東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED
8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

WO HING – PENTA-OCEAN JOINT VENTURE

CONTRACT NO. 9/WSD/08
LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN
MONTHLY EM&A REPORT NO.9
(JANUARY 2011)

Prepared by: _____
LAW, Sau Yee
Senior Environmental Officer

Checked by: _____
LAU, Chi Leung
Environmental Team Leader

Issued Date: 11 February 2011 *Report No.: ENA10130*

ENVIRON

Ref.: WSDWHCMSEI00_0_0130L.11 14th Feb 2011

Water Supplies Department By Post
Sha Tin Office
6/F Sha Tin Government Offices
1 Sheung Wo Che Road
Sha Tin, NT

Attention: Ms. Candy Wong

Dear Ms. Wong

Re: Contact No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains from West Kowloon to Sai Ying Pun
Monthly Environmental Monitoring and Audit Report No. 9

Reference is made to Environment Team's submission of the Environmental Monitoring and Audit Report No. 9 by Email on 11th Feb 2011 (entitled "9/WSD/08 - Draft Monthly Report (Jan 11)") and the subsequent revision of the report by Email on 14th Feb 2011.

We are pleased to inform you that we have no comment on the revised captioned report.

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.	Mott MacDonald Hong Kong Limited	Mr. Kelvin Ho	Fax: 2377 2900
	Wo Hing – Penta-Ocean Joint Venture	Mr. Danny Ho	Fax: 2572 4080
	ETS-TESTCONSULT LIMITED	Mr. C.L. Lau	Fax: 2695 3944

Q:\Projects\WSDWHCMSEI00\Corr\Out\WSDWHCMSEI00_0_0130L.11.doc

www.environcorp.com ENVIRON Hong Kong Ltd. 英環香港有限公司
Room 2310, China Resources Building, 26 Harbour Road, Wan Chai, Hong Kong T: 852.3743 0788 F: 852.3548 6988

TABLE OF CONTENTS

APPENDIX

Figures

Tables

EXECUTIVE SUMMARY

Under the requirements of "Environmental Monitoring & Audit Manual – Agreement No. CE42/2005(WS) Laying of Western Cross Harbour Main and Associated Land Main from West Kowloon to Sai Ying Pun" (the EM&A Manual), impact noise monitoring and water quality monitoring is required to be implemented for the "Contract No. 9/WSD/08 Laying of Western Cross Harbour Main and Associated Land Main from West Kowloon to Sai Ying Pun" (the Project).

This monthly Environmental Monitoring and Audit (EM&A) report No.9 was prepared by ETS-Testconsult Ltd (ET) for the Project. This report documented the findings of EM&A Works conducted during the Project in January 2011.

Site Activities

As informed by the Contractor, the site activities in this reporting month were as below:

- *Dredging of Type 1 marine sediment (between CH0 and CH1900 at Portion I);*
- *Placing of granular material for restoring over-dredging between CH1300 and CH1900, CH210, CH310 and CH320;*
- *Drilling of pipe piles (Portion J);*
- *Excavation inside the cofferdam (Portion J);*
- *Installation of the strutting system of the cofferdam (Portion J); and*
- *Outfitting of the launching barge (Portion H1 & H2).*

Environmental Monitoring Progress

The summary of the monitoring activities in this monitoring month is listed below:

- *Day-time Noise Monitoring (0700-1900 on normal weekday): 4 Occasions at KS6 and 4 Occasions at. CGa, RWM and KY3*
- *Evening-time Noise Monitoring (1900-2300): 0 Occasions at KS6, CGa, RWM and KY3*
- *Night-time Noise Monitoring (2300-0700 of next day): 0 Occasions at KS6, CGa, RWM and KY3*
- *Holiday-time Noise Monitoring (0700-1900 on Holiday): 2 Occasions at KS6, CGa, RWM and KY3*
- *Marine Water Quality Monitoring: 12 Occasions at 9 monitoring stations and 4 control stations*
- *Weekly-site inspection: 5 Occasions*

Noise Monitoring

No exceedance in Limit Level was recorded in this reporting month. Beside, no exceedances of Action Level of noise monitoring were recorded in this reporting month since no complaint on noise issue was received.

Water Quality Monitoring

No exceedances of Action and Limit levels were recorded for water quality monitoring in the reporting month.

Site Inspection

Environmental site inspections conducted in this reporting month are presented as follows:

Concerned Parties	*Dates of Audit / Inspection*
ET Weekly site inspection	*04, 11, 18, 26 and 31 January 2011*
Monthly Joint site inspection	*26 January 2011*

In general, performance on environmental mitigation measures implemented was found to be satisfactory in this reporting month. The major findings observed during site inspections are presented in the Section 6.0.

Environmental Complaints, Notification of summons and successful prosecutions

No complaints, notification of summons and prosecutions with respect to environmental issues were received in this reporting month.

Change in Environmental Aspect in this Reporting Month

No change on environmental aspect was reported in this reporting month.

Future Key Issues

Based on the forecast of engineering works in the coming month, key issues to be considered are as follows:

- *Noise and dust impact due to construction works;*
- *Use and maintain silt curtain and silt screen properly;*
- *Clean up the fill material along the barge frequently;*
- *Implement all necessary preventive measures to avoid oil leakage. In the event an oil leakage happens, the Contractor should properly remove the leaked oil and handle the contaminated soil and all materials using for this cleaning works as chemical waste; and*
- *Maintain good site practice to minimize environmental impacts at the site.*

1.0 INTRODUCTION

Wo Hing – Penta-Ocean Joint Venture (WHPOJV) appointed Environmental Team of ETS-Testconsult Limited (ETL) to undertake the Environmental Imapct Monitoring for "Contract No. 9/WSD/08 Laying of Western Cross Harbour Main and Associated Land Main from West Kowloon to Sai Ying Pun" (the Project) under the requirements of "Environmental Monitoring & Audit Manual – Agreement No. CE42/2005(WS) Laying of Western Cross Harbour Main and Associated Land Main from West Kowloon to Sai Ying Pun" (the EM&A Manual).

This report documented the findings of EM&A Works conducted in January 2011.

2.0 PROJECT INFORMATION

2.1 Scope of the Project

The construction works of the Project are located in West Kowloon, across the Victoria Harbour and in Sai Ying Pun.

The construction works under this Project are briefly described, without limitation, as follow:

- Laying of about 1.5km of 1200mm diameter steel fresh water mains at West Kowloon;
- Laying of about 2.1km of 1200mm diameter steel submarine pipeline from West Kowloon to Sai Ying Pun including dredging, cathodic protection system and other associated works;
- Laying of about 0.4km of 1200mm diameter steel fresh water main at Sai Ying Pun;
- Laying of about 0.5km of 800mm diameter steel salt water main at West Kowloon;
- Construction of motorized butterfly valve (MBV) and the associated facilities in the vincinty of Sun Yat Sen Memorial Park at Sai Ying Pun;
- Construction of all chambers associated with pipeworks;
- Making service connections;
- Ancillary works including but not limited to reinstatement of roads, landscaping works.

Areas of the Project present in Appendix H. Locations of environmental monitoring stations and sensitive receivers are shown in Figures 1, 2, 3, 1.2a, 1.2b and 1.2c

2.2 Work Programme

Details of work programme are shown in Appendix E.

2.3 Project Organization and Management Structure

The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in Appendix A.

2.4 Contact Details of Key Personnel

The key personnel contact names and telephone numbers are shown in Table 2.1.

Table 2.1 Contact Details of Key Personnel

Project Role	*Organization*	*Name of Key Staff*	*Tel. No.*	*Fax No.*
Engineer's Representative	*Mott MacDonald*	*Mr. Kelvin HO*	*2377 2823*	*2377 2900*
IEC	*Environ*	*Mr David Yeung*	*3743 0788*	*3548 6988*
Contractor's Agent	*WHPOJV*	*Mr. Danny HO*	*2695 8318*	*2957 8213*
ET Leader	*ET (ETL)*	*Mr C. L. Lau*	*2946 7791*	*2695 3944*

3.0 WORK PROGRESS IN THIS REPORTING MONTH

As informed by the Contractor, the activities in the reporting month include:

- *Dredging of Type 1 marine sediment (between CH0 and CH1900 at Portion I);*
- *Placing of granular material for restoring over-dredging between CH1300 and CH1900, CH210, CH310 and CH320;*
- *Drilling of pipe piles (Portion J);*
- *Excavation inside the cofferdam (Portion J);*
- *Installation of the strutting system of the cofferdam (Portion J); and*
- *Outfitting of the launching barge (Portion H1 & H2).*

Appendix J shows the details of works daily dredging of this reporting month.

4.0 IMPACT NOISE MONITORING

4.1 Monitoring Requirements

As the requirement in the EM&A Manual, impact noise monitoring was conducted for a weekly basis at designated monitoring locations.

4.2 Monitoring Equipment

Integrating Sound Level Meters used for impact noise monitoring were Type 1 sound level meters capable of giving a continuous readout of the noise level reading including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (Lx). They complied with International Electro technical Commission Publications 651:1979 (Type1) and speed in m/s was used to monitor the wind speed. Table 4.1 summarized the noise monitoring equipment model used during the impact monitoring. Copies of calibration certificates and Calibration Summary for noise meters and calibrators used are attached in Appendix B1.

Table 4.1 Noise Monitoring Equipment

Equipment	*Model*	*Equipment No.*	*Serial No.*	*Calibration Date.*	*Expired Date*
Sound Level Meter	*Rion NL-31 Sound Level Meter*	*ET/EN/003/13*	*00593620*	*14/09/10*	*13/09/11*
		ET/EN/003/10	*00531142*	*09/06/10*	*08/06/11*
Sound Level Calibrator	*Castle GA607*	*ET/EN/002/07*	*038641*	*22/04/10*	*21/04/11*
Anemometer	*AZ Instrument AZ 8908*	*EN/001/04*	*9101231*	*10/11/10*	*09/11/11*

4.3 Monitoring Parameters, Duration and Frequency

Impact noise monitoring for the A-weighted levels L_{eq}, L_{10} and L_{90} were recorded once per week. Data obtained from impact noise monitoring was processed and presented as below:

- *Daytime: three sets of 30-minute noise level monitored between 0700-1900 hrs on normal weekdays;*
- *Evening-time*: three sets of 5-minute noise level monitored between 1900-2300 hrs ;*
- *Night-time*: three sets of 5-minute noise level monitored between 2300-0700 hrs of next day; and*
- *Holiday*: three sets of 5-minute noise level monitored between 0700-1900 hrs on holiday.*

(*): Noise monitoring to be conducted only when there is construction work.

Duration, frequencies and parameters of noise measurement are presented in Table 4.2.

Table 4.2 Duration, Frequencies and Parameters of Noise Monitoring

Time period	*Duration/min*	*No. of Set(s)*	*Parameters*
Day-time: 0700-1900 hrs on normal weekday	*30*	*1*	L_{eq}, L_{10}, L_{90}
Evening-time: 1900-2300 hrs	*5*	*3*	L_{eq}, L_{10}, L_{90}
Night-time: 2300-0700 hrs of next day	*5*	*3*	L_{eq}, L_{10}, L_{90}
Holiday-time: 0700-1900 hrs on holiday	*5*	*3*	L_{eq}, L_{10}, L_{90}

4.4 Monitoring Locations

In accordance with the EM&A Manual, the proposed noise monitoring station at the Harbourside (KS4) was cancelled since the owner of the Harbourside and nearby NSRs rejected to perform baseline and impact noise monitoring at their property. As a result, there was one noise monitoring location KS6 (The Cullinan) selected at West Kowloon to conduct impact environmental monitoring.

At Sai Yung Pun, the location at the noise station CG (Connaught Garden) was unavailable for impact noise measurement because the building repairing and maintenance works was carrying out in the Connaught Garden and will be finished in May 2011. Hence, noise monitoring at noise station CG was moved to another noise station CGa (pavement in front of Connaught Garden) temporally until the completion of repairing and maintenance works at Connaught Garden) since CGa locates close to the major site activities which are likely to have noise impacts and low disturbance to the occupants was observed during the noise monitoring. As a result, there were three noise monitoring locations, CGa (Pavement in front of Connaught Garden), RWM (Roof at Richwealth Mansion) and KY3 (Roof at Kwan Yik Building Phase 3) selected to conduct impact environmental monitoring.

Beside, the locations at the noise stations, RWM (Roof at Richwealth Mansion) and KY3 (Roof at Kwan Yik Building Phase 3), were unavailable for impact evening-time and night-time noise measurement because the building owners reject ET to carry out noise monitoring during such two periods due to security. Hence, evening-time and night-time noise monitoring at noise stations, RWM and KY3 were moved to pavement in front of Richwealth Mansion and Kwan Yik Building Phase 3 The details of noise monitoring stations are summarized in Table 4.3.

Table 4.3 Noise Monitoring Stations

Daytime and Holiday-time Noise monitoring station	*Description of location*	*Type of Measurement*
KS6	*Podium at the Culliman*	*Façade*
CGa	*Pavement in front of Connaught Garden*	*Façade*
RWM	*Roof at Richwealth Mansion*	*Free Field*
KY3	*Roof at Kwan Yik Building Phase 3*	*Free Field*
Evening-time and Night-time Noise monitoring station	*Description of location*	*Type of Measurement*
KS6	*Podium at the Culliman*	*Façade*
CGa	*Pavement in front of Connaught Garden*	*Façade*
RWM	*Pavement at Richwealth Mansion*	*Façade*
KY3	*Pavement at Kwan Yik Building Phase 3*	*Façade*

4.5 Monitoring Methodology

Instrumentation

Integrating Sound Level Meters were employed for noise monitoring.

Operation/Analysis Procedures

- Sound Level Meter was set on a tripod at a height of 1.2m above the ground;
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- The battery condition was checked to ensure the correct functioning of the meter:
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - Frequency weighting : A
  - Time weighting : Fast
  - Time measurement : 30 mins
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000HZ. If the difference in the calibration level before and after measurement was more than 1.0 dB(A), the measurement would be considered invalid and repeat measurement would be required after re-calibration or repair of the equipment;
- During the monitoring period, the L_{eq}, L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet;
- 3dB(A) correction had been added to the results if noise measurements were free-field;
- Noise measurement may be paused during periods of high intrusive noise (e.g. dog baking directly towards the receiver of noise level meter). If noise measurement was paused during high intrusive noise, the noise level meter would be resumed and continued the noise measurement and the observations would also be recorded. Any pause intervals were not included in the measurement time; and

- Noise monitoring would be cancelled in the presence of fog, rain, storm, wind with a steady speed exceeding 5m/s, or wind gusts exceeding 10m/s.

Maintenance and Calibration

- The microphone head of the sound level meter and calibrator are cleaned with soft cloth at quarterly intervals; and
- The meters are sent to supplier or HOKLAS laboratory to check and calibrated at yearly intervals.

4.6 Actions and Limit Levels

The Action and Limit Levels (AL Levels) were established in accordance to the Table 4.2 of the EM&A Manual. Table 4.4 presents the AL levels for noise monitoring.

Table 4.4 Action and Limit Levels for Noise Monitoring

Time Period	*Action*	*Limit*
0700 –1900 hrs on normal weekday (Day-time)	*When one documented complaint is received*	*75 dB(A) **
1900-2300 hrs (Evening-time)		*70 dB(A)*
0700-1900 hrs on Holiday (Holiday-time)		*70 dB(A)*
Restricted hours (2300-0700 hrs of next day) (Night-time)		*55 dB(A)*

* reduce to 70dB(A) for school and 65dB(A) during school examination periods

4.7 Event-Action Plans

Should the results of the monitoring parameters at any designated monitoring stations indicate that the noise level criteria are exceeded, the actions in accordance with the Event and Action Plan that summarized in Appendix D should be carried out.

4.8 Results

Totally 4 occasions at KS6 and 4 occasions at CGa, RWM and KY3 of day-time noise monitoring, 0 occasions of evening-time noise monitoring, 0 occasion of night-time noise monitoring and 2 occasions of holiday-time noise monitoring at all four noise monitoring stations (KS6, CGa, RWM and KY3) were carried out in this reporting month.

No exceedances of Action Level of noise monitoring were recorded in this reporting month since no complaint on noise issue was received.

No exceedance in Limit Level was recorded in reporting month.

Table 4.5 summaries the noise daytime monitoring results in the reporting period.

Table 4.5 Summary of Noise Daytime Monitoring Results

Monitoring Parameter	Date	KS6		
		Time	Result	Exceed*
Daytime	07/01/11	17:00	64.8	X
	14/01/11	17:30	65.5	X
	21/01/11	16:35	65.2	X
	28/01/11	17:25	64.0	X
Holiday-time	01/01/11	09:05	59.6	X
	01/01/11	09:10	59.6	X
	01/01/11	09:15	59.2	X
	23/01/11	11:05	62.0	X
	23/01/11	11:10	62.3	X
	23/01/11	11:15	61.2	X
Monitoring Parameter	Date	CGa		
		Time	Result	Exceed*
Daytime	05/01/11	09:45	74.1	X
	12/01/11	15:20	74.1	X
	19/01/11	10:25	74.9	X
	24/01/11	14:20	72.1	X
Holiday-time	01/01/11	10:00	68.2	X
	01/01/11	10:05	68.6	X
	01/01/11	10:10	68.3	X
	23/01/11	13:30	69.5	X
	23/01/11	13:35	70.0	X
	23/01/11	13:40	70.0	X
Monitoring Parameter	Date	RWM		
		Time	Result	Exceed*
Daytime	05/01/11	10:20	63.5	X
	12/01/11	15:55	63.4	X
	19/01/11	11:00	63.4	X
	24/01/11	14:55	63.5	X
Holiday-time	01/01/11	10:20	60.7	X
	01/01/11	10:25	61.0	X
	01/01/11	10:30	60.4	X
	23/01/11	13:10	64.1	X
	23/01/11	13:15	63.8	X
	23/01/11	13:20	63.2	X
Monitoring Parameter	Date	KY3		
		Time	Result	Exceed*
Daytime	05/01/11	10:55	62.9	X
	12/01/11	16:30	61.5	X
	19/01/11	11:35	61.9	X
	24/01/11	15:30	59.6	X
Holiday-time	01/01/11	10:40	61.2	X
	01/01/11	10:45	60.9	X
	01/01/11	10:50	60.7	X
	23/01/11	11:50	62.8	X
	23/01/11	11:55	62.2	X
	23/01/11	12:00	61.8	X

Remark (*): L = Limit Level exceedance, A = Action Level exceedance and X = not an Exceedance
(^): Since daytime and holiday-time noise measurements at monitoring stations RWM and KY3 were free-field, 3dB(A) correction had been added to the results.

The summary of noise exceedances is shown in Table 4.6.

Table 4.6 Summary of Impact Noise Exceedances in this reporting month

Exceedance Level	Daytime	Evening-time	Night-time	Holiday-time
Action	0	0	0	0
Cumulative	0	0	0	0
Limit	0	0	0	0
Cumulative	0	0	119	0

5.0 WATER QUALITY MONITORING

5.1 Monitoring Requirements

In accordance with the EM&A Manual, impact water quality monitoring was conducted three days per week during the course of the marine construction works.

5.2 Monitoring Locations

In accordance with the EM&A Manual, the proposed water quality monitoring station R8 – Macau Ferry Terminal was cancelled since it is located inside the restricted area. Another monitoring location R8a was proposed to replace R8 for impact water quality monitoring. As a result, totally four control stations and nine impaction stations were selected to conduct impact water quality monitoring for the Project. Table 5.1 shows the water quality monitoring stations of the Project.

Table 5.1 Water Quality Monitoring Stations

ID	*Station*	*Easting*	*Northing*
R5	*Green Island*	*830 175.979*	*816 179.217*
R6	*Prince Philip Dental Hospital*	*833 437.625*	*816 747.640*
R7	*Tsan Yuk Hospital*	*833 461.092*	*816 744.773*
R8a	*Macau Ferry Terminal*	*833 573*	*816 885*
*R15 **	*Kowloon South Pumping Station*	*833 982.630*	*818 282.101*
R16	*Kowloon Government Offices Building*	*834 335.800*	*817 769.145*
R17	*Canton Road Government Offices Building*	*834 364.658*	*817 802.847*
R28	*WSD Kennedy Town Salt Water Pumping Station*	*830 707*	*815 983*
R29	*WSD Sheung Wan Salt Water Pumping Station*	*833 414*	*816 745*
C1	*Control Station*	*830 797.729*	*819 163.377*
C2	*Control Station*	*836 350.628*	*817 135.218*
C3	*Control Station*	*829 495.126*	*817 228.312*
C4	*Control Station*	*836 638.773*	*816 686.030*

Remark (*): Station R15 = WSD Seawater Intake

Control stations, C2 and C4, should be the upstream control station for all impact monitoring stations at mid-flood and Control Stations, C1 and C3, should be the upstream control station for all monitoring stations at mid-ebb.

5.3 Monitoring Parameters

Monitoring parameters listed in Table 5.2 shall be monitored by the ET to ensure that any deteriorating water quality could be readily detected and timely action be taken to rectify the situation. Table 5.3 shows the other relevant water quality data recorded during the impact water quality monitoring.

Table 5.2 Water Quality Monitoring Parameters

In-situ measurement	*Laboratory analysis*
Dissolved Oxygen (DO) (mg/L)	*Suspended solids (SS) (mg/L)*
Turbidity (NTU)	

Table 5.3 Other relevant water quality parameters

Water Quality Parameters	
Tidal stages	*Water depth (m)*
Dissolved Oxygen saturation (%)	*Salinity (ppt)*
Temperature (°C)	*Weather Condition*

5.4 Monitoring Frequency

The frequency of impact water quality monitoring of water quality is summarized in Table 5.4.

Table 5.4 Monitoring Frequency of Impact Water Quality Monitoring

Frequency	*Monitoring Depth*
3 days/week, 2 tides/day	*For water depth greater than 6m: Three water depths (1m below Surface, mid-depth and 1m above bottom). For water depth less than 6m but greater than 3m: Two water depths: (1m below Surface and 1m above bottom). For water depth less than 3m: One water depth (Mid-depth)*

5.5 Monitoring Methodology and Equipment Used

Refer to the requirement in Appendix D2 "General Technical Requirements of Environmental Monitoring" (TM) in the Environmental Monitoring and Audit Guidelines for Development Projects in Hong Kong published by EPD, water samples for all monitoring parameter were collected, stored, preserved and analysed according to the Standard Method APHA 19ed.. In-situ measurements at monitoring locations including DO, turbidity, salinity and water depth were collected by equipment with the characteristic and functions listed as below:

Location of the monitoring stations

A hand-held digital Global Positioning System (GPS) was used to identify the designated monitoring stations prior to water sampling.

Water Depth measurement

A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station.

In-situ Water Quality Monitoring Equipment

All in-situ monitoring instruments shall be checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals or sometimes longer throughout all stages of the water quality monitoring. Responses of sensors and electrodes should be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.

Dissolved Oxygen, salinity and temperature measuring equipment

A portable, weatherproof dissolved oxygen & salinity measuring instrument, which complete with cable, sensor and DC power source (e.g. YSI 85 or equivalent) was used for measuring:

- a dissolved oxygen level in the range of 0-20 mg/L and 0-200 % saturation;
- a salinity in range 0-40 ppt; and
- a temperature of 0-45 degree Celsius

A membrane electrode with automatic temperature compensation complete with a cable was installed.

Turbidity Measurement Instrument

A portable, weatherproof turbidity-measuring instrument with DC power source was used. It has a photoelectric sensor capable of measuring turbidity between 0-1000 NTU and be complete with a cable (e.g. HACH model 2100P or equivalent)

Water Sampling and Sample Analysis

In-situ monitoring was carried out at three depths: 1 meter below water surface, at mid-depth and 1 meter above the seabed. If the water depth is less than 6 m, the mid-depth station shall be omitted and if the water depth is below 3 m, only the mid depth station shall be monitored.

A water sampler comprising a transparent PVC cylinder, with a capacity of not less than 2 litres, was lowered into the water body at the predetermined depth. The opening ends of the sampler were then closed accordingly and water samples were collected.

The sample container, made by high-density polythene, was rinsed with a portion of the water sample. The water sample was then transferred to the container, labelled with a unique sample ID and sealed with a screw cap. The water samples were stored in a cool box maintained at 4°C. The water samples were then delivered to Environmental Laboratory of ETS-Testconsult Ltd (HOKLAS Registration No. 022) on the same day for analysis.

5.6 Details of site Equipment used for In-situ Measurement

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals or sometimes longer throughout all stages of the water quality monitoring. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring location.

Table 5.5 shows the equipment used for in-situ monitoring of water quality. The calibration certificates are attached in Appendix C1.

Table 5.5 Details of Monitoring Equipment (In-site measurement)

Parameter	*Model*	*Date of Calibration*	*Due Date*	*Equipment No.*	*Serial No.*
Coordinate of Monitoring stations	*Magellan GPS Navigator*	-----	-----	*ET/EW/005/03*	*211836B*
Dissolved Oxygen (Saturation), Temperature and Salinity	*YSI Dissolved Oxygen, Salinity & Temperature Meter, YSI 85*	*23/11/10*	*22/02/11*	*ET/EW/008/002**	*06C1998AD*
Turbidity	*HACH Model 2100P Turbid Meter*	*15/10/10* *15/01/11*	*14/01/11* *14/04/11*	*ET/0505/007**	*08060C030281*
Water Depth	*Speedtech Instrument SM-5A*	-----	-----	*ET/EW/002/04*	*56657*

Remark:(*) indicates the instrument should be calibrated on use.

5.7 Quality Assurance (QA) / Quality Control (QC) results and Determination Limits

At each measurement/sampling depth, two consecutive measurements of dissolved oxygen (DO), dissolved oxygen saturation (DOS), turbidity and salinity were taken. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. If the difference between the first and second measurement is greater than 25% the reading was discarded and the measurements were repeated.

At the laboratory analysis of water sample, test method of test parameter as required by the EM&A Manual, with the QA/QC results in accordance with the requirement of HOKLAS or international accredited scheme is shown in Table 5.6. For the QA/QC procedures, one QC sample, one duplicate sample and one sample spike of every batch of 20 samples were analysis. The QA/QC results are summarized in Appendix C4

Table 5.6 Summary of test method

Laboratory Analysis	*Testing Procedure*	*Method Detection Limit*
Total suspended solids	*In house method based on APHA 19th ed 2540D*	*1.0 mg/L*

5.8 Action and Limit Level

The water quality criteria, namely Action and Limit (A/L) levels are presented in the table below.

Table 5.7 Water Quality Action and Limit Levels

Parameter	Action Level	Limit Level
DO (mg/L) (Surface, Middle & Bottom)	Surface, Middle & Bottom WSD Seawater Intakes 2 mg/L (For R15) Other Impact Monitoring Stations 5.65 mg/L (For R5, R6, R7, R8a, R16, R17, R28 and R29)	Surface & Middle WSD Seawater Intakes 2 mg/L (For R15) Other Impact Monitoring Stations 5.51 mg/L (For R5, R6, R7, R8a, R16, R17, R28 and R29) Bottom 5.11 mg/L (For R15, R5, R6, R7, R8a, R16, R17, R28 and R29)
SS (mg/L) (Depth-averaged)	WSD Seawater Intakes 10 mg/L (For R15) Other Impact Monitoring Stations 12.7 mg/L (For R5, R6, R7, R8a, R16, R17, R28 and R29)	WSD Seawater Intakes 10 mg/L (For R15) Other Impact Monitoring Stations 12.7 mg/L (For R5, R6, R7, R8a, R16, R17, R28 and R29)
Turbidity (NTU) (Depth-averaged)	WSD Seawater Intakes 10 NTU Other Impact Monitoring Stations 6.48 NTU (For R5, R6, R7, R8a, R16, R17, R28 and R29)	WSD Seawater Intakes 10 NTU Other Impact Monitoring Stations 6.82 NTU (For R5, R6, R7, R8a, R16, R17, R28 and R29)

Notes: 1. "depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
3. For turbidity and SS, non-compliance of water quality limits occurs when monitoring result is higher than the limits.
4. All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.

5.9 Event and Action Plan

Please refer to the Appendix D for details.

5.10 Monitoring Duration and Period In this reporting month

Daily water quality monitoring duration are detailed in Appendix C2. Below is the time schedule for the water quality monitoring conducted in this reporting month:

Table 5.8 Schedule for Impact Water Quality Monitoring

January 2011						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 Holiday
2	3	4 ▼	5	6 ▼	7	8 ▼
9	10	11 ▼	12	13 ▼	14	15 ▼
16	17	18 ▼	19	20 ▼	21	22 ▼
23	24	25 ▼	26	27 ▼	28	29 ▼
30	31					

Remarks: (▼) = Marine water quality monitoring carried out by ET.

5.11 Results

The impact water quality measurement results are detailed in Appendix C2. Appendix C3 presents the water quality monitoring data and graphical presentations of monitoring results respectively.The summary of marine water quality exceedances is shown in Table 5.9.

Table 5.9 Summary of Impact Marine Water Quality Exceedances in this reporting month

Exceedance Level	DO		Turbidity		SS		Cumulative	
	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb
Action	0	0	0	0	0	0	0	0
Limit	0	0	0	0	0	0	0	0

According to the summary of marine water monitoring results, no exceedances of Action and Limit levels were recorded for this reporting month.

6.0 ENVIRONMENTAL SITE INSPECTION

During this reporting month, weekly site inspections were undertaken on 04, 11, 18, 26 and 31 January 2011 by ET. Monthly joint site inspection at 26 January 2011 was carried out by Engineer's Representative, IEC, WHPOJV and ET. A summary of implementation status of mitigation measures on site inspections is presented in Appendix G.

6.1 Summary of the ET weekly site inspection findings

According to the summary of the ET weekly site inspections carried out in January 2011, it indicated that site practices of the Contractor were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was satisfactory. Summary of the site inspection findings in this reporting month is shown in Table 6.1.

Table 6.1 Summary of Site Inspection Findings

Item	Aspect	Finding	Action(s) taken by the Contractor	ET Verification	Status of the finding
1	Water	Silt screen at the sea water intake at Kowloon South Salt Water Pumping Station was found broken during the weekly site inspection on 26/01/11. (Photo 110126_001)	▪ Repairing work of silt screen was carried out on 29/01/11 (Photo Ref.01, 02 and 03 of the Contractor Follow-up Action – 26/01/11)	The silt screen was found repaired during the subsequent weekly site inspection on 31/01/11 (Photo 110131_002)	Closed
2	Chemical	A 200L oil drum at Portion J was noted without drip tray and chemical label during the weekly site inspection on 26/01/11 (Photo 110126_003)	▪ The 200L oil drum has been removed off site (Photo Ref.05 of the Contractor Follow-up Action – 26/01/11)	No oil drum was noted during the subsequent weekly site inspection on 31/01/11 (Photo 110131_001)	Closed
3	Chemical	Impermeable sheet should be provided for a water pump at Portion J in order to avoid oil leakage to the environment although no oil leakage was noted during the weekly site inspection on 26/01/11 (Photo 10126_002)	▪ Provision of a drip trap to the water pump at Portion J (Photo Ref.01, 02 and 04 of the Contractor Follow-up Action – 26/01/11)	The water pump was found removed during the subsequent weekly site inspection on 31/01/11 (Photo 110131_001)	Closed

6.2 Recommendations on site inspection findings in Site Inspections of this month

Based on the site inspection findings, the recommendations are as below:

- *Minimize noise and dust impact due to construction works;*
- *Use and maintain silt curtain and silt screen properly;*
- *Adequate environmental control measures shall be provided to prevent / avoid dropping of dredged materials into the sea during the transfer;*
- *Implement all necessary preventive measures to avoid oil leakage. In the event an oil leakage happens, the Contractor should properly remove the leaked oil and handle the contaminated soil and all materials using for this cleaning works as chemical waste; and*
- *Checking and maintaining all the site machines to prevent black smoke emission;*

- *Providing briefing to the concerned site staff on remedial actions, such as handling method of chemicals and chemical waste;*
- *Remove all stagnant water;*
- *Apply proper treatment facilities to wastewater before discharge; and*
- *Maintain good waste management at the site.*

7.0 STATUS OF ENVIRONMENTAL PERMITS

Permits/licenses valid in this reporting month are summarized in Table 7.1.

Table 7.1 Summary of Environmental Licensing and Permit valid in this reporting month

Description	*Permit No.*	*Valid Period*		*Remarks*
		From	*To*	
Environmental Permit	*EP-273/2007*	*31/07/07*	*End of Project*	*Whole Project*
Water Discharge Licence (West Kowloon)	*WT00005347 -2009*	*07/01/10*	*31/01/15*	*Effluent and all other wastewater arising from the construction site through Screen & Sedimentation Tank*
Water Discharge Licence (Sai Yung Pun)	*WT00005800 -2010*	*14/01/10*	*31/01/15*	*Effluent arising from the construction site through Sedimentation Tank*
Chemical Waste Producer	*5213-217-W3086-01*	*13/10/09*	*End of Project*	*Spent oil, surplus flammable liquid, surplus paint, soil, rags & containers contaminated with lubricating oil, diesel, flammable liquid & paint, & used batteries*
Construction Noise Permit (West Kowloon)	*GW-RE0502-10*	*21/10/10*	*20/04/11*	*One Dredger, grab (CNP 063) Two Guard boat One Tug boat (CNP 221) One Generator, standard (CNP 101)*
Construction Noise Permit (West Kowloon)	*GW-RE0730-10*	*04/01/11*	*03/04/11*	*One Dredger, grab (CNP 063) One Derrick barge (CNP 061) Two Guard boat One Tug boat (CNP 221) One Generator, standard (CNP 101)*
Construction Noise Permit (Sai Ying Pun)	*GW-RS0756-10*	*12/09/10*	*11/03/11*	*One dredger, grab (CNP 063) Two Guard boat One Tug boat (CNP 221) Hopper barge*
Construction Noise Permit (Sai Ying Pun)	*GW-RS1143-10*	*23/12/10*	*19/06/11*	*One Crane, mobile(diesel) (CNP 048) One Air compressor with Noise Emission Label showing a sound power level of ≤98dB(A) One Generator, silenced, 71dB(A) at 7m*
Construction Noise Permit (Sai Ying Pun)	*GW-RS0053-11*	*14/01/11*	*03/04/11*	*One Derrick barge (CNP 061) Two Guard boat One Tug boat (CNP 221)*
Dumping Licence	*EP/MD/11-069*	*01/10/10*	*31/03/11*	*Bulk quantity of material approved for dumping at the South Cheung Chau Spoil Disposal Area denoted "LWCHMALM" within permit validity period: 130000 cu.m. (for Type 1 – Open Sea Disposal)*
Notification under APCO	*Application had been submitted to EPD on 25/09/09 and approved from 29/09/09.*			

8.0 WASTE MANAGEMENT

8.1 Monthly Waste Summary

The quantities of waste generated from the Project in this month are summarized in Table 8.1.

Table 8.1 Summary of Quantities of Waste for Disposal in this reporting month

Type of Waste		Quantity	Disposal Location	Cumulative Quantity
Inert C&D Materials	Total Quantity Generated (in m^3)	1821.24		9432.9
	Broken Concrete (in m^3)	0	---	0
	Reused in the Contract (in m^3)	0	---	0
	Reused in other Projects (in m^3)	0	---	0
	Disposal as Public Fill (in m^3)	1821.24	SENT Landfill	9432.9
C&D Waste	Metals (in kg)	0	---	0
	Paper/Cardboard Packaging (in kg)	13	Collected by recycling company	91
	Plastics (in kg)	0	---	0
	Chemical Waste (in kg)	0	---	0
	Other, e.g. General Refuse (in m^3)	3.89	SENT Landfill	59.00
Dredged Materials*	Type 1 (in m^3)	3500	East Ninepin Mud Disposal Ground	160500
	Type 2 (in m^3)	0	The East Sha Chau	104990

Remark (*): Daily Dredging Summary for this reporting month presents in Appendix J

8.2 Advice on the Solid and Liquid Waste Management Status

The Contractor should provide sufficient preventive measures during equipment maintenance works so as to avoid oil leakage on the ground. In the event of any oil leakage, the Contractor should clean up the polluted soil and handle all the materials used for this cleaning works as chemical waste.

Besides, pre-cast drip trays were provided for oil drums at several areas, such as barge and chemical storage area. The Contractor should collect and dispose of any stagnant water accumulated in the drip trays and handle them as chemical waste.

The Contractor should use suitable containers with proper labels to store chemical wastes in accordance with Code of Practice on the Packaging, Labeling and Storage of Chemical Waste. The Contractor should also advise their workers of the proper procedures in handling the chemical waste.

All the trip tickets for chemical waste disposal were properly kept in the site office. No chemical waste disposal was undertaken in the reporting month.

The Contractor was reminded to increase the frequency of inspection and cleaning of the site drainage system, including desilting facilities. Moreover, the Contractor should apply approved pesticides in the stagnant water.

9.0 ENVIRONMENTAL NON-CONFORMANCE

9.1 Summary of Noise and Water Quality

No exceedances of Action and Limit Level of marine water quality monitoring results were recorded during the reporting month.

No exceedances of Action and Limit Level of noise monitoring were recorded in this reporting month

9.2 Summary of Environmental Complaints

There was no complaint received in this reporting month.

9.3 Summary of Notification of Summons and Prosecution

There was no notification of summons respect to environmental issues registered in this reporting month.

10.0 IMPLEMENTATION STATUS

10.1 Implementation Status of Environmental Mitigation Measures

An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix G. Most of the necessary mitigation measures were implemented properly. Any deficiencies were noted in the remarks of the schedule.

10.2 Implementation Status of Event and Action Plan

Since no exceedances of Action and Limit Level of noise and water quality monitoring were recorded during the reporting month, no further action was required.

10.3 Implementation Status of Environmental Complaint, Notifications of Summons and Successful Prosecutions Handling

No complaints, notifications of summons and successful prosecutions were received in this reporting month. A summary of environmental complaints, notifications of summons and successful prosecutions was given in Table 10.1.

Table 10.1 Summary of Environmental Complaints and Prosecutions

Complaints logged		*Summons served*		*Successful prosecution received*	
January 2011	*Cumulative*	*January 2011*	*Cumulative*	*January 2011*	*Cumulative*
0	*0*	*0*	*0*	*0*	*0*

11.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Impact monitoring of noise and water quality were carried out at designated locations in accordance with the EM&A Manual in this reporting month.

No exceedances of Action and Limit Level of water quality monitoring results were recorded during the reporting month.

No exceedances of Action and Limit Level of noise monitoring were recorded in this reporting month.

According to the ET weekly site inspections carried out in this reporting month, the Contractor generally implemented sufficient environmental mitigation measures.

No complaints, prosecutions or notifications of summons were received in this reporting month.

Recommendations

According to the environmental site inspections performed in the reporting month, the following recommendations were provided:

Air Quality

- Ensure the frequency of water spraying on unloading areas and stockpiles to be sufficient to suppress the dust sources;
- Provide proper maintenance for the powered mechanical equipment and barges to avoid emission of dark smoke; and
- Implement the dust mitigation measures for the site activities.

Noise

- Conduct noisy activities at a farther location from the NSRs.

Water Quality
- Maintain the drainage system regularly;
- Operate and maintain the silt curtains and silt screen regularly;
- Operate the cleaning vessel regularly;
- Provide proper treatment for the wastewater discharge;
- Clean up the fill material on the barge frequently; and
- Remove the stagnant water or provide approved pesticides for the stagnant water, if any.

Chemical and Waste Management
- Remove waste materials from the site to avoid accumulation regularly;
- Handle and store chemical wastes properly;
- Remove unwanted material in the existing stockpiles and avoid further dumping of such material;
- Provide and maintain sufficient drip trays for diesel drums, chemical containers, chemical waste storage drums and diesel operated generator set;
- Maintain good housekeeping at the works area;
- Avoid soil being polluted during oil filling and equipment maintenance; hence, properly remove and store the contaminated soil, if any.

12.0 FUTURE KEY ISSUES

12.1 Work Programme for the Coming Month

As informed by the Contractor, the activities to be conducted by them in the next month included:
- *Pipe piles installation at Land and Seawall Portion (Portion H1);*
- *Excavation inside the cofferdam(Portion J);*
- *Installation of the strutting system for the cofferdam (Portion J);*
- *Trimming of high spot of Type 1 marine sediment between CH0 and CH1960 (Portion I); and*
- *Placing granular material as bedding layer to the over dredged area (Portion I).*

12.2 Key Issues for the Coming Month

Key issues to be considered in the coming month include:
- *Noise and dust impact due to construction works;*
- *Use and maintain silt curtain and silt screen properly;*
- *Adequate environmental control measures shall be provided to prevent / avoid dropping of dredged materials into the sea during the transfer;*
- *Implement all necessary preventive measures to avoid oil leakage. In the event an oil leakage happens, the Contractor should properly remove the leaked oil and handle the contaminated soil and all materials using for this cleaning works as chemical waste; and*
- *Maintain good site practice to minimize environmental impacts at the site.*

Mitigation measures to be required in the coming month:

Air Quality Impact
- To ensure implementation of the dust mitigation measures for the site activities;
- To provide proper maintenance for vehicles and machines on site; and
- To investigate any other dust sources around the air sensitive receivers

Noise
- To switch off equipment if not in use;
- To operate silent equipment;
- To identify the noise sources inside and outside of the site; and
- To re-schedule the work activities in the event of valid noise exceedance.

Water Quality Impact

- To maintain the drainage system;
- To repair, inspect and maintain the silt curtains and site screen regularly;
- To provide covers for the drip trays to avoid stagnant water due to rainfall;
- To provide proper treatment for wastewater from the area;
- To deploy a cleaning vessel to remove floating rubbish;
- To avoid dredged materials on the barge from being washed into the sea; and
- To avoid any stagnant water or provide insecticide to avoid mosquito breeding.

Chemical and Waste Management

- To remove waste from the site regularly;
- To properly store and handle chemical wastes on site;
- To implement trip ticket system for all the imported public fill and general refuse disposal;
- To provide and manage sufficiently sized drip trays for diesel drums or chemical containers;
- To maintain proper housekeeping;
- To remove the oil stains in the event of leakage and handle all materials using for this cleaning works as chemical waste; and
- To identify C&D material by packaging, labeling, storage, transportation and disposal in accordance with statutory regulations.

12.3 Monitoring Schedule for the Coming Month

The proposed EM&A program of the coming month is attached in Appendix I.

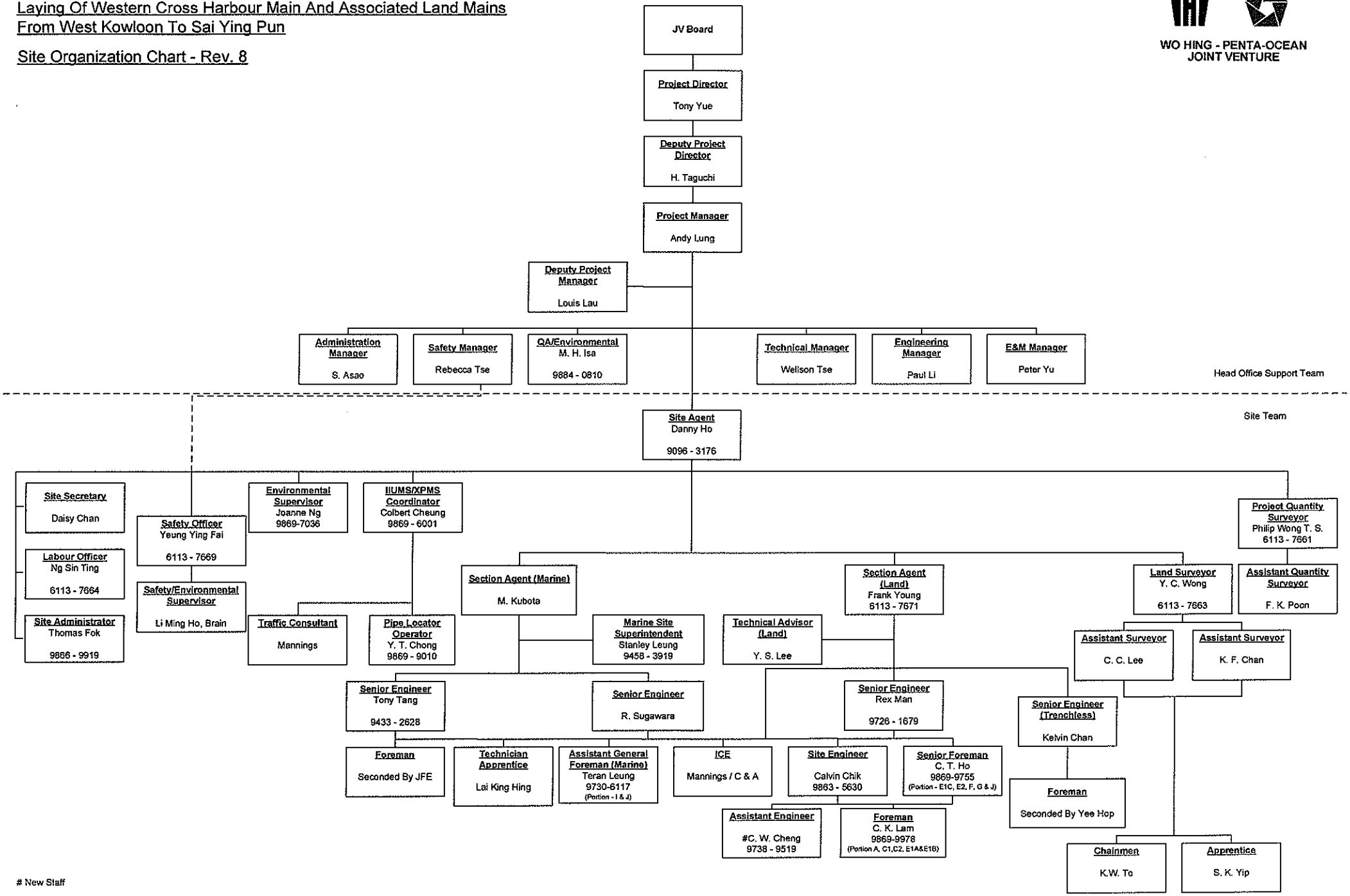
Appendix A

Organization Chart and Lines of Communication

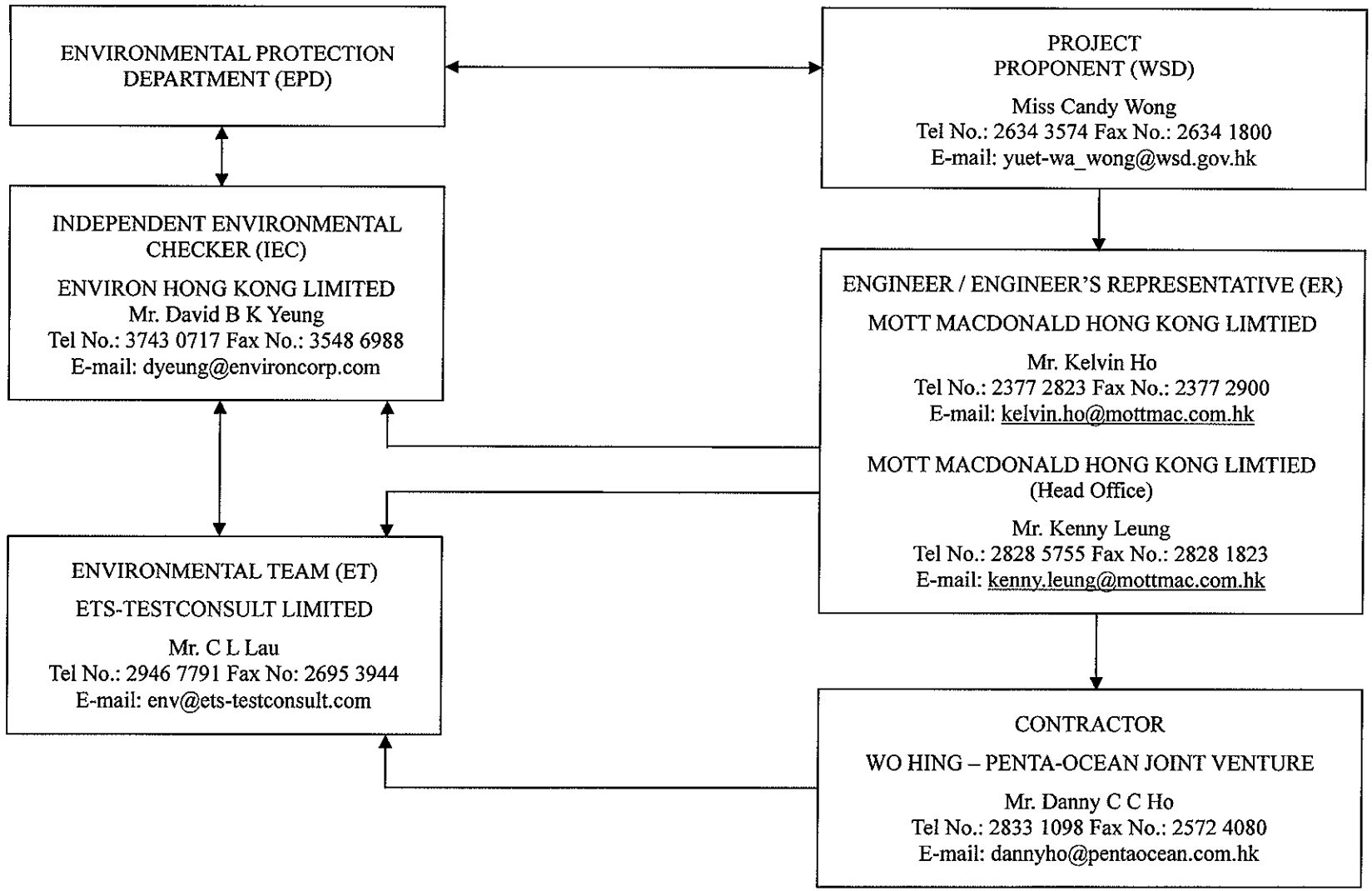
Contract No. 9/WSD/08
Laying Of Western Cross Harbour Main And Associated Land Mains From West Kowloon To Sai Ying Pun

Site Organization Chart - Rev. 8

WO HING - PENTA-OCEAN JOINT VENTURE



New Staff



Project	Laying of Western Cross Harbour Main and Associated Land Mains From West Kowloon to Sai Ying Pun - Investigation	Mott MacDonald
Title	Project Organization and Line of Communication	Figure 1.3a
Date Dec 2009		

Appendix B1

Calibration Certificates for Impact Noise Monitoring Equipment

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. **05083** Page 1 of 3 Pages

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q02020 **Date of receipt :** 8-Sep-10

Item Tested

Description : Precision Integrating Sound Level Meter (ET/EN/003/13)

Manufacturer : Rion

Model : NL-31 **Serial No. :** 00593620

Test Conditions

Date of Test : 14-Sep-10 **Supply Voltage :** --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : Z01.

Test Results

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

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S017A	Multi-Function Generator	00804	SCL-HKSAR
S024	Sound Level Calibrator	04062	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: 14-Sep-10

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

Calibration Certificate

Results :

1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Response		
20 – 100	L_A	Fast	94.0	93.7
		Slow		93.7
	L_C	Fast		93.7
	Lp	Fast		93.8
30 – 120	L_A	Fast	94.0	93.7
		Slow		93.7
	L_C	Fast		93.7
	Lp	Fast		93.7
30 – 120	L_A	Fast	114.0	113.5
		Slow		113.5
	L_C	Fast		113.5
	Lp	Fast		113.5

IEC 651 Type 1 Spec. : ± 0.7 dB
Uncertainty : ± 0.1 dB

2. Level Stability : 0.1 dB

IEC 651 Type 1 Spec. : ± 0.3 dB
Uncertainty : ± 0.1 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	113.9	+0.2	± 0.7 dB
130	104.0	103.9	+0.2	
120	94.0	93.7(Ref.)	- -	
110	84.0	83.6	-0.1	
100	74.0	73.7	0.0	
90	64.0	63.7	0.0	
80	54.0	53.7	0.0	

Uncertainty : ± 0.1 dB

Calibration Certificate

3.2 Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	83.6	-0.1	± 0.4 dB
	94.0	93.7 (Ref.)	- -	
	95.0	94.7	0.0	± 0.2 dB

Uncertainty : ± 0.1 dB

4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-40.2	- 39.4 dB, ± 1.5 dB
63 Hz	-26.8	- 26.2 dB, ± 1.5 dB
125 Hz	-16.7	- 16.1 dB, ± 1 dB
250 Hz	-9.2	- 8.6 dB, ± 1 dB
500 Hz	-3.6	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+1.5	+ 1.2 dB, ± 1 dB
4 kHz	+1.5	+ 1.0 dB ,± 1 dB
8 kHz	-0.6	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	-0.6	- 6.6 dB, + 3 dB ~- ∞

Uncertainty : ± 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	± 0.5 dB
$1/10^2$	40.0	40.1	
$1/10^3$	40.0	40.2	± 1.0 dB
$1/10^4$	40.0	40.2	

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 : 1 004 hPa.
4. The internal calibration reference of UUT was drifted from 94.0 dB to 94.5 dB

---------- END ----------

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 02909A

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q01152 **Date of receipt :** 31-May-10

Item Tested

Description : Precision Integrating Sound Level Meter (ET/ EN/ 003/ 10)

Manufacturer : Rion

Model : NL-31 **Serial No. :** 00531142

Test Conditions

Date of Test : 9-Jun-10 **Supply Voltage :** --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : Z01.

Test Results

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

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Due Date	Traceable to
S017	Multi-Function Generator	C101623	25-Mar-11	SCL-HKSAR
S024	Sound Level Calibrator	93758	16-Jul-10	NIM-PRC & SCL-HKSAR

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 : Dorothy Cheuk

Approved by : Alan Chu

Date: 15-Jun-10

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

Calibration Certificate

Results :

1. SPL Accuracy

UUT Setting			Applied Value (dB)	UUT Reading (dB)
Level Range (dB)	Weight	Response		
20 – 100	L_A	Fast	94.03	93.7
		Slow		93.7
	L_C	Fast		93.7
	Lp	Fast		93.7
30 – 120	L_A	Fast	94.03	93.7
		Slow		93.6
	L_C	Fast		93.7
	Lp	Fast		93.7
30 – 120	L_A	Fast	113.97	113.6
		Slow		113.6
	L_C	Fast		113.6
	Lp	Fast		113.6

IEC Type 1 Spec. : ± 0.7 dB
Uncertainty : ± 0.1 dB

2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB
Uncertainty : ± 0.1 dB

Calibration Certificate

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	113.9	+0.2	± 0.7 dB
130	104.0	103.9	+0.2	
120	94.0	93.7 (Ref.)	--	
110	84.0	84.1	+0.4	
100	74.0	73.7	0.0	
90	64.0	63.7	0.0	
80	54.0	53.7	0.0	

Uncertainty : ± 0.1 dB

3.2 Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	83.5	-0.2	± 0.4 dB
	94.0	93.7 (Ref.)	--	
	95.0	94.7	0.0	± 0.2 dB
	104.0	103.8	+0.1	± 0.3 dB
	105.0	104.8	0.0	± 1.0 dB

Uncertainty : ± 0.1 dB

4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-40.2	- 39.4 dB, ± 1.5 dB
63 Hz	-26.7	- 26.2 dB, ± 1.5 dB
125 Hz	-16.7	- 16.1 dB, ± 1 dB
250 Hz	-9.1	- 8.6 dB, ± 1 dB
500 Hz	-3.6	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref.)	0 dB, ± 1 dB
2 kHz	+1.6	+ 1.2 dB, ± 1 dB
4 kHz	+1.6	+ 1.0 dB ,± 1 dB
8 kHz	-0.5	- 1.1 dB, + 1.5 dB ~ - 3 dB
16 kHz	-6.0	- 6.6 dB, + 3 dB ~- ∞

Uncertainty : ± 0.1 dB

Calibration Certificate

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
$1/10^2$	40.0	40.0	
$1/10^3$	40.0	40.0	± 1.0 dB
$1/10^4$	40.0	39.9	

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 : 1 002 hPa.
4. This certificate is to supersede our former certificate no. 02909.

---------- END ----------

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 01767 Page 1 of 2 Pages

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q00732 **Date of receipt :** 15-Apr-10

Item Tested

Description : Acoustic Calibrator (ET/ EN/ 002/ 07)
Manufacturer : Castle
Model : GA607 **Serial No. :** 038641

Test Conditions

Date of Test : 22-Apr-10 **Supply Voltage :** --
Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.
Ref. Document/Procedure : F06, F20, Z02.

Test Results

All results were within the IEC 942 Class 1 specification.
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 :** Alan Chu

Date: 23-Apr-10

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

Calibration Certificate

Results :

1. Level Accuracy

UUT Setting (dB)	Measured Value (dB)	IEC 942 Class 1 Spec.
94	93.88	± 0.3 dB

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	IEC 942 Class 1 Spec.
1	1.000	± 2 %

Uncertainty : $\pm 3.6 \times 10^{-6}$

3. Level Stability : 0.0 dB
IEC 942 Class 1 Spec.: ± 1 dB
Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 2.5 %
IEC 942 Class 1 Spec. : < 3 %
Uncertainty : ± 2.3 % of rdg.

Remark : 1. UUT : Unit-Under-Test
2. The above measured values were the mean of 3 measurements.
3. The uncertainty claimed is for a confidence probability of not less than 95%.
4. Atmospheric Pressure : 1 003 hPa.

---------- END ----------

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 06466

Customer : ETS-Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan St., Fotan, Hong Kong.

Order No. : Q02516 **Date of receipt :** 8-Nov-10

Item Tested

Description : Anemometer (EN/001/04)

Manufacturer : AZ Instrument

Model : AZ 8908 **Serial No. :** 9101231

Test Conditions

Date of Test : 10-Nov-10 **Supply Voltage :** --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure: T03, Z04.

Test Results

All results were within the manufacturer's specification.

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S223	Std. Thermometer	01631	NIM-PRC
S155	Std. Anemometer	NSC20104025	NIM-PRC

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 : S. K. Tang

Approved by : Alan Chu

Date: 10-Nov-10

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

Calibration Certificate

Certificate No. 06466

Results :

1. Velocity

Applied Value (m/s)	UUT Reading (m/s)	Mfr's Spec.
2.50	2.5	± 3 % f.s. (f.s. = 35 m/s)
5.00	4.9	
10.00	9.5	
15.00	14.3	
20.00	19.1	

2. Temperature

Applied Value (°C)	UUT Reading (°C)	Mfr's Spec.
3.10	3.0	± 1 °C
23.98	24.0	
48.20	47.8	

Remark : 1. UUT: Unit-Under-Test
2. Uncertainty : ± 1.3 % or ± 0.05 m/s, whichever is greater for Velocity, ± 0.25 °C for Temperature, for a confidence probability of not less than 95%.
3. Atmospheric Pressure : 1 011 hPa

--------- END ---------

Appendix B2

Impact Noise Monitoring Results

Day-time Noise Monitoring

Monitoring Station: KS6 (Podium at the Culliman)

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
07/01/11	Cloudy	17:00	17:30	64.8	65.9	62.7	0.4
14/01/11	Fine	17:30	18:00	65.5	66.0	62.9	0.6
21/01/11	Fine	16:35	17:05	65.2	66.6	63.3	0.4
28/01/11	Fine	17:25	17:55	64.0	65.1	62.4	0.4

Monitoring Station: CGa (Pavement in front of Connaught Garden)

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
05/01/11	Cloudy	09:45	10:15	74.1	75.9	67.3	0.7
12/01/11	Cloudy	15:20	15:50	74.1	75.8	67.2	0.4
19/01/11	Fine	10:25	10:55	74.9	76.6	68.3	0.2
24/01/11	Cloudy	14:20	14:50	72.1	74.1	66.2	0.1

Monitoring Station: RWM (Roof at Richwealth Mansion)

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
05/01/11	Cloudy	10:20	10:50	63.5	66.3	59.8	0.9
12/01/11	Cloudy	15:55	16:25	63.4	65.5	60.8	0.5
19/01/11	Fine	11:00	11:30	63.4	65.2	59.3	0.4
24/01/11	Cloudy	14:55	15:25	63.5	64.6	59.8	0.2

Monitoring Station: KY3 (Roof at Kwan Yik Building Phase 3)

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (30min)	L10	L90	
05/01/11	Cloudy	10:55	11:25	62.9	65.5	59.5	1.0
12/01/11	Cloudy	16:30	17:00	61.5	64.3	59.2	0.7
19/01/11	Fine	11:35	12:05	61.9	63.5	58.8	0.5
24/01/11	Cloudy	15:30	16:00	59.6	62.8	58.4	0.2

Holiday-time Noise Monitoring

Monitoring Station: KS6 (Podium at the Culliman)

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (5min)	L10	L90	
01/01/11	Sunny	09:05	09:10	59.6	91.0	58.1	1.4
01/01/11	Sunny	09:10	09:15	59.6	61.4	58.3	1.2
01/01/11	Sunny	09:15	09:20	59.2	60.5	58.4	1.4
23/01/11	Fine	11:05	11:10	62.0	64.9	57.1	0.2
23/01/11	Fine	11:10	11:15	62.3	65.4	56.9	0.2
23/01/11	Fine	11:15	11:20	61.2	64.3	56.9	0.2

Monitoring Station: CGa (Pavement in front of Connaught Garden)

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (5min)	L10	L90	
01/01/11	Sunny	10:00	10:05	68.2	69.9	66.6	1.2
01/01/11	Sunny	10:05	10:10	68.6	70.2	67.0	1.3
01/01/11	Sunny	10:10	10:15	68.3	69.9	66.8	1.1
23/01/11	Fine	13:30	13:35	69.5	72.5	63.2	0.1
23/01/11	Fine	13:35	13:40	70.0	73.6	64.0	0.1
23/01/11	Fine	13:40	13:45	70.0	73.1	63.8	0.1

Monitoring Station: RWM (Roof at Richwealth Mansion)

Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (5min)	L10	L90	
01/01/11	Sunny	10:20	10:25	60.7	61.8	58.8	1.4
01/01/11	Sunny	10:25	10:30	61.0	62.1	59.2	1.5
01/01/11	Sunny	10:30	10:35	60.4	61.5	58.5	1.2
23/01/11	Fine	13:10	13:15	64.1	65.0	57.8	0.3
23/01/11	Fine	13:15	13:20	63.8	64.6	57.7	0.3
23/01/11	Fine	13:20	13:25	63.2	64.1	57.2	0.3

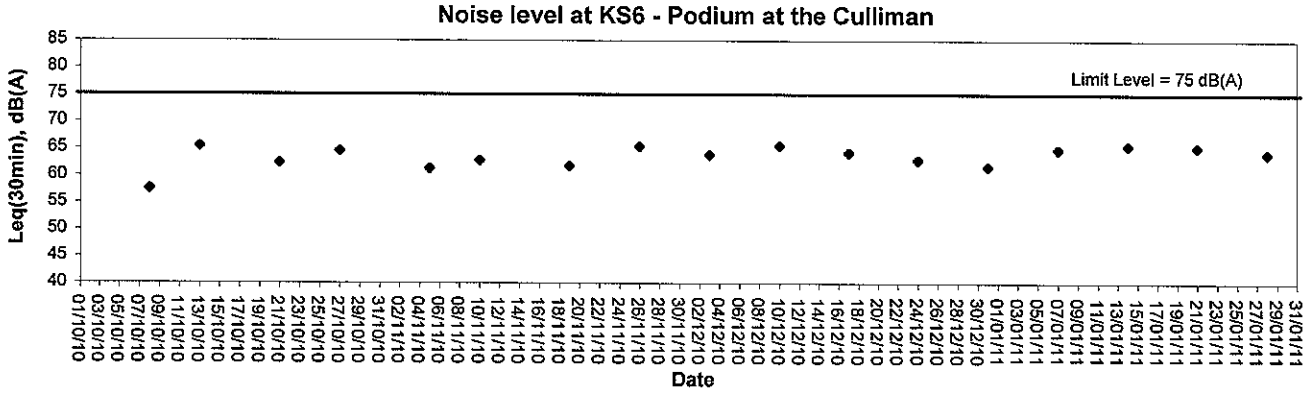
Monitoring Station: KY3 (Roof at Kwan Yik Building Phase 3)

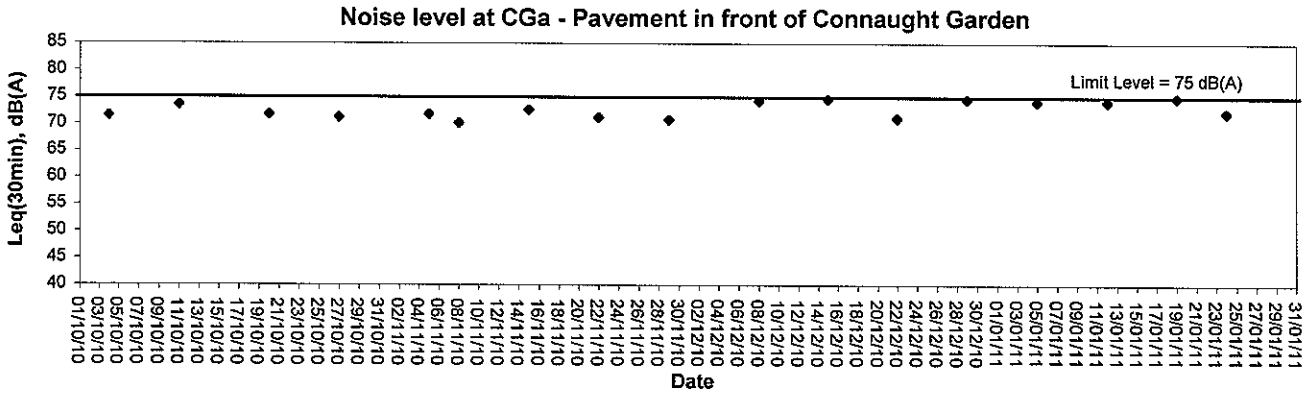
Date	Weather Condition	Start Time (hh:mm)	End Time (hh:mm)	Noise Level at the monitoring point, dB (A)			Wind Speed (m/s)
				Leq (5min)	L10	L90	
01/01/11	Sunny	10:40	10:45	61.2	62.4	59.4	1.5
01/01/11	Sunny	10:45	10:50	60.9	61.9	58.9	1.6
01/01/11	Sunny	10:50	10:55	60.7	61.6	58.5	1.4
23/01/11	Fine	11:50	11:55	62.8	63.9	56.8	0.4
23/01/11	Fine	11:55	12:00	62.2	63.1	56.9	0.4
23/01/11	Fine	12:00	12:05	61.8	63.0	56.8	0.4

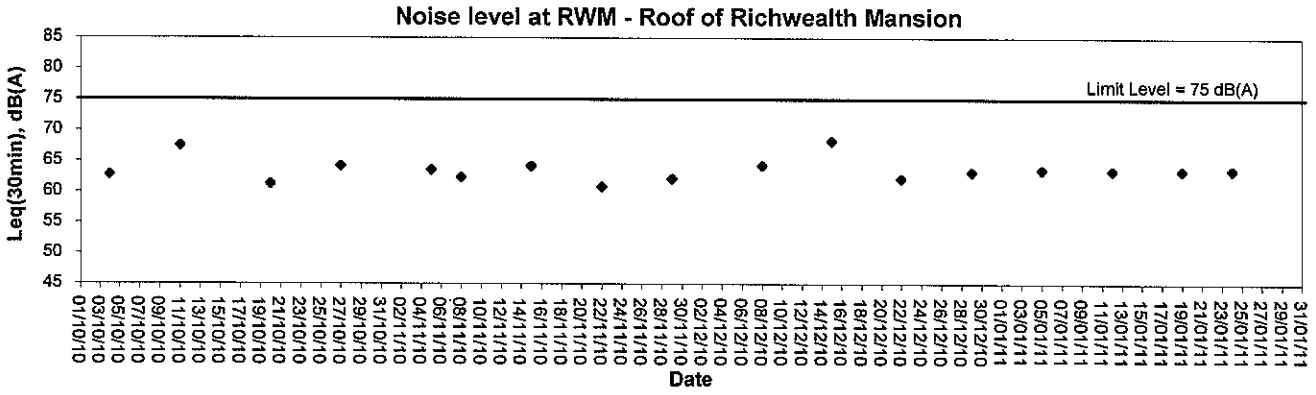
Appendix B3

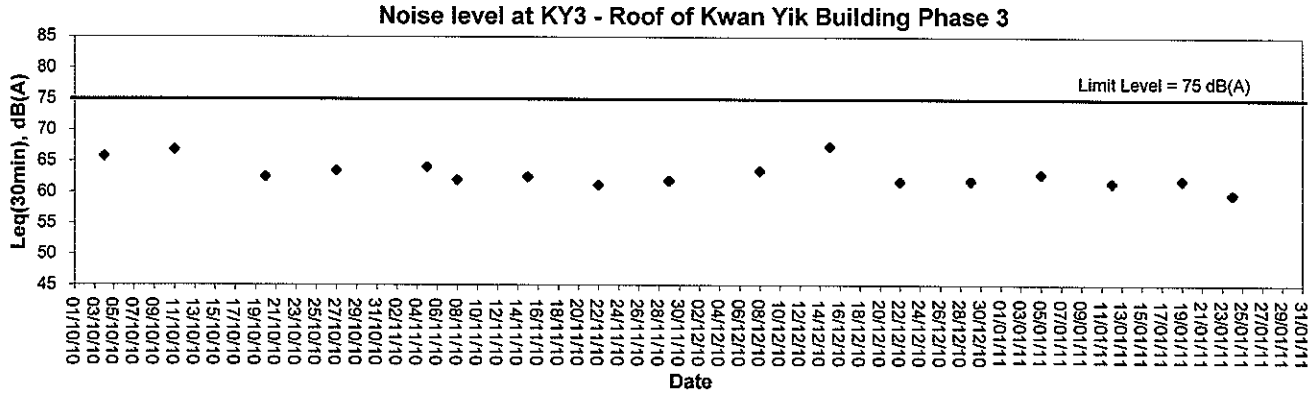
Graphical Plots of Impact Noise Monitoring Data

Noise Monitoring (Day-time)



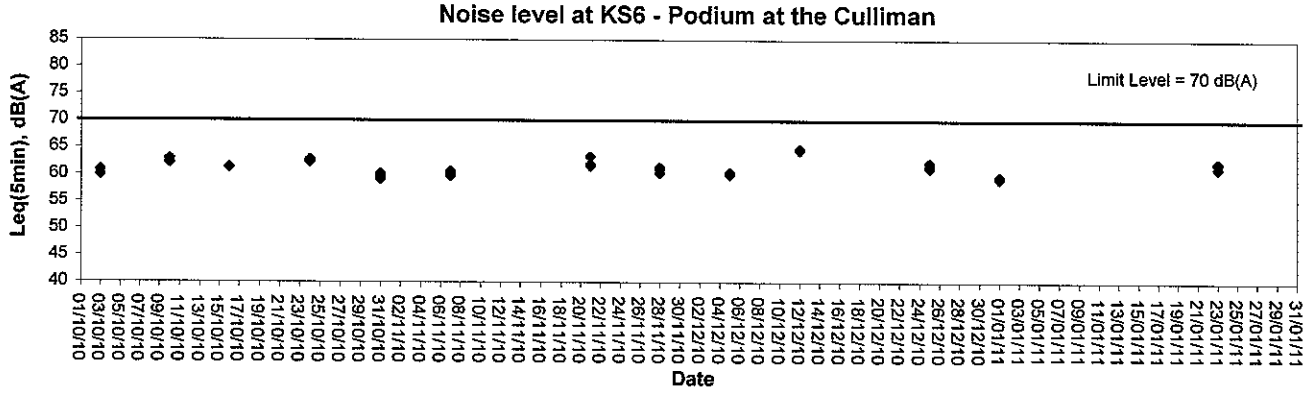




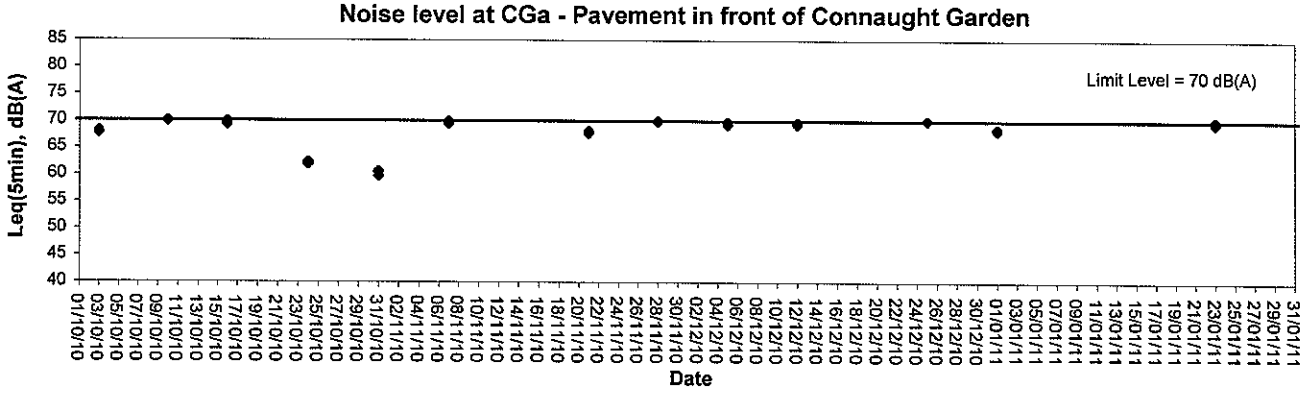


Noise Monitoring (Holiday-time)

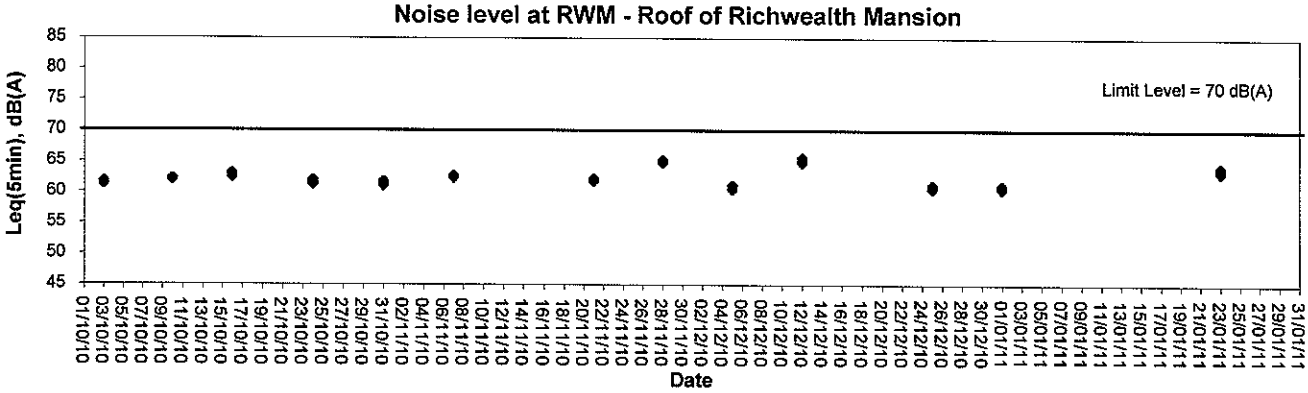
Noise level at KS6 - Podium at the Culliman



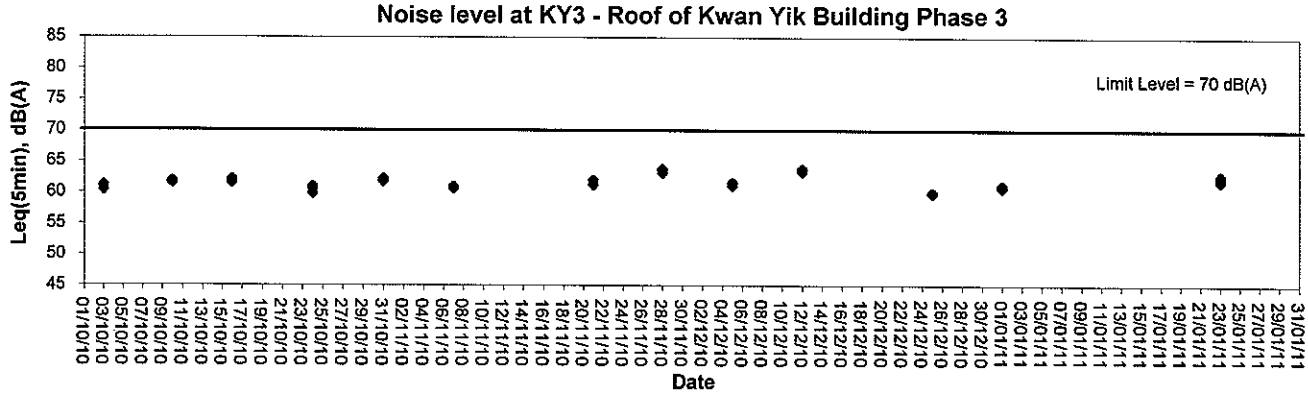
Noise level at CGa - Pavement in front of Connaught Garden



Noise level at RWM - Roof of Richwealth Mansion



Noise level at KY3 - Roof of Kwan Yik Building Phase 3



Appendix C1

Calibration Certificates for Impact Water Quality Monitoring Equipments

東業檢測測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Turbidimeter

Equipment Ref. No. : ET/05S/007 Manufacturer : HACH

Model No. : 2100P Serial No. : 0806 000 30281

Date of Calibration : 15/10/16 Due Date : 14/11/11

Gelex Vial Std	Theoretical Value (NTU)	Measured Value (NTU)	Difference %
0-10 NTU	5.34	5.49	2.77%
10-100 NTU	52.5	52.1	0.76%
100-1000 NTU	543	529	2.61%

Acceptance Criteria

Difference : <5 %

The salinity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Checked by : [signature] Approved by : [signature]

東業檢驗測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Turbidimeter

Equipment Ref. No. : ET/05-5/007 Manufacturer : HACH

Model No. : 2100P Serial No. : 0806 000 30281

Date of Calibration : 15/1/11 Due Date : 14/4/11

Gelex Vial Std	Theoretical Value (NTU)	Measured Value (NTU)	Difference %
0-10 NTU	5.34	5.40	1.12%
10-100 NTU	52.5	52.8	0.57%
100-1000 NTU	543	531	2.21%

Acceptance Criteria

Difference : <5 %

The salinity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Checked by : _____ Approved by : _____

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Form E/CE/R/12 Issue 7 (1/2) [09/09]

Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No.	:	ET/EW/oc8/oo2	Manufacturer	:	YSI
Model No.	:	85	Serial No.	:	06C 1998 AD
Date of Calibration	:	23/11/10	Calibration Due Date	:	22/2/11

Temperature Verification

Ref. No. of Reference Thermometer : ET/c521/oo1

Ref. No. of Water Bath : ET/0533/oo1

	Temperature (°C)			
Reference Thermometer reading	Measured		Corrected	
DO Meter reading	Measured		Difference	

Standardization of sodium thiosulphate ($Na_2S_2O_3$) solution

Reagent No. of $Na_2S_2O_3$ titrant		Reagent No. of 0.025N $K_2Cr_2O_7$	

	Trial 1	Trial 2
Initial Vol. of $Na_2S_2O_3$ (ml)	0	0
Final Vol. of $Na_2S_2O_3$ (ml)	40.0	40.5
Vol. of $Na_2S_2O_3$ used (ml)	40.0	40.5
Normality of $Na_2S_2O_3$ solution (N)	0.025	0.02469
Average Normality (N) of $Na_2S_2O_3$ solution (N)	0.02485	
Acceptance criteria, Deviation	Less than ± 0.001N	

Calculation: Normality of $Na_2S_2O_3$, N = 1 / ml $Na_2S_2O_3$ used

Lineality Checking

Determination of dissolved oxygen content by Winkler Titration *

Purging Time (min)	2		5		10	
Trial	1	2	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0	11.80	0	9.75	0	6.50
Final Vol. of $Na_2S_2O_3$ (ml)	11.80	23.80	9.75	~~18~~ 19.45	6.50	13.00
Vol. (V) of $Na_2S_2O_3$ used (ml)	11.80	11.80	9.75	9.70	6.50	6.50
Dissolved Oxygen (DO), mg/L	7.87	7.87	6.50	6.47	4.34	4.34
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = V x N x 8000/298

Purging time, min	DO meter reading, mg/L			Winkler Titration result *, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.85	7.75	7.80	7.87	7.87	7.87	0.89
5	6.42	6.42	6.42	6.50	6.47	6.49	1.08
10	4.38	4.46	4.42	4.34	4.34	4.34	1.83
Linear regression coefficient				0.9996			

Internal Calibration Report of Dissolved Oxygen Meter

Zero Point Checking

DO meter reading, mg/L	0.00

Salinity Checking

Reagent No. of NaCl (10ppt)		Reagent No. of NaCl (30ppt)	

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
Trial	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0	11.60	0	11.00
Final Vol. of $Na_2S_2O_3$ (ml)	11.60	23.15	11.00	22.00
Vol. (V) of $Na_2S_2O_3$ used (ml)	11.60	11.55	11.00	11.00
Dissolved Oxygen (DO), mg/L	7.74	7.71	7.34	7.34
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = V x N x 8000/298

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result**, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	8.00	7.60	~~7.8~~ 7.80	7.74	7.71	7.73	0.90
30	7.40	7.40	7.40	7.34	7.34	7.34	0.81

Acceptance Criteria

(1) Differenc between temperature readings from temperature sensor of DO probe and reference thermometer : < 0.5 °C
(2) Linear regression coefficient : >0.99
(3) Zero checking: 0.0mg/L
(4) Difference (%) of DO content from the meter reading and by winkler titration : within ± 5%

The equipment complies # / ~~does not comply~~ # with the specified requirements and is deemed acceptable # / ~~unacceptable~~ # for use.

