MTR Corporation Limited

South Island Line (East)

Monthly EM&A Report No. 4

November 2011

Verified by:

Thomas Chan

Independent Environmental Checker

Date:

14 November 2011

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Certified by:

Richard Kwan

Environmental Team Leader

Date: 14 NOV 2011

EXECUTIVE SUMMARY

With the main civil works contracts of the South Island Line (East) (SIL(E)) Project awarded in May 2011, the commencement date of construction of the Project was on 25 June 2011. The Environmental Monitoring and Audit (EM&A) programme of the Project also commenced on 25 June 2011. This is the fourth Monthly EM&A Report for SIL(E) Project. The Report presents the results of EM&A works undertaken during the period of 1 October 2011 to 31 October 2011. The major construction activities in the reporting period included site preparation, piling and slope stabilization works.

Impact monitoring for air quality and noise were conducted in the reporting period. No exceedance was found and there was no breach of Action / Limit Levels for air quality and noise. Impact water quality monitoring was undertaken at Aberdeen Channel in the reporting period. Exceedances in DO against Action/ Limit Levels were recorded and the exceedances were considered not related to the project works.

Three environmental complaints were received from EPD in the reporting period. Investigations have been carried out in accordance with the EM&A Manual and investigation reports have been sent to EPD. No notification of summon or prosecution related to the environmental issue was received in the reporting period.

Regular site inspections were conducted by the Environmental Team (ET) to check the implementation of environmental mitigation measures. No non-conformance to the environmental requirements was identified in the reporting period.

Future key issues envisaged in the coming month include noise and dust emission from site works. The ET will continue the implementation of the EM&A programme in accordance to the EM&A Manual.

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1 INTRODUCTION

1.1 Project Background

The South Island Line (East) (SIL(E)) of 7.0km approximately is a new medium capacity railway with stations at South Horizons (SOH), Lei Tung (LET), Wong Chuk Hang (WCH), Ocean Park (OCP) and Admiralty (ADM), comprising underground and elevated structures. A depot is required at Wong Chuk Hang to provide maintenance support for the SIL(E).

1.2 Project Programme

Main civil works contracts of the SIL(E) was awarded in May 2011. The commencement date of construction of the Project was on 25 June 2011. The construction of the Project is expected to complete in 2015.

1.3 Coverage of EM&A Report

The Environmental Monitoring and Audit (EM&A) programme of the Project commenced on 25 June 2011. This is the fourth Monthly Environmental Monitoring and Audit (EM&A) Report for the Project. The Report presents the results of EM&A undertaken during the period of 1 to 31 October 2011.

2 PROJECT INFORMATION

2.1 Project Organization and Management Structure

The project organization is shown in **Appendix A1**. Contacts of key personnel of the Project are shown in **Appendix A2**.

2.2 Construction Activities in the Reporting Month

Major construction activities carried out by the respective SIL(E) civil works contractors during the reporting period include:

Contract No. 901

Site	Construction Activities
Harcourt Garden	- Demolition of Entrance E - Utility diversion at Rodney Street - Sheet piling and diaphragm wall - Guide wall installation - H-piles and plunge columns - Pipe piles for SEE shaft

Contract No. 902

Site	Construction Activities
Hong Kong Park Ventilation Shaft	- Trial pit excavation - LCSD cables diversion - Trench excavation for drainage pipes at ground level - Pipe piling for Stage 1a

Nam Fung Portal	- Hoarding erection - Temporary haul road construction - Bored piling works - Pipe piling for ventilation building & transition box
Chung Hom Shan (CHS) Magazine	- Construction of magazine structures - Mass concrete walls and concrete slab construction - Construction of miscellaneous items for E&M installation

Contract No. 903

Site	Construction Activities
New OCP Site Office	- Construction of new site office and fitting out
WCH Station	- Pre-drilling / Ground Investigation - Excavation to formation level - Bored piling/ installation of socket-H-piles - Pipe piling - Demolition of existing nullah wall and construction of new nullah wall
Zone B (Ex-Canadian Site to OCP Station)	- Site clearance and preparation - Bored piling - Pile cap construction - Diversion of WSD watermains
Zone C (OCP Station to WCH Station)	- Pre-drilling/ Ground investigation/Utility diversion - Bored piling/ installation of socket-H-piles
Zone D (WCH Station to WCH nullah)	- Site preparation, hoarding erection - Pre-drilling/ Ground Investigation/ Utility diversion - Soil nailing - Excavation and slope stabilisation - Installation of stoplog - Demolition of Cooked Food Market newspaper kiosk
Zone E (Aberdeen Channel)	- Pre-drilling/ Ground Investigation - Set up of temporary working platform for pier

Contract No. 904

Site	Construction Activities
Ex-Harbour Mission School	- Site clearance and formation - Pipe piling
Lee Wing Street	- Slope excavation - Slope protection works
LET Station Entrance A	- Site clearance and formation - Fencing & hoarding setup - Pipe piling
LET Station Entrance B	- Site clearance and preparation - Tree transplantation - Utility installation
South Horizons	- Site clearance and preparation - Tree transplantation - Excavation for utility installation/ diversion
Project site office at Ap Lei Chau Bridge Playground	- Erection of site office and fitting out - Establishment of footing & decking for welfare facility - Erection of car park canopy

Contract No. 907

Site	Construction Activities
WCH Depot	- Site formation and utility diversion - Bored piling - Pipe piling - Preparatory works for blasting - Demolition of existing hoarding and erection of new hoarding - Construction of bus terminus (EPIW) completed
Lee Nam Road Barging Facility	- Barging facility in operation

2.3 Construction Activities for the Coming Month

The scheduled major construction activities in the next reporting month are as follows:

Contract No. 901

Site	Construction Activities
Harcourt Garden	- Installation of sheet pile - Fabrication of plunge columns - Pipe piles for SEE shaft

Contract No. 902

Site	Construction Activities
Hong Kong Park Ventilation Shaft	- LCSD cables diversion - Lay permanent drainage pipes at ground level - Excavation for plant room - Pipe piling / Sheet piling at the upper platform
Nam Fung Portal	- Hoarding erection - Temporary haul road construction - Bored piling works - Pipe piling for ventilation building & transition box - Soil nailing opposite to Nam Fung Road
Chung Hom Shan Magazine	- Construction of magazine structures - Construction of miscellaneous items for E&M installation

Contract No. 903

Site	Construction Activities
New OCP Site Office	- Site office construction and fitting out - Demolition of temporary site office - Bored piling
WCH Station	- Construction of footings / Bored piling - Installation of socket-H-pile - Pipe piling - Demolition of existing nullah wall & new south nullah wall excavation
Zone B (Ex-Canadian Site to OCP Station)	- Bored piling - Pile cap construction
Zone C (OCP Station to WCH Station)	- Hoarding erection - Pre-drilling/ Ground investigation/ Utility diversion - Pipe piling

Site	Construction Activities
	- Bored piling - Pre-bored socket-H-piles - Construction of platform crossing nullah
Zone D (WCH Station to WCH nullah)	- Hoarding erection - Pre-drilling/ Ground investigation - Slope stabilisation - Bored piling - Pipe piling
Zone E (Aberdeen Channel)	- Pre-drilling / Ground investigation from temporary working platform - Bored piling - Construction of pile cap

Contract No. 904

Site	Construction Activities
Ex-Harbour Mission School	- Site clearance and formation - Pipe piling
Lee Wing Street	- Slope excavation - Slope protection works - Laying of drainage pipes
LET Station Entrance A	- Site clearance and formation - Fencing and hoarding erection
LET Station Entrance B	- Site clearance and preparation - Utility installation - Pipe piling
South Horizons	- Site clearance and preparation - Utility diversion - Tree transplantation - Site formation for Yuk Kwai Shan - Installation of king post/ soldier piles
Project site office at Ap Lei Chau Bridge Playground	- Establishment of welfare facility - Erection of car park canopy - Installation of electric cable

Contract No. 907

Site	Construction Activities
WCH Depot	- Bored piling - Pipe piling - Preparatory works for blasting
Lee Nam Road Barging Facility	- Barging facility in operation

2.4 Project Areas and Environmental Monitoring Locations

The works areas of the Project are shown in **Figures 1 and 2**.

The locations of environmental monitoring stations are shown in **Figures 3 to 9**. Tables 1 and 2 below shows the details of the active monitoring stations as reported in Sections 3.1 to 3.3 below.

Table 1 Summary of impact dust and noise monitoring stations

ID	Monitoring Station
Dust	
CD1	Wong Chuk Hang San Wai
CD2	Police College – Police Quarters
CD3	San Wui Commercial Society of HK Chan Pak Sha School
CD4	Shan On House
CD5*	South Horizons Phase IV – Block 25
Noise	
CN1	San Wui Commercial Society of HK Chan Pak Sha School (Educational Institution)
CN2	Holy Spirit Seminary (Education Institution)
CN3*	Shun Fung Building (Residential)
CN4*	South Horizons Phase IV – Block 25 Dover Court (Residential)
CN5*	TWGHs Jockey Club Rehabilitation Complex Block A (Convalescent Home)

* Location updated due to site access problem, or as per the agreement with the premises landlord, and agreed with EPD

Table 2 Summary of impact water quality monitoring stations

ID	Location	Easting	Northing
WM1	Aberdeen West Typhoon Shelter	833953	811923
WM2	Wong Chuk Hang Nullah	834547	811966
WM3	WSD Brick Hill Seawater Intake	834896	811567
WM4	Aberdeen South Typhoon Shelter	834761	811292
CS1	Control Station	832689	811967
CS2	Control Station	834852	810689

2.5 Summary of EM&A Requirements

The EM&A programme as specified in the EM&A Manual has been implemented during the construction stage.

In the reporting period, impact monitoring of LAeq, 30min noise levels was carried out at the monitoring locations as shown in Table 1 once every week. Also, 24-hour TSP monitoring was conducted at the monitoring locations as shown in Table 1 once every week. Impact water quality monitoring at Aberdeen Channel was also undertaken at the monitoring locations as shown in Table 2 three working days per week at mid-ebb and mid-flood tides.

Action and Limit Levels for construction noise and air quality as well as water quality are shown in Appendices B1 and B2 respectively. Should non-compliance of the criteria occurs, action in

accordance with the respective Event and Action Plans for construction noise, air quality and water quality in the EM&A Manual / Updated EM&A Manual should be carried out.

Monthly monitoring of the ardeid night roost location beside Wong Chuk Hang Nullah by qualified ecologist was also conducted.

In addition, regular site inspection to active works areas was carried out. The areas of inspection included the pollution control and mitigation measures within the site. Waste management and landscape and visual aspects were covered.

3 IMPACT MONITORING

3.1 Air Quality

Monitoring Methodology

24-hour TSP samples were collected by High Volume Sampler (Graseby-Andersen) following United Sates Environmental Protection Agency regulations.

The sampling procedure follows to that described in the App. B of Pt 50 in 40CFR Ch.1 (U.S. Environmental Protection Agency). TSP is sampled by drawing air through a conditioned, pre-weighed filter paper inside the high volume sampler at a controlled rate. After 24-hour sampling, the filter paper with retained particles is collected and returned to the laboratory for drying in a desiccators followed by weighing. TSP levels are calculated from the ratio of the mass of particulate retained on the filter paper to the total volume of air sampled.

The samplers have been properly maintained. Prior to dust monitoring commencing, appropriate checks have been made to ensure that all equipment and necessary power supply are in good working condition.

Calibration Requirements

The flow rate of the high volume sampler with mass flow controller is calibrated using an orifice calibrator. Initial calibration (five points) is conducted upon installation and prior to commissioning. Calibration will be carried out every six months. The calibration records are shown in **Appendix C**.

Monitoring Results

To examine the construction dust levels, 24-hour TSP monitoring was undertaken at the monitoring locations as shown in Table 1 according to the EM&A Manual.

Monitoring results are presented in the following table (see **Appendix D** for graphical plots). The 24-hour TSP levels were within the Action Level. No exceedance was found. This indicates that the construction activities did not have a noticeable adverse effect on the general air quality of the project areas.

Date	TSP (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)	Compliance (Yes/No)	Weather Condition
CD1 Wong Chuk Hang San Wai					
3-Oct	45.6	173	260	Yes	Cloudy
11-Oct	26.4	173	260	Yes	Cloudy
18-Oct	109.0	173	260	Yes	Cloudy
25-Oct	75.4	173	260	Yes	Fine
CD2 Police College – Police Quarters					
3-Oct	43.3	184	260	Yes	Cloudy
11-Oct	78.3	184	260	Yes	Cloudy
19-Oct	77.8	184	260	Yes	Cloudy
25-Oct	84.7	184	260	Yes	Fine
CD3 San Wui Commercial Society of HK Chan Pak Sha School					
3-Oct	47.7	169	260	Yes	Cloudy
11-Oct	35.9	169	260	Yes	Cloudy
20-Oct	104.1	169	260	Yes	Cloudy
26-Oct	76.1	169	260	Yes	Fine
CD4 Shan On House					
6-Oct	76.4	176	260	Yes	Fine
13-Oct	29.9	176	260	Yes	Cloudy
20-Oct	20.7	176	260	Yes	Fine
25-Oct	70.9	176	260	Yes	Fine
CD5 South Horizons Phase IV – Block 25					
6-Oct	101.4	169	260	Yes	Fine
13-Oct	51.2	169	260	Yes	Cloudy
17-Oct	125.1	169	260	Yes	Fine
25-Oct	97.7	169	260	Yes	Fine

3.2 Noise

Monitoring Methodology

Monitoring was conducted using B&K sound analysis equipment – B&K SLM 2250. Microphone was extended 1 meter from building facades and oriented towards the works area.

Calibration Requirements

B&K 2250 sound level meters and B&K 4231 calibrators which complied with the International Electrotechnical Commission Publication 651:1979 (Type 1) and 804:1985 (Type 1), specification as referred to in the Technical Memoranda to the NCO were used for the impact monitoring. The sound level meters and calibrators are verified by the certified laboratory or manufacturer once every two years to ensure they perform to the same level of accuracy as stated in the manufacturer's specifications. The calibration records are shown in **Appendix C**.

Immediately prior to and following each set of measurements at any NSR, the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. If the calibration levels before and after the measurement differs by more than 1.0dB, the measurement shall be repeated to obtain a reliable result (note: maximum deviation during this initial baseline monitoring period was 0.3dB). Periods of prolonged or repeated overloading of the sound level meter detector were

avoided by setting the meter with adequate headroom prior to commencing measurements. Measurements were recorded to the nearest 0.1 dB, with values of 0.05 being rounded up.

Monitoring Results

Impact monitoring of LAeq, 30min noise levels was undertaken to measure construction noise levels in accordance with the Updated EM&A Manual at the monitoring locations as shown in Table 1.

Monitoring results are presented in the following table (see **Appendix D** for graphical plots). No exceedance was found. It was noted that the noise level recorded at San Wui Commercial Society of HK Chan Pak Sha School on 27 October 2011 was of 73.8dBA. Though this exceeded the construction noise criteria of 70dBA, this was in line with the updated prediction of noise levels as contained in the construction noise mitigation measures plan submitted under the Environmental Permit and thus complied with the Limit Level as defined in the updated EM&A Manual. No further action was taken.

Date	Time	LAeq (dBA)	Limit Level (dBA)	Compliance (Yes/No)	Weather Condition
CN1 San Wui Commercial Society of HK Chan Pak Sha School					
7-Oct	9:40	69.7	70#	Yes	Cloudy
14-Oct	11:05	69.9	70#	Yes	Cloudy
20-Oct	9:45	69.6	70#	Yes	Cloudy
27-Oct	16:15	73.8	70#	Yes	Fine
CN2 Holy Spirit Seminary					
7-Oct	16:20	67.9	70#	Yes	Cloudy
12-Oct	10:20	68.9	70#	Yes	Cloudy
19-Oct	10:40	66.3	70#	Yes	Cloudy
26-Oct	11:00	68.9	70#	Yes	Fine
CN3 Shun Fung Building					
6-Oct	13:35	74.3	75#	Yes	Fine
13-Oct	14:25	74.9	75#	Yes	Cloudy
17-Oct	16:25	67.5	75#	Yes	Fine
25-Oct	11:30	67.3	75#	Yes	Fine
31-Oct	16:50	68.1	75#	Yes	Fine
CN4 South Horizons Phase IV – Block 25 Dover Court					
6-Oct	9:40	68.8	75#	Yes	Fine
14-Oct	10:30	70.5	75#	Yes	Cloudy
17-Oct	15:15	68.5	75#	Yes	Fine
25-Oct	10:15	70.4	75#	Yes	Fine
31-Oct	16:05	66.0	75#	Yes	Fine
CN5 TWGHs Jockey Club Rehabilitation Complex Block A					
6-Oct	10:35	73.8	75	Yes	Cloudy
14-Oct	10:15	72.1	75	Yes	Cloudy
19-Oct	9:45	72.3	75	Yes	Cloudy
26-Oct	10:10	72.7	75	Yes	Fine

Note: (#)Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

3.3 Water Quality

Monitoring Methodology

Water quality was monitored in terms of the following parameters: Dissolved Oxygen (DO, mg/L) and Dissolved Oxygen Saturation (DO %), temperature (^{o}C), pH, turbidity (NTU), salinity (ppt), suspended solids (mg/L) and water depth (m). All parameters were measured in-situ whereas SS shall be determined by the laboratory.

