


KWAN ON CONSTRUCTION CO. LTD.

Contract No. YL/2009/01
Hang Hau Tsuen Channel at Lau
Fau Shan

Baseline Environmental Monitoring Plan
(version 1.1)

Certified By 
(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

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1 INTRODUCTION

- 1.1 The Project comprises the construction of the Hang Hau Tsuen Channel and associated works to improve the local drainage systems in the Hang Hau Tsuen area. The Project is located in Hang Hau Tsuen at Lau Fau Shan, North West New Territories. It is located between Deep Bay Road and Deep Bay. The general location plan of the Project is shown in **Figure 1.1**.
- 1.2 The implementation programme for the Project is tentatively expected to start in end 2009 for completion by end 2012
- 1.3 The Project is a designated project (Register No. : AEIAR-134/2009) and an Environmental Permit (Permit No. EP-343/2009) was issued on 21st May 2009 to the Civil Engineering and Development Department (hereinafter called the “CEDD”) as the Permit Holder.
- 1.4 Kwan On Construction Company Limited (the Contractor) was commissioned by the CEDD to undertake the construction of the Contract No.YL/2009/01 “Hang Hau Channel at Lau Fau Shan”.
- 1.5 Cinotech Consultants Limited was commissioned by Kawn On Construction Co. Ltd. to undertake the Environmental Monitoring and Audit (EM&A) works for “Hang Hau Tsuen Channel at Lau Fau Shan” and was appointed as the Environmental Team (ET) of the Project under Condition 2.1 of the EP.
- 1.6 A joint site visit was conducted on 29th January 2010 with the representatives of the CEDD, Black & Veatch Hong Kong Ltd. (the Resident Engineer), Environ Hong Kong Ltd. (the Independent Environmental Checker), and the ET regarding confirmation of the monitoring locations. During the site visit, some of the sensitive receivers were discovered abandoned and alternative monitoring location was suggested and agreed by all parties on site.
- 1.7 This Baseline Environmental Monitoring Plan is prepared by Cinotech to provide the monitoring requirement, locations and frequency for baseline monitoring for construction noise, air quality and water quality for Contract No.YL/2009/01 “Hang Hau Channel at Lau Fau Shan”.

2 NOISE

Monitoring Requirement

- 2.1 The noise monitoring methodology is stipulated in Section 3.5 of the Environmental Monitoring and Audit Manual. In accordance with the EM&A Manual, baseline monitoring shall be carried out daily for a period of at least 14 consecutive days at the designated monitoring stations as agreed with the Resident Engineer (RE) and Independent Environmental Checker (IEC).

Monitoring Locations

- 2.2 According to the Environmental Monitoring and Audit Manual and EIA Report, three designated Noise Monitoring Stations are listed. **Table 2.1** Summarize the Noise Monitoring Locations and **Figure 2.1** shows location of the Noise Monitoring Locations.

Table 2.1 Location of Noise Monitoring Stations

Monitoring Station ID	Sensitive Receiver ID	Description
N1	NSR 1	Wing Jan Kindergarten
N2	NSR 2	Village house at No.84 Hang Hau Tsuen
N3	NSR 3	Village house at No. 88 Hang Hau Tsuen

- 2.3 A joint site visit was conducted with the representative of RE, IEC, Contractor and ET on 29th January 2010, some of the locations were discovered abandoned. The abandoned locations include Noise Monitoring Station **N1** (Wing Jan Kindergarten).
- 2.4 As Noise monitoring Station **N1** (Wing Jan Kindergarten) is abandoned, and no other representative location was identified to obtain representative monitoring results for the nearest sensitive receivers other than the original Noise monitoring locations **N2** (Village house at No.84 Hang Hau Tsuen) **and N3** (Village house at No. 88 Hang Hau Tsuen). Hence, **N1** is suggested to be cancelled.
- 2.5 As the current situation mentioned above, cancellation of noise monitoring location **N1** is suggested and summarized as **Table 2.2**. **Figure 2.2** shows the original and the alternative locations for Noise Monitoring Station. **Figure 2.3** shows the photographic record for the Monitoring Locations.

Table 2.2 Alternative Location and Current Situation for Noise Monitoring Stations

Monitoring Station ID	SR ID	Description	Current Situation	Alternative Location
N1	NSR 1	Wing Jan Kindergarten	Abandoned	Cancellation of N1
N2	NSR 3	Village house at No.84 Hang Hau Tsuen	Remain Unchange	NA
N3	NSR 6	Village house at No. 88 Hang Hau Tsuen	Remain Unchange	NA

Monitoring Equipment

- 2.6 Integrating Sound Level Meters will be used for noise monitoring. The meters are Type 1 sound level meters capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x) and also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 2.2** summarizes the noise monitoring equipment would be used. **Appendix A** presents calibration certificates for all monitoring equipment used.

Table 2.3 Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	SVAN 959 and 955	2
Calibrator	SV30A	1

Monitoring Parameters, Frequency and Duration

- 2.7 In accordance with the EM&A Manual, the baseline monitoring shall be carried out continuously for a period of at least two weeks (14 consecutive days) at interval of 5 minutes. The A-weighted noise level L_{eq} , L_{10} and L_{90} shall be recorded.

3 AIR QUALITY

Monitoring Requirement

- 3.1 The air monitoring methodology is stipulated in Section 2.6 of the Environmental Monitoring and Audit Manual. In accordance with the EM&A Manual, baseline monitoring shall be carried out at all the designated monitoring locations as agreed with the Resident Engineer (RE) and Independent Environmental Checker (IEC) for at least 14 consecutive days prior to the commissioning of the construction works to obtain daily 24-hour TSP samples. 1-hour TSP sampling shall also be done at least 3 times per day while highest dust impact is expected.

Monitoring Locations

- 3.2 According to the Environmental Monitoring and Audit Manual and EIA Report, two designated monitoring stations are listed. **Table 3.1** and **Figure 3.1** shows the location of Air Quality Monitoring Stations.

Table 3.1 Location of Air Quality Monitoring Stations

Monitoring Station ID	Sensitive Receiver ID	Description
A1	ASR 1	Wing Jan Camp
A2	ASR 2	Village house at No.57 Hang Hau Tsuen

- 3.3 A joint site visit was conducted with the representative of RE, IEC, Contractor and ET on 29th January 2010, some of the locations were discovered abandoned and some location was not identifiable.
- 3.4 The abandoned locations include Air Quality Station **A1** (Wing Jan Camp) and not identifiable location include Air Quality Station **A2** (Village house at No.57 Hang Hau Tsuen).
- 3.5 Since Air Quality Monitoring Station **A2** (Village house at No.57 Hang Hau Tsuen) was not identifiable during the site visit, Village house at No. 29 Hang Hau Tsuen was suggested and proposed as the exact location of Air Quality Monitoring Station **A2** with the agreement of the RE, IEC and Contractor on site.
- 3.6 Air Quality Station **A1** (Wing Jan Camp) is abandoned, an alternative location **A1a** (Village house at No. 88 Hang Hau Tsuen) is selected in considering the most representative monitoring results can be obtained as **A1a** and the location **A2** (Village

house at No.29 Hang Hau Tsuen) are located in the opposite direction of the main construction area; air quality can therefore be monitored during up-wind or down-wind conditions for the most dominant air quality sensitive receivers.

- 3.7 As the current situation mentioned above, alternative locations for air quality (**A1a and A2**) is suggested and summarize as **Table 3.2**. **Figure 3.2** shows the original and the alternative location for Air Quality Monitoring Station. **Figure 2.3** shows the photographic record for the monitoring locations.

Table 3.2 Alternative Location and Current Situation for Air Quality Monitoring Stations

Monitoring Station ID	SR ID	Description	Current Situation	Alternative Location
A1	ASR 2	Wing Jan Camp	Abandoned	A1a (Village house at No. 88 Hang Hau Tsuen)
A2	ASR 4	Village house at No.57 Hang Hau Tsuen	Not Identifiable	Village house at No.29 Hang Hau Tsuen

Monitoring Equipment

- 3.8 High Volume Samplers (HVS) in compliance with the specification stipulated in EM&A Manual Section 2.3 will be used to carry out 1-hour and 24-hour TSP monitoring. Wind data monitoring equipment will also be used to for logging wind speed and wind direction near to the dust monitoring locations. **Table 3.2** summarizes the equipment to be used in the baseline air quality monitoring. **Appendix A** presents calibration certificates for all monitoring equipment used.