Delete as appropriate

Calibrated by : _____ Approved by : _____

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Salinity Meter

Equipment Ref. No. : ET/EW/0081002 Manufacturer : YSI

Model No. : 85 Serial No. : 06c 1998 AD

Date of Calibration : 23/11/10 Due Date : 22/2/11

Ref. No. of Salinity Standard used (30ppt)	J2410

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	29.9	0.33 %

Acceptance Criteria

Difference : <10 %

The salinity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Checked by : Zn Approved by : [signature]

Appendix C2

Impact Water Quality Monitoring Results

Mid-Flood Tide

東線環境測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : C2

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	2008-2019	13/Cloudy	Surface	1.0	18.1	30.1	30.2	6.19	6.17	85.4	85.1	5.15	5.13	5.36	8.3	8.4	8.5
						30.2		6.14		84.7		5.10			8.4		
			Middle	8.4	17.6	30.7	30.8	6.08	6.05	83.9	83.5	5.36	5.39		8.5	8.4	
						30.8		6.02		83.0		5.41			8.2		
			Bottom	15.8	17.1	31.2	31.3	5.93	5.90	81.8	81.4	5.56	5.58		8.9	8.8	
						31.3		5.87		81.0		5.60			8.7		
06/01/11	1142-1150	15/Cloudy	Surface	1.0	18.3	30.6	30.7	5.95	5.97	82.1	82.4	5.48	5.50	5.57	9.0	9.0	9.0
						30.7		5.99		82.7		5.51			9.0		
			Middle	8.4	17.8	31.3	31.3	5.86	5.84	80.9	80.6	5.52	5.51		8.9	8.9	
						31.2		5.82		80.3		5.50			8.8		
			Bottom	15.8	17.3	31.8	31.9	5.75	5.77	79.4	79.6	5.71	5.72		9.3	9.2	
						31.9		5.78		79.8		5.72			9.1		
08/01/11	1156-1208	11/Fine	Surface	1.0	18.7	30.2	30.2	6.11	6.13	83.7	84.0	5.06	5.08	5.17	8.0	8.1	8.3
						30.2		6.15		84.3		5.09			8.2		
			Middle	8.2	18.2	31.1	31.1	6.08	6.06	83.3	83.0	5.18	5.16		8.2	8.3	
						31.0		6.04		82.7		5.14			8.4		
			Bottom	15.4	17.7	31.8	31.8	6.01	5.99	82.3	82.1	5.24	5.26		8.5	8.4	
						31.7		5.97		81.8		5.28			8.3		
11/01/11	1310-1322	12/Cloudy	Surface	1.0	17.5	30.4	3.0	6.14	6.16	84.1	84.4	5.10	5.07	5.17	8.3	8.4	8.3
						30.3		6.18		84.7		5.04			8.4		
			Middle	8.3	18.5	31.4	31.5	6.06	6.04	83.0	82.8	5.14	5.17		8.1	8.1	
						31.5		6.02		82.5		5.20			8.1		
			Bottom	15.6	19.2	31.8	31.8	5.94	5.95	81.4	81.6	5.26	5.26		8.4	8.4	
						31.8		5.96		81.7		5.26			8.3		
13/01/11	1343-1356	12/Cloudy	Surface	1.0	18.5	30.3	30.4	6.03	6.06	83.2	83.6	5.56	5.57	5.67	9.0	9.0	9.1
						30.4		6.09		84.0		5.58			8.9		
			Middle	7.9	17.6	31.3	31.3	5.88	5.87	81.1	81.0	5.64	5.66		9.2	9.2	
						31.2		5.86		80.9		5.68			9.1		
			Bottom	14.8	16.9	31.8	31.8	5.72	5.74	78.9	79.2	5.79	5.77		9.3	9.2	
						31.7		5.75		79.4		5.74			9.0		
15/01/11	1333-1345	13/Fine	Surface	1.0	17.7	30.4	30.4	5.90	5.92	81.4	81.7	5.39	5.40	5.55	8.8	8.7	9.0
						30.3		5.94		81.9		5.41			8.5		
			Middle	8.2	18.3	31.2	31.3	5.70	5.72	78.7	78.9	5.51	5.51		9.1	9.1	
						31.3		5.73		79.1		5.50			9.0		
			Bottom	15.4	18.8	32.2	32.2	5.86	5.85	80.9	80.8	5.72	5.73		9.4	9.3	
						32.1		5.84		80.6		5.74			9.2		
18/01/11	1912-1925	16/Cloudy	Surface	1.0	17.7	30.4	30.4	6.14	6.16	84.1	84.3	5.03	5.07	5.15	8.0	8.1	8.3
						30.3		6.17		84.5		5.10			8.2		
			Middle	8.4	18.7	31.3	31.4	6.02	6.04	82.5	82.8	5.14	5.16		8.3	8.3	
						31.4		6.06		83.0		5.18			8.2		
			Bottom	15.7	19.4	31.9	31.9	5.89	5.91	80.7	80.9	5.22	5.24		8.4	8.5	
						31.8		5.92		81.1		5.25			8.5		
20/01/11	1950-2003	16/Cloudy	Surface	1.0	18.5	30.5	30.6	6.18	6.17	85.3	85.2	5.12	5.10	5.17	8.0	8.1	8.2
						30.6		6.16		85.0		5.08			8.1		
			Middle	8.4	19.5	31.5	31.5	6.05	6.06	83.5	83.7	5.14	5.16		8.1	8.2	
						31.4		6.07		83.8		5.18			8.3		
			Bottom	15.8	20.4	32.0	32.1	5.89	5.90	81.0	81.3	5.26	5.25		8.4	8.3	
						32.1		5.91		81.6		5.23			8.2		
22/01/11	2056-2108	14/Cloudy	Surface	1.0	17.6	30.6	30.6	6.15	6.17	84.3	84.5	5.10	5.08	5.17	8.2	8.1	8.2
						30.5		6.18		84.7		5.06			7.9		
			Middle	8.3	18.4	31.5	31.5	6.03	6.04	82.6	82.8	5.14	5.16		8.1	8.1	
						31.5		6.05		82.9		5.18			8.1		
			Bottom	15.6	19.2	31.8	31.8	5.92	5.94	81.1	81.4	5.25	5.26		8.4	8.4	
						31.7		5.96		81.7		5.27			8.3		
25/01/11	1216-1230	14/Cloudy	Surface	1.0	17.2	30.6	30.6	5.96	5.95	81.7	81.6	5.12	5.15	5.31	7.7	8.0	8.5
						30.5		5.94		81.4		5.17			8.2		
			Middle	8.3	17.7	30.8	30.8	5.84	5.85	80.0	80.2	5.43	5.44		9.0	8.9	
						30.8		5.86		80.3		5.45			8.8		
			Bottom	15.6	18.2	31.8	31.8	5.84	5.85	80.0	80.1	5.34	5.35		8.7	8.6	
						31.8		5.85		80.1		5.36			8.5		
27/01/11	1251-1303	14/Fine	Surface	1.0	16.5	30.7	30.7	6.06	6.04	84.2	83.9	5.40	5.44	5.56	8.5	8.7	8.9
						30.6		6.01		83.5		5.47			8.8		
			Middle	8.1	17.1	31.4	31.4	5.88	5.85	81.7	81.3	5.53	5.52		9.0	8.9	
						31.3		5.81		80.8		5.50			8.8		
			Bottom	15.2	17.6	32.0	32.0	5.74	5.77	79.8	80.2	5.74	5.73		9.2	9.2	
						31.9		5.79		80.5		5.71			9.2		
29/01/11	1810-1820	14/Sunny	Surface	1.0	17.6	31.2	31.3	6.17	6.16	85.7	85.5	4.97	4.95	5.17	7.8	7.9	8.3
						31.3		6.14		85.3		4.92			8.0		
			Middle	8.4	20.1	32.1	32.1	6.02	6.04	83.6	83.8	5.21	5.26		8.4	8.5	
						32.0		6.05		84.0		5.30			8.5		
			Bottom	15.8	20.7	32.6	32.6	5.81	5.80	80.1	79.9	5.35	5.32		8.6	8.4	
						32.5		5.78		79.7		5.29			8.2		

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : C4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1951-2003	13/Cloudy	Surface	1.0	18.1	30.1	30.1	6.21	6.19	85.6	85.4	5.18	5.21	5.41	8.1	8.1	8.6
						30.1		6.17		85.1		5.23			8.1		
			Middle	8.2	17.7	30.7	30.7	6.10	6.08	84.1	83.8	5.40	5.43		8.7	8.8	
						30.7		6.05		83.4		5.45			8.9		
			Bottom	15.4	17.2	31.2	31.2	5.90	5.92	81.4	81.7	5.58	5.61		9.0	9.0	
						31.2		5.94		81.9		5.63			9.0		
06/01/11	1129-1139	15/Cloudy	Surface	1.0	18.1	30.5	30.5	5.93	5.95	81.8	82.1	5.37	5.39	5.54	8.5	8.5	9.0
						30.4		5.97		82.4		5.40			8.5		
			Middle	8.5	17.7	31.0	31.1	5.84	5.86	80.6	80.8	5.59	5.58		9.1	9.1	
						31.2		5.87		81.0		5.57			9.0		
			Bottom	16.0	17.2	31.9	31.9	5.70	5.73	78.7	79.1	5.63	5.66		9.5	9.4	
						31.8		5.76		79.5		5.69			9.3		
08/01/11	1138-1149	11/Fine	Surface	1.0	18.5	30.4	30.5	6.16	6.14	84.4	84.1	5.03	5.06	5.15	7.9	7.9	8.1
						30.5		6.12		83.8		5.08			7.9		
			Middle	8.4	17.9	30.9	30.9	6.07	6.06	83.2	83.0	5.14	5.16		8.1	8.1	
						30.8		6.04		82.7		5.18			8.0		
			Bottom	15.8	17.6	31.5	31.6	5.94	5.96	81.4	81.7	5.21	5.24		8.5	8.4	
						31.6		5.98		81.9		5.26			8.2		
11/01/11	1251-1302	12/Cloudy	Surface	1.0	17.4	30.5	30.6	6.17	6.19	84.5	84.7	5.05	5.08	5.16	8.0	8.0	8.2
						30.6		6.20		84.9		5.10			8.0		
			Middle	8.1	18.3	31.3	31.3	6.03	6.05	82.6	82.9	5.18	5.16		8.3	8.2	
						31.2		6.07		83.2		5.14			8.1		
			Bottom	15.2	19.0	31.6	31.7	5.95	5.94	81.5	81.3	5.23	5.26		8.4	8.4	
						31.7		5.92		81.1		5.28			8.3		
13/01/11	1322-1335	12/Cloudy	Surface	1.0	18.5	30.3	30.3	6.01	6.02	82.9	83.1	5.46	5.47	5.60	8.9	8.8	8.9
						30.2		6.03		83.2		5.48			8.6		
			Middle	8.3	17.6	31.3	31.4	5.97	5.95	82.4	82.1	5.53	5.56		8.8	8.9	
						31.4		5.92		81.7		5.59			9.0		
			Bottom	15.6	16.7	31.9	31.9	5.81	5.80	80.2	80.0	5.78	5.77		9.2	9.1	
						31.8		5.78		79.8		5.75			9.0		
15/01/11	1310-1323	13/Fine	Surface	1.0	17.6	30.4	30.5	5.96	5.94	82.2	81.9	5.38	5.36	5.52	8.4	8.4	8.8
						30.5		5.91		81.6		5.34			8.4		
			Middle	8.3	18.4	31.1	31.2	5.74	5.75	79.2	79.4	5.54	5.54		9.0	8.9	
						31.2		5.76		79.5		5.53			8.8		
			Bottom	15.6	18.6	32.0	32.1	5.81	5.83	80.2	80.4	5.65	5.67		9.2	9.1	
						32.1		5.84		80.6		5.69			9.0		
18/01/11	1851-1903	16/Cloudy	Surface	1.0	17.7	30.7	30.7	6.17	6.18	84.5	84.7	5.09	5.12	5.18	8.2	8.1	8.3
						30.6		6.19		84.8		5.14			8.0		
			Middle	8.2	18.6	31.5	31.6	6.07	6.09	83.2	83.4	5.19	5.17		8.3	8.2	
						31.6		6.10		83.6		5.15			8.1		
			Bottom	15.4	19.2	31.7	31.8	5.93	5.95	81.2	81.5	5.24	5.26		8.5	8.5	
						31.8		5.96		81.7		5.27			8.5		
20/01/11	1931-1942	16/Cloudy	Surface	1.0	18.4	30.8	30.8	6.17	6.16	85.1	84.9	5.11	5.13	5.18	8.2	8.2	8.2
						30.7		6.14		84.7		5.14			8.2		
			Middle	8.2	19.3	31.4	31.5	6.08	6.06	83.9	83.7	5.15	5.17		8.0	8.1	
						31.6		6.04		83.4		5.18			8.1		
			Bottom	15.4	20.4	32.3	32.3	5.89	5.91	81.3	81.5	5.24	5.26		8.6	8.4	
						32.2		5.92		81.7		5.28			8.2		
22/01/11	2038-2049	14/Cloudy	Surface	1.0	17.5	30.3	30.4	6.16	6.18	84.4	84.6	5.04	5.06	5.15	8.0	8.1	8.3
						30.4		6.19		84.8		5.07			8.1		
			Middle	8.2	18.5	31.2	31.3	6.06	6.07	83.0	83.1	5.15	5.14		8.3	8.3	
						31.4		6.07		83.2		5.12			8.3		
			Bottom	15.3	19.1	31.6	31.7	5.97	5.95	81.8	81.5	5.28	5.26		8.6	8.6	
						31.7		5.93		81.2		5.23			8.5		
25/01/11	1155-1208	14/Cloudy	Surface	1.0	17.4	30.4	30.5	5.95	5.93	80.3	80.1	5.05	5.06	5.19	8.0	8.1	8.2
						30.5		5.91		79.8		5.07			8.2		
			Middle	8.5	17.8	30.7	30.7	5.89	5.86	79.5	79.1	5.19	5.18		8.3	8.2	
						30.6		5.83		78.7		5.17			8.0		
			Bottom	16.0	18.1	31.6	31.7	5.79	5.75	79.3	78.8	5.36	5.34		8.4	8.5	
						31.7		5.71		78.2		5.31			8.5		
27/01/11	1229-1243	14/Fine	Surface	1.0	16.6	30.5	30.6	6.08	6.07	84.5	84.3	5.21	5.24	5.39	8.3	8.3	8.7
						30.6		6.05		84.1		5.26			8.2		
			Middle	8.2	17.2	31.2	31.3	5.84	5.85	81.2	81.4	5.46	5.44		8.8	8.9	
						31.3		5.86		81.5		5.42			9.0		
			Bottom	15.4	17.5	31.8	31.8	5.81	5.82	80.8	80.9	5.49	5.51		8.7	8.9	
						31.7		5.83		81.0		5.52			9.0		
29/01/11	1751-1802	14/Sunny	Surface	1.0	17.7	31.2	31.2	6.09	6.11	84.6	84.8	5.04	5.07	5.11	8.0	7.9	8.1
						31.2		6.12		85.0		5.10			7.8		
			Middle	8.4	20.1	32.0	32.1	5.95	5.97	82.1	82.3	5.09	5.12		8.1	8.2	
						32.1		5.98		82.5		5.14			8.3		
			Bottom	15.8	20.7	32.5	32.5	5.97	5.96	82.3	82.1	5.18	5.15		8.2	8.2	
						32.4		5.94		81.9		5.11			8.2		

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R5

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1753-1809	13/Cloudy	Surface	1.0	18.2	30.0	30.1	6.03	6.05	83.2	83.4	5.33	5.36	5.49	8.5	8.5	8.8
						30.1		6.06		83.6		5.38			8.5		
			Middle	8.7	17.8	30.6	30.6	5.92	5.90	81.6	81.3	5.46	5.48		9.0	8.9	
						30.6		5.87		81.0		5.49			8.7		
			Bottom	16.4	17.4	31.1	31.2	5.79	5.81	79.9	80.1	5.60	5.63		9.1	9.1	
						31.2		5.82		80.3		5.66			9.0		
06/01/11	0933-0946	15/Cloudy	Surface	1.0	18.2	30.4	30.5	5.92	5.91	81.6	80.6	5.47	5.46	5.57	9.0	8.9	9.1
						30.5		5.90		79.6		5.44			8.8		
			Middle	8.9	17.9	31.3	31.4	5.82	5.84	78.6	79.8	5.53	5.56		9.2	9.2	
						31.4		5.86		80.9		5.58			9.1		
			Bottom	16.8	17.2	31.9	32.0	5.75	5.75	79.4	79.3	5.69	5.70		9.3	9.2	
						32.0		5.74		79.2		5.70			9.0		
08/01/11	0945-0957	11/Fine	Surface	1.0	18.4	30.5	30.5	5.97	5.96	81.8	81.6	5.06	5.04	5.15	8.5	8.3	8.3
						30.4		5.94		81.4		5.02			8.1		
			Middle	8.5	18.0	31.1	31.2	5.89	5.88	80.7	80.5	5.12	5.15		8.0	8.1	
						31.2		5.86		80.3		5.17			8.2		
			Bottom	16.0	17.6	31.7	31.8	5.84	5.83	80.0	79.8	5.23	5.26		8.4	8.4	
						31.8		5.81		79.6		5.28			8.3		
11/01/11	1052-1104	12/Cloudy	Surface	1.0	17.3	30.4	30.4	5.99	5.98	82.1	81.9	5.16	5.14	5.23	8.3	8.2	8.3
						30.4		5.96		81.7		5.11			8.0		
			Middle	8.6	18.5	31.3	31.4	5.86	5.85	80.3	80.1	5.20	5.23		8.2	8.3	
						31.4		5.83		79.9		5.25			8.3		
			Bottom	16.2	19.3	31.8	31.8	5.82	5.83	79.7	79.9	5.31	5.32		8.5	8.4	
						31.7		5.84		80.0		5.33			8.2		
13/01/11	1113-1126	12/Cloudy	Surface	1.0	18.5	30.4	30.5	5.99	6.01	82.7	82.9	5.51	5.51	5.67	9.0	9.1	9.3
						30.5		6.02		83.1		5.50			9.1		
			Middle	8.7	17.6	31.2	31.3	5.94	5.96	81.9	82.2	5.63	5.64		9.4	9.3	
						31.3		5.98		82.5		5.64			9.2		
			Bottom	16.4	16.5	31.8	31.9	5.72	5.71	78.9	78.8	5.88	5.86		9.5	9.4	
						31.9		5.70		78.7		5.83			9.3		
15/01/11	1118-1130	13/Fine	Surface	1.0	17.7	30.4	30.4	5.98	5.97	82.5	82.3	5.31	5.34	5.51	8.5	8.5	8.9
						30.3		5.95		82.1		5.37			8.4		
			Middle	8.9	18.1	31.4	31.4	5.82	5.81	80.3	80.2	5.54	5.53		9.0	8.9	
						31.3		5.80		80.0		5.51			8.8		
			Bottom	16.8	18.5	31.9	31.9	5.70	5.71	78.7	78.8	5.62	5.65		9.2	9.2	
						31.8		5.72		78.9		5.68			9.2		
18/01/11	1652-1605	16/Cloudy	Surface	1.0	17.8	30.3	30.4	6.15	6.16	84.3	84.4	5.17	5.17	5.20	8.2	8.3	8.3
						30.4		6.17		84.5		5.16			8.3		
			Middle	8.7	18.5	31.4	31.4	6.02	6.05	82.5	82.9	5.20	5.19		8.4	8.4	
						31.3		6.07		83.2		5.18			8.3		
			Bottom	16.3	19.2	31.6	31.7	5.84	5.86	80.0	80.2	5.22	5.24		8.5	8.4	
						31.7		5.87		80.4		5.25			8.2		
20/01/11	1728-1741	16/Cloudy	Surface	1.0	18.4	30.6	30.6	6.11	6.12	84.3	84.5	5.09	5.10	5.16	8.0	8.2	8.2
						30.5		6.13		84.6		5.11			8.4		
			Middle	8.7	19.4	31.3	31.4	6.05	6.04	83.5	83.4	5.13	5.14		8.1	8.1	
						31.5		6.03		83.2		5.15			8.1		
			Bottom	16.4	20.2	32.0	32.1	5.89	5.91	81.3	81.5	5.24	5.25		8.5	8.4	
						32.1		5.92		81.7		5.26			8.2		
22/01/11	1845-1857	14/Cloudy	Surface	1.0	17.4	30.4	30.4	5.98	5.97	81.9	81.8	5.17	5.15	5.23	8.2	8.1	8.4
						30.3		5.96		81.7		5.13			8.0		
			Middle	8.7	18.4	31.3	31.4	5.85	5.86	80.1	80.2	5.20	5.22		8.4	8.4	
						31.4		5.86		80.3		5.23			8.3		
			Bottom	16.4	19.3	31.6	31.7	5.81	5.82	79.6	79.8	5.30	5.32		8.7	8.6	
						31.7		5.83		79.9		5.33			8.5		
25/01/11	1000-1014	14/Cloudy	Surface	1.0	17.3	30.3	30.4	5.96	5.94	81.7	81.4	5.42	5.41	5.59	9.0	8.9	9.1
						30.4		5.91		81.0		5.40			8.8		
			Middle	8.9	17.8	31.0	31.1	5.84	5.83	80.0	79.8	5.59	5.58		9.2	9.1	
						31.1		5.81		79.6		5.56			9.0		
			Bottom	16.8	18.3	32.0	32.0	5.79	5.80	79.3	79.4	5.79	5.78		9.4	9.3	
						31.9		5.80		79.5		5.76			9.1		
27/01/11	1033-1045	14/Fine	Surface	1.0	16.7	30.5	30.6	5.98	5.96	83.1	82.8	5.16	5.18	5.37	8.3	8.2	8.6
						30.6		5.93		82.4		5.19			8.0		
			Middle	8.7	17.4	31.2	31.3	5.91	5.91	82.1	82.1	5.34	5.36		8.5	8.6	
						31.3		5.90		82.0		5.37			8.7		
			Bottom	16.4	17.7	31.9	31.9	5.77	5.75	80.2	79.9	5.59	5.57		9.0	9.0	
						31.8		5.73		79.6		5.55			9.0		
29/01/11	1552-1604	14/Sunny	Surface	1.0	17.8	31.2	31.2	6.06	6.05	84.2	84.0	5.37	5.34	5.32	8.5	8.5	8.5
						31.1		6.03		83.8		5.31			8.4		
			Middle	8.6	20.1	31.9	31.9	5.94	5.92	82.5	82.3	5.44	5.46		8.8	8.9	
						31.8		5.90		82.0		5.48			9.0		
			Bottom	16.2	20.6	32.2	32.2	5.98	5.97	83.1	82.9	5.19	5.15		8.2	8.2	
						32.1		5.95		82.7		5.11			8.1		

Mid-Flood Tide

東業檢驗測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R6

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1857-1912	13/Cloudy	Surface	1.0	18.1	30.1	30.1	6.03	6.06	83.2	83.6	5.37	5.34	5.51	8.3	8.3	8.8
						30.1		6.09		84.0		5.31			8.3		
			Middle	8.2	17.7	30.6	30.6	5.84	5.86	80.5	80.8	5.49	5.52		8.8	8.9	
						30.6		5.88		81.1		5.55			9.0		
			Bottom	15.4	17.3	31.1	31.1	5.78	5.76	79.7	79.4	5.69	5.66		9.2	9.2	
						31.1		5.73		79.0		5.63			9.1		
06/01/11	1025-1037	15/Cloudy	Surface	1.0	18.1	30.4	30.5	5.82	5.83	80.3	80.5	5.32	5.34	5.54	8.4	8.5	8.9
						30.5		5.84		80.6		5.35			8.6		
			Middle	8.5	17.6	31.3	31.3	5.81	5.80	78.4	78.3	5.54	5.54		8.8	8.9	
						31.2		5.79		78.1		5.53			9.0		
			Bottom	16.0	17.3	31.9	31.9	5.70	5.71	76.9	77.9	5.73	5.74		9.4	9.3	
						31.8		5.72		78.9		5.75			9.2		
08/01/11	1040-1052	11/Fine	Surface	1.0	18.7	30.3	30.3	6.18	6.20	84.7	85.0	5.08	5.06	5.15	8.0	8.1	8.2
						30.3		6.22		85.2		5.03			8.1		
			Middle	8.2	18.2	31.1	31.1	6.13	6.11	84.0	83.7	5.12	5.15		7.9	8.0	
						31.0		6.09		83.4		5.18			8.1		
			Bottom	15.4	17.7	31.7	31.8	6.05	6.02	82.9	82.4	5.27	5.25		8.6	8.5	
						31.8		5.98		81.9		5.22			8.3		
11/01/11	1150-1202	12/Cloudy	Surface	1.0	17.5	30.3	30.4	6.18	6.17	84.7	84.5	5.07	5.05	5.14	8.0	8.0	8.2
						30.4		6.15		84.3		5.02			7.9		
			Middle	8.4	18.5	31.3	31.3	6.06	6.05	83.0	82.8	5.11	5.14		8.1	8.2	
						31.3		6.03		82.6		5.16			8.2		
			Bottom	15.8	19.2	31.5	31.6	5.95	5.97	81.5	81.7	5.28	5.25		8.4	8.4	
						31.6		5.98		81.9		5.22			8.4		
13/01/11	1217-1231	12/Cloudy	Surface	1.0	18.3	30.5	30.5	6.09	6.08	84.0	83.9	5.56	5.57	5.67	9.0	8.9	9.2
						30.4		6.07		83.8		5.58			8.8		
			Middle	8.3	17.7	31.3	31.4	5.94	5.93	81.9	81.8	5.62	5.61		9.2	9.2	
						31.4		5.91		81.6		5.60			9.1		
			Bottom	15.6	16.5	31.9	31.9	5.88	5.87	81.1	80.9	5.84	5.83		9.3	9.4	
						31.8		5.85		80.7		5.82			9.5		
15/01/11	1209-1221	13/Fine	Surface	1.0	17.8	30.3	30.3	6.01	6.03	82.9	83.2	5.28	5.29	5.56	8.2	8.4	8.9
						30.2		6.04		83.4		5.30			8.6		
			Middle	8.5	18.2	31.2	31.3	5.78	5.77	79.8	79.6	5.55	5.57		8.8	8.9	
						31.3		5.75		79.4		5.58			9.0		
			Bottom	16.0	18.6	31.8	31.9	5.88	5.87	81.1	81.0	5.82	5.81		9.4	9.3	
						31.9		5.86		80.9		5.80			9.2		
18/01/11	1751-1803	16/Cloudy	Surface	1.0	17.7	30.6	30.7	6.17	6.16	84.5	84.3	5.16	5.15	5.20	8.0	8.1	8.3
						30.7		6.14		84.1		5.13			8.2		
			Middle	8.5	18.5	31.2	31.3	6.04	6.05	82.7	82.9	5.22	5.20		8.4	8.4	
						31.3		6.06		83.0		5.18			8.4		
			Bottom	15.9	19.2	31.6	31.7	5.89	5.91	80.7	80.9	5.27	5.27		8.2	8.3	
						31.7		5.92		81.1		5.26			8.3		
20/01/11	1828-1840	16/Cloudy	Surface	1.0	18.5	30.7	30.8	6.14	6.16	84.7	85.0	5.12	5.12	5.20	8.2	8.2	8.4
						30.8		6.18		85.3		5.11			8.2		
			Middle	8.3	19.5	31.3	31.4	6.07	6.08	83.8	83.9	5.17	5.18		8.4	8.4	
						31.4		6.08		83.9		5.18			8.3		
			Bottom	15.6	20.4	32.2	32.2	5.95	5.93	82.1	81.9	5.33	5.32		8.6	8.5	
						32.1		5.91		81.6		5.30			8.4		
22/01/11	1940-1952	14/Cloudy	Surface	1.0	17.6	30.2	30.3	6.17	6.16	84.5	84.4	5.04	5.05	5.15	8.1	8.1	8.3
						30.3		6.15		84.3		5.05			8.0		
			Middle	8.4	18.5	31.3	31.3	6.03	6.05	82.6	82.8	5.12	5.14		8.4	8.3	
						31.2		6.06		83.0		5.16			8.2		
			Bottom	15.7	19.3	31.6	31.6	5.97	5.98	81.8	81.9	5.24	5.26		8.6	8.6	
						31.6		5.98		81.9		5.27			8.6		
25/01/11	1052-1105	14/Cloudy	Surface	1.0	17.2	30.5	30.5	6.04	6.03	82.7	82.5	5.10	5.12	5.31	8.2	8.1	8.5
						30.4		6.01		82.3		5.14			8.0		
			Middle	8.3	17.7	31.2	31.3	5.96	5.95	80.5	81.0	5.37	5.37		8.6	8.6	
						31.3		5.94		81.4		5.36			8.5		
			Bottom	15.6	18.3	31.9	31.9	5.88	5.85	80.6	80.1	5.46	5.45		9.0	8.9	
						31.9		5.81		79.6		5.43			8.8		
27/01/11	1124-1137	14/Fine	Surface	1.0	16.6	30.7	30.7	5.91	5.93	82.1	82.4	5.23	5.25	5.37	8.2	8.3	8.6
						30.6		5.94		82.6		5.26			8.4		
			Middle	8.3	17.5	31.3	31.3	5.79	5.81	80.5	80.7	5.29	5.32		8.3	8.4	
						31.2		5.82		80.9		5.34			8.5		
			Bottom	15.6	17.7	32.1	32.1	5.76	5.74	80.1	79.8	5.50	5.54		8.9	9.0	
						32.0		5.72		79.5		5.58			9.0		
29/01/11	1650-1702	14/Sunny	Surface	1.0	17.9	31.3	31.3	6.14	6.12	85.3	85.0	5.09	5.12	5.14	8.0	8.0	8.1
						31.2		6.10		84.7		5.14			8.0		
			Middle	8.4	20.3	31.9	31.9	6.02	6.04	83.6	83.8	5.15	5.17		8.2	8.2	
						31.9		6.05		84.0		5.19			8.2		
			Bottom	15.8	20.9	32.3	32.4	5.97	5.95	82.9	82.7	5.09	5.12		8.0	8.0	
						32.4		5.93		82.4		5.15			7.9		

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R7

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1917-1931	13/Cloudy	Surface	1.0	18.2	30.1	30.2	6.17	6.21	85.1	85.6	5.26	5.25	5.41	8.2	8.2	8.6
						30.2		6.24		86.1		5.23			8.2		
			Middle	9.2	17.7	30.7	30.7	6.08	6.06	83.9	83.6	5.35	5.38		8.5	8.7	
						30.6		6.04		83.3		5.41			8.8		
			Bottom	17.4	17.2	31.2	31.2	5.90	5.89	81.4	81.2	5.57	5.59		9.0	9.1	
						31.2		5.87		81.0		5.61			9.1		
06/01/11	1040-1053	15/Cloudy	Surface	1.0	18.2	30.3	30.4	5.87	5.85	81.0	80.8	5.30	5.32	5.51	8.2	8.3	8.8
						30.4		5.83		80.5		5.34			8.4		
			Middle	9.4	17.7	31.2	31.2	5.82	5.84	80.3	80.5	5.50	5.49		8.9	8.9	
						31.1		5.85		80.7		5.48			8.8		
			Bottom	9.4	17.2	31.8	31.8	5.77	5.78	79.6	79.8	5.70	5.72		9.1	9.2	
						31.7		5.79		79.9		5.74			9.3		
08/01/11	1055-1107	11/Fine	Surface	1.0	18.4	30.1	30.2	6.15	6.13	84.3	84.0	5.04	5.06	5.16	8.0	8.0	8.3
						30.2		6.11		83.7		5.08			8.0		
			Middle	9.3	17.8	31.2	31.1	6.07	6.06	83.2	83.0	5.17	5.15		8.3	8.3	
						31.0		6.04		82.7		5.13			8.2		
			Bottom	17.6	17.5	31.6	31.7	5.95	5.97	81.5	81.8	5.28	5.26		8.4	8.5	
						31.7		5.99		82.1		5.23			8.6		
11/01/11	1205-1217	12/Cloudy	Surface	1.0	17.4	30.4	30.5	6.17	6.19	84.5	84.8	5.05	5.07	5.17	7.8	7.9	8.1
						30.5		6.21		85.1		5.09			8.0		
			Middle	9.1	18.3	31.2	31.3	6.04	6.06	82.7	83.0	5.14	5.17		8.1	8.1	
						31.3		6.08		83.3		5.19			8.0		
			Bottom	17.2	18.9	31.7	31.7	5.96	5.95	81.7	81.5	5.24	5.27		8.3	8.3	
						31.6		5.93		81.2		5.29			8.2		
13/01/11	1234-1248	12/Cloudy	Surface	1.0	18.5	30.5	30.5	6.01	6.03	82.9	83.2	5.60	5.60	5.63	9.1	9.1	9.1
						30.4		6.04		83.4		5.59			9.0		
			Middle	9.1	17.8	31.4	31.4	5.86	5.85	80.9	80.7	5.56	5.55		9.0	8.9	
						31.3		5.83		80.5		5.53			8.8		
			Bottom	17.2	16.6	31.8	31.8	5.79	5.78	79.9	79.8	5.72	5.75		9.3	9.3	
						31.7		5.77		79.6		5.78			9.3		
15/01/11	1224-1236	13/Fine	Surface	1.0	17.7	30.3	30.4	5.92	5.95	81.7	82.1	5.29	5.27	5.58	8.3	8.3	8.9
						30.4		5.98		82.5		5.24			8.2		
			Middle	9.1	18.1	31.3	31.3	5.84	5.87	80.6	81.0	5.62	5.61		9.2	9.1	
						31.2		5.89		81.3		5.60			9.0		
			Bottom	17.2	18.7	31.8	31.8	5.71	5.74	78.8	79.2	5.89	5.87		9.5	9.4	
						31.7		5.77		79.6		5.85			9.2		
18/01/11	1806-1818	16/Cloudy	Surface	1.0	17.8	30.5	30.6	6.20	6.20	84.9	84.9	5.12	5.15	5.21	8.0	8.1	8.3
						30.6		6.19		84.8		5.17			8.1		
			Middle	9.2	18.7	31.4	31.5	6.05	6.06	82.9	83.1	5.20	5.20		8.5	8.5	
						31.5		6.07		83.2		5.19			8.5		
			Bottom	17.3	19.4	31.7	31.8	5.90	5.89	80.8	80.6	5.29	5.30		8.1	8.2	
						31.8		5.87		80.4		5.30			8.3		
20/01/11	1843-1855	16/Cloudy	Surface	1.0	18.5	30.6	30.7	6.17	6.16	85.1	85.0	5.09	5.11	5.19	8.0	8.0	8.1
						30.7		6.15		84.9		5.12			7.9		
			Middle	9.2	19.3	31.2	31.3	6.06	6.05	83.6	83.4	5.16	5.18		8.1	8.1	
						31.3		6.03		83.2		5.19			8.0		
			Bottom	17.4	20.2	32.0	32.1	5.93	5.92	81.8	81.6	5.27	5.28		8.3	8.3	
						32.1		5.90		81.4		5.29			8.3		
22/01/11	1955-2007	14/Cloudy	Surface	1.0	17.4	30.4	30.5	6.20	6.19	84.9	84.7	5.09	5.06	5.16	8.0	8.0	8.2
						30.5		6.17		84.5		5.03			8.0		
			Middle	9.2	18.3	31.2	31.3	6.07	6.08	83.2	83.3	5.14	5.16		8.2	8.1	
						31.3		6.08		83.3		5.17			8.0		
			Bottom	17.3	19.1	31.5	31.6	5.92	5.94	81.1	81.4	5.26	5.26		8.4	8.5	
						31.6		5.96		81.7		5.25			8.5		
25/01/11	1108-1120	14/Cloudy	Surface	1.0	17.4	30.4	30.4	5.90	5.93	80.8	81.2	5.21	5.23	5.45	8.5	8.4	8.7
						30.3		5.95		81.5		5.25			8.2		
			Middle	9.1	17.8	31.3	31.4	5.82	5.84	79.7	79.9	5.48	5.47		8.6	8.7	
						31.4		5.85		80.1		5.46			8.8		
			Bottom	17.2	18.1	32.0	32.1	5.75	5.77	78.8	79.1	5.69	5.66		9.0	9.1	
						32.1		5.79		79.3		5.62			9.2		
27/01/11	1140-1153	14/Fine	Surface	1.0	16.7	30.8	30.8	5.90	5.93	82.0	82.4	5.29	5.30	5.45	8.4	8.5	8.8
						30.7		5.95		82.7		5.31			8.6		
			Middle	9.1	17.3	31.4	31.4	5.86	5.85	81.5	81.3	5.38	5.40		8.5	8.7	
						31.3		5.83		81.0		5.42			8.8		
			Bottom	17.2	17.6	31.9	32.0	5.78	5.77	80.3	80.2	5.61	5.65		9.2	9.1	
						32.0		5.76		80.1		5.69			9.0		
29/01/11	1705-1717	14/Sunny	Surface	1.0	17.8	31.2	31.3	6.20	6.22	86.1	86.4	5.01	5.05	5.08	7.8	7.9	8.0
						31.3		6.24		86.7		5.09			8.0		
			Middle	9.2	20.3	31.9	32.0	6.04	6.06	83.9	84.1	4.98	4.95		7.6	7.8	
						32.0		6.07		84.3		4.91			7.9		
			Bottom	17.4	20.8	32.4	32.4	5.96	5.95	82.8	82.6	5.27	5.24		8.3	8.3	
						32.3		5.93		82.4		5.20			8.3		

Mid-Flood Tide

東業領勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R8a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1935-1947	13/Cloudy	Surface	1.0	18.2	30.1	30.1	6.23	6.25	85.9	86.1	5.25	5.28	5.43	8.1	8.2	8.7
						30.1		6.26		86.3		5.31			8.2		
			Middle	6.7	17.9	30.6	30.6	6.17	6.15	85.1	84.8	5.39	5.41		8.8	8.8	
						30.6		6.13		84.5		5.43			8.8		
			Bottom	12.4	17.3	31.1	31.1	6.00	5.98	82.8	82.5	5.56	5.59		9.2	9.2	
						31.1		5.96		82.2		5.61			9.1		
06/01/11	1100-1114	15/Cloudy	Surface	1.0	18.3	30.5	30.6	5.92	5.94	81.7	82.0	5.37	5.34	5.47	8.2	8.2	8.7
						30.6		5.96		82.2		5.30			8.2		
			Middle	6.9	17.8	31.2	31.3	5.80	5.83	80.0	80.4	5.42	5.45		8.5	8.7	
						31.3		5.86		80.7		5.48			8.9		
			Bottom	12.8	17.1	31.8	31.9	5.72	5.73	78.9	79.0	5.61	5.63		9.2	9.2	
						31.9		5.73		79.1		5.65			9.2		
08/01/11	1113-1125	11/Fine	Surface	1.0	18.6	30.3	30.3	6.17	6.15	84.5	84.3	5.05	5.07	5.16	8.0	8.0	8.2
						30.2		6.13		84.0		5.09			8.0		
			Middle	6.7	18.1	31.1	31.2	6.06	6.08	83.0	83.2	5.19	5.17		8.3	8.2	
						31.2		6.10		83.3		5.14			8.0		
			Bottom	12.4	17.3	31.7	31.7	5.96	5.99	81.7	82.0	5.23	5.25		8.5	8.4	
						31.7		6.01		82.3		5.27			8.2		
11/01/11	1224-1236	12/Cloudy	Surface	1.0	17.5	30.3	30.3	6.19	6.18	84.8	84.6	5.03	5.05	5.15	8.1	8.1	8.1
						30.3		6.16		84.4		5.07			8.0		
			Middle	6.9	18.5	31.4	31.4	6.05	6.04	82.9	82.8	5.13	5.16		7.8	8.0	
						31.3		6.03		82.6		5.18			8.1		
			Bottom	12.8	19.1	31.7	31.8	5.94	5.96	81.4	81.6	5.25	5.24		8.2	8.2	
						31.8		5.97		81.8		5.22			8.1		
13/01/11	1255-1308	12/Cloudy	Surface	1.0	18.3	30.4	30.4	6.02	6.05	83.1	83.5	5.42	5.43	5.64	8.7	8.9	9.1
						30.3		6.08		83.9		5.43			9.0		
			Middle	6.6	17.6	31.2	31.3	5.92	5.94	81.7	81.1	5.68	5.65		9.3	9.2	
						31.3		5.96		80.5		5.61			9.1		
			Bottom	12.2	16.8	31.8	31.9	5.87	5.85	81.0	80.7	5.82	5.86		9.4	9.4	
						31.9		5.82		80.3		5.89			9.3		
15/01/11	1243-1255	13/Fine	Surface	1.0	17.8	30.3	30.4	6.07	6.06	83.8	83.7	5.32	5.34	5.53	8.5	8.4	8.9
						30.4		6.05		83.5		5.36			8.2		
			Middle	6.8	18.3	30.9	31.0	5.71	5.75	78.8	79.3	5.59	5.58		9.0	9.0	
						31.0		5.78		79.8		5.56			8.9		
			Bottom	12.6	18.4	31.9	32.0	5.82	5.81	80.3	80.2	5.69	5.69		9.4	9.3	
						32.0		5.80		80.0		5.68			9.1		
18/01/11	1825-1837	16/Cloudy	Surface	1.0	17.8	30.5	30.6	6.19	6.20	84.8	84.9	5.12	5.13	5.18	8.2	8.2	8.4
						30.6		6.20		84.9		5.14			8.2		
			Middle	6.9	18.5	31.4	31.4	6.05	6.07	82.9	83.2	5.20	5.19		8.5	8.4	
						31.3		6.09		83.4		5.17			8.3		
			Bottom	12.8	19.3	31.6	31.7	5.95	5.97	81.5	81.7	5.25	5.24		8.4	8.5	
						31.7		5.98		81.9		5.22			8.6		
20/01/11	1903-1916	16/Cloudy	Surface	1.0	18.4	30.6	30.7	6.13	6.14	84.6	84.8	5.09	5.08	5.16	8.0	8.0	8.2
						30.7		6.15		84.9		5.06			8.0		
			Middle	6.9	19.3	31.2	31.3	6.03	6.04	83.2	83.4	5.13	5.15		8.2	8.1	
						31.3		6.05		83.5		5.17			8.0		
			Bottom	12.8	20.2	32.2	32.2	5.90	5.89	81.4	81.3	5.25	5.26		8.6	8.5	
						32.1		5.88		81.1		5.27			8.4		
22/01/11	2013-2025	14/Cloudy	Surface	1.0	17.5	30.5	30.5	6.14	6.16	84.1	84.4	5.05	5.07	5.15	8.2	8.2	8.2
						30.4		6.18		84.7		5.09			8.2		
			Middle	6.9	18.4	31.4	31.4	6.04	6.06	82.7	83.0	5.13	5.15		8.0	8.1	
						31.3		6.07		83.2		5.17			8.1		
			Bottom	12.7	19.2	31.7	31.8	5.92	5.94	81.1	81.4	5.26	5.24		8.3	8.2	
						31.8		5.96		81.7		5.22			8.1		
25/01/11	1127-1140	14/Cloudy	Surface	1.0	17.3	30.5	30.5	6.09	6.11	83.4	83.6	5.04	5.05	5.19	8.0	8.0	8.2
						30.4		6.12		83.8		5.05			8.0		
			Middle	6.8	17.6	30.8	30.8	6.03	6.06	82.6	83.0	5.18	5.16		8.2	8.4	
						30.7		6.09		83.4		5.13			8.5		
			Bottom	12.6	18.2	31.4	31.5	5.94	5.92	81.4	87.8	5.39	5.36		8.4	8.3	
						31.5		5.90		94.2		5.32			8.2		
27/01/11	1200-1214	14/Fine	Surface	1.0	16.6	30.6	30.7	5.97	5.98	82.9	83.0	5.28	5.26	5.37	8.4	8.3	8.6
						30.7		5.98		83.1		5.24			8.2		
			Middle	6.6	17.3	31.3	31.4	5.87	5.85	81.6	81.3	5.38	5.36		8.8	8.7	
						31.4		5.82		80.9		5.33			8.5		
			Bottom	12.2	17.6	31.9	31.9	5.71	5.75	79.4	79.9	5.47	5.48		8.7	8.8	
						31.8		5.78		80.3		5.49			8.9		
29/01/11	1724-1736	14/Sunny	Surface	1.0	17.8	31.1	31.2	6.13	6.12	85.2	85.0	4.89	4.92	5.08	7.8	7.9	8.1
						31.2		6.10		84.7		4.94			8.0		
			Middle	6.6	20.0	31.9	32.0	5.92	5.91	82.2	82.0	5.17	5.22		8.3	8.2	
						32.0		5.89		81.8		5.26			8.0		
			Bottom	12.2	20.6	32.4	32.4	5.86	5.85	80.8	80.6	5.09	5.12		8.1	8.2	
						32.4		5.83		80.4		5.14			8.3		

Mid-Flood Tide

東業環境測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R15

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1640-1655	14/Cloudy	Surface	1.0	18.4	29.9	29.9	5.98	6.01	82.5	82.9	5.41	5.40	5.57	8.9	8.7	8.8
						29.9		6.03		83.2		5.38			8.5		
			Middle	5.7	18.1	30.4	30.4	5.90	5.88	81.4	81.1	5.49	5.51		8.6	8.6	
						30.4		5.86		80.8		5.53			8.6		
			Bottom	10.4	17.5	30.9	31.0	5.71	5.74	78.7	79.1	5.76	5.80		8.9	9.0	
						31.0		5.76		79.4		5.83			9.0		
06/01/11	0809-0822	14/Cloudy	Surface	1.0	18.2	30.3	30.4	5.82	5.81	80.3	80.2	5.42	5.42	5.52	8.8	8.8	9.0
						30.4		5.80		80.1		5.41			8.8		
			Middle	5.9	17.7	31.2	31.3	5.73	5.76	79.1	79.5	5.50	5.54		9.0	9.1	
						31.3		5.79		79.9		5.57			9.1		
			Bottom	10.8	17.2	31.7	31.8	5.72	5.74	78.9	79.2	5.60	5.62		9.2	9.1	
						31.8		5.76		79.5		5.63			9.0		
08/01/11	0833-0844	11/Fine	Surface	1.0	18.3	30.6	30.6	5.95	5.97	81.5	81.7	5.09	5.12	5.22	8.0	8.2	8.2
						30.5		5.98		81.9		5.15			8.3		
			Middle	5.7	17.7	31.1	31.2	5.88	5.87	80.6	80.4	5.24	5.22		8.2	8.2	
						31.2		5.85		80.1		5.20			8.2		
			Bottom	10.4	17.3	31.7	31.7	5.82	5.84	79.7	80.0	5.29	5.31		8.4	8.3	
						31.6		5.86		80.3		5.33			8.2		
11/01/11	0934-0945	11/Cloudy	Surface	1.0	17.4	30.3	30.3	5.97	5.99	81.8	82.1	5.13	5.16	5.24	8.2	8.3	8.4
						30.2		6.01		82.3		5.18			8.3		
			Middle	5.8	18.4	31.3	31.4	5.88	5.87	80.6	80.4	5.22	5.24		8.5	8.4	
						31.4		5.85		80.1		5.26			8.3		
			Bottom	10.6	19.2	31.7	31.8	5.82	5.81	79.7	79.6	5.35	5.33		8.4	8.4	
						31.8		5.80		79.5		5.31			8.4		
13/01/11	0954-1003	11/Cloudy	Surface	1.0	18.4	30.4	30.5	6.04	6.03	83.4	83.2	5.46	5.45	5.60	8.9	8.8	9.1
						30.5		6.01		82.9		5.43			8.7		
			Middle	5.8	17.6	31.4	31.5	5.99	5.95	82.7	82.2	5.53	5.55		9.0	9.1	
						31.5		5.91		81.6		5.57			9.2		
			Bottom	10.6	16.8	31.9	31.9	5.81	5.83	80.2	80.4	5.78	5.79		9.4	9.3	
						31.8		5.84		80.6		5.80			9.1		
15/01/11	0955-1008	12/Fine	Surface	1.0	17.8	30.1	30.2	6.01	6.00	81.1	81.0	5.33	5.35	5.55	8.6	8.5	8.8
						30.2		5.99		80.9		5.36			8.3		
			Middle	5.8	18.1	31.3	31.4	5.91	5.93	81.6	80.9	5.59	5.61		8.8	8.9	
						31.4		5.94		80.2		5.62			8.9		
			Bottom	10.6	18.6	31.9	31.9	5.76	5.75	79.5	79.4	5.69	5.71		9.1	9.0	
						31.8		5.74		79.2		5.73			8.8		
18/01/11	1535-1545	16/Cloudy	Surface	1.0	17.6	30.6	30.6	6.18	6.17	84.7	84.5	5.14	5.12	5.18	8.1	8.1	8.1
						30.6		6.15		84.3		5.10			8.1		
			Middle	5.7	18.7	31.4	31.5	6.01	6.03	82.3	82.5	5.16	5.17		8.0	8.0	
						31.5		6.04		82.7		5.17			7.9		
			Bottom	10.4	19.2	31.5	31.6	5.91	5.92	81.0	81.1	5.24	5.26		8.2	8.2	
						31.6		5.93		81.2		5.27			8.2		
20/01/11	1610-1621	16/Cloudy	Surface	1.0	18.5	30.8	30.7	6.09	6.07	84.0	83.7	5.12	5.15	5.23	8.3	8.3	8.4
						30.6		6.04		83.4		5.18			8.2		
			Middle	5.9	19.4	31.6	31.5	5.93	5.96	81.8	82.2	5.22	5.24		8.5	8.4	
						31.4		5.98		82.5		5.25			8.3		
			Bottom	10.8	20.3	32.3	32.2	5.82	5.83	80.3	80.5	5.30	5.32		8.6	8.6	
						32.1		5.84		80.6		5.33			8.5		
22/01/11	1733-1744	14/Cloudy	Surface	1.0	17.4	30.4	30.4	6.00	6.01	82.2	82.4	5.17	5.16	5.21	8.2	8.2	8.2
						30.3		6.02		82.5		5.14			8.2		
			Middle	5.9	18.4	31.4	31.4	5.87	5.88	80.4	80.6	5.23	5.25		8.3	8.2	
						31.3		5.89		80.7		5.27			8.1		
			Bottom	10.8	19.2	31.8	31.8	5.94	5.96	81.4	81.7	5.22	5.24		8.4	8.3	
						31.7		5.98		81.9		5.25			8.2		
25/01/11	0839-0852	13/Cloudy	Surface	1.0	17.3	30.5	30.6	6.08	6.06	83.3	83.0	5.20	5.21	5.17	8.3	8.3	8.2
						30.6		6.03		82.6		5.22			8.2		
			Middle	5.8	17.7	31.0	31.1	5.97	5.96	81.8	81.6	5.04	5.06		8.0	8.0	
						31.1		5.94		81.4		5.07			8.0		
			Bottom	10.6	18.2	31.7	31.7	5.87	5.86	80.4	80.2	5.28	5.25		8.4	8.3	
						31.6		5.84		80.0		5.21			8.2		
27/01/11	0909-0922	13/Fine	Surface	1.0	16.6	30.6	30.7	6.06	6.04	84.2	84.0	5.37	5.34	5.51	8.4	8.3	8.8
						30.7		6.02		83.7		5.30			8.2		
			Middle	5.6	17.3	31.2	31.2	5.82	5.82	80.9	80.9	5.49	5.51		9.0	8.9	
						31.1		5.81		80.8		5.52			8.8		
			Bottom	10.2	17.9	31.8	31.8	5.93	5.93	82.4	82.4	5.69	5.68		9.4	9.3	
						31.7		5.92		82.3		5.66			9.2		
29/01/11	1434-1445	14/Sunny	Surface	1.0	17.7	31.2	31.2	6.19	6.18	86.0	85.8	4.69	4.71	4.84	7.5	7.7	7.8
						31.1		6.16		85.6		4.73			7.8		
			Middle	5.9	19.9	31.9	31.9	6.01	6.03	83.5	83.7	4.81	4.84		8.0	7.9	
						31.8		6.04		83.9		4.87			7.7		
			Bottom	10.8	20.8	32.2	32.2	5.90	5.92	81.4	81.6	4.99	4.97		8.0	8.0	
						32.2		5.93		81.8		4.94			7.9		

Mid-Flood Tide

東業環動測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R16

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1619-1634	14/Cloudy	Surface	1.0	18.3	29.9	29.9	6.24	6.22	86.1	85.8	5.19	5.22	5.31	8.2	8.1	8.4
						29.8		6.20		85.5		5.24			8.0		
			Middle	6.6	18.0	30.6	30.6	6.04	6.07	83.3	83.7	5.28	5.27		8.3	8.4	
						30.6		6.09		84.0		5.25			8.5		
			Bottom	12.2	17.3	31.1	31.1	5.94	5.96	81.9	82.2	5.42	5.45		8.8	8.7	
						31.1		5.98		82.5		5.48			8.6		
06/01/11	0746-0759	14/Cloudy	Surface	1.0	18.3	30.4	30.5	5.87	5.84	81.0	80.6	5.47	5.48	5.53	8.9	8.8	8.9
						30.5		5.81		80.2		5.48			8.6		
			Middle	6.5	17.8	31.0	30.6	5.86	5.84	80.9	80.6	5.42	5.44		9.0	8.9	
						30.2		5.82		80.3		5.46			8.8		
			Bottom	12.0	17.1	31.5	31.5	5.79	5.76	79.9	79.5	5.68	5.69		9.2	9.1	
						31.4		5.73		79.1		5.69			9.0		
08/01/11	0815-0826	11/Fine	Surface	1.0	18.5	30.4	30.5	6.18	6.16	84.7	84.4	5.02	5.04	5.15	8.0	8.0	8.2
						30.5		6.14		84.1		5.06			7.9		
			Middle	6.6	17.9	31.3	31.3	6.03	6.05	82.6	82.8	5.17	5.15		8.1	8.2	
						31.2		6.06		83.0		5.12			8.3		
			Bottom	12.2	17.4	31.6	31.7	5.94	5.96	81.4	81.6	5.23	5.25		8.5	8.5	
						31.7		5.97		81.8		5.27			8.4		
11/01/11	0915-0926	11/Cloudy	Surface	1.0	17.3	30.5	30.5	6.20	6.18	84.9	84.7	5.07	5.05	5.16	8.1	8.1	8.3
						30.5		6.16		84.4		5.02			8.0		
			Middle	6.9	18.4	31.1	31.2	6.04	6.06	82.7	83.0	5.14	5.17		8.2	8.3	
						31.2		6.07		83.2		5.19			8.4		
			Bottom	12.8	19.0	31.6	31.7	5.98	5.97	81.9	81.7	5.25	5.27		8.5	8.5	
						31.7		5.95		81.5		5.29			8.5		
13/01/11	0931-0944	11/Cloudy	Surface	1.0	18.3	30.3	30.4	6.08	6.07	83.9	83.7	5.42	5.43	5.57	8.8	8.8	9.1
						30.4		6.05		83.5		5.44			8.8		
			Middle	6.4	17.8	31.5	31.6	5.93	5.93	81.8	81.8	5.52	5.54		9.0	9.1	
						31.6		5.92		81.7		5.56			9.1		
			Bottom	11.8	16.8	32.0	32.0	5.80	5.82	80.0	80.3	5.74	5.73		9.4	9.3	
						31.9		5.84		80.6		5.72			9.2		
15/01/11	0931-0944	12/Fine	Surface	1.0	17.7	30.3	30.4	6.08	6.09	83.9	83.1	5.39	5.37	5.52	8.4	8.4	8.7
						30.4		6.09		82.2		5.35			8.4		
			Middle	6.4	18.1	31.2	31.3	5.94	5.95	81.9	81.2	5.54	5.55		8.9	8.7	
						31.3		5.96		80.5		5.56			8.5		
			Bottom	11.8	18.8	32.1	32.1	5.74	5.76	79.2	78.6	5.64	5.65		8.9	9.0	
						32.0		5.78		78.0		5.66			9.0		
18/01/11	1515-1527	16/Cloudy	Surface	1.0	17.7	30.3	30.4	6.16	6.15	84.4	84.3	5.13	5.14	5.20	8.4	8.4	8.4
						30.4		6.14		84.1		5.15			8.3		
			Middle	6.9	18.5	31.3	31.3	6.07	6.06	83.2	83.1	5.21	5.20		8.5	8.5	
						31.2		6.05		82.9		5.18			8.5		
			Bottom	12.9	19.2	31.6	31.7	5.82	5.81	79.7	79.6	5.27	5.26		8.6	8.5	
						31.7		5.80		79.5		5.25			8.3		
20/01/11	1550-1601	16/Cloudy	Surface	1.0	18.4	30.6	30.7	6.17	6.16	85.1	85.0	5.16	5.15	5.20	8.4	8.3	8.4
						30.7		6.15		84.9		5.13			8.1		
			Middle	6.8	19.3	31.4	31.5	6.04	6.06	83.4	83.6	5.21	5.20		8.2	8.3	
						31.5		6.07		83.8		5.18			8.3		
			Bottom	12.6	20.0	32.2	32.1	5.91	5.92	81.6	81.7	5.24	5.26		8.6	8.6	
						32.0		5.93		81.8		5.27			8.6		
22/01/11	1715-1726	14/Cloudy	Surface	1.0	17.5	30.6	30.6	6.15	6.17	84.3	84.5	5.09	5.07	5.15	8.1	8.1	8.3
						30.5		6.18		84.7		5.04			8.0		
			Middle	6.9	18.5	31.3	31.4	6.05	6.07	82.9	83.2	5.17	5.16		8.3	8.2	
						31.4		6.09		83.4		5.14			8.1		
			Bottom	12.8	19.2	31.8	31.8	5.94	5.96	81.4	81.7	5.22	5.24		8.6	8.5	
						31.7		5.98		81.9		5.25			8.4		
25/01/11	0816-0829	13/Cloudy	Surface	1.0	17.2	30.5	30.5	5.98	5.95	81.9	81.4	5.16	5.18	5.38	8.0	8.1	8.6
						30.4		5.91		80.9		5.19			8.1		
			Middle	6.4	17.8	31.2	31.2	5.91	5.92	80.9	81.0	5.40	5.42		8.8	8.7	
						31.1		5.92		81.1		5.43			8.5		
			Bottom	11.8	18.1	31.8	31.8	5.80	5.83	79.5	79.8	5.58	5.56		9.0	9.0	
						31.7		5.85		80.1		5.54			8.9		
27/01/11	0846-0859	13/Fine	Surface	1.0	16.7	30.7	30.8	6.01	6.03	83.5	83.7	5.12	5.15	5.34	8.2	8.1	8.5
						30.8		6.04		83.9		5.18			8.0		
			Middle	6.2	17.4	31.0	31.1	5.85	5.87	81.3	81.6	5.20	5.23		8.4	8.3	
						31.1		5.89		81.9		5.26			8.2		
			Bottom	11.4	17.7	31.7	31.8	5.92	5.94	82.3	82.6	5.63	5.63		9.0	9.1	
						31.8		5.96		82.8		5.62			9.2		
29/01/11	1415-1426	14/Sunny	Surface	1.0	17.6	31.1	31.1	6.27	6.29	87.1	87.3	4.87	4.85	4.90	7.7	7.8	7.9
						31.1		6.30		87.5		4.82			7.8		
			Middle	6.7	20.0	31.9	31.9	6.07	6.08	84.3	84.5	4.98	4.96		8.0	8.1	
						31.9		6.09		84.6		4.94			8.1		
			Bottom	12.4	20.7	32.1	32.2	5.88	5.90	81.1	81.4	4.86	4.90		7.6	7.8	
						32.2		5.92		81.6		4.94			7.9		

Mid-Flood Tide

Monitoring Station : R17

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1600-1615	14/Cloudy	Surface	1.0	18.3	30.0	30.0	6.21	6.20	85.6	85.4	5.23	5.26	5.31	8.3	8.2	8.5
						29.9		6.18		85.2		5.28			8.1		
			Middle	6.1	18.0	30.5	30.6	6.11	6.09	84.3	84.0	5.21	5.24		8.4	8.5	
						30.6		6.06		83.6		5.27			8.5		
			Bottom	11.2	17.4	31.0	31.1	5.90	5.92	81.4	81.6	5.46	5.43		9.0	8.9	
						31.1		5.93		81.8		5.40			8.7		
06/01/11	0730-0743	14/Cloudy	Surface	1.0	18.3	30.3	30.4	5.99	5.98	82.7	82.5	5.31	5.33	5.50	8.1	8.3	8.7
						30.4		5.96		82.2		5.34			8.4		
			Middle	6.3	17.9	30.9	31.0	5.86	5.84	80.9	80.6	5.53	5.55		8.7	8.9	
						31.0		5.82		80.3		5.56			9.0		
			Bottom	11.6	17.3	31.6	31.7	5.73	5.72	79.1	79.0	5.63	5.63		9.0	8.9	
						31.7		5.71		78.8		5.62			8.8		
08/01/11	0800-0812	11/Fine	Surface	1.0	18.4	30.3	30.3	6.24	6.23	85.5	85.3	5.01	5.02	5.12	8.0	8.0	8.2
						30.2		6.21		85.1		5.03			8.0		
			Middle	6.2	18.0	31.0	31.1	6.05	6.03	82.9	82.6	5.08	5.11		8.2	8.1	
						31.1		6.01		82.3		5.13			8.0		
			Bottom	11.4	17.5	31.8	31.8	5.96	5.94	81.7	81.4	5.22	5.24		8.5	8.4	
						31.7		5.92		81.1		5.25			8.2		
11/01/11	0900-0912	11/Cloudy	Surface	1.0	17.5	30.4	30.5	6.18	6.17	84.7	84.5	5.03	5.06	5.16	8.0	8.0	8.2
						30.5		6.15		84.3		5.09			8.0		
			Middle	6.3	18.6	31.2	31.3	6.06	6.05	83.0	82.8	5.18	5.16		8.3	8.2	
						31.4		6.03		82.6		5.13			8.0		
			Bottom	11.6	19.3	31.8	31.8	5.96	5.94	81.7	81.4	5.24	5.26		8.2	8.4	
						31.7		5.92		81.1		5.27			8.5		
13/01/11	0915-0928	11/Cloudy	Surface	1.0	18.4	30.5	30.5	6.02	6.03	83.1	83.2	5.49	5.45	5.53	9.0	9.0	9.0
						30.4		6.03		83.2		5.41			9.0		
			Middle	6.2	17.7	31.4	31.4	5.97	5.98	82.4	82.5	5.48	5.51		8.8	8.9	
						31.3		5.98		82.5		5.53			9.0		
			Bottom	11.4	16.9	31.9	31.9	5.71	5.74	78.8	79.2	5.62	5.64		9.2	9.1	
						31.8		5.76		79.5		5.65			9.0		
15/01/11	0915-0928	12/Fine	Surface	1.0	17.8	30.2	30.3	6.02	6.03	83.1	82.3	5.36	5.34	5.50	8.4	8.3	8.8
						30.3		6.04		81.5		5.32			8.1		
			Middle	6.3	18.2	31.3	31.4	5.87	5.87	79.2	79.2	5.50	5.52		8.7	8.9	
						31.4		5.86		79.1		5.53			9.0		
			Bottom	11.6	18.9	32.0	32.1	5.72	5.74	77.2	77.5	5.65	5.63		9.3	9.3	
						32.1		5.76		77.8		5.61			9.2		
18/01/11	1500-1512	16/Cloudy	Surface	1.0	17.9	30.5	30.6	6.19	6.20	84.8	84.9	5.07	5.08	5.16	8.0	8.0	8.2
						30.7		6.20		84.9		5.09			8.0		
			Middle	6.4	18.6	31.5	31.4	6.07	6.07	83.2	83.1	5.14	5.16		8.2	8.1	
						31.2		6.06		83.0		5.17			8.0		
			Bottom	11.7	19.3	31.7	31.8	5.98	5.98	81.9	81.9	5.26	5.24		8.5	8.4	
						31.8		5.97		81.8		5.22			8.3		
20/01/11	1535-1547	16/Cloudy	Surface	1.0	18.3	30.8	30.7	6.19	6.18	85.4	85.2	5.08	5.07	5.16	7.8	7.9	8.1
						30.6		6.16		85.0		5.05			8.0		
			Middle	6.4	19.2	31.5	31.6	6.05	6.07	83.5	83.7	5.16	5.15		8.1	8.1	
						31.7		6.08		83.9		5.14			8.0		
			Bottom	11.8	20.4	32.2	32.3	5.87	5.88	81.0	81.2	5.23	5.25		8.2	8.3	
						32.3		5.89		81.3		5.27			8.4		
22/01/11	1700-1712	14/Cloudy	Surface	1.0	17.6	30.3	30.4	6.17	6.18	84.5	84.7	5.07	5.06	5.16	8.1	8.1	8.2
						30.4		6.19		84.8		5.04			8.0		
			Middle	6.4	18.4	31.2	31.3	6.04	6.06	82.7	83.0	5.12	5.15		8.2	8.2	
						31.4		6.07		83.2		5.17			8.2		
			Bottom	11.7	19.2	31.7	31.8	5.93	5.95	81.2	81.5	5.25	5.27		8.5	8.5	
						31.8		5.97		81.8		5.28			8.4		
25/01/11	0800-0813	13/Cloudy	Surface	1.0	17.3	30.4	30.5	6.05	6.07	82.9	82.6	5.34	5.35	5.33	8.5	8.6	8.6
						30.5		6.08		82.3		5.36			8.7		
			Middle	6.3	17.9	30.9	31.0	5.93	5.95	80.1	80.9	5.47	5.48		9.0	9.0	
						31.0		5.96		81.6		5.49			9.0		
			Bottom	11.6	18.2	31.5	31.6	5.82	5.85	79.7	80.4	5.13	5.15		8.2	8.3	
						31.6		5.87		81.0		5.17			8.4		
27/01/11	0830-0843	13/Fine	Surface	1.0	16.8	30.6	30.7	6.02	6.05	83.7	84.1	5.09	5.07	5.36	8.0	7.9	8.3
						30.7		6.07		84.4		5.04			7.8		
			Middle	6.1	17.3	30.9	31.0	5.87	5.86	81.6	81.4	5.24	5.27		8.3	8.3	
						31.0		5.84		81.2		5.30			8.2		
			Bottom	11.2	17.8	31.6	31.6	5.76	5.78	80.1	80.3	5.78	5.75		8.8	8.9	
						31.5		5.79		80.5		5.71			8.9		
29/01/11	1400-1412	14/Sunny	Surface	1.0	17.5	30.9	31.0	6.15	6.17	85.4	85.7	4.94	5.00	5.10	8.0	8.1	8.2
						31.0		6.18		85.9		5.06			8.1		
			Middle	6.4	19.9	31.8	31.8	6.02	6.04	83.6	83.9	5.06	5.04		8.2	8.1	
						31.7		6.06		84.2		5.01			8.0		
			Bottom	11.8	20.7	32.0	32.0	5.98	5.97	82.5	82.3	5.27	5.26		8.2	8.3	
						32.0		5.95		82.1		5.24			8.4		