Water samples were taken with a water sampler, consisting of a transparent PVC cylinder of 2 litres that can be effectively sealed with cups at both ends. The water sampler has a positive latch system to keep it open and prevent premature closure until released by a messenger when the sampler arrives is at the pre-determined depth.

Measurement was taken at 3 water depths, namely, 1m below water surface, mid-depth and 1m above sea bed, except where the water depth less that 6m, the mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station was monitored. Duplicate in-situ measurements and samples were collected and analyzed to ensure a robust statistically interpretable dataset. Where the difference in value between the first and second measurement of DO or turbidity parameters is more than 25% of the value of the first reading, the reading was discarded and further readings were taken.

Water samples for all monitoring parameters were collected, stored, preserved and analyzed according to APHA Standard Methods. Water samples were stored in high-density polythene bottles, packed in ice and delivered to the laboratory of ETS-Testconsult Limited, a HOKLAS accredited laboratory.

The SS determination work was start within 24 hours after collection of the water samples. The SS analyses followed the standard method APHA 2540D with a detection limit of 1mg/L as described in APHA Standard Methods for the Examination of Water and Wastewater.

A digital depth detector was employed to determine the water depth at selected stations when flows permit.

Calibration Requirements

On-site monitoring equipment namely the salinity meter, pH meter, turbidity meter, dissolved oxygen meter and temperature meter were calibrated before use. The methodologies for the calibration are referred to the instruction manual provided by the manufactures respectively. The calibration records are shown in **Appendix C**. Response of sensors and electrodes was checked with certified standard solutions before each use.

Monitoring Results

Impact water quality monitoring was undertaken in accordance with the EM&A Manual at the six designated monitoring locations at Aberdeen Channel as shown in Table 2 during the reporting period. Monitoring locations WM1-WM4 cover the Aberdeen West Typhoon Shelter, Wong Chuk Hang Nullah, WSD Brick Hill Seawater intake and Aberdeen South Typhoon Shelter while monitoring location CS1 and CS2 are the control stations. CS1 and CS2 are the upstream control stations for the Ebb and Flood tide conditions respectively.

Monitoring results and graphical plots are presented in **Appendix D**.

3.4 Action taken in Event of Exceedence

There was no exceedance in air quality and noise monitoring parameters recorded in the reporting period, therefore no action was taken.

Exceedances in DO against Action/ Limit Levels were recorded at monitoring stations WM1 to WM4 on 5th, 7th, 9th, 11th, 13th, 15th, 17th, 19th, 21st, 24th, 26th, 28th and 31st in the reporting month. The exceedances were considered not related to the project works. Please refer to **Appendix E** for the review of exceedance in water quality monitoring.

4 LANDSCAPE AND VISUAL

4.1 EM&A Requirements

The landscape and visual mitigation measures undertaken by the contractors during the construction phase have been audited on a regular basis according to the EM&A Manual.

4.2 Site Audit Results

Regular inspections and audits were conducted by the Certified Arborist as required by the EP and it was found that the transplanting works and the tree protection works being carried out by the civil works and transplantation contractors were in accordance with the EP/ EIA. No non compliance was identified in the reporting period.

Retained Trees

No immediate hazards were noted for any of the OVTs during reporting period.

Health conditions of the two retained and pruned trees, *Ficus elastica*, located at Wong Chuk Hang San Wai have been monitored. The contractor had enhanced the tree protection zone and was reminded to properly maintain the protection zone.

Transplanted Tree

Total of 354 trees of the SIL(E) had been transplanted as of the reporting month. They were mostly transplanted to the holding nursery at Chung Hom Shan and Kellett Bay, permanent receptor sites such as Lok Ma Chau or in-situ under project areas.

5 ECOLOGY

5.1 EM&A Requirements

Auditing of the ecological mitigation measures during the construction phase have been carried out on a regular basis according to the EM&A Manual.

5.2 Site Audit Results

Ardeid Night Roost

Regular inspections to the works areas around the ardeid night roost have been conducted by the ecologist to check the ecological mitigation measures with regard to the ardeids at Wong

Chuk Hang Nullah. Inspections of the ardeid night roost have been made for any active ardeid nests. Whilst ardeids have never been recorded nesting at this site, precautionary checks for active nests or signs of breeding have been made.

Monthly monitoring of the ardeid night roost location was also conducted by the ecologist from a vantage point, the Ap Lei Chau Bridge (on the Wong Chuk Hang side), with an unobstructed view over the area. According to the EM&A Manual, the surveys have been commenced approximately one hour before sunset and continue for 20 minutes after sunset, or until nightfall, which comes sooner. Any aggregation of night roosting ardeid in the degraded woodland or adjacent area have been located and counted.

The monthly night ardeid survey was conducted on 11 October 2011 at 5:45 pm.. A total of 207 ardeids, all of which were Little Egrets, arrived at the roost location at Wong Chuk Hang Nullah and no ardeid breeding behaviour was recorded during the monitoring survey.

Proper tree protection measures have been implemented as practical as possible by the contractor to the current and potential roost trees retained on site. However, potential risks of some of these slope trees are noted and recommendation has been made to remove the these slope trees due to the safety concerns.

Plant Species of Conservation Interest

Detailed field survey led by the ecologist was undertaken in March and early May 2011 to ascertain the presence of any rare or protected flora species to be affected. The surveys covered all above ground works areas of the project and the survey results were presented in the Detailed Transplanting Baseline Survey Report submitted under the Environmental Permit.

As in the Detailed Transplantating Baseline Survey Report, two plant species of conservation interest recorded in the degraded woodland to the south of Wong Chuk Hang Nullah, namely herb *Houttuynia cordata* and tree *Aquilaria sinensis* (including seedlings), and planted young tree *Ailanthus fordii* (including seedlings) recorded in a plantation area near Hong Kong Park will be influenced by the project works. Other plant species of conservation interest identified will be protected on-site and appropriate tree protection measures would be established if needed. Health condition of the most plant species generally remained unchanged as in the Detailed Transplanting Baseline Survey Report. However, it is noted that health condition of *Ailanthus fordii* (tree no. OCP-T2231), which is outside the active works area at Wong Chuk Hang San Wai, was found to be declining. Two *Aquilaria sinensis*, which are located outside the active works area to the north of Nam Fung Road, were also found in very poor health condition and suspected to be dead specimens.

To suit the works programme, transplantation of the recorded young specimens of *Ai. fordii* (including seedings) was undertaken by the Transplantation Contractor on 24 October 2011 under the supervision of the ecologist. The transplantation methodology as stipulated in the Transplantation Proposal was followed. The receptor site was located at the same plantation area near Hong Kong Park. Regular monitoring on the transplanted specimens has been conducted. The transplanted specimens remained in fair condition and a protection fence was established around the receptor site to prevent damage resulting from the adjacent construction works,

Regular monitoring on the transplanted *H. cordata* and the root-pruned *Aq. sinensis* has been conducted. The transplanted herb was in fair health condition and a protection fence has been maintained around the receptor site. The two root-pruned, *Aq. sinensis*, have remained in fair health condition and have been supported by guying to ensure their stability on the slope.

6 WASTE MANAGEMENT

Mitigation measures on waste management have been implemented in accordance with the site waste management plans for the respective civil works contracts. The C&D materials have been disposed of at the public fill reception facilities while C&D wastes have been disposed of at the landfills. Quantities of wastes disposed in the reporting period are summarized in the following table:

Contract No	Inert C&D Materials Disposed at Public Fill (m^3)	Inert C&D Materials Reused (m^3)	Non-inert Waste Disposed at Landfill (m^3)	Chemical Waste to Designated Treatment Facility (litre)
Reporting Period: October 2011				
Contract 901	N/A	1,488	60	N/A
Contract 902	1,662	96	60	1,600
Contract 903	5	4,085	45	1,200
Contract 904	6,205	185	84	N/A
Contract 907	18,708	171	23	1,200

7 RECORD OF ENVIRONMENTAL COMPLAINTS

Three environmental complaints were referred from EPD in the reporting period:-

1. A complaint was received from EPD on 10 October 2011 regarding soil/ muddy water discharging from the construction site at Heung Yip Road, Wong Chuk Hang.

   It was noted from the site investigations that proper mitigation measures including placement of concrete bunds or sand bags along the edge of the nullah have been implemented to avoid soil/ muddy water entering into the nullah and no irregularities were observed. Regular inspections will be continued to ensure proper implementation of the above mitigation measures.

   The investigation report had been sent to EPD.

2. A complaint was referred from EPD on 18 October 2011 regarding general construction noise from the construction site at Lee Nam Road;

   It was noted from the investigation that night time equipment delivery was arranged since the concerned construction vehicle and trailer carrying crawler crane are only allowed to be driven on public road from 01:00am to 06:00am. The operation was intended to park the vehicle outside the site area and unload the equipment after 07:00am in the morning, however it was discovered that the front part of the vehicle was in the location of the road-bend area on a single carriageway which may seriously block the sight of drivers on the opposite lane's traffic. In view of the road safety and the potential risk to endanger the road users, the crane operator therefore had no choice to decide to unload the crawler crane within the site area as soon as practicable.

   The main contractor and all his sub-contractors were again reminded about the statutory requirements regarding working during restricted hours. Induction training and toolbox talk by the contractor will also be enhanced.

The investigation report had been sent to EPD.

3. A complaint was received from EPD on 25 October 2011 regarding daytime construction noise from the construction site at ex-Wong Chuk Hang Estate.

   The works adjacent to Nam Long Shan Road in the WCH Depot site included concrete breaking and excavation. No percussive piling works are involved in the WCH Depot site.

   Noise measurement was conducted by the ET on 27 October 2011 at the designated noise monitoring station at the San Wui Commercial Society of Hong Kong Chan Pak Sha School, opposite to the WCH Depot site. The measured noise level was 73.8dB(A) which was in line with the updated prediction of noise levels as contained in the construction noise mitigation measures plan. Nevertheless, a number of movable noise barriers have been erected on site. And the noise mitigation measures are being enhanced along Nam Long Shan Road to further reduce the noise nuisance to the NSRs nearby.

   The investigation report had been sent to EPD.

8 RECORD OF NON-COMPLIANCES

As detailed in S3.4, exceedances in water quality monitoring parameters against Action/ Limit Levels were recorded in the reporting month. The exceedances were considered not related to the project works. There was no other non-compliance identified in the reporting period.

9 RECORD OF NOTIFICATIONS OF SUMMONS AND PROSECUTIONS

No summon or prosecution related to environmental issue was received or made against the Project in the reporting period.

10 STATUS OF STATUTORY SUBMISSIONS

10.1 Submissions required under Environmental Permit

A summary of the status of submissions required under the SIL(E) Environmental Permit as of 31 October 2011 is shown below:

EP Clause No.	Description of Submission	Status
1.11	Commencement date of construction	Submitted on 25 May 2011
1.14	Commencement date of operation	To be submitted no later than 2 months prior to commencement of operation of the Project
2.1 & 2.2	Employment of IEC & ET	Submitted on 6 Apr 2011
2.3	Employment of Qualified Ecologist	Submitted on 6 Apr 2011
2.4	Employment of Certified Arborist	Submitted on 6 Apr 2011
2.5	Management organization of main construction companies	Submitted on 9 Jun 2011

EP Clause No.	Description of Submission	Status
2.6	Construction programme & EP submission schedule	Submitted on 10 Jun 2011
2.7	Set up of Community Liaison Group	Submitted on 20 Apr 2011
2.8	Updated EM&A Manual	Submitted on 16 May 2011
2.9	Construction noise mitigation measures plan	Contract 903: Resubmitted on 28 Jul 2011 Contract 907: Resubmitted on 5 Aug 2011 Contract 904 (South Horizons): Further comments received on 25 Oct 2011 Contract 904 (Lei Tung): Submitted on 17 Aug 2011
2.11	Construction & demolition materials management plan for barging points	Resubmitted on 30 Sep 2011
2.13 (a)	Ecological planting & landscape plan	Further comments received on 27 Sep 2011
2.13 (b)	As built drawings of ecological planting & landscape works	To be submitted no later than 1 month after completion of planting works (at Wong Chuk Hang nullah)
2.13 (c)	Final monitoring report of ecological planting & landscape works	To be submitted no later than 1 month after completion of the 3-year post planting care and maintenance period
2.14 (a)	Detailed transplanting baseline survey report for plant species of conservation interest	Resubmitted on 8 Sep 2011
2.14 (b)	Transplantation proposal for plant species of conservation interest	H. cordata: EP Condition fulfilled dated 15 Sep 2011 A. sinensis: Resubmitted on 17 Oct 2011 and further comments received on 25 Oct 2011 A. fordii: Resubmitted on 23 Sep 2011
2.14 (c)	As built drawings of transplanting works for plant species of conservation interest	H. cordata: EP Condition fulfilled dated 15 Sep 2011 A. sinensis & A. fordii: To be submitted no later than 1 month after completion of transplanting works
2.15	Tree protection plan	EP Condition fulfilled dated 12 Aug 2011
2.16(a)	Silt curtain plan	EP Condition fulfilled dated 12 Aug 2011

EP Clause No.	Description of Submission	Status
2.19	Operational groundborne noise review plan	To be submitted no later than 1 month after completion of corresponding parts of tunnel excavation
2.20	Operational groundborne noise mitigation measures plan	To be submitted no later than 1 month prior to installation of rail tracks
2.21	As built drawings for operational groundborne noise mitigation measures	To be submitted no later than 1 month after completion of tracks installation
2.23	As built drawings for operational airborne noise mitigation measures on viaduct section	To be submitted no later than 1 month after completion of noise mitigation measures installation on viaduct section
2.24	Noise performance test report	To be submitted no later than 1 month prior to commencement of operation of the Project
2.25	Fixed plant noise audit report	To be submitted no later than 1 month prior to commencement of operation of the Project
2.26	Visual & landscape plan	To be submitted no later than 1 month before commencement of corresponding parts of landscape works
3.3	Baseline monitoring report	Revised report (amendment pages) sent for agreement on 30 Sep 2011
3.4	Monthly EM&A reports	Submit within 2 weeks after the end of the reporting month
4.2	Internet address of EM&A and project data	Submitted on 25 Jul 2011

10.2 Statutory Permits and Licenses

A summary of the status of all relevant environmental permit and licenses as of 31 October 2011 is shown below:

Description		Effective Date	Expiry Date
Environmental Permit for South Island Line (East)	EP-407/2010	8/12/2010	N/A
Contract 901			
Chemical Waste Producer Licence	5213-124-K3004-01	23/5/2011	N/A
Waste Disposal	7012859	1/6/2011	N/A
Water Discharge Licence	WT00009466-2011	4/7/2011	30/7/2016

Description		Effective Date	Expiry Date
Construction Noise Permit (CNP) for Harcourt Road	GW-RS0739-11	11/8/2011	31/1/2012
Contract 902			
Chemical Waste Producer Licence	5213-175-N2206-12	24/6/2011	N/A
Waste Disposal	7012912	26/5/2011	N/A
Water Discharge Licence for HK Park	WT00009688-2011	22/7/2011	30/7/2016
Water Discharge Licence for Nam Fung Path	WT00009749-2011	22/7/2011	30/7/2016
Water Discharge Licence for CHS Magazine	WT00009842-2011	11/8/2011	31/8/2016
Water Discharge Licence for Telegraph Bay Barging Point	WT00010649-2011	27/10/2011	31/10/2016
CNP for Nam Fung Path	GW-RS0755-11	19/08/2011	19/1/2012
Contract 903			
Chemical Waste Producer Licence	5213-175-L2174-31	14/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-32	30/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-33	30/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-34	30/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-35	30/6/2011	N/A
Waste Disposal	7012721	12/5/2011	N/A
Water Discharge Licence for Ap Lei Chau (ALC) Bridge	WT00009838-2011	5/8/2011	31/8/2016
Water Discharge Licence for WCH Station	WT00009928-2011	16/8/2011	31/8/2016
Water Discharge Licence for Zone B	WT00009931-2011	16/8/2011	31/8/2016
Water Discharge Licence for OCP station	WT00010501-2011	3/10/2011	31/10/2016
Water Discharge Licence for Zone D	WT00010319-2011	3/10/2011	31/10/2016
Water Discharge Licence for Zone C	WT00010648-2011	24/10/2011	31/10/2016
CNP for WCH station	GW-RS0674-11	29/7/2011	28/1/2012
CNP for Zone E	GW-RS0747-11	16/8/2011	15/2/2012
CNP for OCP station	GW-RS0750-11	19/8/2011	14/2/2012
CNP for Zone C	GW-RS0786-11	23/8/2011	16/10/2011(Expired)
CNP for WCH station	GW-RS0799-11	30/8/2011	14/10/2011(Expired)
CNP for ALC Bridge	GW-RS0842-11	19/9/2011	4/3/2012
CNP for TTM	GW-RS0871-11	23/9/2011	21/10/2011(Expired)
CNP for Zone C	GW-RS0892-11	28/9/2011	14/10/2011(Expired)
CNP for Zone B	GW-RS0920-11	12/10/2011	30/11/2011
CNP for WCH station (Designated Area)	GW-RS0974-11	27/10/2011	26/04/2012
CNP for WCH station (Non Designated Area)	GW-RS0976-11	27/11/2011	26/04/2012
CNP for Zone D	336748	Application submitted on 20/10/2011	Pending
CNP for Zone E	337128	Application submitted on 28/10/2011	Pending
CNP for WCH station and Zone C	337136	Application submitted on 28/10/2011	Pending
Contract 904			
Chemical Waste Producer License for ALC Bridge Rd near Sham Wan Towers	5111-174-L2758-04	4/8/2011	N/A
Chemical Waste Producer License for ALC Bridge Rd near Harbour Mission School	5111-174-L2758-03	4/8/2011	N/A

