventilation Building (CVB) [i.e. namely Middle Ventilation Building (MVB) in the CWB-CC contract], East Ventilation Building (EVB) and East Vent Shaft (EVS);
- associated road lighting, road signing, traffic control and surveillance system; and
- other associated works.

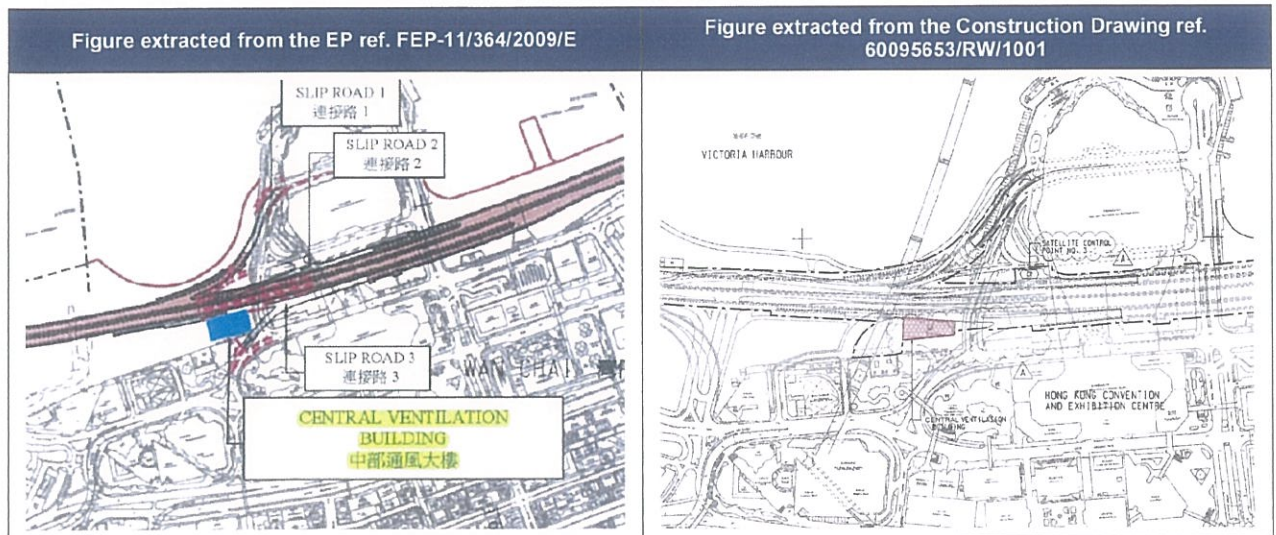
3. LOCATION OF THE CENTRAL VENTILATION BUILDING

3.1.1 The location of the CVB was determined by the available area along the trunk road tunnel box in the Wan Chai north area, and was constrained by existing development and road and railway reserves.

3.1.2 The location of the CVB was extracted from the EP and the Contract's Construction Drawings respectively and shown in **Table 3.1** and in **Appendix B**.

Operational Air Quality Management Plan - Central Ventilation Building (CVB)