Mid-Flood Tide

東業偉勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R28

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1816-1830	13/Cloudy	Surface	1.0	18.2	30.1	30.1	6.16	6.18	85.0	85.3	5.21	5.24	5.36	8.3	8.3	8.6
						30.1		6.20		85.5		5.27			8.2		
			Middle	5.8	18.2	30.3	30.4	6.12	6.10	84.4	84.2	5.30	5.33		8.5	8.5	
						30.4		6.08		83.9		5.36			8.4		
			Bottom	10.6	17.6	30.9	31.0	5.96	5.94	82.2	81.9	5.51	5.50		9.0	9.0	
						31.0		5.91		81.5		5.49			9.0		
06/01/11	0953-1006	15/Cloudy	Surface	1.0	18.1	30.3	30.4	5.81	5.82	78.4	79.5	5.49	5.47	5.55	8.7	8.7	9.0
						30.4		5.83		80.5		5.45			8.6		
			Middle	6.2	17.7	31.2	31.3	5.83	5.85	78.7	79.0	5.59	5.56		9.0	9.0	
						31.3		5.87		79.2		5.53			9.0		
			Bottom	11.4	17.1	31.8	31.9	5.79	5.79	78.9	78.9	5.65	5.63		9.2	9.3	
						31.9		5.78		78.8		5.61			9.3		
08/01/11	1003-1014	11/Fine	Surface	1.0	18.6	30.3	30.4	6.20	6.18	84.9	84.7	5.04	5.07	5.16	8.0	8.1	8.3
						30.4		6.16		84.4		5.09			8.1		
			Middle	5.9	17.9	31.4	31.4	6.04	6.06	82.7	83.0	5.19	5.17		8.4	8.3	
						31.3		6.08		83.3		5.15			8.2		
			Bottom	10.8	17.3	31.6	31.7	5.98	5.97	81.9	81.7	5.24	5.26		8.5	8.5	
						31.7		5.95		81.5		5.27			8.5		
11/01/11	1111-1122	12/Cloudy	Surface	1.0	17.5	30.2	30.3	6.23	6.21	85.4	85.1	5.08	5.06	5.15	8.2	8.3	8.4
						30.3		6.19		84.8		5.03			8.4		
			Middle	5.7	18.3	31.1	31.2	6.05	6.07	82.9	83.2	5.12	5.15		8.4	8.4	
						31.2		6.09		83.4		5.17			8.3		
			Bottom	10.4	19.0	31.6	31.6	5.97	5.96	81.8	81.6	5.22	5.24		8.5	8.4	
						31.5		5.94		81.4		5.26			8.3		
13/01/11	1143-1157	12/Cloudy	Surface	1.0	18.5	30.4	30.4	6.04	6.06	83.4	83.7	5.49	5.48	5.65	8.9	9.0	9.2
						30.4		6.08		84.0		5.47			9.0		
			Middle	6.0	17.7	31.3	31.4	5.91	5.92	81.6	81.7	5.62	5.65		9.3	9.4	
						31.4		5.93		81.8		5.67			9.4		
			Bottom	11.0	16.6	31.8	31.8	5.79	5.80	79.9	80.1	5.81	5.83		9.5	9.4	
						31.7		5.81		80.2		5.84			9.2		
15/01/11	1137-1150	13/Fine	Surface	1.0	17.8	30.3	30.3	6.03	6.05	83.2	83.4	5.35	5.37	5.54	8.3	8.3	8.8
						30.2		6.06		83.6		5.39			8.3		
			Middle	6.0	18.3	31.4	31.5	5.87	5.88	81.0	81.2	5.50	5.51		9.0	8.9	
						31.5		5.89		81.3		5.52			8.7		
			Bottom	11.0	18.4	31.9	32.0	5.81	5.81	80.2	80.1	5.72	5.74		9.3	9.2	
						32.0		5.80		80.0		5.76			9.0		
18/01/11	1712-1723	16/Cloudy	Surface	1.0	17.7	30.4	30.5	6.17	6.17	84.5	84.5	5.09	5.10	5.18	8.2	8.2	8.3
						30.5		6.16		84.4		5.11			8.2		
			Middle	5.8	18.6	31.5	31.5	6.09	6.07	83.4	83.2	5.17	5.19		8.3	8.2	
						31.4		6.05		82.9		5.21			8.0		
			Bottom	10.6	19.2	31.8	31.8	5.88	5.85	80.6	80.2	5.24	5.26		8.5	8.4	
						31.7		5.82		79.7		5.28			8.3		
20/01/11	1748-1800	16/Cloudy	Surface	1.0	18.5	30.8	30.8	6.16	6.15	85.0	84.9	5.14	5.12	5.19	8.4	8.3	8.4
						30.7		6.14		84.7		5.10			8.1		
			Middle	5.8	19.4	31.4	31.4	6.04	6.03	83.4	83.3	5.20	5.19		8.5	8.4	
						31.3		6.02		83.1		5.17			8.3		
			Bottom	10.6	20.2	32.3	32.3	5.93	5.93	81.8	81.8	5.25	5.27		8.6	8.6	
						32.2		5.92		81.7		5.28			8.5		
22/01/11	1903-1914	14/Cloudy	Surface	1.0	17.6	30.5	30.5	6.18	6.19	84.7	84.8	5.04	5.06	5.14	8.0	8.0	8.1
						30.4		6.19		84.8		5.07			8.0		
			Middle	5.8	18.3	31.2	31.3	6.07	6.06	83.2	83.0	5.13	5.15		8.2	8.1	
						31.3		6.04		82.7		5.17			8.0		
			Bottom	10.5	19.3	31.5	31.6	5.93	5.95	81.2	81.5	5.21	5.23		8.3	8.3	
						31.6		5.97		81.8		5.24			8.2		
25/01/11	1021-1033	14/Cloudy	Surface	1.0	17.4	30.4	30.5	5.94	5.95	81.4	81.5	5.20	5.25	5.45	8.5	8.5	8.8
						30.5		5.95		81.5		5.30			8.4		
			Middle	6.1	17.8	31.2	31.2	5.86	5.84	80.3	80.0	5.43	5.46		8.8	8.9	
						31.1		5.82		79.7		5.49			9.0		
			Bottom	11.2	18.4	32.0	32.1	5.78	5.78	79.2	79.1	5.61	5.63		9.1	9.1	
						32.1		5.77		79.0		5.64			9.0		
27/01/11	1052-1105	14/Fine	Surface	1.0	16.6	30.6	30.7	5.90	5.95	82.0	82.7	5.30	5.29	5.41	8.6	8.6	8.7
						30.7		5.99		83.3		5.28			8.5		
			Middle	5.9	17.3	31.1	31.2	5.84	5.85	81.2	81.4	5.39	5.41		8.7	8.6	
						31.2		5.86		81.5		5.42			8.5		
			Bottom	10.8	17.8	32.0	32.0	5.74	5.73	79.8	79.7	5.56	5.54		9.0	8.9	
						31.9		5.72		79.5		5.51			8.8		
29/01/11	1611-1622	14/Sunny	Surface	1.0	17.9	31.2	31.3	6.09	6.08	84.6	84.4	5.15	5.19	5.21	8.3	8.2	8.3
						31.3		6.06		84.2		5.22			8.0		
			Middle	6.1	20.2	31.8	31.8	5.97	5.96	82.9	82.7	5.27	5.24		8.4	8.5	
						31.7		5.94		82.5		5.21			8.5		
			Bottom	11.2	20.7	32.3	32.4	5.81	5.80	80.1	79.9	5.18	5.20		8.3	8.2	
						32.4		5.78		79.7		5.22			8.1		

Mid-Flood Tide

東祥檢驗測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R29

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1836-1852	13/Cloudy	Surface	1.0	18.2	30.0	30.1	6.01	5.99	82.9	82.6	5.36	5.38	5.52	8.4	8.4	8.8
						30.1		5.97		82.3		5.40			8.3		
			Middle	8.9	17.8	30.6	30.6	5.89	5.86	81.2	80.8	5.47	5.49		8.9	9.1	
						30.6		5.82		80.3		5.51			9.2		
			Bottom	16.8	17.3	31.1	31.2	5.70	5.73	78.6	79.0	5.67	5.69		9.1	9.1	
						31.2		5.75		79.3		5.71			9.0		
06/01/11	1009-1022	15/Cloudy	Surface	1.0	18.3	30.5	30.5	5.85	5.85	78.9	78.9	5.36	5.35	5.51	8.2	8.4	8.8
						30.4		5.84		78.8		5.34			8.5		
			Middle	8.9	17.8	31.2	31.2	5.77	5.78	79.6	79.8	5.57	5.57		9.0	8.9	
						31.2		5.79		79.9		5.56			8.8		
			Bottom	16.8	17.2	31.8	31.8	5.73	5.74	79.1	79.2	5.60	5.62		9.2	9.1	
						31.7		5.74		79.2		5.64			9.0		
08/01/11	1026-1037	11/Fine	Surface	1.0	18.5	30.2	30.3	6.17	6.16	84.5	84.3	5.05	5.08	5.17	8.1	8.1	8.2
						30.3		6.14		84.1		5.10			8.0		
			Middle	8.9	18.1	30.9	31.0	6.07	6.05	83.2	82.9	5.14	5.17		8.2	8.2	
						31.0		6.03		82.6		5.19			8.1		
			Bottom	16.8	17.4	31.5	31.6	5.96	5.95	81.7	81.5	5.29	5.27		8.4	8.4	
						31.6		5.93		81.2		5.25			8.4		
11/01/11	1136-1147	12/Cloudy	Surface	1.0	17.3	30.5	30.5	6.13	6.15	84.0	84.2	5.04	5.06	5.15	8.1	8.2	8.3
						30.4		6.16		84.4		5.08			8.2		
			Middle	8.7	18.4	31.4	31.5	6.07	6.06	83.2	83.0	5.17	5.15		8.5	8.5	
						31.5		6.04		82.7		5.13			8.5		
			Bottom	16.4	19.1	31.7	31.7	5.93	5.95	81.2	81.5	5.23	5.25		8.4	8.3	
						31.7		5.97		81.8		5.27			8.2		
13/01/11	1200-1214	12/Cloudy	Surface	1.0	18.4	30.4	30.4	6.07	6.06	83.8	83.5	5.44	5.42	5.66	8.8	8.7	9.0
						30.3		6.05		83.1		5.40			8.6		
			Middle	8.7	17.8	31.3	31.3	5.86	5.84	80.8	80.6	5.69	5.71		9.0	9.1	
						31.3		5.82		80.3		5.72			9.1		
			Bottom	16.4	16.5	31.8	31.9	5.84	5.84	80.6	80.6	5.85	5.86		9.3	9.3	
						31.9		5.83		80.5		5.87			9.2		
15/01/11	1153-1206	13/Fine	Surface	1.0	17.7	30.3	30.4	6.07	6.08	83.8	83.9	5.31	5.31	5.54	8.4	8.3	8.8
						30.4		6.08		83.9		5.30			8.2		
			Middle	8.9	18.1	31.3	31.4	5.73	5.74	79.2	79.2	5.53	5.56		8.9	9.0	
						31.4		5.74		79.2		5.59			9.0		
			Bottom	16.8	18.6	31.8	31.9	5.83	5.82	80.5	80.3	5.77	5.75		9.3	9.2	
						31.9		5.80		80.0		5.72			9.0		
18/01/11	1712-1723	16/Cloudy	Surface	1.0	17.9	30.3	30.4	6.19	6.19	84.8	84.8	5.14	5.12	5.18	8.1	8.1	8.1
						30.4		6.18		84.7		5.10			8.1		
			Middle	8.8	18.4	31.2	31.2	6.07	6.08	83.2	83.3	5.18	5.18		8.2	8.1	
						31.2		6.08		83.3		5.17			8.0		
			Bottom	16.5	19.4	31.5	31.6	5.85	5.88	80.1	80.5	5.28	5.25		7.9	8.1	
						31.6		5.90		80.8		5.22			8.2		
20/01/11	1814-1825	16/Cloudy	Surface	1.0	18.3	30.5	30.6	6.16	6.14	85.0	84.8	5.16	5.15	5.22	8.2	8.2	8.3
						30.6		6.12		84.5		5.14			8.1		
			Middle	8.6	19.3	31.5	31.6	6.02	6.04	83.1	83.3	5.21	5.22		8.4	8.3	
						31.6		6.05		83.5		5.23			8.2		
			Bottom	16.2	20.3	32.2	32.3	5.86	5.88	80.9	81.1	5.31	5.30		8.6	8.6	
						32.3		5.89		81.3		5.29			8.5		
22/01/11	1926-1937	14/Cloudy	Surface	1.0	17.4	30.3	30.4	6.16	6.15	84.4	84.3	5.06	5.08	5.16	8.1	8.1	8.3
						30.4		6.14		84.1		5.09			8.1		
			Middle	8.8	18.4	31.5	31.5	6.05	6.04	82.9	82.8	5.15	5.17		8.3	8.3	
						31.4		6.03		82.6		5.18			8.2		
			Bottom	16.6	19.2	31.8	31.8	5.95	5.94	81.5	81.3	5.26	5.24		8.5	8.4	
						31.7		5.92		81.1		5.22			8.3		
25/01/11	1036-1049	14/Cloudy	Surface	1.0	17.3	30.4	30.4	6.03	6.05	82.6	82.8	5.14	5.16	5.33	8.1	8.2	8.4
						30.3		6.06		83.0		5.17			8.2		
			Middle	8.7	18.0	31.1	31.1	5.87	5.88	80.4	80.5	5.28	5.29		8.4	8.3	
						31.0		5.88		80.6		5.29			8.2		
			Bottom	16.4	18.4	31.9	31.9	5.70	5.75	78.1	78.7	5.53	5.54		8.7	8.9	
						31.8		5.79		79.3		5.54			9.0		
27/01/11	1108-1121	14/Fine	Surface	1.0	16.7	30.5	30.6	6.01	6.04	83.5	84.0	5.17	5.19	5.39	8.2	8.3	8.6
						30.6		6.07		84.4		5.20			8.4		
			Middle	8.7	17.4	31.2	31.3	5.87	5.88	81.6	81.8	5.35	5.37		8.6	8.6	
						31.3		5.89		81.9		5.38			8.6		
			Bottom	16.4	17.9	32.0	32.1	5.79	5.80	80.5	80.6	5.62	5.63		9.0	8.9	
						32.1		5.80		80.6		5.64			8.8		
29/01/11	1636-1647	14/Sunny	Surface	1.0	17.9	31.3	31.3	6.15	6.13	85.4	85.2	5.43	5.40	5.35	8.8	8.9	8.5
						31.3		6.11		84.9		5.37			9.0		
			Middle	8.7	20.2	31.8	31.9	5.99	5.97	83.2	83.0	5.21	5.23		8.3	8.2	
						31.9		5.95		82.7		5.25			8.1		
			Bottom	16.4	20.8	32.4	32.4	5.88	5.86	81.1	80.8	5.39	5.41		8.5	8.5	
						32.4		5.84		80.5		5.43			8.4		

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1702-1717	14/Cloudy	Surface	1.0	18.3	29.9	30.0	6.22	6.19	85.8	85.4	5.16	5.18	5.34	8.1	8.1	8.4
						30.0		6.16		85.0		5.20			8.0		
			Middle	7.3	18.0	30.5	30.6	6.08	6.10	83.9	84.2	5.29	5.32		8.3	8.3	
						30.6		6.12		84.4		5.34			8.3		
			Bottom	13.6	17.4	31.1	31.1	5.92	5.94	81.6	81.9	5.49	5.51		8.6	8.7	
						31.1		5.96		82.2		5.53			8.8		
06/01/11	0839-0852	14/Cloudy	Surface	1.0	18.3	30.5	30.5	5.97	5.96	82.4	82.2	5.30	5.35	5.53	8.4	8.4	8.8
						30.4		5.94		81.9		5.39			8.4		
			Middle	7.7	17.8	31.1	31.2	5.82	5.82	80.3	80.3	5.57	5.59		8.8	8.9	
						31.2		5.81		80.2		5.60			9.0		
			Bottom	14.4	17.3	31.9	31.9	5.74	5.72	79.2	79.0	5.64	5.65		9.1	9.1	
						31.8		5.70		78.7		5.66			9.0		
08/01/11	0857-0909	11/Fine	Surface	1.0	18.6	30.3	30.4	6.17	6.15	84.5	84.3	5.04	5.06	5.16	8.0	8.1	8.2
						30.4		6.13		84.0		5.08			8.1		
			Middle	7.3	17.9	31.2	31.3	6.04	6.07	82.7	83.1	5.14	5.17		8.2	8.1	
						31.3		6.09		83.4		5.19			8.0		
			Bottom	13.6	17.2	31.7	31.8	5.95	5.93	81.5	81.3	5.23	5.25		8.5	8.4	
						31.8		5.91		81.0		5.26			8.2		
11/01/11	1000-1012	11/Cloudy	Surface	1.0	17.6	30.4	30.5	6.18	6.16	84.7	84.4	5.04	5.07	5.16	8.0	8.1	8.3
						30.5		6.14		84.1		5.09			8.2		
			Middle	7.1	18.5	31.0	31.0	6.06	6.05	83.0	82.9	5.13	5.16		8.3	8.3	
						30.9		6.04		82.7		5.19			8.2		
			Bottom	13.2	19.2	31.5	31.6	5.95	5.95	81.5	81.5	5.28	5.26		8.6	8.6	
						31.6		5.95		81.5		5.24			8.5		
13/01/11	1020-1033	11/Cloudy	Surface	1.0	18.2	30.4	30.4	6.03	6.05	83.2	83.4	5.45	5.47	5.61	8.9	8.8	9.0
						30.3		6.06		83.6		5.49			8.7		
			Middle	7.7	17.8	31.5	31.5	5.98	5.96	82.5	82.2	5.68	5.67		8.8	9.0	
						31.4		5.94		81.9		5.66			9.1		
			Bottom	14.4	16.7	31.8	31.8	5.85	5.86	80.7	80.9	5.70	5.70		9.3	9.2	
						31.8		5.87		81.0		5.69			9.0		
15/01/11	1025-1038	12/Fine	Surface	1.0	17.6	30.2	30.3	5.98	5.97	82.5	82.4	5.42	5.46	5.57	8.8	8.9	8.9
						30.3		5.96		82.2		5.49			9.0		
			Middle	7.7	18.3	31.4	31.5	5.88	5.86	81.1	80.8	5.54	5.53		8.7	8.7	
						31.5		5.83		80.5		5.52			8.7		
			Bottom	14.4	18.6	31.9	31.9	5.75	5.77	79.4	79.7	5.70	5.74		9.2	9.1	
						31.9		5.79		79.9		5.77			9.0		
18/01/11	1600-1612	16/Cloudy	Surface	1.0	17.8	30.5	30.6	6.14	6.17	84.1	84.5	5.11	5.13	5.19	8.2	8.3	8.3
						30.6		6.19		84.8		5.15			8.4		
			Middle	7.2	18.5	31.1	31.2	6.08	6.05	83.3	82.9	5.15	5.17		8.1	8.1	
						31.2		6.02		82.5		5.18			8.1		
			Bottom	13.4	19.3	31.6	31.7	5.89	5.90	80.7	80.9	5.28	5.26		8.5	8.4	
						31.8		5.91		81.0		5.24			8.3		
20/01/11	1636-1649	16/Cloudy	Surface	1.0	18.6	30.5	30.6	6.14	6.16	84.7	85.0	5.04	5.06	5.16	8.0	8.0	8.2
						30.7		6.18		85.3		5.08			8.0		
			Middle	7.1	19.5	31.5	31.4	6.06	6.05	83.6	83.5	5.14	5.17		8.3	8.2	
						31.3		6.04		83.4		5.19			8.0		
			Bottom	13.2	20.4	32.2	32.2	5.92	5.91	81.7	81.6	5.24	5.25		8.4	8.5	
						32.1		5.90		81.4		5.26			8.5		
22/01/11	1757-1809	14/Cloudy	Surface	1.0	17.6	30.5	30.5	6.12	6.15	83.8	84.3	5.02	5.05	5.15	8.0	8.1	8.2
						30.4		6.18		84.7		5.08			8.1		
			Middle	7.2	18.5	31.2	31.3	6.07	6.07	83.2	83.1	5.12	5.14		8.3	8.4	
						31.3		6.06		83.0		5.16			8.4		
			Bottom	13.4	19.1	31.6	31.6	5.92	5.94	81.1	81.4	5.29	5.27		8.2	8.2	
						31.5		5.96		81.7		5.24			8.2		
25/01/11	0909-0921	13/Cloudy	Surface	1.0	17.2	30.4	30.4	6.07	6.05	83.8	82.5	5.38	5.39	5.63	8.6	8.5	9.1
						30.3		6.02		81.2		5.39			8.4		
			Middle	7.7	17.8	31.2	31.3	5.95	5.93	80.3	80.6	5.68	5.67		9.2	9.3	
						31.3		5.90		80.8		5.65			9.3		
			Bottom	14.4	18.1	31.8	31.8	5.89	5.88	79.5	79.9	5.80	5.83		9.5	9.4	
						31.7		5.86		80.3		5.85			9.3		
27/01/11	0939-0953	13/Fine	Surface	1.0	16.6	30.5	30.6	6.04	6.07	83.9	84.3	5.24	5.26	5.54	8.2	8.2	8.8
						30.6		6.09		84.7		5.28			8.1		
			Middle	7.5	17.4	31.1	31.2	5.85	5.87	81.3	81.5	5.59	5.60		9.0	8.9	
						31.2		5.88		81.7		5.61			8.8		
			Bottom	14.0	17.6	31.8	31.9	5.73	5.75	79.6	79.9	5.74	5.76		9.2	9.2	
						31.9		5.76		80.1		5.78			9.2		
29/01/11	1500-1512	14/Sunny	Surface	1.0	17.8	31.2	31.2	6.10	6.09	84.7	84.5	5.01	5.03	5.08	8.0	8.1	8.0
						31.2		6.07		84.3		5.05			8.1		
			Middle	7.4	20.0	31.9	31.9	5.94	5.92	82.5	82.3	5.09	5.05		8.0	8.0	
						31.9		5.90		82.0		5.01			7.9		
			Bottom	13.8	20.8	32.1	32.2	5.89	5.88	81.2	81.0	5.15	5.17		8.2	8.1	
						32.2		5.86		80.8		5.19			8.0		

Mid-Flood Tide

東業環境測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : C3

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1726-1742	14/Cloudy	Surface	1.0	18.4	30.0	30.0	6.15	6.17	84.8	85.1	5.21	5.23	5.38	8.2	8.2	8.6
						30.0		6.19		85.4		5.25			8.2		
			Middle	6.9	18.0	30.5	30.5	6.02	6.04	83.0	83.2	5.36	5.38		8.5	8.5	
						30.5		6.05		83.4		5.40			8.4		
			Bottom	12.8	17.4	31.1	31.1	5.91	5.90	81.5	81.3	5.51	5.53		8.9	9.0	
						31.1		5.88		81.1		5.55			9.1		
06/01/11	0904-0917	14/Cloudy	Surface	1.0	18.2	30.5	30.6	5.89	5.87	81.3	81.0	5.36	5.37	5.52	8.2	8.2	8.7
						30.6		5.85		80.7		5.38			8.1		
			Middle	6.9	17.8	31.3	31.3	5.90	5.93	81.4	81.8	5.53	5.54		8.9	9.0	
						31.2		5.95		82.1		5.55			9.0		
			Bottom	12.8	17.3	31.9	31.9	5.71	5.74	78.8	79.2	5.67	5.65		9.1	9.1	
						31.8		5.77		79.6		5.63			9.1		
08/01/11	0920-0932	11/Fine	Surface	1.0	18.5	30.7	30.7	6.21	6.19	85.1	84.8	5.05	5.07	5.15	8.0	8.1	8.3
						30.6		6.17		84.5		5.09			8.1		
			Middle	6.8	17.8	31.3	31.4	6.13	6.11	84.0	83.7	5.13	5.15		8.3	8.3	
						31.4		6.09		83.4		5.16			8.2		
			Bottom	12.6	17.4	31.6	31.7	5.97	5.96	81.8	81.6	5.25	5.23		8.4	8.5	
						31.7		5.94		81.4		5.21			8.5		
11/01/11	1025-1037	11/Cloudy	Surface	1.0	17.5	30.5	30.6	6.14	6.16	84.1	84.3	5.02	5.04	5.14	8.2	8.1	8.3
						30.6		6.17		84.5		5.06			8.0		
			Middle	6.9	18.4	31.2	31.3	6.08	6.07	83.3	83.1	5.12	5.15		8.4	8.3	
						31.3		6.05		82.9		5.17			8.2		
			Bottom	12.8	19.1	31.7	31.7	5.96	5.95	81.7	81.5	5.27	5.25		8.5	8.4	
						31.6		5.93		81.2		5.22			8.2		
13/01/11	1045-1057	11/Cloudy	Surface	1.0	18.3	30.5	30.5	5.99	5.99	82.7	82.6	5.62	5.61	5.71	9.2	9.1	9.3
						30.4		5.98		82.5		5.60			9.0		
			Middle	6.7	17.8	31.4	31.4	5.87	5.85	81.0	80.7	5.72	5.71		9.4	9.3	
						31.4		5.82		80.3		5.69			9.2		
			Bottom	12.4	16.8	31.9	31.9	5.83	5.86	80.5	80.8	5.78	5.80		9.5	9.5	
						31.8		5.88		81.1		5.82			9.4		
15/01/11	1050-1103	12/Fine	Surface	1.0	17.6	30.2	30.2	5.96	5.94	82.2	81.9	5.41	5.42	5.57	8.9	9.0	9.1
						30.1		5.91		81.6		5.43			9.0		
			Middle	6.9	18.2	31.4	31.4	5.85	5.87	80.7	80.9	5.51	5.52		9.1	9.1	
						31.4		5.88		81.1		5.53			9.1		
			Bottom	12.8	18.7	31.9	32.0	5.72	5.75	78.9	79.4	5.74	5.76		9.3	9.2	
						32.0		5.78		79.8		5.78			9.0		
18/01/11	1626-1638	16/Cloudy	Surface	1.0	17.7	30.7	30.7	6.17	6.16	84.5	84.4	5.09	5.10	5.17	8.0	8.0	8.2
						30.6		6.15		84.3		5.11			7.9		
			Middle	6.9	18.6	31.3	31.4	6.05	6.06	82.9	83.1	5.13	5.15		8.1	8.1	
						31.4		6.07		83.2		5.16			8.0		
			Bottom	12.8	19.3	31.7	31.7	5.92	5.91	81.1	81.0	5.25	5.26		8.4	8.5	
						31.7		5.90		80.8		5.27			8.5		
20/01/11	1701-1713	16/Cloudy	Surface	1.0	18.5	30.7	30.7	6.12	6.12	84.5	84.4	5.07	5.06	5.16	8.0	8.0	8.3
						30.6		6.11		84.3		5.05			8.0		
			Middle	6.9	19.4	31.2	31.3	6.08	6.07	83.9	83.7	5.15	5.17		8.2	8.3	
						31.4		6.05		83.5		5.18			8.4		
			Bottom	12.8	20.2	32.0	32.1	5.92	5.90	81.7	81.8	5.24	5.26		8.6	8.6	
						32.1		5.88		81.8		5.28			8.5		
22/01/11	1820-1832	14/Cloudy	Surface	1.0	17.5	30.6	30.6	6.17	6.16	84.5	84.3	5.06	5.07	5.16	8.0	8.1	8.3
						30.5		6.14		84.1		5.08			8.2		
			Middle	6.9	18.4	31.1	31.2	6.08	6.07	83.3	83.2	5.14	5.16		8.3	8.2	
						31.2		6.06		83.0		5.18			8.1		
			Bottom	12.8	19.2	31.5	31.6	5.93	5.95	81.2	81.5	5.25	5.26		8.5	8.5	
						31.6		5.97		81.8		5.27			8.4		
25/01/11	0933-0943	13/Cloudy	Surface	1.0	17.3	30.5	30.5	5.97	5.95	81.8	80.9	5.32	5.31	5.54	8.6	8.5	8.9
						30.4		5.92		79.9		5.29			8.4		
			Middle	6.9	17.7	31.3	31.4	5.99	5.96	80.9	80.4	5.55	5.55		9.0	9.0	
						31.4		5.92		79.9		5.54			8.9		
			Bottom	12.8	18.2	31.9	31.9	5.87	5.86	80.4	80.2	5.79	5.77		9.3	9.2	
						31.8		5.84		80.0		5.75			9.1		
27/01/11	1005-1018	13/Fine	Surface	1.0	16.8	30.6	30.7	5.94	5.95	82.6	82.7	5.31	5.33	5.50	8.6	8.7	9.0
						30.7		5.95		82.7		5.35			8.7		
			Middle	6.7	17.3	31.0	31.0	5.90	5.90	82.0	82.0	5.48	5.46		9.0	9.0	
						31.0		5.89		81.9		5.43			9.0		
			Bottom	12.4	17.7	31.9	31.9	5.70	5.72	79.2	79.4	5.73	5.72		9.1	9.3	
						31.8		5.73		79.6		5.70			9.4		
29/01/11	1525-1537	14/Sunny	Surface	1.0	17.8	31.2	31.2	6.18	6.16	85.9	85.6	4.99	5.02	5.09	8.0	8.1	8.2
						31.1		6.14		85.3		5.05			8.1		
			Middle	6.7	20.2	31.9	32.0	6.02	6.04	83.0	83.3	5.02	5.05		7.9	8.0	
						32.0		6.06		83.6		5.08			8.1		
			Bottom	12.4	20.8	32.2	32.2	5.71	5.73	78.7	79.0	5.21	5.19		8.5	8.4	
						32.2		5.74		79.2		5.17			8.3		

Mid-Ebb Tide

東輝德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : C2

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1508-1520	13/Cloudy	Surface	1.0	18.6	30.4	30.5	5.90	5.93	81.4	81.8	5.38	5.35	5.47	8.2	8.3	8.7
						30.5		5.95		82.1		5.31			8.3		
			Middle	7.7	17.8	31.6	31.6	5.87	5.88	81.0	80.3	5.49	5.48		8.7	8.8	
						31.5		5.89		79.5		5.46			8.9		
			Bottom	14.4	16.3	32.1	32.2	5.80	5.81	80.0	80.2	5.58	5.59		9.0	8.9	
						32.2		5.82		80.3		5.60			8.8		
06/01/11	1610-1622	14/Cloudy	Surface	1.0	18.9	31.2	31.2	6.02	6.04	83.6	83.8	5.21	5.19	5.24	8.5	8.4	8.4
						31.2		6.05		84.0		5.17			8.2		
			Middle	8.4	20.4	32.0	32.0	5.95	5.97	82.7	83.0	5.39	5.38		8.6	8.7	
						31.9		5.99		83.2		5.36			8.8		
			Bottom	15.8	20.9	32.3	32.3	5.83	5.85	80.4	80.7	5.18	5.14		8.3	8.2	
						32.3		5.87		81.0		5.10			8.1		
08/01/11	1739-1756	14/Fine	Surface	1.0	18.3	30.6	30.6	6.12	6.09	83.8	83.4	5.17	5.22	5.41	8.2	8.4	8.7
						30.6		6.06		83.0		5.26			8.5		
			Middle	8.0	17.9	31.1	31.1	5.97	5.95	81.7	81.4	5.37	5.41		8.6	8.6	
						31.1		5.92		81.1		5.44			8.5		
			Bottom	15.0	17.4	31.9	31.9	5.78	5.75	79.1	78.7	5.65	5.62		9.0	9.1	
						31.9		5.72		78.3		5.59			9.2		
11/01/11	1915-1930	10/Cloudy	Surface	1.0	17.4	30.4	30.5	5.95	5.95	82.1	82.0	5.48	5.45	5.44	8.2	8.3	8.6
						30.5		5.94		81.9		5.41			8.3		
			Middle	8.0	18.4	31.2	31.3	5.88	5.86	81.1	80.9	5.36	5.34		8.5	8.4	
						31.3		5.84		80.6		5.31			8.2		
			Bottom	15.0	19.4	31.9	31.9	5.82	5.81	80.3	80.2	5.51	5.53		9.0	9.2	
						31.9		5.80		80.0		5.54			9.3		
13/01/11	2043-2100	13/Fine	Surface	1.0	17.4	30.6	30.6	6.00	5.98	82.2	81.9	5.37	5.39	5.55	8.3	8.3	8.8
						30.6		5.96		81.6		5.41			8.2		
			Middle	7.3	17.1	31.0	31.0	5.89	5.87	80.6	80.3	5.52	5.55		9.0	8.9	
						31.0		5.84		80.0		5.57			8.8		
			Bottom	13.6	16.6	31.6	31.7	5.77	5.75	79.0	78.7	5.69	5.72		9.1	9.2	
						31.7		5.72		78.3		5.75			9.2		
15/01/11	2141-2151	14/Fine	Surface	1.0	16.8	31.3	31.3	6.14	6.13	84.7	84.5	5.56	5.59	5.35	9.3	9.2	8.7
						31.2		6.11		84.3		5.62			9.0		
			Middle	7.8	19.9	32.1	32.1	5.86	5.85	80.8	80.7	5.17	5.20		8.4	8.3	
						32.1		5.84		80.5		5.23			8.2		
			Bottom	15.6	20.2	32.4	32.4	5.80	5.82	79.4	79.6	5.22	5.26		8.6	8.6	
						32.4		5.83		79.8		5.30			8.5		
18/01/11	1345-1400	17/Fine	Surface	1.0	17.6	30.6	30.7	6.19	6.18	84.8	84.6	5.17	5.19	5.37	8.0	8.1	8.5
						30.7		6.16		84.3		5.21			8.2		
			Middle	7.4	17.3	31.1	31.1	6.08	6.05	83.2	82.8	5.36	5.38		8.5	8.5	
						31.0		6.02		82.4		5.39			8.5		
			Bottom	13.8	17.7	31.6	31.7	5.91	5.89	80.9	80.6	5.53	5.56		8.7	8.9	
						31.7		5.86		80.2		5.58			9.0		
20/01/11	1431-1441	15/Cloudy	Surface	1.0	18.3	31.4	31.4	6.08	6.07	84.5	84.3	5.10	5.13	5.14	8.2	8.1	8.3
						31.3		6.05		84.0		5.15			8.0		
			Middle	8.4	20.5	32.1	32.1	5.90	5.92	82.0	82.3	5.08	5.05		8.1	8.2	
						32.0		5.94		82.5		5.01			8.3		
			Bottom	15.8	20.8	32.3	32.3	5.77	5.76	78.6	78.9	5.22	5.26		8.6	8.5	
						32.2		5.74		79.2		5.30			8.4		
22/01/11	1556-1608	15/Cloudy	Surface	1.0	17.5	30.2	30.3	6.15	6.13	85.5	84.9	5.01	5.03	5.13	8.0	8.1	8.2
						30.3		6.11		84.3		5.05			8.1		
			Middle	7.9	18.5	31.2	31.2	6.07	6.06	83.8	83.3	5.15	5.13		8.2	8.2	
						31.1		6.04		82.7		5.11			8.2		
			Bottom	14.8	19.4	31.8	31.8	5.99	5.99	82.6	82.4	5.25	5.23		8.4	8.5	
						31.7		5.99		82.1		5.20			8.5		
25/01/11	1850-1905	16/Fine	Surface	1.0	17.7	30.7	30.7	5.99	5.97	82.0	81.8	5.34	5.32	5.46	8.5	8.4	8.7
						30.7		5.95		81.5		5.30			8.3		
			Middle	7.5	17.9	30.9	31.0	5.89	5.88	80.6	80.4	5.43	5.46		8.8	8.7	
						31.0		5.86		80.2		5.48			8.5		
			Bottom	14.0	18.1	31.7	31.7	5.80	5.78	79.4	79.1	5.59	5.61		9.0	9.2	
						31.7		5.75		78.7		5.63			9.3		
27/01/11	2009-2019	16/Fine	Surface	1.0	17.5	31.3	31.3	6.09	6.08	84.6	84.4	5.03	5.02	5.06	8.0	8.0	8.1
						31.3		6.06		84.2		5.01			7.9		
			Middle	8.3	20.0	32.0	32.1	5.92	5.91	82.2	82.0	5.14	5.11		8.2	8.3	
						32.1		5.89		81.8		5.08			8.3		
			Bottom	15.6	20.2	32.4	32.4	5.87	5.85	81.0	80.7	5.01	5.06		8.0	8.0	
						32.3		5.83		80.4		5.10			8.0		
29/01/11	1216-1226	13/Sunny	Surface	1.0	16.5	30.4	30.5	6.15	6.13	84.9	84.6	5.15	5.18	5.27	8.0	8.0	8.3
						30.5		6.11		84.3		5.20			8.0		
			Middle	7.9	19.6	31.0	31.0	6.07	6.04	83.8	83.4	5.29	5.27		8.1	8.2	
						31.0		6.01		82.9		5.24			8.2		
			Bottom	14.8	20.6	31.6	31.7	5.92	5.94	81.1	81.4	5.35	5.38		8.5	8.7	
						31.8		5.96		81.7		5.40			8.8		

Mid-Ebb Tide

Monitoring Station : C4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1457-1500	13/Cloudy	Surface	1.0	18.7	30.3	30.4	5.85	5.84	80.7	80.5	5.50	5.48	5.61	8.4	8.4	8.8
						30.4		5.82		80.3		5.45			8.4		
			Middle	8.1	17.7	31.5	31.6	5.74	5.72	79.2	79.0	5.65	5.63		8.8	8.9	
						31.6		5.70		78.7		5.61			9.0		
			Bottom	15.2	16.4	32.0	32.1	5.89	5.87	81.3	80.1	5.73	5.72		9.1	9.1	
						32.1		5.85		78.9		5.70			9.0		
06/01/11	1551-1602	14/Cloudy	Surface	1.0	18.9	31.1	31.2	5.97	5.96	82.9	82.7	5.46	5.50	5.31	8.8	8.8	8.5
						31.2		5.94		82.5		5.53			8.8		
			Middle	8.4	20.4	31.9	32.0	5.80	5.82	80.0	80.3	5.21	5.19		8.3	8.3	
						32.0		5.84		80.5		5.17			8.2		
			Bottom	15.8	20.9	32.1	32.2	5.71	5.70	78.7	78.5	5.29	5.25		8.4	8.4	
						32.2		5.68		78.3		5.21			8.3		
08/01/11	1720-1734	14/Fine	Surface	1.0	18.3	30.5	30.5	6.14	6.12	84.1	83.8	5.22	5.25	5.44	8.2	8.2	8.6
						30.5		6.10		83.5		5.28			8.2		
			Middle	7.9	18.0	31.1	31.1	6.02	5.99	82.4	82.0	5.37	5.41		8.6	8.5	
						31.0		5.96		81.6		5.45			8.3		
			Bottom	14.8	17.5	31.9	31.9	5.80	5.78	79.4	79.2	5.63	5.66		9.0	9.1	
						31.8		5.76		78.9		5.68			9.2		
11/01/11	1854-1907	10/Cloudy	Surface	1.0	17.5	30.5	30.6	6.03	6.02	83.2	83.1	5.23	5.25	5.40	8.3	8.3	8.7
						30.6		6.01		82.9		5.26			8.3		
			Middle	7.9	18.5	31.3	31.4	5.88	5.89	81.1	81.2	5.36	5.39		8.4	8.6	
						31.4		5.89		81.3		5.42			8.8		
			Bottom	14.8	19.4	31.9	32.0	5.94	5.96	80.6	81.6	5.53	5.56		9.1	9.1	
						32.0		5.98		82.5		5.59			9.0		
13/01/11	2018-2035	13/Fine	Surface	1.0	17.5	30.6	30.6	6.03	6.00	82.6	82.2	5.43	5.45	5.58	8.7	8.8	9.0
						30.5		5.97		81.7		5.47			8.9		
			Middle	7.9	17.1	31.0	31.0	5.90	5.88	80.8	80.5	5.60	5.58		9.2	9.2	
						31.0		5.86		80.2		5.55			9.1		
			Bottom	14.8	16.6	31.7	31.7	5.79	5.78	79.3	79.1	5.67	5.70		9.0	9.2	
						31.6		5.76		78.9		5.73			9.3		
15/01/11	2124-2134	14/Fine	Surface	1.0	16.9	31.3	31.4	6.11	6.13	84.3	84.5	5.27	5.30	5.37	8.5	8.6	8.7
						31.4		6.14		84.7		5.33			8.6		
			Middle	8.3	19.8	32.1	32.1	5.84	5.82	80.5	80.3	5.34	5.38		8.4	8.5	
						32.0		5.80		80.0		5.41			8.6		
			Bottom	15.6	20.2	32.3	32.4	5.79	5.78	79.3	79.1	5.40	5.45		8.8	8.9	
						32.4		5.76		78.9		5.49			9.0		
18/01/11	1328-1340	17/Fine	Surface	1.0	17.6	30.6	30.6	6.23	6.22	85.3	85.1	5.24	5.22	5.42	8.4	8.3	8.5
						30.6		6.20		84.9		5.20			8.2		
			Middle	8.0	17.2	31.0	31.0	6.13	6.11	83.9	83.2	5.38	5.41		8.6	8.6	
						31.0		6.09		82.4		5.44			8.5		
			Bottom	15.0	17.8	31.7	31.8	5.92	5.94	81.1	81.3	5.60	5.63		8.8	8.7	
						31.8		5.95		81.5		5.66			8.5		
20/01/11	1414-1424	15/Cloudy	Surface	1.0	18.2	31.4	31.4	6.17	6.16	85.7	85.5	4.97	5.00	5.05	8.0	8.1	8.1
						31.4		6.14		85.3		5.03			8.1		
			Middle	8.4	20.5	32.1	32.1	5.97	5.98	82.9	83.1	5.07	5.04		8.2	8.1	
						32.1		5.99		83.2		5.01			8.0		
			Bottom	15.8	20.8	32.4	32.4	5.92	5.94	82.2	82.5	5.15	5.11		8.3	8.3	
						32.3		5.95		82.7		5.07			8.2		
22/01/11	1538-1549	15/Cloudy	Surface	1.0	17.5	30.6	30.6	6.13	6.12	84.6	84.1	4.96	5.00	5.09	7.9	8.0	8.1
						30.5		6.10		83.6		5.03			8.1		
			Middle	7.8	18.3	31.3	31.3	6.06	6.04	83.0	83.1	5.11	5.09		8.0	8.1	
						31.2		6.02		83.1		5.07			8.1		
			Bottom	14.6	19.2	31.8	31.9	5.98	5.97	83.1	82.3	5.22	5.19		8.4	8.4	
						31.9		5.95		81.5		5.16			8.3		
25/01/11	1831-1845	16/Fine	Surface	1.0	17.7	30.7	30.7	6.03	6.00	82.6	82.2	5.31	5.34	5.48	8.5	8.5	9.0
						30.7		5.97		81.7		5.37			8.5		
			Middle	8.1	17.9	30.9	30.9	5.90	5.88	80.8	80.5	5.45	5.48		9.1	9.1	
						30.9		5.86		80.2		5.50			9.0		
			Bottom	15.2	18.1	31.6	31.7	5.78	5.80	79.1	79.3	5.60	5.63		9.5	9.4	
						31.7		5.81		79.5		5.65			9.3		
27/01/11	1951-2001	16/Fine	Surface	1.0	17.6	31.3	31.3	6.11	6.10	84.9	84.8	5.17	5.14	5.07	8.1	8.2	8.0
						31.2		6.09		84.6		5.11			8.2		
			Middle	8.2	19.9	32.0	32.0	6.01	6.03	83.5	83.8	5.07	5.11		8.1	8.0	
						32.0		6.05		84.0		5.14			7.9		
			Bottom	15.4	20.2	32.3	32.4	5.94	5.92	82.5	82.3	4.95	4.97		7.8	7.9	
						32.4		5.90		82.0		4.99			8.0		
29/01/11	1159-1209	13/Sunny	Surface	1.0	16.4	30.6	30.6	6.21	6.19	85.7	85.4	5.22	5.20	5.30	8.3	8.3	8.4
						30.6		6.17		85.1		5.17			8.2		
			Middle	8.2	19.4	31.2	31.3	6.08	6.11	83.3	83.7	5.28	5.30		8.6	8.7	
						31.4		6.14		84.1		5.32			8.8		
			Bottom	15.4	20.6	31.8	31.8	5.99	6.02	82.1	82.4	5.36	5.39		8.2	8.2	
						31.7		6.04		82.7		5.42			8.2		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R5

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1301-1314	13/Cloudy	Surface	1.0	18.5	30.4	30.4	6.03	6.03	83.2	83.2	5.31	5.33	5.54	8.5	8.6	8.8
						30.3		6.02		83.1		5.34			8.6		
			Middle	8.4	17.6	31.5	31.6	5.86	5.87	80.9	81.0	5.56	5.58		9.0	8.9	
						31.6		5.87		81.0		5.59			8.7		
			Bottom	15.8	16.6	32.2	32.2	5.79	5.75	79.9	78.5	5.72	5.73		9.2	9.1	
						32.1		5.71		77.1		5.73			9.0		
06/01/11	1352-1404	14/Cloudy	Surface	1.0	18.8	31.1	31.1	6.07	6.08	84.3	84.5	4.98	4.95	5.11	8.0	7.9	8.0
						31.1		6.09		84.6		4.91			7.8		
			Middle	8.4	20.2	31.7	31.8	5.99	5.97	83.2	83.0	5.21	5.19		8.2	8.2	
						31.8		5.95		82.7		5.17			8.1		
			Bottom	15.8	20.9	32.2	32.2	5.92	5.94	82.2	82.5	5.15	5.19		8.0	8.0	
						32.2		5.95		82.7		5.22			7.9		
08/01/11	1520-1533	15/Fine	Surface	1.0	18.6	30.4	30.5	5.90	5.92	80.8	81.1	5.31	5.34	5.49	8.5	8.4	8.8
						30.5		5.94		81.3		5.36			8.3		
			Middle	8.3	18.0	31.2	31.2	5.80	5.83	79.4	79.8	5.44	5.46		9.0	8.9	
						31.2		5.85		80.1		5.48			8.8		
			Bottom	15.6	17.6	31.9	32.0	5.72	5.71	78.3	78.1	5.66	5.69		9.3	9.2	
						32.0		5.69		77.9		5.71			9.0		
11/01/11	1700-1713	11/Cloudy	Surface	1.0	17.8	30.6	30.7	5.96	5.97	82.2	82.3	5.36	5.33	5.33	8.5	8.6	8.9
						30.7		5.97		82.4		5.30			8.7		
			Middle	8.3	18.9	31.4	31.5	5.87	5.85	81.0	80.8	5.42	5.45		8.8	8.9	
						31.5		5.83		80.5		5.48			9.0		
			Bottom	15.6	19.5	32.0	32.0	5.71	5.72	78.8	79.0	5.20	5.21		9.2	9.2	
						32.0		5.73		79.1		5.22			9.1		
13/01/11	1810-1824	13/Fine	Surface	1.0	17.7	30.7	30.7	5.90	5.92	80.8	81.1	5.67	5.70	5.84	9.3	9.1	9.3
						30.7		5.94		81.3		5.72			8.8		
			Middle	8.2	17.1	31.2	31.2	5.82	5.84	79.7	80.0	5.79	5.83		9.3	9.3	
						31.2		5.86		80.2		5.86			9.3		
			Bottom	15.4	16.7	31.6	31.7	5.70	5.72	78.0	78.3	5.97	5.99		9.5	9.6	
						31.7		5.74		78.6		6.01			9.7		
15/01/11	1923-1933	14/Fine	Surface	1.0	17.2	31.2	31.2	6.18	6.17	85.9	85.7	5.37	5.34	5.30	8.0	8.2	8.1
						31.2		6.15		85.4		5.31			8.4		
			Middle	8.2	19.8	31.9	32.0	5.94	5.92	81.9	81.7	5.12	5.10		7.8	7.9	
						32.0		5.90		81.4		5.07			8.0		
			Bottom	15.4	20.2	32.4	32.4	5.88	5.86	81.1	80.8	5.44	5.47		8.2	8.2	
						32.4		5.84		80.5		5.49			8.1		
18/01/11	1118-1134	17/Fine	Surface	1.0	17.4	30.6	30.6	6.03	6.05	82.6	82.9	5.23	5.26	5.46	8.5	8.5	8.8
						30.6		6.07		83.1		5.29			8.4		
			Middle	8.3	17.2	31.0	31.1	6.01	5.98	82.3	81.9	5.43	5.46		9.0	8.9	
						31.1		5.95		81.5		5.48			8.7		
			Bottom	15.6	17.8	31.7	31.7	5.81	5.84	79.5	79.9	5.63	5.65		9.2	9.1	
						31.7		5.86		80.2		5.67			9.0		
20/01/11	1225-1235	15/Cloudy	Surface	1.0	17.9	31.1	31.1	6.05	6.03	84.0	83.8	4.82	4.86	5.11	7.5	7.7	8.0
						31.1		6.01		83.5		4.90			7.8		
			Middle	8.4	20.3	31.8	31.8	5.89	5.88	81.2	81.0	5.23	5.27		8.2	8.3	
						31.7		5.86		80.8		5.30			8.4		
			Bottom	15.8	20.8	32.1	32.2	5.95	5.97	82.7	82.9	5.17	5.21		8.1	8.1	
						32.2		5.98		83.1		5.24			8.1		
22/01/11	1345-1357	15/Cloudy	Surface	1.0	17.7	30.6	30.6	5.92	5.94	81.7	82.2	5.14	5.17	5.27	8.0	8.1	8.3
						30.5		5.95		82.7		5.19			8.2		
			Middle	8.2	18.5	31.2	31.3	5.89	5.87	81.2	80.7	5.29	5.27		8.4	8.3	
						31.3		5.85		80.1		5.25			8.1		
			Bottom	15.4	19.2	31.9	31.9	5.78	5.80	79.8	79.8	5.34	5.36		8.5	8.6	
						31.8		5.82		79.7		5.38			8.6		
25/01/11	1624-1640	16/Fine	Surface	1.0	17.6	30.6	30.6	6.02	6.00	82.4	82.2	5.37	5.40	5.58	8.5	8.7	9.0
						30.6		5.98		81.9		5.42			8.9		
			Middle	8.3	17.8	30.9	30.9	5.90	5.92	80.8	81.0	5.58	5.60		9.0	9.0	
						30.9		5.93		81.2		5.62			8.9		
			Bottom	15.6	18.1	31.7	31.8	5.78	5.81	79.1	79.5	5.71	5.74		9.2	9.3	
						31.8		5.83		79.8		5.76			9.4		
27/01/11	1752-1804	16/Fine	Surface	1.0	18.1	31.3	31.3	6.01	6.03	83.5	83.7	4.81	4.79	4.99	7.8	7.9	8.0
						31.2		6.04		83.9		4.77			8.0		
			Middle	8.4	20.2	32.0	32.1	5.84	5.82	80.5	80.3	4.98	4.94		8.0	7.9	
						32.1		5.80		80.0		4.90			7.8		
			Bottom	15.8	20.5	32.4	32.4	5.76	5.75	79.4	79.2	5.27	5.24		8.3	8.3	
						32.3		5.73		79.0		5.21			8.2		
29/01/11	1024-1034	11/Sunny	Surface	1.0	16.7	30.5	30.5	5.91	5.94	81.6	81.9	5.25	5.23	5.35	8.2	8.2	8.5
						30.4		5.96		82.2		5.21			8.2		
			Middle	8.4	19.7	31.3	31.4	5.88	5.86	81.1	80.9	5.31	5.34		8.6	8.5	
						31.4		5.84		80.6		5.37			8.4		
			Bottom	15.8	20.7	31.8	31.8	5.73	5.76	78.5	78.9	5.49	5.47		9.0	8.9	
						31.7		5.79		79.3		5.44			8.8		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R6

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1353-1406	13/Cloudy	Surface	1.0	18.8	30.4	30.4	5.96	5.95	82.2	82.0	5.47	5.48	5.60	8.9	9.0	9.1
						30.3		5.93		81.8		5.49			9.0		
			Middle	7.9	17.5	31.4	31.5	5.87	5.88	81.0	81.1	5.55	5.57		9.1	9.1	
						31.5		5.88		81.1		5.58			9.0		
			Bottom	14.8	16.4	32.1	32.2	5.82	5.81	80.3	80.2	5.78	5.76		9.3	9.3	
						32.2		5.80		80.0		5.74			9.2		
06/01/11	1450-1502	14/Cloudy	Surface	1.0	18.9	31.2	31.2	6.18	6.16	85.9	85.6	4.99	5.03	5.08	8.0	8.1	8.2
						31.1		6.14		85.3		5.06			8.2		
			Middle	8.1	20.3	31.9	31.9	5.90	5.92	82.0	82.3	5.15	5.17		8.4	8.4	
						31.9		5.94		82.5		5.19			8.3		
			Bottom	15.2	21.0	32.0	32.1	5.84	5.82	80.5	80.3	5.06	5.04		8.0	8.0	
						32.1		5.80		80.0		5.02			8.0		
08/01/11	1620-1635	15/Fine	Surface	1.0	18.5	30.5	30.6	6.13	6.10	83.9	83.5	5.25	5.29	5.31	8.6	8.5	8.5
						30.6		6.07		83.1		5.32			8.4		
			Middle	7.8	18.1	31.0	31.1	6.02	5.99	82.4	82.0	5.21	5.24		8.2	8.3	
						31.1		5.96		81.6		5.27			8.4		
			Bottom	14.6	17.8	31.9	32.0	5.86	5.88	80.2	80.5	5.39	5.42		8.8	8.8	
						32.0		5.90		80.8		5.44			8.8		
11/01/11	1752-1804	11/Cloudy	Surface	1.0	17.7	30.5	30.5	6.04	6.00	83.4	82.8	5.43	5.46	5.39	8.4	8.5	8.5
						30.4		5.96		82.2		5.48			8.5		
			Middle	7.9	18.7	31.2	31.3	5.76	5.74	79.5	79.2	5.34	5.33		8.2	8.2	
						31.3		5.72		78.9		5.32			8.2		
			Bottom	14.8	19.4	31.8	31.9	5.83	5.82	80.5	80.3	5.39	5.38		8.6	8.8	
						31.9		5.80		80.0		5.36			8.9		
13/01/11	1907-1923	13/Fine	Surface	1.0	17.5	30.6	30.6	5.96	6.00	81.6	82.1	5.47	5.49	5.64	8.8	8.9	9.1
						30.6		6.03		82.6		5.51			9.0		
			Middle	7.8	17.2	31.0	31.1	5.90	5.88	80.8	80.5	5.63	5.66		9.2	9.1	
						31.1		5.86		80.2		5.68			8.9		
			Bottom	14.6	16.8	31.7	31.8	5.79	5.81	79.3	79.5	5.74	5.77		9.4	9.4	
						31.8		5.82		79.7		5.79			9.3		
15/01/11	2021-2031	14/Fine	Surface	1.0	17.1	31.2	31.3	6.15	6.13	84.8	84.6	4.98	4.95	4.99	8.0	8.0	8.1
						31.3		6.11		84.3		4.92			7.9		
			Middle	8.2	19.9	32.0	32.0	5.89	5.88	81.2	81.0	4.89	4.92		8.5	8.2	
						31.9		5.86		80.8		4.95			7.8		
			Bottom	15.4	20.1	32.5	32.5	5.81	5.80	79.5	79.3	5.12	5.10		8.3	8.2	
						32.5		5.78		79.1		5.07			8.0		
18/01/11	1222-1236	17/Fine	Surface	1.0	17.6	30.6	30.6	6.15	6.18	84.2	84.6	5.17	5.20	5.40	8.2	8.2	8.5
						30.5		6.20		84.9		5.22			8.2		
			Middle	7.8	17.3	31.0	31.0	6.11	6.09	83.7	83.4	5.38	5.41		8.5	8.4	
						31.0		6.07		83.1		5.43			8.3		
			Bottom	14.6	17.8	31.7	31.7	5.90	5.92	80.8	81.0	5.57	5.59		9.0	8.9	
						31.7		5.93		81.2		5.60			8.8		
20/01/11	1318-1328	15/Cloudy	Surface	1.0	18.0	31.2	31.2	6.21	6.19	86.3	86.0	5.01	5.04	5.11	8.0	8.1	8.2
						31.2		6.17		85.7		5.06			8.2		
			Middle	8.2	20.3	32.0	32.0	6.02	6.04	83.6	83.8	5.07	5.10		8.1	8.1	
						32.0		6.05		84.0		5.13			8.0		
			Bottom	15.4	20.8	32.4	32.4	5.90	5.92	82.0	82.2	5.23	5.20		8.3	8.4	
						32.3		5.94		82.3		5.17			8.5		
22/01/11	1440-1452	15/Cloudy	Surface	1.0	17.5	30.4	30.5	6.16	6.18	84.4	85.2	5.03	5.06	5.15	8.0	8.1	8.2
						30.5		6.19		86.0		5.08			8.2		
			Middle	7.8	18.4	31.5	31.5	6.12	6.10	84.5	83.9	5.18	5.16		8.3	8.2	
						31.4		6.08		83.3		5.13			8.0		
			Bottom	14.6	19.3	32.1	32.0	6.05	6.04	83.5	83.0	5.22	5.24		8.4	8.3	
						31.9		6.02		82.5		5.26			8.2		
25/01/11	1724-1740	16/Fine	Surface	1.0	17.6	30.6	30.7	6.15	6.14	84.2	84.0	5.22	5.24	5.36	8.2	8.3	8.6
						30.7		6.12		83.8		5.25			8.4		
			Middle	7.8	17.8	30.9	30.9	6.03	6.05	82.6	82.8	5.33	5.35		8.5	8.5	
						30.9		6.06		83.0		5.37			8.5		
			Bottom	14.6	18.1	31.6	31.7	5.91	5.90	80.9	80.7	5.46	5.48		8.7	8.9	
						31.7		5.88		80.5		5.50			9.0		
27/01/11	1850-1902	16/Fine	Surface	1.0	17.9	31.3	31.3	6.11	6.10	84.9	84.8	4.88	4.91	5.00	7.6	7.7	7.9
						31.3		6.09		84.6		4.94			7.8		
			Middle	8.1	20.3	32.1	32.2	5.88	5.90	81.7	82.0	5.07	5.11		8.0	8.1	
						32.2		5.92		82.2		5.15			8.1		
			Bottom	15.2	20.5	32.3	32.3	5.91	5.90	81.5	81.3	4.95	4.97		8.0	8.0	
						32.2		5.88		81.1		4.99			8.0		
29/01/11	1111-1121	11/Sunny	Surface	1.0	16.6	30.3	30.4	6.19	6.22	85.4	85.8	5.08	5.06	5.16	8.0	8.1	8.2
						30.5		6.24		86.1		5.03			8.1		
			Middle	8.1	19.4	31.1	31.1	6.16	6.14	84.4	84.1	5.18	5.16		8.2	8.3	
						31.0		6.12		83.8		5.14			8.3		
			Bottom	15.2	20.4	31.6	31.7	6.02	6.05	82.5	82.9	5.23	5.26		8.4	8.3	
						31.7		6.08		83.3		5.29			8.1		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R7

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1409-1422	13/Cloudy	Surface	1.0	18.7	30.4	30.5	5.90	5.93	81.4	81.8	5.37	5.35	5.44	8.6	8.5	8.8
						30.5		5.96		82.2		5.32			8.4		
			Middle	8.9	17.4	31.5	31.5	5.83	5.84	80.5	80.6	5.46	5.45		8.9	8.9	
						31.4		5.84		80.6		5.44			8.9		
			Bottom	16.8	16.4	32.0	32.1	5.75	5.76	79.4	79.5	5.51	5.53		9.0	8.9	
						32.1		5.77		79.6		5.54			8.7		
06/01/11	1505-1517	14/Cloudy	Surface	1.0	18.9	31.2	31.2	6.06	6.05	84.2	84.1	4.88	4.86	5.14	7.6	7.7	8.1
						31.1		6.04		83.9		4.83			7.8		
			Middle	8.9	20.4	31.9	31.9	5.81	5.80	80.1	79.9	5.23	5.20		8.1	8.1	
						31.9		5.78		79.7		5.17			8.0		
			Bottom	16.8	20.9	32.2	32.2	5.77	5.76	79.6	79.4	5.37	5.35		8.5	8.4	
						32.1		5.74		79.2		5.33			8.3		
08/01/11	1640-1655	15/Fine	Surface	1.0	18.4	30.6	30.6	6.00	6.03	82.2	82.5	5.22	5.25	5.36	8.4	8.4	8.6
						30.6		6.05		82.8		5.28			8.3		
			Middle	8.8	18.1	31.1	31.1	5.92	5.90	81.1	80.8	5.33	5.35		8.6	8.5	
						31.1		5.88		80.5		5.36			8.4		
			Bottom	16.6	17.7	31.9	31.9	5.80	5.78	79.4	79.2	5.45	5.48		9.0	9.0	
						31.9		5.76		78.9		5.50			8.9		
11/01/11	1807-1820	11/Cloudy	Surface	1.0	17.6	30.5	30.6	5.97	5.98	82.4	82.6	5.13	5.16	5.26	8.3	8.3	8.5
						30.6		5.99		82.7		5.19			8.3		
			Middle	8.7	18.7	31.2	31.3	5.88	5.85	81.1	80.7	5.21	5.24		8.5	8.5	
						31.3		5.82		80.3		5.27			8.4		
			Bottom	16.4	19.5	31.9	32.0	5.81	5.83	80.2	80.5	5.35	5.37		8.9	8.9	
						32.0		5.85		80.7		5.38			8.8		
13/01/11	1930-1945	13/Fine	Surface	1.0	17.5	30.6	30.6	5.97	5.96	81.7	81.5	5.42	5.45	5.62	8.9	8.8	9.0
						30.6		5.94		81.3		5.47			8.6		
			Middle	8.7	17.0	31.0	31.0	5.91	5.88	80.9	80.5	5.56	5.58		9.0	8.9	
						31.0		5.84		80.0		5.60			8.8		
			Bottom	16.4	16.7	31.7	31.8	5.72	5.75	78.3	78.7	5.81	5.84		9.3	9.2	
						31.8		5.77		79.0		5.86			9.1		
15/01/11	2043-2053	14/Fine	Surface	1.0	17.0	31.3	31.3	6.10	6.08	84.1	83.9	5.06	5.04	5.13	8.1	8.1	8.2
						31.2		6.06		83.6		5.01			8.0		
			Middle	8.6	20.0	32.0	32.0	5.81	5.80	80.1	79.9	5.01	5.05		8.0	8.2	
						32.0		5.78		79.7		5.09			8.3		
			Bottom	16.2	20.1	32.5	32.5	5.87	5.86	81.0	80.8	5.33	5.30		8.5	8.4	
						32.4		5.84		80.5		5.27			8.2		
18/01/11	1243-1300	17/Fine	Surface	1.0	17.6	30.6	30.6	6.13	6.15	83.9	84.2	5.21	5.24	5.43	8.4	8.5	8.9
						30.6		6.17		84.5		5.27			8.5		
			Middle	8.8	17.3	31.1	31.1	6.09	6.07	83.4	83.1	5.40	5.43		8.9	9.0	
						31.0		6.05		82.8		5.46			9.0		
			Bottom	16.6	17.8	31.7	31.8	5.89	5.86	80.6	80.2	5.59	5.61		9.0	9.2	
						31.8		5.83		79.8		5.63			9.3		
20/01/11	1331-1342	15/Cloudy	Surface	1.0	18.1	31.3	31.3	6.17	6.16	85.7	85.5	4.94	4.98	5.06	7.9	8.0	8.0
						31.3		6.14		85.3		5.02			8.0		
			Middle	8.8	20.4	32.0	32.1	6.01	6.03	83.5	83.7	5.15	5.08		8.2	8.1	
						32.1		6.04		83.9		5.01			8.0		
			Bottom	16.6	20.7	32.3	32.4	5.98	5.97	83.1	82.9	5.09	5.12		8.2	8.1	
						32.4		5.95		82.7		5.14			7.9		
22/01/11	1455-1507	15/Cloudy	Surface	1.0	17.4	30.6	30.6	6.23	6.21	85.4	85.4	4.98	5.01	5.11	7.9	8.0	8.2
						30.5		6.19		85.4		5.04			8.0		
			Middle	8.9	18.2	31.4	31.5	6.11	6.13	84.3	84.6	5.08	5.11		8.2	8.1	
						31.6		6.15		84.9		5.14			8.0		
			Bottom	16.8	19.0	31.8	31.8	6.08	6.06	84.5	83.6	5.24	5.22		8.5	8.4	
						31.7		6.04		82.7		5.19			8.3		
25/01/11	1748-1805	16/Fine	Surface	1.0	17.6	30.7	30.7	6.13	6.11	83.9	83.7	5.24	5.27	5.40	8.4	8.5	8.6
						30.7		6.09		83.4		5.30			8.6		
			Middle	8.8	17.8	30.9	31.0	6.05	6.03	82.8	82.5	5.36	5.38		8.5	8.5	
						31.0		6.00		82.2		5.40			8.5		
			Bottom	16.6	18.1	31.7	31.7	5.94	5.92	81.3	81.0	5.51	5.54		8.8	8.9	
						31.7		5.89		80.6		5.57			9.0		
27/01/11	1905-1917	16/Fine	Surface	1.0	17.8	31.3	31.4	6.03	6.05	83.8	84.1	5.01	5.05	5.09	8.2	8.1	8.2
						31.4		6.07		84.3		5.09			8.0		
			Middle	8.9	20.2	32.2	32.2	5.92	5.94	82.2	82.5	4.98	5.02		8.1	8.0	
						32.1		5.95		82.7		5.06			7.8		
			Bottom	16.8	20.4	32.4	32.4	5.86	5.85	80.8	80.6	5.21	5.19		8.4	8.5	
						32.4		5.83		80.4		5.16			8.6		
29/01/11	1124-1134	11/Sunny	Surface	1.0	16.7	30.6	30.7	6.12	6.14	84.5	84.8	5.05	5.08	5.19	8.1	8.1	8.3
						30.7		6.16		85.0		5.10			8.0		
			Middle	9.2	19.6	31.3	31.3	6.04	6.06	82.7	83.0	5.22	5.19		8.4	8.4	
						31.2		6.07		83.2		5.16			8.3		
			Bottom	17.4	20.6	31.8	31.9	5.98	5.96	81.9	81.7	5.28	5.30		8.6	8.6	
						31.9		5.94		81.4		5.32			8.5		