Description		Effective Date	Expiry Date
Chemical Waste Producer License for ALC Main Street near Sunny Court	5111-174-L2758-05	4/8/2011	N/A
Chemical Waste Producer License for Lei Tung Estate Rd near Kaifong Primary School	5111-174-L2758-02	4/8/2011	N/A
Chemical Waste Producer License for Lee Nam Rd Sitting Out Area	5111-174-L2758-01	4/8/2011	N/A
Chemical Waste Producer License for Lee Nam Rd Sitting Out Area No. 2	5111-174-L2758-07	4/8/2011	N/A
Chemical Waste Producer License for Yi Nam Rd intersect with Lee Nam Rd & SOH Drive	5111-174-L2758-06	4/8/2011	N/A
Waste Disposal	7012979	25/6/2011	N/A
Water Discharge License for ALC Bridge Rd near Sham Wan Towers	WT00009781-2011	5/8/2011	31/8/2016
Water Discharge License for ALC Bridge Rd near Harbour Mission School	WT00009778-2011	5/8/2011	31/8/2016
Water Discharge License for ALC Main Street near Sunny Court	WT00009777-2011	5/8/2011	31/8/2016
Water Discharge License for Lei Tung Estate Rd near Kaifong Primary School	WT00009780-2011	5/8/2011	31/8/2016
Water Discharge License for Lee Nam Rd Sitting Out Area	WT00009779-2011	5/8/2011	31/8/2016
Water Discharge License for Lee Nam Rd Sitting Out Area No. 2	WT00009783-2011	5/8/2011	31/8/2016
Water Discharge License for Yi Nam Rd intersect with Lee Nam Rd & SOH Drive	WT00009775-2011	5/8/2011	31/8/2016
CNP for ALC Bridge Playground	GW-RS0700-11	5/8/2011	4/2/2012
CNP for ALC Bridge Road	GW-RS0953-11	1/11/2011	31/12/2011
Contract 907			
Chemical Waste Producer Licence	5113-175-C3675-01	24/6/2011	N/A
Waste Disposal	7012950	31/5/2011	N/A
Waste Disposal for barges	7013400	26/8/2011	N/A
Water Discharge Licence for barging point	WT00009896-2011	11/8/2011	31/8/2016
Water Discharge Licence for WCH Depot	WT00010365-2011	21/9/2011	30/9/2016
Water Discharge Licence for bus terminus	WT00010366-2011	21/9/2011	30/9/2016

11 SITE INSPECTIONS

11.1 Implementation of Environmental Mitigation Measures

Regular site inspections were undertaken by the ET in accordance with the EM&A Manual to check the implementation of environmental mitigation measures in the EIA. The contractors' performance on environmental matters was assessed. The environmental mitigation measures are being implemented by the civil works contractors where appropriate.

11.2 Observations

The findings from the site inspections and the associated recommendations on improvement to the environmental protection and pollution control works were raised to the contractors for reference and/ or action. Observations against the implementation of the mitigation measures recommended in the EP/ EIA are summarized as follows:

Item	Description	Follow up Status
	Contract 901	
1	The contractor was reminded to provide drip trays for chemicals.	Improved and standard to be maintained.
2	The contractor was reminded to segregate C&D waste and general refuse properly. Proper labeling should be provided at sorting area.	Ongoing
3	The contractor was reminded to setup chemical storage area and chemical waste storage area.	Ongoing
4	The contractor was reminded to improve the site drainage system to divert the surface runoff to wastewater treatment facilities.	Ongoing
5	The contractor was reminded to complete the set up of wastewater treatment facilities and ensure that wastewater is properly treated prior to discharge.	The wastewater treatment plant has been put into operation.
6	The contractor was reminded to regularly clear the septic tanks to avoid overflowing of sewage.	Ongoing
7	The contractor was reminded to keep tree protection zone free of stockpiles or materials stacking.	Ongoing
8	The contractor was reminded to improve dust suppression measures.	Improved and standard to be maintained
9	The contractor was reminded that hand held breaker over 10 kg should be fitted with Noise Emission Label.	Ongoing
	Contract 902	
1	The contractor was reminded to provide drip trays for chemicals.	Improved and standard to be maintained
2	The contractor was reminded to properly maintain the site drainage system and provide adequate silt removal facilities.	On-going
3	The contractor was reminded to properly maintain the tree protection zone.	On-going
4	The contractor was reminded to spray water to the haul road and during handling of dusty materials for dust suppression.	On-going
5	The contractor was reminded to cover stockpiling or remove them as soon as possible.	Improved and standard to be maintained
6	The contractor is reminded to provide adequate temporary noise mitigation measures.	On-going
	Contract 903	
1	The contractor was reminded to provide drip tray for chemicals.	Ongoing
2	The contractor was reminded to provide appropriate labels for the chemical waste in the chemical waste store.	Ongoing
3	The contractor was reminded to improve housekeeping of the site.	Improved and standard to be maintained
4	The Contractor was reminded to pay attention to the site drainage for the works areas along the WCH nullah as well as the temporary working platform erected in the nullah as the works progress.	Ongoing

Item	Description	Follow up Status
5	The contractor was reminded to improve the tree protection works.	Ongoing
6	Water spraying system has been installed by the contractor at the WCH station area for dust suppression.	Improved and standard to be maintained
	Contract 904	
1	The contractor was reminded to provide drip trays for chemicals and remove stagnant water inside.	Improved and standard to be maintained
2	The contractor was reminded to maintain good housekeeping.	Improved and standard to be maintained
3	The contractor was reminded to properly maintain the site drainage system and provide adequate silt removal facilities.	Ongoing
4	The contractor was reminded to improve dust suppression measures.	Ongoing
5	The contractor was reminded to provide adequate temporary noise mitigation measures.	Ongoing
	Contract 907	
1	The contractor was reminded to provide drip tray for chemicals.	Ongoing
2	The contractor was reminded to provide drip tray / tarpaulin sheet during equipment maintenance works to prevent oil leakage.	Ongoing
3	The contractor was reminded to provide appropriate labels for the chemical waste in the chemical waste store.	Improved and standard to be maintained
4	The contractor was reminded to maintain good housekeeping.	Ongoing
5	The contractor was reminded to spray water to the haul/ access roads for dust suppression.	Improved and standard to be maintained
6	Movable noise barriers and acoustic fabric have been provided for the designated PMEs and along the site boundary respectively. The contractor was reminded to utilize the movable barrier for the breaking works.	Ongoing

11.3 Solid and Liquid Waste Management Status

Base on the findings of the site inspections, the Contractors' performance in solid and liquid waste management were acceptable and compliance with the EIA requirements were demonstrated. The current management standard should be maintained.

11.4 Other Notable Events

IEC Site Inspections

The IEC conducted site inspections for respective works areas on 10, 12, 14, 19, 20 and 25 October 2011. Minor irregularities including provision of movable noise barriers as necessary, paying attention to the site drainage and wastewater treatment were observed during the site inspections. Follow up actions had been taken by the respective civil works contractors.

12 FUTURE KEY ISSUES

Future key issues envisaged in the coming month include noise and dust emission from site works, disposal of C&D wastes arising as well as tree protection on site. The ET will continue the implementation of the EM&A programme in accordance to the EM&A Manual.

13 CONCLUSIONS

It is concluded from the environmental monitoring and audit works for the SIL(E) Project that the construction works were undertaken in an appropriately environmentally sensitive manner in the reporting period. The environmental protection and pollution control measures provided by the respective civil works contractors were generally acceptable apart from some minor irregularities which were rectified timely by the contractors.

The ET will continue the implementation of the EM&A programme in accordance to the EM&A Manual and to a level consistent with MTRCL's Corporate Sustainability Policy.

FIGURES

Figures 1 to 2
Works Areas of the Project

Figures 3 to 6
Location of Construction Air Quality Monitoring Stations

Figures 7 to 8
Location of Construction Noise Monitoring Stations

Figure 9
Location of Water Quality Monitoring Stations

Figure 1 – Works Areas of the Project (1 of 2)

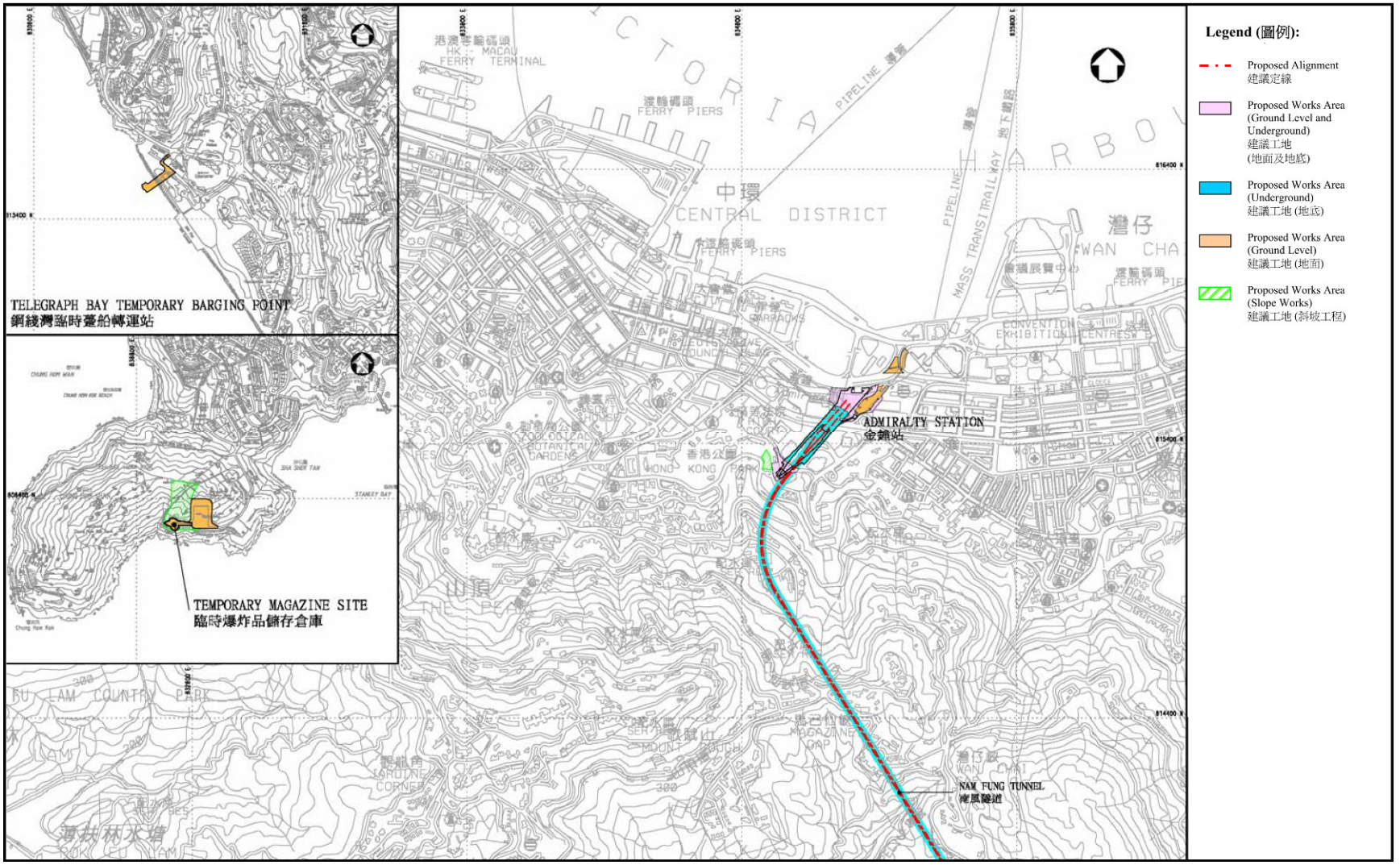


Figure 2 – Works Areas of the Project (2 of 2)

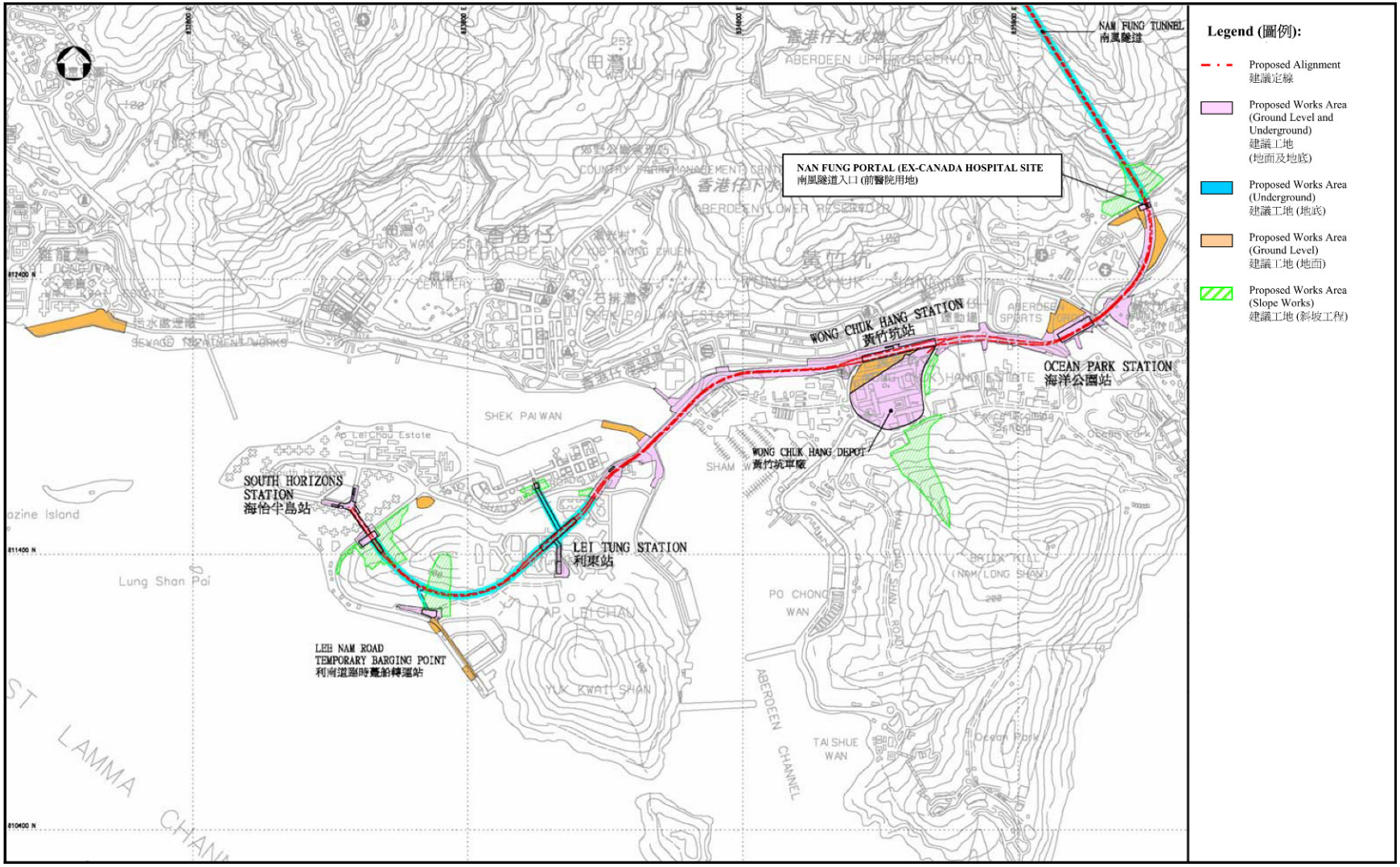


Figure 3 – Location of Construction Air Quality Monitoring Stations (1 of 4)