Table 3.3 Air Quality Monitoring Equipment

Equipment	Model and Make	Qty.
HVS Sampler	Tisch Environmental, Inc.; Model no. TE-5170	2
RS232 Integral Vane Digital Anemometer	AZ Instrument (Model No. 451104)	1
Calibrator	Tisch Environmental, Inc.; Model no.: TE-5025A	1

Monitoring Parameters, Frequency and Duration

- 3.9 Baseline monitoring shall be carried out at all of the designated monitoring locations for at least 14 consecutive days prior to the commissioning of the construction works to obtain daily 24-hour TSP samples. 1-hour sampling shall also be done at least 3 times per day while the highest dust impact is expected. **Table 3.3** summarizes the monitoring parameters, monitoring period and frequencies of baseline air quality monitoring.

Table 3.4 Frequency and Parameters of Air Quality Monitoring

Monitoring Station	Parameter	Period	Frequency
All monitoring locations	1-hour TSP	0700-1900	3 times/day
	24-hour TSP	24 hours	Daily

4 WATER QUALITY

Monitoring Requirement

- 4.1 The water quality monitoring methodology is stipulated in Section 4.6 of the Environmental Monitoring and Audit Manual. In accordance with the EM&A Manual, baseline condition for water quality shall be established and agreed upon with ER, IEC and EPD prior to the commencement of works.
- 4.2 The measurements shall be taken at all designated monitoring stations 3 days per week, at mid-flood and mid-ebb tides, at three depth locations (i.e. 1m below surface, mid-depth and 1m from bed, except where the water depth less than 6m, mid-depth station may be omitted. Will the water depth be less than 3m, only the mid-depth station will be monitored), for a period of 4 weeks prior to the commencement of marine works. The interval between two sets of monitoring will not be less than 36 hours. Flow rates and sample depth shall be taken, where appropriate. The tidal range for each of the flood and ebb tide should not be less than 0.5m.
- 4.3 Tidal information is retrieved from the Hong Kong Observatory website, predicted tides at Tsim Bei Tsui Station is selected as the reference location.

Monitoring Locations

- 4.4 According to the Environmental Monitoring and Audit Manual, seven water quality monitoring stations are listed in **Table 4.1** and their locations are shown in **Figure 4**.

Table 4.1 Location for Water Quality Monitoring Stations

Water Quality Monitoring Station	Description	Purpose of Placing Sampling Station	Coordinates E = Easting N = Northing
W1	Downstream of the works immediately at the discharge point to Deep Bay	Monitor and audit potential impacts from the works, check water quality discharging to Deep Bay, impact station	E: 816023 N: 836095
W2	Near the oyster bed in Deep Bay	Monitor and audit potential impacts from the works, check water quality discharging to Deep Bay, impact station	E: 815791 N: 836276
W3	Near the oyster bed in Deep Bay	Monitor and audit potential impacts from the works, check water quality discharging to Deep Bay, impact station	E: 815673 N: 836076
W4	Immediate downstream of any specific works within Hang Hau Tsuen channel	Temporary / mobile station to monitor and audit potential impacts from any specific works, check water quality discharging to Deep Bay, impact station	See notes below
W5	Upstream of the works at the confluence of San Hing Tsuen Channel and Fung Kong Tsuen Channel	Establish background water quality levels entering Hang Hau Tsuen stream, control station	E: 816390 N: 836039
W6	Waters of Deep Bay	Establish background water quality levels in Deep Bay, control station	E: 815496 N: 836713
W7	Waters of Deep Bay	Establish background water quality levels in Deep Bay, control station	E: 815174 N: 835484

Notes:

- Temporary / mobile station to be proposed by the Environmental Team Leader with reference to the contractor's working programme and works location.
- All monitoring stations shall be proposed by the Environmental Team Leader and verified by the Independent Environmental Checker before submitting to EPD prior to commencement of any monitoring.

Monitoring Equipment

4.5 **Table 4.2** summarizes the equipment used in the water quality monitoring program. All the monitoring equipment complied with the specifications is stipulated in the EM&A Manual. **Appendix A** presents calibration certificates for all monitoring equipment used.

Table 4.2 Water Quality Monitoring Equipment

Equipment	Model and Make	Qty.
Multi-parameter Water Quality System	YSI 6820-C-M	2
Monitoring Position Equipment	“Magellan” Handheld GPS Model GPS-320	1

Monitoring Parameters, Frequency

- 4.6 The measurement shall be taken at all designated monitoring stations for 3 days per week, at mid-flood and mid-ebb tides, for at least 4 weeks prior to commencement of the works. **Table 4.3** summarizes the monitoring parameters, monitoring period and frequencies of the water quality monitoring.

Table 4.3 Water Quality Monitoring Parameters and Frequency



Monitoring Stations	Parameters, unit	Depth	Frequency
W1 W2 W3 W4 W5 W6 W7	<ul style="list-style-type: none"> • Temperature(°C) • pH(pH unit) • turbidity (NTU) • water depth (m) • salinity (mg/L) • dissolved oxygen (DO) (mg/L and % of saturation) • suspended solids (SS) (mg/L) 	<ul style="list-style-type: none"> • 3 water depths: 1m below sea surface, mid-depth and 1m above sea bed. • If the water depth is less than 3m, mid-depth sampling only. • If water depth less than 6m, mid-depth may be omitted. 	<ul style="list-style-type: none"> • Baseline monitoring: 3 days per week, at mid-flood and mid-ebb tides, for a period of 4 weeks prior to the commencement of the works