Mid-Ebb Tide

Monitoring Station : R8a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1429-1442	13/Cloudy	Surface	1.0	18.5	30.4	30.5	5.92	5.91	81.7	81.6	5.49	5.46	5.54	9.0	8.9	9.0
						30.5		5.90		81.4		5.43			8.8		
			Middle	6.4	17.6	31.4	31.5	5.76	5.75	79.5	79.3	5.52	5.53		9.0	9.0	
						31.5		5.73		79.1		5.54			8.9		
			Bottom	11.8	16.5	32.2	32.2	5.82	5.84	80.3	80.5	5.63	5.62		9.2	9.1	
						32.1		5.85		80.7		5.60			9.0		
06/01/11	1524-1536	14/Cloudy	Surface	1.0	18.8	31.2	31.2	6.03	6.05	83.8	84.1	5.34	5.37	5.16	8.6	8.6	8.2
						31.1		6.07		84.3		5.39			8.5		
			Middle	6.4	20.4	31.8	31.9	5.87	5.86	81.0	80.8	4.97	4.94		8.0	8.0	
						31.9		5.84		80.5		4.91			7.9		
			Bottom	11.8	20.9	32.0	32.1	5.82	5.80	80.3	80.0	5.15	5.18		8.2	8.1	
						32.1		5.78		79.7		5.20			8.0		
08/01/11	1700-1713	14/Fine	Surface	1.0	18.4	30.5	30.6	5.99	5.96	82.0	81.6	5.19	5.22	5.37	8.3	8.3	8.7
						30.6		5.93		81.2		5.24			8.2		
			Middle	6.3	18.0	31.0	31.0	6.06	6.03	83.0	82.6	5.33	5.36		8.5	8.6	
						31.0		6.00		82.2		5.38			8.7		
			Bottom	11.6	17.6	31.7	31.8	5.83	5.82	79.8	79.7	5.50	5.54		9.0	9.1	
						31.8		5.81		79.5		5.57			9.2		
11/01/11	1827-1839	10/Cloudy	Surface	1.0	17.7	30.6	30.6	5.92	5.93	81.7	81.8	5.19	5.21	5.38	8.5	8.5	8.8
						30.5		5.93		81.8		5.22			8.4		
			Middle	6.4	18.4	31.2	31.3	5.70	5.72	78.7	79.0	5.34	5.36		9.0	8.9	
						31.3		5.74		79.2		5.38			8.7		
			Bottom	11.8	19.4	31.8	31.9	5.83	5.86	80.5	80.9	5.56	5.57		8.9	9.0	
						31.9		5.89		81.3		5.58			9.1		
13/01/11	1953-2010	13/Fine	Surface	1.0	17.5	30.6	30.6	6.05	6.03	82.8	82.6	5.40	5.38	5.51	8.7	8.6	8.7
						30.6		6.01		82.3		5.35			8.5		
			Middle	6.1	17.2	31.0	31.0	5.92	5.94	81.1	81.4	5.44	5.47		8.5	8.6	
						31.0		5.96		81.6		5.50			8.7		
			Bottom	11.2	16.7	31.5	31.6	5.83	5.85	79.8	80.0	5.71	5.70		9.1	9.0	
						31.6		5.86		80.2		5.68			8.9		
15/01/11	2101-2111	14/Fine	Surface	1.0	16.9	31.3	31.3	6.07	6.06	83.7	83.5	5.44	5.47	5.26	8.8	8.9	8.5
						31.3		6.04		83.3		5.49			9.0		
			Middle	6.2	19.7	32.0	32.1	5.88	5.87	81.1	80.9	5.21	5.19		8.5	8.3	
						32.1		5.85		80.7		5.17			8.1		
			Bottom	11.4	20.1	32.4	32.4	5.73	5.71	78.5	78.2	5.15	5.13		8.3	8.2	
						32.3		5.69		77.9		5.10			8.0		
18/01/11	1307-1320	17/Fine	Surface	1.0	17.6	30.5	30.6	6.22	6.24	85.2	85.4	5.23	5.26	5.41	8.3	8.3	8.6
						30.6		6.25		85.6		5.28			8.2		
			Middle	6.2	17.3	30.9	31.0	6.20	6.18	84.9	84.6	5.36	5.38		8.5	8.6	
						31.0		6.15		84.2		5.40			8.7		
			Bottom	11.4	17.8	31.5	31.6	6.02	6.00	82.4	82.2	5.57	5.60		9.0	9.1	
						31.6		5.98		81.9		5.62			9.1		
20/01/11	1349-1359	15/Cloudy	Surface	1.0	18.1	31.3	31.3	6.11	6.10	84.9	84.8	5.09	5.12	5.15	8.2	8.1	8.2
						31.2		6.09		84.6		5.14			8.0		
			Middle	6.3	20.5	32.0	32.0	5.92	5.95	82.2	82.6	5.21	5.20		8.5	8.3	
						31.9		5.97		82.9		5.18			8.1		
			Bottom	11.6	20.8	32.4	32.4	5.95	5.97	82.7	82.9	5.19	5.15		8.3	8.3	
						32.4		5.98		83.1		5.11			8.3		
22/01/11	1513-1525	15/Cloudy	Surface	1.0	17.3	30.4	30.4	6.17	6.19	85.1	85.7	5.08	5.05	5.15	8.1	8.1	8.2
						30.3		6.20		86.2		5.02			8.0		
			Middle	6.6	18.6	31.1	31.2	6.09	6.11	83.4	84.0	5.17	5.15		8.2	8.2	
						31.2		6.13		84.6		5.13			8.2		
			Bottom	12.2	19.3	31.7	31.7	6.01	6.03	82.3	82.9	5.21	5.24		8.4	8.3	
						31.6		6.05		83.5		5.27			8.2		
25/01/11	1812-1825	16/Fine	Surface	1.0	17.7	30.7	30.7	6.10	6.08	83.5	83.3	5.28	5.31	5.45	8.2	8.2	8.8
						30.6		6.06		83.0		5.33			8.2		
			Middle	6.2	17.8	30.9	30.9	6.13	6.11	83.9	83.7	5.41	5.44		8.8	9.0	
						30.9		6.09		83.4		5.46			9.1		
			Bottom	11.4	18.1	31.5	31.6	5.93	5.94	81.2	81.4	5.58	5.60		9.2	9.2	
						31.6		5.95		81.5		5.61			9.1		
27/01/11	1924-1936	16/Fine	Surface	1.0	17.8	31.2	31.2	6.18	6.17	85.9	85.7	5.21	5.19	5.06	8.3	8.3	8.2
						31.2		6.15		85.4		5.17			8.2		
			Middle	6.6	20.0	31.9	32.0	5.96	5.95	82.8	82.6	4.98	4.95		8.0	8.0	
						32.0		5.93		82.4		4.91			8.0		
			Bottom	12.2	20.2	32.3	32.3	5.98	5.96	83.1	82.8	5.02	5.05		8.1	8.2	
						32.2		5.94		82.5		5.08			8.3		
29/01/11	1140-1150	13/Sunny	Surface	1.0	16.5	30.3	30.4	6.09	6.11	84.0	84.3	5.12	5.14	5.26	8.3	8.2	8.4
						30.4		6.13		84.6		5.16			8.0		
			Middle	6.6	19.5	30.9	30.9	5.98	6.01	81.9	82.3	5.29	5.26		8.5	8.4	
						30.8		6.03		82.6		5.23			8.2		
			Bottom	12.2	20.6	31.7	31.6	6.04	6.03	82.7	82.5	5.35	5.37		8.6	8.7	
						31.5		6.01		82.3		5.39			8.8		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R15

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1139-1152	12/Cloudy	Surface	1.0	18.5	30.4	30.5	5.98	5.98	82.5	82.5	5.32	5.34	5.45	8.8	8.7	8.9
						30.5		5.97		82.4		5.35			8.5		
			Middle	5.6	17.5	31.5	31.5	5.81	5.83	80.2	80.4	5.43	5.45		9.0	9.0	
						31.4		5.84		80.6		5.46			8.9		
			Bottom	10.2	16.9	32.1	32.2	5.76	5.77	79.5	79.7	5.52	5.56		9.1	9.1	
						32.2		5.78		79.8		5.59			9.0		
06/01/11	1234-1245	14/Cloudy	Surface	1.0	18.6	31.0	31.1	6.12	6.11	85.0	84.8	4.98	4.95	5.07	7.9	8.0	8.1
						31.1		6.09		84.6		4.91			8.0		
			Middle	5.6	20.1	31.9	31.9	5.90	5.92	82.0	82.3	5.15	5.19		8.2	8.1	
						31.8		5.94		82.5		5.22			8.0		
			Bottom	10.2	20.9	32.2	32.2	5.82	5.80	80.3	80.0	5.10	5.09		8.3	8.2	
						32.2		5.78		79.7		5.07			8.0		
08/01/11	1410-1424	15/Fine	Surface	1.0	18.6	30.4	30.5	5.90	5.89	80.8	80.6	5.48	5.51	5.72	9.0	8.9	9.2
						30.5		5.87		80.4		5.54			8.8		
			Middle	5.4	18.2	31.0	31.1	5.80	5.78	79.4	79.2	5.68	5.71		9.3	9.2	
						31.1		5.76		78.9		5.73			9.1		
			Bottom	9.8	17.8	31.7	31.8	5.66	5.64	77.5	77.2	5.91	5.94		9.6	9.5	
						31.8		5.61		76.8		5.97			9.4		
11/01/11	1539-1551	12/Cloudy	Surface	1.0	17.5	30.5	30.6	5.86	5.88	79.1	79.4	5.12	5.16	5.24	8.9	9.0	9.2
						30.6		5.90		79.7		5.20			9.1		
			Middle	5.4	18.7	31.2	31.3	5.84	5.83	80.6	80.4	5.33	5.31		9.2	9.3	
						31.3		5.81		80.2		5.29			9.4		
			Bottom	9.8	19.4	32.0	32.0	5.77	5.78	79.6	79.8	5.28	5.26		9.3	9.3	
						32.0		5.79		79.9		5.23			9.3		
13/01/11	1708-1722	15/Fine	Surface	1.0	17.8	30.6	30.7	5.89	5.87	80.6	80.3	5.82	5.85	5.91	9.4	9.3	9.4
						30.7		5.84		80.0		5.88			9.2		
			Middle	5.2	17.5	31.0	31.0	5.81	5.82	9.5	44.7	5.84	5.87		9.5	9.5	
						31.0		5.83		79.8		5.90			9.5		
			Bottom	9.4	17.0	31.5	31.5	5.70	5.72	78.0	78.3	5.99	6.01		9.3	9.4	
						31.5		5.74		78.6		6.03			9.5		
15/01/11	1811-1821	14/Fine	Surface	1.0	17.7	31.0	31.1	6.19	6.17	85.4	85.1	4.95	4.94	5.06	8.0	7.9	8.1
						31.1		6.15		84.8		4.92			7.7		
			Middle	5.6	19.7	31.9	31.9	5.92	5.91	81.6	81.4	5.03	5.06		7.9	8.0	
						31.9		5.89		81.2		5.09			8.0		
			Bottom	10.2	19.9	32.3	32.4	5.79	5.77	79.3	79.0	5.21	5.19		8.4	8.5	
						32.4		5.75		78.7		5.17			8.6		
18/01/11	1008-1022	15/Fine	Surface	1.0	17.3	30.4	30.5	6.01	6.04	82.3	82.7	5.28	5.32	5.51	8.3	8.2	8.6
						30.5		6.06		83.0		5.35			8.1		
			Middle	5.2	17.7	31.0	31.0	6.03	6.01	82.6	82.3	5.46	5.48		8.7	8.6	
						30.9		5.98		81.9		5.50			8.5		
			Bottom	9.4	17.9	31.5	31.6	5.82	5.79	79.7	79.3	5.71	5.75		9.0	9.1	
						31.6		5.76		78.9		5.78			9.2		
20/01/11	1112-1122	15/Cloudy	Surface	1.0	17.8	31.1	31.1	6.19	6.21	86.0	86.3	4.17	4.14	4.42	6.8	6.9	7.3
						31.0		6.23		86.5		4.11			7.0		
			Middle	5.7	20.1	31.8	31.8	5.94	5.92	82.5	82.3	4.37	4.40		7.3	7.2	
						31.8		5.90		82.0		4.42			7.1		
			Bottom	10.4	20.6	32.1	32.1	5.83	5.85	80.4	80.6	4.74	4.72		7.8	7.7	
						32.1		5.86		80.8		4.69			7.5		
22/01/11	1233-1244	15/Cloudy	Surface	1.0	17.2	30.4	30.4	5.97	5.96	81.8	81.6	5.12	5.15	5.25	8.3	8.4	8.5
						30.3		5.94		81.4		5.17			8.4		
			Middle	5.3	18.4	31.3	31.3	5.87	5.89	81.0	81.3	5.27	5.25		8.5	8.6	
						31.2		5.91		81.6		5.23			8.6		
			Bottom	9.6	19.2	31.8	31.8	5.83	5.82	80.5	80.4	5.32	5.34		8.8	8.7	
						31.7		5.81		80.2		5.36			8.5		
25/01/11	1510-1526	16/Fine	Surface	1.0	17.6	30.6	30.7	6.02	6.00	82.4	82.1	5.45	5.48	5.63	8.4	8.3	8.3
						30.7		5.97		81.7		5.50			8.2		
			Middle	5.2	17.8	30.9	30.9	5.90	5.89	80.8	80.6	5.63	5.66		8.0	8.0	
						30.9		5.87		80.4		5.68			8.0		
			Bottom	9.4	18.0	31.6	31.7	5.77	5.75	79.0	78.7	5.74	5.77		8.6	8.6	
						31.7		5.72		78.3		5.79			8.5		
27/01/11	1634-1645	16/Fine	Surface	1.0	18.3	31.2	31.2	6.17	6.16	85.7	85.5	4.21	4.24	4.66	6.8	6.9	7.5
						31.2		6.14		85.3		4.27			7.0		
			Middle	5.7	20.2	31.9	31.9	6.03	6.06	83.8	84.2	4.73	4.76		7.5	7.7	
						31.9		6.08		84.5		4.79			7.8		
			Bottom	10.4	20.6	32.2	32.2	5.95	5.97	82.7	82.9	5.01	4.99		8.0	7.9	
						32.2		5.98		83.1		4.97			7.8		
29/01/11	0928-0938	11/Sunny	Surface	1.0	16.4	30.5	30.5	5.94	5.96	82.0	82.2	5.24	5.26	5.37	8.4	8.4	8.6
						30.4		5.97		82.4		5.28			8.3		
			Middle	5.6	19.3	31.1	31.2	5.89	5.87	81.3	81.0	5.34	5.37		8.6	8.6	
						31.2		5.85		80.7		5.40			8.5		
			Bottom	10.2	20.3	31.6	31.7	5.75	5.78	78.8	79.2	5.51	5.49		9.0	8.9	
						31.7		5.81		79.6		5.46			8.7		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R16

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1116-1129	12/Cloudy	Surface	1.0	18.4	30.5	30.5	5.90	5.92	81.4	81.7	5.46	5.44	5.52	8.7	8.7	8.9
						30.4		5.94		81.9		5.41			8.7		
			Middle	6.0	17.4	31.6	31.6	5.86	5.85	80.9	80.8	5.53	5.52		9.0	9.0	
						31.5		5.84		80.6		5.50			8.9		
			Bottom	11.0	17.0	32.2	32.2	5.74	5.77	79.2	79.6	5.63	5.62		9.0	8.9	
						32.1		5.79		79.9		5.61			8.8		
06/01/11	1215-1226	14/Cloudy	Surface	1.0	18.6	30.9	31.0	6.09	6.08	84.6	84.5	5.09	5.12	5.19	8.1	8.2	8.2
						30.9		6.07		84.3		5.15			8.2		
			Middle	6.3	20.1	31.8	31.8	6.01	6.03	83.5	83.7	5.29	5.25		8.4	8.3	
						31.8		6.04		83.9		5.21			8.1		
			Bottom	11.6	20.7	32.2	32.2	5.95	5.93	82.7	82.4	5.18	5.20		8.0	8.1	
						32.1		5.91		82.1		5.22			8.2		
08/01/11	1347-1402	15/Fine	Surface	1.0	18.5	30.5	30.5	6.16	6.13	84.3	83.9	5.26	5.29	5.40	8.4	8.5	8.7
						30.5		6.10		83.5		5.31			8.5		
			Middle	6.1	18.1	31.2	31.2	6.05	6.03	82.8	82.5	5.36	5.38		8.6	8.8	
						31.2		6.00		82.2		5.40			8.9		
			Bottom	11.2	17.7	31.9	31.9	5.85	5.83	80.1	79.8	5.50	5.54		9.0	9.0	
						31.9		5.81		79.5		5.57			9.0		
11/01/11	1516-1529	12/Cloudy	Surface	1.0	17.6	30.6	30.6	5.97	5.96	82.5	82.3	5.10	5.12	5.33	8.4	8.5	8.7
						30.5		5.95		82.1		5.13			8.5		
			Middle	6.3	18.7	31.3	31.3	5.86	5.86	80.9	80.6	5.32	5.32		8.8	8.8	
						31.2		5.85		80.3		5.31			8.8		
			Bottom	11.6	19.5	31.8	31.9	5.74	5.77	79.2	79.6	5.56	5.56		9.0	8.9	
						31.9		5.79		79.9		5.55			8.7		
13/01/11	1647-1700	15/Fine	Surface	1.0	17.8	30.6	30.6	6.01	6.04	82.3	82.7	5.63	5.62	5.73	9.1	9.2	9.3
						30.6		6.06		83.0		5.60			9.3		
			Middle	6.1	17.4	31.0	31.0	5.97	5.96	81.7	81.5	5.70	5.73		9.4	9.3	
						31.0		5.94		81.3		5.75			9.2		
			Bottom	11.2	16.9	31.6	31.7	5.89	5.87	80.6	80.4	5.84	5.86		9.6	9.5	
						31.7		5.85		80.1		5.88			9.3		
15/01/11	1753-1803	14/Fine	Surface	1.0	17.5	31.0	31.0	6.15	6.13	84.8	84.6	4.69	4.72	4.90	7.5	7.7	7.9
						30.9		6.11		84.3		4.74			7.8		
			Middle	6.2	19.7	31.9	31.9	6.03	6.05	83.2	83.5	4.98	4.95		8.0	7.9	
						31.9		6.07		83.7		4.91			7.8		
			Bottom	11.4	20.2	32.4	32.4	5.94	5.92	81.9	81.7	5.08	5.05		8.2	8.1	
						32.4		5.90		81.4		5.01			8.0		
18/01/11	0944-1000	15/Fine	Surface	1.0	17.4	30.5	30.5	6.19	6.18	84.8	84.6	5.10	5.13	5.23	8.1	8.1	8.3
						30.5		6.16		84.3		5.15			8.1		
			Middle	6.2	17.6	31.1	31.1	6.09	6.07	83.4	83.1	5.19	5.21		8.2	8.3	
						31.0		6.04		82.7		5.23			8.4		
			Bottom	11.4	17.9	31.7	31.7	5.90	5.93	80.8	81.2	5.34	5.36		8.5	8.4	
						31.7		5.95		81.5		5.38			8.2		
20/01/11	1053-1104	15/Cloudy	Surface	1.0	17.8	30.9	31.0	6.08	6.06	84.5	84.2	4.09	4.12	4.42	6.4	6.4	7.1
						31.1		6.04		83.9		4.15			6.4		
			Middle	6.4	20.0	31.8	31.8	5.89	5.88	81.2	81.0	4.43	4.46		7.5	7.4	
						31.7		5.86		80.8		4.48			7.2		
			Bottom	11.8	20.6	32.0	32.0	5.92	5.91	82.2	82.0	4.63	4.68		7.6	7.6	
						32.0		5.89		81.8		4.72			7.5		
22/01/11	1215-1226	15/Cloudy	Surface	1.0	17.5	30.5	30.5	6.11	6.13	83.7	83.9	4.97	5.00	5.10	7.9	7.9	8.1
						30.4		6.14		84.1		5.02			7.8		
			Middle	6.3	18.3	31.3	31.4	6.07	6.05	83.2	82.9	5.08	5.11		8.2	8.1	
						31.4		6.03		82.6		5.13			8.0		
			Bottom	11.6	19.4	31.5	31.6	5.95	5.97	81.5	81.8	5.17	5.19		8.3	8.3	
						31.6		5.99		82.1		5.21			8.2		
25/01/11	1450-1506	16/Fine	Surface	1.0	17.7	30.6	30.6	6.13	6.11	83.9	83.7	5.31	5.33	5.39	8.2	8.2	8.7
						30.6		6.09		83.4		5.35			8.2		
			Middle	6.2	17.6	31.1	31.1	6.00	5.98	82.2	81.9	5.39	5.36		8.8	8.9	
						31.0		5.96		81.6		5.33			9.0		
			Bottom	11.4	18.0	31.8	31.8	5.91	5.92	80.9	81.1	5.47	5.49		9.1	9.1	
						31.7		5.93		81.2		5.50			9.0		
27/01/11	1615-1626	16/Fine	Surface	1.0	18.4	31.0	31.1	6.21	6.19	86.3	86.0	4.08	4.12	4.65	6.4	6.3	7.4
						31.1		6.17		85.7		4.15			6.2		
			Middle	6.4	20.0	31.9	31.9	6.01	6.03	83.5	83.7	4.90	4.92		8.0	7.9	
						31.8		6.04		83.9		4.94			7.8		
			Bottom	11.8	20.6	32.2	32.2	5.86	5.88	80.8	81.1	4.93	4.91		7.7	7.9	
						32.1		5.90		81.4		4.88			8.0		
29/01/11	0913-0923	11/Sunny	Surface	1.0	16.7	30.3	30.4	6.16	6.14	85.0	84.8	5.11	5.09	5.18	8.2	8.1	8.3
						30.4		6.12		84.5		5.06			8.0		
			Middle	6.4	19.5	30.9	31.0	6.03	6.06	82.6	83.0	5.15	5.17		8.2	8.2	
						31.0		6.09		83.4		5.19			8.2		
			Bottom	11.8	20.6	31.8	31.7	5.99	5.97	82.1	81.8	5.30	5.27		8.5	8.5	
						31.6		5.94		81.4		5.24			8.4		

Mid-Ebb Tide

東業環境測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R17

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1100-1113	12/Cloudy	Surface	1.0	18.3	30.4	30.5	6.02	6.03	83.1	83.3	5.39	5.38	5.41	8.2	8.3	8.5
						30.5		6.04		83.4		5.37			8.4		
			Middle	5.7	17.5	31.6	31.6	5.92	5.93	81.7	81.8	5.38	5.40		8.5	8.5	
						31.5		5.93		81.8		5.42			8.5		
			Bottom	10.4	16.9	32.1	32.1	5.86	5.85	80.9	80.8	5.48	5.46		8.8	8.8	
						32.0		5.84		80.6		5.44			8.7		
06/01/11	1200-1212	14/Cloudy	Surface	1.0	18.6	30.8	30.9	6.06	6.07	84.2	84.4	5.21	5.19	5.19	8.3	8.3	8.4
						30.9		6.08		84.5		5.17			8.2		
			Middle	5.9	20.0	31.8	31.8	5.93	5.92	82.4	82.2	5.21	5.25		8.5	8.5	
						31.7		5.90		82.0		5.29			8.5		
			Bottom	10.8	20.5	32.0	32.1	5.75	5.73	79.3	79.0	5.10	5.12		8.2	8.3	
						32.1		5.70		78.6		5.14			8.4		
08/01/11	1330-1343	15/Fine	Surface	1.0	18.5	30.5	30.6	6.09	6.12	83.4	83.8	5.28	5.32	5.40	8.3	8.4	8.6
						30.6		6.14		84.1		5.35			8.4		
			Middle	5.6	18.1	31.2	31.2	6.02	6.00	82.4	82.2	5.39	5.37		8.5	8.4	
						31.1		5.98		81.9		5.34			8.2		
			Bottom	10.2	17.6	31.8	31.9	5.88	5.86	80.5	80.3	5.49	5.52		8.8	9.0	
						31.9		5.84		80.0		5.55			9.2		
11/01/11	1500-1513	12/Cloudy	Surface	1.0	17.7	30.7	30.7	6.02	6.03	83.1	83.3	5.12	5.14	5.29	8.2	8.2	8.5
						30.6		6.04		83.4		5.16			8.2		
			Middle	5.4	18.8	31.4	31.4	5.98	5.97	80.7	80.5	5.29	5.30		8.4	8.5	
						31.3		5.95		80.3		5.30			8.5		
			Bottom	9.4	19.4	31.9	31.9	5.86	5.84	80.9	80.6	5.47	5.45		8.8	8.9	
						31.8		5.82		80.3		5.42			9.0		
13/01/11	1630-1643	15/Fine	Surface	1.0	17.8	30.6	30.7	5.99	6.01	82.0	82.3	5.66	5.64	5.73	9.0	9.0	9.3
						30.7		6.03		82.6		5.61			9.0		
			Middle	5.6	17.4	30.9	31.0	5.91	5.93	80.9	81.2	5.69	5.71		9.3	9.3	
						31.0		5.95		81.5		5.73			9.3		
			Bottom	10.2	17.0	31.6	31.6	5.83	5.86	79.8	80.2	5.82	5.84		9.5	9.6	
						31.5		5.88		80.5		5.86			9.6		
15/01/11	1740-1750	14/Fine	Surface	1.0	17.6	30.9	30.9	6.21	6.20	85.6	85.5	4.78	4.75	5.07	7.7	7.8	8.1
						30.8		6.19		85.4		4.71			7.8		
			Middle	5.9	19.5	31.8	31.9	5.94	5.96	81.9	82.1	5.15	5.14		8.3	8.2	
						31.9		5.97		82.3		5.12			8.0		
			Bottom	10.8	20.1	32.4	32.4	5.88	5.86	81.1	80.8	5.34	5.32		8.5	8.4	
						32.3		5.84		80.5		5.29			8.2		
18/01/11	0925-0940	15/Fine	Surface	1.0	17.5	30.5	30.5	6.12	6.14	83.8	84.0	5.17	5.21	5.22	8.2	8.3	8.1
						30.4		6.15		84.2		5.24			8.3		
			Middle	5.7	17.6	31.0	31.0	6.06	6.05	83.0	82.8	5.15	5.18		8.0	8.0	
						31.0		6.03		82.6		5.20			8.0		
			Bottom	10.4	18.0	31.6	31.7	5.91	5.93	80.9	81.1	5.27	5.29		8.0	8.0	
						31.7		5.94		81.3		5.31			8.0		
20/01/11	1040-1050	15/Cloudy	Surface	1.0	17.6	30.8	30.9	6.10	6.12	84.7	85.0	3.97	3.94	4.53	6.4	6.3	7.2
						30.9		6.13		85.2		3.91			6.2		
			Middle	5.9	19.8	31.6	31.7	5.95	5.97	82.7	83.0	4.82	4.85		7.8	7.9	
						31.7		5.99		83.2		4.88			8.0		
			Bottom	10.8	20.5	32.0	32.0	5.90	5.92	82.0	82.3	4.77	4.81		7.5	7.5	
						31.9		5.94		82.5		4.85			7.5		
22/01/11	1200-1212	15/Cloudy	Surface	1.0	17.3	30.2	30.3	6.18	6.16	85.3	85.0	5.04	5.04	5.14	8.0	8.0	8.2
						30.3		6.14		84.7		5.03			8.0		
			Middle	6.1	18.3	31.1	31.1	6.06	6.08	83.6	83.8	5.15	5.13		8.2	8.1	
						31.0		6.09		84.0		5.10			8.0		
			Bottom	11.2	19.1	31.7	31.7	6.02	5.95	83.1	82.8	5.22	5.25		8.5	8.5	
						31.6		5.87		82.4		5.28			8.4		
25/01/11	1430-1445	16/Fine	Surface	1.0	17.7	30.6	30.6	6.10	6.08	83.5	83.3	5.36	5.38	5.42	8.6	8.7	8.7
						30.5		6.06		83.0		5.40			8.8		
			Middle	5.7	17.4	30.9	30.9	6.01	6.00	82.3	82.1	5.30	5.34		8.6	8.8	
						30.9		5.98		81.9		5.37			9.0		
			Bottom	10.4	17.9	31.6	31.6	5.92	5.94	81.1	81.3	5.51	5.53		8.5	8.6	
						31.6		5.95		81.5		5.55			8.7		
27/01/11	1600-1612	16/Fine	Surface	1.0	18.2	31.0	31.0	6.15	6.17	85.4	85.7	3.97	3.95	4.53	6.4	6.3	7.4
						30.9		6.18		85.9		3.92			6.2		
			Middle	6.1	19.9	31.7	31.8	5.95	5.97	82.7	82.9	4.84	4.87		7.8	7.9	
						31.8		5.98		83.1		4.90			8.0		
			Bottom	11.2	20.5	32.1	32.1	5.87	5.86	81.0	80.8	4.75	4.79		8.0	8.1	
						32.0		5.84		80.5		4.82			8.1		
29/01/11	0900-0910	11/Sunny	Surface	1.0	16.5	30.6	30.6	6.22	6.20	85.8	85.6	5.13	5.16	5.28	8.1	8.1	8.3
						30.5		6.18		85.3		5.19			8.1		
			Middle	6.1	19.4	31.2	31.2	6.13	6.11	84.6	84.3	5.31	5.29		8.5	8.4	
						31.2		6.08		83.9		5.26			8.2		
			Bottom	11.2	20.3	31.8	31.8	6.01	6.03	82.3	82.6	5.35	5.38		8.5	8.4	
						31.7		6.05		82.9		5.41			8.3		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : R28

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1321-1334	13/Cloudy	Surface	1.0	18.6	30.3	30.4	5.98	5.95	82.5	82.1	5.49	5.47	5.61	8.6	8.6	9.0
						30.4		5.92		81.7		5.45			8.6		
			Middle	5.4	17.7	31.5	31.5	5.76	5.74	79.5	79.2	5.62	5.61		9.2	9.2	
						31.4		5.72		78.9		5.60			9.2		
			Bottom	9.8	16.4	32.1	32.2	5.80	5.82	80.0	80.3	5.74	5.75		9.4	9.3	
						32.2		5.83		80.5		5.76			9.1		
06/01/11	1411-1422	14/Cloudy	Surface	1.0	18.8	31.2	31.2	6.15	6.17	85.4	85.7	5.15	5.13	5.12	8.1	8.1	8.0
						31.1		6.18		85.9		5.10			8.0		
			Middle	5.6	20.2	31.8	31.9	5.85	5.87	81.3	81.5	5.09	5.12		7.9	8.0	
						31.9		5.88		81.7		5.15			8.0		
			Bottom	10.2	20.9	32.2	32.2	5.76	5.78	79.4	79.7	5.13	5.10		8.1	8.1	
						32.1		5.79		79.9		5.07			8.1		
08/01/11	1538-1552	15/Fine	Surface	1.0	18.6	30.4	30.4	6.06	6.08	83.0	83.2	5.13	5.16	5.26	8.2	8.2	8.4
						30.4		6.09		83.4		5.18			8.2		
			Middle	5.2	18.3	30.9	30.9	6.03	6.01	82.6	82.3	5.15	5.19		8.4	8.3	
						30.9		5.98		81.9		5.22			8.1		
			Bottom	9.4	17.8	31.4	31.5	5.85	5.88	80.1	80.5	5.43	5.45		8.8	8.7	
						31.5		5.90		80.8		5.47			8.6		
11/01/11	1720-1733	11/Cloudy	Surface	1.0	17.7	30.7	30.7	5.98	6.01	82.5	83.0	5.27	5.25	5.38	8.1	8.1	8.4
						30.6		6.04		83.4		5.23			8.1		
			Middle	5.4	18.8	31.4	31.4	5.79	5.77	79.9	79.7	5.36	5.34		8.0	8.2	
						31.3		5.75		79.4		5.31			8.3		
			Bottom	9.8	19.4	32.0	32.0	5.82	5.84	80.3	80.6	5.51	5.54		8.8	8.9	
						31.9		5.86		80.9		5.57			9.0		
13/01/11	1829-1843	13/Fine	Surface	1.0	17.6	30.7	30.7	6.01	6.03	82.3	82.5	5.40	5.43	5.55	8.7	8.9	8.8
						30.6		6.04		82.7		5.45			9.0		
			Middle	5.2	17.3	31.0	31.0	5.93	5.95	81.2	81.4	5.49	5.51		8.6	8.7	
						31.0		5.96		81.6		5.53			8.8		
			Bottom	9.4	16.9	31.4	31.5	5.80	5.81	79.4	79.6	5.70	5.73		8.9	9.0	
						31.5		5.82		79.7		5.75			9.0		
15/01/11	1936-1947	14/Fine	Surface	1.0	17.0	31.1	31.2	6.15	6.16	84.8	85.0	5.58	5.55	5.31	9.1	9.0	8.5
						31.2		6.17		85.1		5.51			8.8		
			Middle	5.6	19.9	32.0	32.0	6.01	6.03	82.9	83.1	5.27	5.24		8.5	8.4	
						32.0		6.04		83.3		5.20			8.3		
			Bottom	10.2	20.2	32.4	32.5	5.74	5.76	78.6	78.8	5.18	5.15		8.0	8.1	
						32.5		5.77		79.0		5.11			8.2		
18/01/11	1140-1155	17/Fine	Surface	1.0	17.5	30.5	30.6	6.13	6.16	83.9	84.3	5.13	5.10	5.20	8.2	8.1	8.2
						30.6		6.18		84.6		5.07			8.0		
			Middle	5.3	17.3	30.7	30.7	6.11	6.09	83.7	83.4	5.09	5.14		8.1	8.0	
						30.7		6.07		83.1		5.18			7.9		
			Bottom	9.6	17.7	31.2	31.3	5.96	5.94	81.6	81.3	5.33	5.35		8.5	8.6	
						31.3		5.91		80.9		5.37			8.6		
20/01/11	1241-1251	15/Cloudy	Surface	1.0	18.1	31.2	31.2	6.09	6.07	84.6	84.3	4.79	4.75	4.85	7.8	7.7	7.8
						31.1		6.05		84.0		4.71			7.6		
			Middle	5.7	20.3	31.9	31.9	5.93	5.92	82.4	82.2	4.83	4.87		7.9	7.9	
						31.9		5.90		82.0		4.90			7.8		
			Bottom	10.4	20.8	32.3	32.4	5.73	5.72	79.0	78.8	4.96	4.93		8.0	7.9	
						32.4		5.70		78.6		4.89			7.8		
22/01/11	1403-1414	15/Cloudy	Surface	1.0	17.5	30.4	30.4	6.12	6.14	84.5	85.0	4.95	4.98	5.09	7.7	7.9	8.1
						30.3		6.15		85.5		5.01			8.0		
			Middle	5.6	18.3	31.5	31.5	6.08	6.07	83.9	83.7	5.12	5.10		8.2	8.1	
						31.5		6.05		83.5		5.07			8.0		
			Bottom	10.2	19.1	31.8	31.9	5.98	6.00	81.9	82.4	5.17	5.20		8.3	8.3	
						31.9		6.01		82.9		5.23			8.2		
25/01/11	1644-1700	16/Fine	Surface	1.0	17.7	30.7	30.7	6.11	6.13	83.7	84.0	5.20	5.23	5.33	8.2	8.4	8.8
						30.6		6.15		84.2		5.26			8.5		
			Middle	5.4	17.7	30.7	30.7	6.13	6.12	83.9	83.7	5.28	5.30		8.9	8.8	
						30.7		6.10		83.5		5.31			8.7		
			Bottom	9.8	17.9	31.4	31.5	6.02	5.99	82.4	82.0	5.44	5.46		9.1	9.2	
						31.5		5.96		81.6		5.48			9.2		
27/01/11	1811-1822	16/Fine	Surface	1.0	18.0	31.3	31.4	6.07	6.05	84.3	84.1	4.75	4.77	4.92	7.7	7.6	7.9
						31.4		6.03		83.8		4.79			7.5		
			Middle	5.6	20.1	31.9	32.0	5.90	5.89	82.0	81.8	5.06	5.04		8.0	8.1	
						32.0		5.87		81.5		5.01			8.1		
			Bottom	10.2	20.4	32.4	32.4	5.87	5.85	81.5	81.3	4.99	4.95		8.0	7.9	
						32.4		5.83		81.0		4.91			7.8		
29/01/11	1040-1050	11/Sunny	Surface	1.0	16.5	30.3	30.4	6.15	6.14	84.9	84.7	5.14	5.17	5.28	8.1	8.2	8.5
						30.4		6.12		84.5		5.19			8.2		
			Middle	5.7	19.5	30.9	31.0	6.03	6.06	82.6	83.0	5.31	5.29		8.6	8.5	
						31.1		6.08		83.3		5.26			8.3		
			Bottom	10.4	20.5	31.7	31.6	5.99	5.98	82.1	81.9	5.37	5.39		9.0	8.9	
						31.5		5.96		81.7		5.41			8.8		

Mid-Ebb Tide

Monitoring Station : R29

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1337-1350	13/Cloudy	Surface	1.0	18.7	30.3	30.4	5.81	5.82	80.2	80.4	5.36	5.35	5.52	8.3	8.3	8.7
						30.4		5.83		80.5		5.33			8.2		
			Middle	8.6	17.6	31.4	31.4	5.92	5.96	81.7	82.2	5.52	5.53		8.7	8.8	
						31.3		5.99		82.7		5.54			8.9		
			Bottom	16.2	16.5	32.0	32.1	5.72	5.75	78.9	79.3	5.69	5.67		9.0	9.0	
						32.1		5.77		79.6		5.65			9.0		
06/01/11	1436-1447	14/Cloudy	Surface	1.0	18.9	31.2	31.2	6.06	6.07	84.2	84.4	5.07	5.11	5.29	8.0	8.0	8.4
						31.2		6.08		84.5		5.14			8.0		
			Middle	8.4	20.3	31.8	31.8	5.97	5.95	82.9	82.7	5.24	5.22		8.3	8.2	
						31.8		5.93		82.4		5.19			8.1		
			Bottom	15.8	20.9	32.1	32.2	5.90	5.92	82.0	82.3	5.57	5.54		8.8	8.9	
						32.2		5.94		82.5		5.50			9.0		
08/01/11	1601-1615	15/Fine	Surface	1.0	18.5	30.5	30.5	5.98	5.97	81.9	81.7	5.23	5.26	5.44	8.4	8.4	8.8
						30.4		5.95		81.5		5.29			8.3		
			Middle	8.4	18.0	31.0	31.0	5.82	5.83	79.7	79.9	5.42	5.44		8.8	8.9	
						31.0		5.84		80.0		5.46			9.0		
			Bottom	15.8	17.6	32.0	32.0	5.70	5.72	78.0	78.3	5.60	5.63		9.3	9.2	
						32.0		5.74		78.6		5.65			9.1		
11/01/11	1736-1749	11/Cloudy	Surface	1.0	17.6	30.6	30.6	6.09	6.09	84.0	84.0	5.30	5.33	5.36	8.3	8.3	8.7
						30.5		6.08		83.9		5.36			8.2		
			Middle	8.5	18.8	31.3	31.4	5.84	5.85	80.6	80.8	5.32	5.34		8.6	8.7	
						31.4		5.86		80.9		5.35			8.8		
			Bottom	16.0	19.3	32.0	32.0	5.92	5.92	81.7	81.7	5.39	5.41		9.1	9.1	
						31.9		5.91		81.6		5.43			9.0		
13/01/11	1847-1902	13/Fine	Surface	1.0	17.6	30.6	30.6	5.93	5.91	81.2	80.9	5.64	5.67	5.84	9.2	9.1	9.2
						30.6		5.89		80.6		5.70			9.0		
			Middle	8.3	17.0	31.0	31.0	5.81	5.83	79.5	79.8	5.81	5.83		9.3	9.2	
						31.0		5.84		80.0		5.85			9.1		
			Bottom	15.6	16.7	31.7	31.7	5.71	5.74	78.2	78.6	5.99	6.01		9.5	9.4	
						31.7		5.76		78.9		6.03			9.2		
15/01/11	1955-2006	14/Fine	Surface	1.0	17.0	31.2	31.2	6.27	6.26	87.1	86.9	5.19	5.17	5.14	8.3	8.3	8.2
						31.2		6.24		86.7		5.15			8.3		
			Middle	8.4	19.9	32.0	32.1	6.07	6.08	83.7	83.9	5.01	5.04		8.0	8.1	
						32.1		6.09		84.0		5.07			8.2		
			Bottom	15.8	20.1	32.5	32.5	5.95	5.97	82.1	82.3	5.22	5.20		8.4	8.3	
						32.4		5.98		82.5		5.17			8.2		
18/01/11	1202-1218	17/Fine	Surface	1.0	17.5	30.6	30.6	6.08	6.10	83.2	83.5	5.31	5.34	5.52	8.4	8.4	8.8
						30.6		6.12		83.8		5.36			8.3		
			Middle	8.3	17.3	31.0	31.0	6.02	6.04	82.4	82.6	5.51	5.53		9.0	8.9	
						31.0		6.05		82.8		5.55			8.8		
			Bottom	15.6	17.8	31.7	31.7	5.88	5.87	80.5	80.3	5.70	5.68		9.1	9.1	
						31.6		5.85		80.1		5.66			9.1		
20/01/11	1304-1315	15/Cloudy	Surface	1.0	18.0	31.2	31.3	6.15	6.16	85.4	85.6	4.90	4.94	4.93	7.9	8.0	7.9
						31.3		6.17		85.7		4.97			8.0		
			Middle	8.3	20.3	32.0	32.0	5.97	5.96	82.9	82.7	4.99	4.95		8.2	8.1	
						31.9		5.94		82.5		4.91			8.0		
			Bottom	15.6	20.7	32.4	32.4	5.85	5.87	80.7	80.9	4.87	4.91		7.6	7.6	
						32.4		5.88		81.1		4.94			7.6		
22/01/11	1426-1437	15/Cloudy	Surface	1.0	17.4	30.2	30.3	6.13	6.11	85.2	84.6	5.05	5.07	5.17	8.0	7.9	8.3
						30.3		6.09		84.0		5.09			7.8		
			Middle	8.2	18.2	31.4	31.4	6.02	6.04	82.5	83.1	5.14	5.17		8.2	8.3	
						31.3		6.06		83.6		5.20			8.4		
			Bottom	15.4	19.4	31.8	31.8	5.99	5.98	82.1	82.2	5.28	5.26		8.6	8.6	
						31.8		5.96		82.2		5.24			8.5		
25/01/11	1706-1720	16/Fine	Surface	1.0	17.6	30.6	30.6	6.01	5.98	82.3	81.8	5.36	5.38	5.56	8.1	8.2	8.5
						30.6		5.94		81.3		5.40			8.2		
			Middle	8.4	17.9	30.8	30.9	5.88	5.86	80.5	80.3	5.55	5.58		8.4	8.4	
						30.9		5.84		80.0		5.60			8.3		
			Bottom	15.8	18.1	31.7	31.7	5.73	5.75	78.5	78.8	5.69	5.71		9.0	8.9	
						31.7		5.77		79.0		5.73			8.8		
27/01/11	1836-1847	16/Fine	Surface	1.0	18.0	31.4	31.4	6.15	6.13	85.4	85.2	4.93	4.90	5.15	8.0	7.9	8.0
						31.3		6.11		84.9		4.87			7.7		
			Middle	8.6	20.1	32.0	32.1	5.95	5.93	82.7	82.4	5.18	5.21		8.2	8.3	
						32.1		5.90		82.0		5.24			8.4		
			Bottom	16.2	20.5	32.4	32.4	5.98	5.97	83.1	82.9	5.37	5.34		7.8	7.9	
						32.3		5.95		82.7		5.31			8.0		
29/01/11	1058-1108	11/Sunny	Surface	1.0	16.3	30.6	30.6	6.08	6.07	83.9	83.7	5.16	5.19	5.26	8.1	8.2	8.3
						30.5		6.05		83.5		5.22			8.3		
			Middle	8.6	19.5	31.1	31.2	5.97	5.94	81.8	81.4	5.28	5.31		8.7	8.6	
						31.3		5.91		81.0		5.33			8.5		
			Bottom	16.2	20.3	31.8	31.8	5.96	5.99	81.7	82.0	5.31	5.29		8.1	8.2	
						31.8		6.01		82.3		5.27			8.3		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1209-1222	12/Cloudy	Surface	1.0	18.4	30.4	30.4	5.96	5.94	82.2	81.9	5.26	5.25	5.41	8.1	8.2	8.6
						30.3		5.91		81.6		5.23			8.3		
			Middle	7.2	17.5	31.4	31.5	5.89	5.89	79.5	80.3	5.40	5.43		8.9	8.7	
						31.5		5.88		81.1		5.45			8.5		
			Bottom	13.4	16.8	32.1	32.1	5.75	5.74	79.4	79.3	5.56	5.55		9.0	8.9	
						32.0		5.73		79.1		5.54			8.8		
06/01/11	1300-1312	14/Cloudy	Surface	1.0	18.6	31.1	31.1	6.03	6.06	83.8	84.2	5.34	5.32	5.21	8.4	8.3	8.2
						31.0		6.08		84.5		5.30			8.2		
			Middle	6.8	20.2	31.9	31.9	5.81	5.80	80.1	79.9	5.09	5.11		8.0	8.0	
						31.9		5.78		79.7		5.13			8.0		
			Bottom	12.6	20.8	32.2	32.2	5.85	5.83	80.7	80.4	5.22	5.20		8.2	8.4	
						32.1		5.80		80.0		5.17			8.5		
08/01/11	1433-1449	15/Fine	Surface	1.0	18.6	30.5	30.5	6.08	6.10	83.2	83.5	5.29	5.33	5.46	8.3	8.3	8.7
						30.5		6.11		83.7		5.36			8.3		
			Middle	7.0	18.1	31.1	31.1	6.01	5.99	82.3	82.0	5.41	5.44		8.8	8.9	
						31.1		5.96		81.6		5.47			9.0		
			Bottom	13.0	17.7	31.9	31.9	5.80	5.79	79.4	79.2	5.58	5.60		9.1	9.0	
						31.9		5.77		79.0		5.62			8.8		
11/01/11	1608-1620	12/Cloudy	Surface	1.0	17.6	30.4	30.5	5.92	5.96	81.7	82.2	5.24	5.22	5.35	8.3	8.5	8.8
						30.5		5.99		82.7		5.20			8.6		
			Middle	6.4	18.8	31.2	31.2	5.93	5.94	81.8	82.0	5.48	5.47		8.9	8.9	
						31.1		5.95		82.1		5.45			8.8		
			Bottom	11.8	19.4	31.9	32.0	5.82	5.81	80.3	80.2	5.39	5.37		9.1	9.1	
						32.0		5.80		80.0		5.34			9.0		
13/01/11	1730-1744	15/Fine	Surface	1.0	17.7	30.5	30.6	5.97	6.00	81.7	82.1	5.58	5.60	5.75	9.1	9.0	9.1
						30.6		6.02		82.4		5.62			8.9		
			Middle	6.9	17.3	31.0	31.0	5.90	5.89	80.8	80.6	5.73	5.76		9.0	9.0	
						30.9		5.87		80.4		5.79			9.0		
			Bottom	12.8	16.9	31.6	31.6	5.79	5.80	79.3	79.4	5.86	5.88		9.3	9.4	
						31.6		5.81		79.5		5.90			9.5		
15/01/11	1835-1845	14/Fine	Surface	1.0	17.8	31.1	31.1	6.08	6.06	83.9	83.6	5.06	5.08	5.25	8.0	8.1	8.4
						31.0		6.04		83.3		5.10			8.2		
			Middle	6.7	19.8	31.9	32.0	5.87	5.89	81.0	81.2	5.21	5.19		8.4	8.3	
						32.0		5.90		81.4		5.17			8.1		
			Bottom	12.4	20.0	32.4	32.5	5.81	5.79	79.5	79.3	5.45	5.47		9.0	8.9	
						32.5		5.77		79.0		5.48			8.8		
18/01/11	1030-1045	15/Fine	Surface	1.0	17.3	30.5	30.5	6.13	6.12	83.9	83.7	5.13	5.11	5.25	8.0	8.1	8.4
						30.5		6.10		83.5		5.08			8.2		
			Middle	6.9	17.6	31.1	31.1	6.06	6.04	83.0	82.7	5.17	5.21		8.0	8.2	
						31.1		6.01		82.3		5.25			8.3		
			Bottom	12.8	17.9	31.6	31.6	5.93	5.91	81.2	80.9	5.40	5.43		8.8	8.9	
						31.6		5.88		80.5		5.46			9.0		
20/01/11	1137-1148	15/Cloudy	Surface	1.0	17.7	31.1	31.2	6.17	6.16	85.7	85.5	4.47	4.45	4.81	7.5	7.4	7.8
						31.2		6.14		85.3		4.42			7.2		
			Middle	6.7	20.0	31.8	31.8	5.99	5.97	83.2	83.0	4.94	4.92		8.0	8.0	
						31.7		5.95		82.7		4.90			8.0		
			Bottom	12.4	20.6	32.1	32.1	5.79	5.77	79.9	79.6	5.02	5.06		8.1	8.1	
						32.0		5.74		79.2		5.09			8.0		
22/01/11	1257-1309	15/Cloudy	Surface	1.0	17.4	30.6	30.7	6.21	6.19	85.7	85.4	5.12	5.09	5.18	8.2	8.2	8.4
						30.7		6.16		85.0		5.06			8.2		
			Middle	6.9	18.4	31.5	31.5	6.09	6.11	83.4	83.6	5.21	5.19		8.5	8.4	
						31.4		6.12		83.8		5.16			8.3		
			Bottom	12.8	19.3	31.9	32.0	6.04	6.02	84.0	83.7	5.25	5.27		8.4	8.5	
						32.0		5.99		83.3		5.29			8.5		
25/01/11	1534-1550	16/Fine	Surface	1.0	17.7	30.6	30.6	6.07	6.11	83.1	83.6	5.28	5.31	5.42	8.5	8.5	8.8
						30.6		6.14		84.1		5.33			8.4		
			Middle	6.9	17.8	31.0	31.0	6.03	6.05	82.6	82.8	5.38	5.41		8.5	8.8	
						31.0		6.06		83.0		5.43			9.0		
			Bottom	12.8	18.0	31.7	31.7	5.90	5.92	80.8	81.1	5.52	5.55		9.0	9.2	
						31.7		5.94		81.3		5.57			9.3		
27/01/11	1700-1712	16/Fine	Surface	1.0	18.1	31.2	31.2	6.24	6.22	86.7	86.4	4.97	4.94	4.95	8.0	7.9	7.8
						31.1		6.20		86.1		4.91			7.8		
			Middle	7.1	20.4	31.9	31.9	5.99	5.97	83.2	83.0	4.87	4.91		7.6	7.6	
						31.8		5.95		82.7		4.94			7.5		
			Bottom	13.2	20.6	32.1	32.1	5.84	5.82	80.5	80.3	4.95	4.99		8.0	7.9	
						32.0		5.80		80.0		5.03			7.7		
29/01/11	0947-0957	11/Sunny	Surface	1.0	16.3	30.6	30.7	6.07	6.06	83.8	83.6	5.14	5.17	5.24	8.1	8.2	8.4
						30.7		6.04		83.4		5.19			8.2		
			Middle	7.2	19.3	31.5	31.4	5.97	5.99	81.8	82.1	5.27	5.30		8.4	8.3	
						31.3		6.01		82.3		5.32			8.2		
			Bottom	13.4	20.2	31.9	32.0	5.92	5.90	81.1	80.9	5.30	5.27		8.6	8.7	
						32.0		5.88		80.6		5.24			8.8		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

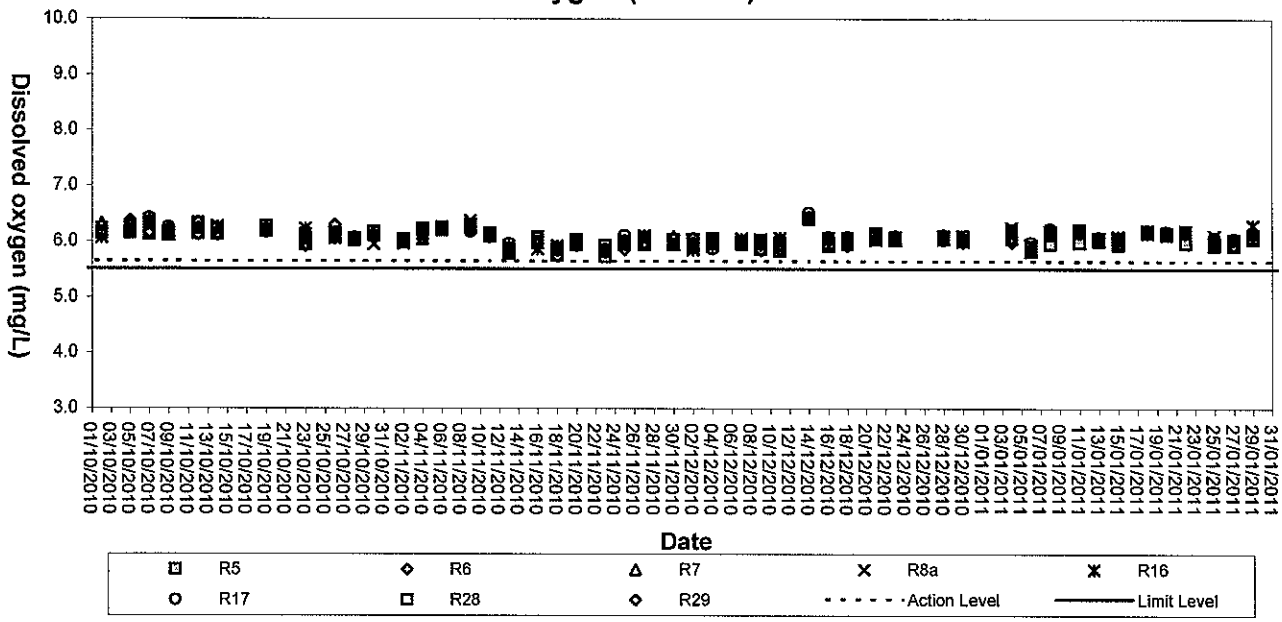
Monitoring Station : C3

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
04/01/11	1234-1247	12/Cloudy	Surface	1.0	18.3	30.3	30.4	5.93	5.93	81.8	81.8	5.30	5.32	5.43	8.6	8.6	8.8
						30.4		5.92		81.7		5.33			8.5		
			Middle	6.5	17.4	31.6	31.6	5.80	5.82	80.0	80.3	5.47	5.45		9.0	8.9	
						31.5		5.83		80.5		5.42			8.8		
			Bottom	12.0	16.9	32.1	32.1	5.72	5.71	78.9	78.8	5.53	5.52		9.0	9.1	
						32.0		5.70		78.7		5.51			9.1		
06/01/11	1325-1337	14/Cloudy	Surface	1.0	18.7	31.0	31.0	5.98	5.96	83.1	82.8	5.57	5.55	5.28	9.1	9.1	8.6
						30.9		5.94		82.5		5.53			9.0		
			Middle	6.4	20.2	31.9	31.9	5.79	5.77	79.9	79.6	5.09	5.12		8.2	8.2	
						31.8		5.75		79.3		5.15			8.2		
			Bottom	11.8	20.9	32.1	32.1	5.68	5.66	78.3	78.1	5.13	5.17		8.3	8.4	
						32.0		5.64		77.8		5.20			8.5		
08/01/11	1458-1511	15/Fine	Surface	1.0	18.6	30.5	30.6	6.06	6.10	83.0	83.5	5.21	5.25	5.40	8.3	8.3	8.5
						30.6		6.13		83.9		5.28			8.3		
			Middle	6.4	18.2	31.0	31.0	5.98	5.96	81.9	81.6	5.39	5.41		8.5	8.4	
						31.0		5.93		81.2		5.43			8.2		
			Bottom	11.8	17.7	31.8	31.8	5.83	5.81	79.8	79.5	5.52	5.55		8.7	8.9	
						31.8		5.78		79.1		5.57			9.0		
11/01/11	1632-1645	12/Cloudy	Surface	1.0	17.5	30.5	30.5	5.98	6.00	82.5	82.7	5.19	5.21	5.38	8.4	8.5	8.7
						30.4		6.01		82.9		5.22			8.5		
			Middle	6.1	18.7	31.2	31.3	5.93	5.95	81.8	82.0	5.38	5.37		8.8	8.8	
						31.3		5.96		82.2		5.35			8.7		
			Bottom	11.2	19.3	31.8	31.9	5.85	5.87	80.7	80.9	5.55	5.57		9.0	9.0	
						31.9		5.88		81.1		5.58			9.0		
13/01/11	1750-1803	15/Fine	Surface	1.0	17.7	30.6	30.6	6.00	5.98	82.2	81.9	5.55	5.57	5.70	9.0	8.9	9.2
						30.6		5.95		81.5		5.59			8.8		
			Middle	6.4	17.3	31.0	31.0	5.89	5.87	80.6	80.3	5.66	5.68		9.3	9.2	
						31.0		5.84		80.0		5.70			9.1		
			Bottom	11.8	16.8	31.7	31.7	5.78	5.76	79.1	78.8	5.84	5.86		9.5	9.4	
						31.6		5.73		78.5		5.88			9.2		
15/01/11	1858-1908	14/Fine	Surface	1.0	17.4	31.2	31.2	6.11	6.10	84.3	84.2	5.01	4.99	5.15	8.0	7.9	8.2
						31.1		6.09		84.0		4.97			7.8		
			Middle	6.3	19.9	32.0	32.0	5.84	5.86	80.5	80.8	5.17	5.21		8.2	8.2	
						31.9		5.87		81.0		5.24			8.2		
			Bottom	11.6	20.2	32.5	32.5	5.90	5.92	81.4	81.7	5.24	5.27		8.4	8.4	
						32.4		5.94		81.9		5.29			8.3		
18/01/11	1053-1110	15/Fine	Surface	1.0	17.4	30.5	30.6	6.17	6.14	84.5	84.1	5.16	5.18	5.28	8.2	8.2	8.4
						30.6		6.11		83.7		5.20			8.2		
			Middle	6.3	17.1	31.0	31.1	6.07	6.06	83.1	82.9	5.24	5.26		8.5	8.4	
						31.1		6.04		82.7		5.28			8.3		
			Bottom	11.6	17.7	31.5	31.6	5.95	5.93	81.5	81.2	5.38	5.40		8.7	8.6	
						31.6		5.90		80.8		5.42			8.5		
20/01/11	1201-1211	15/Cloudy	Surface	1.0	17.8	31.2	31.2	6.11	6.09	84.9	84.6	4.59	4.62	4.59	7.4	7.5	7.5
						31.1		6.07		84.3		4.64			7.5		
			Middle	6.3	20.2	31.8	31.9	6.01	6.02	83.5	83.7	4.43	4.47		7.5	7.4	
						31.9		6.03		83.8		4.50			7.3		
			Bottom	11.6	20.6	32.2	32.2	5.87	5.89	81.0	81.2	4.72	4.70		7.7	7.8	
						32.1		5.90		81.4		4.67			7.8		
22/01/11	1320-1332	15/Cloudy	Surface	1.0	17.4	30.3	30.3	6.13	6.15	84.6	84.5	5.02	5.05	5.14	8.0	8.1	8.2
						30.3		6.16		84.4		5.07			8.1		
			Middle	6.4	18.2	31.4	31.4	6.08	6.06	84.5	84.0	5.16	5.14		8.2	8.2	
						31.3		6.04		83.4		5.11			8.1		
			Bottom	11.8	19.3	31.7	31.8	5.98	5.96	82.5	82.0	5.26	5.23		8.3	8.4	
						31.8		5.94		81.4		5.20			8.5		
25/01/11	1558-1615	16/Fine	Surface	1.0	17.6	30.5	30.6	6.01	6.03	82.3	82.6	5.26	5.29	5.41	8.5	8.4	8.6
						30.6		6.05		82.8		5.31			8.2		
			Middle	6.3	17.8	30.9	30.9	5.99	5.97	82.0	81.7	5.37	5.39		8.6	8.5	
						30.9		5.94		81.3		5.40			8.4		
			Bottom	11.6	18.0	31.6	31.7	5.90	5.88	80.8	80.5	5.53	5.56		8.9	9.0	
						31.7		5.86		80.2		5.59			9.0		
27/01/11	1725-1737	16/Fine	Surface	1.0	18.2	31.2	31.2	6.10	6.12	84.7	85.0	5.03	5.08	4.99	8.1	8.2	8.0
						31.2		6.14		85.3		5.12			8.2		
			Middle	6.4	20.4	31.9	32.0	5.87	5.85	81.0	80.7	4.89	4.92		7.7	7.8	
						32.0		5.83		80.4		4.94			7.8		
			Bottom	11.8	20.6	32.2	32.3	5.89	5.88	81.2	81.0	5.01	4.98		8.0	8.0	
						32.3		5.86		80.8		4.95			7.9		
29/01/11	1005-1015	11/Sunny	Surface	1.0	16.4	30.4	30.4	6.10	6.12	84.2	84.5	5.04	5.07	5.18	8.0	8.1	8.2
						30.4		6.14		84.7		5.09			8.1		
			Middle	6.5	19.5	30.8	30.9	6.05	6.04	83.5	83.3	5.21	5.19		8.3	8.2	
						30.9		6.02		83.1		5.17			8.1		
			Bottom	12.0	20.5	31.6	31.6	5.98	5.96	81.9	81.6	5.27	5.29		8.4	8.3	
						31.5		5.93		81.2		5.31			8.2		

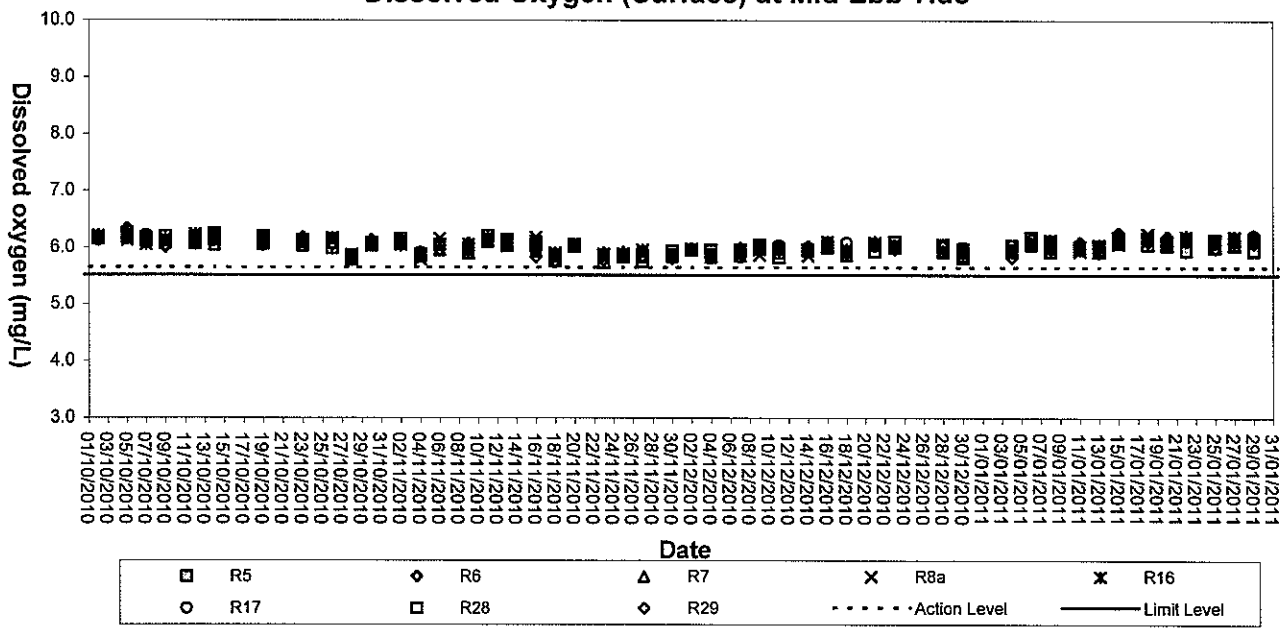
Appendix C3

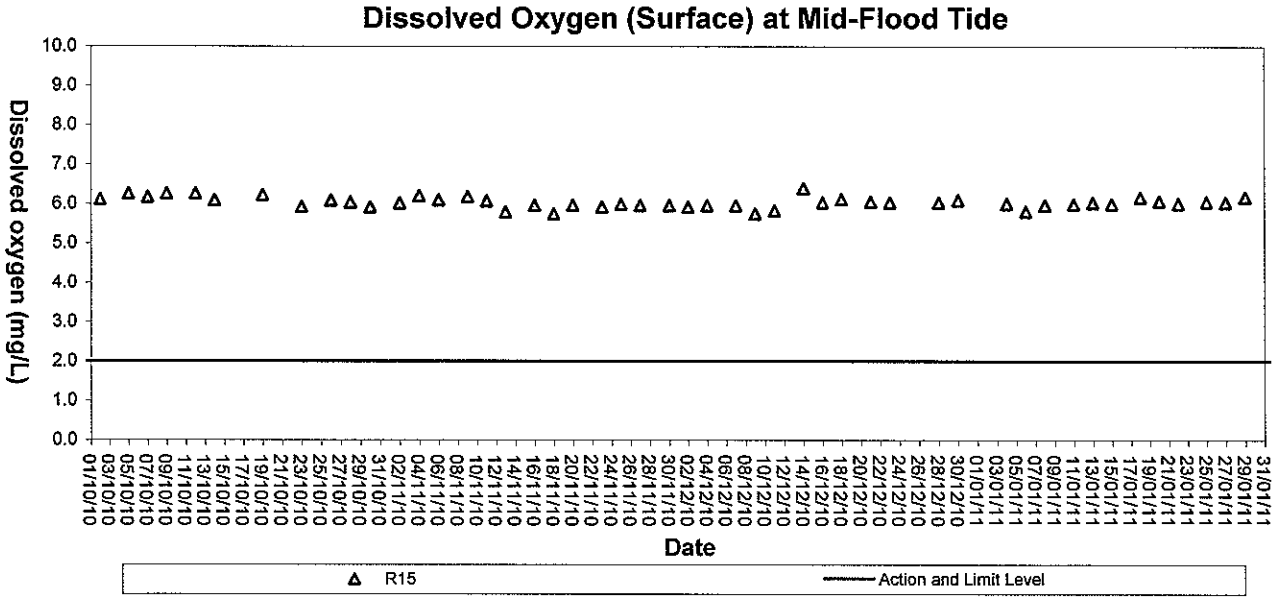
Graphical Plots of Impact Water Quality Monitoring Data

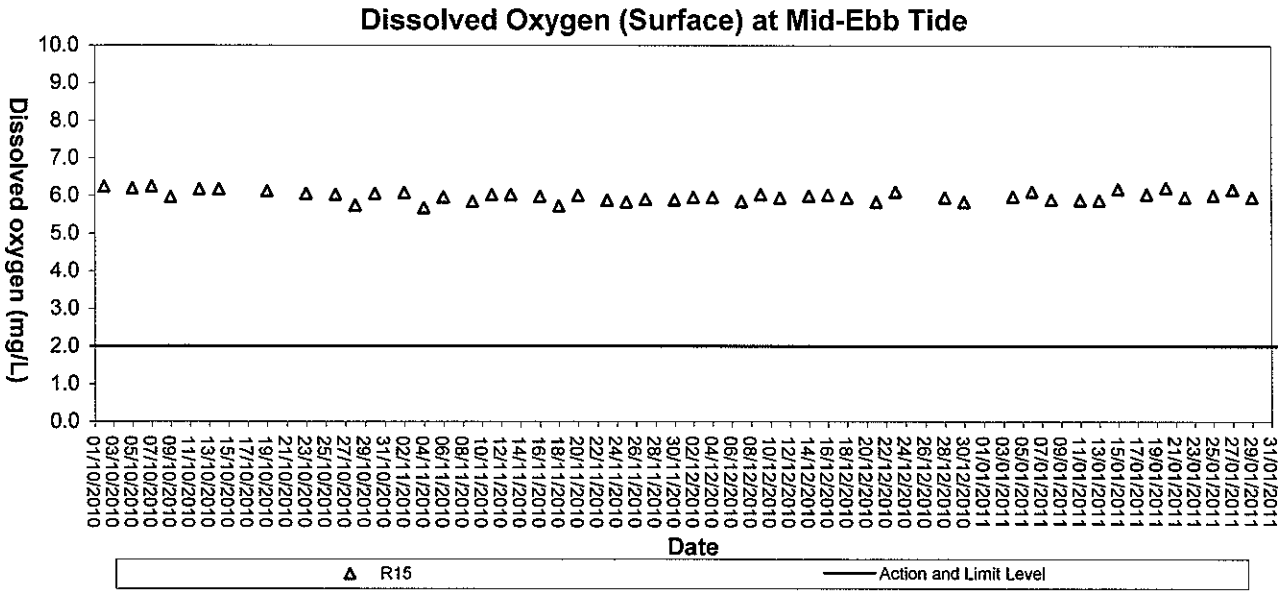
Dissolved Oxygen (Surface) at Mid-Flood Tide



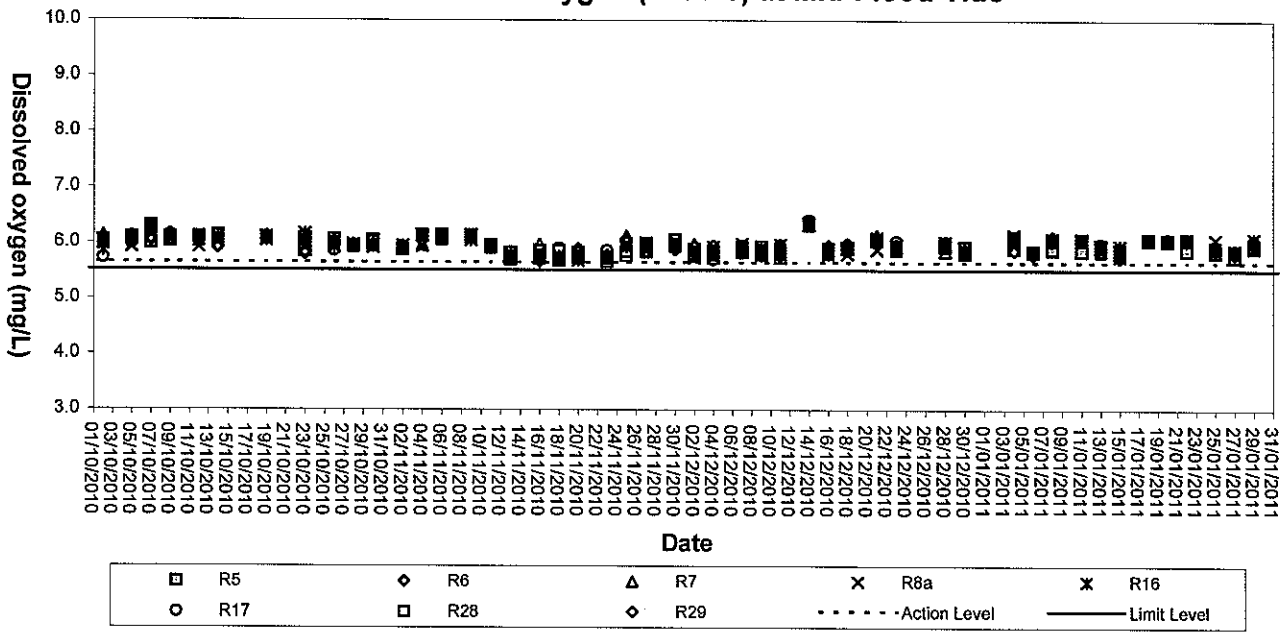
Dissolved Oxygen (Surface) at Mid-Ebb Tide



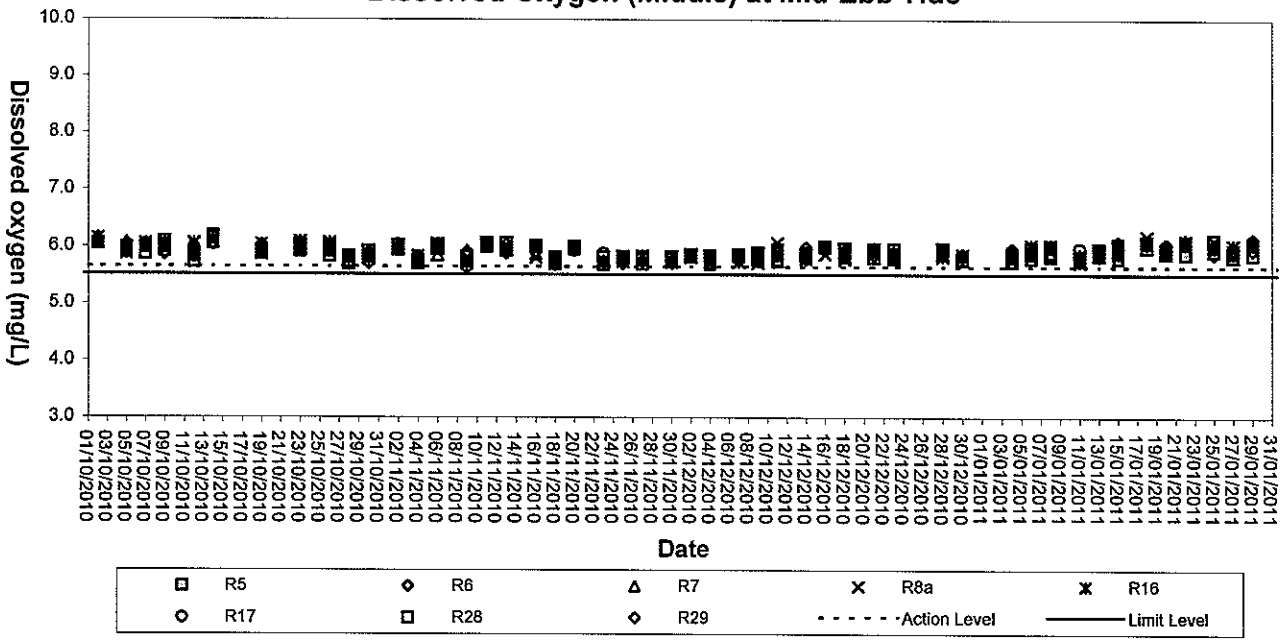

Dissolved Oxygen (Surface) at Mid-Flood Tide
Dissolved oxygen (mg/L)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
01/10/10
03/10/10
05/10/10
07/10/10
09/10/10
11/10/10
13/10/10
15/10/10
17/10/10
19/10/10
21/10/10
23/10/10
25/10/10
27/10/10
29/10/10
31/10/10
02/11/10
04/11/10
06/11/10
08/11/10
10/11/10
12/11/10
14/11/10
16/11/10
18/11/10
20/11/10
22/11/10
24/11/10
26/11/10
28/11/10
30/11/10
02/12/10
04/12/10
06/12/10
08/12/10
10/12/10
12/12/10
14/12/10
16/12/10
18/12/10
20/12/10
22/12/10
24/12/10
26/12/10
28/12/10
30/12/10
01/01/11
03/01/11
05/01/11
07/01/11
09/01/11
11/01/11
13/01/11
15/01/11
17/01/11
19/01/11
21/01/11
23/01/11
25/01/11
27/01/11
29/01/11
31/01/11
Date
R15
Action and Limit Level