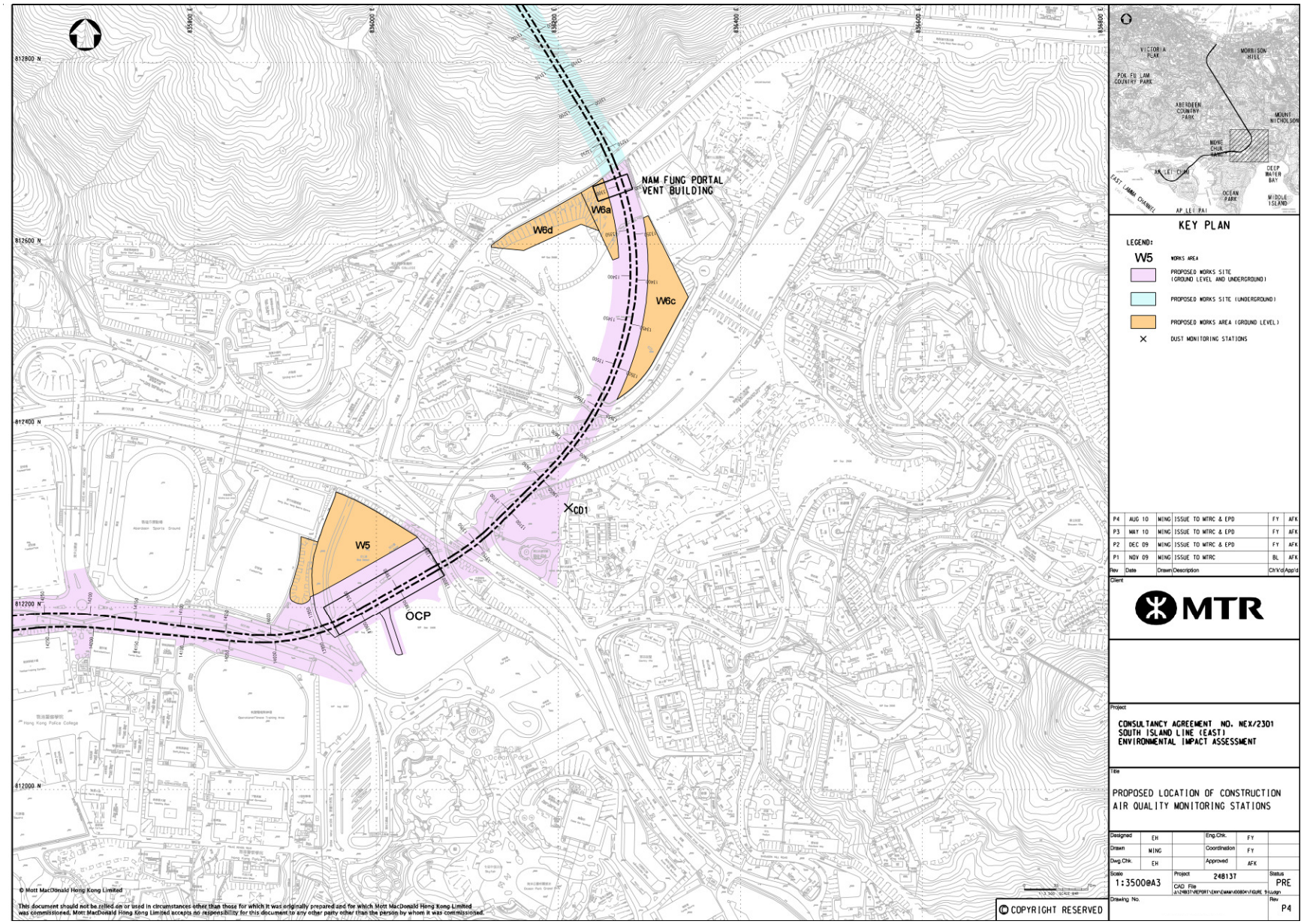


Figure 4 – Location of Construction Air Quality Monitoring Stations (2 of 4)

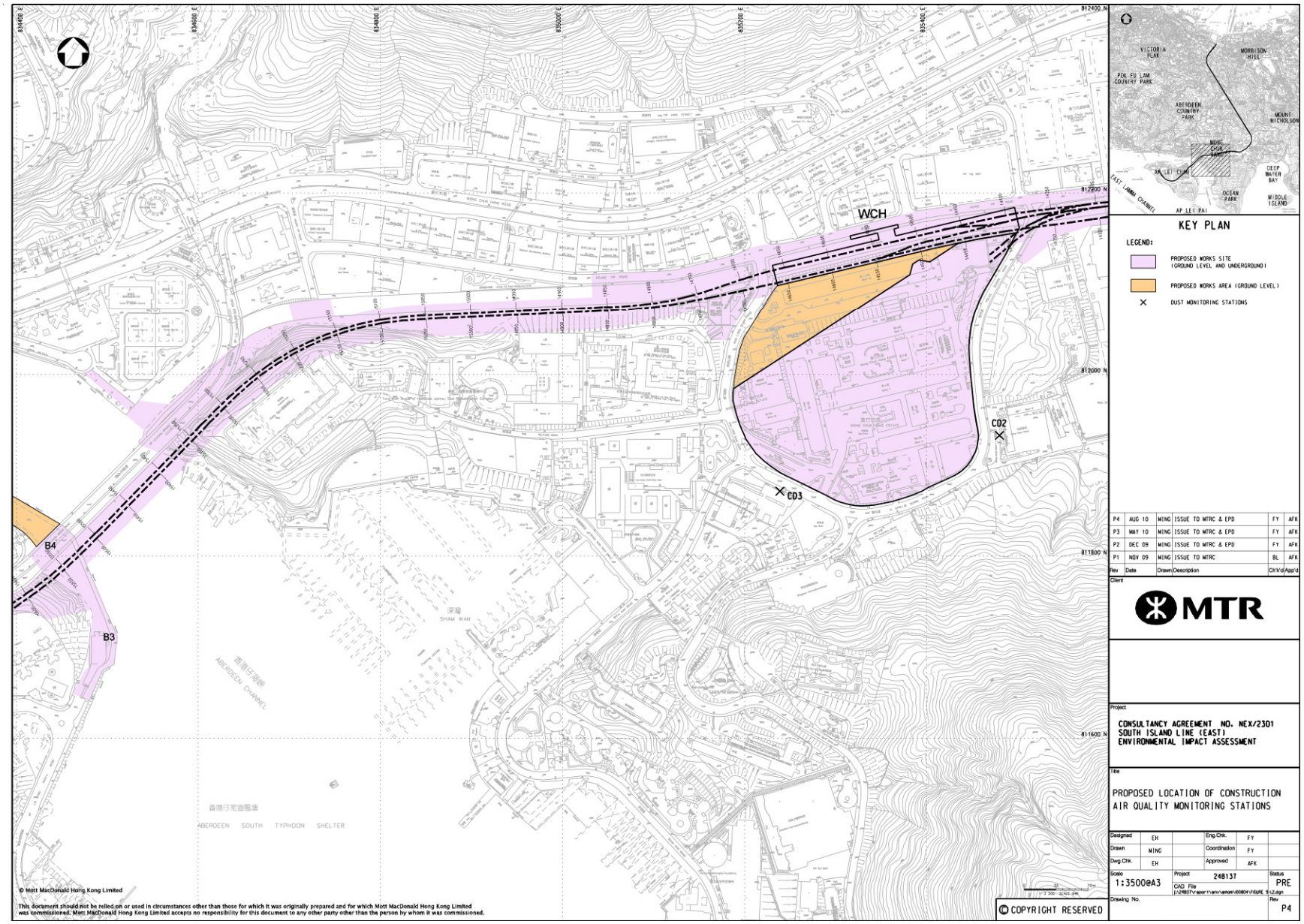


Figure 5 – Location of Construction Air Quality Monitoring Stations (3 of 4)

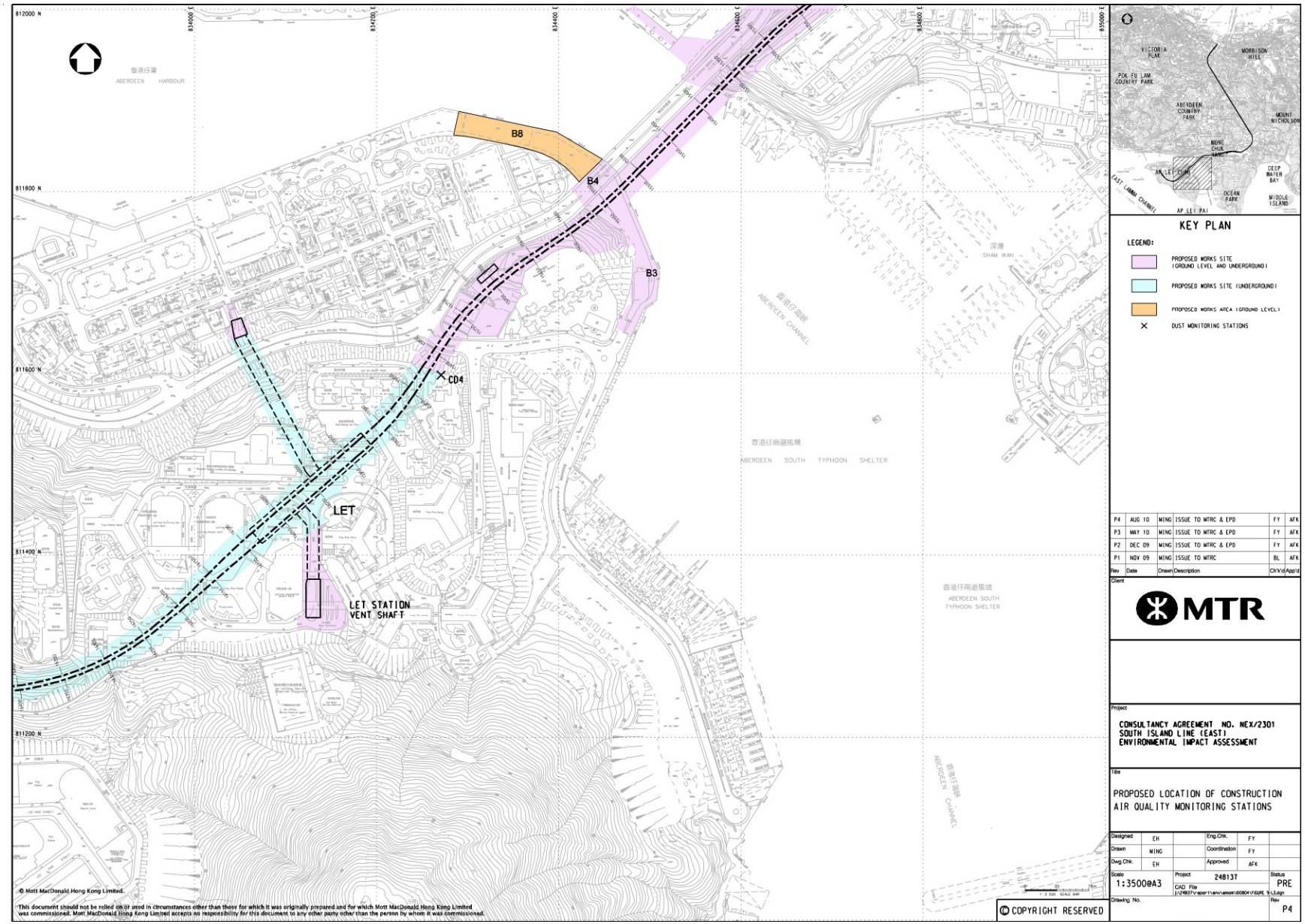


Figure 6 – Location of Construction Air Quality Monitoring Stations (4 of 4)

Figure 7 – Location of Construction Noise Monitoring Stations (1 of 2)

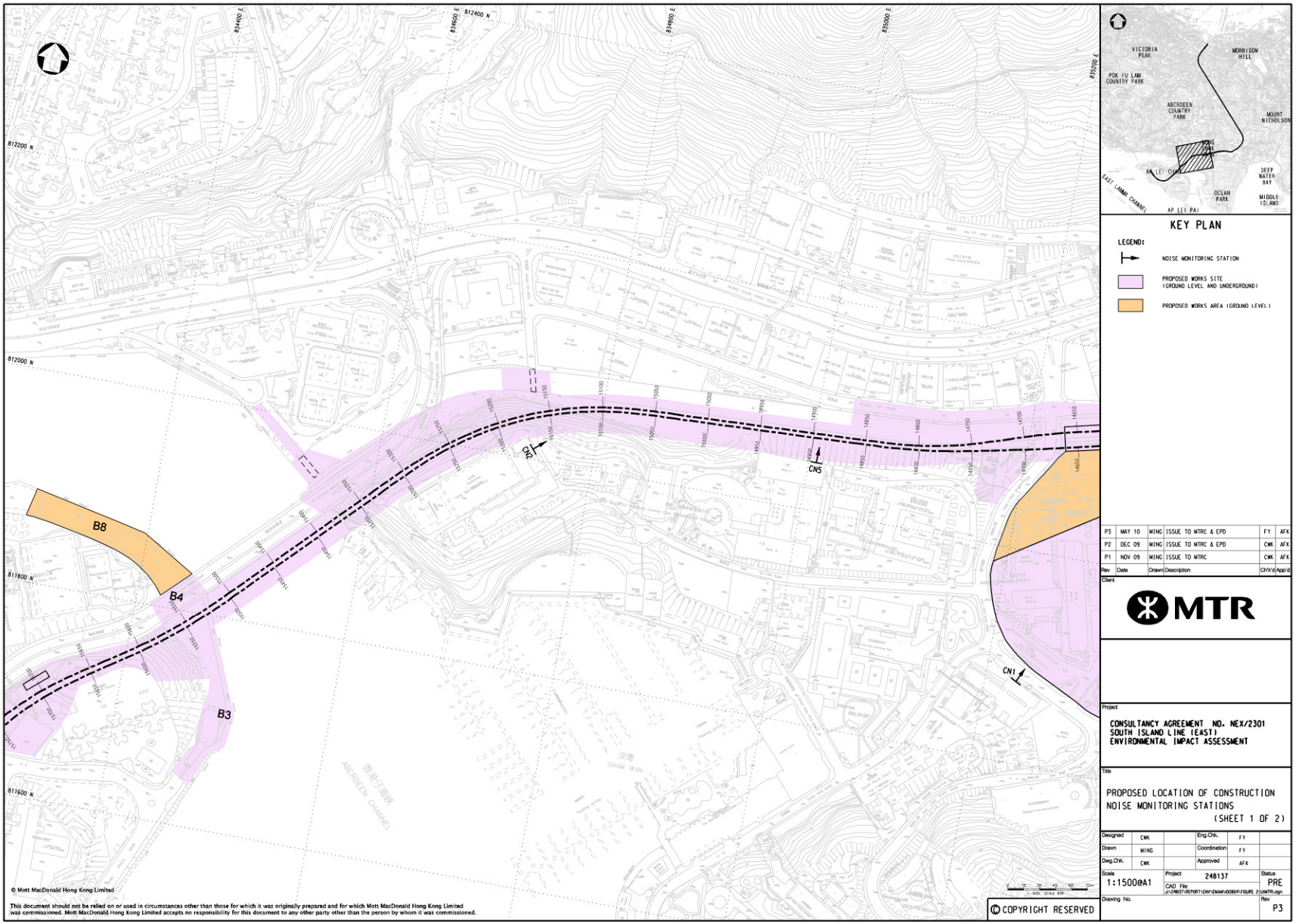


Figure 8 – Location of Construction Noise Monitoring Stations (2 of 2)