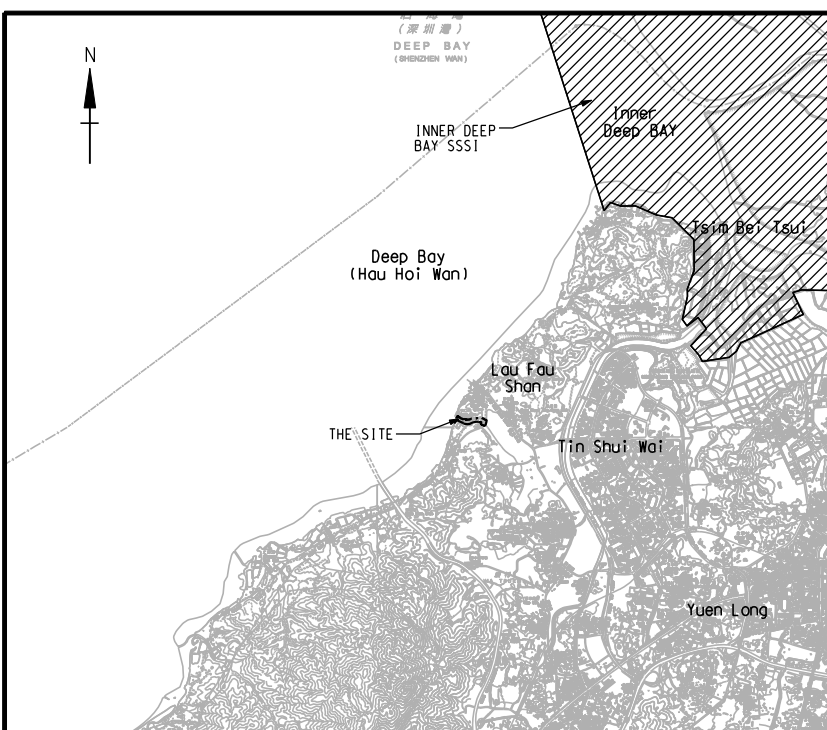
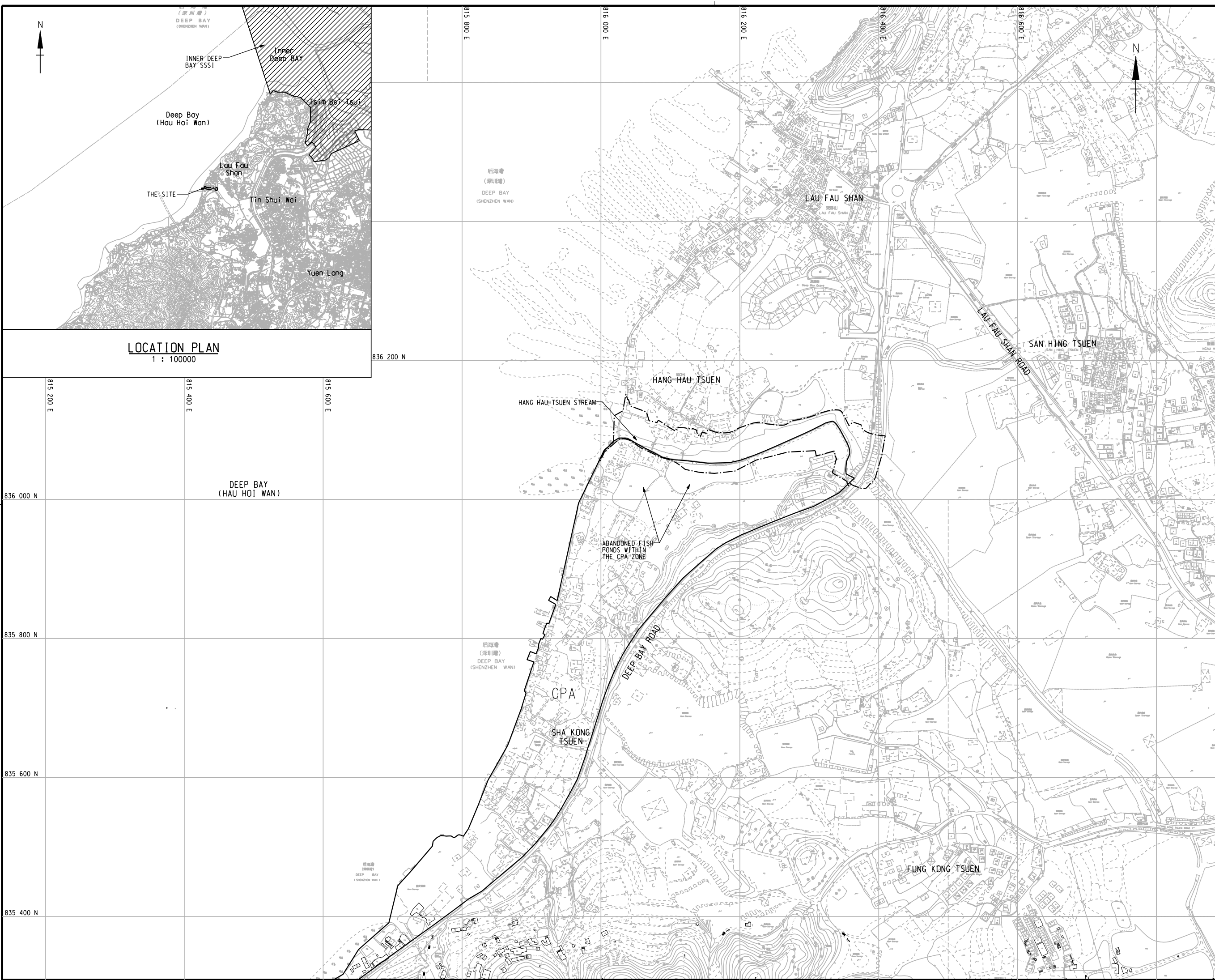
5 BASELINE MONITORING PROGRAMME

- 5.1 The tentative environmental baseline monitoring schedule, subject to the approval of the Engineer, IEC agreement and the permission of the premises owners, is provided in **Appendix B**.

FIGURES

LEGEND

-  SITE BOUNDARY
-  COASTAL PROTECTION AREA ZONE (CPA)



LOCATION PLAN
1 : 100000

Revision	Date	Description			Initial
		Designed	Checked	Drawn	
Initial	MC	WKC	HH	PKL	
Date	06/08	06/08	06/08	06/08	

Approved

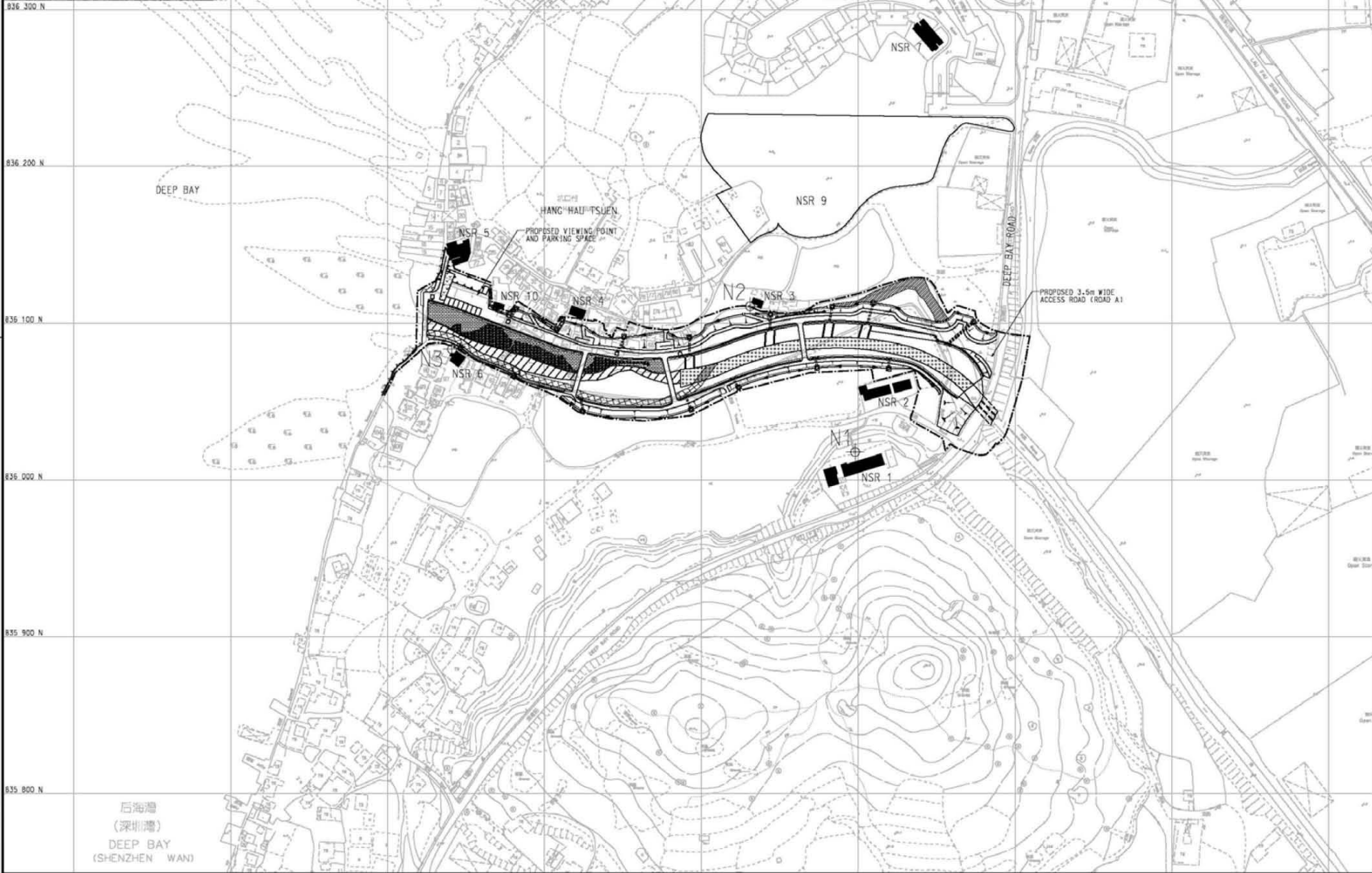
project
HANG HAU TSUEN CHANNEL AT LAU FAU SHAN

Drawing Title
GENERAL LOCATION PLAN OF THE PROJECT

Plan Register No. Revision
FIGURE 1.1 -

Scale
A3 1:5000





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LEGEND

- SITE BOUNDARY
- EXISTING RIVER TO BE RETAINED
- PROPOSED LOW FLOW CHANNEL
- EXISTING MANGROVES TO BE RETAINED
- POTENTIAL COMPENSATION SITE FOR MANGROVES
- PROPOSED 3.5m MAINTENANCE ACCESS
- RETAINING WALL
- FILL SLOPE
- PROPOSED GATE
- EXISTING SEAWALL
- 600mm COVERED U-CHANNEL AT 1 IN 100 FALL
- 900mm PRECAST CONCRETE PIPE (CLASS H) AT 1 IN 100 FALL
- CATCH PIT
- CROSSING SLAB
- AREA TO BE FILLED AND LANDSCAPED
- AMENITY AREA
- REPRESENTATIVE AIR SENSITIVE RECEIVER ASR 1
- AIR MONITORING STATION A1