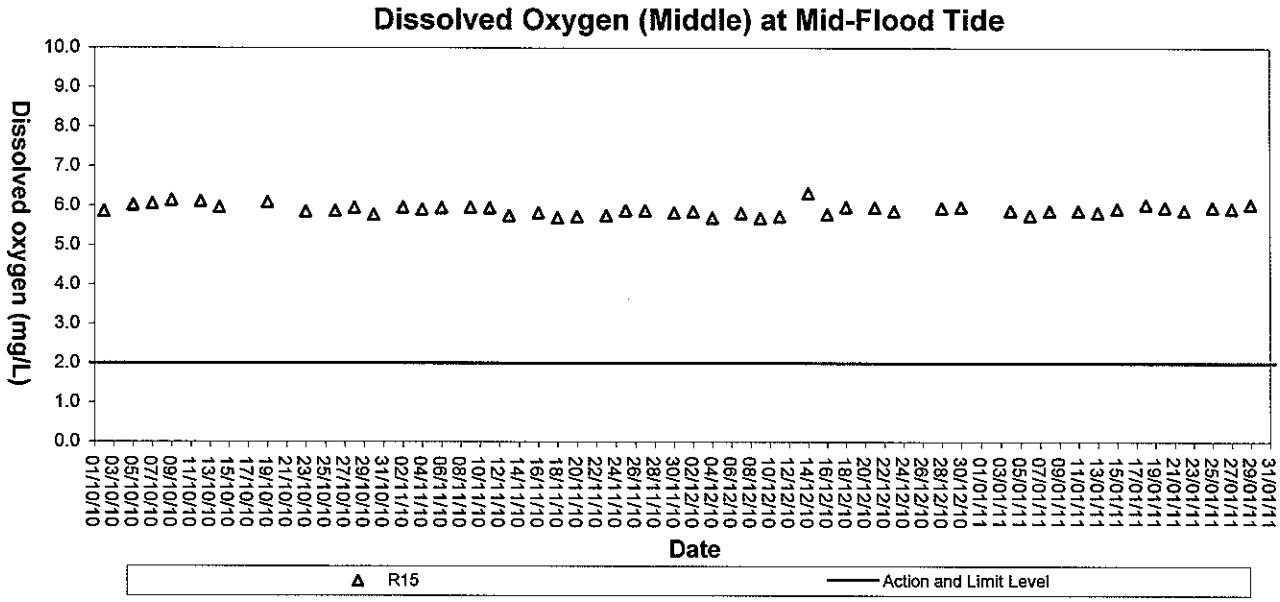

Dissolved Oxygen (Surface) at Mid-Ebb Tide
Dissolved oxygen (mg/L)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
01/10/2010
03/10/2010
05/10/2010
07/10/2010
09/10/2010
11/10/2010
13/10/2010
15/10/2010
17/10/2010
19/10/2010
21/10/2010
23/10/2010
25/10/2010
27/10/2010
29/10/2010
31/10/2010
02/11/2010
04/11/2010
06/11/2010
08/11/2010
10/11/2010
12/11/2010
14/11/2010
16/11/2010
18/11/2010
20/11/2010
22/11/2010
24/11/2010
26/11/2010
28/11/2010
30/11/2010
02/12/2010
04/12/2010
06/12/2010
08/12/2010
10/12/2010
12/12/2010
14/12/2010
16/12/2010
18/12/2010
20/12/2010
22/12/2010
24/12/2010
26/12/2010
28/12/2010
30/12/2010
01/01/2011
03/01/2011
05/01/2011
07/01/2011
09/01/2011
11/01/2011
13/01/2011
15/01/2011
17/01/2011
19/01/2011
21/01/2011
23/01/2011
25/01/2011
27/01/2011
29/01/2011
31/01/2011
Date
R15
Action and Limit Level

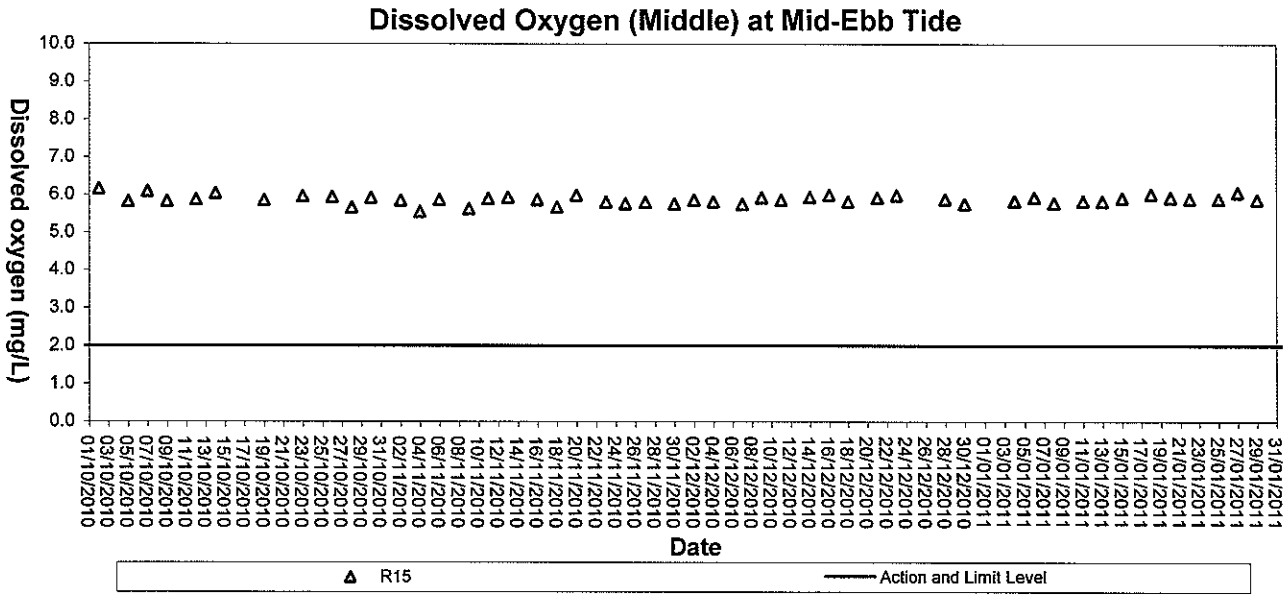
Dissolved Oxygen (Middle) at Mid-Flood Tide



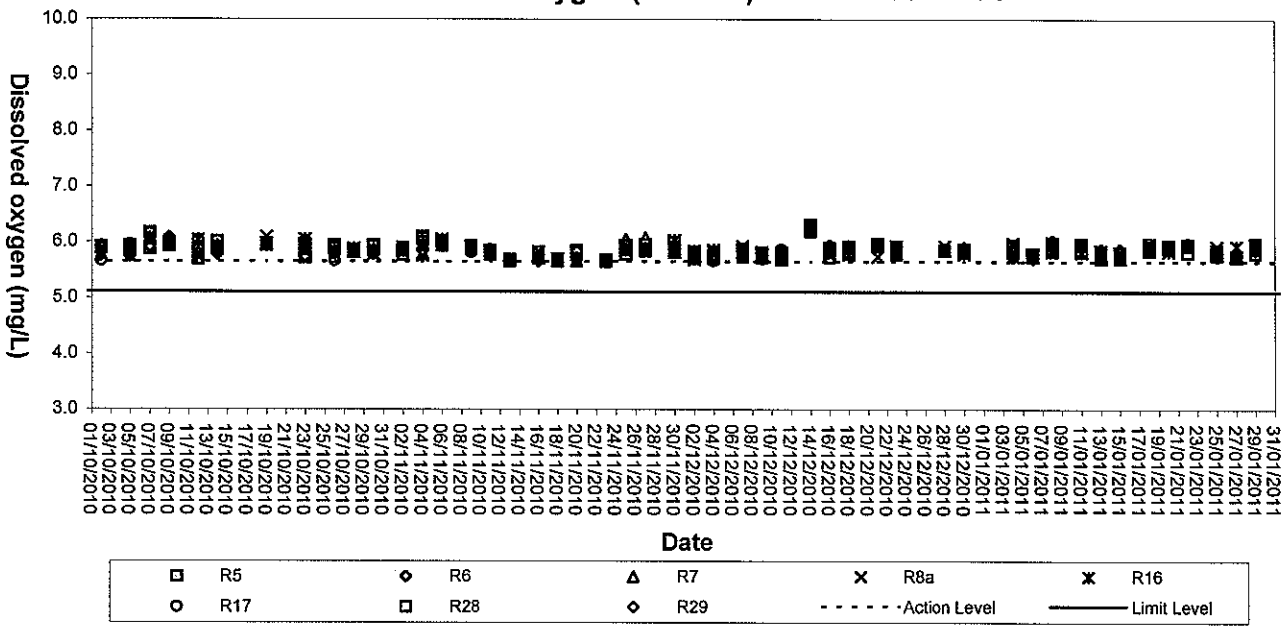
Dissolved Oxygen (Middle) at Mid-Ebb Tide



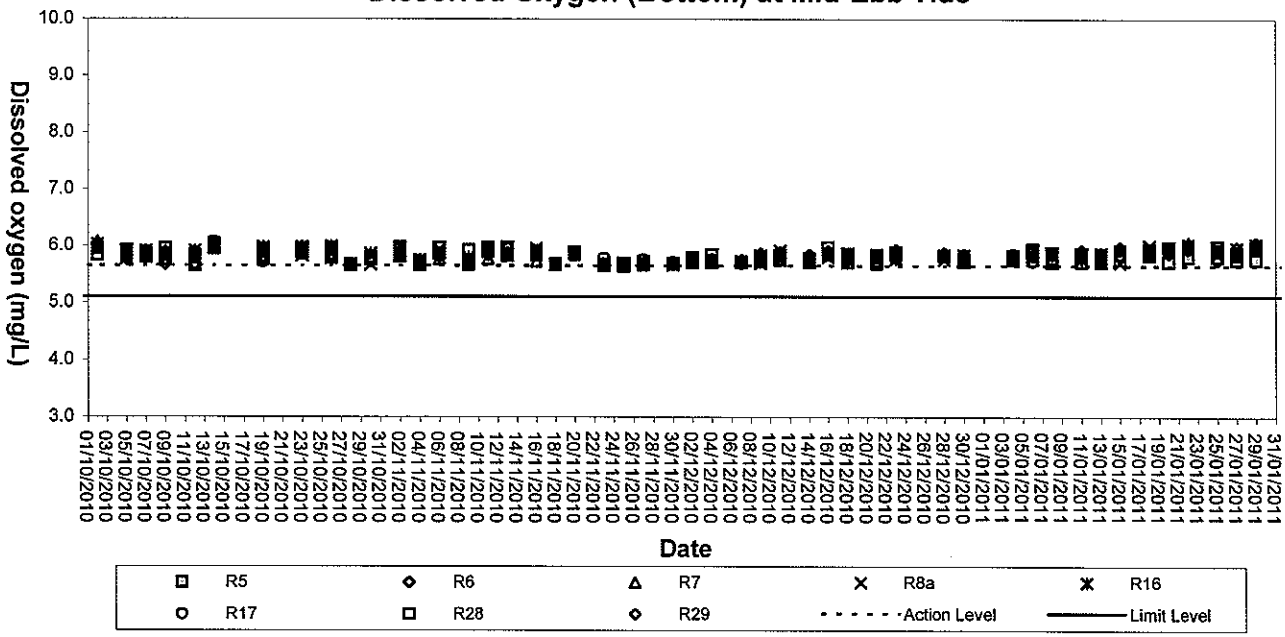

Dissolved Oxygen (Middle) at Mid-Flood Tide
Dissolved oxygen (mg/L)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
01/10/10
03/10/10
05/10/10
07/10/10
09/10/10
11/10/10
13/10/10
15/10/10
17/10/10
19/10/10
21/10/10
23/10/10
25/10/10
27/10/10
29/10/10
31/10/10
02/11/10
04/11/10
06/11/10
08/11/10
10/11/10
12/11/10
14/11/10
16/11/10
18/11/10
20/11/10
22/11/10
24/11/10
26/11/10
28/11/10
30/11/10
02/12/10
04/12/10
06/12/10
08/12/10
10/12/10
12/12/10
14/12/10
16/12/10
18/12/10
20/12/10
22/12/10
24/12/10
26/12/10
28/12/10
30/12/10
01/01/11
03/01/11
05/01/11
07/01/11
09/01/11
11/01/11
13/01/11
15/01/11
17/01/11
19/01/11
21/01/11
23/01/11
25/01/11
27/01/11
29/01/11
31/01/11
Date
R15
Action and Limit Level

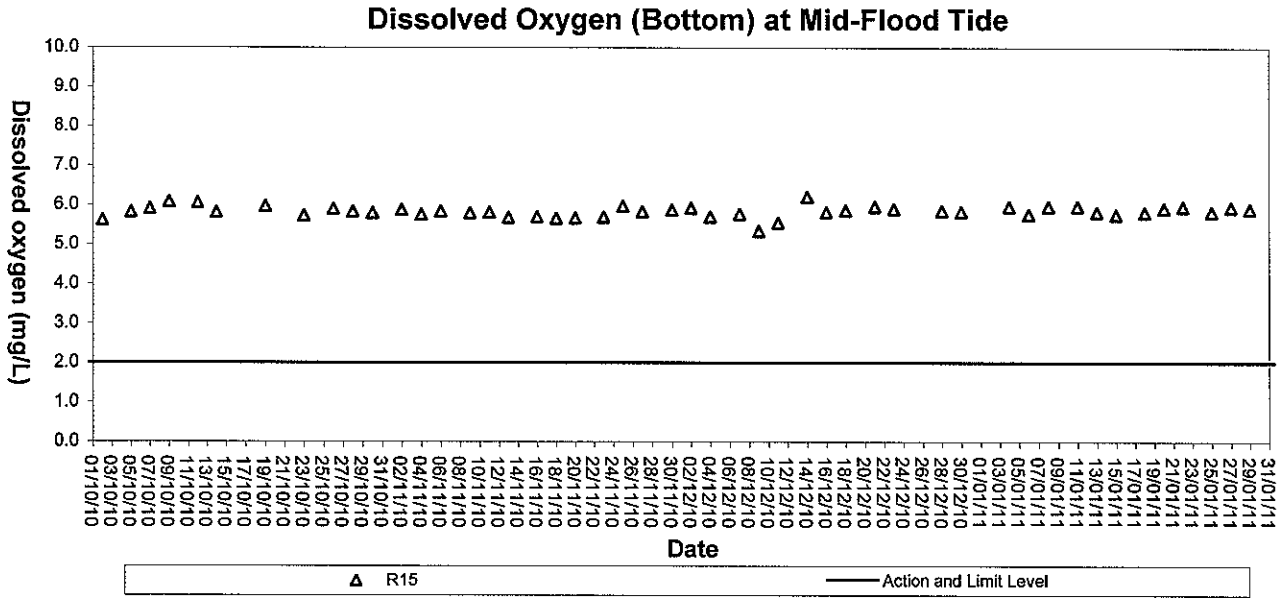

Dissolved Oxygen (Middle) at Mid-Ebb Tide
Dissolved oxygen (mg/L)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
01/10/2010
03/10/2010
05/10/2010
07/10/2010
09/10/2010
11/10/2010
13/10/2010
15/10/2010
17/10/2010
19/10/2010
21/10/2010
23/10/2010
25/10/2010
27/10/2010
29/10/2010
31/10/2010
02/11/2010
04/11/2010
06/11/2010
08/11/2010
10/11/2010
12/11/2010
14/11/2010
16/11/2010
18/11/2010
20/11/2010
22/11/2010
24/11/2010
26/11/2010
28/11/2010
30/11/2010
02/12/2010
04/12/2010
06/12/2010
08/12/2010
10/12/2010
12/12/2010
14/12/2010
16/12/2010
18/12/2010
20/12/2010
22/12/2010
24/12/2010
26/12/2010
28/12/2010
30/12/2010
01/01/2011
03/01/2011
05/01/2011
07/01/2011
09/01/2011
11/01/2011
13/01/2011
15/01/2011
17/01/2011
19/01/2011
21/01/2011
23/01/2011
25/01/2011
27/01/2011
29/01/2011
31/01/2011
Date
R15
Action and Limit Level

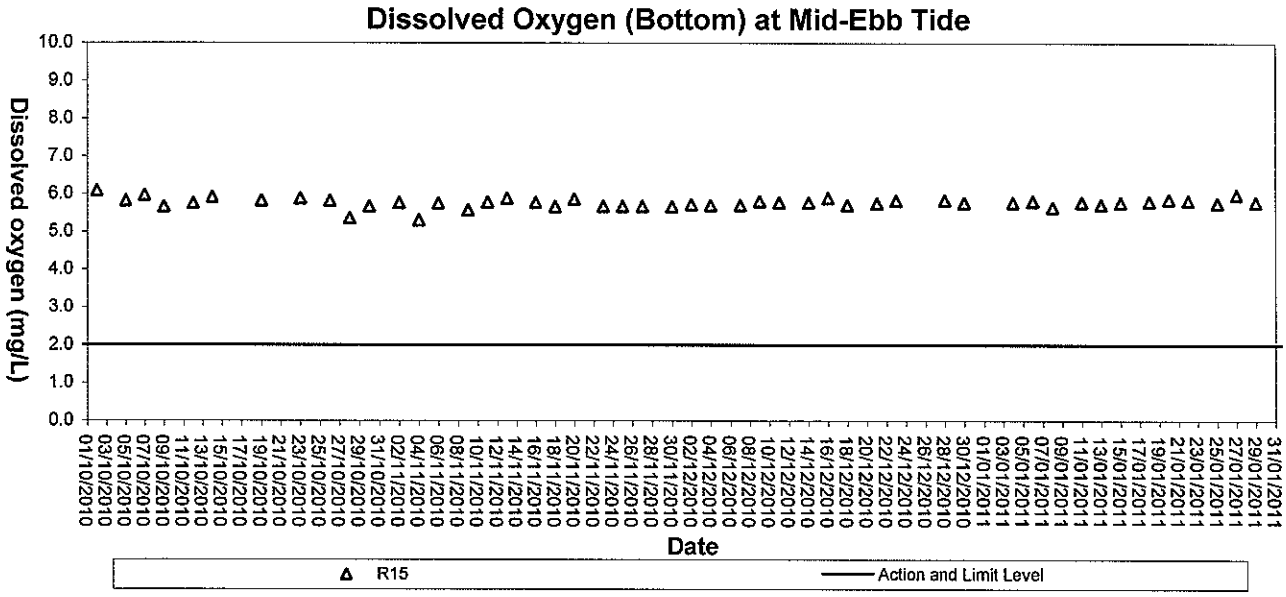
Dissolved Oxygen (Bottom) at Mid-Flood Tide



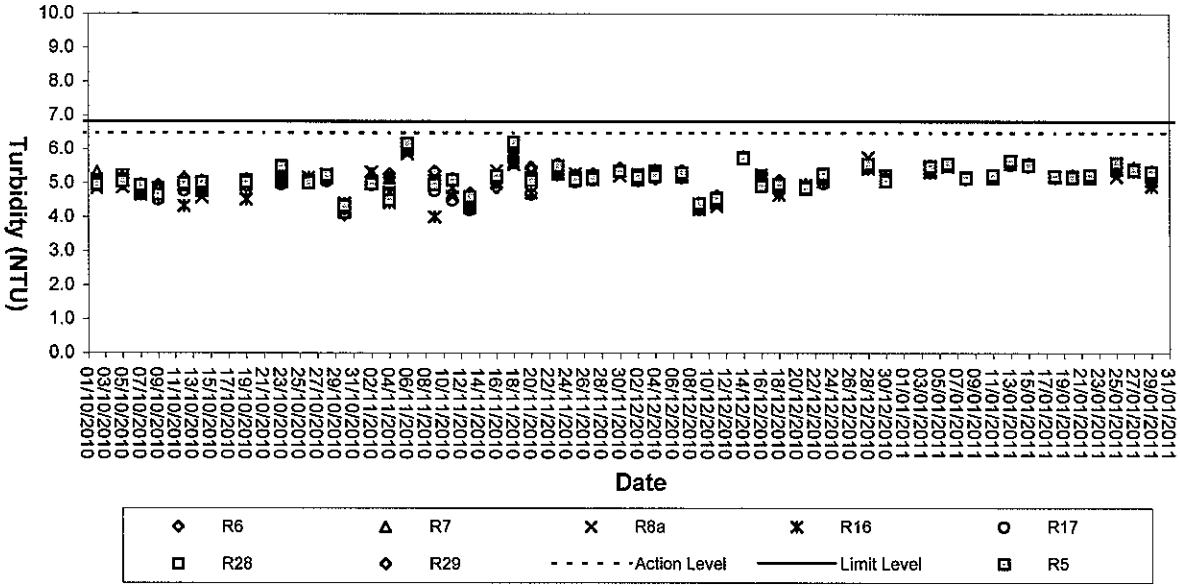
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



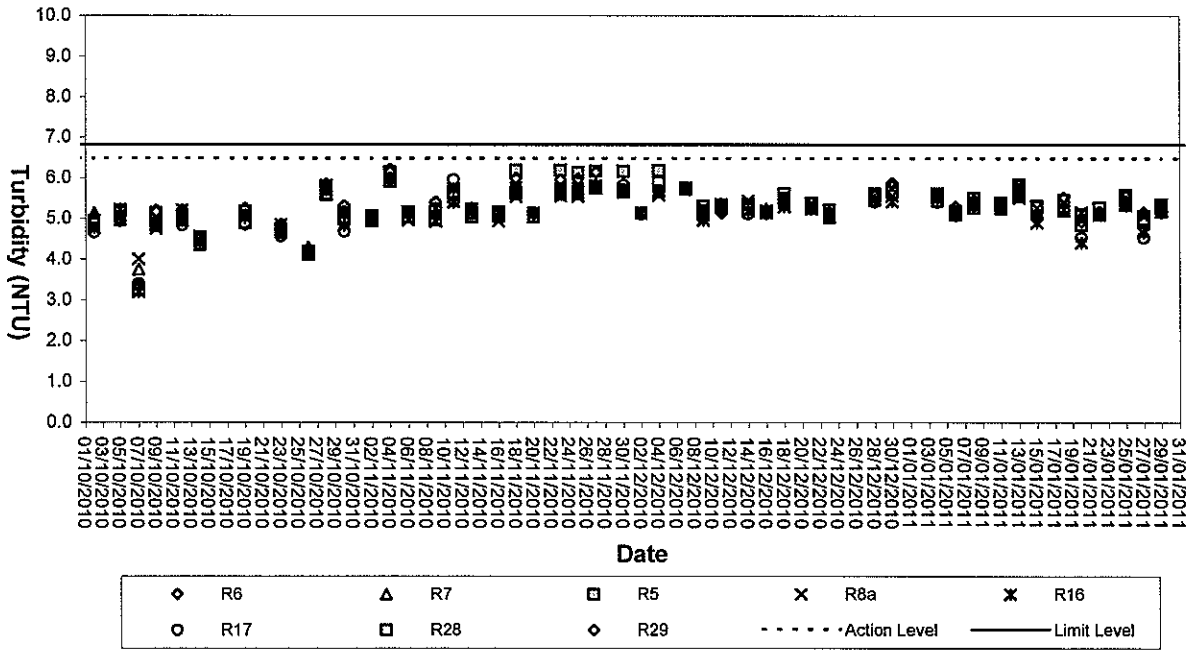

Dissolved Oxygen (Bottom) at Mid-Flood Tide
Dissolved oxygen (mg/L)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
01/10/10
03/10/10
05/10/10
07/10/10
09/10/10
11/10/10
13/10/10
15/10/10
17/10/10
19/10/10
21/10/10
23/10/10
25/10/10
27/10/10
29/10/10
31/10/10
02/11/10
04/11/10
06/11/10
08/11/10
10/11/10
12/11/10
14/11/10
16/11/10
18/11/10
20/11/10
22/11/10
24/11/10
26/11/10
28/11/10
30/11/10
02/12/10
04/12/10
06/12/10
08/12/10
10/12/10
12/12/10
14/12/10
16/12/10
18/12/10
20/12/10
22/12/10
24/12/10
26/12/10
28/12/10
30/12/10
01/01/11
03/01/11
05/01/11
07/01/11
09/01/11
11/01/11
13/01/11
15/01/11
17/01/11
19/01/11
21/01/11
23/01/11
25/01/11
27/01/11
29/01/11
31/01/11
Date
R15
Action and Limit Level


Dissolved Oxygen (Bottom) at Mid-Ebb Tide
Dissolved oxygen (mg/L)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
01/10/2010
03/10/2010
05/10/2010
07/10/2010
09/10/2010
11/10/2010
13/10/2010
15/10/2010
17/10/2010
19/10/2010
21/10/2010
23/10/2010
25/10/2010
27/10/2010
29/10/2010
31/10/2010
02/11/2010
04/11/2010
06/11/2010
08/11/2010
10/11/2010
12/11/2010
14/11/2010
16/11/2010
18/11/2010
20/11/2010
22/11/2010
24/11/2010
26/11/2010
28/11/2010
30/11/2010
02/12/2010
04/12/2010
06/12/2010
08/12/2010
10/12/2010
12/12/2010
14/12/2010
16/12/2010
18/12/2010
20/12/2010
22/12/2010
24/12/2010
26/12/2010
28/12/2010
30/12/2010
01/01/2011
03/01/2011
05/01/2011
07/01/2011
09/01/2011
11/01/2011
13/01/2011
15/01/2011
17/01/2011
19/01/2011
21/01/2011
23/01/2011
25/01/2011
27/01/2011
29/01/2011
31/01/2011
Date
R15
Action and Limit Level

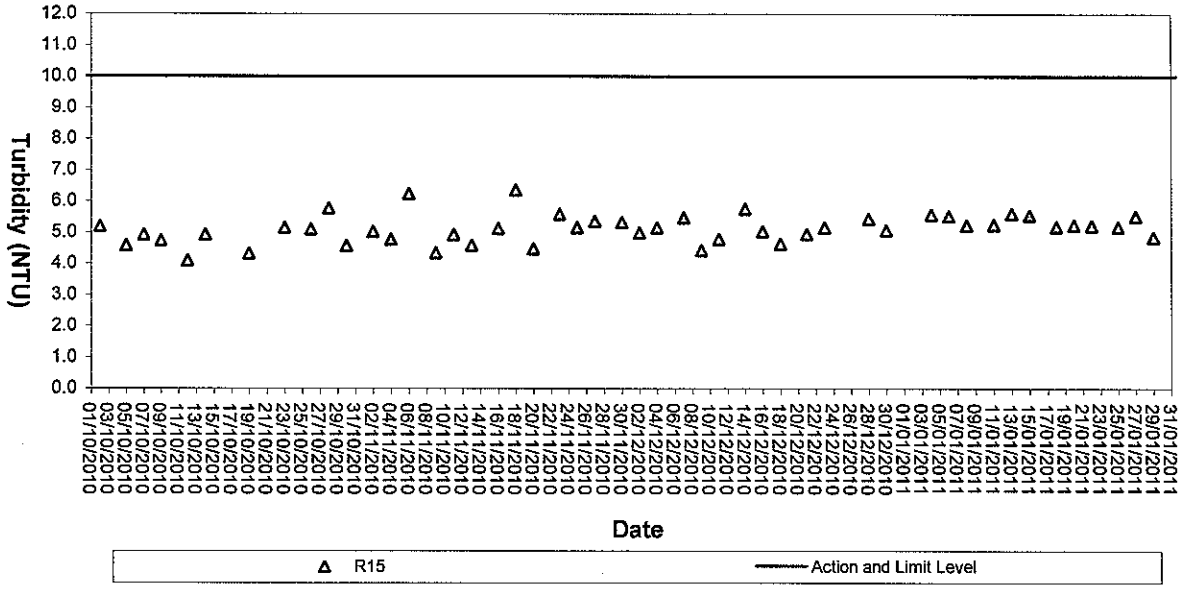
Turbidity (Depth-average) at Mid-Flood Tide



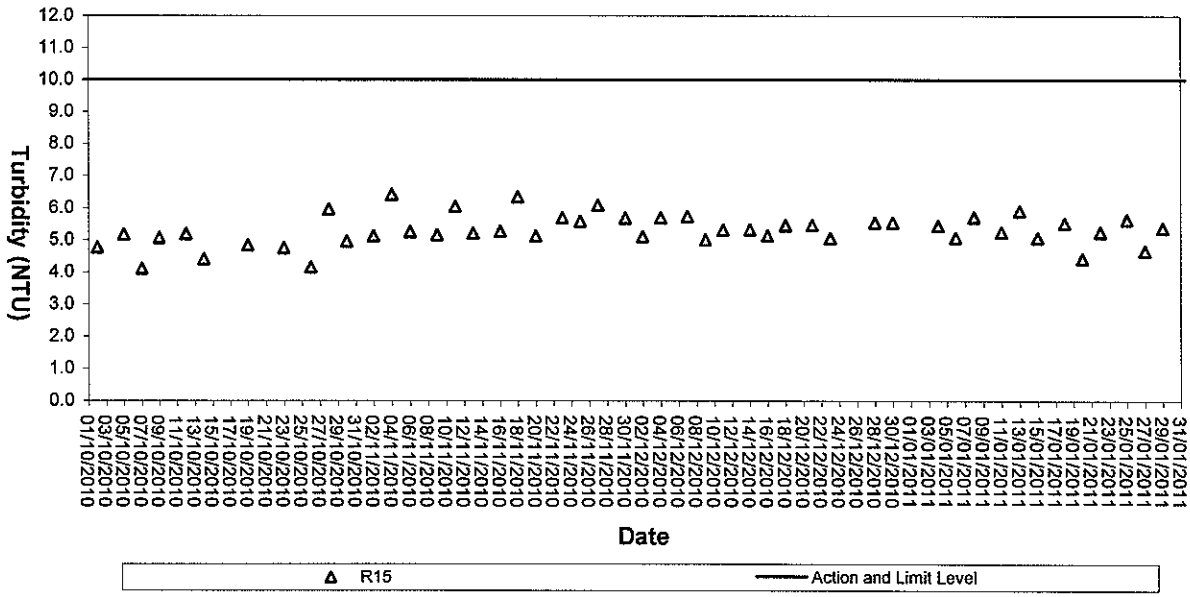
Turbidity(Depth-average) at Mid-Ebb Tide



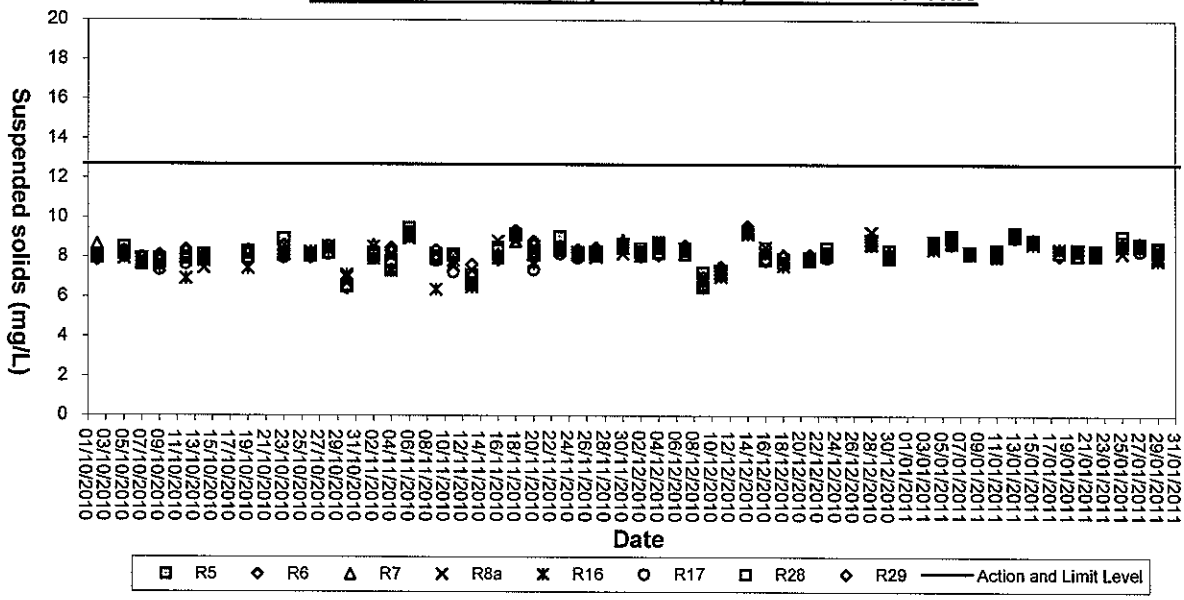
Turbidity (Depth-average) of R15 at Mid-Flood Tide



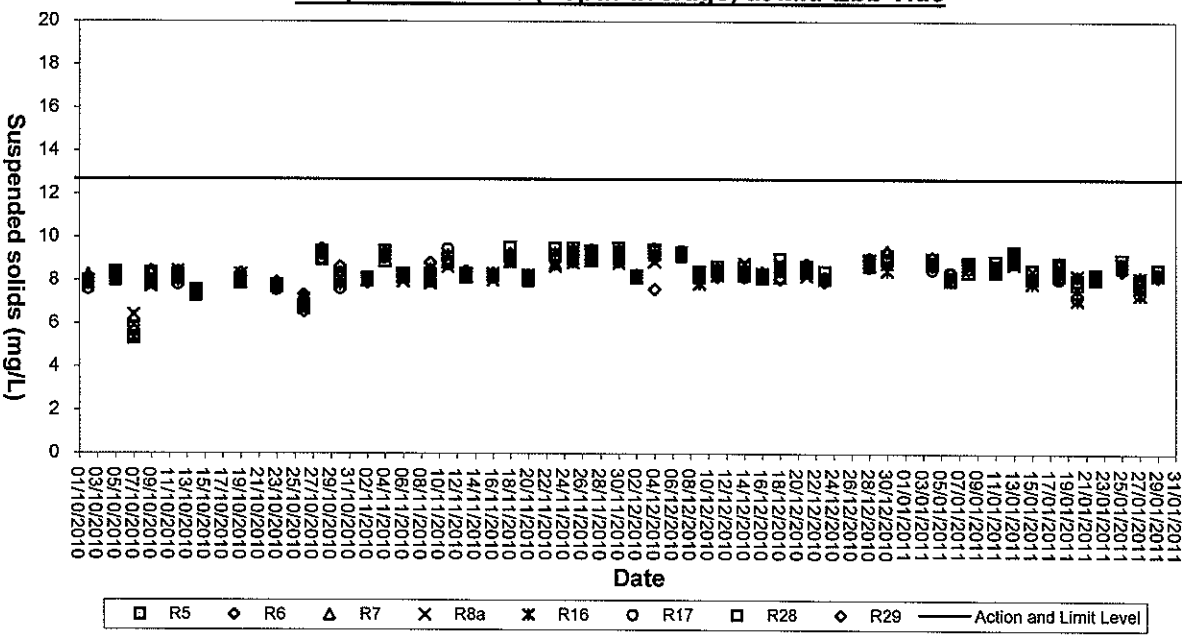
Turbidity(Depth-average) of R15 at Mid-Ebb Tide



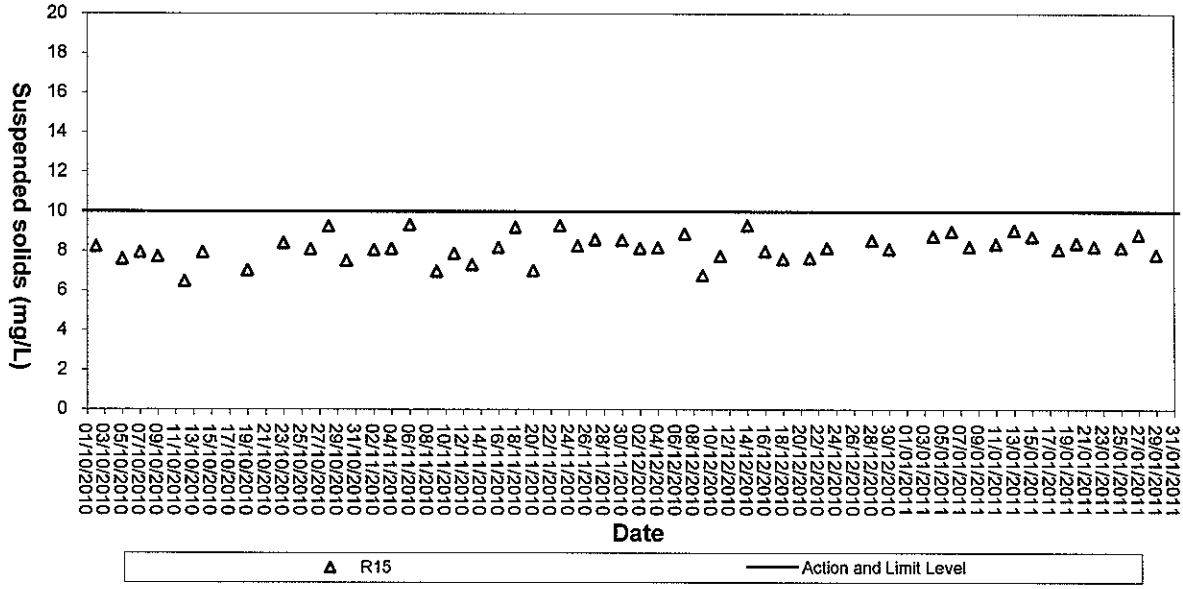
Suspended solids (Depth-average) at Mid-Flood Tide



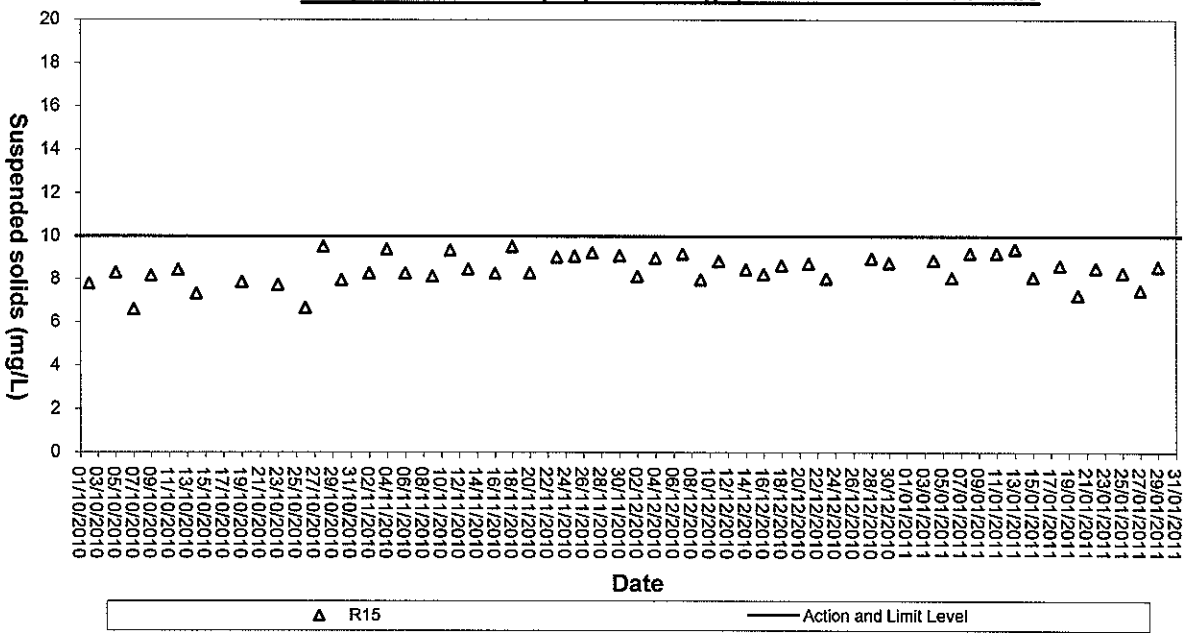
Suspended Solids (Depth-average) at Mid-Ebb Tide



Suspended solids (Depth-average) of R15 at Mid-Flood Tide



Suspended Solids (Depth-average) of R15 at Mid-Ebb Tide



Appendix C4

QA/QC Results of Laboratory Analysis for Water Samples

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
04/01/11	95.8	R5FS	3.0	R8FS	92.2
	99.4	R8FM	2.8	R17FM	98.0
	102.4	R17FB	0.0	C1FB	95.8
	93.4	C2FS	3.1	C4FB	100.0
	100.0	R5ES	2.9	R8ES	93.8
	104.6	R8EM	5.7	R17EM	102.1
	92.1	R17EB	2.8	C1EB	98.0
	95.2	C2ES	3.1	C4EB	103.9
06/01/11	100.2	R5FS	2.7	R8FS	98.3
	105.2	R8FM	3.0	R17FM	103.9
	93.3	R17FB	0.0	C1FB	106.0
	107.8	C2FS	2.7	C4FB	92.2
	97.5	R5ES	3.1	R8ES	102.0
	100.2	R8EM	3.2	R17EM	100.0
	105.8	R17EB	0.0	C1EB	103.8
	96.6	C2ES	3.0	C4EB	98.0
08/01/11	99.4	R5FS	4.6	R8FS	94.1
	104.1	R8FM	3.1	R17FM	105.8
	95.9	R17FB	3.6	C1FB	106.3
	101.0	C2FS	3.2	C4FB	96.1
	99.0	R5ES	0.0	R8ES	101.9
	103.3	R8EM	2.9	R17EM	100.0
	92.2	R17EB	6.5	C1EB	91.7
	93.3	C2ES	3.0	C4EB	105.9
11/01/11	95.7	R5FS	0.6	R8FS	100.0
	96.9	R8FM	3.2	R17FM	98.0
	102.7	R17FB	0.6	C1FB	96.1
	101.2	C2FS	0.0	C4FB	104.3
	100.4	R5ES	5.7	R8ES	93.6
	101.3	R8EM	3.6	R17EM	94.1
	102.8	R17EB	6.5	C1EB	95.9
	105.4	C2ES	0.6	C4EB	108.0
13/01/11	94.6	R5FS	2.7	R8FS	83.0
	99.6	R8FM	2.7	R17FM	91.8
	94.8	R17FB	2.7	C1FB	103.9
	97.5	C2FS	0.0	C4FB	101.9
	95.8	R5ES	2.7	R8ES	97.9
	99.2	R8EM	5.7	R17EM	98.0
	93.8	R17EB	5.4	C1EB	103.8
	101.6	C2ES	8.7	C4EB	96.1
15/01/11	101.0	R5FS	3.0	R8FS	96.4
	101.2	R8FM	2.7	R17FM	101.9
	99.4	R17FB	2.7	C1FB	103.8
	96.3	C2FS	2.9	C4FB	96.0
	104.8	R5ES	3.1	R8ES	92.3
	94.6	R8EM	0.0	R17EM	104.2
	94.8	R17EB	2.9	C1EB	105.9
	95.0	C2ES	0.0	C4EB	98.0

Note: (*)% Recovery of QC sample should be between 80% to 120%.
(#) % Error of Sample Duplicate should be between –10% to 10%.
(@) % Recovery of Sample Spike should be between 80% to 120%.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
18/01/11	95.5	R5FS	3.1	R8FS	98.5
	106.9	R8FM	3.0	R17FM	95.8
	103.7	R17FB	0.0	C1FB	94.0
	97.9	C2FS	3.2	C4FB	93.6
	105.2	R5ES	2.9	R8ES	105.7
	106.7	R8EM	3.0	R17EM	103.8
	103.5	R17EB	3.1	C1EB	106.0
	99.0	C2ES	6.1	C4EB	96.0
20/01/11	97.1	R5FS	3.1	R8FS	96.1
	103.7	R8FM	3.0	R17FM	92.5
	100.4	R17FB	0.0	C1FB	108.0
	92.9	C2FS	3.2	C4FB	100.0
	98.4	R5ES	3.3	R8ES	108.0
	94.7	R8EM	3.0	R17EM	106.1
	95.9	R17EB	3.4	C1EB	95.7
	105.1	C2ES	3.1	C4EB	94.0
22/01/11	96.5	R5FS	3.1	R8FS	98.4
	96.9	R8FM	3.2	R17FM	103.8
	99.2	R17FB	3.0	C1FB	94.2
	95.9	C2FS	6.3	C4FB	105.8
	103.5	R5ES	0.0	R8ES	102.1
	104.2	R8EM	3.1	R17EM	107.7
	93.7	R17EB	2.9	C1EB	100.0
	95.2	C2ES	6.5	C4EB	95.9
25/01/11	92.9	R5FS	9.3	R8FS	94.1
	103.9	R8FM	3.1	R17FM	100.0
	105.1	R17FB	0.6	C1FB	92.2
	96.6	C2FS	3.2	C4FB	100.0
	96.7	R5ES	5.7	R8ES	100.0
	107.1	R8EM	6.5	R17EM	100.0
	99.2	R17EB	3.6	C1EB	98.1
	106.7	C2ES	2.4	C4EB	98.0
27/01/11	107.1	R5FS	0.6	R8FS	94.0
	97.9	R8FM	2.9	R17FM	96.0
	102.9	R17FB	2.8	C1FB	107.5
	106.4	C2FS	5.7	C4FB	105.8
	95.5	R5ES	3.2	R8ES	104.0
	97.4	R8EM	3.2	R17EM	104.2
	98.4	R17EB	3.1	C1EB	108.3
	95.3	C2ES	3.7	C4EB	105.7
29/01/11	97.7	R5FS	3.6	R8FS	100.0
	107.9	R8FM	3.0	R17FM	93.8
	104.7	R17FB	0.0	C1FB	102.0
	107.4	C2FS	3.2	C4FB	108.2
	102.0	R5ES	3.1	R8ES	108.0
	96.5	R8EM	3.0	R17EM	101.9
	102.1	R17EB	0.0	C1EB	105.7
	96.8	C2ES	3.7	C4EB	97.9

Note: (*) % Recovery of QC sample should be between 80% to 120%.
(#) % Error of Sample Duplicate should be between –10% to 10%.
(@) % Recovery of Sample Spike should be between 80% to 120%.

Appendix D

Event-Action Plans

Event and Action Plan for Construction Noise

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action Level	1. Notify IEC and the Contractor. 2. Carry out investigation. 3. Report the results of investigation to IEC and the Contractor. 4. Discuss with the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation measures.	1. Review with analysed results submitted by ET. 2. Review the proposed remedial measures by the Contractor and advise ER accordingly. 3. Supervise the implement of remedial measures.	1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC. 2. Implement noise mitigation proposals.
Limit Level	1. Identify the source. 2. Notify IEC, ER, EPD and the Contractor. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform IEC, ER, and EPD the causes & actions taken for the exceedances. 7. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET Leader and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.	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 activity of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Water Quality for Construction Phase

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action Level				
Exceedance for one sample	1. Repeat in-situ measurement to confirm finding; 2. Identify source(s) of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; and 6. Repeat measurement on next day of exceedance.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; and 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC on the proposed mitigation measures; and 2. Make agreement on the mitigation measures to be implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER; and 6. Implement the agreed mitigation measures.
Exceedance for two or more consecutive samples	1. Repeat in-situ measurement to confirm finding; 2. Identify source(s) of impact; 3. Inform IEC and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC and Contractor; 6. Ensure mitigation measures are implemented; 7. Prepare to increase the monitoring frequency to daily; and 8. Repeat measurement on next day of exceedance.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; and 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; and 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; and 6. Implement the agreed mitigation measures.

Event and Action Plan for Water Quality for Construction Phase

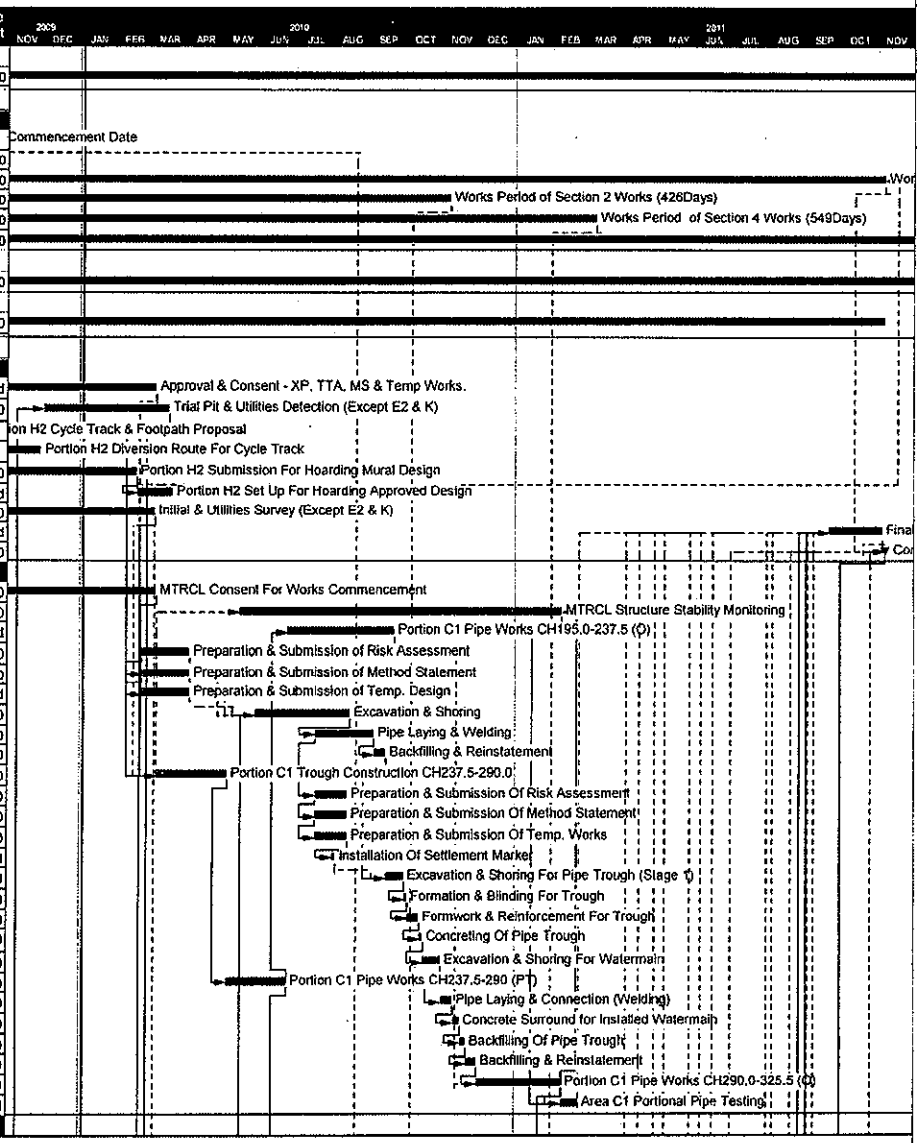
Event	Action			
	ET Leader	IEC	ER	Contractor
Limit Level				
Exceedance for one sample	1. Repeat in-situ measurement to confirm finding; 2. Identify source(s) of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; and 7. Increase the monitoring frequency to daily until no exceedance of Limit level.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; and 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; and 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; and 4. Assess the effectiveness of the implemented mitigation measures.	1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and ER and propose mitigation measures to IEC and ER within 3 working days; and 6. Implement the agreed mitigation measures.
Exceedance for two or more consecutive samples	1. Repeat in-situ measurement to confirm finding; 2. Identify source(s) of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; and 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; and 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; and 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures; and 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit Level.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IEC and ER and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures; and 7. As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities.

Appendix E

Work Programme

Contract No.9/WSD/08
Laying of Western Cross Habour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Act ID	Description	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Free Float
General Information								
		1156	07SEP09 A	05NOV12	07SEP09 A	05NOV12	0	0
Key Dates								
KD-1010	Contract Commencement Date	0	07SEP09 A		07SEP09 A			
KD-1020	Contract Completion	0		05NOV12 *		05NOV12 *	0	0
KD-1030	Works Period of Section 1 Works (791Days)	791	07SEP09 A	06NOV11	07SEP09 A	06NOV11	0	0
KD-1040	Works Period of Section 2 Works (426Days)	426	07SEP09 A	06NOV10	07SEP09 A	06NOV10	0	0
KD-1050	Works Period of Section 4 Works (549Days)	549	07SEP09 A	09MAR11	07SEP09 A	09MAR11	0	0
KD-1060	Works Period of Section 5 Works (1156Days)	1156	07SEP09 A	05NOV12	07SEP09 A	05NOV12	0	0
+Preliminaries								
		1156	07SEP09 A	05NOV12	07SEP09 A	05NOV12	0	0
Section 1								
		791	07SEP09 A	06NOV11	07SEP09 A	06NOV11	0	0
Land Works								
General								
S1-1010	Approval & Consent - XP, TTA, MS & Temp Works.	180	07SEP09 A	05MAR10	07SEP09 A	18MAR10	13d	11d
S1-1020	Trial Pit & Utilities Detection (Except E2 & K)	120	01DEC09 A	16MAR10	01DEC09 A	17MAR10	1d	0
S1-1030	Portion H2 Cycle Track & Footpath Proposal	40	07SEP09 A	08OCT09 A	07SEP09 A	08OCT09 A		
S1-1040	Portion H2 Diversion Route For Cycle Track	60	07OCT09 A	28NOV09 A	07OCT09 A	28NOV09 A		
S1-1050	Portion H2 Submission For Hoarding Mural Design	90	07SEP09 A	17FEB10	07SEP09 A	06NOV10	262d	0
S1-1060	Portion H2 Set Up For Hoarding Approved Design	30	18FEB10	19MAR10	07NOV10	06DEC10	262d	262d
S1-1080	Initial & Utilities Survey (Except E2 & K)	120	05OCT09 A	04MAR10	05OCT09 A	06MAR10	2d	0
S1-2010	Final Pipe Testing & Reinstatement	45	21SEP11	04NOV11	23SEP11	06NOV11	2d	2d
S1-2020	Completion of Section 1 Works	0		06NOV11 *		06NOV11 *	0	0
Portion C1								
S1-3010	MTRCL Consent For Works Commencement	180	07SEP09 A	05MAR10	07SEP09 A	06MAR10	1d	0
S1-3020	MTRCL Structure Stability Monitoring	270	15MAY10	08FEB11	13DEC10	08SEP11	212d	0
S1-3030	Portion C1 Pipe Works CH195.0-237.5 (O)	90	24JUN10	21SEP10	21FEB11	21MAY11	242d	70d
S1-3030A10	Preparation & Submission of Risk Assessment	40	22FEB10 *	02APR10	07OCT10	15NOV10	227d	0
S1-3030A20	Preparation & Submission of Method Statement	40	22FEB10	02APR10	07OCT10	15NOV10	227d	0
S1-3030A30	Preparation & Submission of Temp. Design	40	22FEB10	02APR10	07OCT10	15NOV10	227d	55d
S1-3030B10	Excavation & Shoring	80	28MAY10	15AUG10	15NOV10	03FEB11	172d	0
S1-3030B20	Pipe Laying & Welding	50	17JUL10	04SEP10	05JAN11	23FEB11	172d	0
S1-3030B30	Backfilling & Reinstatement	10	05SEP10	14SEP10	24FEB11	05MAR11	172d	0
S1-3040	Portion C1 Trough Construction CH237.5-290.0	60	06MAR10	04MAY10	07MAR10	05MAY10	1d	0
S1-3040A20	Preparation & Submission Of Risk Assessment	28	17JUL10	13AUG10	17FEB11	16MAR11	215d	0
S1-3040A30	Preparation & Submission Of Method Statement	28	17JUL10	13AUG10	17FEB11	16MAR11	215d	0
S1-3040A40	Preparation & Submission Of Temp. Works	28	17JUL10	13AUG10	17FEB11	16MAR11	215d	0
S1-3040B10	Installation Of Settlement Marker	3	31JUL10	02AUG10	03MAR11	05MAR11	215d	43d
S1-3040B20	Excavation & Shoring For Pipe Trough (Stage 1)	15	15SEP10	29SEP10	06MAR11	20MAR11	172d	0
S1-3040B30	Formation & Blinding For Trough	3	30SEP10	02OCT10	21MAR11	23MAR11	172d	0
S1-3040B40	Formwork & Reinforcement For Trough	10	03OCT10	12OCT10	24MAR11	02APR11	172d	0
S1-3040B50	Concreting Of Pipe Trough	3	13OCT10	15OCT10	03APR11	05APR11	172d	0
S1-3040C10	Excavation & Shoring For Watermain	15	16OCT10	30OCT10	06APR11	20APR11	172d	0
S1-3050	Portion C1 Pipe Works CH237.5-290 (PT)	50	05MAY10	23JUN10	13NOV10	01JAN11	192d	0
S1-3050B10	Pipe Laying & Connection (Welding)	10	31OCT10	09NOV10	21APR11	30APR11	172d	0
S1-3050B20	Concrete Surround for Installed Watermain	6	10NOV10	15NOV10	01MAY11	06MAY11	172d	0
S1-3050B30	Backfilling Of Pipe Trough	5	16NOV10	20NOV10	07MAY11	11MAY11	172d	0
S1-3050B40	Backfilling & Reinstatement	10	21NOV10	30NOV10	12MAY11	21MAY11	172d	0
S1-3060	Portion C1 Pipe Works CH290.0-325.5 (O)	70	01DEC10	08FEB11	22MAY11	30JUL11	172d	0
S1-3070	Area C1 Portional Pipe Testing	14	09FEB11	22FEB11	09SEP11	22SEP11	212d	210d
Portion E1A								



Start date	07SEP09
Finish date	05NOV12
Data date	04JAN10
Run date	12JAN11
Page number	1A

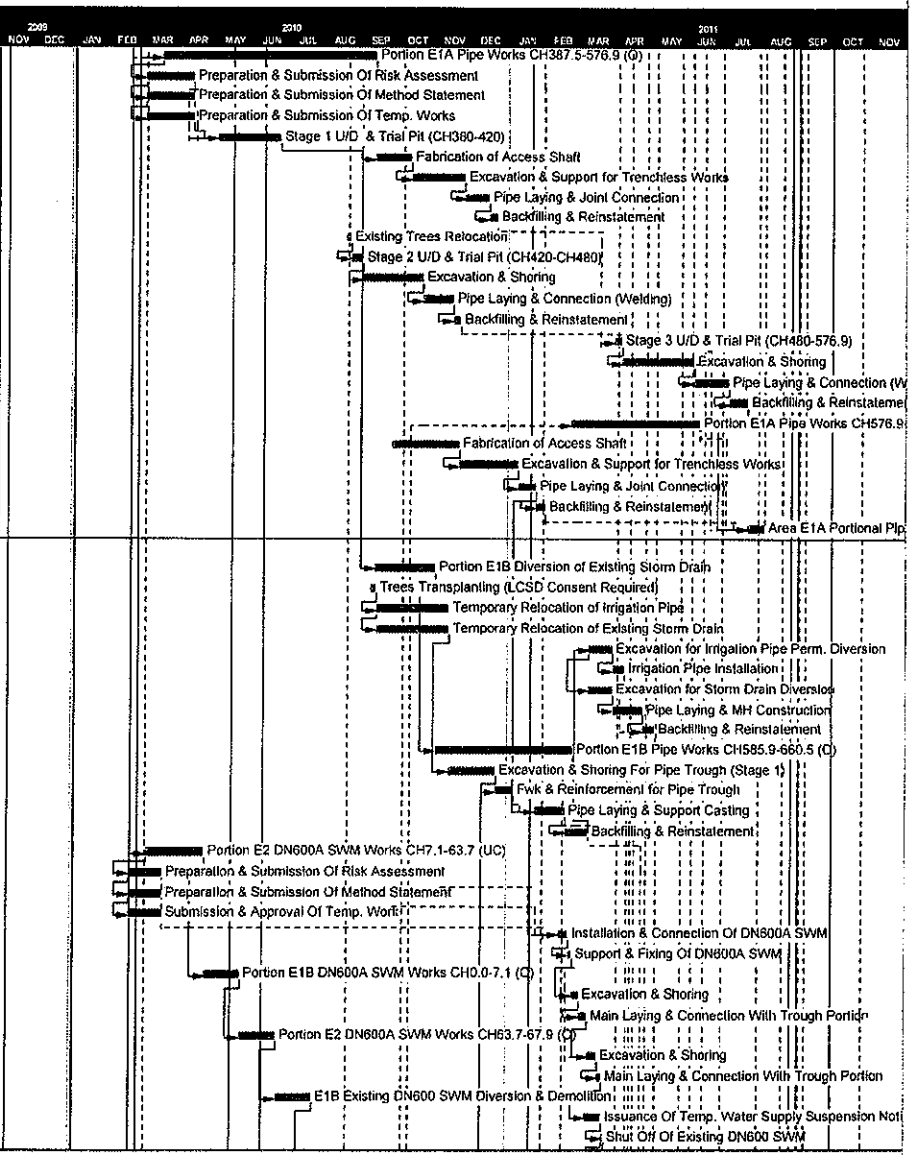
Wo Hing - Penta-Ocean Joint Venture

3 Months Rolling Program (January 2011)

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No.9/WSD/08
Laying of Western Cross Habour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Act ID	Description	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Free Float
S1-4020	Portion E1A Pipe Works CH387.5-576.9 (O)	180	17MAR10	12SEP10	12AUG10	07FEB11	148d	0
S1-4020A20	Preparation & Submission Of Risk Assessment	40	03MAR10	11APR10	29JUL10	06SEP10	148d	0
S1-4020A30	Preparation & Submission Of Method Statement	40	03MAR10	11APR10	29JUL10	06SEP10	148d	0
S1-4020A40	Preparation & Submission Of Temp. Works	40	03MAR10	11APR10	29JUL10	06SEP10	148d	0
S1-4020B10	Stage 1 U/D & Trial Pit (CH380-420)	52	03MAY10	23JUN10	28SEP10	18NOV10	148d	0
S1-4020B20	Fabrication of Access Shaft	30	12SEP10	11OCT10	07FEB11	08MAR11	148d	0
S1-4020B30	Excavation & Support for Trenchless Works	45	12OCT10	25NOV10	09MAR11	22APR11	148d	0
S1-4020B40	Pipe Laying & Joint Connection	20	26NOV10	15DEC10	23APR11	12MAY11	148d	0
S1-4020B50	Backfilling & Reinstatement	7	16DEC10	22DEC10	13MAY11	19MAY11	148d	99d
S1-4020C05	Existing Trees Relocation	4	19AUG10 *	22AUG10	20APR11	23APR11	244d	0
S1-4020C10	Stage 2 U/D & Trial Pit (CH420-CH480)	10	23AUG10	01SEP10	24APR11	03MAY11	244d	0
S1-4020C20	Excavation & Shoring	50	02SEP10	21OCT10	04MAY11	22JUN11	244d	0
S1-4020C30	Pipe Laying & Connection (Welding)	25	22OCT10	15NOV10	23JUN11	17JUL11	244d	0
S1-4020C40	Backfilling & Reinstatement	7	16NOV10	22NOV10	18JUL11	24JUL11	244d	195d
S1-4020D10	Stage 3 U/D & Trial Pit (CH480-576.9)	6	01APR11 *	06APR11	20MAY11	25MAY11	49d	0
S1-4020D20	Excavation & Shoring	60	07APR11	05JUN11	26MAY11	24JUL11	49d	0
S1-4020D30	Pipe Laying & Connection (Welding)	30	06JUN11	05JUL11	25JUL11	23AUG11	49d	0
S1-4020D40	Backfilling & Reinstatement	16	06JUL11	21JUL11	24AUG11	08SEP11	49d	0
S1-4030	Portion E1A Pipe Works CH576.9-585.9 (TL-B)	108	23FEB11 *	10JUN11	24MAY11	08SEP11	90d	41d
S1-4030B10	Fabrication of Access Shaft	55	27SEP10 *	20NOV10	01FEB11	27MAR11	127d	0
S1-4030B20	Excavation & Support for Trenchless Works	50	21NOV10	09JAN11	28MAR11	16MAY11	127d	0
S1-4030B30	Pipe Laying & Joint Connection	15	10JAN11	24JAN11	17MAY11	31MAY11	127d	0
S1-4030B40	Backfilling & Reinstatement	8	25JAN11	01FEB11	01SEP11	08SEP11	219d	170d
S1-4050	Area E1A Portional Pipe Testing	14	22JUL11	04AUG11	09SEP11	22SEP11	49d	47d
Portion E1B + E2 SWM								
S1-4010	Portion E1B Diversion of Existing Storm Drain	50	13SEP10	01NOV10	28MAR11	16MAY11	196d	0
S1-4010A10	Trees Transplanting (LCSD Consent Required)	5	09SEP10 *	13SEP10	16DEC10	22DEC10	100d	0
S1-4010A20	Temporary Relocation of Irrigation Pipe	60	14SEP10	12NOV10	23DEC10	20FEB11	100d	0
S1-4010A30	Temporary Relocation of Existing Storm Drain	60	14SEP10	12NOV10	23DEC10	20FEB11	100d	0
S1-4010A50	Excavation for Irrigation Pipe Perm. Diversion	20	11MAR11	30MAR11	16JUL11	04AUG11	127d	0
S1-4010A60	Irrigation Pipe Installation	10	31MAR11	09APR11	20AUG11	29AUG11	142d	15d
S1-4010A70	Excavation for Storm Drain Diversion	20	11MAR11	30MAR11	16JUL11	04AUG11	127d	0
S1-4010A80	Pipe Laying & MH Construction	25	31MAR11	24APR11	05AUG11	29AUG11	127d	0
S1-4010A90	Backfilling & Reinstatement	10	25APR11	04MAY11	30AUG11	08SEP11	127d	27d
S1-4040	Portion E1B Pipe Works CH585.9-660.5 (O)	115	02NOV10	24FEB11	17MAY11	08SEP11	196d	24d
S1-4040B10	Excavation & Shoring For Pipe Trough (Stage 1)	40	13NOV10	22DEC10	21FEB11	01APR11	100d	0
S1-4040B20	Fwk & Reinforcement for Pipe Trough	15	23DEC10	06JAN11	17MAY11	31MAY11	145d	18d
S1-4040B30	Pipe Laying & Support Casting	25	25JAN11	18FEB11	01JUN11	25JUN11	127d	0
S1-4040B40	Backfilling & Reinstatement	20	19FEB11	10MAR11	26JUN11	15JUL11	127d	0
S1-4410	Portion E2 DN600A SWM Works CH7.1-63.7 (UC)	50	05MAR10	23APR10	26JUL10	13SEP10	143d	0
S1-4410A10	Preparation & Submission Of Risk Assessment	28	19FEB10	18MAR10	19JAN11	15FEB11	334d	0
S1-4410A20	Preparation & Submission Of Method Statement	28	19FEB10	18MAR10	19JAN11	15FEB11	334d	0
S1-4410A30	Submission & Approval Of Temp. Work	28	19FEB10	18MAR10	19JAN11	15FEB11	334d	332d
S1-4410B10	Installation & Connection Of DN600A SWM	8	14FEB11 *	21FEB11	16FEB11	23FEB11	2d	0
S1-4410B20	Support & Fixing Of DN600A SWM	3	22FEB11	24FEB11	24FEB11	26FEB11	2d	0
S1-4420	Portion E1B DN600A SWM Works CH0.0-7.1 (O)	30	24APR10	23MAY10	14SEP10	13OCT10	143d	0
S1-4420B10	Excavation & Shoring	6	25FEB11	02MAR11	27FEB11	04MAR11	2d	0
S1-4420B20	Main Laying & Connection With Trough Portion	8	03MAR11	10MAR11	05MAR11	12MAR11	2d	0
S1-4430	Portion E2 DN600A SWM Works CH63.7-67.9 (O)	30	24MAY10	22JUN10	14OCT10	12NOV10	143d	0
S1-4430B10	Excavation & Shoring	8	11MAR11	18MAR11	13MAR11	20MAR11	2d	0
S1-4430B20	Main Laying & Connection With Trough Portion	4	19MAR11	22MAR11	21MAR11	24MAR11	2d	0
S1-4440	E1B Existing DN600 SWM Diversion & Demolition	30	23JUN10	22JUL10	13NOV10	12DEC10	143d	0
S1-4440A10	Issuance Of Temp. Water Supply Suspension	14	09MAR11	22MAR11	11MAR11	24MAR11	2d	0
S1-4440B10	Shut Off Of Existing DN600 SWM	2	23MAR11	24MAR11	25MAR11	26MAR11	2d	0



Start date	07SEP09
Finish date	05NOV12
Data date	04JAN10
Run date	12JAN11
Page number	2A

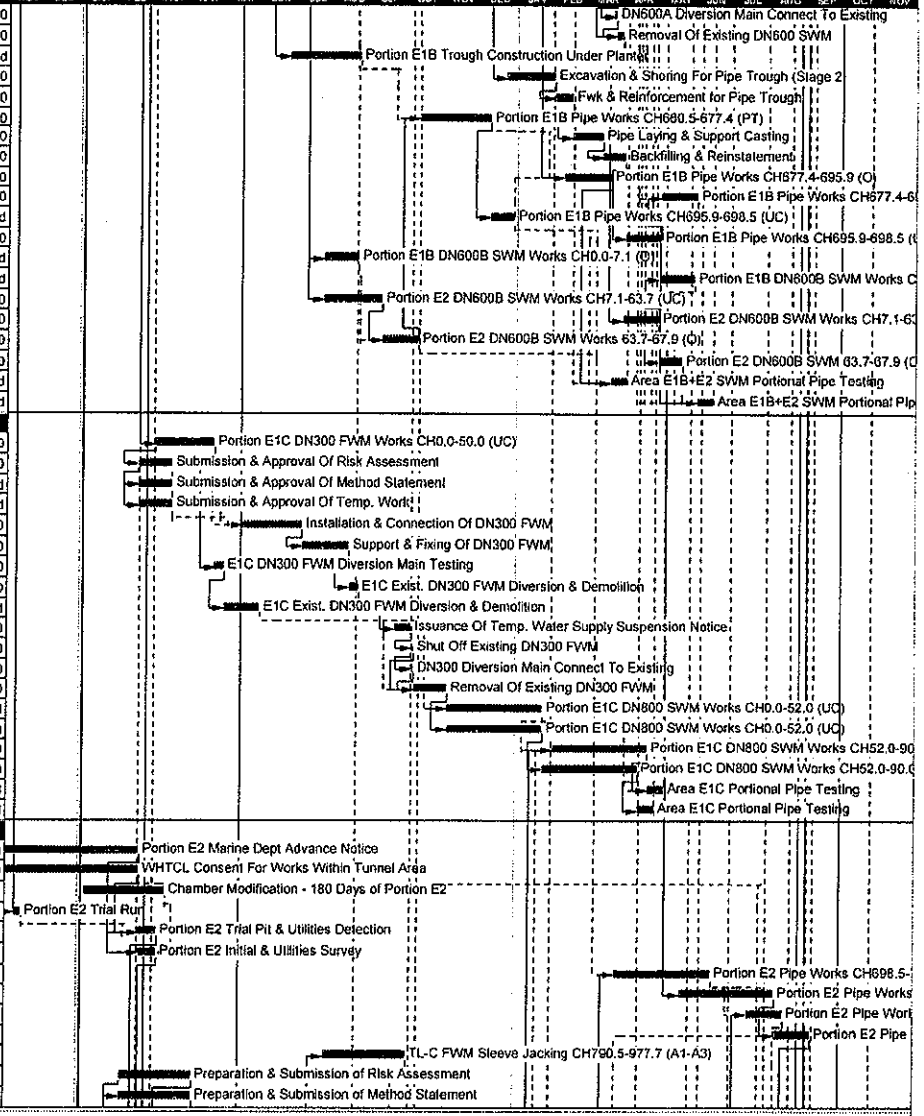
Wo Hing - Penta-Ocean Joint Venture

3 Months Rolling Program (January 2011)

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No.9/WSD/08
Laying of Western Cross Habour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Act ID	Description	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Free Float
S1-4440B20	DN600A Diversion Main Connect To Existing	2	23MAR11	24MAR11	25MAR11	26MAR11	2d	0
S1-4440B30	Removal Of Existing DN600 SWM	6	25MAR11	30MAR11	27MAR11	01APR11	2d	0
S1-4445	Portion E1B Trough Construction Under Planter	60	24JUN10	22AUG10	02JAN11	02MAR11	192d	49d
S1-4445B10	Excavation & Shoring For Pipe Trough (Stage 2)	40	23DEC10	31JAN11	02APR11	11MAY11	100d	0
S1-4445B20	Fwk & Reinforcement for Pipe Trough	15	01FEB11	15FEB11	12MAY11	26MAY11	100d	0
S1-4450	Portion E1B Pipe Works CH680.5-677.4 (PT)	60	11OCT10	09DEC10	03MAR11	01MAY11	143d	0
S1-4450B10	Pipe Laying & Support Casting	25	16FEB11	12MAR11	27MAY11	20JUN11	100d	0
S1-4450B20	Backfilling & Reinstatement	20	13MAR11	01APR11	21JUN11	10JUL11	100d	0
S1-4460	Portion E1B Pipe Works CH677.4-695.9 (O)	40	09FEB11	20MAR11	31JUL11	08SEP11	172d	0
S1-4460B10	Portion E1B Pipe Works CH677.4-695.9(O)	30	02MAY11	31MAY11	10AUG11	08SEP11	100d	0
S1-4470	Portion E1B Pipe Works CH695.9-698.5 (UC)	20	10DEC10	29DEC10	02MAY11	21MAY11	143d	41d
S1-4470B10	Portion E1B Pipe Works CH695.9-698.5 (UC)	30	02APR11	01MAY11	11JUL11	09AUG11	100d	0
S1-4480	Portion E1B DN600B SWM Works CH0.0-7.1 (O)	30	23JUL10	21AUG10	02JAN11	31JAN11	163d	20d
S1-4480B10	Portion E1B DN600B SWM Works CH0.0-7.1 (O)	30	30APR11	29MAY11	10AUG11	08SEP11	102d	2d
S1-4490	Portion E2 DN600B SWM Works CH7.1-63.7 (UC)	50	23JUL10	10SEP10	13DEC10	31JAN11	143d	0
S1-4490B10	Portion E2 DN600B SWM Works CH7.1-63.7 (UC)	30	31MAR11	29APR11	02APR11	01MAY11	2d	0
S1-4500	Portion E2 DN600B SWM Works 63.7-67.9 (O)	30	11SEP10	10OCT10	01FEB11	02MAR11	143d	0
S1-4500B10	Portion E2 DN600B SWM 63.7-67.9 (O)	20	30APR11	19MAY11	02MAY11	21MAY11	2d	0
S1-4510	Area E1B+E2 SWM Portional Pipe Testing	14	21MAR11	03APR11	09SEP11	22SEP11	172d	170d
S1-4510B10	Area E1B+E2 SWM Portional Pipe Testing	14	01JUN11	14JUN11	09SEP11	22SEP11	100d	98d
Portion E1C + E1D								
S1-4710	Portion E1C DN300 FWM Works CH0.0-50.0 (UC)	50	05MAR10	23APR10	28SEP10	16NOV10	207d	0
S1-4710A10	Submission & Approval Of Risk Assessment	28	19FEB10	18MAR10	14SEP10	11OCT10	207d	0
S1-4710A20	Submission & Approval Of Method Statement	28	19FEB10	18MAR10	14SEP10	11OCT10	207d	59d
S1-4710A30	Submission & Approval Of Temp. Work	28	19FEB10	18MAR10	14SEP10	11OCT10	207d	59d
S1-4710B10	Installation & Connection Of DN300 FWM	50	17MAY10 *	05JUL10	12OCT10	30NOV10	148d	0
S1-4710B20	Support & Fixing Of DN300 FWM	40	06JUL10	14AUG10	01DEC10	09JAN11	148d	0
S1-4720	E1C DN300 FWM Diversion Main Testing	8	24APR10	01MAY10	23FEB11	02MAR11	305d	0
S1-4720B10	E1C Exist. DN300 FWM Diversion & Demolition	8	15AUG10	22AUG10	10JAN11	17JAN11	148d	0
S1-4730	E1C Exist. DN300 FWM Diversion & Demolition	30	02MAY10	31MAY10	03MAR11	01APR11	305d	157d
S1-4730A10	Issuance Of Temp. Water Supply Suspension	14	22SEP10	05OCT10	17FEB11	02MAR11	148d	0
S1-4730A20	Shut Off Existing DN300 FWM	2	06OCT10	07OCT10	03MAR11	04MAR11	148d	0
S1-4730A30	DN300 Diversion Main Connect To Existing	2	06OCT10	07OCT10	03MAR11	04MAR11	148d	0
S1-4730A40	Removal Of Existing DN300 FWM	28	08OCT10	04NOV10	05MAR11	01APR11	148d	0
S1-4740	Portion E1C DN800 SWM Works CH0.0-52.0 (UC)	80	05NOV10	23JAN11	02APR11	20JUN11	148d	8d
S1-4740B10	Portion E1C DN800 SWM Works CH0.0-52.0 (UC)	80	05NOV10	23JAN11	02APR11	20JUN11	148d	0
S1-4750	Portion E1C DN800 SWM Works CH52.0-90.0 (O)	80	01FEB11	21APR11	21JUN11	08SEP11	140d	0
S1-4750B10	Portion E1C DN800 SWM Works CH52.0-90.0 (UC)	80	24JAN11	13APR11	21JUN11	08SEP11	148d	0
S1-4760	Area E1C Portional Pipe Testing	14	22APR11	05MAY11	09SEP11	22SEP11	140d	138d
S1-4760B10	Area E1C Portional Pipe Testing	14	14APR11	27APR11	09SEP11	22SEP11	148d	146d
Portion E2								
S1-5010	Portion E2 Marine Dept Advance Notice	90	07OCT09 A	20FEB10	07OCT09 A	12MAR10	20d	0
S1-5020	WHTCL Consent For Works Within Tunnel Area	120	07SEP09 A	20FEB10	07SEP09 A	12MAR10	20d	0
S1-5030	Chamber Modification - 180 Days of Portion E2	65	07JAN10 A	14MAR10 A	07JAN10 A	14MAR10 A		
S1-5040	Portion E2 Trial Run	60	09NOV09 A	14NOV09 A	09NOV09 A	14NOV09 A		
S1-5050	Portion E2 Trial Pit & Utilities Detection	15	21FEB10	07MAR10	13MAR10	27MAR10	20d	0
S1-5060	Portion E2 Initial & Utilities Survey	15	21FEB10	07MAR10	13MAR10	27MAR10	20d	0
S1-5070	Portion E2 Pipe Works CH698.5-752.5 (UC)	80	27MAR11	14JUN11	22MAY11	09AUG11	56d	31d
S1-5070B10	Portion E2 Pipe Works CH698.5-752.5 (UC)	80	20MAY11	07AUG11	22MAY11	09AUG11	2d	0
S1-5080	Portion E2 Pipe Works CH752.5-790.5 (O)	30	16JUL11	14AUG11	10AUG11	08SEP11	25d	23d
S1-5080A	Portion E2 Pipe Works CH752.5-790.5 (O)	30	09AUG11	06SEP11	10AUG11	08SEP11	2d	0
S1-5090	TL-C FWM Sleeve Jacking CH790.5-977.7 (A1-A3)	70	26JUL10	03OCT10	20AUG10	28OCT10	25d	0
S1-5090A10	Preparation & Submission of Risk Assessment	60	06FEB10 *	06APR10	26JUL10	23SEP10	170d	0
S1-5090A20	Preparation & Submission of Method Statement	60	06FEB10	06APR10	26JUL10	23SEP10	170d	0