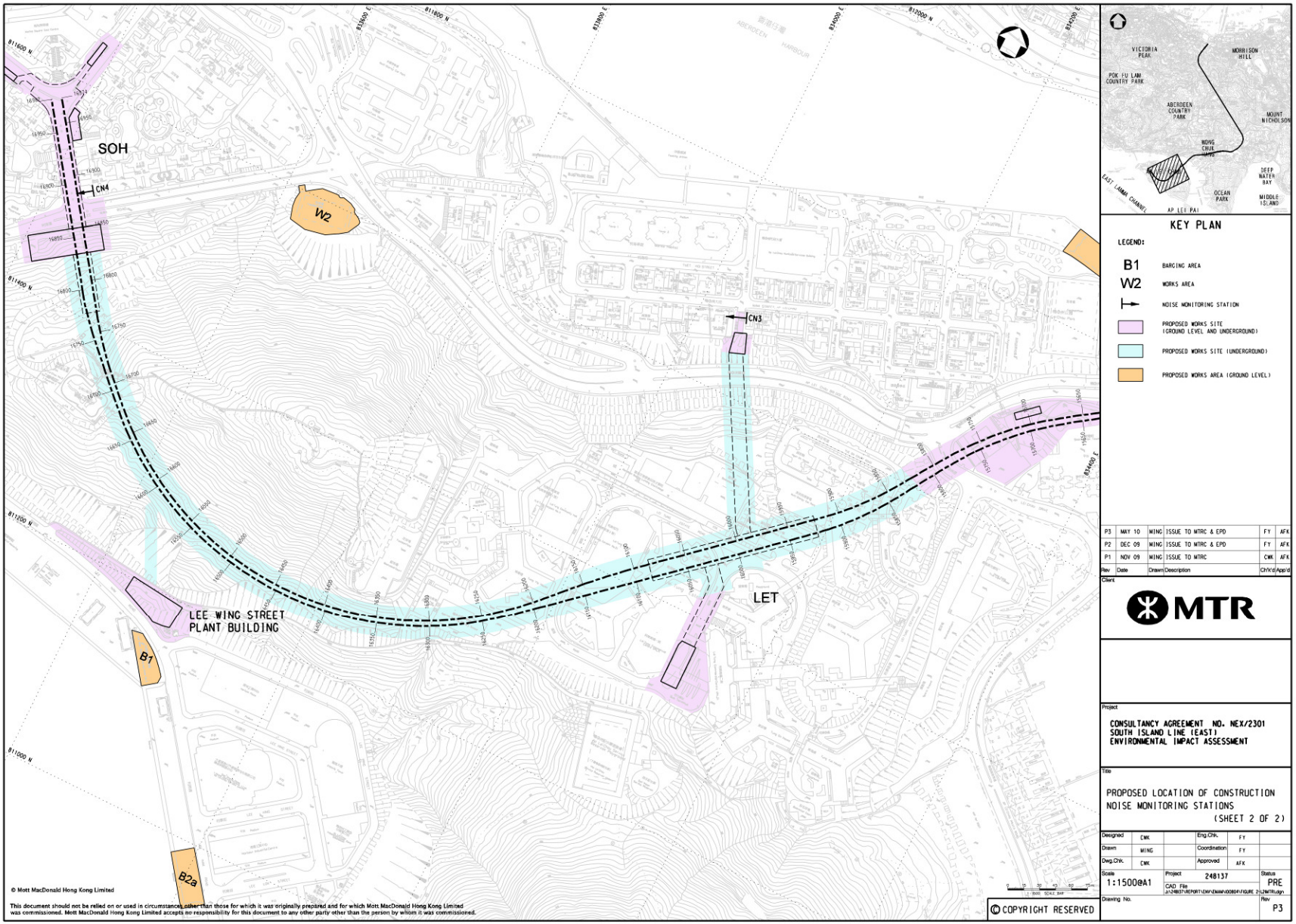
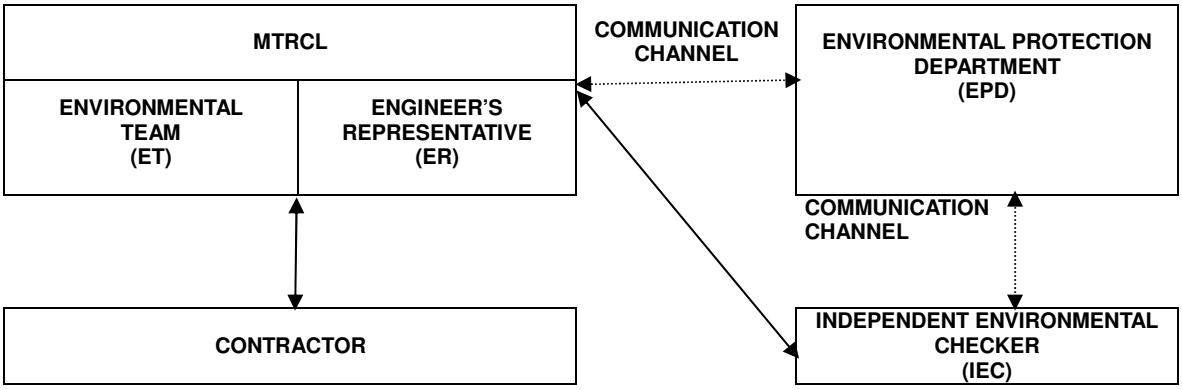


Figure 9 – Location of Water Quality Monitoring Stations

APPENDIX A1

Project Organization

Appendix A1
Project Organization and Lines of Communications



APPENDIX A2

Contact List of Key Personal of the Project

Appendix A2
Contact List of Key Personnel

Table A2.1 Contact List of Key Personnel of Project Management

Organization	Name	Telephone
Independent Environmental Checker	Mr. Thomas Chan	2268 3093
Environmental Team Leader	Mr. Richard Kwan	2688 1179
Engineer's Representative		
Project Manager – SIL Civil	Mr. Mark Cuzner	3987 8288
Construction Manager – SIL (901)	Mr. Neil Smith	2206 8688
Construction Manager – SIL (902 / 904)	Mr. Ken Wong	3987 8388
Construction Manager – SIL (903 / 907 / 908)	Mr. Kit Chan	2871 5888
Contract No. 901 **Admiralty Integrated Station and SCL Enabling Works** Main Contractor: Kier – Laing O'Rourke – Kaden Joint Venture		
Project Director	Mr. Matthew Bowe	9726 6117
QA & Environmental Manager	Mr. Ronald Fung	9777 7667
Contract No. 902 **Nam Fung Tunnel and Ventilation Buildings** Main Contractor: Nishimatsu Construction Co., Ltd.		
Contractors Representative	Mr. Colin Birky	9641 2485
Project Manager	Mr. Kozo Suguta	9227 9717
Contract No. 903 **Ocean Park Station, Wong Chuk Hang Station, Viaduct and Aberdeen Channel Bridge** Main Contractor: Leighton Contractors (Asia) Ltd.		
Project Director	Mr. Paul Freeman	9856 1988
Project Manager, Stations and Nullah	Mr. Ian Rawsthorne	9383 0735
Project Manager, Viaducts, Bridge and Precast	Mr. Jon Kitching	9101 9013

Organization	Name	Telephone
Contract No. 904 **Lei Tung Station, South Horizons Station and Tunnels** Main Contractor: Leighton – John Holland Joint Venture		
Operation Manager	Mr. Brain Gillon	2823 1178
Project Manager	Mr. Ken Henderson	2823 1134
Contract No. 907 **Wong Chuk Hang Depot Site Formation and Piling** Main Contractor: Chun Wo – Hip Hing Joint Venture		
Construction Manager	Mr. Wallace Yeung	9773 9711
Project Manager	Mr. Patrick Wong	9465 1064

Table A2.2 Contact List of Key Personnel of EPD

Organization	Name	Telephone
EPD		
Sr Env Protection Offr (Metro Assessment)	Mr. Steve Li	2835 1142
Sr Env Protection Offr (Regional S)	Mr. YK Chan	2516 1802
Sr Env Protection Offr (Regional S)	Mr. Sean Law	2516 1806

APPENDIX B1

Action and Limit Levels for Construction Noise and Air Quality

Appendix B1
Action and Limit Levels for Construction Noise and Air Quality

Action and Limit Levels for 24-hours TSP

Table B1.1 Action and Limit Levels for 24-hour TSP

ID	Description	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
CD1	Wong Chuk Hang San Wai	173	260
CD2	Police College – Police Quarters	184	260
CD3	San Wui Commercial Society of HK Chan Pak Sha School	169	260
CD4	Shan On House	176	260
CD5	South Horizons Phase IV – Block 25	169	260

Note: TSP levels are to the nearest whole number, with values of 0.5 rounded up

Action and Limit Levels for 1-hour TSP

Table B1.2 Action and Limit Levels for 1-hour TSP

ID	Description	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
CD1	Wong Chuk Hang San Wai	315	500
CD2	Police College – Police Quarters	311	500
CD3	San Wui Commercial Society of HK Chan Pak Sha School	322	500
CD4	Shan On House	318	500
CD5	South Horizons Phase IV – Block 25	336	500

Note: 1-hour TSP criterion recommended in the EIAO-TM
TSP levels are to the nearest whole number, with values of 0.5 rounded up

Action and Limit Levels for Construction Noise

Table B1.3 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
Daytime (0700-1900), Monday through Saturday excluding Public Holidays	When one document complaint received.	$L_{Aeq\ 30mins}$75dB(A)[(1)(2)]
All evenings (1900-2300)		Subject to control under the Noise Control Ordinance
General Holidays (including all Sundays) during the daytime and evening (0700-2300)		Subject to control under the Noise Control Ordinance
All night time periods (2300-0700)		Subject to control under the Noise Control Ordinance

(1) 70dB(A) for schools and 65dB(A) during school examination periods.
(2) Updated prediction of noise levels as contained in the construction noise mitigation measures plan.

APPENDIX B2

Action and Limit Levels for Water Quality

Appendix B2
Action and Limit Levels for Water Quality

Table B2.1 Action and Limit Levels for Ebb Condition

Tide: **Ebb** Location: **WM1**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	5.9	Surface	5.5
	Middle	6.0	Middle	5.6
	Bottom	6.0	Bottom	5.7
SS in mg/L (depth averaged)	14.9 and 120% of upstream control station of the same day		16.4 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	4.4 and 120% of upstream control station of the same day		5.2 and 130% of upstream control station of the same day	
Tide: **Ebb** Location: **WM2**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	5.9	Surface	5.5
	Middle	NA	Middle	NA
	Bottom	6.0	Bottom	5.7
SS in mg/L (depth averaged)	14.7 and 120% of upstream control station of the same day		15.5 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	5.5 and 120% of upstream control station of the same day		7.0 and 130% of upstream control station of the same day	

Tide: **Ebb** Location: **WM3**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.1	Surface	5.7
	Middle	6.1	Middle	5.7
	Bottom	6.3	Bottom	5.9
SS in mg/L (depth averaged)	14.4 and 120% of upstream control station of the same day		16.0 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.4 and 120% of upstream control station of the same day		3.8 and 130% of upstream control station of the same day	
Tide: **Ebb** Location: **WM4**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.1	Surface	5.8
	Middle	6.3	Middle	6.0
	Bottom	6.5	Bottom	6.2
SS in mg/L (depth averaged)	14.0 and 120% of upstream control station of the same day		15.5 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.0 and 120% of upstream control station of the same day		3.2 and 130% of upstream control station of the same day	

Table B2.2 Action and Limit Levels for Flood Condition

Tide: **Flood** Location: **WM1**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	5.9	Surface	5.6
	Middle	6.1	Middle	5.7
	Bottom	6.2	Bottom	5.8
SS in mg/L (depth averaged)	12.7 and 120% of upstream control station of the same day		12.9 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.8 and 120% of upstream control station of the same day		4.0 and 130% of upstream control station of the same day	

Tide: **Flood** Location: **WM2**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.0	Surface	5.7
	Middle	NA	Middle	NA
	Bottom	6.1	Bottom	5.8
SS in mg/L (depth averaged)	12.8 and 120% of upstream control station of the same day		13.6 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.5 and 120% of upstream control station of the same day		3.9 and 130% of upstream control station of the same day	
Tide: **Flood** Location: **WM3**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.0	Surface	5.7
	Middle	6.2	Middle	5.8
	Bottom	6.2	Bottom	5.9
SS in mg/L (depth averaged)	11.5 and 120% of upstream control station of the same day		11.5 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	3.1 and 120% of upstream control station of the same day		3.2 and 130% of upstream control station of the same day	
Tide: **Flood** Location: **WM4**				
Parameters	Action Level		Limit Level	
DO in mg/L	Surface	6.0	Surface	5.8
	Middle	6.2	Middle	5.8
	Bottom	6.3	Bottom	6.1
SS in mg/L (depth averaged)	13.4 and 120% of upstream control station of the same day		15.6 and 130% of upstream control station of the same day	
Turbidity in NTU (depth averaged)	2.7 and 120% of upstream control station of the same day		2.8 and 130% of upstream control station of the same day	

APPENDIX C

Calibration Details

Summary of Calibration Certificate

Noise Equipment

Model	Serial Number	Calibration Date	Expiry Date	Remark
B&K 2250L	2741137	21 Jan 2011	21 Jan 2013 *	
B&K 2250	2551244	25 Jan 2011	25 Jan 2013 *	
B&K 4231 Calibrator	2725557	15 Jun 2011	15 Jun 2013 *	
B&K 4231 Calibrator	2309393	15 Jun 2011	15 Jun 2013 *	

High Volume Sampler

Model	Sampler	Calibration Date	Expiry Date	Remark
Graseby-Andersen	694-0661	5 Aug 2011	5 Feb 2012 **	
Graseby-Andersen	894-0833	5 Aug 2011	5 Feb 2012 **	
Graseby-Andersen	994-0878	8 Aug 2011	8 Feb 2012 **	
Graseby-Andersen	1294-1104	8 Aug 2011	8 Feb 2012 **	
Graseby-Andersen	1294-1111	5 Aug 2011	5 Feb 2012 **	

Water Quality Monitoring Equipment

Model	Serial Number	Calibration Date	Expiry Date	Remark
Turbidimeter				
HACH 2100P	06070C018334	29 Jul 2011	29 Oct 2011 *	
HACH 2100P	06070C018334	29 Oct 2011	28 Jan 2011	
HACH 2100P	08060C030281	13 Jul 2011	13 Oct 2011 *	
HACH 2100P	08060C030281	13 Oct 2011	12 Jan 2012	
HACH 2100Q	10030C001191	3 Aug 2011	2 Nov 2011	
pH Meter				
HANNA HI8314	674469	16 Sep 2011	15 Oct 2011 ***	
HANNA HI8314	674469	13 Oct 2011	12 Nov 2011	
Multimeter for Temperature / Dissolved Oxygen / Salinity				
YSI 85D	08L100716	24 Sep 2011	23 Dec 2011 ***	

Note: * Calibration certificates refer to Appendix C of EM&A report - August 2011.
** Calibration certificates refer to Appendix C of EM&A report - September 2011.
*** Calibration certificates refer to Appendix C of EM&A report - October 2011.

東業儀動測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Turbidimeter

Equipment Ref. No. : ET/0505/006 Manufacturer : HACH

Model No. : 2100P Serial No. : 06070 C 018334

Date of Calibration : 29/10/2011 Due Date : 28/01/2012

Gelex Vial Std	Theoretical Value (NTU)	Measured Value (NTU)	Difference %
0-10 NTU	5.34	5.25	1.69
10-100 NTU	52.5	52.8	0.57
100-1000 NTU	543	528	2.76

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 : Li de Lan Approved by :

東業領勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Turbidimeter

Equipment Ref. No. : ET/0505/007 Manufacturer : HACH

Model No. : 2100P Serial No. : 08060 C 030281

Date of Calibration : 13/10/2011 Due Date : 12/01/2012

Gelex Vial Std	Theoretical Value (NTU)	Measured Value (NTU)	Difference %
0-10 NTU	5.34	5.28	1.12
10-100 NTU	52.5	52.9	0.76
100-1000 NTU	543	530	2.34

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

Performance Check of Turbidimeter

Equipment Ref. No. : ET/0505/008 Manufacturer : HACH

Model No. : 2100Q Serial No. : 10030C001191

Date of Calibration : 03/8/11 Due Date : 02/11/11

Gelex Vial Std	Theoretical Value (NTU)	Measured Value (NTU)	Difference %
0-10 NTU	5.65	5.58	1.24
10-100 NTU	52.5	53.0	0.95
100-1000 NTU	543	541	0.37

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 : Ade Lam Approved by :

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Form E/CE/R/15/Issue 6 (1/1) [08/03]

Internal Calibration & Performance Check Report of pH Meter

Equipment Ref. No. :	ET/EW/007/003	Manufacturer :	HANNA
Model No. :	HI 8314	Serial No. :	674469
Date of Calibration :	13/10/2011	Calibration Due Date :	12/11/2011

Liquid Junction Error

Primary Standard Solution Used : Phosphate Ref No. of Primary Solution: 003/5.2/001/6

Temperature of Solution : 20.0 $pH_{½}$ = +0.08

pH value of diluted buffer : 6.78 pH (S) = 6.881

pH = pH(S) - pH of diluted buffer = 0.101 (Observed Deviation)

Liquid Junction Error (pH_j) = pH - $pH_{½}$ = 0.021

Shift on Stirring

pH of buffer solution (with stirring), pH_s = 6.92

Shift on stirring, pH_s= pH_s - pH(S) - pH_j = 0.018

Noise

Noise, pH_n = difference between max and min reading : 0.01

Verification of ATC

Ref. No. of reference thermometer used: ET/0521/001

Temperature record from the reference thermometer (T_R): 20.1 °C

Temperature record from the ATC (T_{ATC}): 20.0 °C

Temperature Difference (T_R - T_{ATC}) 0.1 °C

Acceptance Criteria

Performance Characteristic		Acceptable Range
Liquid Junction Error	pHj	≤0.05
Shift on Stirring	pHs	≤0.02
Noise	pHn	≤0.02
Verifcation of ATC	Temperature Difference	≤0.5°C

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

* Delete as appropriate

Calibrated by : Linda Lam Approved Signatory :