Table 3.1 Location of the Central Ventilation Building



3.1.3 No change in the location was anticipated during the EIA stage and the Construction stage.

4. EXHAUST RELATED DESIGN CRITERIA

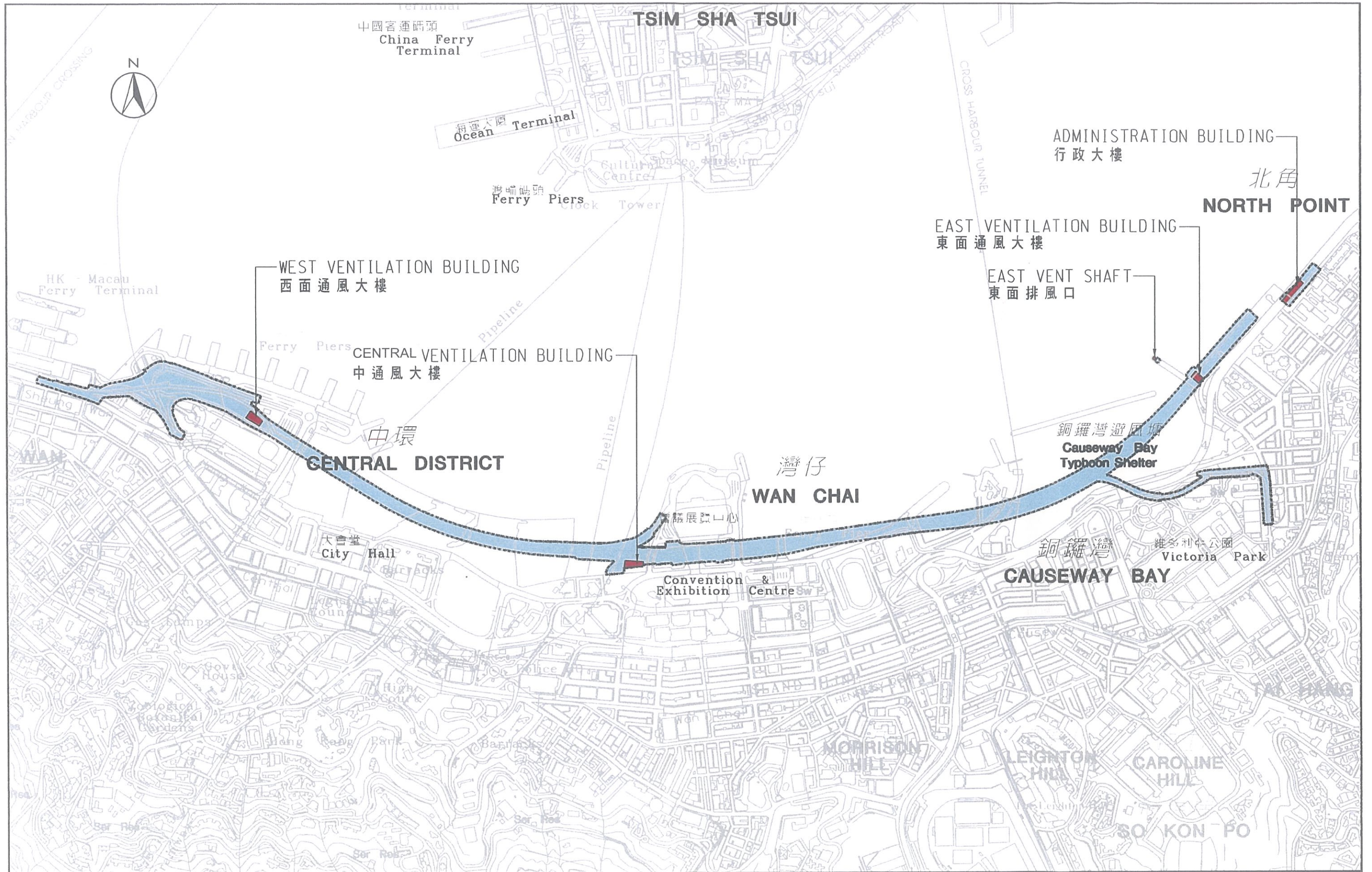
4.1.1 The exhaust related design criteria were restricted in the EP. LJV shall follow the Construction Drawings and the Engineer's instructions to build the CVB as shown in **Table 4.1** and attached in **Appendix C** respectively.

Table 4.1 Exhaust Related Design Criteria

	Cross-sectional Area of Stack	Exit Velocity	Minimum Mid-discharge Height	Exhaust Direction
EP Design Criteria	80m ²	8m/s	17.5m above ground	Vertical
Project Design	80m ²	8m/s, at peak mode ¹	G/F level = +6.45mPD Mid-discharge height for louver(s): +23.95mPD ie. 17.5m above ground	Vertical

¹ 6 nos. ventilation fans (each with flow capacity of 125m³/s) will be manually operated simultaneously to achieve the exit velocity.