Revision	Date	Description	Initial
	Designed	Checked	Drawn
Initial	MC	WKC	JT PEL
Date	11/08	11/08	11/08 11/08

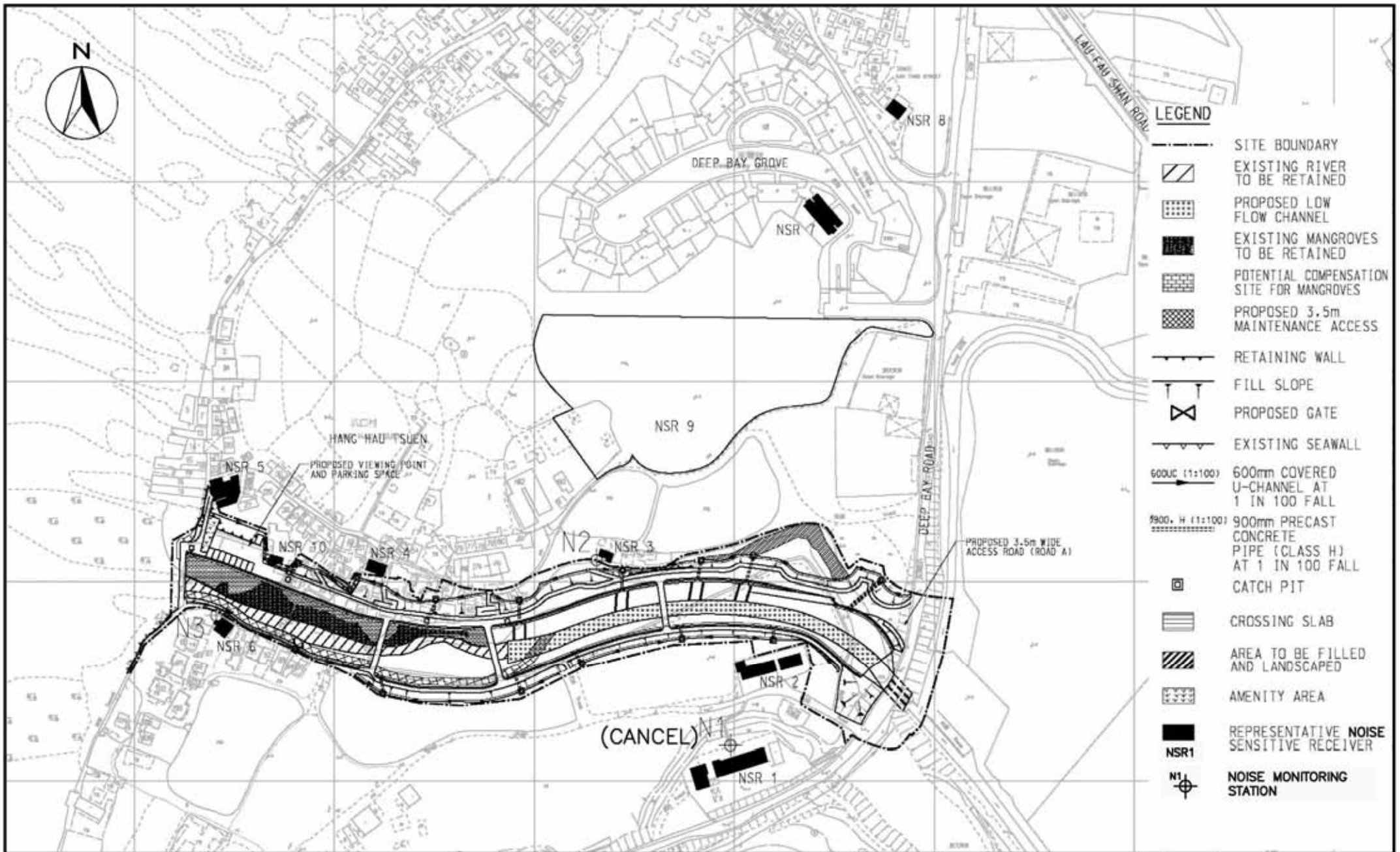
project
HANG HAU TSUEN CHANNEL AT LAU FAU SHAN

Drawing Title
LOCATIONS OF PROPOSED NOISE MONITORING STATION AND REPRESENTATIVE NOISE SENSITIVE RECEIVERS

Plan Register No. **FIGURE 2.1** Revision
 Scale **A3 1:2500**

土木工程拓展署
CEDD Civil Engineering and Development Department

BLACK & VEATCH HONG KONG LIMITED
 博誠工程顧問有限公司



SCALE	N.T.S.	DATE	FEB 2010
CHECK	CH	DRAWN	SL
JOB No.	MA 0002	FIGURE NO.	FIG 2.2
		REV	-



Air Quality Monitoring Station (A1) - Wing Jan Camp (Cancel)



Air Quality Monitoring Station (A2) - Village house at No.29 Hang Hau Tsuen



Air Quality Monitoring Station (A1a)
- Village house at No.88 Hang Hau Tsuen (Alternative Location)



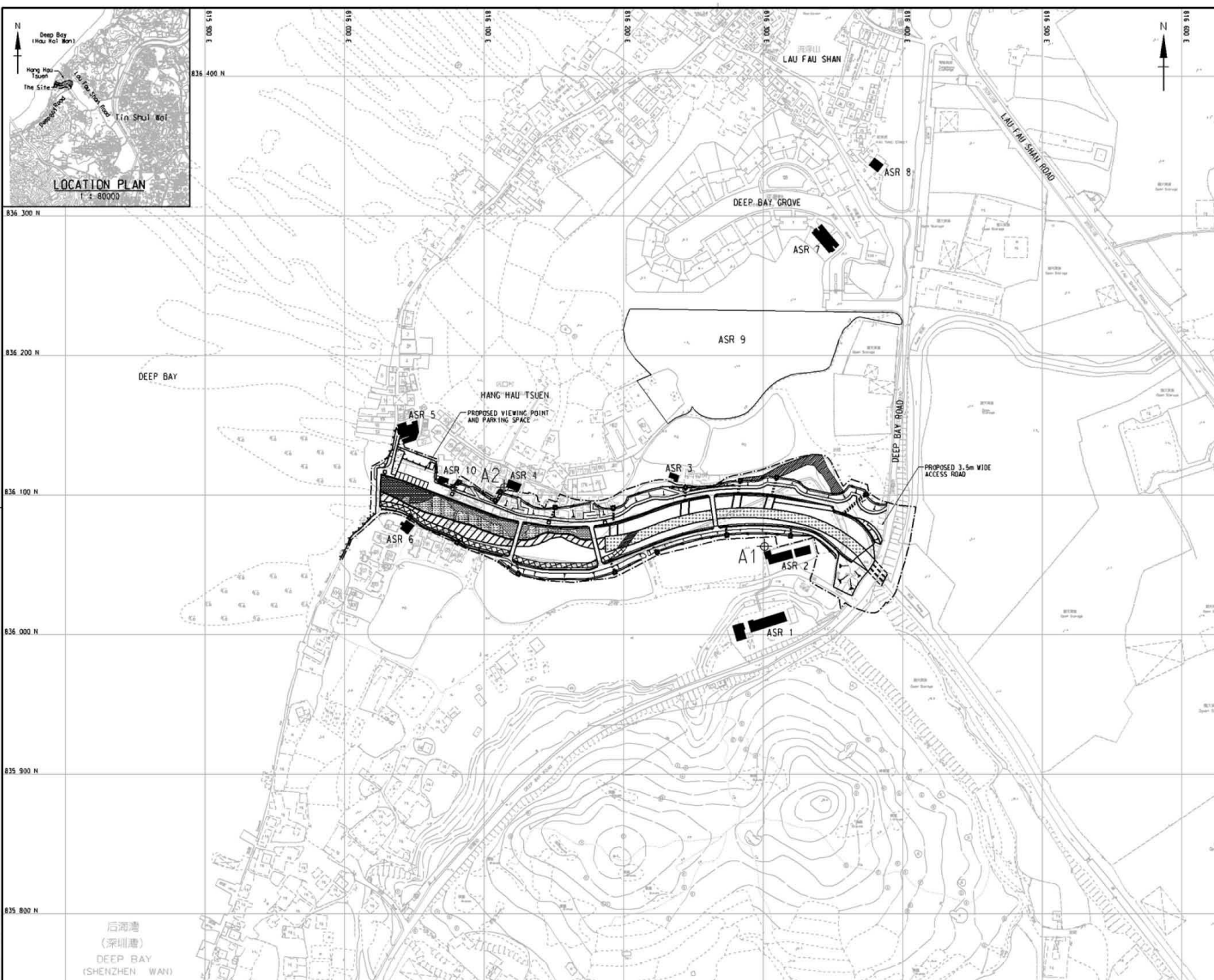
Noise Monitoring Station (N1) - Wing Jan Kindergarten (Cancel)