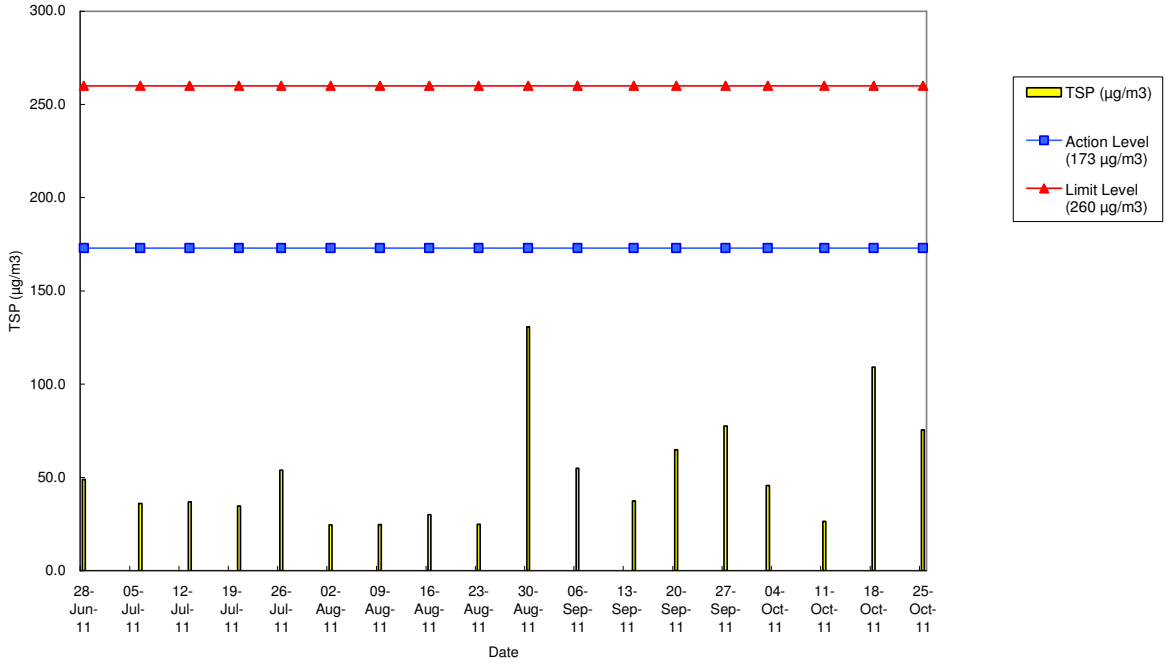
CPE/015/W

APPENDIX D

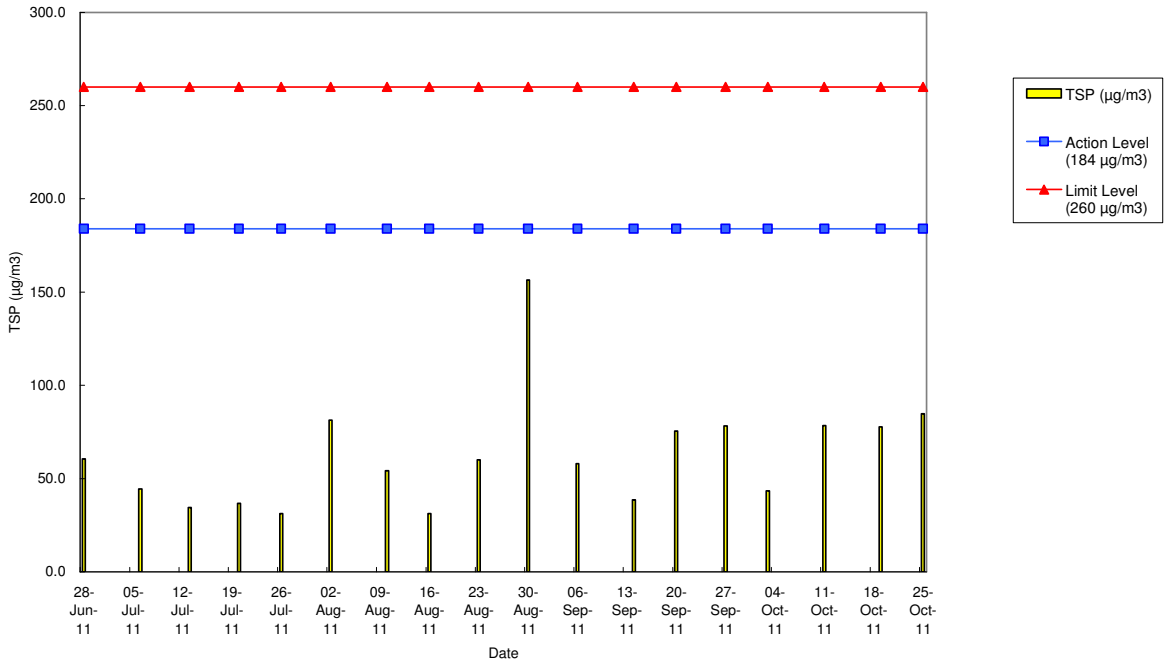
Graphical Plots of Air Quality, Noise & Water Quality Impact Monitoring and Monitoring Results for Water Quality

Graphical Plots of Air Quality Monitoring Results

24-hr TSP Level at CD1 Wong Chuk Hang San Wai

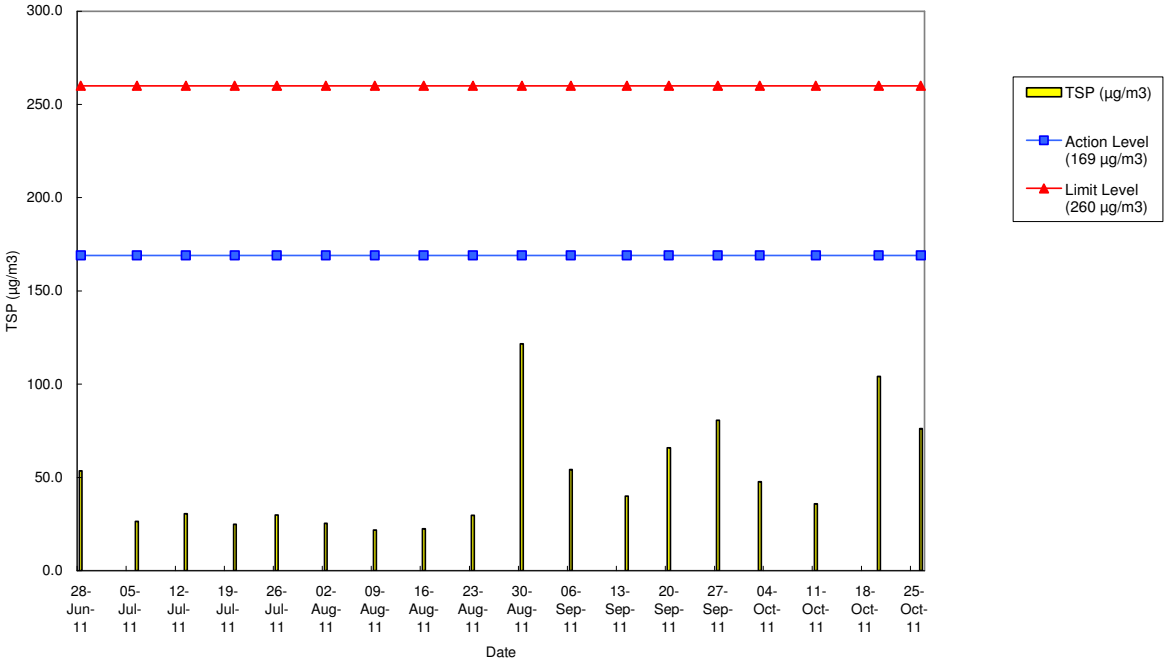


24-hr TSP Level at CD2 Police College - Police Quaeters

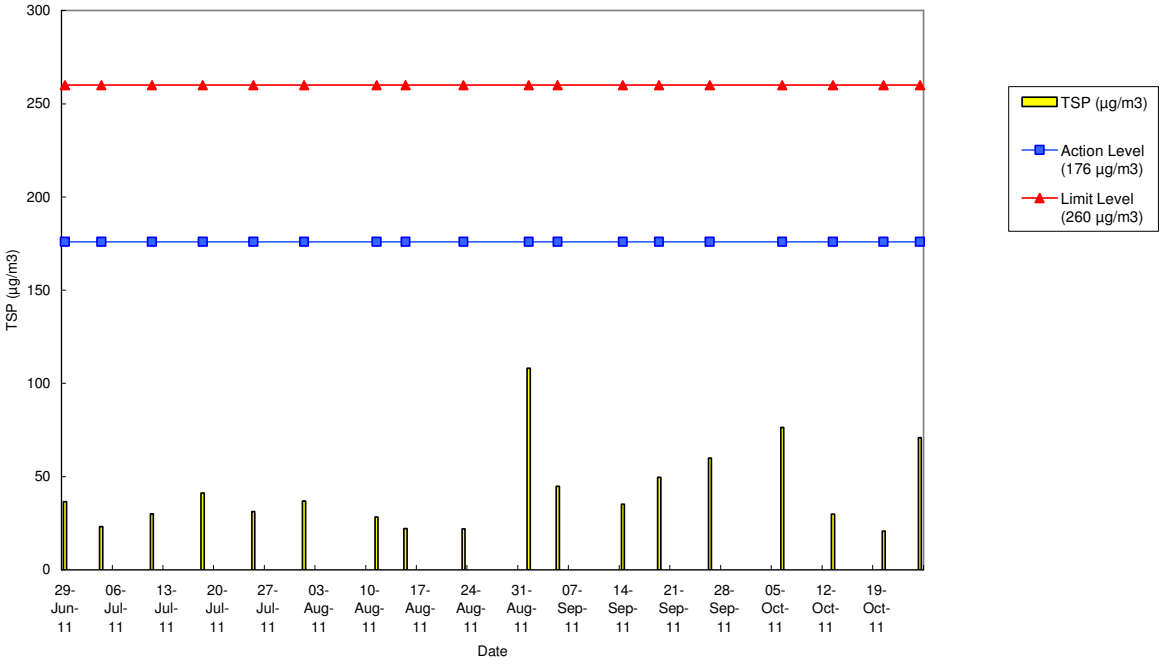


Graphical Plots of Air Quality Monitoring Results

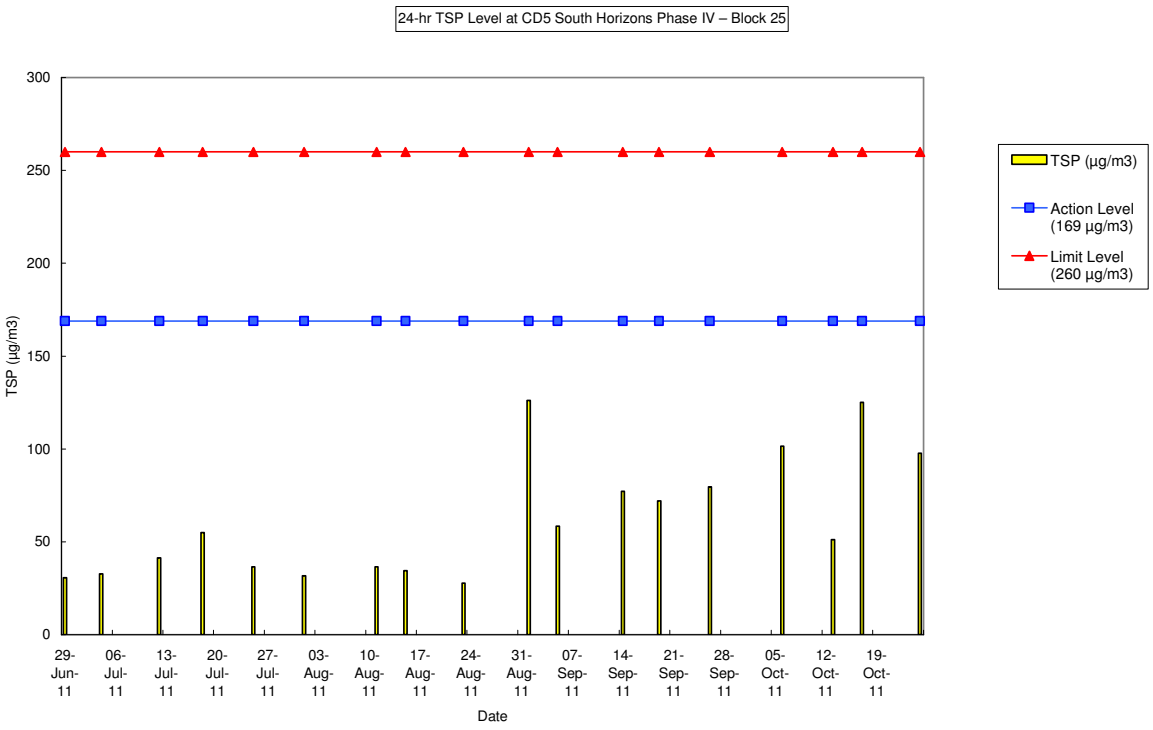
24-hr TSP Level at CD3 San Wui Commercial Society of HK Chan Pak Sha School



24-hr TSP Level at CD4 Shan On House

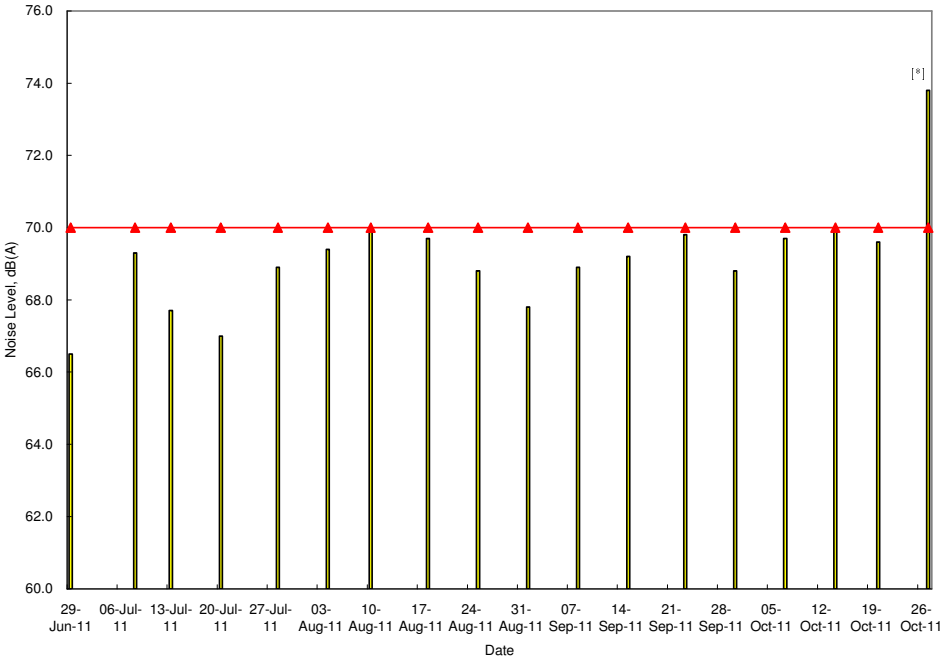


Graphical Plots of Air Quality Monitoring Results



Graphical Plots of Noise Monitoring Results

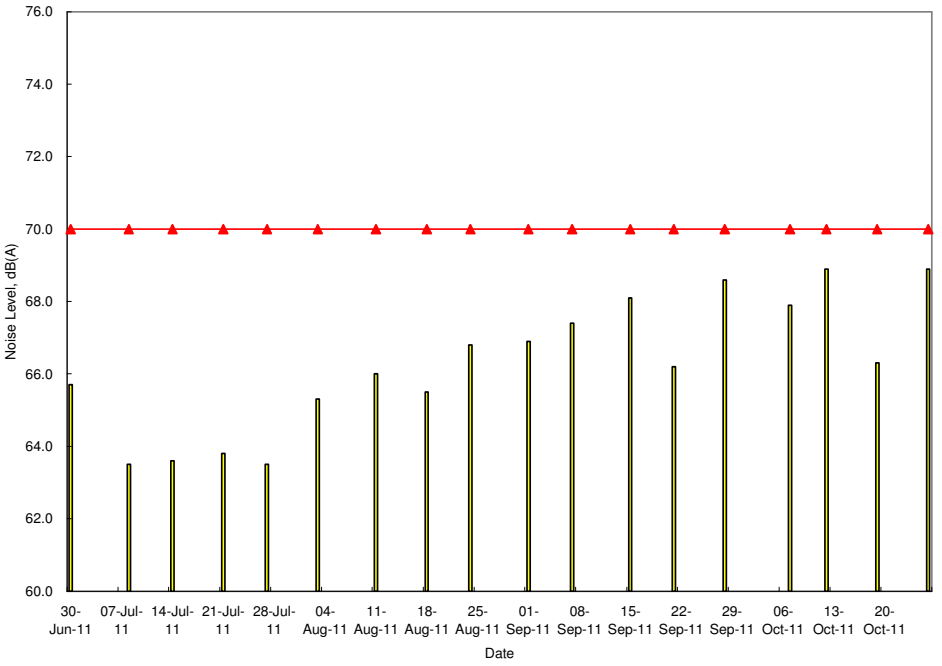
Noise Level at CN1 San Wui Commercial Society of HK Chan Pak Sha School (Educational Institution)



[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

[*] For details, please refer to Section 3.2 of the 4th EM&A Report

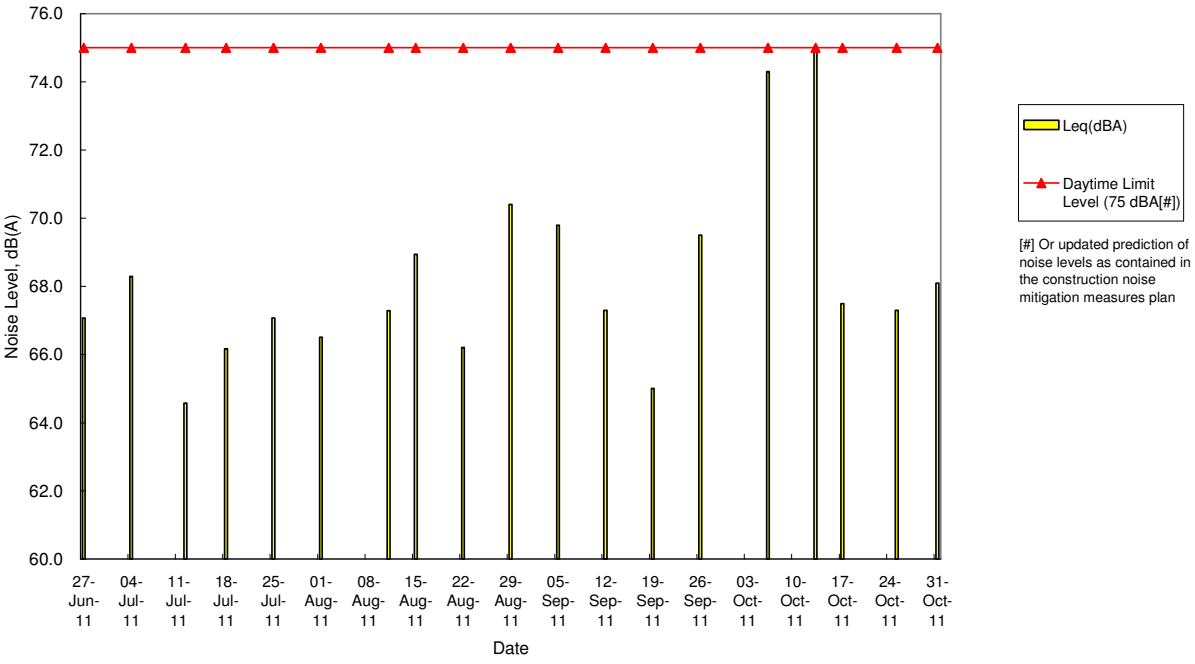
Noise Level at CN2 Holy Spirit Seminary (Educational Institution)