Appendix A Contract Layout Plan

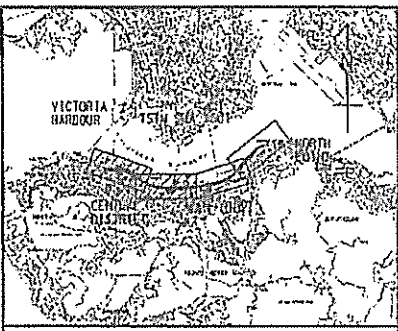
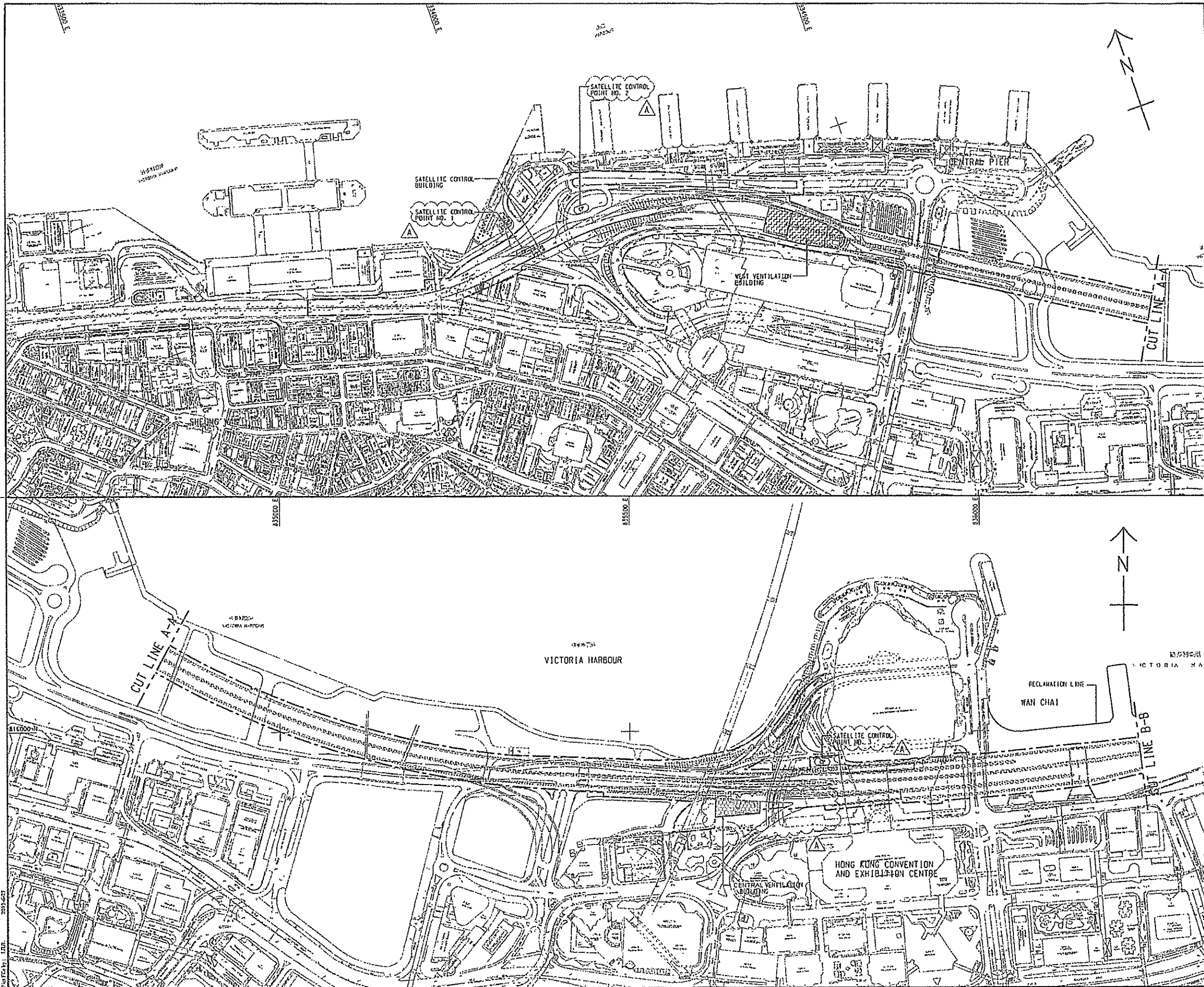