Noise Monitoring Station (N2) - Village house at No.84 Hang Hau Tsuen



Noise Monitoring Station (N3) - Village house at No.88 Hang Hau Tsuen



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- LEGEND**
- SITE BOUNDARY
 - EXISTING RIVER TO BE RETAINED
 - PROPOSED LOW FLOW CHANNEL
 - EXISTING MANGROVES TO BE RETAINED
 - POTENTIAL COMPENSATION SITE FOR MANGROVES
 - PROPOSED 3.5m MAINTENANCE ACCESS
 - RETAINING WALL
 - FILL SLOPE
 - PROPOSED GATE
 - EXISTING SEAWALL
 - 600mm COVERED U-CHANNEL AT 1 IN 100 FALL
 - 900mm PRECAST CONCRETE PIPE (CLASS H) AT 1 IN 100 FALL
 - CATCH PIT
 - CROSSING SLAB
 - AREA TO BE FILLED AND LANDSCAPED
 - AMENITY AREA
 - REPRESENTATIVE AIR SENSITIVE RECEIVER ASR 1
 - AIR MONITORING STATION A1

Revision	Date	Description			Initiator
		Designed	Checked	Drawn	
Initial	MC	MJC	JT	PKL	
Date	11/08	11/08	11/08	11/08	

project
HANG HAU TSUEN CHANNEL AT LAU FAU SHAN

Drawing Title
LOCATIONS OF PROPOSED AIR QUALITY MONITORING STATION AND REPRESENTATIVE AIR SENSITIVE RECEIVERS

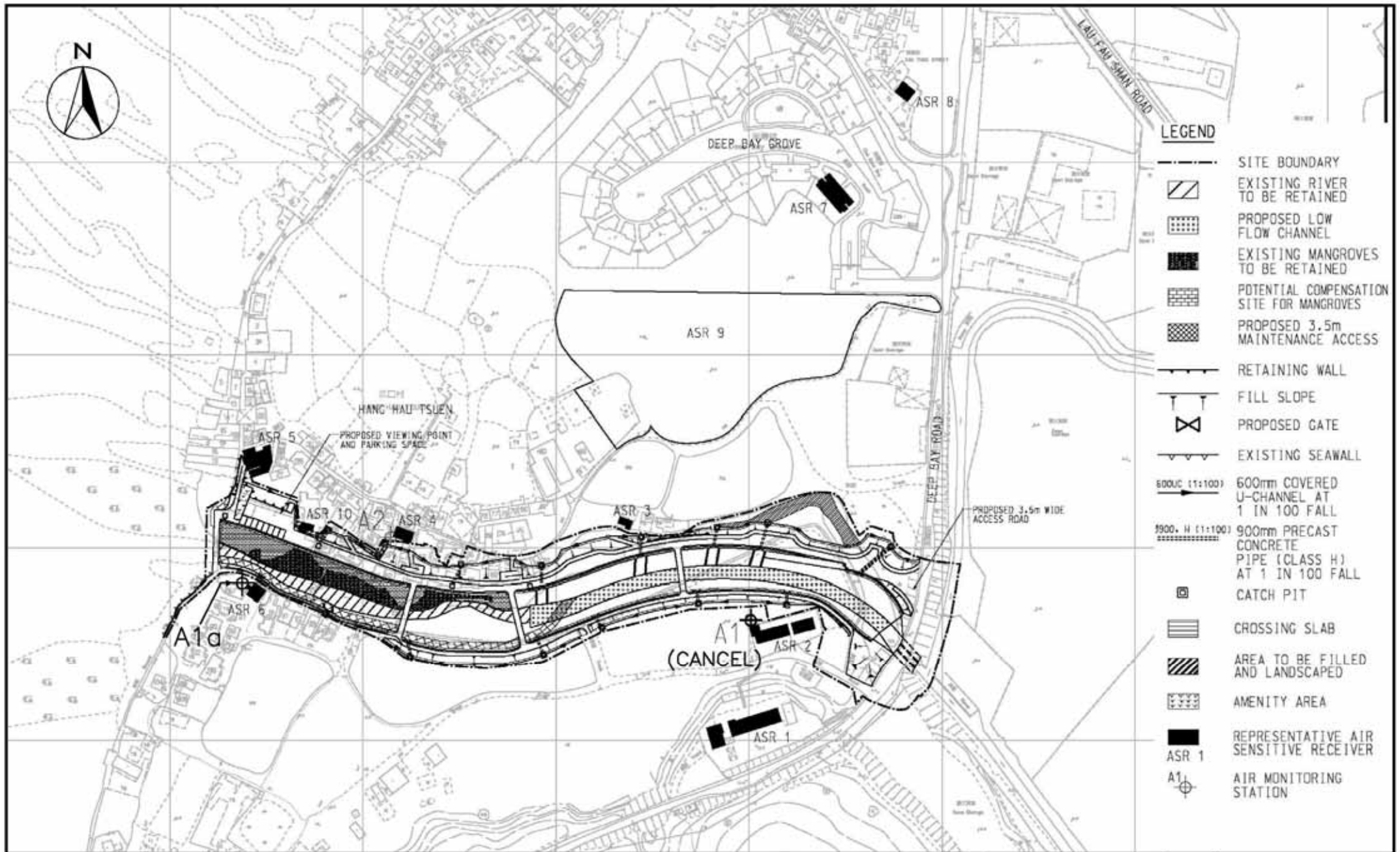
Plan Register No. **FIGURE 3.1** Revision **-**

Scale **A3 1:2500**

CEDD 土木工程拓展署
 Civil Engineering and Development Department

BLACK & VEATCH HONG KONG LIMITED
 博咨工程顧問有限公司

后海湾 (深圳灣)
 DEEP BAY (SHENZHEN WAN)



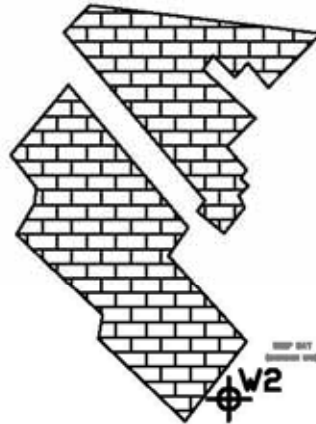
HANG HAU TSUEN CHANNEL AT LAU FAU SHAN

LOCATIONS OF PROPOSED AIR QUALITY MONITORING STATION AND REPRESENTATIVE AIR SENSITIVE RECEIVERS

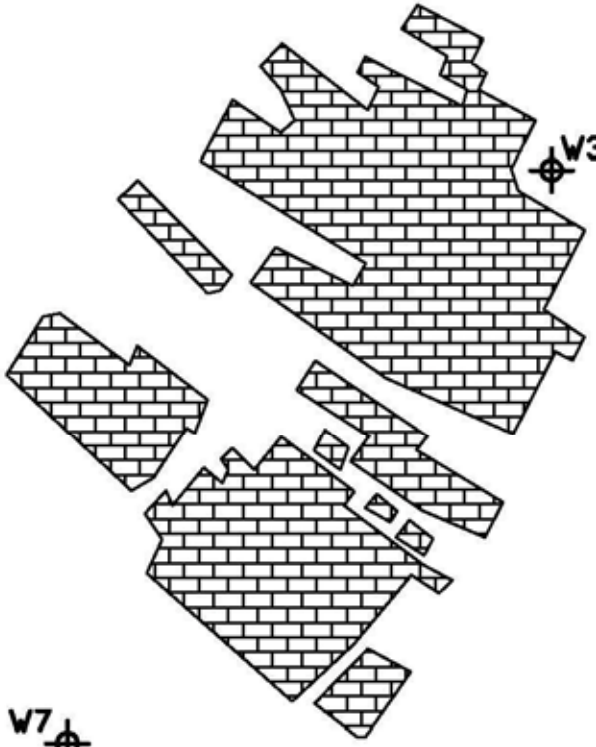
SCALE	N.T.S.	DATE	FEB 2010
CHECK	CH	DRAWN	SL
JOB No.	MA 0002	FIGURE NO.	FIG 3.2
		REV	-



W6



W2



W3




W7

W1

W4

W5

LEGEND:

-  Water Quality Monitoring Station (Permanent/Fixed)
-  Water Quality Monitoring Station (Temporary/Mobile)
-  Oyster Bed

Coordinate of WQM

WQM	EASTING	NORTHING
W1	816023.3	836095.5
W2	815791.5	836276.6
W3	815673.7	836076.8
W4	*	*
W5	816390.9	836039.1
W6	815496.6	836713.5
W7	815174.0	835484.9

* Mobile station subject to the location of the works within the channel.