[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

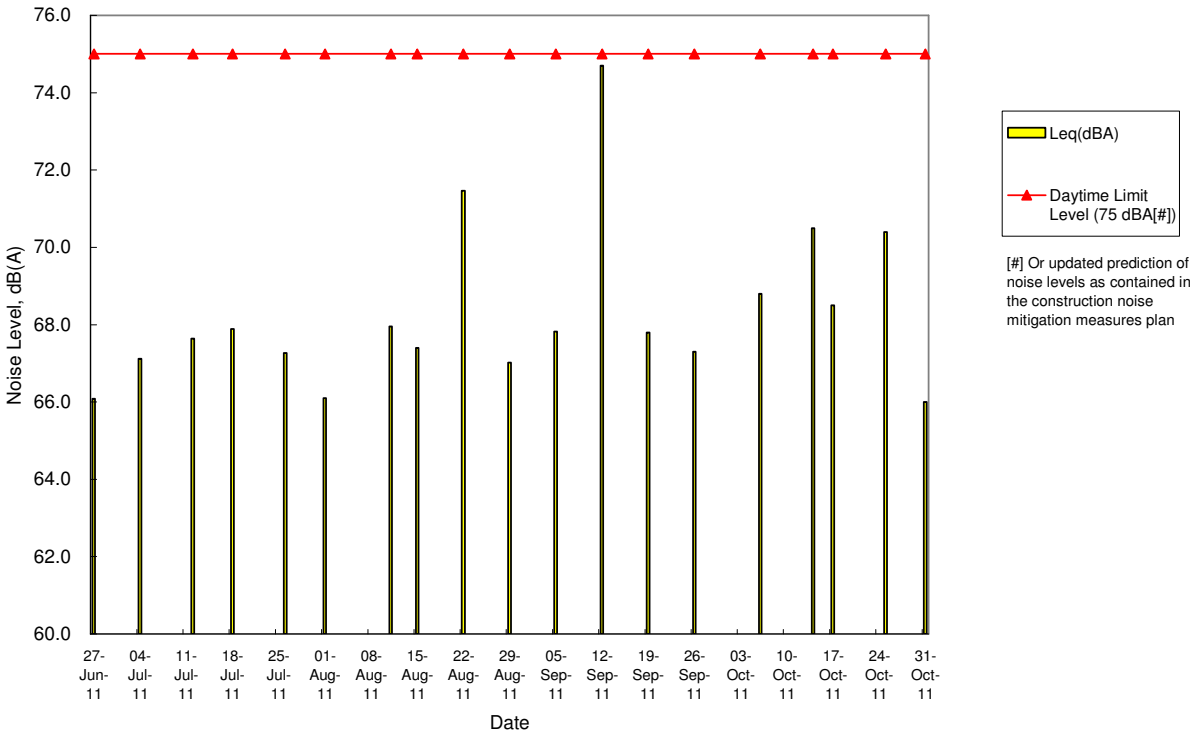
Graphical Plots of Noise Monitoring Results

Noise Level at CN3 Shun Fung Building (Residential)



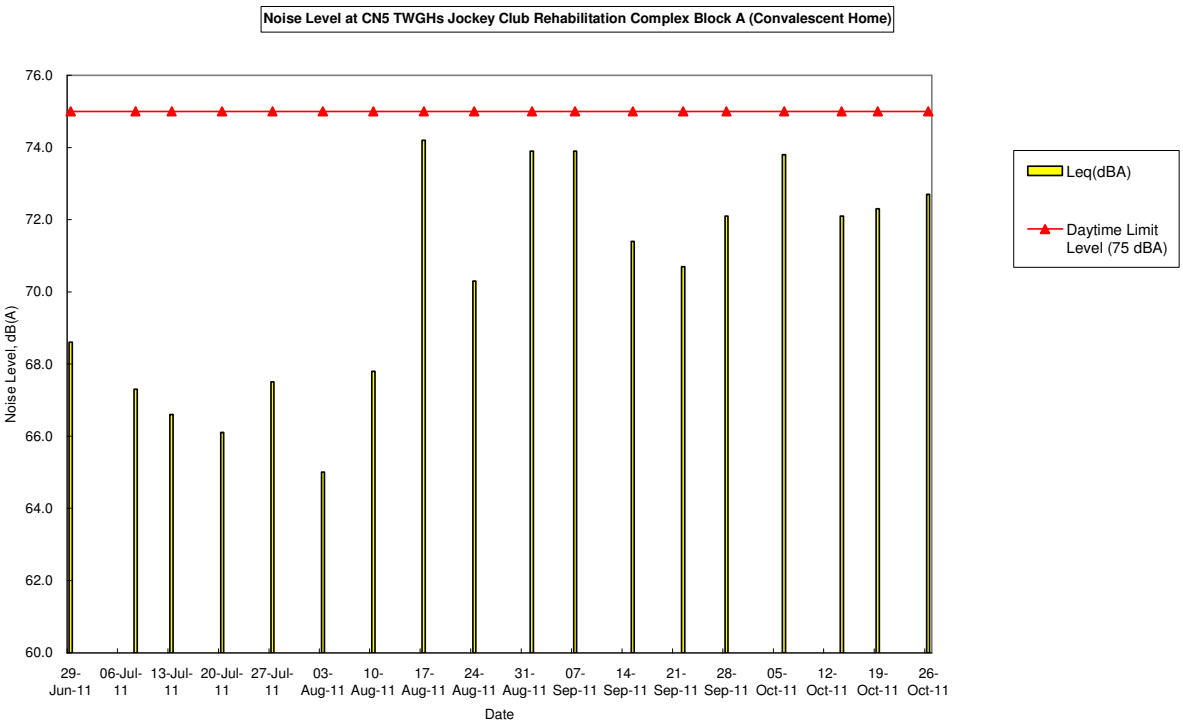
[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

Noise Level at CN4 South Horizons Phase IV – Block 25 Dover Court (Residential)



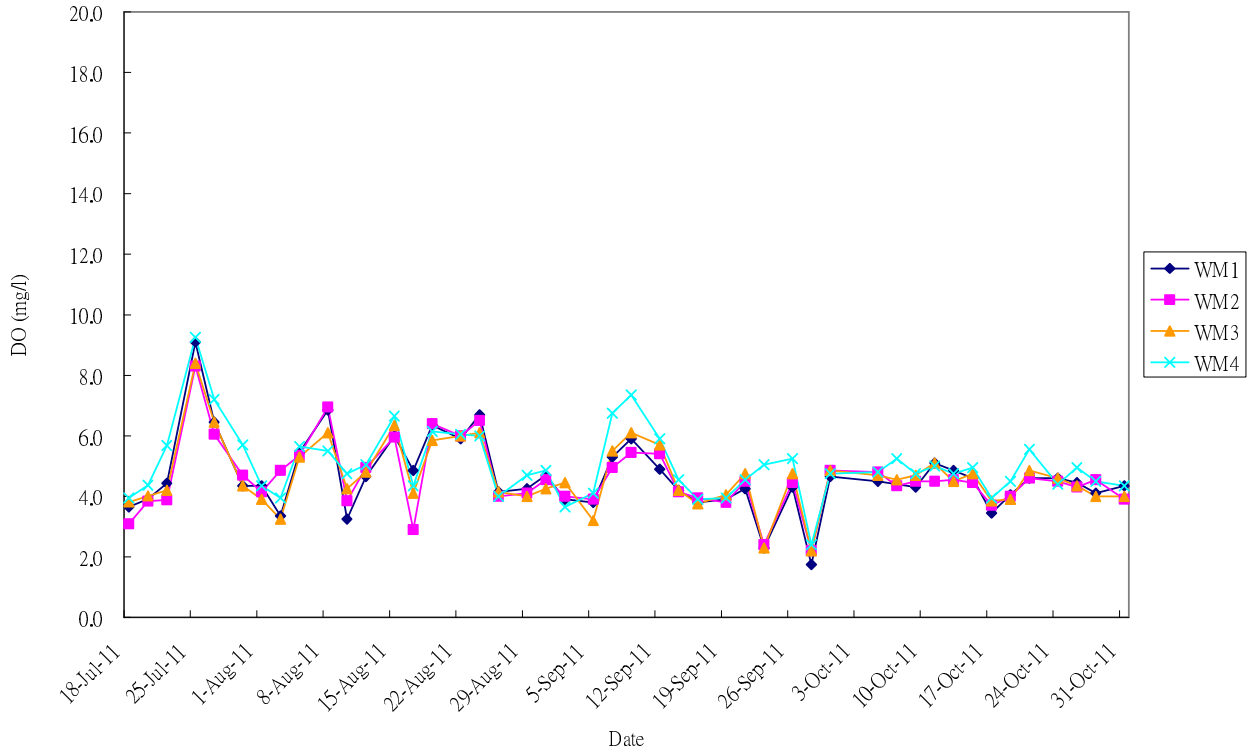
[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