合約編號 HY/2011/08 中環灣仔繞道 - 隧道大樓、系統設備及隧道啟用相關工程

SCALE 1 : 16000 A4

CONTRACT NO. HY/2011/08 - CENTRAL - WAN CHAI BYPASS - TUNNEL BUILDINGS, SYSTEMS AND FITTINGS, AND WORKS ASSOCIATED WITH TUNNEL COMMISSIONING

Appendix B Location of the Central Ventilation Building



KEY PLAN
SCALE A1 : 10000
A3 : 20000

- NOTES:**
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NO. 60095653/RW/1002.
 2. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
 3. DETAILS INCLUDING DIMENSIONS, LEVELS, DESCRIPTIONS, LOCATIONS, ETC. GIVEN FOR EXISTING ROADS, FOOTPATHS, BRIDGE STRUCTURES ARE INDICATIVE ONLY. THE CONTRACTOR SHALL VERIFY THE ACTUAL EXISTING DETAILS ON SITE.

- LEGEND:**
- SITE BOUNDARY
 - CONTROL POINT
 - WEST VENTILATION BUILDING
 - SATELLITE CONTROL BUILDING
 - CENTRAL VENTILATION BUILDING
 - EAST VENTILATION BUILDING
 - ADMINISTRATION BUILDING
 - EAST VENT SHAFT

FOR CONSTRUCTION

B	WORKING DRAWING	17/11/08	14
A	TENDER ADDENDUM NO. 1	10/06/08	13
-	TENDER DRAWING	10/05/08	13
NO.	DATE	BY	CHK

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO. 579 TH
工務計劃項目編號

CENTRAL - WAN CHAI BYPASS - TUNNEL BUILDINGS, SYSTEMS AND FITTINGS, AND WORKS ASSOCIATED WITH TUNNEL COMMISSIONING
GENERAL LAYOUT