SCALE	N.T.S	DATE	JAN 2010
CHECK	ML	DRAWN	SL
JOB No.	MA0002	FIGURE NO.	FIG 4
		REV	-

APPENDIX A
COPIES CALIBRATION CERTIFICATES

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0002/A52/0001

Station A1a - Village House at no.88 Hang Hau Tsuen Operator: WK/KT
 Date: 1-Feb-10 Next Due Date: 31-Mar-10
 Equipment No.: A-01-52 Serial No. 1955

Ambient Condition			
Temperature, Ta (K)	294.6	Pressure, Pa (mmHg)	763.8

Orifice Transfer Standard Information					
Equipment No.:	A-04-06	Slope, mc	0.0575	Intercept, bc	0.0395
Last Calibration Date:	5-Mar-09	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	6-Mar-10	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of oil	[ΔW x (Pa/760) x (298/Ta)] ^{1/2} Y-axis
1	12.0	3.49	60.06	7.6	2.78
2	9.8	3.16	54.21	6.2	2.51
3	7.1	2.69	46.04	4.5	2.14
4	5.2	2.30	39.30	3.1	1.78
5	3.1	1.78	30.19	1.8	1.35

By Linear Regression of Y on X
 Slope, mw = 0.0481 Intercept, bw : -0.0982
 Correlation coefficient* = 0.9996

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM
 From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W = (mw x Qstd + bw)² x (760 / Pa) x (Ta / 298) = 3.81

Remarks: _____

Conducted by: Wk Tang Signature: [Signature] Date: 1/2/10
 Checked by: [Signature] Signature: [Signature] Date: 1 February 2010

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0002/A54/0001

Station A2 - Village House at no.29 Hang Hau Tsuen Operator: WK/KT
 Date: 1-Feb-10 Next Due Date: 31-Mar-10
 Equipment No.: A-01-54 Serial No. 1536

Ambient Condition			
Temperature, Ta (K)	294.6	Pressure, Pa (mmHg)	763.8

Orifice Transfer Standard Information					
Equipment No.:	A-04-06	Slope, mc	0.0575	Intercept, bc	0.0395
Last Calibration Date:	5-Mar-09	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	6-Mar-10	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of oil	[ΔW x (Pa/760) x (298/Ta)] ^{1/2} Y-axis
1	12.0	3.49	60.06	7.7	2.80
2	9.0	3.02	51.92	6.0	2.47
3	7.1	2.69	46.04	4.5	2.14
4	5.1	2.28	38.91	3.1	1.78
5	3.1	1.78	30.19	1.8	1.35

By Linear Regression of Y on X

Slope, mw = 0.0492 Intercept, bw : -0.1279
 Correlation coefficient* = 0.9989

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W = (mw x Qstd + bw)² x (760 / Pa) x (Ta / 298) = 3.89

Remarks: _____

Conducted by: Wk Tang Signature: [Signature]
 Checked by: [Signature] Signature: [Signature]

Date: 1/2/10
 Date: 1 February 2010

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/09/90430
Date of Issue:	2009-05-02
Date Received:	2009-04-30
Date Tested:	2009-04-30
Date Completed:	2009-05-01
Next Due Date:	2010-05-01

ATTN: Mr. Henry Leung

Page: 1 of 1

Certificate of Calibration

Item for calibration:

Description : RS232 Integral Vane Digital Anemometer
Manufacturer : AZ Instrument
Model No. : 451104
Serial No. : 9020746
Equipment No. : A-03-01

Test conditions:

Room Temperature : 21 degree Celsius
Relative Humidity : 67%
Pressure : 101.5 kPa

Methodology:

The anemometer has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

	Reference Set Point	Instrument Readings
Measuring Air Velocity, m/s	2.00	2.00
Temperature, °C	21.0	21.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE

Laboratory Manager



TISCH ENVIRONMENTAL, INC.
 145 SOUTH MIAMI AVE.
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 WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 06, 2009 Rootmeter S/N 9833640 Ta (K) - 296
 Operator Tisch Orifice I.D. - 0999 Pa (mm) - 747.20

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3890	3.2	2.00
2	NA	NA	1.00	0.9850	6.3	4.00
3	NA	NA	1.00	0.8810	7.8	5.00
4	NA	NA	1.00	0.8410	8.6	5.50
5	NA	NA	1.00	0.6950	12.5	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9917	0.7139	1.4113	0.9957	0.7168	0.8874
0.9876	1.0026	1.9959	0.9916	1.0067	1.2549
0.9854	1.1185	2.2315	0.9894	1.1231	1.4030
0.9844	1.1706	2.3405	0.9884	1.1753	1.4715
0.9792	1.4090	2.8227	0.9832	1.4147	1.7747
Qstd slope (m) = 2.03154			Qa slope (m) = 1.27212		
intercept (b) = -0.03970			intercept (b) = -0.02496		
coefficient (r) = 0.99999			coefficient (r) = 0.99999		
y axis = SQRT[H2O(Pa/760) (298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol { (Pa - Diff. Hg) / 760 } (298/Ta)
 Qstd = Vstd/Time

Va = Diff Vol { (Pa - Diff Hg) / Pa }
 Qa = Va/Time

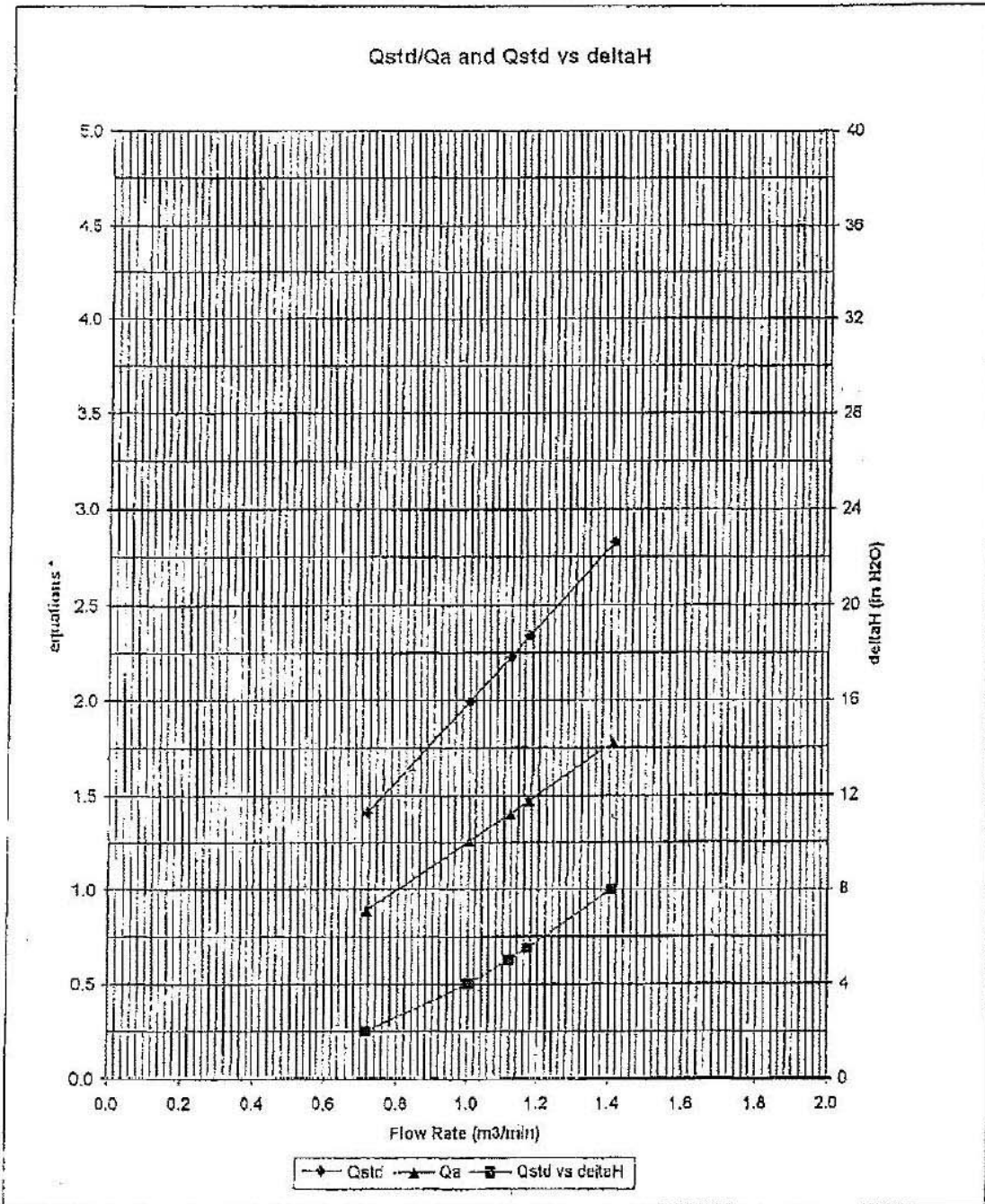
For subsequent flow rate calculations:

Qstd = 1/m { [SQRT(H2O(Pa/760) (298/Ta))] - b }
 Qa = 1/m { [SQRT H2O(Ta/Pa)] - b }



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AIR POLLUTION MONITORING EQUIPMENT



* y-axis equations:

Qstd series:
$$\sqrt{\Delta H \left(\frac{P_a}{P_{std}} \right) \left(\frac{T_{std}}{T_a} \right)}$$

Qa series:
$$\sqrt{\Delta H (T_a / P_a)}$$

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/90925/1
Date of Issue:	2009-09-25
Date Received:	2009-09-24
Date Tested:	2009-09-24
Date Completed:	2009-09-25
Next Due Date:	2010-09-24

ATTN: Mr. Henry Leung

Page: 1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 959
Serial No.	: 11275
Microphone No.	: 86553
Equipment No.	: N-08-01

Test conditions:

Room Temperature	: 23 degree Celsius
Relative Humidity	: 58%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/90925/4
Date of Issue:	2009-09-25
Date Received:	2009-09-24
Date Tested:	2009-09-24
Date Completed:	2009-09-25
Next Due Date:	2010-09-24

ATTN: Mr. Henry Leung

Page: 1 of 1

Certificate of Calibration

Item for calibration:

Description : 'SVANTEK' Integrating Sound Level Meter
Manufacturer : SVANTEK
Model No. : SVAN 955
Serial No. : 12553
Microphone No. : 35222
Equipment No. : N-08-02

Test conditions:

Room Temperature : 23 degree Celsius
Relative Humidity : 58%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/90925/2
Date of Issue:	2009-09-25
Date Received:	2009-09-24
Date Tested:	2009-09-24
Date Completed:	2009-09-25
Next Due Date:	2010-09-24

ATTN: Mr. Henry Leung

Page: 1 of 1

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 10929
Equipment No.	: N-09-01

Test conditions:

Room Temperature	: 23 degree Celsius
Relative Humidity	: 58%

Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE

Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/W/91031-1
Date of Issue:	2009-10-31
Date Received:	2009-10-30
Date Tested:	2009-10-30
Date Completed:	2009-10-31
Next Due Date:	2010-01-30

ATTN: Mr. Henry Leung

Page: 1 of 2

Certificate of Calibration

Item for calibration:

Description	: Sonde Environmental Monitoring System
Manufacturer	: YSI
Model No.	: 6820-C-M
Serial No.	: 02D0126AA
Equipment No.	: W.03.01
Project No.	: C013

Test conditions:

Room Temperature	: 24 degree Celsius
Relative Humidity	: 66%

Test Specifications:

Conductivity & Salinity Sensor, Model: 6560, S/N: 05A1209

1. Conductivity performance check with Potassium Chloride standard solution
2. Salinity performance check with Sodium Chloride standard solution

Dissolved Oxygen Sensor, Model: 6562, S/N: 04A0145

1. Performance check against Winkler titration

Turbidity Sensor, Model: 6136, S/N: 05A1610AJ

1. Calibration check with Formazin standard solution

pH Meter, Model: 6561, S/N: 01J

1. Calibration check with standard pH buffer

Depth Meter

1. Calibration check at 1m water level depth

Methodologies:

1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual
2. In-house method with reference to APHA and ISO standards

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
Laboratory Manager

TEST REPORT

Test Report No.:	C/W/91031-1
Date of Issue:	2009-10-31
Date Received:	2009-10-30
Date Tested:	2009-10-30
Date Completed:	2009-10-31
Next Due Date:	2010-01-30

Page: 2 of 2

Results:

1. Conductivity performance check

Specific Conductivity, $\mu\text{S}/\text{cm}$		Correction, $\mu\text{S}/\text{cm}$	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	$D = C1 - C2$	
1421	1420	2	1420 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.0	30.0	0.0	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O ₂ /L		Correction, mg O ₂ /L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.1	9.1	0.0	± 0.2
Half-saturated	5.6	5.6	0.0	± 0.2
Zero	0.0	0.0	0.0	± 0.2

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	0.00 ± 0.05
100	100	0	100 ± 5

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH_j , pH unit	0.01	Less than 0.05
Shift on stirring ΔpH_s , pH unit	0.01	Less than 0.02
Noise ΔpH_n , pH unit	0.00	Less than 0.02

6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	1.00 ± 0.05

*****END OF REPORT*****

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/W/100129-1
Date of Issue:	2010-01-29
Date Received:	2010-01-28
Date Tested:	2010-01-28
Date Completed:	2010-01-29
Next Due Date:	2010-04-28

ATTN: Mr. Henry Leung

Page: 1 of 2

Certificate of Calibration

Item for calibration:

Description	: Sonde Environmental Monitoring System
Manufacturer	: YSI
Model No.	: 6820-C-M
Serial No.	: 02D0126AA
Equipment No.	: W.03.01
Project No.	: C013

Test conditions:

Room Temperature	: 23 degree Celsius
Relative Humidity	: 68%

Test Specifications:

Conductivity & Salinity Sensor, Model: 6560, S/N: 05A1209

1. Conductivity performance check with Potassium Chloride standard solution
2. Salinity performance check with Sodium Chloride standard solution

Dissolved Oxygen Sensor, Model: 6562, S/N: 04A0145

1. Performance check against Winkler titration

Turbidity Sensor, Model: 6136, S/N: 05A1610AJ

1. Calibration check with Formazin standard solution

pH Meter, Model: 6561, S/N: 01J

1. Calibration check with standard pH buffer

Depth Meter

1. Calibration check at 1m water level depth

Methodologies:

1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual
2. In-house method with reference to APHA and ISO standards

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
Laboratory Manager

TEST REPORT

Test Report No.:	C/W/100129-1
Date of Issue:	2010-01-29
Date Received:	2010-01-28
Date Tested:	2010-01-28
Date Completed:	2010-01-29
Next Due Date:	2010-04-28

Page: 2 of 2

Results:

1. Conductivity performance check

Specific Conductivity, $\mu\text{S}/\text{cm}$		Correction, $\mu\text{S}/\text{cm}$	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	$D = C1 - C2$	
1421	1420	2	1420 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.0	30.0	0.0	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O ₂ /L		Correction, mg O ₂ /L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.1	9.1	0.0	± 0.2
Half-saturated	5.6	5.6	0.0	± 0.2
Zero	0.0	0.0	0.0	± 0.2