Start date	07SEP09
Finish date	05NOV12
Data date	04JAN10
Run date	12JAN11
Page number	3A

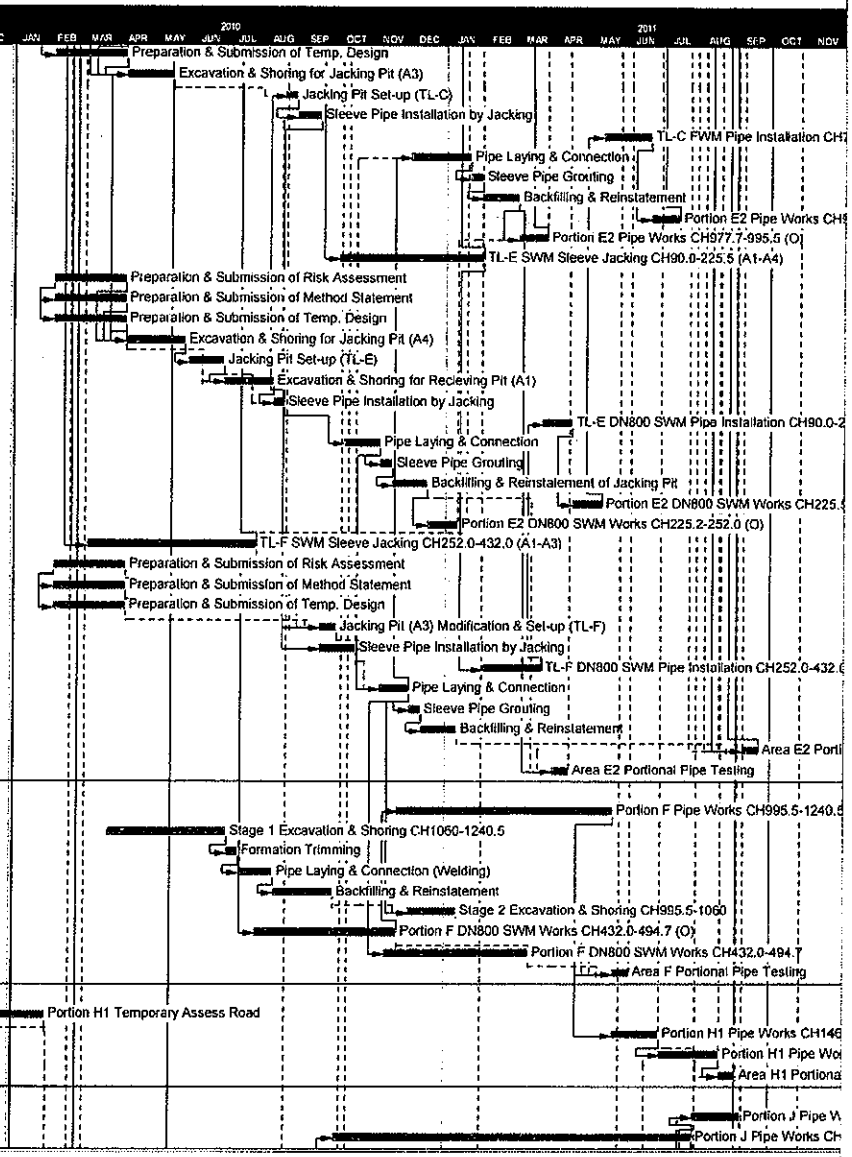
Wo Hing - Penta-Ocean Joint Venture

3 Months Rolling Program (January 2011)

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No.9/WSD/08
Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Act ID	Description	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Free Float
S1-5090A30	Preparation & Submission of Temp. Design	60	06FEB10	06APR10	26JUL10	23SEP10	170d	0
S1-5090B10	Excavation & Shoring for Jacking Pit (A3)	40	07APR10	16MAY10	24SEP10	02NOV10	170d	94d
S1-5090B20	Jacking Pit Set-up (TL-C)	10	19AUG10	28AUG10	03NOV10	12NOV10	76d	0
S1-5090C10	Sleeve Pipe Installation by Jacking	20	29AUG10	17SEP10	13NOV10	02DEC10	76d	0
S1-5095	TL-C FWM Pipe Installation CH790.5-977.7	40	12MAY11	20JUN11	06JUN11	15JUL11	25d	0
S1-5095B10	Pipe Laying & Connection	50	02DEC10	20JAN11	27JAN11	17MAR11	56d	0
S1-5095B20	Sleeve Pipe Grouting	10	21JAN11	30JAN11	18MAR11	27MAR11	56d	0
S1-5095B30	Backfilling & Reinstatement	30	31JAN11	01MAR11	28MAR11	26APR11	56d	0
S1-5100	Portion E2 Pipe Works CH977.7-995.5 (O)	25	21JUN11	15JUL11	16JUL11	09AUG11	25d	0
S1-5100A	Portion E2 Pipe Works CH977.7-995.5 (O)	25	02MAR11	26MAR11	27APR11	21MAY11	56d	0
S1-5110	TL-E SWM Sleeve Jacking CH90.0-225.5 (A1-A4)	120	04OCT10	31JAN11	29OCT10	25FEB11	25d	0
S1-5110A10	Preparation & Submission of Risk Assessment	60	06FEB10 *	06APR10	03APR10	01JUN10	56d	0
S1-5110A20	Preparation & Submission of Method Statement	60	06FEB10	06APR10	03APR10	01JUN10	56d	0
S1-5110A30	Preparation & Submission of Temp. Design	60	06FEB10	06APR10	03APR10	01JUN10	56d	0
S1-5110B10	Excavation & Shoring for Jacking Pit (A4)	50	07APR10	26MAY10	02JUN10	21JUL10	56d	0
S1-5110B20	Jacking Pit Set-up (TL-E)	30	30MAY10	28JUN10	25JUL10	23AUG10	56d	0
S1-5110B30	Excavation & Shoring for Recieving Pit (A1)	42	29JUN10	09AUG10	24AUG10	04OCT10	56d	0
S1-5110C10	Sleeve Pipe Installation by Jacking	9	10AUG10	18AUG10	05OCT10	13OCT10	56d	0
S1-5115	TL-E DN800 SWM Pipe Installation CH90.0-225.5	25	23MAR11	16APR11	17APR11	11MAY11	25d	0
S1-5115B10	Pipe Laying & Connection	30	08OCT10	05NOV10	03DEC10	01JAN11	56d	0
S1-5115B20	Sleeve Pipe Grouting	10	07NOV10	16NOV10	21FEB11	02MAR11	106d	0
S1-5115B30	Backfilling & Reinstatement of Jacking Pit	30	17NOV10	16DEC10	03MAR11	01APR11	106d	0
S1-5120	Portion E2 DN800 SWM Works CH225.5-252.0 (O)	25	17APR11	11MAY11	12MAY11	05JUN11	25d	0
S1-5120A	Portion E2 DN800 SWM Works CH225.2-252.0 (O)	25	17DEC10	10JAN11	02APR11	26APR11	106d	50d
S1-5130	TL-F SWM Sleeve Jacking CH252.0-432.0 (A1-A3)	142	06MAR10	25JUL10	26MAR10	14AUG10	20d	0
S1-5130A10	Preparation & Submission of Risk Assessment	60	06FEB10 *	06APR10	30OCT10	28DEC10	266d	0
S1-5130A20	Preparation & Submission of Method Statement	60	06FEB10	06APR10	30OCT10	28DEC10	266d	164d
S1-5130A30	Preparation & Submission of Temp. Design	60	06FEB10	06APR10	30OCT10	28DEC10	266d	164d
S1-5130B10	Jacking Pit (A3) Modification & Set-up (TL-F)	14	18SEP10	01OCT10	29DEC10	11JAN11	102d	26d
S1-5130C10	Sleeve Pipe Installation by Jacking	30	18SEP10	17OCT10	03DEC10	01JAN11	76d	20d
S1-5135	TL-F DN800 SWM Pipe Installation CH252.0-432.0	50	01FEB11	22MAR11	26FEB11	16APR11	25d	0
S1-5135B10	Pipe Laying & Connection	25	07NOV10	01DEC10	02JAN11	26JAN11	56d	0
S1-5135B20	Sleeve Pipe Grouting	10	02DEC10	11DEC10	01JUL11	10JUL11	211d	0
S1-5135B30	Backfilling & Reinstatement	30	12DEC10	10JAN11	11JUL11	09AUG11	211d	50d
S1-5140	Area E2 Portional Pipe Testing	14	07SEP11	20SEP11	09SEP11	22SEP11	2d	0
S1-5140B10	Area E2 Portional Pipe Testing	14	01APR11	14APR11	09SEP11	22SEP11	161d	159d
Portion F								
S1-6010	Portion F Pipe Works CH995.5-1240.5 (O)	180	23NOV10	21MAY11	13DEC10	10JUN11	20d	0
S1-6010B10	Stage 1 Excavation & Shoring CH1060-1240.5	100	24MAR10 *	01JUL10	22JAN11	01MAY11	304d	0
S1-6010B20	Formation Trimming	10	02JUL10	11JUL10	02MAY11	11MAY11	304d	0
S1-6010B30	Pipe Laying & Connection (Welding)	30	12JUL10	10AUG10	12MAY11	10JUN11	304d	0
S1-6010B40	Backfilling & Reinstatement	50	11AUG10	29SEP10	11JUN11	30JUL11	304d	63d
S1-6010C10	Stage 2 Excavation & Shoring CH995.5-1060	40	02DEC10	10JAN11	31JUL11	08SEP11	241d	131d
S1-6020	Portion F DN800 SWM Works CH432.0-494.7 (O)	120	26JUL10	22NOV10	15AUG10	12DEC10	20d	0
S1-6020A10	Portion F DN800 SWM Works CH432.0-494.7	120	12NOV10	11MAR11	12MAY11	08SEP11	181d	71d
S1-6030	Area F Portional Pipe Testing	14	22MAY11	04JUN11	09SEP11	22SEP11	110d	108d
Portion H1								
S1-7010	Portion H1 Temporary Assess Road	80	26DEC09 A	31JAN10	26DEC09 A	05MAR10	33d	2d
S1-7020	Portion H1 Pipe Works CH1466.5-1516.5 (O)	40	22MAY11	30JUN11	11JUN11	20JUL11	20d	0
S1-7030	Portion H1 Pipe Works CH1516.5-1544.7 (O-S wall)	50	01JUL11	19AUG11	21JUL11	08SEP11	20d	0
S1-7040	Area H1 Portional Pipe Testing	14	20AUG11	02SEP11	09SEP11	22SEP11	20d	18d
Portion J								
S1-8010	Portion J Pipe Works CH0.0-48.0 (O-S Wall)	40	29JUL11	06SEP11	31JUL11	08SEP11	2d	0
S1-8020	Portion J Pipe Works CH48.0-339.0 (O)	300	02OCT10	28JUL11	04OCT10	30JUL11	2d	0



Start date	07SEP09
Finish date	05NOV12
Data date	04JAN10
Run date	12JAN11
Page number	4A

Wo Hing - Penta-Ocean Joint Venture

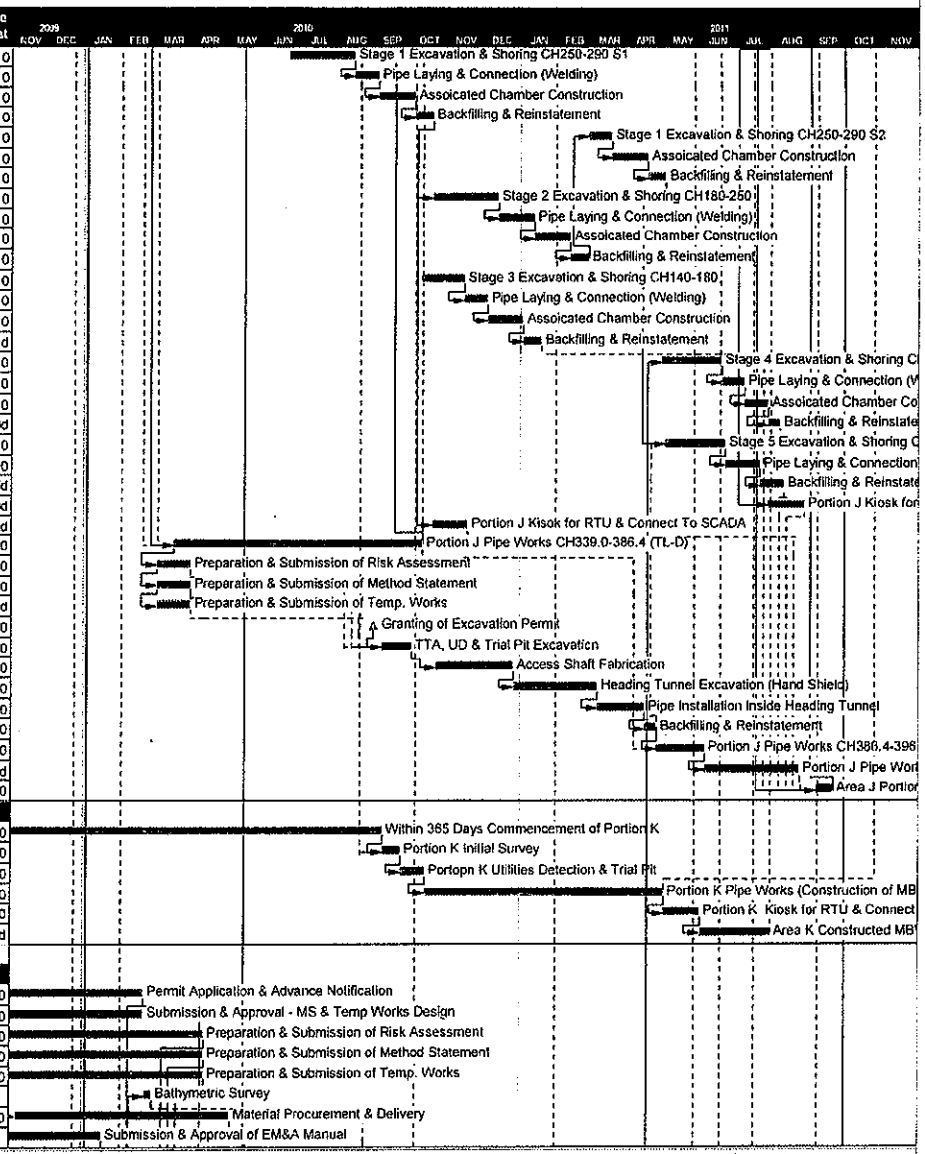
3 Months Rolling Program (January 2011)

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No.9/WSD/06

Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Act ID	Description	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Free Float
S1-8020B10	Stage 1 Excavation & Shoring CH250-290 S1	55	22JUN10 *	15AUG10	21JUL10	13SEP10	29d	0
S1-8020B20	Pipe Laying & Connection (Welding)	20	16AUG10	04SEP10	14SEP10	03OCT10	29d	0
S1-8020B30	Assoicated Chamber Construction	30	05SEP10	04OCT10	04OCT10	02NOV10	29d	0
S1-8020B40	Backfilling & Reinstatement	15	05OCT10	19OCT10	03NOV10	17NOV10	29d	0
S1-8020B50	Stage 1 Excavation & Shoring CH250-290 S2	20	27FEB11	18MAR11	28MAR11	16APR11	29d	0
S1-8020B60	Assoicated Chamber Construction	30	19MAR11	17APR11	17APR11	16MAY11	29d	0
S1-8020B70	Backfilling & Reinstatement	15	18APR11	02MAY11	17MAY11	31MAY11	29d	0
S1-8020C10	Stage 2 Excavation & Shoring CH180-250	55	20OCT10	13DEC10	18NOV10	11JAN11	29d	0
S1-8020C20	Pipe Laying & Connection (Welding)	30	14DEC10	12JAN11	12JAN11	10FEB11	29d	0
S1-8020C30	Assoicated Chamber Construction	30	13JAN11	11FEB11	11FEB11	12MAR11	29d	0
S1-8020C40	Backfilling & Reinstatement	15	12FEB11	26FEB11	13MAR11	27MAR11	29d	0
S1-8020D10	Stage 3 Excavation & Shoring CH140-180	35	11OCT10 *	14NOV10	01JUN11	05JUL11	233d	0
S1-8020D20	Pipe Laying & Connection (Welding)	20	15NOV10	04DEC10	06JUL11	25JUL11	233d	0
S1-8020D30	Assoicated Chamber Construction	30	05DEC10	03JAN11	26JUL11	24AUG11	233d	0
S1-8020D40	Backfilling & Reinstatement	15	04JAN11	18JAN11	25AUG11	08SEP11	233d	231d
S1-8020E10	Stage 4 Excavation & Shoring CH48-CH140	50	30APR11	18JUN11	01JUN11	20JUL11	32d	0
S1-8020E20	Pipe Laying & Connection (Welding)	20	19JUN11	08JUL11	21JUL11	09AUG11	32d	0
S1-8020E30	Assoicated Chamber Construction	20	09JUL11	28JUL11	10AUG11	29AUG11	32d	0
S1-8020E40	Backfilling & Reinstatement	10	29JUL11	07AUG11	30AUG11	08SEP11	32d	30d
S1-8020F10	Stage 5 Excavation & Shoring CH200-340	50	03MAY11	21JUN11	01JUN11	20JUL11	29d	0
S1-8020F20	Pipe Laying & Connection (Welding)	30	22JUN11	21JUL11	21JUL11	19AUG11	29d	0
S1-8020F30	Backfilling & Reinstatement	20	22JUL11	10AUG11	20AUG11	08SEP11	29d	27d
S1-8030	Portion J Kiosk for RTU & Connect To SCADA	30	29JUL11	27AUG11	10AUG11	08SEP11	12d	10d
S1-8030B10	Portion J Kiosk for RTU & Connect To SCADA	30	20OCT10	18NOV10	10AUG11	08SEP11	294d	292d
S1-8040	Portion J Pipe Works CH339.0-386.4 (TL-D)	209	17MAR10	11OCT10	19MAR10	13OCT10	2d	0
S1-8040A10	Preparation & Submission of Risk Assessment	28	03MAR10	30MAR10	27AUG10	23SEP10	177d	0
S1-8040A20	Preparation & Submission of Method Statement	28	03MAR10	30MAR10	27AUG10	23SEP10	177d	0
S1-8040A30	Preparation & Submission of Temp. Works	28	03MAR10	30MAR10	27AUG10	23SEP10	177d	161d
S1-8040A40	Granting of Excavation Permit	0	01SEP10 *		17SEP10		16d	0
S1-8040B10	TTA, UD & Trial Pit Excavation	25	08SEP10	02OCT10	24SEP10	18OCT10	16d	0
S1-8040B20	Access Shaft Fabrication	65	23OCT10	26DEC10	08NOV10	11JAN11	16d	0
S1-8040B30	Heading Tunnel Excavation (Hand Shield)	70	27DEC10	06MAR11	12JAN11	22MAR11	16d	0
S1-8040B40	Pipe Installation Inside Heading Tunnel	40	07MAR11	15APR11	23MAR11	01MAY11	16d	0
S1-8040B50	Backfilling & Reinstatement	10	16APR11	25APR11	02MAY11	11MAY11	16d	0
S1-8050	Portion J Pipe Works CH386.4-396.4 (O)	40	26APR11	04JUN11	12MAY11	20JUN11	16d	0
S1-8060	Portion J Pipe Works DN1000 CH0.0-22.7 (O)	80	05JUN11	23AUG11	21JUN11	08SEP11	16d	14d
S1-8070	Area J Portional Pipe Testing	14	07SEP11	20SEP11	09SEP11	22SEP11	2d	0
Portion K								
S1-9010	Within 365 Days Commencement of Portion K	365	07SEP09 A	08SEP10	07SEP09 A	01NOV10	54d	0
S1-9020	Portion K Initial Survey	15	09SEP10	23SEP10	02NOV10	16NOV10	54d	0
S1-9030	Portopn K Utilities Detection & Trial Pit	20	24SEP10	13OCT10	17NOV10	06DEC10	54d	0
S1-9040	Portion K Pipe Works (Construction of MBV)	200	14OCT10	01MAY11	07DEC10	24JUN11	54d	0
S1-9050	Portion K Kiosk for RTU & Connect To SCADA	30	02MAY11	31MAY11	25JUN11	24JUL11	54d	0
S1-9060	Area K Constructed MBV Testing	60	01JUN11	30JUL11	25JUL11	22SEP11	54d	52d
Marine Works (Portion I)								
M1000	Permit Application & Advance Notification	120	07SEP09 A	20FEB10	07SEP09 A	01MAR10	9d	0
M1010	Submission & Approval - MS & Temp Works Design	120	07SEP09 A	20FEB10	07SEP09 A	02APR10	41d	0
M1010A10	Preparation & Submission of Risk Assessment	217	07SEP09 A	11APR10	07SEP09 A	12APR10	1d	0
M1010A20	Preparation & Submission of Method Statement	217	07SEP09 A	11APR10	07SEP09 A	12APR10	1d	0
M1010A30	Preparation & Submission of Temp. Works	217	07SEP09 A	11APR10	07SEP09 A	12APR10	1d	0
M1020	Bathymetric Survey	120	22FEB10 A	27FEB10 A	22FEB10 A	27FEB10 A		
M1030	Material Procurement & Delivery	180	06NOV09 A	04MAY10	06NOV09 A	14JUN10	41d	0
M1040	Submission & Approval of EM&A Manual	90	07SEP09 A	17JAN10 A	07SEP09 A	17JAN10 A		



Start date	07SEP09
Finish date	05NOV12
Data date	04JAN10
Run date	12JAN11
Page number	5A

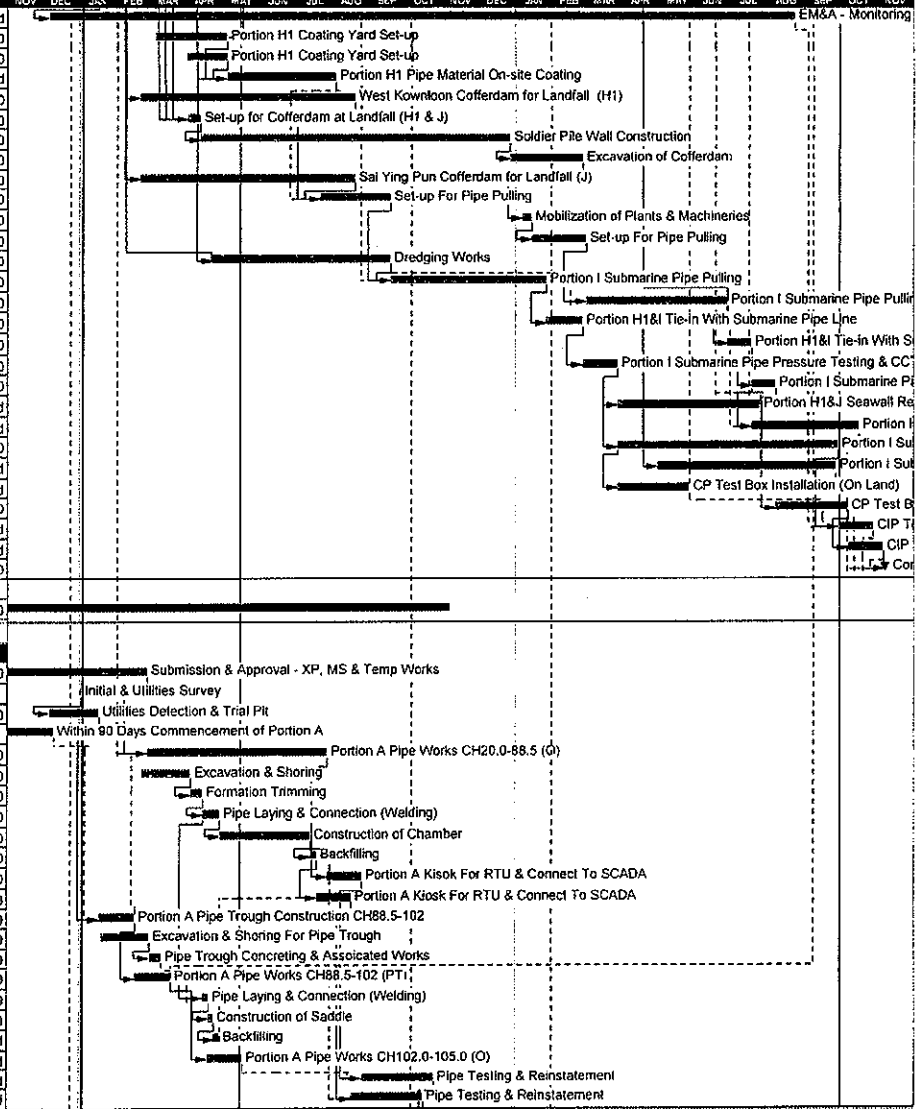
Wo Hing - Penta-Ocean Joint Venture

3 Months Rolling Program (January 2011)

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No.9/WSD/08
Laying of Western Cross Habour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Act ID	Description	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Free Float
M1050	EM&A - Monitoring & Update	640	06DEC09 A	23AUG11	06DEC09 A	07OCT11	45d	38d
M1060	Portion H1 Coating Yard Set-up	60	06MAR10	04MAY10	16APR10	14JUN10	41d	0
M1060A10	Portion H1 Coating Yard Set-up	34	01APR10 *	04MAY10	12MAY10	14JUN10	41d	0
M1070	Portion H1 Pipe Material On-site Coating	90	05MAY10	02AUG10	15JUN10	12SEP10	41d	32d
M1080	West Kowloon Cofferdam for Landfall (H1)	180	21FEB10	19AUG10	02MAR10	28AUG10	9d	0
M1080A10	Set-up for Cofferdam at Landfall (H1 & J)	10	02APR10	11APR10	03APR10	12APR10	1d	0
M1080B10	Soldier Pile Wall Construction	260	12APR10	27DEC10	13APR10	28DEC10	1d	0
M1080B20	Excavation of Cofferdam	60	28DEC10	25FEB11	29DEC10	26FEB11	1d	0
M1090	Sai Ying Pun Cofferdam for Landfall (J)	180	21FEB10	19AUG10	02MAR10	28AUG10	9d	0
M2060	Set-up For Pipe Pulling	60	21JUL10	18SEP10	30JUL10	27SEP10	9d	0
M2060A10	Mobilization of Plants & Machineries	8	07JAN11	14JAN11	08JAN11	15JAN11	1d	0
M2060A20	Set-up For Pipe Pulling	45	15JAN11	28FEB11	16JAN11	01MAR11	1d	0
M2070	Dredging Works	150	22APR10	18SEP10	01MAY10	27SEP10	9d	0
M2080	Portion I Submarine Pipe Pulling	130	19SEP10	26JAN11	28SEP10	04FEB11	9d	0
M2080B10	Portion I Submarine Pipe Pulling	120	01MAR11	28JUN11	02MAR11	29JUN11	1d	0
M2090	Portion H1&I Tie-in With Submarine Pipe Line	30	27JAN11	25FEB11	05FEB11	06MAR11	9d	0
M2090A10	Portion H1&I Tie-in With Submarine Pipe Line	20	29JUN11	18JUL11	30JUN11	19JUL11	1d	0
M2100	Portion I Submarine Pipe Pressure Testing & CCTV	30	26FEB11	27MAR11	07MAR11	05APR11	9d	0
M2100A10	Portion I Submarine Pipe Pressure Testing & CCTV	20	19JUL11	07AUG11	20JUL11	08AUG11	1d	0
M2110	Portion H1&J Seawall Reinstatement	120	28MAR11	25JUL11	20APR11	17AUG11	23d	3d
M2110A10	Portion H1&J Seawall Reinstatement	90	19JUL11	16OCT11	09AUG11	06NOV11	21d	21d
M2120	Portion I Submarine Pipeline Backfilling	185	28MAR11	28SEP11	06APR11	07OCT11	9d	0
M2120A10	Portion I Submarine Pipeline Backfilling	150	30APR11	28SEP11	10JUN11	06NOV11	41d	41d
M2130	CP Test Box Installation (On Land)	60	28MAR11	26MAY11	25JUL11	22SEP11	119d	117d
M2130A10	CP Test Box Installation (On Land)	60	08AUG11	06OCT11	09AUG11	07OCT11	1d	0
M2140	CP Test (Close Internal Potential Survey)	30	29SEP11	28OCT11	08OCT11	06NOV11	9d	9d
M2140A10	CP Test (Close Internal Potential Survey)	30	07OCT11	05NOV11	08OCT11	06NOV11	1d	1d
M2150	Completion of Section 1 Works	0		06NOV11 *		06NOV11 *	0	0
Section 2		425	07SEP09 A	06NOV10	07SEP09 A	06NOV10	0	0
Land Works								
S2-1010	Submission & Approval - XP, MS & Temp Works	180	07SEP09 A	26FEB10	07SEP09 A	05MAR10	7d	0
S2-1020	Initial & Utilities Survey	90	02JAN10 A	02JAN10 A	02JAN10 A	02JAN10 A		
S2-1030	Utilities Detection & Trial Pit	30	06DEC09 A	17JAN10	06DEC09 A	03FEB10	17d	0
S2-1040	Within 90 Days Commencement of Portion A	90	07SEP09 A	09DEC09 A	07SEP09 A	09DEC09 A		
S2-2010	Portion A Pipe Works CH20.0-88.5 (O)	150	27FEB10	26JUL10	06MAR10	02AUG10	7d	0
S2-2010B10	Excavation & Shoring	40	23FEB10 *	03APR10	17MAR10	25APR10	22d	0
S2-2010B20	Formation Trimming	10	04APR10	13APR10	26APR10	05MAY10	22d	0
S2-2010B30	Pipe Laying & Connection (Welding)	15	14APR10	28APR10	06MAY10	20MAY10	22d	0
S2-2010B40	Construction of Chamber	75	29APR10	12JUL10	21MAY10	03AUG10	22d	0
S2-2010B50	Backfilling	5	13JUL10	17JUL10	04AUG10	08AUG10	22d	0
S2-2020	Portion A Kisok For RTU & Connect To SCADA	30	27JUL10	25AUG10	09AUG10	07SEP10	13d	0
S2-2020A10	Portion A Kiosk For RTU & Connect To SCADA	30	18JUL10	15AUG10	09AUG10	07SEP10	22d	0
S2-2030	Portion A Pipe Trough Construction CH88.5-102	30	18JAN10	16FEB10	04FEB10	05MAR10	17d	0
S2-2030B10	Excavation & Shoring For Pipe Trough	40	20JAN10 *	28FEB10	05JUN10	14JUL10	136d	0
S2-2030B20	Pipe Trough Concreting & Associated Works	10	01MAR10	10MAR10	15JUL10	24JUL10	136d	0
S2-2040	Portion A Pipe Works CH88.5-102 (PT)	30	17FEB10	18MAR10	10JUN10	09JUL10	113d	0
S2-2040B10	Pipe Laying & Connection (Welding)	5	14APR10	18APR10	25JUL10	29JUL10	102d	0
S2-2040B20	Construction of Saddle	5	19APR10	23APR10	30JUL10	03AUG10	102d	0
S2-2040B30	Backfilling	5	24APR10	28APR10	04AUG10	08AUG10	102d	80d
S2-2050	Portion A Pipe Works CH102.0-105.0 (O)	30	18APR10	17MAY10	09AUG10	07SEP10	113d	100d
S2-2060	Pipe Testing & Reinstatement	60	26AUG10	24OCT10	08SEP10	06NOV10	13d	13d
S2-2060A10	Pipe Testing & Reinstatement	60	17AUG10	15OCT10	08SEP10	06NOV10	22d	22d



Start date 07SEP09
Finish date 05NOV12
Data date 04JAN10
Run date 12JAN11
Page number 6A
© Primavera Systems, Inc.

Wo Hing - Penta-Ocean Joint Venture

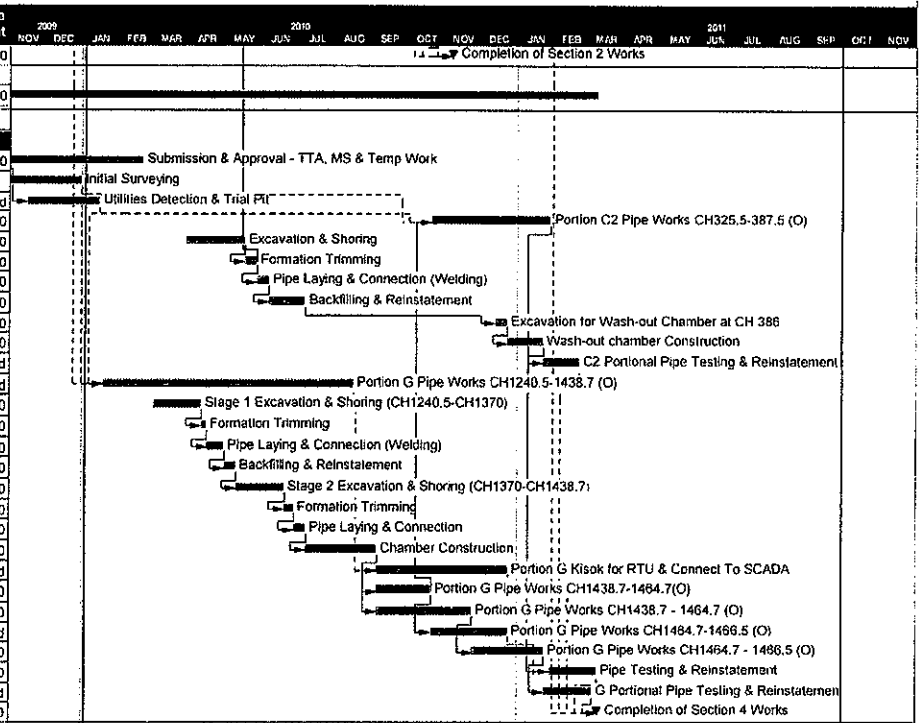
3 Months Rolling Program (January 2011)

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Contract No.9/WSD/08

Laying of Western Cross Habour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Act ID	Description	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Free Float
S2-3010	Completion of Section 2 Works	0		06NOV10 *		06NOV10 *	0	0
Section 4								
		549	07SEP09 A	09MAR11	07SEP09 A	09MAR11	0	0
Land Works								
S4-1010	Submission & Approval - TTA, MS & Temp Work	120	07SEP09 A	20FEB10	07SEP09 A	29MAY10	98d	0
S4-1020	Initial Surveying	90	07SEP09 A	31DEC09 A	07SEP09 A	31DEC09 A		
S4-1030	Utilities Detection & Trial Pit	20	16NOV09 A	15JAN10	16NOV09 A	23APR10	98d	3d
S4-2010	Portion C2 Pipe Works CH325.5-387.5 (O)	100	21OCT10	28JAN11	21OCT10	28JAN11	0	0
S4-2010B10	Excavation & Shoring	50	29MAR10 *	17MAY10	14APR10	02JUN10	16d	0
S4-2010B20	Formation Trimming	10	18MAY10	27MAY10	03JUN10	12JUN10	16d	0
S4-2010B30	Pipe Laying & Connection (Welding)	10	28MAY10	06JUN10	13JUN10	22JUN10	16d	0
S4-2010B40	Backfilling & Reinstatement	30	07JUN10	05JUL10	23JUN10	22JUL10	16d	0
S4-2010B50	Excavation for Wash-out Chamber at CH 386	10	14DEC10	23DEC10	30DEC10	08JAN11	16d	0
S4-2010B60	Wash-out chamber Construction	30	24DEC10	22JAN11	09JAN11	07FEB11	16d	0
S4-2010B90	C2 Portional Pipe Testing & Reinstatement	30	23JAN11	21FEB11	08FEB11	09MAR11	16d	16d
S4-2020	Portion G Pipe Works CH1240.5-1438.7 (O)	210	19JAN10	16AUG10	24APR10	19NOV10	95d	20d
S4-2020B10	Stage 1 Excavation & Shoring (CH1240.5-CH1370)	40	02MAR10 *	10APR10	02MAR10	10APR10	0	0
S4-2020B20	Formation Trimming	5	11APR10	15APR10	11APR10	15APR10	0	0
S4-2020B30	Pipe Laying & Connection (Welding)	15	16APR10	30APR10	16APR10	30APR10	0	0
S4-2020B40	Backfilling & Reinstatement	10	01MAY10	10MAY10	01MAY10	10MAY10	0	0
S4-2020B50	Stage 2 Excavation & Shoring (CH1370-CH1438.7)	40	11MAY10	19JUN10	11MAY10	19JUN10	0	0
S4-2020B60	Formation Trimming	8	20JUN10	27JUN10	20JUN10	27JUN10	0	0
S4-2020B70	Pipe Laying & Connection	10	28JUN10	07JUL10	28JUN10	07JUL10	0	0
S4-2020B80	Chamber Construction	60	08JUL10	05SEP10	08JUL10	05SEP10	0	0
S4-2030	Portion G Kisok for RTU & Connect To SCADA	110	06SEP10	24DEC10	20NOV10	09MAR11	75d	75d
S4-2040	Portion G Pipe Works CH1438.7-1464.7(O)	45	06SEP10	20OCT10	06SEP10	20OCT10	0	0
S4-2040B10	Portion G Pipe Works CH1438.7 - 1464.7 (O)	80	06SEP10	24NOV10	11SEP10	29NOV10	5d	0
S4-2050	Portion G Pipe Works CH1464.7-1466.5 (O)	65	21OCT10	24DEC10	25NOV10	28JAN11	35d	35d
S4-2050B10	Portion G Pipe Works CH1464.7 - 1466.5 (O)	60	25NOV10	23JAN11	30NOV10	28JAN11	5d	0
S4-3010	Pipe Testing & Reinstatement	40	29JAN11	09MAR11	29JAN11	09MAR11	0	0
S4-3010A10	G Portional Pipe Testing & Reinstatement	40	24JAN11	04MAR11	29JAN11	09MAR11	5d	5d
S4-3020	Completion of Section 4 Works	0		09MAR11 *		09MAR11 *	0	0
Section 5								
		1156	07SEP09 A	05NOV12	07SEP09 A	05NOV12	0	0
Landscape Softworks and Establishment Works								
B9-9010	Landscape works	846	07SEP09 A	28APR12	07SEP09 A	05NOV12	191d	191d
B9-9020	Reinstatement of Portion H1 & H2	203	07NOV11	27MAY12	17APR12	05NOV12	162d	0
B9-9030	Promenade of Portion H1 & H2 Handover to LCSD	0		27MAY12		05NOV12	162d	162d
B9-9300	Completion of Section 5 Works	0		05NOV12 *		05NOV12 *	0	0



Start date	07SEP09
Finish date	05NOV12
Data date	04JAN10
Run date	12JAN11
Page number	7A

Wo Hing - Penta-Ocean Joint Venture

3 Months Rolling Program (January 2011)

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Appendix F

ET Weekly Site Inspection Records

WEEKLY SITE INSPECTION CHECKLIST

Inspection Date	04/01/2011	Inspected by	RE	IEC	Contractor JNG	ET
Time	09:45	Name	YUNG KA YIU Rico	/		Lida Lau

Weather
Condition : Sunny / Fine / Cloudy / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong

Temperature : 14°C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Fugitive Dust Emission					
• Dust control / mitigation measures shall be provided to prevent dust nuisance.	√				
• Any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading.	√				
• The working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.	√				
• The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle	√				
• Where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;.	√				
• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.				√	
• Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	√				
• The portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials.	√				
• All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	√				
• Vehicle speed should be limited to 10 kph except on completed access roads.	√				
• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.				√	
• The public road around the site entrance should be kept clean and free from dust.	√				
• Vehicle and equipment should be switched off while not in use.	√				
• All plant and equipment should be well maintained e.g. without black smoke emission.	√				
• Open burning should be prohibited.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Noise Impact					
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√				
▪ The constructions works should be scheduled to minimize noise nuisance. Concurrent noisy works should be carried out at different time slots or spread around the construction sites in order to help to reduce the cumulative noise effect produced in the construction process.	√				
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√				
▪ Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√				
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√				
▪ Mobile or movable noise barriers should be erected near to the construction plants to reduce the noise levels from stationary items of PME whenever practicable.	√				
▪ Quality Powered mechanical equipment (Quality PME), which are construction plants and equipments that are notably quieter, more environmental friendly and efficiently, recognized by the Noise Control Authority for the purpose of CNP application should be used to reduce the noise generated from the construction plants effectively. The Contractor shall note the required procedures involved in application of the QPME.	√				
▪ Well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√				
▪ Air compressors and hand held breakers should have noise labels.	√				
▪ Compressors and generators should operate with door closed.	√				
▪ Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	√				
Water Quality					
Mitigation Measures for Dredging					
▪ Dredging should be undertaken using one grab dredger only with a maximum production rate of 4,000m^3 per day.	√				
▪ Deployment of frame type silt curtain should be fully enclosed the grab while dredging works are in progress.	√				
▪ Deployment of silt screen should be at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress	√				
▪ Tight-closing grabs should be used to minimize the loss of sediment to suspension during dredging works. For dredging of any contaminated mud, closed watertight grabs must be used.	√				
▪ All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash	√				
▪ The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard	√				
▪ Adequate free board shall be maintained on barges to ensure that decks are not washed by wave action.	√				
▪ All barges used for the transport of dredged materials should be fitted with tight bottom seals to prevent leakage of material during loading and transport	√				
▪ Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present in the water within the site or dumping grounds	√				
▪ Loading of barges should be controlled to prevent splashing of material into the surrounding waters. Barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation	√				
▪ The speed of vessels should be controlled within the works area to prevent propeller wash from stirring up the seabed sediments	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Water Quality					
Mitigation Measures for other Construction Activities					
▪ Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity should be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped	√				
▪ 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 storm runoff being directed into foul sewers	√				
▪ 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 backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains				√	
▪ Fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour and Western Harbour WCZs	√				
▪ Portable chemical toilets should be used to handle construction workforce sewage prior to discharge to the existing trunk sewer. Sufficient numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers. The Contractor shall also be responsible for waste disposal and maintenance practices.	√				
▪ Construction site runoff should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the Victoria Harbour WCZ under the TM-DSS.	√				
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√				
Waste Management					
C&D Materials					
▪ Excavated materials should be reused on-site as backfilling material and for landscaping works as far as practicable.			√		
▪ C&D material generated from excavation works should be disposed of at public fill reception facilities for other beneficial uses.			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.			√		
Chemical Waste					
▪ Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately.	√				
▪ Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.	√				
▪ The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Waste Management					
General Refuse					
▪ General refuse should be stored in enclosed bins or compaction units separate from C&D material.	√				
▪ A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material.	√				
▪ An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	√				
Marine Dredged Sediment (During transportation and disposal)					
▪ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and dredgers before the vessel is moved	√				
▪ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the EPD	√				
▪ Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	√				
Site Practices					
▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site	√				
▪ Training of site personnel in proper waste management and chemical handling procedures	√				
▪ Provision of sufficient waste disposal points and regular collection of waste	√				
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√				
▪ Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	√				
Waste Reduction Measures					
▪ Sort C&D material from demolition and decommissioning of the existing facilities to recover recyclable portions such as metals	√				
▪ 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	√				
▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force	√				
▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials	√				
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Marine Ecology					
▪ Use of one grab dredger only with a maximum production rate of 4,000m^3 per day for dredging.	√				
▪ Deployment of frame type silt curtain to fully enclose the grab while dredging works are in progress.	√				
▪ Deployment of silt screen at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress.	√				
▪ Good site practices to avoid silt runoff from construction works associated with the construction of the submarine watermain.	√				
Good Site Practices					
• The Environmental Permit should be displaced conspicuously on site.	√				
• Construction noise permits should be posted at site entrance or available for site inspection.	√				
▪ Chemical storage area provided with lock and located on sealed areas.	√				
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√				
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√				
▪ All generators, fuel and oil storage are within bundle areas.	√				
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√				
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√				

\

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Status of the item (closed / continue follow-up)	Proposed Follow Up Action (if required)	Photo Ref.	Target Completion Date
—	—	—	—	—	—

Remark

No defective observation was noted during the weekly site inspection.

	Name	Signature	Date
Inspected by	Linda Law		04 January 2011

WEEKLY SITE INSPECTION CHECKLIST

Inspection Date	11/01/2011	Inspected by	RE	IEC	Contractor	ET
Time	10:00	Name			JNG	Linda Lam

Weather
Condition : Sunny / Fine / Cloudy / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong

Temperature : 11°C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Fugitive Dust Emission					
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√				
▪ Any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading.	√				
▪ The working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.	√				
▪ The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle	√				
▪ Where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;.	√				
▪ The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.				√	
▪ Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	√				
▪ The portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials.	√				
▪ All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	√				
▪ Vehicle speed should be limited to 10 kph except on completed access roads.	√				
▪ Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.				√	
▪ The public road around the site entrance should be kept clean and free from dust.	√				
▪ Vehicle and equipment should be switched off while not in use.	√				
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√				
▪ Open burning should be prohibited.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Noise Impact					
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√				
▪ The constructions works should be scheduled to minimize noise nuisance. Concurrent noisy works should be carried out at different time slots or spread around the construction sites in order to help to reduce the cumulative noise effect produced in the construction process.	√				
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√				
▪ Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√				
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√				
▪ Mobile or movable noise barriers should be erected near to the construction plants to reduce the noise levels from stationary items of PME whenever practicable.	√				
▪ Quality Powered mechanical equipment (Quality PME), which are construction plants and equipments that are notably quieter, more environmental friendly and efficiently, recognized by the Noise Control Authority for the purpose of CNP application should be used to reduce the noise generated from the construction plants effectively. The Contractor shall note the required procedures involved in application of the QPME.	√				
▪ Well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√				
▪ Air compressors and hand held breakers should have noise labels.	√				
▪ Compressors and generators should operate with door closed.	√				
▪ Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	√				
Water Quality					
Mitigation Measures for Dredging					
▪ Dredging should be undertaken using one grab dredger only with a maximum production rate of 4,000m^3 per day.			√		No dredging work was observed.
▪ Deployment of frame type silt curtain should be fully enclosed the grab while dredging works are in progress.			√		No dredging work was observed.
▪ Deployment of silt screen should be at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress	√				
▪ Tight-closing grabs should be used to minimize the loss of sediment to suspension during dredging works. For dredging of any contaminated mud, closed watertight grabs must be used.	√				
▪ All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash	√				
▪ The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard	√				
▪ Adequate free board shall be maintained on barges to ensure that decks are not washed by wave action.	√				
▪ All barges used for the transport of dredged materials should be fitted with tight bottom seals to prevent leakage of material during loading and transport	√				
▪ Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present in the water within the site or dumping grounds	√				
▪ Loading of barges should be controlled to prevent splashing of material into the surrounding waters. Barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation	√				
▪ The speed of vessels should be controlled within the works area to prevent propeller wash from stirring up the seabed sediments	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Water Quality					
Mitigation Measures for other Construction Activities					
▪ Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity should be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped	√				
▪ 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 storm runoff being directed into foul sewers	√				
▪ 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 backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains				√	
▪ Fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour and Western Harbour WCZs	√				
▪ Portable chemical toilets should be used to handle construction workforce sewage prior to discharge to the existing trunk sewer. Sufficient numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers. The Contractor shall also be responsible for waste disposal and maintenance practices.	√				
▪ Construction site runoff should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the Victoria Harbour WCZ under the TM-DSS.	√				
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√				
Waste Management					
C&D Materials					
▪ Excavated materials should be reused on-site as backfilling material and for landscaping works as far as practicable.			√		
▪ C&D material generated from excavation works should be disposed of at public fill reception facilities for other beneficial uses.			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.			√		
Chemical Waste					
▪ Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately.	√				
▪ Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.	√				
▪ The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Waste Management					
General Refuse					
▪ General refuse should be stored in enclosed bins or compaction units separate from C&D material.	√				
▪ A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material.	√				
▪ An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	√				
Marine Dredged Sediment (During transportation and disposal)					
▪ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and dredgers before the vessel is moved	√				
▪ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the EPD	√				
▪ Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	√				
Site Practices					
▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site	√				
▪ Training of site personnel in proper waste management and chemical handling procedures	√				
▪ Provision of sufficient waste disposal points and regular collection of waste	√				
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√				
▪ Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	√				
Waste Reduction Measures					
▪ Sort C&D material from demolition and decommissioning of the existing facilities to recover recyclable portions such as metals	√				
▪ 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	√				
▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force	√				
▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials	√				
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Marine Ecology					
▪ Use of one grab dredger only with a maximum production rate of 4,000m^3 per day for dredging.			√		No dredging work was observed.
▪ Deployment of frame type silt curtain to fully enclose the grab while dredging works are in progress.			√		No dredging work was observed.
▪ Deployment of silt screen at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress.	√				
▪ Good site practices to avoid silt runoff from construction works associated with the construction of the submarine watermain.	√				
Good Site Practices					
• The Environmental Permit should be displaced conspicuously on site.	√				
• Construction noise permits should be posted at site entrance or available for site inspection.	√				
▪ Chemical storage area provided with lock and located on sealed areas.	√				
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√				
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√				
▪ All generators, fuel and oil storage are within bundle areas.	√				
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√				
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√				

\

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Status of the item (closed / continue follow-up)	Proposed Follow Up Action (if required)	Photo Ref.	Target Completion Date
—	---	---	—	---	---

Remark

No defective observation was noted during the weekly site inspection.

	Name	Signature	Date
Inspected by	Linda Law		11 January 2011

WEEKLY SITE INSPECTION CHECKLIST

Inspection Date	18/01/11	Inspected by	RE	IEC	Contractor Joanne Ng	ET Linda Lam
Time	09:30	Name		/	E.S. Quilum	Linda Lam

Weather
Condition : Sunny / Fine / cloudy / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong

Temperature : 17 °C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Fugitive Dust Emission					
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√				
▪ Any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading.	√				
▪ The working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.	√				
▪ The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle	√				
▪ Where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;.	√				
▪ The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.				√	
▪ Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	√				
▪ The portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials.	√				
▪ All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	√				
▪ Vehicle speed should be limited to 10 kph except on completed access roads.	√				
▪ Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.				√	
▪ The public road around the site entrance should be kept clean and free from dust.	√				
▪ Vehicle and equipment should be switched off while not in use.	√				
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√				
▪ Open burning should be prohibited.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Noise Impact					
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√				
▪ The constructions works should be scheduled to minimize noise nuisance. Concurrent noisy works should be carried out at different time slots or spread around the construction sites in order to help to reduce the cumulative noise effect produced in the construction process.	√				
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√				
▪ Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√				
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√				
▪ Mobile or movable noise barriers should be erected near to the construction plants to reduce the noise levels from stationary items of PME whenever practicable.	√				
▪ Quality Powered mechanical equipment (Quality PME), which are construction plants and equipments that are notably quieter, more environmental friendly and efficiently, recognized by the Noise Control Authority for the purpose of CNP application should be used to reduce the noise generated from the construction plants effectively. The Contractor shall note the required procedures involved in application of the QPME.	√				
▪ Well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√				
▪ Air compressors and hand held breakers should have noise labels.	√				
▪ Compressors and generators should operate with door closed.	√				
▪ Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	√				
Water Quality					
Mitigation Measures for Dredging					
▪ Dredging should be undertaken using one grab dredger only with a maximum production rate of 4,000m^3 per day.			√		No dredging work was observed.
▪ Deployment of frame type silt curtain should be fully enclosed the grab while dredging works are in progress.			√		No dredging work was observed.
▪ Deployment of silt screen should be at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress	√				
▪ Tight-closing grabs should be used to minimize the loss of sediment to suspension during dredging works. For dredging of any contaminated mud, closed watertight grabs must be used.	√				
▪ All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash	√				
▪ The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard	√				
▪ Adequate free board shall be maintained on barges to ensure that decks are not washed by wave action.	√				
▪ All barges used for the transport of dredged materials should be fitted with tight bottom seals to prevent leakage of material during loading and transport	√				
▪ Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present in the water within the site or dumping grounds	√				
▪ Loading of barges should be controlled to prevent splashing of material into the surrounding waters. Barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation	√				
▪ The speed of vessels should be controlled within the works area to prevent propeller wash from stirring up the seabed sediments	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Water Quality					
Mitigation Measures for other Construction Activities					
▪ Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity should be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped	√				
▪ 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 storm runoff being directed into foul sewers	√				
▪ 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 backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains				√	
▪ Fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour and Western Harbour WCZs	√				
▪ Portable chemical toilets should be used to handle construction workforce sewage prior to discharge to the existing trunk sewer. Sufficient numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers. The Contractor shall also be responsible for waste disposal and maintenance practices.	√				
▪ Construction site runoff should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the Victoria Harbour WCZ under the TM-DSS.	√				
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√				
Waste Management					
C&D Materials					
▪ Excavated materials should be reused on-site as backfilling material and for landscaping works as far as practicable.			√		
▪ C&D material generated from excavation works should be disposed of at public fill reception facilities for other beneficial uses.			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.			√		
Chemical Waste					
▪ Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately.	√				
▪ Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.	√				
▪ The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Waste Management					
General Refuse					
▪ General refuse should be stored in enclosed bins or compaction units separate from C&D material.	√				
▪ A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material.	√				
▪ An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	√				
Marine Dredged Sediment (During transportation and disposal)					
▪ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and dredgers before the vessel is moved	√				
▪ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the EPD	√				
▪ Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	√				
Site Practices					
▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site	√				
▪ Training of site personnel in proper waste management and chemical handling procedures	√				
▪ Provision of sufficient waste disposal points and regular collection of waste	√				
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√				
▪ Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	√				
Waste Reduction Measures					
▪ Sort C&D material from demolition and decommissioning of the existing facilities to recover recyclable portions such as metals	√				
▪ 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	√				
▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force	√				
▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials	√				
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Marine Ecology					
▪ Use of one grab dredger only with a maximum production rate of 4,000m^3 per day for dredging.			√		No dredging work was observed.
▪ Deployment of frame type silt curtain to fully enclose the grab while dredging works are in progress.			√		No dredging work was observed.
▪ Deployment of silt screen at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress.	√				
▪ Good site practices to avoid silt runoff from construction works associated with the construction of the submarine watermain.	√				
Good Site Practices					
• The Environmental Permit should be displaced conspicuously on site.	√				
• Construction noise permits should be posted at site entrance or available for site inspection.	√				
▪ Chemical storage area provided with lock and located on sealed areas.	√				
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√				
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√				
▪ All generators, fuel and oil storage are within bundle areas.	√				
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√				
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√				

\

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Status of the item (closed / continue follow-up)	Proposed Follow Up Action (if required)	Photo Ref.	Target Completion Date
—	—	—	—	—	—

Remark

No defective observation was noted during the weekly site inspection.

	Name	Signature	Date
Inspected by	Linda Law	Linda Law	18 January 2011

WEEKLY SITE INSPECTION CHECKLIST

Inspection Date	26/01/2011	Inspected by	RE	IEC Justin Ye	Contractor	ET
Time	13:15	Name			JNC	Linda Law

Weather
Condition : (Sunny) / Fine / Cloudy / Drizzle / Rain / Storm / Hazy
Wind : Calm / (Light) / Breeze / Strong

Temperature : 18 °C
Humidity : High / Moderate / (Low)

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Fugitive Dust Emission					
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√				
▪ Any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading.	√				
▪ The working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.	√				
▪ The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle	√				
▪ Where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;.	√				
▪ The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.				√	
▪ Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	√				
▪ The portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials.	√				
▪ All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	√				
▪ Vehicle speed should be limited to 10 kph except on completed access roads.	√				
▪ Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.				√	
▪ The public road around the site entrance should be kept clean and free from dust.	√				
▪ Vehicle and equipment should be switched off while not in use.	√				
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√				
▪ Open burning should be prohibited.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Noise Impact					
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√				
▪ The constructions works should be scheduled to minimize noise nuisance. Concurrent noisy works should be carried out at different time slots or spread around the construction sites in order to help to reduce the cumulative noise effect produced in the construction process.	√				
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√				
▪ Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√				
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√				
▪ Mobile or movable noise barriers should be erected near to the construction plants to reduce the noise levels from stationary items of PME whenever practicable.	√				
▪ Quality Powered mechanical equipment (Quality PME), which are construction plants and equipments that are notably quieter, more environmental friendly and efficiently, recognized by the Noise Control Authority for the purpose of CNP application should be used to reduce the noise generated from the construction plants effectively. The Contractor shall note the required procedures involved in application of the QPME.	√				
▪ Well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√				
▪ Air compressors and hand held breakers should have noise labels.	√				
▪ Compressors and generators should operate with door closed.	√				
▪ Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	√				
Water Quality					
Mitigation Measures for Dredging					
▪ Dredging should be undertaken using one grab dredger only with a maximum production rate of 4,000m^3 per day.			√		No dredging work was observed.
▪ Deployment of frame type silt curtain should be fully enclosed the grab while dredging works are in progress.			√		No dredging work was observed.
▪ Deployment of silt screen should be at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress		√			Item 1
▪ Tight-closing grabs should be used to minimize the loss of sediment to suspension during dredging works. For dredging of any contaminated mud, closed watertight grabs must be used.	√				
▪ All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash	√				
▪ The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard	√				
▪ Adequate free board shall be maintained on barges to ensure that decks are not washed by wave action.	√				
▪ All barges used for the transport of dredged materials should be fitted with tight bottom seals to prevent leakage of material during loading and transport	√				
▪ Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present in the water within the site or dumping grounds	√				
▪ Loading of barges should be controlled to prevent splashing of material into the surrounding waters. Barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation	√				
▪ The speed of vessels should be controlled within the works area to prevent propeller wash from stirring up the seabed sediments	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Water Quality					
Mitigation Measures for other Construction Activities					
▪ Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity should be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped	√				
▪ 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 storm runoff being directed into foul sewers	√				
▪ 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 backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains				√	
▪ Fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour and Western Harbour WCZs	√				
▪ Portable chemical toilets should be used to handle construction workforce sewage prior to discharge to the existing trunk sewer. Sufficient numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers. The Contractor shall also be responsible for waste disposal and maintenance practices.	√				
▪ Construction site runoff should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the Victoria Harbour WCZ under the TM-DSS.	√				
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√				
Waste Management					
C&D Materials					
▪ Excavated materials should be reused on-site as backfilling material and for landscaping works as far as practicable.			√		
▪ C&D material generated from excavation works should be disposed of at public fill reception facilities for other beneficial uses.			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.			√		
Chemical Waste					
▪ Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately.	√				
▪ Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.	√				
▪ The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Waste Management					
General Refuse					
▪ General refuse should be stored in enclosed bins or compaction units separate from C&D material.	√				
▪ A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material.	√				
▪ An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	√				
Marine Dredged Sediment (During transportation and disposal)					
▪ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and dredgers before the vessel is moved	√				
▪ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the EPD	√				
▪ Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	√				
Site Practices					
▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site	√				
▪ Training of site personnel in proper waste management and chemical handling procedures	√				
▪ Provision of sufficient waste disposal points and regular collection of waste	√				
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√				
▪ Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	√				
Waste Reduction Measures					
▪ Sort C&D material from demolition and decommissioning of the existing facilities to recover recyclable portions such as metals	√				
▪ 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	√				
▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force	√				
▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials	√				
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Marine Ecology					
▪ Use of one grab dredger only with a maximum production rate of 4,000m^3 per day for dredging.			√		No dredging work was observed.
▪ Deployment of frame type silt curtain to fully enclose the grab while dredging works are in progress.			√		No dredging work was observed.
▪ Deployment of silt screen at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress.		√			Item 1
▪ Good site practices to avoid silt runoff from construction works associated with the construction of the submarine watermain.	√				
Good Site Practices					
• The Environmental Permit should be displaced conspicuously on site.	√				
• Construction noise permits should be posted at site entrance or available for site inspection.	√				
▪ Chemical storage area provided with lock and located on sealed areas.	√				
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).		√			Item 3
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√				
▪ All generators, fuel and oil storage are within bundle areas.		√			Item 2
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√				
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√				

\

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Status of the item (closed / continue follow-up)	Proposed Follow Up Action (if required)	Photo Ref.	Target Completion Date
1	Silt screen at the sea water intake at Kowloon South Salt Water Pumping Station was found broken.	Follow-up	To repair and maintain the site screen properly.	110126_001	01/02/11
2	The Contractor was reminded to provide drip tray or impermeable sheet for a water pump at Portion J in order to avoid oil leakage to the environment although no oil leakage was noted.	Follow-up	To provide drip tray or impermeable sheet to avoid oil leakage to the environment.	110126_002	01/02/11
3	A 200L oil drum at Portion J was noted without drip tray and chemical label.	Follow-up	To provide appropriate chemical label and drip tray for all chemicals in site.	110126_003	01/02/11

Remark

	Name	Signature	Date
Inspected by	Linda Law		26 January 2011

WEEKLY SITE INSPECTION CHECKLIST

Inspection Date	31/01/11	Inspected by	RE	IEC	Contractor	ET Linda Lam
Time	14:30	Name	31/1/11	/		Linda Lam

Weather
Condition : Sunny / Fine / Cloudy / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong

Temperature : 18°C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Fugitive Dust Emission					
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√				
▪ Any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading.	√				
▪ The working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.	√				
▪ The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle	√				
▪ Where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;.	√				
▪ The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.				√	
▪ Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	√				
▪ The portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials.	√				
▪ All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	√				
▪ Vehicle speed should be limited to 10 kph except on completed access roads.	√				
▪ Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.				√	
▪ The public road around the site entrance should be kept clean and free from dust.	√				
▪ Vehicle and equipment should be switched off while not in use.	√				
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√				
▪ Open burning should be prohibited.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Noise Impact					
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√				
▪ The constructions works should be scheduled to minimize noise nuisance. Concurrent noisy works should be carried out at different time slots or spread around the construction sites in order to help to reduce the cumulative noise effect produced in the construction process.	√				
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√				
▪ Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√				
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√				
▪ Mobile or movable noise barriers should be erected near to the construction plants to reduce the noise levels from stationary items of PME whenever practicable.	√				
▪ Quality Powered mechanical equipment (Quality PME), which are construction plants and equipments that are notably quieter, more environmental friendly and efficiently, recognized by the Noise Control Authority for the purpose of CNP application should be used to reduce the noise generated from the construction plants effectively. The Contractor shall note the required procedures involved in application of the QPME.	√				
▪ Well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√				
▪ Air compressors and hand held breakers should have noise labels.	√				
▪ Compressors and generators should operate with door closed.	√				
▪ Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	√				
Water Quality					
Mitigation Measures for Dredging					
▪ Dredging should be undertaken using one grab dredger only with a maximum production rate of 4,000m^3 per day.			√		No dredging work was observed.
▪ Deployment of frame type silt curtain should be fully enclosed the grab while dredging works are in progress.			√		No dredging work was observed.
▪ Deployment of silt screen should be at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress	√				
▪ Tight-closing grabs should be used to minimize the loss of sediment to suspension during dredging works. For dredging of any contaminated mud, closed watertight grabs must be used.	√				
▪ All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash	√				
▪ The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard	√				
▪ Adequate free board shall be maintained on barges to ensure that decks are not washed by wave action.	√				
▪ All barges used for the transport of dredged materials should be fitted with tight bottom seals to prevent leakage of material during loading and transport	√				
▪ Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present in the water within the site or dumping grounds	√				
▪ Loading of barges should be controlled to prevent splashing of material into the surrounding waters. Barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation	√				
▪ The speed of vessels should be controlled within the works area to prevent propeller wash from stirring up the seabed sediments	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Water Quality					
Mitigation Measures for other Construction Activities					
▪ Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity should be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped	√				
▪ 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 storm runoff being directed into foul sewers	√				
▪ 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 backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains				√	
▪ Fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour and Western Harbour WCZs	√				
▪ Portable chemical toilets should be used to handle construction workforce sewage prior to discharge to the existing trunk sewer. Sufficient numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers. The Contractor shall also be responsible for waste disposal and maintenance practices.	√				
▪ Construction site runoff should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the Victoria Harbour WCZ under the TM-DSS.	√				
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√				
Waste Management					
C&D Materials					
▪ Excavated materials should be reused on-site as backfilling material and for landscaping works as far as practicable.			√		
▪ C&D material generated from excavation works should be disposed of at public fill reception facilities for other beneficial uses.			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed			√		
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.			√		
Chemical Waste					
▪ Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately.	√				
▪ Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.	√				
▪ The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility.	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Waste Management					
General Refuse					
▪ General refuse should be stored in enclosed bins or compaction units separate from C&D material.	√				
▪ A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material.	√				
▪ An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	√				
Marine Dredged Sediment (During transportation and disposal)					
▪ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and dredgers before the vessel is moved	√				
▪ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the EPD	√				
▪ Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	√				
Site Practices					
▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site	√				
▪ Training of site personnel in proper waste management and chemical handling procedures	√				
▪ Provision of sufficient waste disposal points and regular collection of waste	√				
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√				
▪ Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	√				
Waste Reduction Measures					
▪ Sort C&D material from demolition and decommissioning of the existing facilities to recover recyclable portions such as metals	√				
▪ 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	√				
▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force	√				
▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials	√				
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste	√				

Environmental Checklist	Implementation Stages*				Remark
	Yes	No	Not Obs	N/A	
Marine Ecology					
▪ Use of one grab dredger only with a maximum production rate of 4,000m^3 per day for dredging.			√		No dredging work was observed.
▪ Deployment of frame type silt curtain to fully enclose the grab while dredging works are in progress.			√		No dredging work was observed.
▪ Deployment of silt screen at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress.	√				
▪ Good site practices to avoid silt runoff from construction works associated with the construction of the submarine watermain.	√				
Good Site Practices					
• The Environmental Permit should be displaced conspicuously on site.	√				
• Construction noise permits should be posted at site entrance or available for site inspection.	√				
▪ Chemical storage area provided with lock and located on sealed areas.	√				
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√				
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√				
▪ All generators, fuel and oil storage are within bundle areas.	√				
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√				
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√				

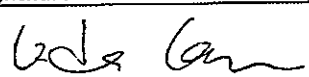
\

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Status of the item (closed / continue follow-up)	Proposed Follow Up Action (if required)	Photo Ref.	Target Completion Date
1	Follow up action to item 2 and 3 on 26/01/11, the water pump and oil drum at Portion J were cleared.	Closed	—	110131_001	---
2	Follow up action to item 1 on 26/01/11, the damaged silt screen was noted repairing.	Closed	—	110131_002	---

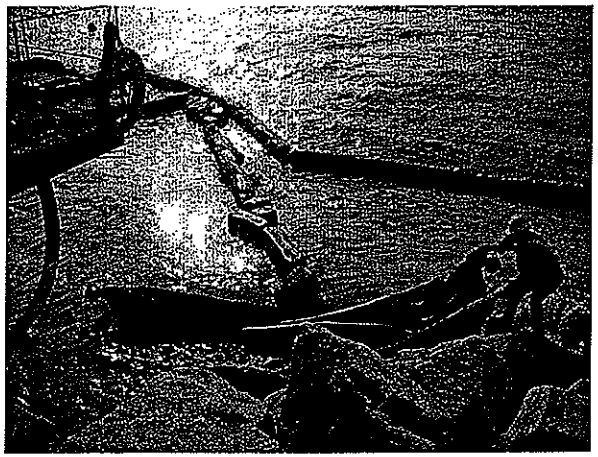
Remark

No defective observation was noted during the weekly site inspection.