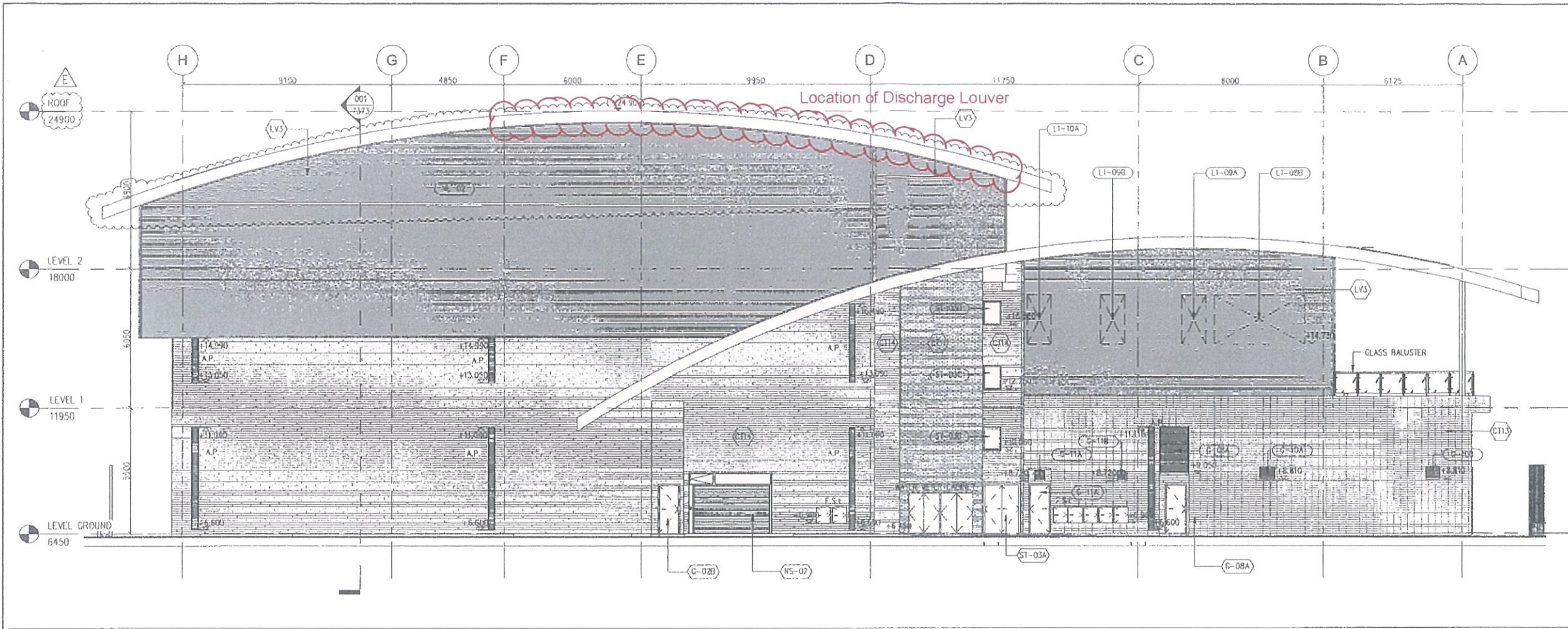
SHEET 1 OF 2

AECOM

DRG. NO. 60095653/RW/1001B

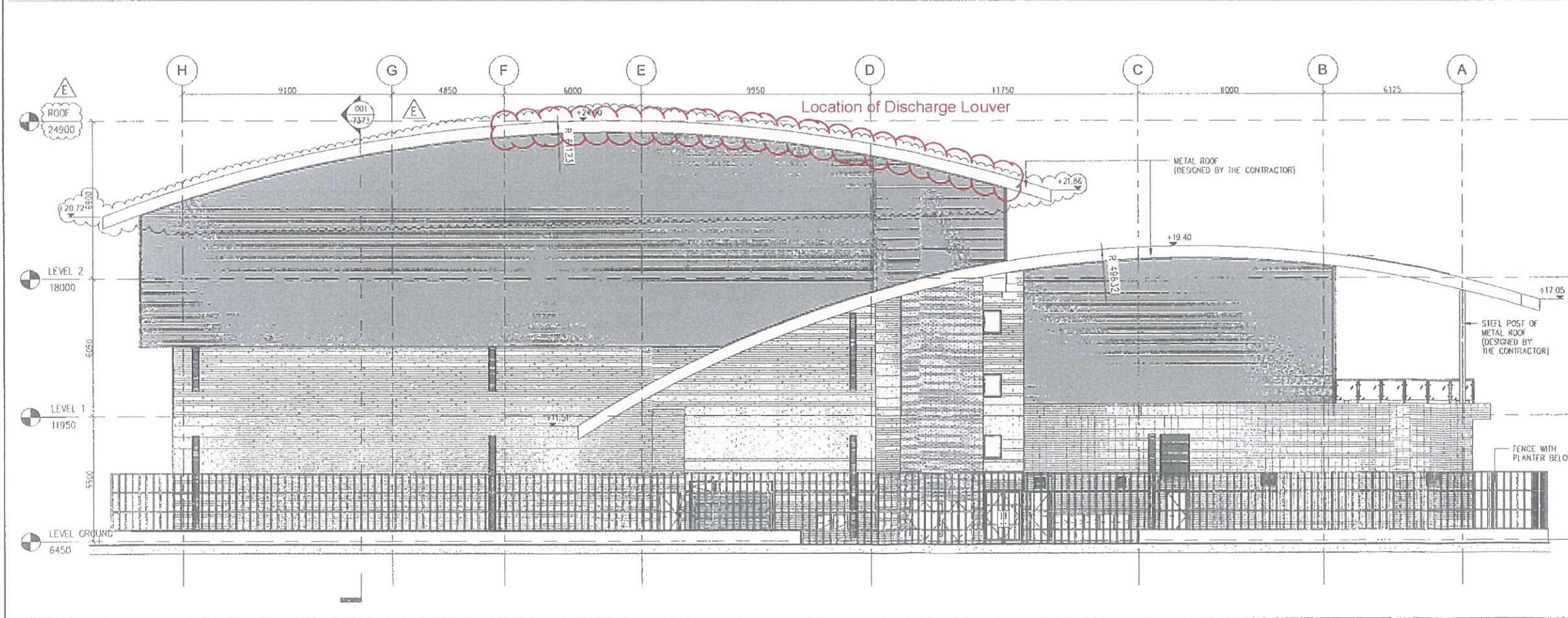
DESIGNED BY ALCF	CHECKED BY HY/2011/08	DATE 01/08/08	SCALE A1 : 2500 A3 : 5000
WORKING DRAWING			
© COPYRIGHT RESERVED			