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	0.00 ± 0.05
100	100	0	100 ± 5

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH_j , pH unit	0.01	Less than 0.05
Shift on stirring ΔpH_s , pH unit	0.01	Less than 0.02
Noise ΔpH_n , pH unit	0.00	Less than 0.02

6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	1.00 ± 0.05

*****END OF REPORT*****

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/W/91031-2
Date of Issue:	2009-10-31
Date Received:	2009-10-30
Date Tested:	2009-10-30
Date Completed:	2009-10-31
Next Due Date:	2010-01-30

ATTN: Mr. Henry Leung

Page: 1 of 2

Certificate of Calibration

Item for calibration:

Description	: Sonde Environmental Monitoring System
Manufacturer	: YSI
Model No.	: 6820-C-M
Serial No.	: 02D0293AA
Equipment No.	: W.03.02
Project No.	: C013

Test conditions:

Room Temperature	: 24 degree Celsius
Relative Humidity	: 66%

Test Specifications:

Conductivity & Salinity Sensor, Model: 6560, S/N: 02C0886

1. Conductivity performance check with Potassium Chloride standard solution
2. Salinity performance check with Sodium Chloride standard solution

Dissolved Oxygen Sensor, Model: 6562, S/N: 0261137

1. Performance check against Winkler titration

Turbidity Sensor, Model: 6136, S/N: 05F2030AQ

1. Calibration check with Formazin standard solution

pH Meter, Model: 6561, S/N: 02A

1. Calibration check with standard pH buffer

Depth Meter

1. Calibration check at 1m water level depth

Methodologies:

1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual
2. In-house method with reference to APHA and ISO standards

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
Laboratory Manager

TEST REPORT

Test Report No.:	C/W/91031-2
Date of Issue:	2009-10-31
Date Received:	2009-10-30
Date Tested:	2009-10-30
Date Completed:	2009-10-31
Next Due Date:	2010-01-30

Page: 2 of 2

Results:

1. Conductivity performance check

Specific Conductivity, $\mu\text{S}/\text{cm}$		Correction, $\mu\text{S}/\text{cm}$	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	$D = C1 - C2$	
1420	1420	0	1420 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.1	30.0	0.1	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O ₂ /L		Correction, mg O ₂ /L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.0	9.0	0.0	± 0.2
Half-saturated	5.8	5.8	0.0	± 0.2
Zero	0.0	0.0	0.0	± 0.2

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	0.00 ± 0.05
100	100	0	100 ± 5

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH_j , pH unit	0.01	Less than 0.05
Shift on stirring ΔpH_s , pH unit	0.01	Less than 0.02
Noise ΔpH_n , pH unit	0.01	Less than 0.02

6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	1.00 ± 0.05

*****END OF REPORT*****

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/W/100129-2
Date of Issue:	2010-01-29
Date Received:	2010-01-28
Date Tested:	2010-01-28
Date Completed:	2010-01-29
Next Due Date:	2010-04-28

ATTN: Mr. Henry Leung

Page: 1 of 2

Certificate of Calibration

Item for calibration:

Description	: Sonde Environmental Monitoring System
Manufacturer	: YSI
Model No.	: 6820-C-M
Serial No.	: 02D0293AA
Equipment No.	: W.03.02
Project No.	: C013

Test conditions:

Room Temperature	: 23 degree Celsius
Relative Humidity	: 68%

Test Specifications:

Conductivity & Salinity Sensor, Model: 6560, S/N: 02C0886

1. Conductivity performance check with Potassium Chloride standard solution
2. Salinity performance check with Sodium Chloride standard solution

Dissolved Oxygen Sensor, Model: 6562, S/N: 0261137

1. Performance check against Winkler titration

Turbidity Sensor, Model: 6136, S/N: 05F2030AQ

1. Calibration check with Formazin standard solution

pH Meter, Model: 6561, S/N: 02A

1. Calibration check with standard pH buffer

Depth Meter

1. Calibration check at 1m water level depth

Methodologies:

1. YSI 6-Series Sonde Environmental Monitoring System Instruction Manual
2. In-house method with reference to APHA and ISO standards

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
Laboratory Manager

TEST REPORT

Test Report No.:	C/W/100129-2
Date of Issue:	2010-01-29
Date Received:	2010-01-28
Date Tested:	2010-01-28
Date Completed:	2010-01-29
Next Due Date:	2010-04-28

Page: 2 of 2

Results:

1. Conductivity performance check

Specific Conductivity, $\mu\text{S}/\text{cm}$		Correction, $\mu\text{S}/\text{cm}$	Acceptable range
Salinity Meter (C1)	Theoretical Value (C2)	$D = C1 - C2$	
1420	1420	0	1420 ± 20

2. Salinity Performance check

Salinity, ppt		Correction, ppt	Acceptable range
Instrument Reading	Theoretical Value		
30.1	30.0	0.1	30.0 ± 3

3. Dissolved Oxygen check

Oxygen level in water at 20°C	Dissolved Oxygen, mg O ₂ /L		Correction, mg O ₂ /L	Acceptable range
	D.O. Meter	Winkler Titration		
Saturated	9.0	9.0	0.0	± 0.2
Half-saturated	5.8	5.8	0.0	± 0.2
Zero	0.0	0.0	0.0	± 0.2

4. Turbidity check

Turbidity value in solution, NTU	Calibration Value, NTU	Correction, NTU	Acceptable range
0.00	0.00	0.00	0.00 ± 0.05
100	100	0	100 ± 5

5. pH Meter check

Test Parameters	Performance characteristic	Acceptable range
Liquid junction error ΔpH_l , pH unit	0.01	Less than 0.05
Shift on stirring ΔpH_s , pH unit	0.01	Less than 0.02
Noise ΔpH_n , pH unit	0.01	Less than 0.02

6. Depth Meter check

Instrument Reading, m	Calibration Value, m	Correction, m	Acceptable range
1.0	1.00	0.00	1.00 ± 0.05

*****END OF REPORT*****

**APPENDIX B
TENTATIVE BASELINE MONITORING
SCHEDULE**

**Contract No. YL/2009/01 Hang Hau Tsuen Channel at Lau Fau Shan
Tentative Baseline Air Quality and Noise Monitoring Schedule for February 2010**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb
		1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise
7-Feb	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb
1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise
14-Feb	15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb
1-hr TSP 24 hrs TSP Noise	1-hr TSP 24 hrs TSP Noise					
21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb
28-Feb						

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

NA indicated favourable tide occurs during non-working hours

Air Quality Monitoring Station

A1a - Village house at No.88 Hang Hau Tsuen
A2 - Village house at No.29 Hang Hau Tsuen

Noise Monitoring Station

N2 - Village house at No.84 Hang Hau Tsuen
N3 - Village house at No.88 Hang Hau Tsuen

**Contract No. YL/2009/01 Jang Hau Tsuen Channel at Lau Fau Shan
Tentative Baseline Water Quality Monitoring Schedule for January 2010**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Jan	2-Jan
3-Jan	4-Jan	5-Jan	6-Jan	7-Jan	8-Jan	9-Jan
10-Jan	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan
17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan
		Mid-Flood 09:30 Mid-Ebb 15:00		Mid-Flood 10:30 Mid-Ebb 16:00		Mid-Flood 11:00 Mid-Ebb 17:30
24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan
		Mid-Flood 09:40 Mid-Ebb NA*		Mid-Flood 11:30 Mid-Ebb 16:00		Mid-Flood 08:00 Mid-Ebb 13:00
31-Jan						

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Remarks:

* NA indicated favourable tide occurs during unfavourable time period which may cause potential safety and security problem.

**Contract No. YL/2009/01 Hang Hau Tsuen Channel at Lau Fau Shan
Tentative Baseline Water Quality Monitoring Schedule for February 2010**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	6-Feb
	Mid-Flood 09:00 Mid-Ebb 14:30		Mid-Flood 10:00 Mid-Ebb 15:50		Mid-Flood 11:00 Mid-Ebb 17:00	
7-Feb	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	13-Feb
	Mid-Flood 09:19 Mid-Ebb NA		Mid-Ebb 11:00 Mid-Flood 15:45		Mid-Flood 08:00 Mid-Ebb 13:00	
14-Feb	15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb
21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb
28-Feb						

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Remarks:

* NA indicated favourable tide occurs during unfavourable time period which may cause potential safety and security problem.