	Name	Signature	Date
Inspected by	Linda Law		31 January 2011

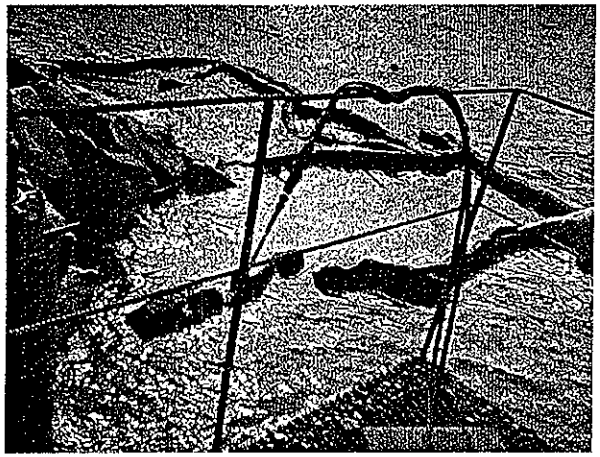
Photos

110131_001

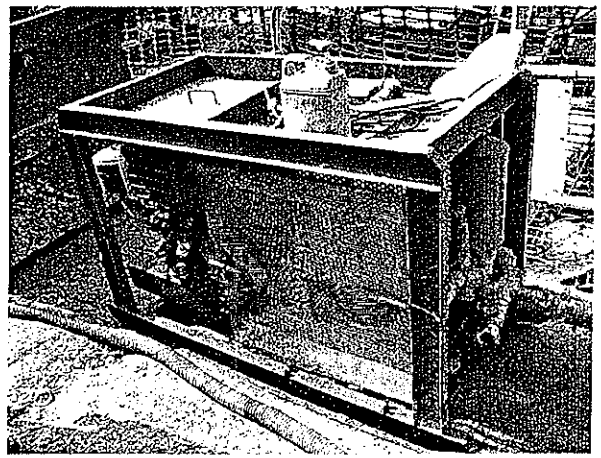


110131_002

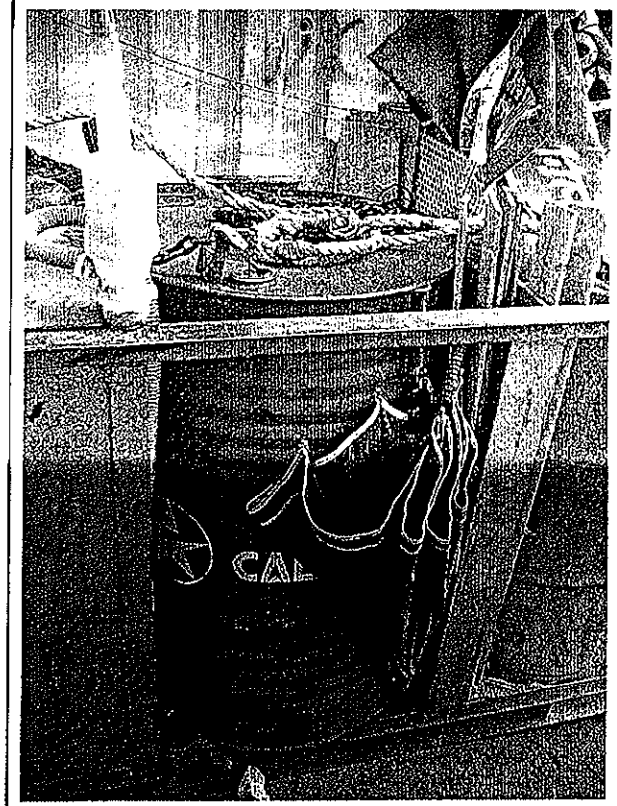
Photos



110126_001



110126_002



110126_003

Appendix G

Implementation Schedule of Mitigation Measures

Environmental Mitigation Implementation Schedule

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Air Quality					
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	All areas	√			
▪ Any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading.	All areas	√			
▪ The working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet.	All areas	√			
▪ The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle	All areas	√			
▪ Where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;.	All areas	√			
▪ The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	Site Egress				√
▪ Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	All haul roads	√			
▪ The portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials.	All areas	√			
▪ All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	All areas	√			
▪ Vehicle speed should be limited to 10 kph except on completed access roads.	All areas	√			
▪ Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	All areas	√			
▪ The public road around the site entrance should be kept clean and free from dust.	All areas	√			
▪ Vehicle and equipment should be switched off while not in use.	All areas	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	All areas	√			
▪ Open burning should be prohibited.	All areas	√			
Noise Impact					
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	All areas	√			
▪ The constructions works should be scheduled to minimize noise nuisance. Concurrent noisy works should be carried out at different time slots or spread around the construction sites in order to help to reduce the cumulative noise effect produced in the construction process.	All areas	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	All areas	√			
▪ Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	All areas	√			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	All areas	√			
▪ Mobile or movable noise barriers should be erected near to the construction plants to reduce the noise levels from stationary items of PME whenever practicable.	All areas	√			
▪ Quality Powered mechanical equipment (Quality PME), which are construction plants and equipments that are notably quieter, more environmental friendly and efficiently, recognized by the Noise Control Authority for the purpose of CNP application should be used to reduce the noise generated from the construction plants effectively. The Contractor shall note the required procedures involved in application of the QPME.	All areas	√			

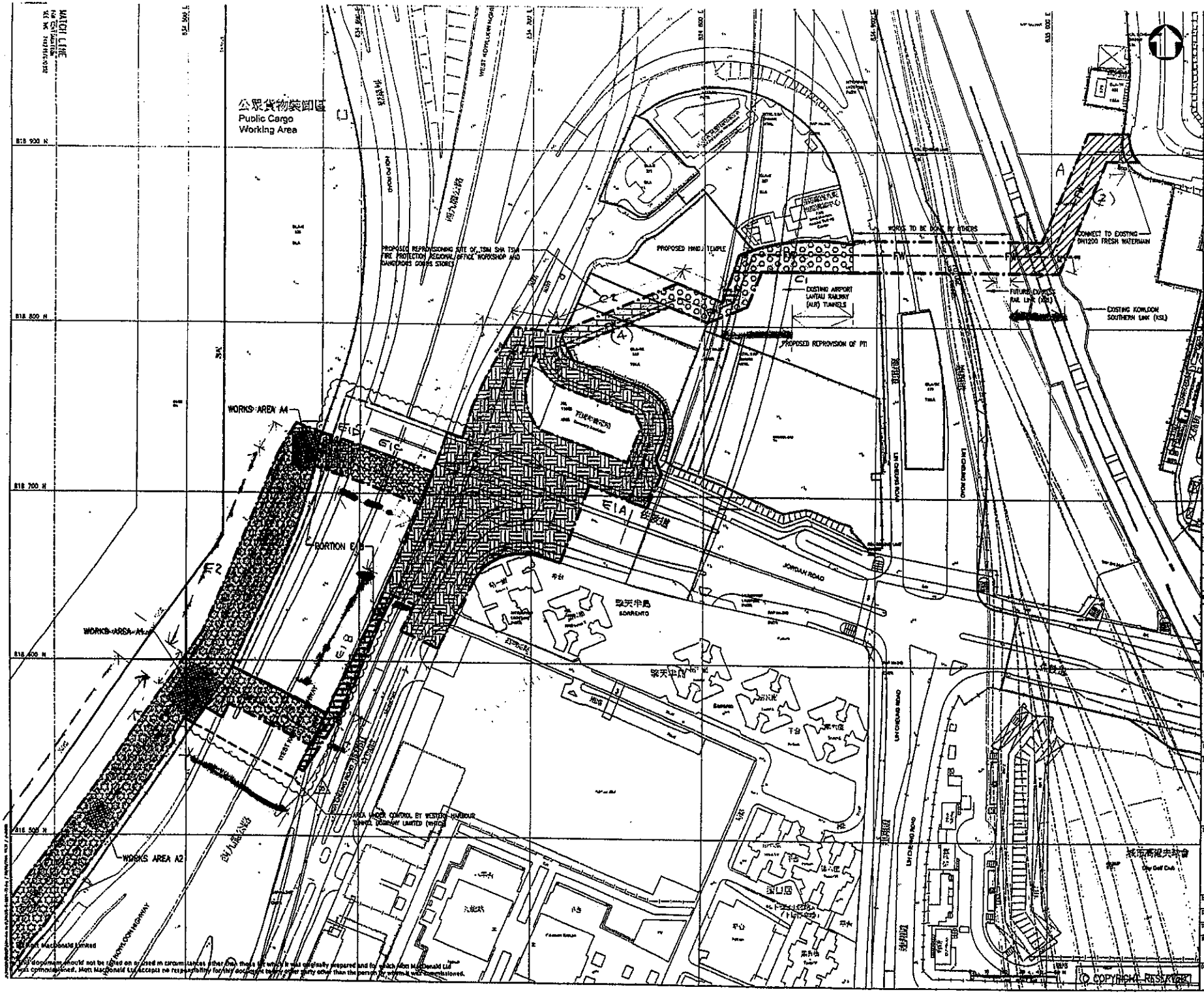
Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Noise Impact					
▪ Well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	All areas	√			
▪ Air compressors and hand held breakers should have noise labels.	All areas	√			
▪ Compressors and generators should operate with door closed.	All areas	√			
▪ Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	All areas	√			
Water Quality					
Mitigation Measures for Dredging					
▪ Dredging should be undertaken using one grab dredger only with a maximum production rate of 4,000m^3 per day.	Marine	√			
▪ Deployment of frame type silt curtain should be fully enclose the grab while dredging works are in progress.	Marine	√			
▪ Deployment of silt screen should be at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress	Marine		√		
▪ Tight-closing grabs should be used to minimize the loss of sediment to suspension during dredging works. For dredging of any contaminated mud, closed watertight grabs must be used.	Marine	√			
▪ All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash	Marine	√			
▪ The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard	Marine	√			
▪ Adequate free board shall be maintained on barges to ensure that decks are not washed by wave action.	Marine	√			
▪ All barges used for the transport of dredged materials should be fitted with tight bottom seals to prevent leakage of material during loading and transport	Marine	√			
▪ Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present in the water within the site or dumping grounds	Marine	√			
▪ Loading of barges should be controlled to prevent splashing of material into the surrounding waters. Barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation	Marine	√			
▪ The speed of vessels should be controlled within the works area to prevent propeller wash from stirring up the seabed sediments	Marine	√			
Mitigation Measures for other Construction Activities					
▪ Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity should be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped	All areas	√			
▪ 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 storm runoff being directed into foul sewers	All areas	√			
▪ 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.	All areas				√
▪ 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.	All areas				√
▪ The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains	All areas				√
▪ Fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour and Western Harbour WCZs	All areas	√			

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Water Quality					
Mitigation Measures for other Construction Activities					
▪ Portable chemical toilets should be used to handle construction workforce sewage prior to discharge to the existing trunk sewer. Sufficient numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers. The Contractor shall also be responsible for waste disposal and maintenance practices.	All areas	√			
▪ Construction site runoff should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the Victoria Harbour WCZ under the TM-DSS.	All areas	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	All areas	√			
Waste Management					
C&D Materials					
▪ Excavated materials should be reused on-site as backfilling material and for landscaping works as far as practicable.	All areas				√
▪ C&D material generated from excavation works should be disposed of at public fill reception facilities for other beneficial uses.	All areas				√
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed	All areas	√			
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	All areas	√			
Chemical Waste					
▪ Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately.	All areas	√			
▪ Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.	All areas	√			
▪ The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility.	All areas	√			
General Refuse					
▪ General refuse should be stored in enclosed bins or compaction units separate from C&D material.	All areas	√			
▪ A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material.	All areas	√			
▪ An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	All areas	√			
Marine Dredged Sediment (During transportation and disposal)					
▪ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and dredgers before the vessel is moved	Marine	√			
▪ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the EPD	Marine	√			
▪ Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	Marine	√			
Good Site Practices					
▪ 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	All areas	√			
▪ Training of site personnel in proper waste management and chemical handling procedures	All areas	√			
▪ Provision of sufficient waste disposal points and regular collection of waste	All areas	√			

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Waste Management					
Good Site Practices					
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	All areas	√			
▪ Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers	All areas	√			
Waste Reduction Measures					
▪ Sort C&D material from demolition and decommissioning of the existing facilities to recover recyclable portions such as metals	All areas	√			
▪ 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	All areas	√			
▪ Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force	All areas	√			
▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials	All areas	√			
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste	All areas	√			
Marine Ecology					
▪ Use of one grab dredger only with a maximum production rate of 4,000m^3 per day for dredging.	Marine	√			
▪ Deployment of frame type silt curtain to fully enclose the grab while dredging works are in progress.	Marine	√			
▪ Deployment of silt screen at the sea water intake at Kowloon South Salt Water Pumping Station while dredging works are in progress.	Marine		√		
▪ Good site practices to avoid silt runoff from construction works associated with the construction of the submarine watermain.	Marine	√			
Good Site Practices					
▪ The Environmental Permit should be displaced conspicuously on site.	All areas	√			
▪ Construction noise permits should be posted at site entrance or available for site inspection.	All areas	√			
▪ Chemical storage area provided with lock and located on sealed areas.	All areas	√			
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	All areas		√		
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	All areas	√			
▪ All generators, fuel and oil storage are within bundle areas.	All areas		√		
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	All areas	√			
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	All areas	√			

Appendix H

Site General Layout plan



NOTES :

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 241239/G/0302 TO 0305.

LEGEND :

- PROPOSED FRESH WATERMAIN
- PROPOSED SALT WATERMAIN
- PROPOSED WORKS LIMIT
- CLA / STT
- PORTION A (SECTION 2)
- PORTION C1
- PORTION C2 (SECTION 4)
- PORTION E1A
- PORTION E1B
- PORTION E1C
- PORTION E1D
- PORTION C (SECTION 4)
- WORKS AREA WITHIN NEW YAU MA TEI PUBLIC CARGO WORKING AREA FORMING PART OF PORTION E2 OF THE SITE (TO BE FENCED OFF BY CONCRETE BARRIERS AS PART OF TEMPORARY TRAFFIC ARRANGEMENT BY THE CONTRACTOR, DETAILS REFER TO HyD STANDARD DRAWING NO. H2104)

Section 1
Section 2
Section 4

05	MAY 09	PL	TENDER ADDENDUM NO. 6	KL	
04	APR 09	PL	TENDER ADDENDUM NO. 5	KL	
03	APR 09	PL	TENDER ADDENDUM NO. 4	KL	
02	MAR 09	PL	TENDER ADDENDUM NO. 3	KL	
01	FEB 09	PL	TENDER ADDENDUM NO. 2	KL	
0	DEC 08	PL	ISSUE FOR TENDER	KL	
Rev	Date	Drawn	Description	Ch'k'd	Appr'd

Mott MacDonald

Mott MacDonald Hong Kong Limited
7th Floor
Island Place Office Building
510 King's Road
North Point
Hong Kong
Tel 2828 5757
Fax 2827 1823
Web www.mottmac.com.hk

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

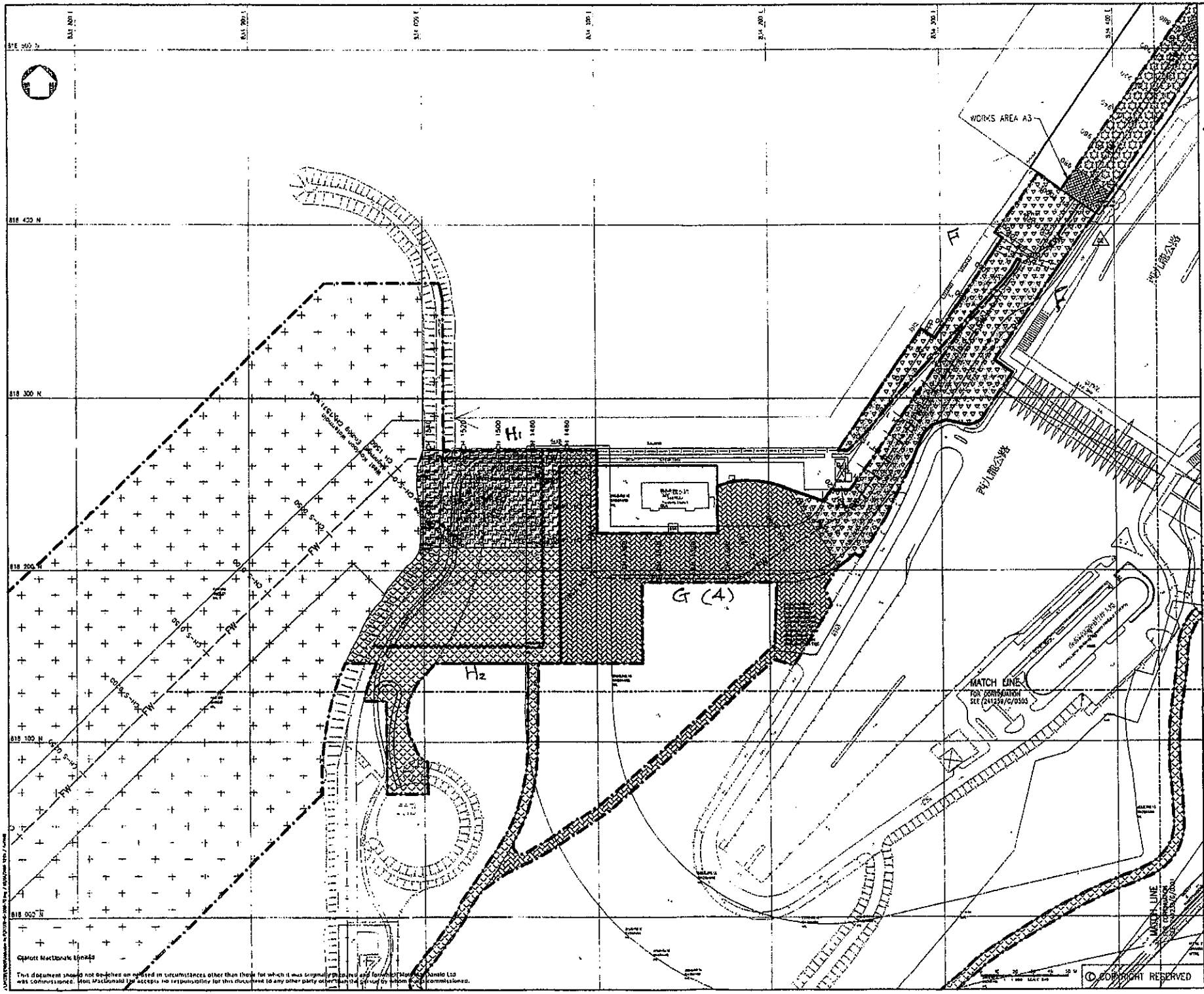
Contract No. 9/WSD/08

Project
LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN

Title
POSSESSION OF SITE
(SHEET 1 OF 5)

Designed	KSC		Eng'g Chk'd	KL	
Drawn	PL		Coordinated	SHC	
Eng'g Chk'd	KL		Approved	SHC	

Scale 1:1000 @A1
Project 241239
Job No. TEN
Drawing No. 241239/G/0301
Rev 05



NOTES :

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS 241239/G/0301 AND 0303 TO 0305
2. THE LEGEND SHALL REFER TO DRAWING NO 241239/G/0301

Rev	Date	Drawn	Description	Ch'k'd	App'd
02	APR 09		TENDER ADDENDUM NO. 4		
01	MAR 09	PL	TENDER ADDENDUM NO. 3	KL	SHC
0	DEC 08	PL	ISSUE FOR TENDER	KL	SHC

Mott MacDonald

Mott MacDonald Hong Kong Limited
7th Floor
Wan Ming Office Building
New World Centre
20 Salisbury Road
Hong Kong
Tel 2828 5757
Fax 2827 1823
Web www.mottmac.com.hk

Client

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

Contract No. 9/WSD/08

Project

LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN

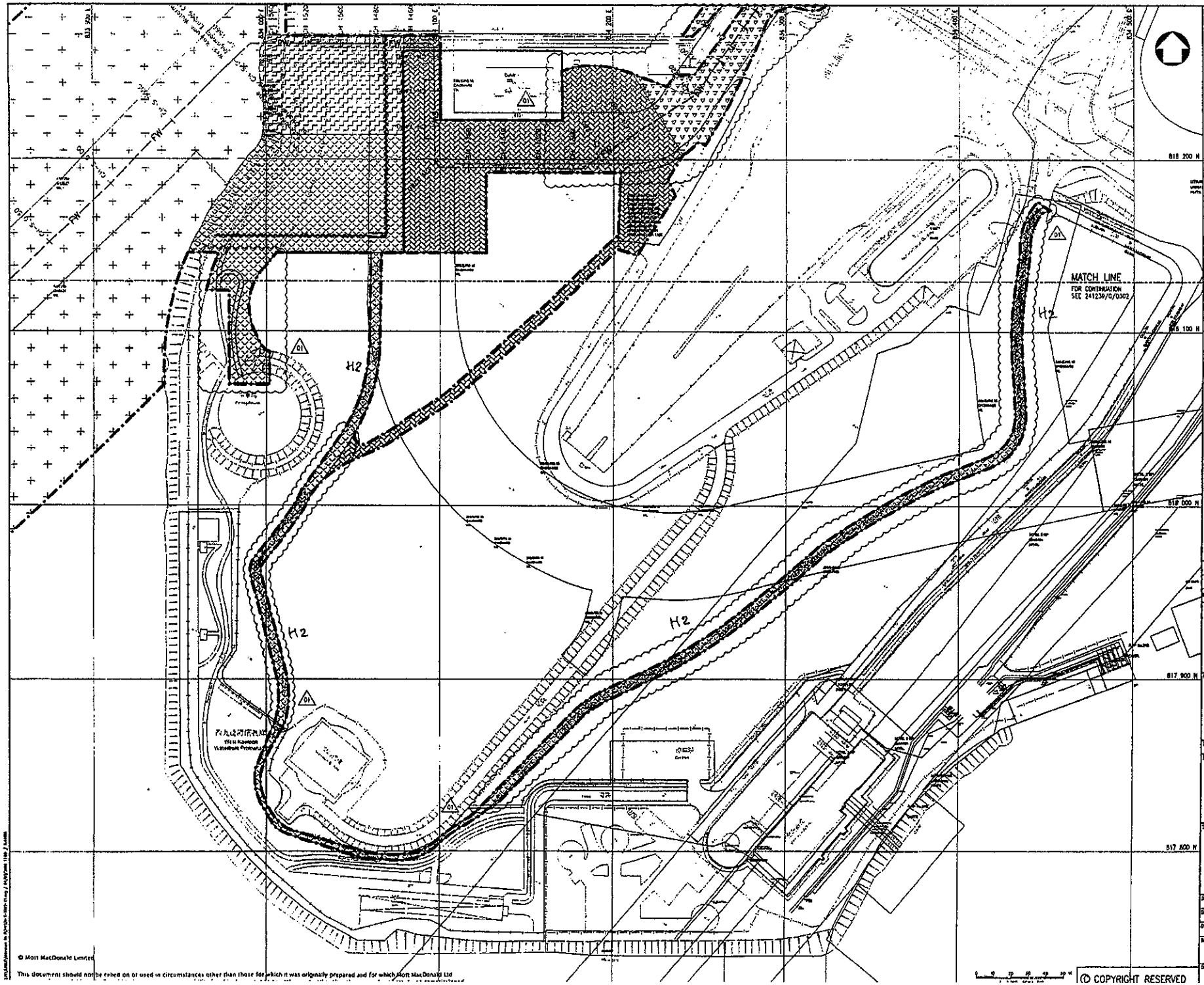
Title

POSSESSION OF SITE
(SHEET 2 OF 5)

Designed	KSC		Eng Chk.	KL	
Drawn	PL		Coordination	SHC	
Eng Chk.	KL		Approved	SHC	

Scale 1:1000 @A1 | Project 241239 | GM No. | Status TEN

Drawing No. 241239/G/0302 | Rev 02



NOTES :

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 241239/G/0301 TO 0302 AND 0304 TO 0305.
2. THE LEGEND SHALL REFER TO DRAWING NO. 241239/G/0301.

Rev	Date	Drawn	Description	Ch'k'd	App'd
01	MAR 09		TENDER ADDENDUM NO. 3		
0	DEC 08	PL	ISSUE FOR TENDER	KL	SHC

Mott MacDonald
Mott MacDonald Hong Kong Limited
7th Floor
Wan Hing Office Building
Hing Wai Centre
70 Tokwawan Road
Hong Kong
Tel 2828 5757
Fax 2827 1823
Web www.mottmac.com/hk

Client

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

Contract No. 9/WSD/08

Project

LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN

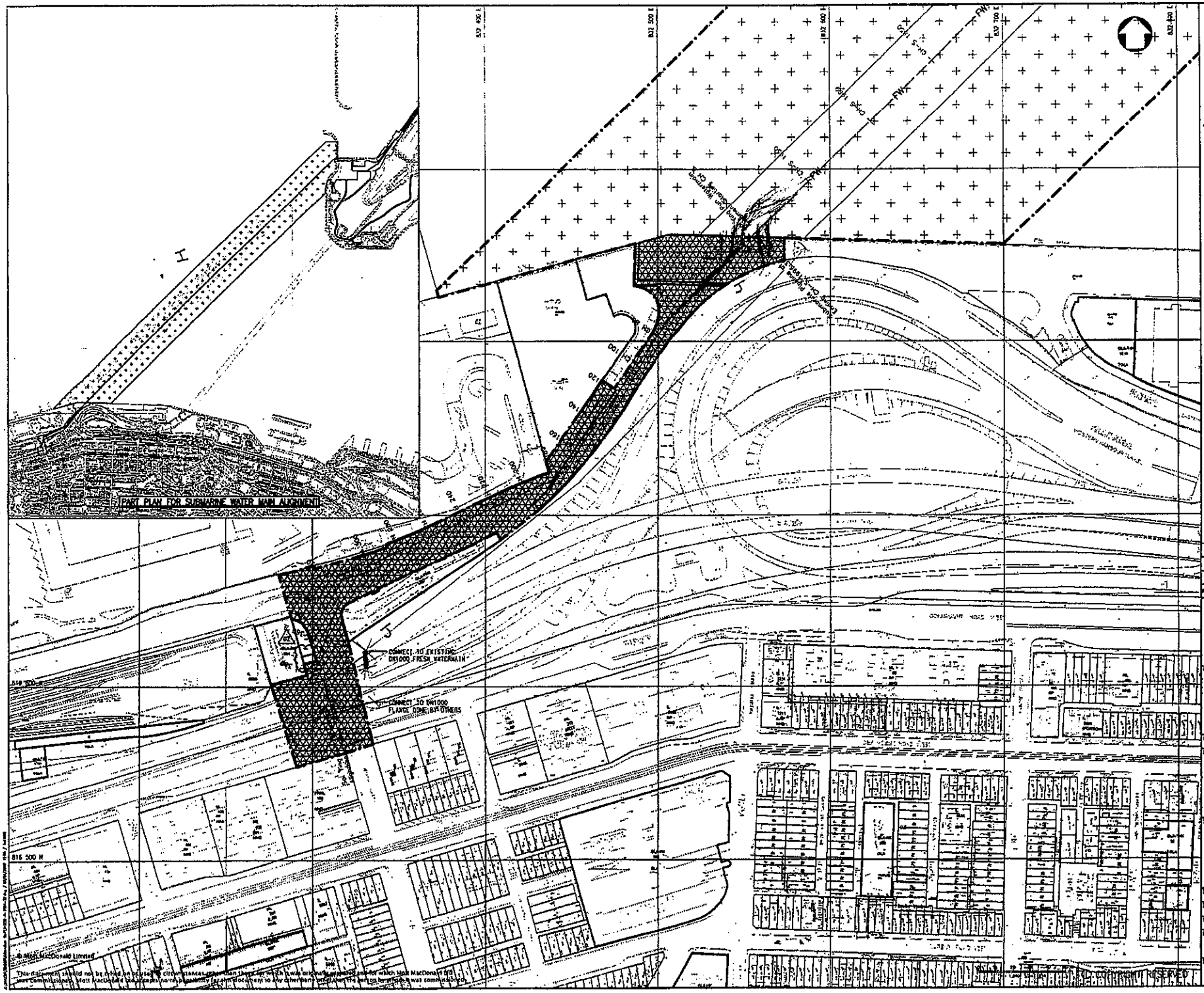
Title

POSSESSION OF SITE
(SHEET 3 OF 5)

Designed	KSC		Eng.Chk.	KL	
Drawn	PL		Construction	SHC	
Eng.Chk.	KL		Approved	SHC	

Scale 1:1000 @A1 | Project 241239 | CAD File | Status TEN

Drawing No. 241239/G/0303 | Rev 01



NOTES :

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 241239/S/0301 TO 0303 AND 0305.
2. THE LEGEND SHALL REFER TO DRAWING NO. 241239/G/0301.

Rev	Date	Drawn	Description	Ch'k'd	App'd
02	APR 09		TENDER ADDENDUM NO. 4		
01	MAR 08	PL	TENDER ADDENDUM NO. 3	CF	SHC
0	DEC 08	PL	ISSUE FOR TENDER	CF	SHC

Mott MacDonald

Mott MacDonald Hong Kong Limited
7th Floor
West Wing Office Building
Ocean World Centre
22 Salisbury Road
Hong Kong
Tel 2828 5757
Fax 2827 1823
Web www.mottmac.com.hk

Client

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION WATER SUPPLIES DEPARTMENT

Contract No. 9/WSD/08

Project

LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN

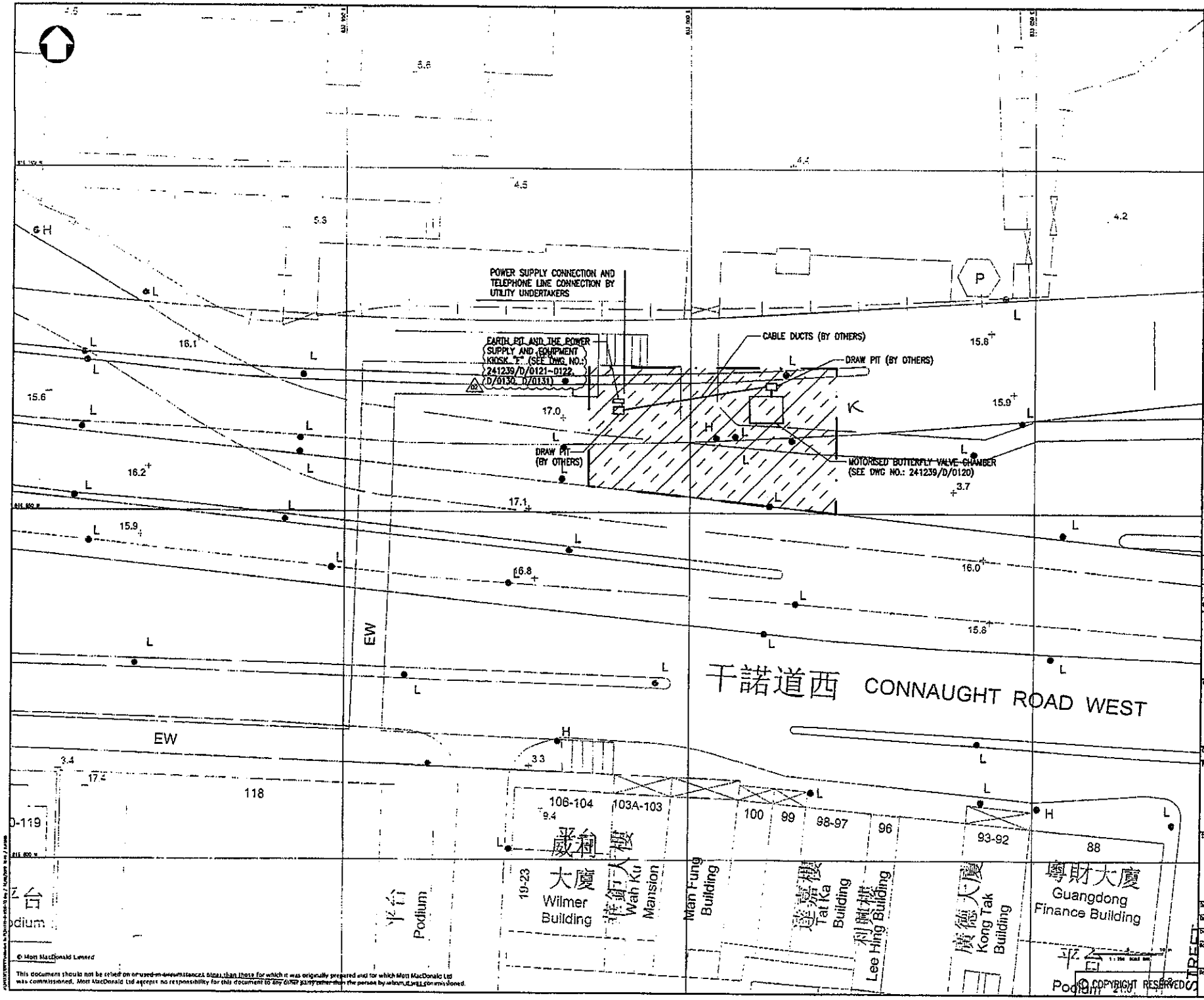
Title

POSSESSION OF SITE
(SHEET 4 OF 5)

Designed	KSC		Eng'Chk.	KL	
Drawn	PL		Coordination	SHC	
Eng'Chk.	KL		Approved	SHC	

Scale 1:1000 @A1 | Project 241239 | Status TEN

Drawing No. 241239/G/0304 | Rev 02



NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 241239/G/0301 TO 0304.
2. THE LEGEND SHALL REFER TO DRAWING NO. 241239/G/0301.

Rev	Date	Drawn	Description	Ch'k'd	App'd
02	FEB 09		TENDER ADDENDUM NO. 2		
01	JAN 09	PL	TENDER ADDENDUM NO. 1	KL	SHC
0	DEC 08	PL	ISSUE FOR TENDER	KL	SHC

Mott MacDonald

Mott MacDonald Hong Kong Limited
7th Floor
Revo Wing Office Building
Revo World Centre
20 Salisbury Road
Hong Kong
Tel 2828 5757
Fax 2827 1823
Web www.mottmac.com.hk

Client

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION WATER SUPPLIES DEPARTMENT

Contract No. 9/WSD/08

Project

LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN

Title

POSSESSION OF SITE (SHEET 5 OF 5)

Designed	KSC		Dng.Chk.	KL	
Drawn	PL		Coordination	SHC	
Dng.Chk.	KL		Approved	SHC	
Scale	1:250 @A1	Project	241239	Status	TEN
Drawing No.	241239/G/0305			Rev	02

Appendix I

Monitoring Schedule for this Month and Coming Month

Contract No. 9/WSD/08
Laying of Western Cross Habour Main & Associated Land Mains from West Kowloon to Sai Ying Pun
Time Schedule for Impact Marine Water Quality Monitoring (WQM), Noise Monitoring (NM) and Weekly Site Inspection (SI)
January 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						01-Jan
						NM Holiday (West Kowloon) (Sai Ying Pun)
02-Jan	03-Jan	04-Jan	05-Jan	06-Jan	07-Jan	08-Jan
		WQM Mid-Ebb 11:00 - 15:00 Mid-Flood 16:00 - 20:00 **SI**	**NM** (SYP-Daytime)	**WQM** Mid-Flood 07:30 - 11:30 Mid-Ebb 12:00 - 16:00	**NM** (WK-Daytime)	**WQM** Mid-Flood 08:00 - 12:00 Mid-Ebb 13:30 - 17:30
09-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan
		WQM Mid-Flood 09:00 - 13:30 Mid-Ebb 15:00 - 19:30 **SI**	**NM** (SYP-Daytime)	**WQM** Mid-Flood 09:15 - 13:45 Mid-Ebb 16:30 - 21:00	**NM** (WK-Daytime)	**WQM** Mid-Flood 09:15 - 13:45 Mid-Ebb 17:45 - 21:15
16-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan
		WQM Mid-Ebb 10:00 - 14:00 Mid-Flood 15:00 - 19:00 **SI**	**NM** (SYP-Daytime)	**WQM** Mid-Ebb 10:45 - 14:45 Mid-Flood 15:30 - 20:00	**NM** (WK-Daytime)	**WQM** Mid-Ebb 12:00 - 16:00 Mid-Flood 17:00 - 21:00
23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan
NM Holiday (West Kowloon) (Sai Ying Pun)	**NM** (SYP-Daytime)	**WQM** Mid-Flood 08:00 - 12:30 Mid-Ebb 14:30 - 19:00	**SI**	**WQM** Mid-Flood 08:30 - 13:00 Mid-Ebb 16:00 - 20:00	**NM** (WK-Daytime)	**WQM** Mid-Ebb 09:30 - 12:30 Mid-Flood 14:00 - 18:00
30-Jan	31-Jan					
	SI					

Contract No. 9/WSD/08

Laying of Western Cross Habour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Time Schedule for Impact Marine Water Quality Monitoring (WQM), Noise Monitoring (NM) and Weekly Site Inspection (SI)

February 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Feb	02-Feb	03-Feb	04-Feb	05-Feb
		WQM Mid-Ebb 10:00 - 14:00 Mid-Flood 15:00 - 19:30 **SI**	**NM** (WK-Daytime) **NM** (SYP-Daytime)			
06-Feb	07-Feb	08-Feb	09-Feb	10-Feb	11-Feb	12-Feb
		WQM Mid-Flood 07:30 - 12:00 Mid-Ebb 13:30 - 17:30 **SI**	**NM** (WK-Daytime) **NM** (SYP-Daytime)	**WQM** Mid-Flood 09:00 - 13:00 Mid-Ebb 14:30 - 18:30		**WQM** Mid-Flood 11:00 - 15:00 Mid-Ebb 16:00 - 20:00
13-Feb	14-Feb	15-Feb	16-Feb	17-Feb	18-Feb	19-Feb
		WQM Mid-Ebb 09:00 - 13:00 Mid-Flood 14:30 - 18:30 **SI**	**NM** (WK-Daytime) **NM** (SYP-Daytime)	**WQM** Mid-Ebb 10:15 - 14:15 Mid-Flood 15:30 - 19:30		**WQM** Mid-Ebb 11:00 - 15:00 Mid-Flood 16:00 - 20:00
20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb
		WQM Mid-Flood 08:00 - 12:00 Mid-Ebb 13:30 - 17:30 **SI**	**NM** (WK-Daytime) **NM** (SYP-Daytime)	**WQM** Mid-Flood 09:00 - 13:00 Mid-Ebb 14:30 - 18:30		**WQM** Mid-Flood 11:00 - 15:00 Mid-Ebb 16:15 - 20:15
27-Feb	28-Feb					

Appendix J

Daily Dredging Summary

Wo Hing - Penta-Ocean Joint Venture

Contract no. 9/WSD/08
Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Summary of Dumping Qty. of Type 1 Marine Sediment (Dispose to East Ninepin Mud Disposal Ground / South Cheung Chau)

Date	Dumping qty (m^3)	Barge Load per day	Accumulated Dumping Qty.	Permit No.	Mud Disposal Ground
	(bulk volume)		(bulk volume)		
30-Apr-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
01-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
02-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
03-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
04-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
05-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
06-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
07-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
08-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
09-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
10-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
11-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
12-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
13-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
14-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
15-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
16-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
17-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
18-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
19-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
20-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
21-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
22-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
23-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
24-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
25-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
26-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
27-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
28-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
29-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
30-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
31-May-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
01-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
02-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
03-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
04-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
05-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
06-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
07-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
08-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
09-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
10-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
11-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
12-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
13-Jun-2010	0	0	0	EP/MD/10-085	East Ninepin Mud Disposal Ground
14-Jun-2010	1,400	2	1,400	EP/MD/10-085	East Ninepin Mud Disposal Ground
15-Jun-2010	1,400	2	2,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
16-Jun-2010	2,100	3	4,900	EP/MD/10-085	East Ninepin Mud Disposal Ground
17-Jun-2010	2,800	4	7,700	EP/MD/10-085	East Ninepin Mud Disposal Ground
18-Jun-2010	2,100	3	9,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
19-Jun-2010	2,700	4	12,500	EP/MD/10-085	East Ninepin Mud Disposal Ground

Wo Hing - Penta-Ocean Joint Venture

Contract no. 9/WSD/08

Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Summary of Dumping Qty. of Type 1 Marine Sediment (Dispose to East Ninepin Mud Disposal Ground / South Cheung Chau)

Date	Dumping qty (m^3) (bulk volume)	Barge Load per day	Accumulated Dumping Qty. (bulk volume)	Permit No.	Mud Disposal Ground
20-Jun-2010	2,800	4	15,300	EP/MD/10-085	East Ninepin Mud Disposal Ground
21-Jun-2010	2,100	3	17,400	EP/MD/10-085	East Ninepin Mud Disposal Ground
22-Jun-2010	2,800	4	20,200	EP/MD/10-085	East Ninepin Mud Disposal Ground
23-Jun-2010	2,100	3	22,300	EP/MD/10-085	East Ninepin Mud Disposal Ground
24-Jun-2010	2,100	3	24,400	EP/MD/10-085	East Ninepin Mud Disposal Ground
25-Jun-2010	2,100	3	26,500	EP/MD/10-085	East Ninepin Mud Disposal Ground
26-Jun-2010	2,100	3	28,600	EP/MD/10-085	East Ninepin Mud Disposal Ground
27-Jun-2010	700	1	29,300	EP/MD/10-085	East Ninepin Mud Disposal Ground
28-Jun-2010	2,100	3	31,400	EP/MD/10-085	East Ninepin Mud Disposal Ground
29-Jun-2010	1,400	2	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
30-Jun-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
01-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
02-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
03-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
04-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
05-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
06-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
07-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
08-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
09-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
10-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
11-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
12-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
13-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
14-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
15-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
16-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
17-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
18-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
19-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
20-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
21-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
22-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
23-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
24-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
25-Jul-2010	0	0	32,800	EP/MD/10-085	East Ninepin Mud Disposal Ground
26-Jul-2010	0	0	32,800	EP/MD/11-039	East Ninepin Mud Disposal Ground
27-Jul-2010	0	0	32,800	EP/MD/11-039	East Ninepin Mud Disposal Ground
28-Jul-2010	0	0	32,800	EP/MD/11-039	East Ninepin Mud Disposal Ground
29-Jul-2010	0	0	32,800	EP/MD/11-039	East Ninepin Mud Disposal Ground
30-Jul-2010	700	1	33,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
31-Jul-2010	1,400	2	34,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
01-Aug-2010	2,100	3	37,000	EP/MD/11-039	East Ninepin Mud Disposal Ground
02-Aug-2010	1,400	2	38,400	EP/MD/11-039	East Ninepin Mud Disposal Ground
03-Aug-2010	700	1	39,100	EP/MD/11-039	East Ninepin Mud Disposal Ground
04-Aug-2010	700	1	39,800	EP/MD/11-039	East Ninepin Mud Disposal Ground
05-Aug-2010	700	1	40,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
06-Aug-2010	0	0	40,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
07-Aug-2010	0	0	40,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
08-Aug-2010	0	0	40,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
09-Aug-2010	0	0	40,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
10-Aug-2010	0	0	40,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
11-Aug-2010	0	0	40,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
12-Aug-2010	1,400	2	41,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
13-Aug-2010	1,400	2	43,300	EP/MD/11-039	East Ninepin Mud Disposal Ground
14-Aug-2010	2,100	3	45,400	EP/MD/11-039	East Ninepin Mud Disposal Ground

Wo Hing - Penta-Ocean Joint Venture

Contract no. 9/WSD/08
Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Summary of Dumping Qty. of Type 1 Marine Sediment (Dispose to East Ninepin Mud Disposal Ground / South Cheung Chau)

Date	Dumping qty (m^3)	Barge Load per day	Accumulated Dumping Qty.	Permit No.	Mud Disposal Ground
	(bulk volume)		(bulk volume)		
15-Aug-2010	2,100	3	47,500	EP/MD/11-039	East Ninepin Mud Disposal Ground
16-Aug-2010	2,100	3	49,600	EP/MD/11-039	East Ninepin Mud Disposal Ground
17-Aug-2010	700	1	50,300	EP/MD/11-039	East Ninepin Mud Disposal Ground
18-Aug-2010	1,400	2	51,700	EP/MD/11-039	East Ninepin Mud Disposal Ground
19-Aug-2010	1,400	2	53,100	EP/MD/11-039	East Ninepin Mud Disposal Ground
20-Aug-2010	2,100	3	55,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
21-Aug-2010	1,400	2	56,600	EP/MD/11-039	East Ninepin Mud Disposal Ground
22-Aug-2010	700	1	57,300	EP/MD/11-039	East Ninepin Mud Disposal Ground
23-Aug-2010	0	0	57,300	EP/MD/11-039	East Ninepin Mud Disposal Ground
24-Aug-2010	1,400	2	58,700	EP/MD/11-039	East Ninepin Mud Disposal Ground
25-Aug-2010	1,400	2	60,100	EP/MD/11-039	East Ninepin Mud Disposal Ground
26-Aug-2010	2,100	3	62,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
27-Aug-2010	2,100	3	64,300	EP/MD/11-039	East Ninepin Mud Disposal Ground
28-Aug-2010	0	0	64,300	EP/MD/11-039	East Ninepin Mud Disposal Ground
29-Aug-2010	1,400	2	65,700	EP/MD/11-039	East Ninepin Mud Disposal Ground
30-Aug-2010	1,400	2	67,100	EP/MD/11-039	East Ninepin Mud Disposal Ground
31-Aug-2010	2,100	3	69,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
01-Sep-2010	1,400	2	70,600	EP/MD/11-039	East Ninepin Mud Disposal Ground
02-Sep-2010	2,100	3	72,700	EP/MD/11-039	East Ninepin Mud Disposal Ground
03-Sep-2010	2,100	3	74,800	EP/MD/11-039	East Ninepin Mud Disposal Ground
04-Sep-2010	2,800	4	77,600	EP/MD/11-039	East Ninepin Mud Disposal Ground
05-Sep-2010	2,100	3	79,700	EP/MD/11-039	East Ninepin Mud Disposal Ground
06-Sep-2010	1,400	2	81,100	EP/MD/11-039	East Ninepin Mud Disposal Ground
07-Sep-2010	0	0	81,100	EP/MD/11-039	East Ninepin Mud Disposal Ground
08-Sep-2010	700	1	81,800	EP/MD/11-039	East Ninepin Mud Disposal Ground
09-Sep-2010	1,400	2	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
10-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
11-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
12-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
13-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
14-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
15-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
16-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
17-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
18-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
19-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
20-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
21-Sep-2010	0	0	83,200	EP/MD/11-039	East Ninepin Mud Disposal Ground
22-Sep-2010	700	1	83,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
23-Sep-2010	0	0	83,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
24-Sep-2010	0	0	83,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
25-Sep-2010	0	0	83,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
26-Sep-2010	0	0	83,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
27-Sep-2010	0	0	83,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
28-Sep-2010	0	0	83,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
29-Sep-2010	**0**	**0**	**83,900**	**EP/MD/11-039**	East Ninepin Mud Disposal Ground
30-Sep-2010	0	0	83,900	EP/MD/11-039	East Ninepin Mud Disposal Ground
01-Oct-2010	500	1	84,400	EP/MD/11-069	South Cheung Chau
02-Oct-2010	500	1	84,900	EP/MD/11-069	South Cheung Chau
03-Oct-2010	1,000	2	85,900	EP/MD/11-069	South Cheung Chau
04-Oct-2010	1,000	2	86,900	EP/MD/11-069	South Cheung Chau
05-Oct-2010	500	1	87,400	EP/MD/11-069	South Cheung Chau
06-Oct-2010	1,000	2	88,400	EP/MD/11-069	South Cheung Chau
07-Oct-2010	1,500	3	89,900	EP/MD/11-069	South Cheung Chau
08-Oct-2010	1,000	2	90,900	EP/MD/11-069	South Cheung Chau
09-Oct-2010	500	1	91,400	EP/MD/11-069	South Cheung Chau

Wo Hing - Penta-Ocean Joint Venture

Contract no. 9/WSD/08

Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Summary of Dumping Qty. of Type 1 Marine Sediment (Dispose to East Ninepin Mud Disposal Ground / South Cheung Chau)

Date	Dumping qty (m^3) (bulk volume)	Barge Load per day	Accumulated Dumping Qty. (bulk volume)	Permit No.	Mud Disposal Ground
10-Oct-2010	0	0	91,400	EP/MD/11-069	South Cheung Chau
11-Oct-2010	1,500	3	92,900	EP/MD/11-069	South Cheung Chau
12-Oct-2010	1,000	2	93,900	EP/MD/11-069	South Cheung Chau
13-Oct-2010	2,000	4	95,900	EP/MD/11-069	South Cheung Chau
14-Oct-2010	2,000	4	97,900	EP/MD/11-069	South Cheung Chau
15-Oct-2010	1,500	3	99,400	EP/MD/11-069	South Cheung Chau
16-Oct-2010	2,000	4	101,400	EP/MD/11-069	South Cheung Chau
17-Oct-2010	2,000	4	103,400	EP/MD/11-069	South Cheung Chau
18-Oct-2010	2,000	4	105,400	EP/MD/11-069	South Cheung Chau
19-Oct-2010	1,500	3	106,900	EP/MD/11-069	South Cheung Chau
20-Oct-2010	1,000	2	107,900	EP/MD/11-069	South Cheung Chau
21-Oct-2010	0	0	107,900	EP/MD/11-069	South Cheung Chau
22-Oct-2010	0	0	107,900	EP/MD/11-069	South Cheung Chau
23-Oct-2010	500	1	108,400	EP/MD/11-069	South Cheung Chau
24-Oct-2010	2,000	4	110,400	EP/MD/11-069	South Cheung Chau
25-Oct-2010	1,500	3	111,900	EP/MD/11-069	South Cheung Chau
26-Oct-2010	1,000	2	112,900	EP/MD/11-069	South Cheung Chau
27-Oct-2010	1,000	2	113,900	EP/MD/11-069	South Cheung Chau
28-Oct-2010	0	0	113,900	EP/MD/11-069	South Cheung Chau
29-Oct-2010	1,000	2	114,900	EP/MD/11-069	South Cheung Chau
30-Oct-2010	500	1	115,400	EP/MD/11-069	South Cheung Chau
31-Oct-2010	1,000	2	116,400	EP/MD/11-069	South Cheung Chau
01-Nov-2010	1,000	2	117,400	EP/MD/11-069	South Cheung Chau
02-Nov-2010	500	1	117,900	EP/MD/11-069	South Cheung Chau
03-Nov-2010	1,000	2	118,900	EP/MD/11-069	South Cheung Chau
04-Nov-2010	1,000	2	119,900	EP/MD/11-069	South Cheung Chau
05-Nov-2010	500	1	120,400	EP/MD/11-069	South Cheung Chau
06-Nov-2010	500	1	120,900	EP/MD/11-069	South Cheung Chau
07-Nov-2010	500	1	121,400	EP/MD/11-069	South Cheung Chau
08-Nov-2010	0	0	121,400	EP/MD/11-069	South Cheung Chau
09-Nov-2010	500	1	121,900	EP/MD/11-069	South Cheung Chau
10-Nov-2010	300	1	122,200	EP/MD/11-069	South Cheung Chau
11-Nov-2010	0	0	122,200	EP/MD/11-069	South Cheung Chau
12-Nov-2010	0	0	122,200	EP/MD/11-069	South Cheung Chau
13-Nov-2010	0	0	122,200	EP/MD/11-069	South Cheung Chau
14-Nov-2010	0	0	122,200	EP/MD/11-069	South Cheung Chau
15-Nov-2010	0	0	122,200	EP/MD/11-069	South Cheung Chau
16-Nov-2010	0	0	122,200	EP/MD/11-069	South Cheung Chau
17-Nov-2010	0	0	122,200	EP/MD/11-069	South Cheung Chau
18-Nov-2010	1,500	3	123,700	EP/MD/11-069	South Cheung Chau
19-Nov-2010	1,000	2	124,700	EP/MD/11-069	South Cheung Chau
20-Nov-2010	1,500	3	126,200	EP/MD/11-069	South Cheung Chau
21-Nov-2010	1,000	2	127,200	EP/MD/11-069	South Cheung Chau
22-Nov-2010	1,500	3	128,700	EP/MD/11-069	South Cheung Chau
23-Nov-2010	1,000	2	129,700	EP/MD/11-069	South Cheung Chau
24-Nov-2010	2,000	4	131,700	EP/MD/11-069	South Cheung Chau
25-Nov-2010	1,000	2	132,700	EP/MD/11-069	South Cheung Chau
26-Nov-2010	1,800	4	134,500	EP/MD/11-069	South Cheung Chau
27-Nov-2010	1,000	2	135,500	EP/MD/11-069	South Cheung Chau
28-Nov-2010	1,500	3	137,000	EP/MD/11-069	South Cheung Chau
29-Nov-2010	2,000	4	139,000	EP/MD/11-069	South Cheung Chau
30-Nov-2010	1,500	3	140,500	EP/MD/11-069	South Cheung Chau
01-Dec-2010	1,000	2	141,500	EP/MD/11-069	South Cheung Chau
02-Dec-2010	1,500	3	143,000	EP/MD/11-069	South Cheung Chau
03-Dec-2010	1,000	2	144,000	EP/MD/11-069	South Cheung Chau
04-Dec-2010	1,500	3	145,500	EP/MD/11-069	South Cheung Chau

Wo Hing - Penta-Ocean Joint Venture

Contract no. 9/WSD/08
Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Summary of Dumping Qty. of Type 1 Marine Sediment (Dispose to East Ninepin Mud Disposal Ground / South Cheung Chau)

Date	Dumping qty (m^3) (bulk volume)	Barge Load per day	Accumulated Dumping Qty. (bulk volume)	Permit No.	Mud Disposal Ground
05-Dec-2010	1,000	2	146,500	EP/MD/11-069	South Cheung Chau
06-Dec-2010	500	1	147,000	EP/MD/11-069	South Cheung Chau
07-Dec-2010	1,500	3	148,500	EP/MD/11-069	South Cheung Chau
08-Dec-2010	1,000	2	149,500	EP/MD/11-069	South Cheung Chau
09-Dec-2010	1,000	2	150,500	EP/MD/11-069	South Cheung Chau
10-Dec-2010	1,500	3	152,000	EP/MD/11-069	South Cheung Chau
11-Dec-2010	500	1	152,500	EP/MD/11-069	South Cheung Chau
12-Dec-2010	1,000	2	153,500	EP/MD/11-069	South Cheung Chau
13-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
14-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
15-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
16-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
17-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
18-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
19-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
20-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
21-Dec-2010	0	0	153,500	EP/MD/11-069	South Cheung Chau
22-Dec-2010	500	1	154,000	EP/MD/11-069	South Cheung Chau
23-Dec-2010	0	0	154,000	EP/MD/11-069	South Cheung Chau
24-Dec-2010	0	0	154,000	EP/MD/11-069	South Cheung Chau
25-Dec-2010	500	1	154,500	EP/MD/11-069	South Cheung Chau
26-Dec-2010	0	0	154,500	EP/MD/11-069	South Cheung Chau
27-Dec-2010	500	1	155,000	EP/MD/11-069	South Cheung Chau
28-Dec-2010	500	1	155,500	EP/MD/11-069	South Cheung Chau
29-Dec-2010	500	1	156,000	EP/MD/11-069	South Cheung Chau
30-Dec-2010	500	1	156,500	EP/MD/11-069	South Cheung Chau
31-Dec-2010	500	1	157,000	EP/MD/11-069	South Cheung Chau
01-Jan-2011	500	1	157,500	EP/MD/11-069	South Cheung Chau
02-Jan-2011	500	1	158,000	EP/MD/11-069	South Cheung Chau
03-Jan-2011	1,000	2	159,000	EP/MD/11-069	South Cheung Chau
04-Jan-2011	0	0	159,000	EP/MD/11-069	South Cheung Chau
05-Jan-2011	500	1	159,500	EP/MD/11-069	South Cheung Chau
06-Jan-2011	500	1	160,000	EP/MD/11-069	South Cheung Chau
07-Jan-2011	0	0	160,000	EP/MD/11-069	South Cheung Chau
08-Jan-2011	500	1	160,500	EP/MD/11-069	South Cheung Chau
09-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
10-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
11-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
12-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
13-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
14-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
15-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
16-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
17-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
18-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
19-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
20-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
21-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
22-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
23-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
24-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
25-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
26-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
27-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
28-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
29-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
30-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
31-Jan-2011	0	0	160,500	EP/MD/11-069	South Cheung Chau
TOTAL =	***160,500***	***274***			

Wo Hing - Penta-Ocean Joint Venture

Contract no. 9/WSD/08

Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Summary of Dumping Qty. of Type 2 Marine Sediment

Date	Dumping qty (m^3) (bulk volume)	Barge Load per day	Accumulated Dumping Qty. (bulk volume)	Permit No.
05-May-2010	440	1	440	EP/MD/10-086
06-May-2010	1,280	3	1,720	EP/MD/10-086
07-May-2010	0	0	1,720	EP/MD/10-086
08-May-2010	0	0	1,720	EP/MD/10-086
09-May-2010	1,400	2	3,120	EP/MD/10-086
10-May-2010	1,400	2	4,520	EP/MD/10-086
11-May-2010	1,300	2	5,820	EP/MD/10-086
12-May-2010	1,800	3	7,620	EP/MD/10-086
13-May-2010	1,200	2	8,820	EP/MD/10-086
14-May-2010	0	0	8,820	EP/MD/10-086
15-May-2010	0	0	8,820	EP/MD/10-086
16-May-2010	600	1	9,420	EP/MD/10-086
17-May-2010	1,200	2	10,620	EP/MD/10-086
18-May-2010	700	1	11,320	EP/MD/10-086
19-May-2010	2,000	3	13,320	EP/MD/10-086
20-May-2010	1,400	2	14,720	EP/MD/10-086
21-May-2010	1,400	2	16,120	EP/MD/10-086
22-May-2010	2,100	3	18,220	EP/MD/10-086
23-May-2010	1,400	2	19,620	EP/MD/10-086
24-May-2010	1,400	2	21,020	EP/MD/10-086
25-May-2010	1,300	2	22,320	EP/MD/10-086
26-May-2010	1,400	2	23,720	EP/MD/10-086
27-May-2010	1,300	2	25,020	EP/MD/10-086
28-May-2010	1,400	2	26,420	EP/MD/10-086
29-May-2010	600	1	27,020	EP/MD/10-086
30-May-2010	2,100	3	29,120	EP/MD/11-012
31-May-2010	700	1	29,820	EP/MD/11-012
01-Jun-2010	1,900	3	31,720	EP/MD/11-012
02-Jun-2010	1,220	2	32,940	EP/MD/11-012
03-Jun-2010	1,300	2	34,240	EP/MD/11-012
04-Jun-2010	1,200	2	35,440	EP/MD/11-012
05-Jun-2010	1,400	2	36,840	EP/MD/11-012
06-Jun-2010	600	1	37,440	EP/MD/11-012
07-Jun-2010	0	0	37,440	EP/MD/11-012
08-Jun-2010	500	1	37,940	EP/MD/11-012
09-Jun-2010	0	0	37,940	EP/MD/11-012
10-Jun-2010	600	1	38,540	EP/MD/11-012
11-Jun-2010	1,200	2	39,740	EP/MD/11-012
12-Jun-2010	1,400	2	41,140	EP/MD/11-012
13-Jun-2010	1,400	2	42,540	EP/MD/11-012
14-Jun-2010	0	0	42,540	EP/MD/11-012
15-Jun-2010	0	0	42,540	EP/MD/11-012
16-Jun-2010	0	0	42,540	EP/MD/11-012
17-Jun-2010	0	0	42,540	EP/MD/11-012
18-Jun-2010	0	0	42,540	EP/MD/11-012
19-Jun-2010	0	0	42,540	EP/MD/11-012

Wo Hing - Penta-Ocean Joint Venture

Contract no. 9/WSD/08

Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Summary of Dumping Qty. of Type 2 Marine Sediment

Date	Dumping qty (m^3) (bulk volume)	Barge Load per day	Accumulated Dumping Qty. (bulk volume)	Permit No.
26-Jun-2010	0	0	42,540	EP/MD/11-012
27-Jun-2010	0	0	42,540	EP/MD/11-012
28-Jun-2010	0	0	42,540	EP/MD/11-012
29-Jun-2010	0	0	42,540	EP/MD/11-012
30-Jun-2010	1,200	2	43,740	EP/MD/11-024
01-Jul-2010	2,600	4	46,340	EP/MD/11-024
02-Jul-2010	2,800	4	49,140	EP/MD/11-024
03-Jul-2010	1,400	2	50,540	EP/MD/11-024
04-Jul-2010	2,100	3	52,640	EP/MD/11-024
05-Jul-2010	2,850	4	55,490	EP/MD/11-024
06-Jul-2010	1,400	2	56,890	EP/MD/11-024
07-Jul-2010	1,400	2	58,290	EP/MD/11-024
08-Jul-2010	2,700	4	60,990	EP/MD/11-024
09-Jul-2010	2,100	3	63,090	EP/MD/11-024
10-Jul-2010	2,100	3	65,190	EP/MD/11-024
11-Jul-2010	1,400	2	66,590	EP/MD/11-024
12-Jul-2010	2,150	3	68,740	EP/MD/11-024
13-Jul-2010	2,100	3	70,840	EP/MD/11-024
14-Jul-2010	700	1	71,540	EP/MD/11-024
15-Jul-2010	2,100	3	73,640	EP/MD/11-024
16-Jul-2010	2,100	3	75,740	EP/MD/11-024
17-Jul-2010	700	1	76,440	EP/MD/11-024
18-Jul-2010	700	1	77,140	EP/MD/11-024
19-Jul-2010	2,100	3	79,240	EP/MD/11-024
20-07-2010 (18 July 2010)	2,100	3	81,340	EP/MD/11-024
21-Jul-2010	700	1	82,040	EP/MD/11-024
22-Jul-2010	600	1	82,640	EP/MD/11-024
23-Jul-2010	1,400	2	84,040	EP/MD/11-024
24-Jul-2010	1,400	2	85,440	EP/MD/11-024
25-Jul-2010	1,400	2	86,840	EP/MD/11-024
26-Jul-2010	1,450	2	88,290	EP/MD/11-024
27-Jul-2010	2,200	3	90,490	EP/MD/11-024
28-Jul-2010	1,450	2	91,940	EP/MD/11-024
29-Jul-2010	1,500	2	93,440	EP/MD/11-024
30-Jul-2010	0	0	93,440	- -
31-Jul-2010	0	0	93,440	- -
01-Aug-2010	0	0	93,440	- -
02-Aug-2010	0	0	93,440	- -

Wo Hing - Penta-Ocean Joint Venture

Contract no. 9/WSD/08

Laying of Western Cross Harbour Main & Associated Land Mains from West Kowloon to Sai Ying Pun

Summary of Dumping Qty. of Type 2 Marine Sediment

Date	Dumping qty (m^3)	Barge Load per day	Accumulated Dumping Qty.	Permit No.
	(bulk volume)		(bulk volume)	
03-Aug-2010	0	0	93,440	
04-Aug-2010	0	0	93,440	
05-08-2010 (dump on 06-Aug-10)	700	1	94,140	
06-Aug-2010	1,500	2	95,640	EP/MD/11-053
07-Aug-2010	700	1	96,340	EP/MD/11-053
08-Aug-2010	2,100	3	98,440	EP/MD/11-053
09-Aug-2010	1,500	2	99,940	EP/MD/11-053
10-Aug-2010	1,500	2	101,440	EP/MD/11-053
11-Aug-2010	700	1	102,140	EP/MD/11-053
12-Aug-2010	0	0	102,140	EP/MD/11-053
13-Aug-2010	0	0	102,140	EP/MD/11-053
14-Aug-2010	0	0	102,140	EP/MD/11-053
15-Aug-2010	0	0	102,140	EP/MD/11-053
16-Aug-2010	0	0	102,140	EP/MD/11-053
17-Aug-2010	0	0	102,140	EP/MD/11-053
18-Aug-2010	0	0	102,140	EP/MD/11-053
19-Aug-2010	0	0	102,140	EP/MD/11-053
20-Aug-2010	0	0	102,140	EP/MD/11-053
21-Aug-2010	0	0	102,140	EP/MD/11-053
22-Aug-2010	0	0	102,140	EP/MD/11-053
23-Aug-2010	0	0	102,140	EP/MD/11-053
24-Aug-2010	0	0	102,140	EP/MD/11-053
25-Aug-2010	0	0	102,140	EP/MD/11-053
26-Aug-2010	0	0	102,140	EP/MD/11-053
27-Aug-2010	0	0	102,140	EP/MD/11-053
28-Aug-2010	1,400	2	103,540	EP/MD/11-053
29-Aug-2010	700	1	104,240	EP/MD/11-053
30-Aug-2010	0	0	104,240	EP/MD/11-053
31-Aug-2010	750	1	104,990	EP/MD/11-053
01-Sep-2010	0	0	104,990	EP/MD/11-053
02-Sep-2010	0	0	104,990	EP/MD/11-053
03-Sep-2010	0	0	104,990	EP/MD/11-053
04-Sep-2010	0	0	104,990	EP/MD/11-053
05-Sep-2010	0	0	104,990	EP/MD/11-053
TOTAL =	***104,990***	***155***		

Wo Hing – Penta-Ocean Joint Venture

Contract No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains
From West Kowloon to Sai Ying Pun

Dredging Location of GD "Shun Tat 20" during Overtime Hours 19:00 – 07:00 (next day)

	Working Hour fm 07:00 to 23:00 or 07:00 to 07:00 (next day)						Working Hour for overtime fm 19:00 to 23:00 or 19:00 to 07:00 (next day)					
Date	W Hours fm	W Hours to	Chainage fm	Chainage to	Offset fm	Offset to	OT Hours fm	OT Hours to	Chainage fm	Chainage to	Offset fm	Offset to
03-05-2010	-	-					-	-				
04-05-2010	7:00	23:00	1238	1244	0	+17	22:00	23:00	1238	1244	0	+17
05-05-2010	7:00	23:00	1244	1276	0	+17	19:00	23:00	1264	1276	0	+17
06-05-2010	7:00	23:00	1276	1280	0	+17	19:00	23:00	1252	1264	0	-17
			1238	1264	0	-17						
07-05-2010	7:00	19:00	1264	1264	0	-17	19:00	19:00				
08-05-2010	7:00	19:00	1264	1276	0	+17	19:00	19:00				
09-05-2010	7:00	23:00	1276	1304	0	-17	19:00	23:00	1284	1304	0	-17
10-05-2010	7:00	23:00	1304	1316	0	-17	19:00	23:00	1304	1316	0	-17
			1280	1316	0	+17						
11-05-2010	7:00	23:00	1316	1368	0	+17	19:00	23:00	1348	1368	0	+17
12-05-2010	7:00	23:00	1320	1368	0	-17	19:00	23:00	1348	1368	0	-17
13-05-2010	7:00	23:00	1368	1424	0	-17	19:00	23:00	1400	1424	0	-17
14-05-2010	-	-					-	-				
15-05-2010	7:00	23:00	1368	1376	0	+17	19:00	23:00	1368	1376	0	+17
16-05-2010	7:00	23:00	1376	1392	0	+17	19:00	23:00	1380	1392	0	+17
17-05-2010	7:00	23:00	1392	1416	0	+15.5	19:00	23:00	1416	1432	0	-15.5
			1416	1432	0	-15.5						
18-05-2010	7:00	23:00	1432	1468	0	+15	19:00	23:00	1452	1468	0	+15
19-05-2010	7:00	23:00	1424	1484	0	-15	19:00	23:00	1476	1484	0	-15
20-05-2010	7:00	23:00	1480	1500	0	+12.7	19:00	22:00	1480	1496	0	+14.1
			1472	1496	0	+14.1						
21-05-2010	7:00	23:00	1496	1536	0	+12.9	19:00	23:00	1496	1516	0	-12.9
			1496	1516	0	-12.9						
22-05-2010	7:00	23:00	1516	1572	0	-14.0	19:00	23:00	1564	1572	0	-14.0
			1536	1540	0	+13.1			1536	1540	0	+13.1
23-05-2010	7:00	23:00	1540	1592	0	+16.6	19:00	23:00	1580	1592	0	+16.6
24-05-2010	7:00	23:00	1572	1620	0	-17	19:00	23:00	1592	1620	0	-17
25-05-2010	7:00	23:00	1620	1656	0	+17	19:00	23:00	1608	1636	0	-17
			1608	1636	0	-17						
26-05-2010	7:00	23:00	1636	1660	0	-17	19:00	23:00	1664	1680	0	+17
			1656	1680	0	+17						
27-05-2010	7:00	23:00	1660	1708	0	-17	19:00	23:00	1680	1692	0	+16.8
			1680	1692	0	+16.8						
28-05-2010	7:00	23:00	1692	1712	0	+17	19:00	23:00	1716	1736	0	-16
			1708	1736	0	-16						
29-05-2010	7:00	23:00	1712	1752	0	+16	19:00	23:00	1748	1752	0	+16
			1736	1756	0	-16			1736	1756	0	-16
30-05-2010	7:00	23:00	1656	1800	0	-15	19:00	23:00	1752	1780	0	+16
			1752	1780	0	+16						
31-05-2010	7:00	23:00	1780	1820	0	+15	19:00	23:00	1800	1824	0	-15
			1800	1824	0	-15						
01-06-2010	7:00	23:00	1824	1848	0	-14	19:00	23:00	1820	1844	0	+14
			1820	1844	0	+14						
02-06-2010	7:00	23:00	1844	1876	0	+14	19:00	23:00	1848	1864	0	-14
			1848	1864	0	-14						
03-06-2010	7:00	23:00	1872	1908	0	+13	19:00	19:45	1864	1868	0	-13
			1864	1876	0	-13						
04-06-2010	7:00	23:00	1868	1932	0	-13	19:00	23:00	1868	1932	0	-13
05-06-2010	7:00	23:00	1908	1960	0	+12	19:00	23:00	1944	1960	0	+12
06-06-2010	7:00	23:00	1932	1960	0	-12	19:00	21:00	1960	1970	0	+12
			1960	1970	0	+12						
07-06-2010	7:00	23:00	1960	1970	0	-16	19:00	20:00	1974	1980	0	+12
			1970	1980	0	+12						
08-06-2010	7:00	14:40	1250	1300	0	+19	-	-				
09-06-2010	7:00	23:00	-	-			-	-				
10-06-2010	7:00	23:00	1300	1390	+19	-19	19:00	23:00	1300	1390	+4	+19
11-06-2010	7:00	23:00	1390	1530	+16	-16	19:00	23:00	1490	1530	+16	-16
12-06-2010	7:00	23:00	1530	1665	+18	-18	19:00	23:00	1630	1665	+18	-18
13-06-2010	7:00	23:00	1665	1780	+18	-18	19:00	23:00	1750	1780	+18	-18
	23:00	7:00	1130	1142	-4	-21	23:00	7:00	1130	1142	-4	-21
14-06-2010	7:00	7:00	1142	1174	-4.7	-20.7	19:00	7:00	1162	1174	-4.7	-20.7
15-06-2010	7:00	7:00	1130	1162	+4.7	+20.7	19:00	7:00	1142	1162	+4.7	+20.7
16-06-2010	7:00	7:00	1162	1214	+4.7	+20.7	19:00	7:00	1182	1214	+4.7	+20.7
17-06-2010	7:00	7:00	1214	1222	+4.7	+20.7						
			1174	1210	-4.7	-20.7	19:00	7:00	1186	1210	-4.7	-20.7
18-06-2010	7:00	7:00	1130	1190	+8	-8	19:00	7:00	1158	1190	+8	-8
19-06-2010	7:00	7:00	1190	1238	+8.5	-8.5	19:00	7:00	1214	1238	+8.5	-8.5
20-06-2010	7:00	7:00	1266	1210	-4.5	-20.5	19:00	7:00	1222	1210	-4.5	-20.5
			1226	1250	+4.5	+20.5			1226	1250	+4.5	+20.5
21-06-2010	7:00	7:00	1250	1282	+5.5	+20.5						
			1238	1150	+8.5	-8.5	19:00	7:00	1262	1150	+8.5	-8.5
22-06-2010	7:00	7:00	1266	1302	-5.5	-20.5	19:00	7:00	1266	1302	-5.5	-20.5
			1262	1298	+8.5	-8.5			1262	1298	+8.5	-8.5
			1150	1162	+8.5	-8.5			1150	1162	+8.5	-8.5
23-06-2010	7:00	7:00	1282	1326	+5.5	+20.5						
			1298	1338	+8.5	-8.5	19:00	7:00	1324	1338	+8.5	-8.5
			1162	1188	+8.5	-8.5			1162	1188	+8.5	-8.5
24-06-2010	7:00	7:00	1346	1358	-5.5	-20.5						
			1338	1364	+7.5	-7.5	19:00	7:00	1350	1364	+7.5	-7.5
			1188	1208	+8.5	-8.5			1188	1208	+8.5	-8.5
25-06-2010	7:00	7:00	1364	1412	+7.5	-7.5	19:00	7:00	1392	1412	+7.5	-7.5

Wo Hing – Penta-Ocean Joint Venture

Contract No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains
From West Kowloon to Sai Ying Pun

Dredging Location of GD "Shun Tat 20" during Overtime Hours 19:00 ~ 07:00 (next day)