Appendix C Exhaust Related Design Criteria



001 NORTH ELEVATION

SCALE 1 : 100



002 NORTH ELEVATION WITH FENCE WALL

SCALE 1 : 100

Remarks:
 Discharge louvers would be installed at the metal roof of the Central Ventilation Building.
 Maximum height of discharge point: +24.92
 Minimum height of discharge point: +22.98
 Mid-discharge height: +23.95

E	GENERAL REVISION	KC	ALCF	DEC 16
D	GENERAL REVISION	KC	ALCF	OCT 15
C	WORKING DRAWING	CHW	ALCF	MAR 14
B	TENDER ADDENDUM NO. 2	CHW	ALCF	JUL 13
A	TENDER ADDENDUM NO. 1	CHW	ALCF	JUN 13
-	TENDER DRAWING	CHW	ALCF	MAY 13

Highways Department 路政署
 Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

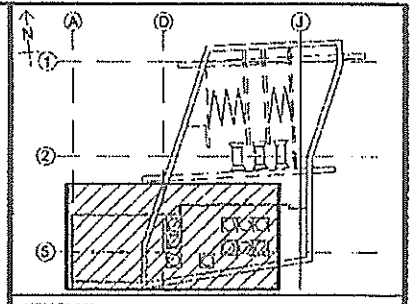
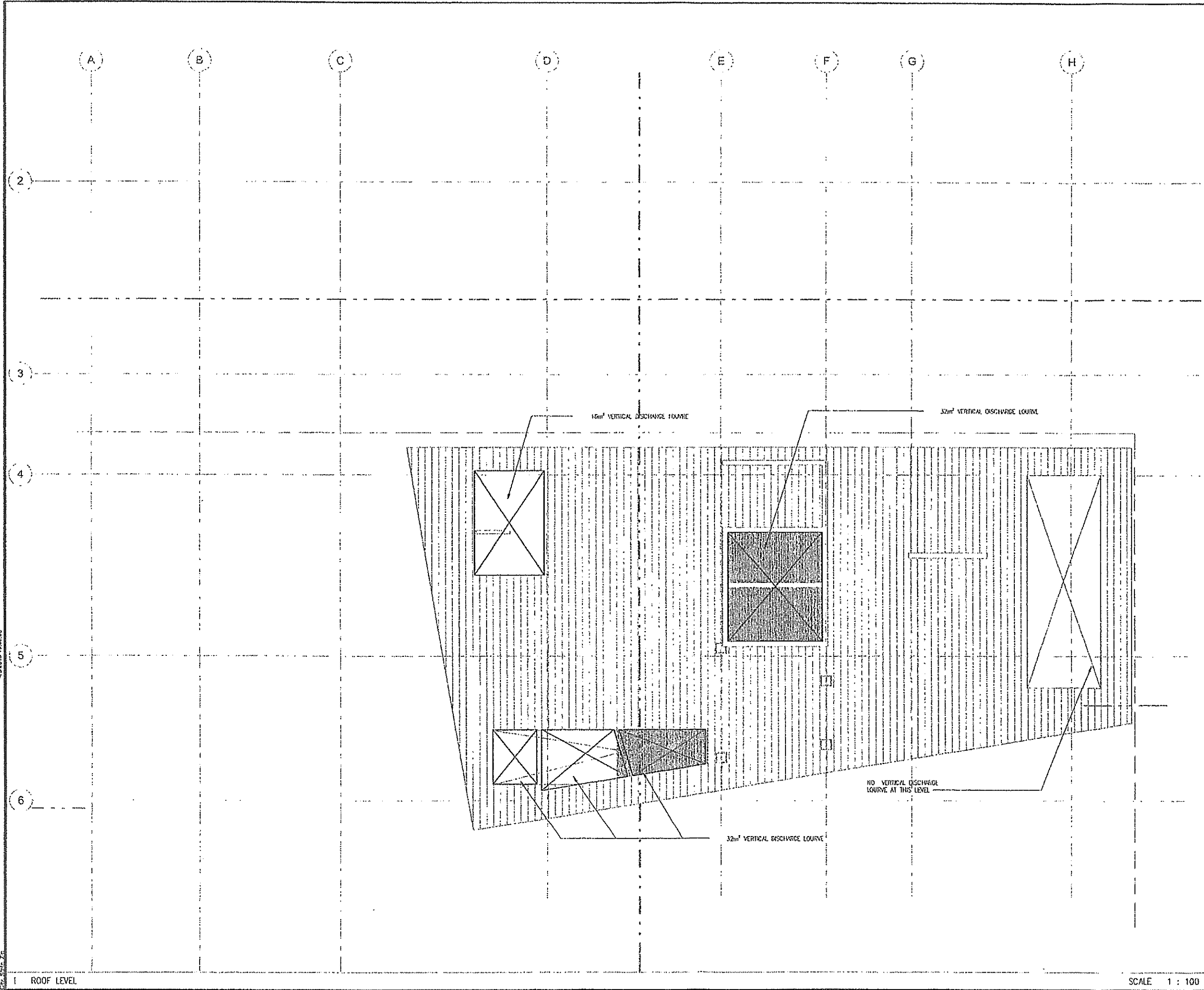
PWP ITEM NO. 579 TH
 工務計劃項目編號