Date	Working Hour fm 07:00 to 23:00 or 07:00 to 07:00 (next day)						Working Hour for overtime fm 19:00 to 23:00 or 19:00 to 07:00 (next day)					
	W Hours fm	W Hours to	Chainage fm	Chainage to	Offset fm	Offset to	OT Hours fm	OT Hours to	Chainage fm	Chainage to	Offset fm	Offset to
			1206	1250	+8.5	-8.5			1206	1250	+8.5	-8.5
26-06-2010	7:00	23:00	1306	1400	-7.5	-20.5	19:00	23:00	1380	1400	-7.5	-20.5
			1412	1444	+7.5	-7.5			1412	1444	+7.5	-7.5
			1362	1366	+5	+20			1362	1366	+5	+20
27-06-2010	7:00	23:00	1326	1448	+7.5	+20.5	19:00	23:00	1400	1448	+7.5	+20.5
			1400	1436	-7.5	-20.5			1400	1436	-7.5	-20.5
28-06-2010	7:00	23:00	1448	1480	+7.5	+20						
			1444	1468	+7.5	-7.5	19:00	23:00	1448	1468	+7.5	-7.5
			1436	1456	-7.5	-20			1436	1456	-7.5	-20
29-06-2010	7:00	23:00	1456	1500	-7.5	-20						
			1468	1500	+7.5	-7.5	19:00	20:00	1496	1500	+7.5	-7.5
	23:00	7:00	1076	1100	0	-16	23:00	7:00	1076	1100	0	-16
30-06-2010	7:00	7:00	1048	1076	0	-16						
			1064	1100	0	+16	19:00	7:00	1064	1100	0	+16
01-07-2010	7:00	7:00	1020	1064	0	+16	19:00	7:00	1020	1048	0	+16
			1032	1048	0	-16			1032	1036	0	-16
02-07-2010	7:00	7:00	1000	1032	0	16	19:00	7:00	1000	1008	0	16
			992	1020	0	+16			992	1020	0	+16
03-07-2010	7:00	18:00	968	992	0	+16	-	-				
04-07-2010	7:00	7:00	944	968	0	+16						
			956	1000	0	-16	19:00	7:00	956	1000	0	-16
05-07-2010	7:00	7:00	944	976	0	-16						
			798	850	0	+17	19:00	7:00	798	832	0	+17
			838	850	0	-17			838	850	0	-17
06-07-2010	7:00	7:00	782	838	0	-17	20:50	7:00	782	826	0	-17
07-07-2010	7:00	7:00	758	782	0	-16	19:00	7:00	758	774	0	-16
			774	798	0	+16			774	798	0	+16
08-07-2010	7:00	7:00	728	774	0	+17						
			696	750	0	-17	19:00	7:00	696	750	0	-17
09-07-2010	7:00	7:00	666	710	0	+17	19:00	7:00	666	670	0	+17
			682	710	0	-17			682	710	0	-17
10-07-2010	7:00	7:00	654	682	0	-17	19:00	7:00	654	662	0	-17
			634	666	0	+17			634	666	0	+17
11-07-2010	7:00	7:00	622	654	0	-17	20:55	1:10	622	642	0	-17
12-07-2010	7:00	7:00	602	622	0	-17						
			602	634	0	+17	19:00	7:00	602	626	0	+17
13-07-2010	7:00	7:00	570	602	0	+17	19:00	7:00	570	598	0	+17
			574	602	0	-17			574	582	0	-17
14-07-2010	7:00	7:00	558	570	0	+17	21:00	7:00	558	570	0	+17
			562	574	0	-17			562	574	0	-17
15-07-2010	7:00	7:00	546	562	0	-17						
			530	558	0	+17	21:15	7:00	530	558	0	+17
16-07-2010	7:00	7:00	526	546	0	-17	19:00	7:00	526	538	0	-17
			526	536	0	+17			526	530	0	+17
17-07-2010	7:00	19:00	-	-			-	-	-			
18-07-2010	7:00	23:00	260	300	0	-17	19:00	23:00	260	276	0	-17
19-07-2010	7:00	23:00	248	300	0	+17	19:00	21:15	248	256	0	+17
20-07-2010	7:00	23:00	232	260	0	-15						
			224	248	0	+15	19:00	23:00	224	236	0	+15
21-07-2010	7:00	19:00	216	232	0	-15	-	-				
22-07-2010	7:00	19:00	-	-			-	-				
23-07-2010	07:00	23:00	200	216	0	-15						
			208	224	0	+15						
			204	224	0	+15	19:00	23:00	204	224	0	+15
24-07-2010	07:00	23:00	176	200	0	-15						
			176	184	0	-15	19:00	20:50	176	184	0	-15
			172	176	0	-15	21:00	23:00	172	176	0	-15
			200	204	0	+15	21:00	23:00	200	204	0	+15
25-07-2010	07:00	23:00	172	200	0	+15						
			172	192	0	+15	19:00	22:40	172	192	0	+15
26-07-2010	07:00	23:00	168	172	0	+15						
			148	172	0	-15						
			152	168	0	+15	19:20	23:00	152	168	0	+15
27-07-2010	07:00	23:00	128	152	0	+15						
			128	136	0	+15	19:00	21:00	128	136	0	+15
			124	128	0	+15	21:45	23:00	124	128	0	+15
28-07-2010	07:00	23:00	124	148	0	-15						
			124	136	0	-15	19:00	20:20	124	136	0	-15
			116	124	0	-15	20:30	23:00	116	124	0	-15
29-07-2010	07:00	23:00	88	116	0	-15						
			88	100	0	-15	19:00	20:45	88	100	0	-15
30-07-2010	07:00	23:00	1480	1528	+5	+20.5						
			1480	1528	+5	+20.5	19:00	22:45	1480	1528	+5	+20.5
			1500	1508	+7.5	-7.5	19:00	22:45	1500	1508	+7.5	-7.5
31-07-2010	7:00	23:00	1500	1548	-5	-20.5						
			1508	1516	+7.5	-7.5						
			1516	1540	+7.5	-7.5						
			1516	1540	+7.5	-7.5	19:00	20:45	1516	1540	+7.5	-7.5
			1540	1548	+7.5	-7.5	20:30	23:00	1540	1548	7.5	-7.5
01-08-2010	7:00	23:00	1528	1572	+5	+20.5						
			1548	1568	-5	-20.5						
			1548	1556	+7.5	-7.5						

Wo Hing – Penta-Ocean Joint Venture

Contract No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains
From West Kowloon to Sai Ying Pun

Dredging Location of GD "Shun Tat 20" during Overtime Hours 19:00 ~ 07:00 (next day)

	Working Hour fm 07:00 to 23:00 or 07:00 to 07:00 (next day)						Working Hour for overtime fm 19:00 to 23:00 or 19:00 to 07:00 (next day)					
Date	W Hours fm	W Hours to	Chainage fm	Chainage to	Offset fm	Offset to	OT Hours fm	OT Hours to	Chainage fm	Chainage to	Offset fm	Offset to
			1556	1576	7.5	-7.5						
			1556	1576	7.5	-7.5	19:00	23:00	1556	1576	7.5	-7.5
02-08-2010	7:00	19:00	1572	1608	+5	+20.5						
			1576	1596	+7.5	-7.5						
03-08-2010	7:00	23:00	1568	1620	-5	-20.5						
			1596	1604	-7.5	+7.5	21:10	23:00	1596	1604	-7.5	+7.5
04-08-2010	7:00	23:00	1604	1612	-7.5	+7.5	19:00	21:40	1604	1612	-7.5	+7.5
05-08-2010	7:00	19:00	1608	1636	+7.5	+20.5						
06-08-2010	7:00	23:00	112	124	0	+15						
			84	112	0	+15	19:00	23:00	84	112	0	+15
07-08-2010	7:00	23:00	76	84	0	+15	19:00	23:00	76	84	0	+15
			68	76	0	+15			68	76	0	+15
08-08-2010	7:00	23:00	60	68	0	+15						
			72	88	0	-15						
			56	72	0	-15	19:00	23:00	56	72	0	-15
			52	56	0	-15			52	56	0	-15
09-08-2010	7:00	23:00	36	52	0	-15						
			20	36	0	-15	19:00	23:00	20	36	0	-15
			56	60	0	+15			56	60	0	+15
10-08-2010	7:00	19:00	54	56	0	+15						
			32	49	0	+15						
11-08-2010	7:00	7:00	0	32	0	+15	19:00	22:55	0	32	0	+15
			0	20	0	-15			0	20	0	-15
			1118	1130	-5	-20	1:30	7:00	1118	1130	-5	-20
12-08-2010	7:00	7:00	1110	1118	-5	-20						
			1122	1130	+7.5	-7.5						
			1110	1122	+7.5	-7.5	19:00	7:00	1110	1122	+7.5	-7.5
			1122	1130	+5	+20			1122	1130	+5	+20
13-08-2010	7:00	7:00	1114	1122	+5	+20						
			1086	1114	+5	+20	19:00	7:00	1086	1114	+5	+20
14-08-2010	7:00	7:00	1102	1110	+7.5	-7.5						
			1098	1110	-5	-20	19:00	21:30	1098	1110	-5	-20
			1078	1086	-5	-20			1078	1086	-5	-20
			1078	1102	+7.5	-7.5	23:30	7:00	1078	1102	+7.5	-7.5
15-08-2010	7:00	7:00	1070	1078	+7.5	-7.5						
			1070	1098	-5	-20	19:00	20:10	1070	1098	-5	-20
			1066	1078	+5	+20	20:20	2:30	1066	1078	+5	+20
			1066	1070	+7.5	-7.5			1066	1070	+7.5	-7.5
			1058	1066	+7.5	-7.5	3:25	7:00	1058	1066	+7.5	-7.5
16-08-2010	7:00	7:00	1026	1070	-5	-17.5						
			1046	1058	+7.5	-7.5	21:55	2:30	1046	1058	+7.5	-7.5
17-08-2010	7:00	7:00	1030	1046	+7.5	+7.5	2:30	7:00	1030	1046	-7.5	+7.5
18-08-2010	7:00	7:00	1026	1036	-7.5	+7.5						
			1038	1066	+5	+17.5	19:00	23:05	1038	1066	+5	+17.5
			1018	1038	+5	+17.5	2:35	7:00	1018	1038	+5	+17.5
19-08-2010	7:00	7:00	1018	1026	-7.5	+7.5						
			986	1018	+5	+17.5	19:00	20:50	986	1018	+5	+17.5
			1006	1026	-5	-17.5	20:55	2:50	1006	1026	-5	-17.5
			1010	1018	-7.5	+7.5			1010	1018	-7.5	+7.5
			1002	1010	-7.5	+7.5	3:25	6:00	1002	1010	-7.5	+7.5
20-08-2010	7:00	7:00	994	1002	+7.5	-7.5						
			978	994	+7.5	-7.5	19:00	7:00	978	994	+7.5	-7.5
			966	1006	-5	-17.5			966	1006	-5	-17.5
21-08-2010	7:00	7:00	958	986	+5	+17.5						
			970	978	+7.5	-7.5						
			950	970	+7.5	-7.5	19:00	7:00	950	970	+7.5	-7.5
			942	950	+7.5	-7.5			942	950	+7.5	-7.5
22-08-2010	7:00	7:00	938	942	+7.5	-7.5						
			942	966	-5	-17.5	19:00	1:35	942	966	-5	-17.5
			938	958	+5	+17.5			938	958	+5	+17.5
23-08-2010	7:00	19:00	-	-			-	-				
24-08-2010	7:00	7:00	628	640	+7.5	-7.5						
			612	628	+7.5	-7.5	21:10	2:15	612	628	+7.5	-7.5
25-08-2010	7:00	7:00	596	620	+7.5	-7.5						
			580	596	+7.5	-7.5	22:10	3:15	572	596	+7.5	-7.5
			572	580	+7.5	-7.5	3:35	7:00	572	580	+7.5	-7.5
26-08-2010	7:00	7:00	552	572	+7.5	-7.5						
			536	552	+7.5	-7.5	19:55	1:50	536	552	+7.5	-7.5
			528	536	+7.5	-7.5	2:30	7:00	528	536	+7.5	-7.5
27-08-2010	7:00	7:00	520	528	+7.5	-7.5						
			564	572	-20	-5						
			588	620	+7.5	-7.5	19:00	0:50	588	620	+7.5	-7.5
28-08-2010	7:00	7:00	564	588	+7.5	-7.5						
			540	564	+7.5	-7.5	0:00	7:00	540	564	+7.5	-7.5
			552	564	-5	-20			552	564	-5	-20
29-08-2010	7:00	7:00	520	552	-5	-20						
			564	580	+5	+20						
			520	564	+5	+20	19:00	22:20	520	564	+5	+20
			512	520	-7	+7	22:25	7:00	512	520	-7	+7
			508	512	-7	+7			508	512	-7	+7
30-08-2010	7:00	7:00	500	508	-7	-5						
			850	870	0	+17.5	19:00	0:50	850	870	0	+17.5

Wo Hing – Penta-Ocean Joint Venture

Contract No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains
From West Kowloon to Sai Ying Pun

Dredging Location of GD "Shun Tat 20" during Overtime Hours 19:00 ~ 07:00 (next day)

Date	Working Hour fm 07:00 to 23:00 or 07:00 to 07:00 (next day)						Working Hour for overtime fm 19:00 to 23:00 or 19:00 to 07:00 (next day)					
	W Hours fm	W Hours to	Chainage fm	Chainage to	Offset fm	Offset to	OT Hours fm	OT Hours to	Chainage fm	Chainage to	Offset fm	Offset to
			850	870	0	-17.5			850	870	0	-17.5
			914	922	+7.5	-7.5	1:00	6:00	914	922	+7.5	-7.5
31-08-2010	7:00	7:00	914	938	+5	+17.5	19:00	7:00	914	938	+5	+17.5
			910	914	+5	+17.5			910	914	+5	+17.5
			918	938	+7.5	-7.5			918	938	+7.5	-7.5
			926	938	-5	-17.5			926	938	-5	-17.5
01-09-2010	7:00	7:00	910	926	-5	-17.5	19:00	21:15	910	926	-5	-17.5
			902	918	+7.5	-7.5	22:35	3:45	902	918	+7.5	-7.5
			902	914	+5	-17.5	5:05	7:00	902	914	+5	-17.5
02-09-2010	7:00	7:00	878	902	+5	+17.5						
			902	910	-5	-17.5						
			882	902	-5	-17.5	19:35	1:15	882	902	-5	-17.5
			894	902	+7.5	-7.5	4:25	7:00	894	902	+7.5	-7.5
03-09-2010	7:00	7:00	870	894	+7.5	-7.5						
			850	878	+5	+17.5	19:35	7:00	850	878	+5	+17.5
			858	882	-5	-17.5			858	882	-5	-17.5
04-09-2010	7:00	7:00	846	858	-5	-17.5						
			854	870	+7.5	-7.5	19:00	7:00	854	870	+7.5	-7.5
			822	846	-5	-17.5			822	846	-5	-17.5
			834	850	+5	+17.5			834	850	+5	+17.5
05-09-2010	7:00	6:00	822	834	+5	+17.5						
			834	854	+7.5	-7.5	19:00	6:00	834	854	+7.5	-7.5
			814	834	+7.5	-7.5			814	834	+7.5	-7.5
			798	822	-5	-17.5			798	822	-5	-17.5
06-09-2010	7:00	7:00	810	822	+5	+17.5						
			810	814	+5	+17.5	19:00	7:00	810	814	+5	+17.5
			794	814	+7.5	-7.5			794	814	+7.5	-7.5
			778	794	+7.5	-7.5			778	794	+7.5	-7.5
			778	798	-5	-17.5			778	798	-5	-17.5
07-09-2010	7:00	23:00	766	778	+7.5	-7.5						
			778	798	+5	+17.5	19:00	20:55	778	798	+5	+17.5
08-09-2010	7:00	19:00	-	-			-	-				
09-09-2010	7:00	19:00	-	-			-	-				
10-09-2010	7:00	19:00	-	-			-	-				
11-09-2010	7:00	19:00	-	-			-	-				
12-09-2010	7:00	19:00	-	-			-	-				
13-09-2010	7:00	19:00	-	-			-	-				
14-09-2010	7:00	19:00	-	-			-	-				
15-09-2010	7:00	19:00	-	-			-	-				
16-09-2010	7:00	19:00	-	-			-	-				
17-09-2010	7:00	19:00	-	-			-	-				
18-09-2010	7:00	19:00	-	-			-	-				
19-09-2010	7:00	19:00	-	-			-	-				
20-09-2010	7:00	19:00	-	-			-	-				
21-09-2010	7:00	7:00	444	452	+7.5	-7.5	20::30	4:30	444	452	+7.5	-7.5
22-09-2010	7:00	19:00	-	-			-	-				
23-09-2010	7:00	19:00	-	-			-	-				
24-09-2010	7:00	19:00	-	-			-	-				
25-09-2010	7:00	19:00	-	-			-	-				
26-09-2010	7:00	19:00	-	-			-	-				
27-09-2010	7:00	23:00	440	444	+7.5	-7.5	20:35	21:00	440	444	+7.5	-7.5
28-09-2010	7:00	19:00	-	-			-	-				
29-09-2010	7:00	23:00	432	444	+7.5	-7.5	19:00	23:00	432	444	+7.5	-7.5
30-09-2010	7:00	19:00	-	-			-	-				
01-10-2010	7:00	23:00	429	432	+7.5	-7.5	19:00	23:00	429	432	+7.5	-7.5
02-10-2010	7:00	7:00	440	452	+7.5	-7.5						
			754	778	+17.5	+5	19:00	23:30	754	778	+17.5	+5
			770	778	-17.5	-5	4:35	7:00	770	778	-17.5	-5
03-10-2010	7:00	7:00	746	770	-5	-17.5						
			734	754	+7.5	-7.5	19:00	22:55	734	754	+7.5	-7.5
			742	754	+5	+17.5	4:25	7:00	742	754	+5	+17.5
04-10-2010	7:00	7:00	726	742	+5	+17.5						
			722	734	+7.5	-7.5	0:15	7:00	722	734	+7.5	-7.5
05-10-2010	7:00	7:00	718	722	+7.5	-7.5						
			710	746	-5	-17.5	19:00	7:00	710	746	-5	-17.5
			702	726	+5	+17.5			702	726	+5	+17.5
06-10-2010	7:00	7:00	706	718	+7.5	-7.5						
			698	710	-5	-17.5	19:00	7:00	698	710	-5	-17.5
			690	706	+7.5	-7.5			690	706	+7.5	-7.5
			682	690	+7.5	-7.5			682	690	+7.5	-7.5
			666	702	+17.5	+5			666	702	+17.5	+5
			682	698	-5	-17.5			682	698	-5	-17.5
07-10-2010	7:00	7:00	662	682	-5	-17.5						
			654	682	+7.5	-7.5	19:00	7:00	654	682	+7.5	-7.5
			638	662	-5	-17.5			638	662	-5	-17.5
			646	654	+7.5	-7.5			646	654	+7.5	-7.5
			650	666	+5	+17.5			650	666	+5	+17.5
08-10-2010	7:00	23:00	606	650	+5	+17.5	19:00	21:55	606	650	+5	+17.5
09-10-2010	7:00	7:00	632	650	+7.5	-7.5	19:00	19:15	632	650	+7.5	-7.5
10-10-2010	7:00	7:00	572	638	-5	-17.5	19:00	6:00	572	638	-5	-17.5
			602	606	+5	+17.5			602	606	+5	+17.5
11-10-2010	7:00	7:00	580	602	+5	+17.5						

Wo Hing – Penta-Ocean Joint Venture

Contract No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains
From West Kowloon to Sai Ying Pun

Dredging Location of GD "Shun Tat 20" during Overtime Hours 19:00 ~ 07:00 (next day)

	Working Hour fm 07:00 to 23:00 or 07:00 to 07:00 (next day)						Working Hour for overtime fm 19:00 to 23:00 or 19:00 to 07:00 (next day)					
Date	W Hours fm	W Hours to	Chainage fm	Chainage to	Offset fm	Offset to	OT Hours fm	OT Hours to	Chainage fm	Chainage to	Offset fm	Offset to
			640	646	+7.5	-7.5						
			512	520	+5	+20						
			496	512	+5	+20	19:00	7:00	496	512	+5	+20
			508	520	-5	-20			508	520	-5	-20
12-10-2010	7:00	7:00	500	508	-5	-20						
			492	500	-5	-20	19:00	20:50	492	500	-5	-20
			492	500	+7.5	-7.5			492	500	+7.5	-7.5
			480	492	+7.5	-7.5	21:15	4:00	480	492	+7.5	-7.5
			472	480	-5	-20	4:00	7:00	472	480	-5	-20
13-10-2010	7:00	7:00	472	496	+5	+20						
			476	480	+7.5	-7.5	19:00	7:00	476	480	+7.5	-7.5
			460	472	-5	-20			460	472	-5	-20
			456	460	-5	-20			456	460	-5	-20
14-10-2010	7:00	7:00	468	472	+5	+20						
			472	476	+7.5	-7.5						
			448	456	-5	-20	19:00	20:50	448	456	-5	-20
			462	468	+5	+20			462	468	+5	+20
			452	462	+5	+20	20:55	1:50	452	462	+5	+20
			448	452	+5	+20	6:30	7:00	448	452	+5	+20
15-10-2010	7:00	7:00	436	472	+7.5	-7.5						
			424	436	+7.5	-7.5	19:00	23:10	424	436	+7.5	-7.5
			436	448	-5	-20	23:15	4:15	436	448	-5	-20
			444	452	+5	+20	4:20	7:00	444	452	+5	+20
16-10-2010	7:00	7:00	420	436	-5	-20						
			420	432	+20	+5						
			412	420	-5	-20	19:00	6:30	412	420	-5	-20
			416	424	+7.5	-7.5			416	424	+7.5	-7.5
			436	444	+20	+5			436	444	+20	+5
			432	436	+20	+5			432	436	+20	+5
17-10-2010	7:00	7:00	400	412	+7.5	-7.5						
			404	420	+5	+20						
			392	404	+5	+20	19:00	0:00	392	404	+5	+20
			404	436	-5	-20			404	436	-5	-20
			440	460	+7.5	-7.5	0:45	5:15	440	460	+7.5	-7.5
			436	440	+7.5	-7.5	5:25	6:30	436	440	+7.5	-7.5
			396	400	+7.5	-7.5	7:00	7:00	396	400	+7.5	-7.5
18-10-2010	7:00	7:00	376	396	+7.5	-7.5						
			368	392	+20	+5						
			376	404	-5	-20	19:00	23:30	376	404	-5	-20
			436	460	+5	+20	0:10	5:00	436	460	+5	+20
			372	376	-5	-20	5:30	7:00	372	376	-5	-20
19-10-2010	7:00	7:00	360	376	+7.5	-7.5						
			348	360	+7.5	-7.5						
			356	372	-5	-20	19:00	20:05	356	372	-5	-20
			360	368	+5	+20	21:20	2:45	360	368	+5	+20
			456	480	-5	-20			456	480	-5	-20
			436	456	-5	-20	2:50	7:00	436	456	-5	-20
			356	360	+5	+20			356	360	+5	+20
20-10-2010	7:00	23:00	340	348	+7.5	-7.5						
			336	340	+7.5	-7.5	19:00	21:10	336	340	+7.5	-7.5
			348	356	+5	+20			348	356	+5	+20
			340	348	+5	+20	21:20	23:00	340	348	+5	+20
21-10-2010	7:00	19:00	-	-			-	-				
22-10-2010	7:00	19:00	-	-			-	-				
23-10-2010	7:00	7:00	336	356	-5	-20	19:00	22:40	336	356	-5	-20
			430	460	+7.5	-7.5	23:30	3:20	430	460	+7.5	-7.5
24-10-2010	7:00	7:00	320	336	+5	+20						
			328	336	+7.5	-7.5						
			296	320	+20	+5						
			316	336	-5	-17.5	19:00	23:00	316	336	-5	-17.5
			480	500	-5	-20	0:00	2:00	480	500	-5	-20
			460	500	+5	+20	2:05	7:00	460	500	+5	+20
			320	328	+7.5	-7.5			320	328	+7.5	-7.5
25-10-2010	7:00	23:00	284	316	-5	-17.5						
			284	304	+7.5	-7.5	19:00	23:00	284	304	+7.5	-7.5
			280	284	+7.5	-7.5			280	284	+7.5	-7.5
26-10-2010	7:00	23:00	260	296	+5	+17.5						
			276	280	+7.5	-7.5						
			264	276	+7.5	-7.5	19:00	23:00	264	276	+7.5	-7.5
			260	264	-5	-17.5			260	264	-5	-17.5
			252	264	+7.5	-7.5			252	264	+7.5	-7.5
			248	252	+7.5	-7.5			248	252	+7.5	-7.5
27-10-2010	7:00	19:00	188	260	+5	+17.5						
			240	248	+7.5	-7.5						
			256	260	-5	-17.5						
28-10-2010	7:00	23:00	240	256	-5	-17.5	19:00	22:00	240	256	-5	-17.5
			216	240	0	-12.5			216	240	0	-12.5
			236	240	+12.5	0	22:45	23:00	236	240	+12.5	0
29-10-2010	7:00	23:00	204	236	0	+12.5						
			180	216	0	-12.5	19:00	22:55	180	216	0	-12.5
30-10-2010	7:00	23:00	176	204	+12.5	0	19:00	21:50	176	204	+12.5	0
			172	180	0	-12.5			172	180	0	-12.5

Wo Hing – Penta-Ocean Joint Venture

Contract No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains
From West Kowloon to Sai Ying Pun

Dredging Location of GD "Shun Tat 20" during Overtime Hours 19:00 ~ 07:00 (next day)

Date	Working Hour fm 07:00 to 23:00 or 07:00 to 07:00 (next day)						Working Hour for overtime fm 19:00 to 23:00 or 19:00 to 07:00 (next day)					
	W Hours fm	W Hours to	Chainage fm	Chainage to	Offset fm	Offset to	OT Hours fm	OT Hours to	Chainage fm	Chainage to	Offset fm	Offset to
			168	172	0	-12.5	22:05	23:00	168	172	0	-12.5
31-10-2010	7:00	23:00	140	168	0	-12.5	19:00	23:00	140	168	0	-12.5
			136	176	0	+12.5			136	176	0	+12.5
			128	136	0	+12.5			128	136	0	+12.5
01-11-2010	7:00	23:00	104	128	+12.5	0						
			116	140	0	-12.5	19:00	23:00	116	140	0	-12.5
			112	116	0	-12.5			112	116	0	-12.5
02-11-2010	7:00	23:00	80	112	0	-12.5						
			84	104	0	+12.5	19:00	21:55	84	104	0	+12.5
03-11-2010	7:00	20:30	60	84	+12.5	0						
			60	80	+17.5	+15						
			48	80	0	-12.5	19:00	20:30	48	80	0	-12.5
04-11-2010	7:00	23:00	24	48	0	-12.5	19:00	23:00	24	48	0	-12.5
			48	60	0	+12.5			48	60	0	+12.5
05-11-2010	7:00	23:00	24	48	0	+12.5	19:00	22:45	24	48	0	+12.5
			4	24	0	+12.5			4	24	0	+12.5
06-11-2010	7:00	23:00	6	24	0	-12.5	19:00	23:00	6	24	0	-12.5
			0	4	0	+12.5			0	4	0	+12.5
07-11-2010	7:00	20:00	0	-12	0	+16						
			-12	-18.5	0	+16	19:00	20:00	-12	-18.5	0	+16
08-11-2010	7:00	23:00	240	256	+5	-5	19:00	23:00	240	256	+5	-5
09-11-2010	7:00	23:00	256	280	+5	-5						
			280	308	+5	-5	19:00	23:00	280	308	+5	-5
10-11-2010	7:00	19:00	-	-			-	-				
11-11-2010	7:00	19:00	-	-			-	-				
12-11-2010	7:00	19:00	-	-			-	-				
13-11-2010	7:00	19:00	-	-			-	-				
14-11-2010	7:00	19:00	-	-			-	-				
15-11-2010	7:00	19:00	-	-			-	-				
16-11-2010	7:00	19:00	-	-			-	-				
17-11-2010	7:00	7:00	504	536	+5	-5	18:30	22:20	504	536	+5	-5
			500	504	+5	-5	0:25	5:30	500	504	+5	-5
			470	500	+15	+5			470	500	+15	+5
			476	500	+5	-5			476	500	+5	-5
18-11-2010	7:00	7:00	444	476	+5	-5						
			396	444	+5	-5	19:00	23:40	396	444	+5	-5
			430	470	+15	+5	0:10	4:30	430	470	+15	+5
			392	396	+5	-5	5:55	8:00	392	396	+5	-5
19-11-2010	7:00	7:00	364	392	+5	-5						
			320	364	+5	-5	19:00	22:10	320	364	+5	-5
			460	520	-5	-15	23:20	3:15	460	520	-5	-15
			304	320	+5	-5	5:00	7:00	304	320	+5	-5
20-11-2010	7:00	7:00	620	636	+5	-5						
			636	668	+5	-5	19:00	0:40	636	668	+5	-5
			668	688	+5	-5	2:55	7:00	668	688	+5	-5
21-11-2010	7:00	7:00	688	700	+5	-5						
			700	732	+5	-5	19:00	21:00	700	732	+5	-5
			732	760	+5	-5	21:50	3:00	732	760	+5	-5
			760	780	+5	-5	3:35	7:00	760	780	+5	-5
22-11-2010	7:00	7:00	780	788	+5	-5						
			788	824	+5	-5	19:00	21:40	788	824	+5	-5
			824	832	+5	-5	2:35	7:00	824	832	+5	-5
			808	832	+7.5	+15			808	832	+7.5	+15
23-11-2010	7:00	7:00	832	848	+12.5	-5						
			848	888	+12.5	-7.5	19:00	20:50	848	888	+12.5	-7.5
			888	920	+12.5	-7.5	21:30	2:00	888	920	+12.5	-7.5
			920	952	+7.5	-7.5	2:30	6:30	920	952	+7.5	-7.5
24-11-2010	7:00	7:00	952	988	-5	+15						
			988	1012	-7.5	+7.5	19:00	22:25	988	1012	-7.5	+7.5
			1012	1044	-7.5	+5	22:50	2:50	1012	1044	-7.5	+5
25-11-2010	7:00	7:00	1044	1084	+7.5	-7.5						
			1084	1128	+7.5	-5	21:20	2:55	1084	1128	+7.5	-5
			1128	1152	+7.5	-5	3:15	7:00	1128	1152	+7.5	-5
26-11-2010	7:00	7:00	1152	1156	+5	-12.5						
			1156	1180	+5	-12.5	19:00	20:05	1156	1180	+5	-12.5
			1180	1204	+10	-10	20:40	0:45	1180	1204	+10	-10
			1204	1224	+10	-10	1:30	7:00	1204	1224	+10	-10
27-11-2010	7:00	7:00	1224	1244	+10	0						
			1244	1328	-12.5	+7.5	19:00	23:35	1244	1328	-12.5	+7.5
			1200	1244	-12.5	-5	2:00	6:00	1200	1244	-12.5	-5
			1328	1340	-12.5	-5	6:45	8:00	1328	1340	-12.5	-5
28-11-2010	7:00	7:00	1324	1360	+5	-5						
			1360	1388	0	-12.5	19:00	21:00	1360	1388	0	-12.5
			1388	1400	0	-12.5	21:50	2:00	1388	1400	0	-12.5
			1150	1200	-10	0			1150	1200	-10	0
			1150	1200	+10	0	2:40	7:00	1150	1200	+10	0
29-11-2010	7:00	7:00	1412	1420	0	+7.5						
			1420	1432	+7.5	0	19:00	7:00	1420	1432	+7.5	0
			1432	1452	+5	-5			1432	1452	+5	-5
			1452	1492	+5	-5			1452	1492	+5	-5
			1492	1500	+5	-5			1492	1500	+5	-5
30-11-2010	7:00	7:00	1492	1516	+5	-5						

Wo Hing – Penta-Ocean Joint Venture

Contract No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains
From West Kowloon to Sai Ying Pun

Dredging Location of GD "Shun Tat 20" during Overtime Hours 19:00 - 07:00 (next day)

Date	Working Hour fm 07:00 to 23:00 or 07:00 to 07:00 (next day)						Working Hour for overtime fm 19:00 to 23:00 or 19:00 to 07:00 (next day)					
	W Hours fm	W Hours to	Chainage fm	Chainage to	Offset fm	Offset to	OT Hours fm	OT Hours to	Chainage fm	Chainage to	Offset fm	Offset to
			1516	1548	+5	-10	19:00	7:00	1516	1548	+5	-10
			1548	1564	+5	-10			1548	1564	+5	-10
			1564	1568	+5	-10			1564	1568	+5	-10
01-12-2010	7:00	7:00	1564	1576	-10	+5						
			1576	1620	-10	+5						
			1620	1640	-12.5	-5	19:00	7:00	1620	1640	-12.5	-5
			1620	1640	0	+7.5			1620	1640	0	+7.5
			1620	1632	+5	-5			1620	1632	+5	-5
			1632	1636	+5	-5			1632	1636	+5	-5
02-12-2010	7:00	7:00	1636	1640	+5	-5						
			1640	1644	+5	-5	19:00	7:00	1640	1644	+5	-5
			1640	1664	+5	+12.5			1640	1664	+5	+12.5
			1640	1644	-5	-12.5			1640	1644	-5	-12.5
03-12-2010	7:00	7:00	1644	1664	-5	-12.5						
			1644	1656	+5	-5						
			1656	1664	+5	-5						
			1664	1680	-15	-2.5						
			1664	1680	+2.5	+15	19:00	7:00	1664	1680	+2.5	+15
			1644	1680	-5	+5			1644	1680	-5	+5
			1680	1688	+15	+2.5			1680	1688	+15	+2.5
04-12-2010	7:00	7:00	1688	1700	+2.5	+12.5						
			1680	1692	-2.5	-12.5						
			1692	1700	-2.5	-12.5	19:00	7:00	1692	1700	-2.5	-12.5
			1680	1696	+5	-5			1680	1696	+5	-5
			1696	1700	+5	-5			1696	1700	+5	-5
			1700	1716	+2.5	+12.5			1700	1716	+2.5	+12.5
			1700	1708	-2.5	-12.5			1700	1708	-2.5	-12.5
05-12-2010	7:00	7:00	1708	1720	-2.5	-12.5						
			1700	1704	-5	+5						
			1704	1720	+5	-5						
			1720	1736	+2.5	+12.5						
			1736	1744	+2.5	+12.5	19:00	7:00	1736	1744	+2.5	+12.5
			1720	1744	-12.5	-2.5			1720	1744	-12.5	-2.5
			1720	1732	+5	-5			1720	1732	+5	-5
			1732	1740	-5	+5			1732	1740	+5	-5
06-12-2010	7:00	7:00	1740	1744	+5	-5	19:00	7:00	1740	1744	+5	-5
			1744	1752	0	+12.5			1744	1752	0	+12.5
			1752	1756	0	+12.5			1752	1756	0	+12.5
			1744	1748	0	-12.5			1744	1748	0	-12.5
07-12-2010	7:00	7:00	1748	1776	-12.5	0						
			1756	1796	0	+12.5	19:00	7:00	1756	1796	0	+12.5
			1776	1792	-12.5	0			1776	1792	-12.5	0
			1792	1796	-12.5	0			1792	1796	-12.5	0
08-12-2010	7:00	7:00	1796	1808	0	-12.5						
			1808	1828	0	-12.5						
			1808	1840	0	+12.5	19:00	23:00	1808	1840	0	+12.5
			1828	1836	0	-12.5	23:00	7:00	1828	1836	0	-12.5
09-12-2010	7:00	7:00	1836	1860	-12.5	0						
			1840	1860	0	+12.5						
			1860	1900	0	-12.5	19:00	21:25	1860	1900	0	-12.5
			1860	1868	0	+12.5	22:00	23:00	1860	1868	0	+12.5
			1868	1872	0	+12.5	23:00	7:00	1868	1872	0	+12.5
10-12-2010	7:00	7:00	1872	1900	0	+12.5						
			1900	1920	0	+12.5	19:00	7:00	1900	1920	0	+12.5
			1900	1916	0	-12.5			1900	1916	0	-12.5
			1916	1932	0	-12.5			1914	1932	0	-12.5
			1920	1924	0	+12.5			1920	1924	0	+12.5
11-12-2010	7:00	7:00	1924	1956	0	+12.5						
			1932	1940	-12.5	0	19:00	7:00	1932	1940	-12.5	0
			1900	1940	-12.5	0			1900	1940	-12.5	0
			1900	1924	0	+12.5			1900	1924	0	+12.5
			1924	1932	0	+12.5			1924	1932	0	+12.5
12-12-2010	7:00	19:00	1932	1944	0	+12.5						
			1900	1872	0	+12.5						
13-12-2010	7:00	19:00	-	-			-	-				
14-12-2010	7:00	19:00	-	-			-	-				
15-12-2010	7:00	19:00	-	-			-	-				
16-12-2010	7:00	19:00	-	-			-	-				
17-12-2010	7:00	19:00	-	-			-	-				
18-12-2010	7:00	19:00	-	-			-	-				
19-12-2010	7:00	19:00	-	-			-	-				
20-12-2010	7:00	7:00	330	370	+15	-15	19:00	7:00	330	380	+15	-15
			370	380	+15	-15						
21-12-2010	7:00	7:00	380	575	+10	-10	19:00	7:00	380	575	+10	-10
22-12-2010	7:00	7:00	575	610	+10	-10						
			610	930	+10	-10	19:00	7:00	610	930	+10	-10
23-12-2010	7:00	7:00	950	1200	+10	-10	19:00	7:00	950	1200	+10	-10
24-12-2010	7:00	19:00	1200	1250	+10	-10						
25-12-2010	7:00	19:00	-	-			-	-				
26-12-2010	7:00	19:00	-	-			-	-				
27-12-2010	7:00	7:00	1670	1680	+5	-10						
			1680	1720	+10	-10	19:00	7:00	1680	1720	+10	-10

Wo Hing – Penta-Ocean Joint Venture

Contract No. 9/WSD/08
Laying of Western Cross Harbour Main and Associated Land Mains
From West Kowloon to Sai Ying Pun

Dredging Location of GD "Shun Tat 20" during Overtime Hours 19:00 ~ 07:00 (next day)

Date	Working Hour fm 07:00 to 23:00 or 07:00 to 07:00 (next day)						Working Hour for overtime fm 19:00 to 23:00 or 19:00 to 07:00 (next day)					
	W Hours fm	W Hours to	Chainage fm	Chainage to	Offset fm	Offset to	OT Hours fm	OT Hours to	Chainage fm	Chainage to	Offset fm	Offset to
			1744	1760	0	-12.5			1744	1760	0	-12.5
			1744	1752	0	+12.5			1744	1752	0	+12.5
28-12-2010	7:00	19:00	1752	1760	0	+12.5	19:00	7:00	1752	1760	0	+12.5
			1760	1788	0	+12.5			1760	1788	0	+12.5
29-12-2010	7:00	19:00	1788	1816	0	+12.5	19:00	7:00	1788	1816	0	+12.5
			1780	1804	0	-12.5			1780	1804	0	-12.5
			1804	1812	0	-12.5			1804	1812	0	-12.5
30-12-2010	7:00	7:00	1812	1832	-12.5	0						
			1832	1844	-12.5	0	19:00	7:00	1832	1844	-12.5	0
			1816	1828	0	+12.5			1816	1828	0	+12.5
31-12-2010	7:00	7:00	1836	1852	0	+12.5						
			1844	1852	0	-12.5						
			1852	1872	0	+12.5	19:00	7:00	1852	1872	0	+12.5
			1852	1856	0	-12.5			1852	1856	0	-12.5
01-01-2011	7:00	7:00	1856	1888	0	-12.5						
			1872	1916	0	+12.5	19:00	7:00	1872	1916	0	+12.5
			1916	1924	0	+12.5			1916	1924	0	+12.5
02-01-2011	7:00	7:00	1924	1948	0	+12.5						
			1888	1956	0	-12.5	19:00	7:00	1888	1956	0	-12.5
			1948	1952	0	+12.5			1948	1952	0	+12.5
03-01-2011	7:00	7:00	1952	1972	+2.5	-12.5						
			1200	1440	+7.5	-7.5	23:20	7:00				
04-01-2011	7:00	7:00	1560	1640	+7.5	-7.5	19:00	7:00	1560	1640	+7.5	-7.5
			255	290	+10	-10			255	290	+10	-10
05-01-2011	7:00	7:00	175	255	+10	-10	19:00	7:00	175	255	+10	-10
			165	175	+10	0			165	175	+10	0
06-01-2011	7:00	7:00	80	165	+10	-10	19:00	7:00	80	165	+10	-10
			70	80	+10	-10			70	80	+10	-10
07-01-2011	7:00	22:30	10	70	+10	-10	19:00	22:30	10	70	+10	-10
			0	10	+5	-5			0	10	+5	-5

Appendix K

Contractor's Follow up Actions

to ET Weekly Site Inspections

Follow-up Action of the Weekly Site Inspection by the Contractor

Inspection Date : 26 January 2011

Item	Details of defective works or observations	Follow up Action(s) taken	Date of Action taken	Photo Ref.
1	Silt screen at the seawater intake at Kowloon South Salt Water Pumping Station was found broken	Repair the damaged silt screen and remove the floating debris inside the silt screen	29 Jan 11	01, 02 & 03
2	The Contractor was reminded to provide drip tray or impermeable sheet for a water pump at Portion J in order to avoid oil leakage to the environment although no oil leakage was noted.	Provision of a drip trap to the water pump at Portion J	27 Jan 11	04
3	A 200L oil drum at Portion J was noted without drip tray and chemical label.	The 200L oil drum has been removed off site	27 Jan 11	05

Photo of Follow-up Action

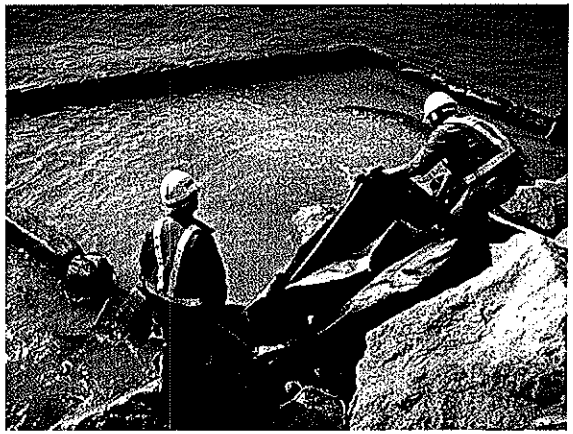


Photo Ref. : 01

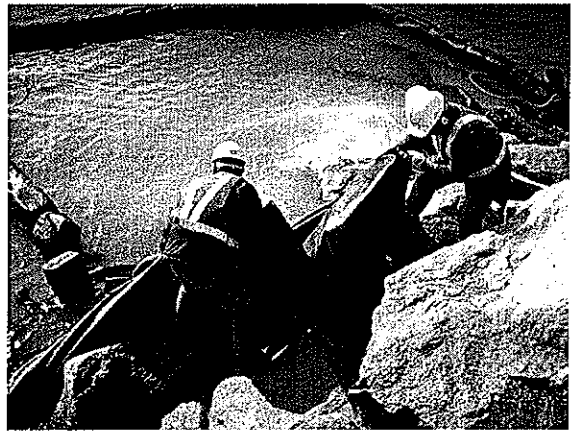


Photo Ref. : 02

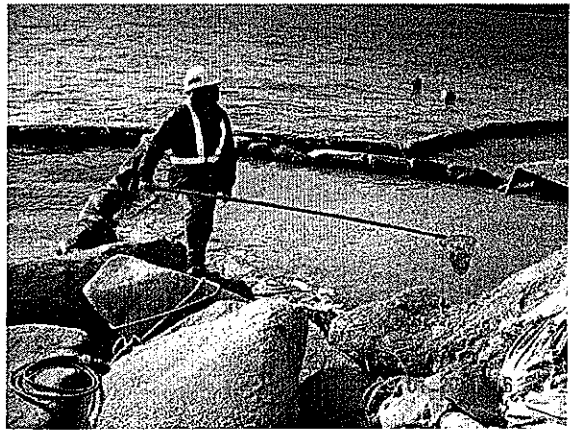


Photo Ref. : 03

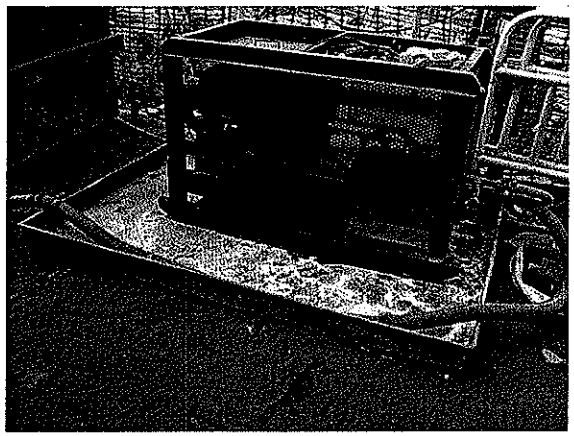


Photo Ref. : 04

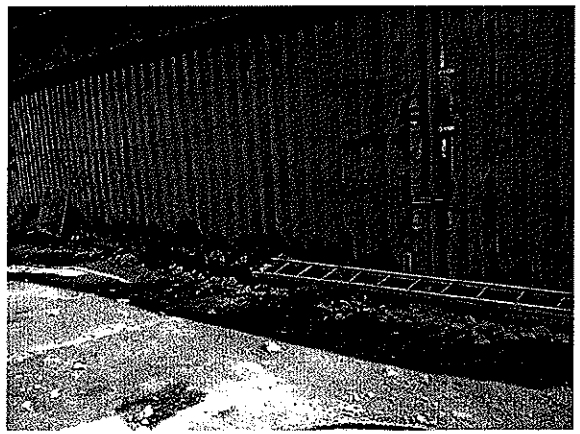
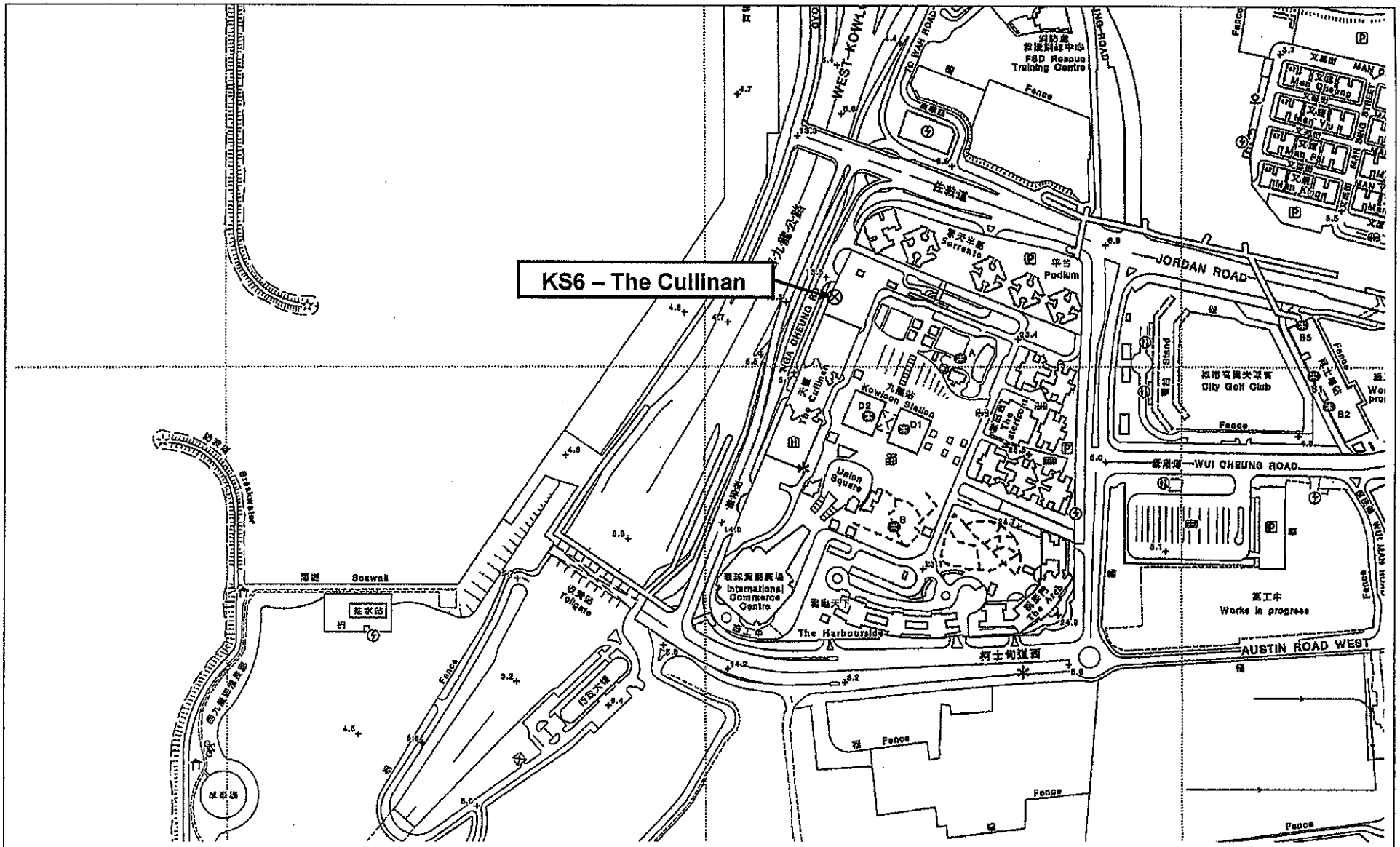


Photo Ref. : 05

Figures

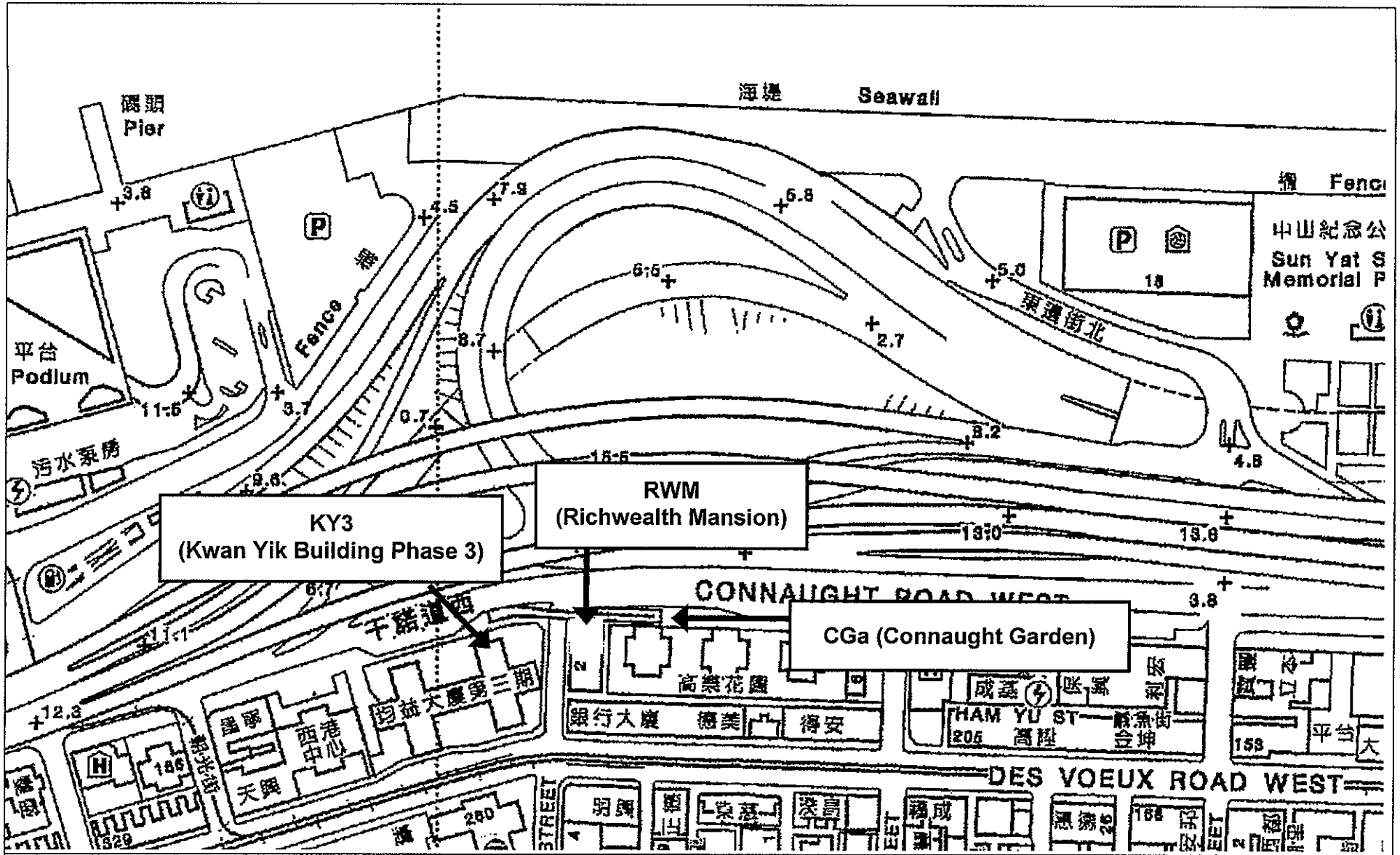


Contract No. 9/WSD/08 Laying of Western Cross Harbour Main and Associated Land Mains for West Kowloon to Sai Ying Pun

Figure 1

Location of Noise Monitoring Station at West Kowloon

東業測試顧問有限公司
ETS-TESTCONSULT LIMITED

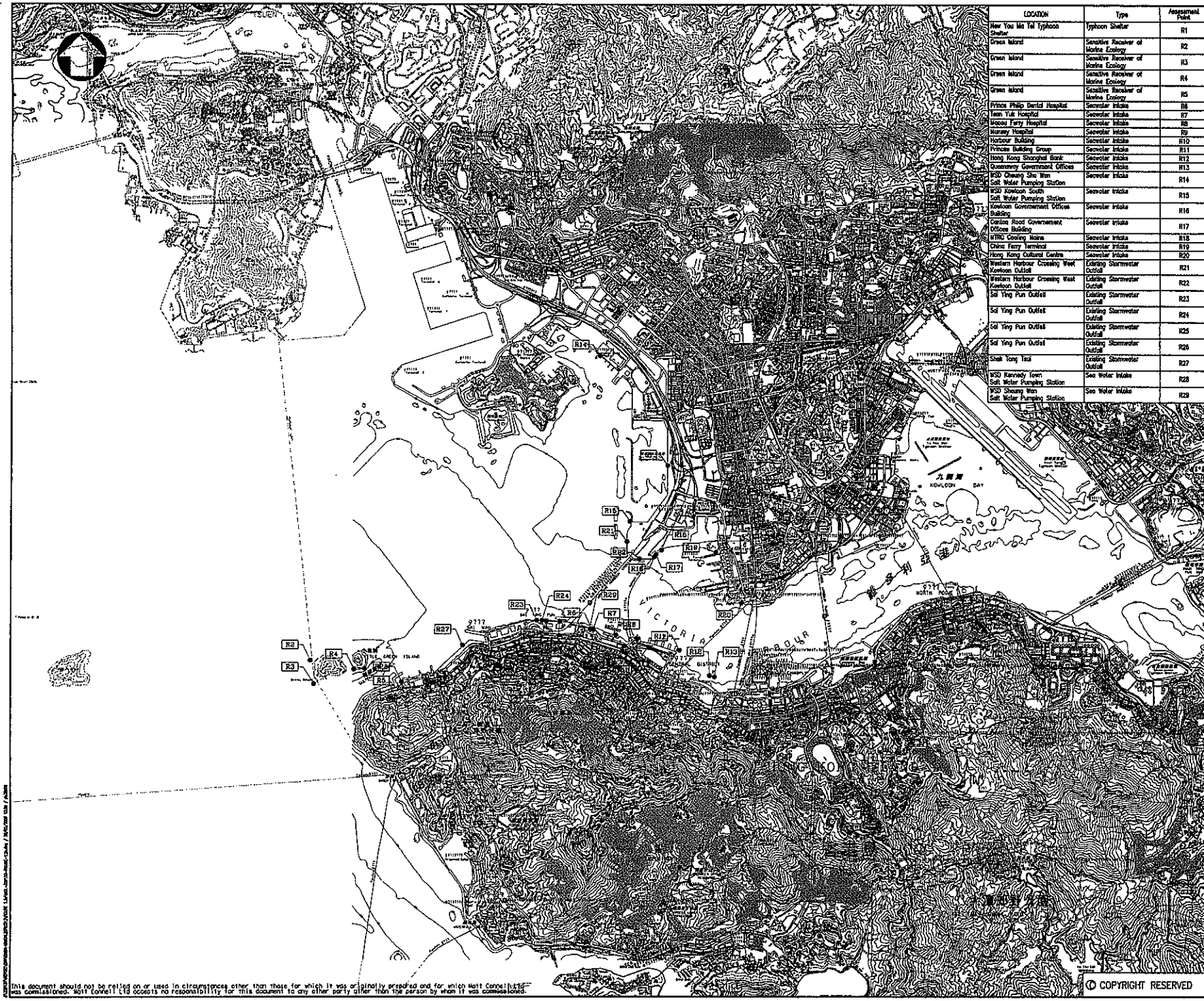


Contract No. 9/WSD/08 Laying of Western Cross Harbour Main and Associated Land Mains for West Kowloon to Sai Ying Pun

Figure 2

Locations of Noise Monitoring Stations at Sai Ying Pun

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED



LOCATION	Type	Assessment Point
Hee Yau Ma Tei Typhoon Shelter	Typhoon Shelter	R1
Green Island	Sensitive Receiver of Marine Ecology	R2
Green Island	Sensitive Receiver of Marine Ecology	R3
Green Island	Sensitive Receiver of Marine Ecology	R4
Green Island	Sensitive Receiver of Marine Ecology	R5
Prince Philip Dental Hospital	Seawater Intake	R6
Tsan Yuk Hospital	Seawater Intake	R7
Macau Ferry Hospital	Seawater Intake	R8
Nursery Hospital	Seawater Intake	R9
Harbour Building	Seawater Intake	R10
Princes Building Group	Seawater Intake	R11
Hong Kong Shanghai Bank	Seawater Intake	R12
Queensway Government Offices	Seawater Intake	R13
WSD Cheung Sha Wan Salt Water Pumping Station	Seawater Intake	R14
WSD Kowloon South Salt Water Pumping Station	Seawater Intake	R15
Kowloon Government Offices Building	Seawater Intake	R16
Canton Road Government Offices Building	Seawater Intake	R17
MTRC Cooling Water	Seawater Intake	R18
China Ferry Terminal	Seawater Intake	R19
Hong Kong Cultural Centre	Seawater Intake	R20
Western Harbour Crossing West Kowloon Outfall	Existing Stormwater Outfall	R21
Western Harbour Crossing West Kowloon Outfall	Existing Stormwater Outfall	R22
Sai Ying Pun Outfall	Existing Stormwater Outfall	R23
Sai Ying Pun Outfall	Existing Stormwater Outfall	R24
Sai Ying Pun Outfall	Existing Stormwater Outfall	R25
Sai Ying Pun Outfall	Existing Stormwater Outfall	R26
Shek Tong Tsui	Existing Stormwater Outfall	R27
WSD Kennedy Town Salt Water Pumping Station	Sea Water Intake	R28
WSD Sheung Wan Salt Water Pumping Station	Sea Water Intake	R29

A	06/06	LYK	PRELIMINARY		
Rev	Date	Drawn	Description	Ch'k'd	App'd

Mott Connell Limited
42/F Hopewell Centre
183 Queen's Road East
Hong Kong
Tel 2528 5757
Fax 2827 1823
Web www.mottmac.com

Client

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

Contract No. CE42/2005(WS)

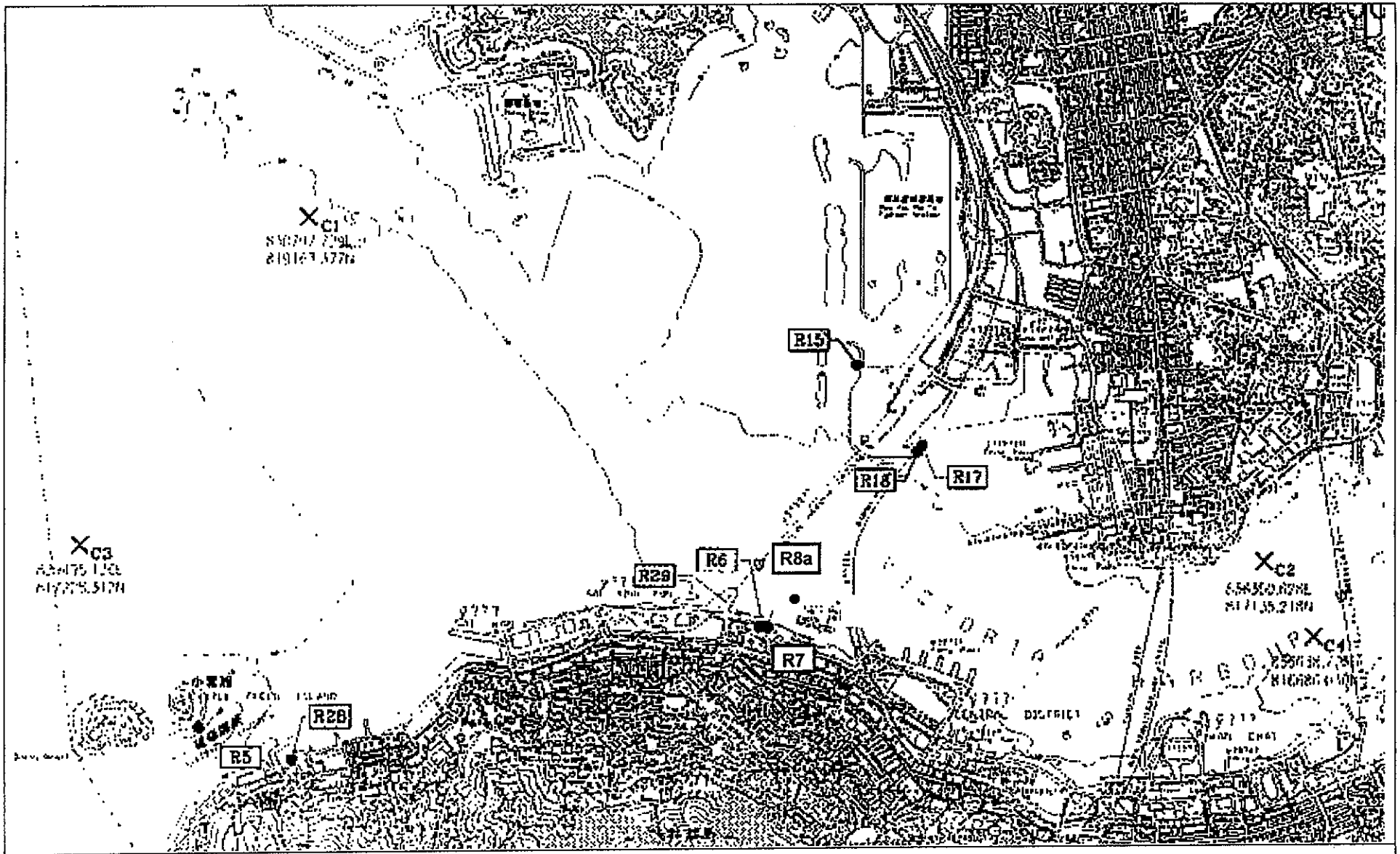
Project

LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN – INVESTIGATION

Title

LOCATIONS OF WATER SENSITIVE RECEIVERS AND STORMWATER OUTFALLS AT WESTERN HARBOUR

Designed			Eng.Chk.		
Drawn	LYK		Coordination	-	
Eng.Chk.	—		Approved		
Scale	1 : 25000@A1	Project	220133		Status
		CAD File			
Drawing No.	FIGURE 1.2a				Rev A

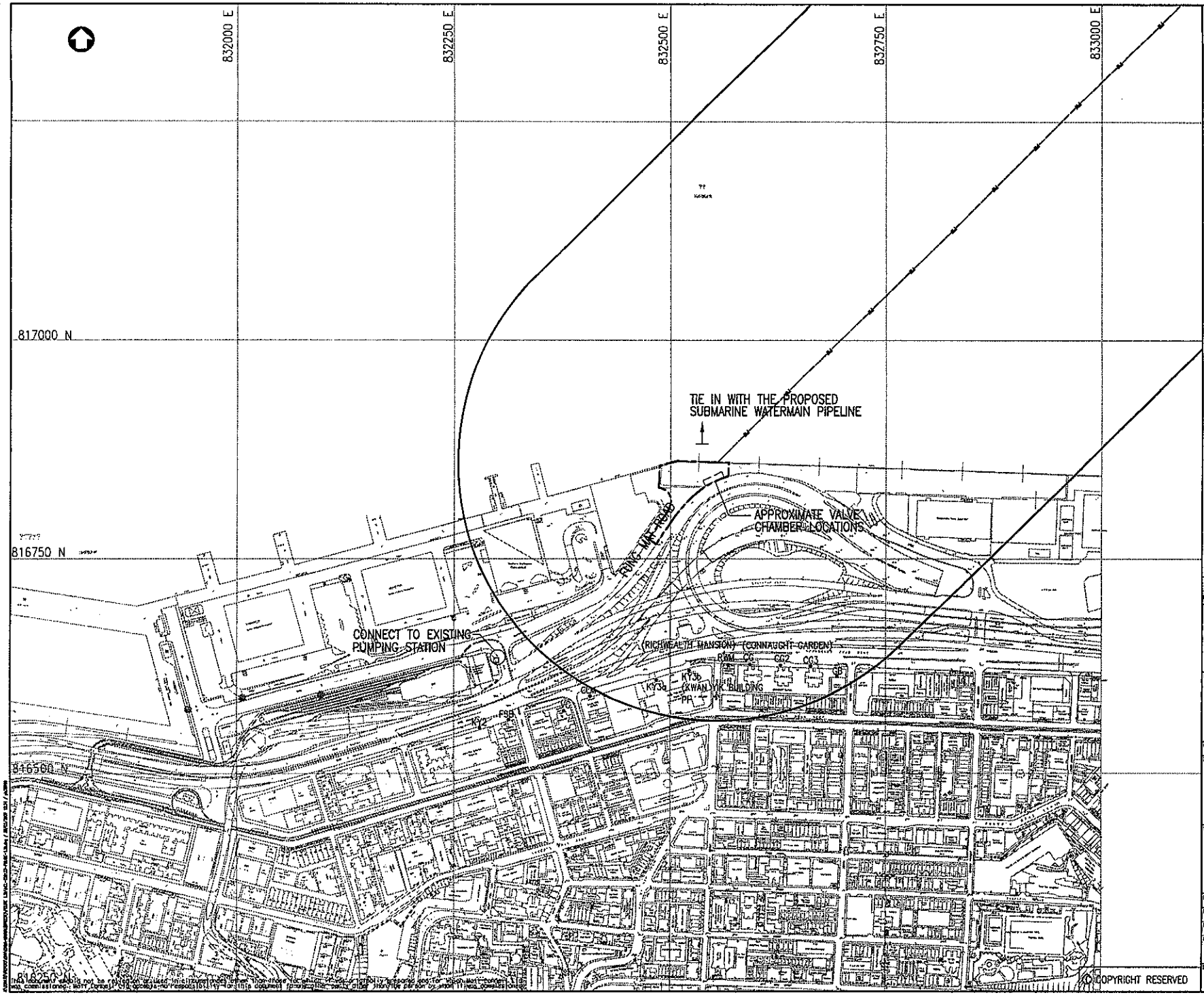


Contract No. 9/WSD/08 Laying of Western Cross Harbour Main and Associated Land Mains for West Kowloon to Sai Ying Pun

Figure 3

Locations of Water Quality Monitoring Stations

東業檢驗測試顧問有限公司
ETS-TESTCONSULT LIMITED



Rev	Date	Drawn	Description	Ch'k'd	App'd
A	05/06	LYK	PRELIMINARY		

Mott Connell
Mott Connell Limited
40/F Hopewell Centre
183 Queen's Road East
Hong Kong
Tel 2828 5757
Fax 2827 1823
Web www.mottmac.com

Client:
THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

Contract No. CE42/2005(WS)

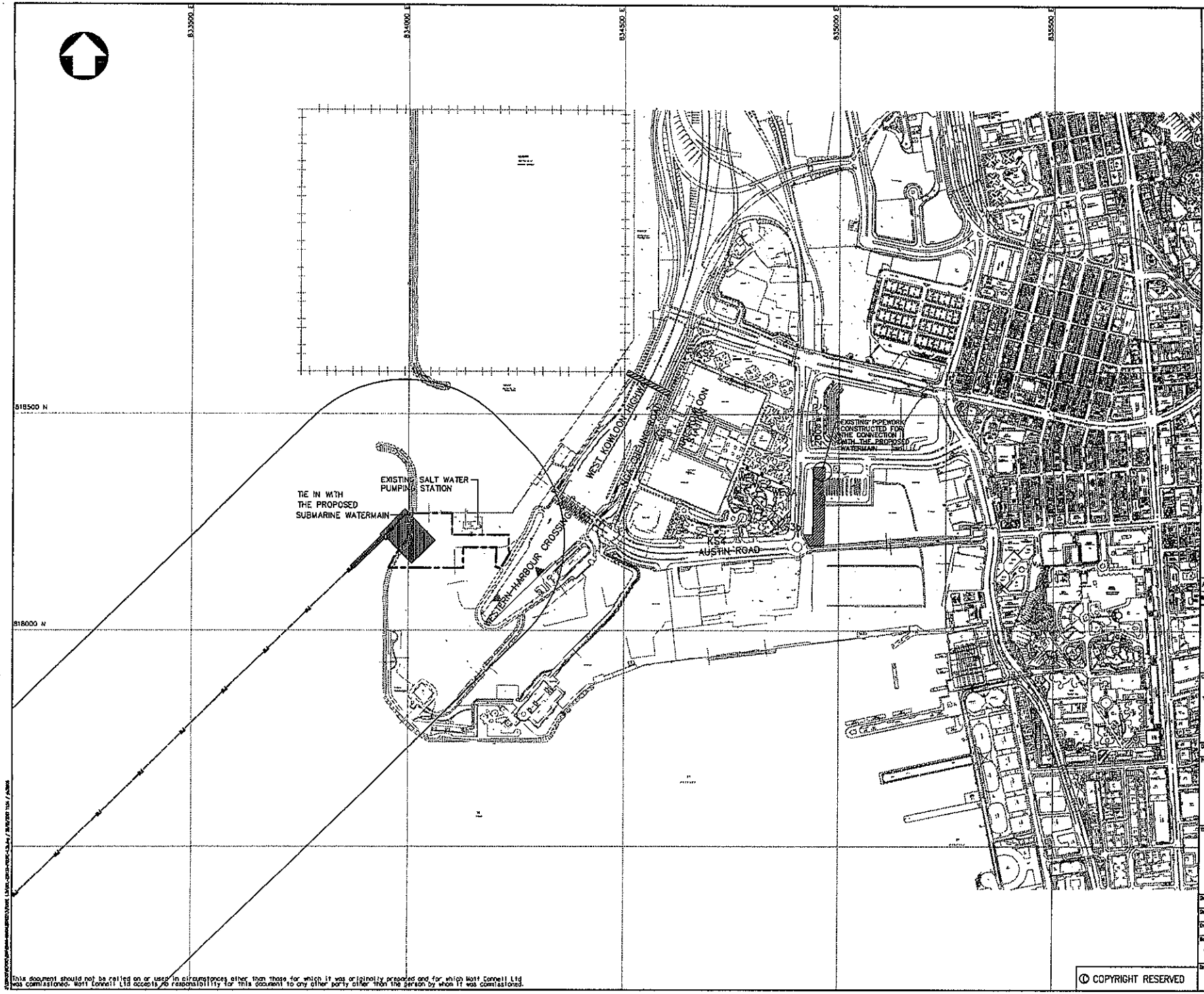
Project:
LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN – INVESTIGATION

Title:
LOCATIONS OF NOISE SENSITIVE RECEIVERS IN SAI YING PUN

Designed			Dwg Chk	-	
Drawn	LYK		Coordination		
Dwg Chk	—		Approved		

Scale: 1 : 20000@A1
Project:
CAD File:
Status:

Drawing No. FIGURE 1.2b
Rev: A



Rev	Date	Drawn	Description	Ch'k'd	App'd
A	05/06	LYK	PRELIMINARY		

Mott Connell

Mott Connell Limited
40/F Hopewell Centre
183 Queen's Road East
Hong Kong

Tel 2828 5757
Fax 2827 1823
Web www.mottmac.com

Client

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

Contract No. CE42/2005(WS)

Project

LAYING OF WESTERN CROSS HARBOUR MAIN AND ASSOCIATED LAND MAINS FROM WEST KOWLOON TO SAI YING PUN – INVESTIGATION

Title

LOCATION OF NOISE SENSITIVE RECEIVERS IN WEST KOWLOON

Designed			Eng Ch'k		
Drawn	LYK		Coordinates	-	
Eng Ch'k	—		Approved		

Scale: 1 : 4000@A1

Project

Status

CAD File

Drawing No. FIGURE 1.2c

Rev A