CENTRAL - WAN CHAI BYPASS -
 TUNNEL BUILDINGS, SYSTEMS AND FITTINGS,
 AND WORKS ASSOCIATED WITH TUNNEL COMMISSIONING
 CENTRAL VENTILATION BUILDING
 NORTH ELEVATION

AECOM

DRG. NO. 60095653/RW/7341E

DESIGNED BY ERL	CONTRACT NO. HY/2011/03	APP. NO. APPROVED CWN
DRAWN BY ERL	SCALE A1 1 : 100	STATUS WORKING DRAWING
DATE MILLIMETERS	© COPYRIGHT RESERVED 版權所有	



- KEY PLAN**
- NOTES:**
1. FOR LEGEND, GENERAL NOTES AND ABBREVIATIONS, REFER TO DRAWING NO. 00095653/RW/4100.
 2. ACCESS DOOR / PANEL, DEMOUNTABLE PANEL, CAT LADDER, FLOOR CHAIRS, MAINTENANCE METAL PLATFORM, RAILING, ETC SHALL BE PROVIDED TO FACILITATE THE OPERATION AND MAINTENANCE REQUIREMENTS WHERE APPLICABLE.
 3. THE TVS PLENUM ACCESS DOOR / PANEL SHALL BE FIRE RATED AND AIR TIGHT WITH THE RATING NOT LESS THAN THE CORRESPONDING PLENUM PARTITION WALL.
 4. THE CONTRACTOR SHALL DESIGN AND INSTALL TURNING VANES INSIDE THE AIR DUCT TO MINIMIZE THE AIRFLOW RESISTANCE WHERE APPLICABLE AND FEASIBLE. THE DESIGN OF THE TURNING VANE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

FOR CONSTRUCTION

NO.	DESCRIPTION	DATE
A	WORKING DRAWING	MAR 14
-	TENDER DRAWING	MAY 13

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LINK

PWP ITEM NO. 579 TH
工務計劃項目編號

CENTRAL - WAN CHAI BYPASS -
TUNNEL BUILDING, SYSTEMS AND FITTINGS,
AND WORKS ASSOCIATED WITH TUNNEL COMMISSIONING

TVS LAYOUT CVB
ROOF LEVEL



DRG. NO. 60095653/RW/6134A (R)

DESIGNED BY DWT	CHECKED BY DWT	DATE 11/2011/05	SCALE At 1:100
DRAWN BY DWT		DATE 11/2011/05	
WORKING DRAWING			
COPYRIGHT RESERVED			

4/2/2013 19:00:03

P:\00095653\CENTRAL_FLESH_Sheet
02_27.mxd

1 ROOF LEVEL

SCALE 1 : 100