Graphical Plots of Noise Monitoring Results

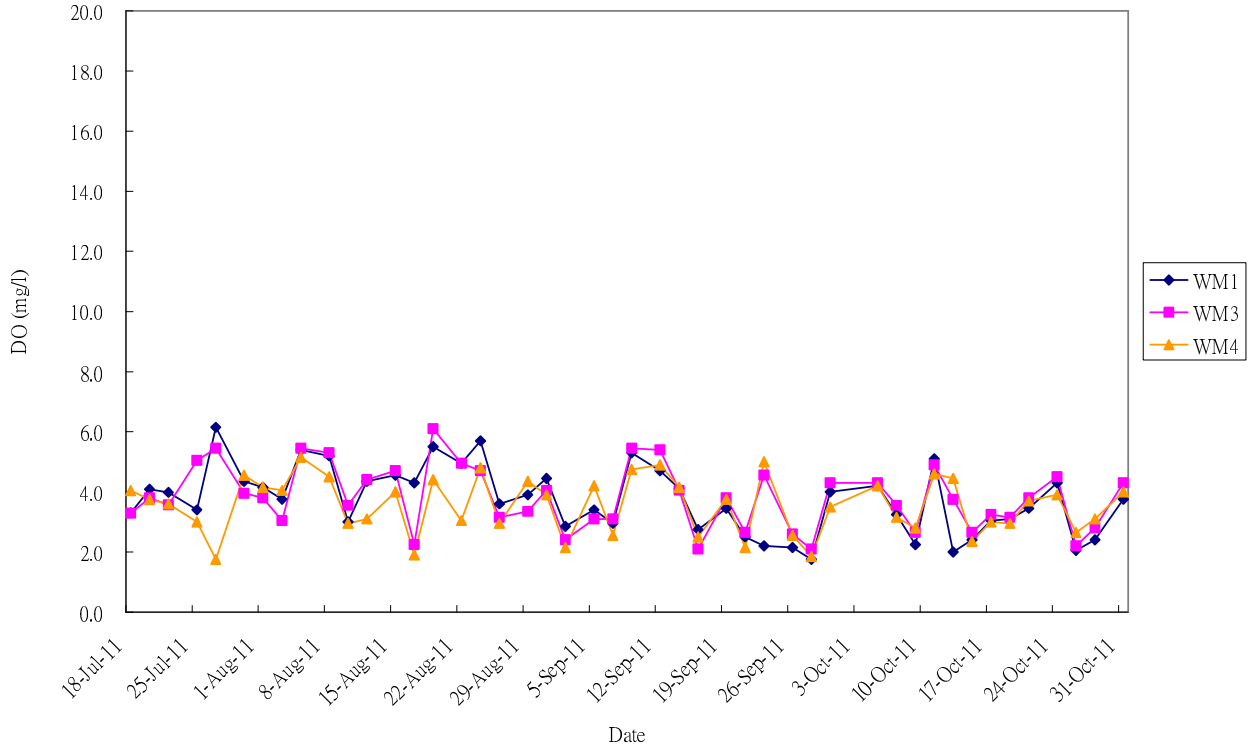


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Flood Tide - Surface Level

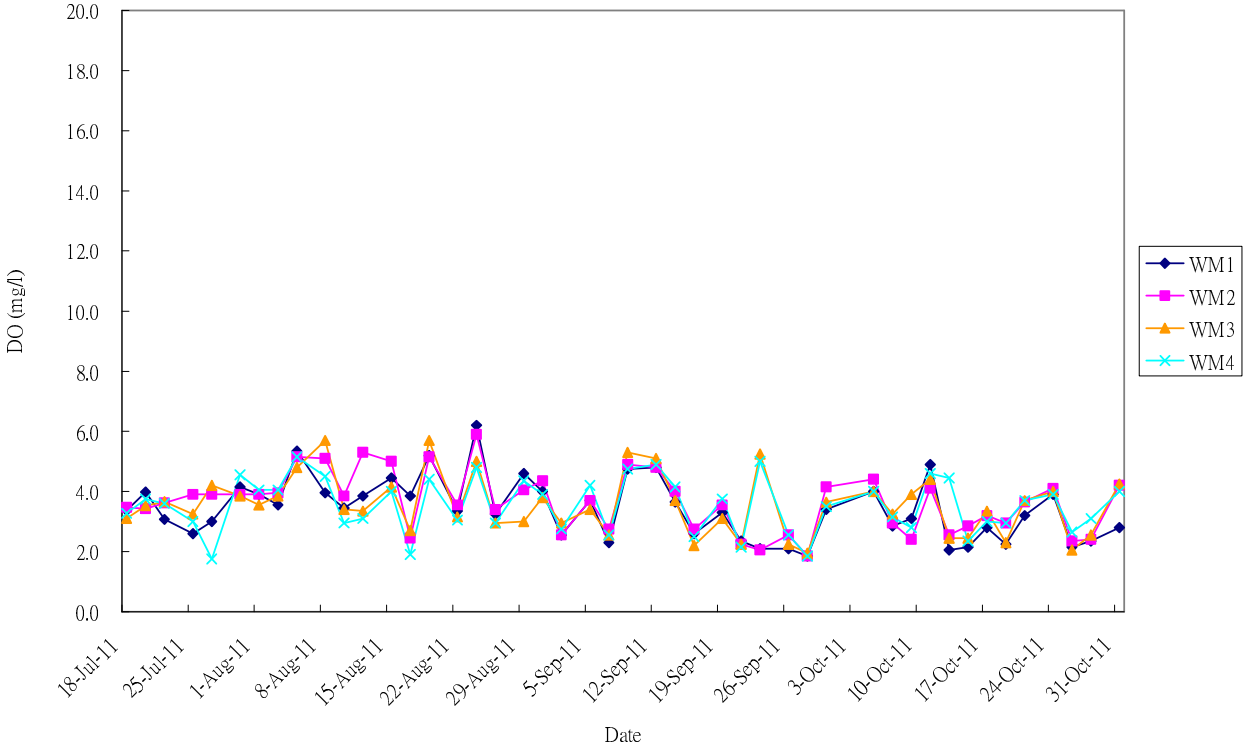


Monitoring Results for Dissolved Oxygen in Flood Tide - Middle Level

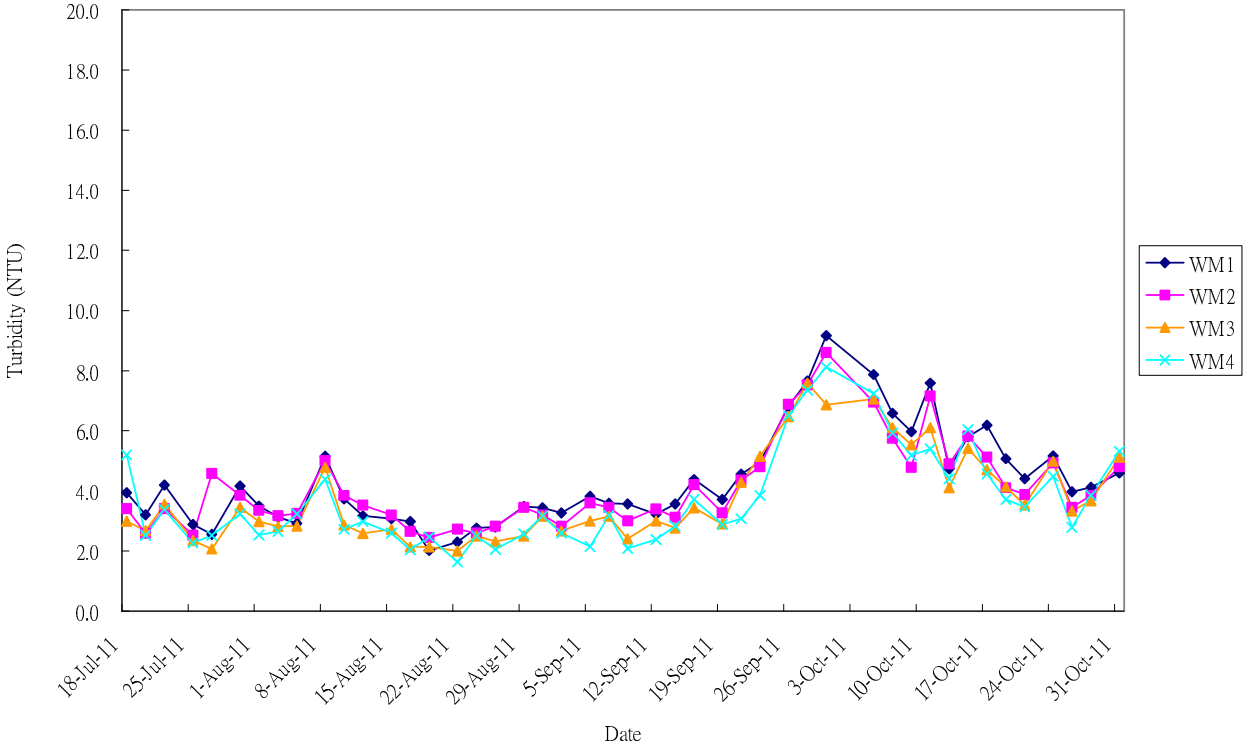


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Flood Tide - Bottom Level

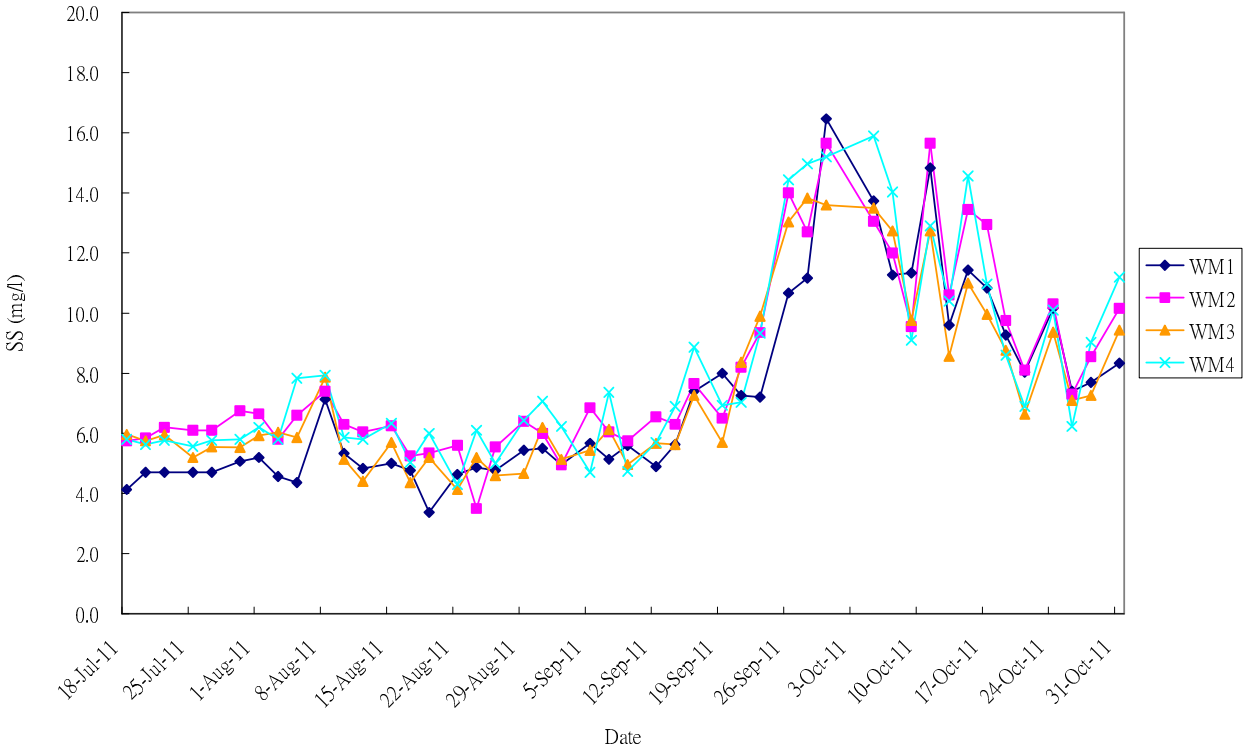


Monitoring Results for Turbidity in Flood Tide - Depth Average

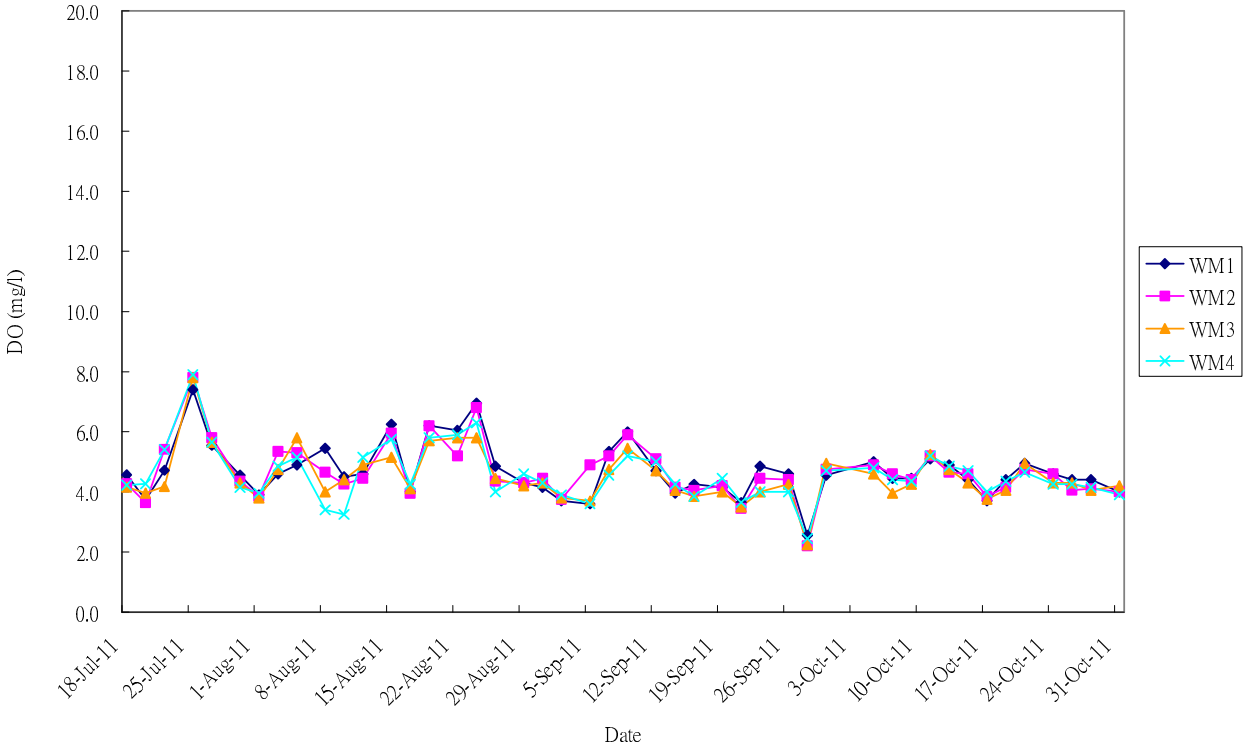


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Suspended Solids in Flood Tide - Depth Average

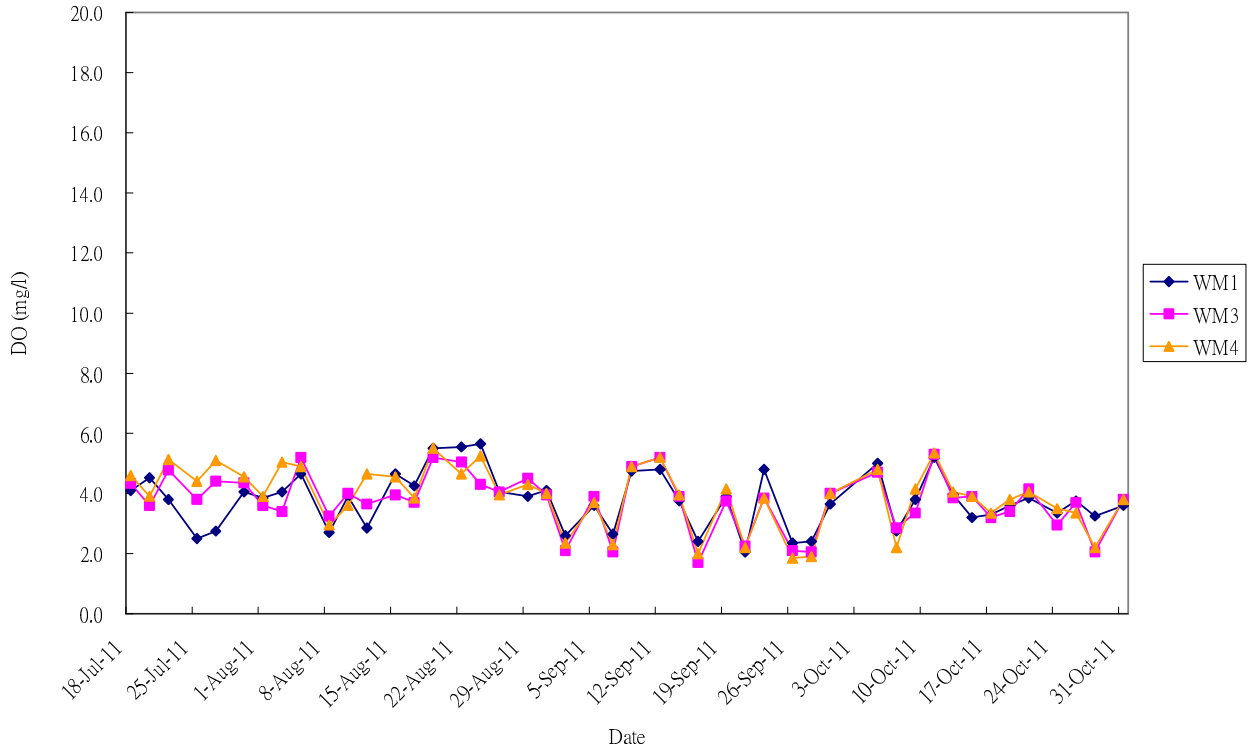


Monitoring Results for Dissolved Oxygen in Ebb Tide - Surface Level

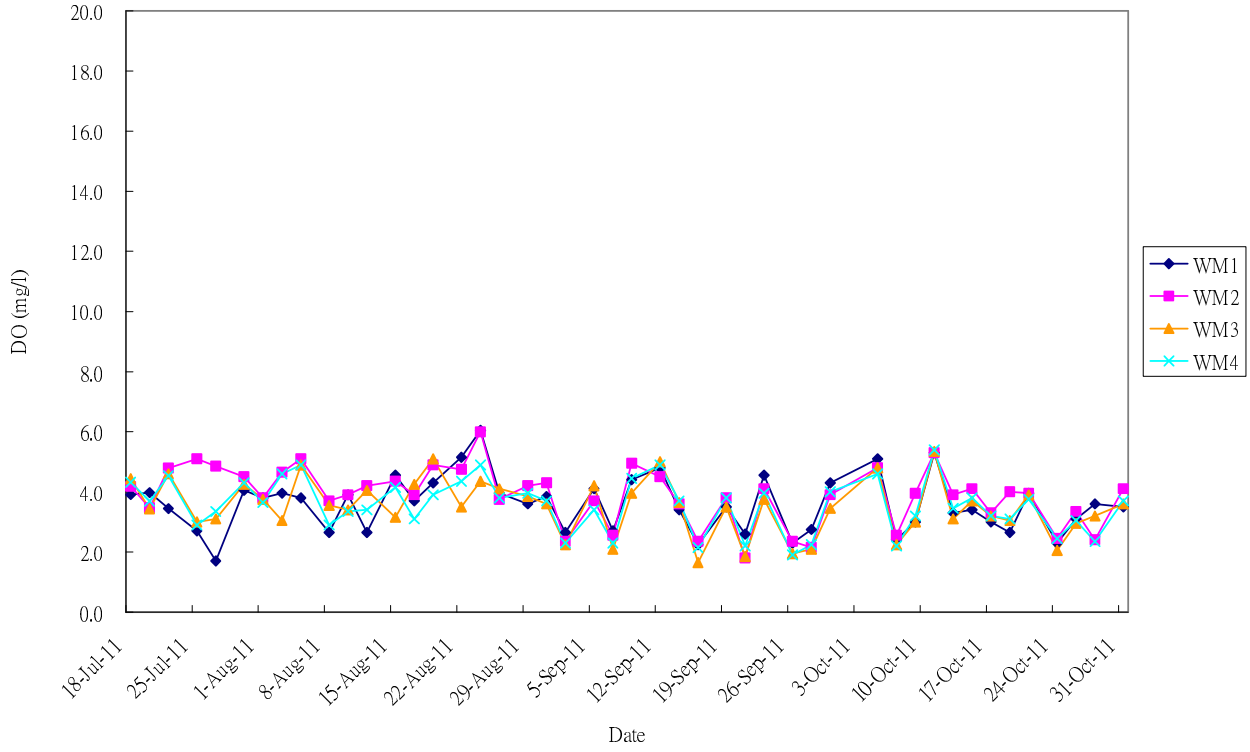


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Ebb Tide - Middle Level

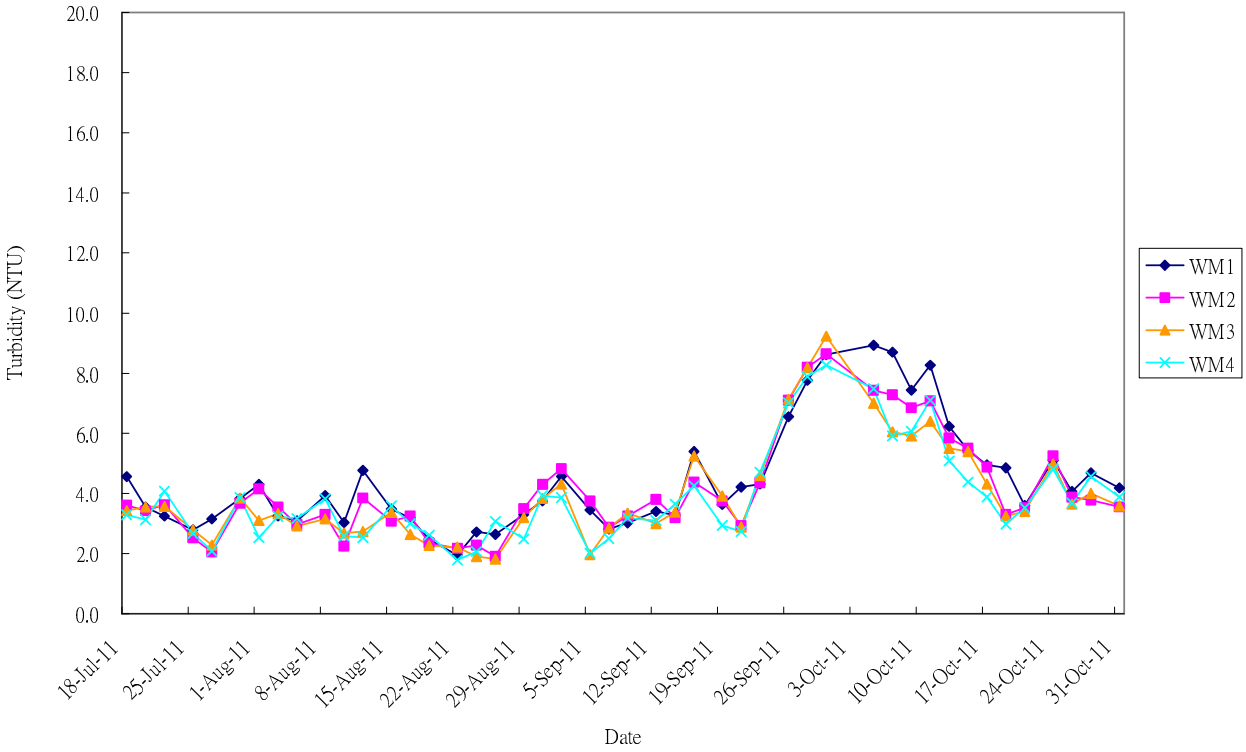


Monitoring Results for Dissolved Oxygen in Ebb Tide - Bottom Level

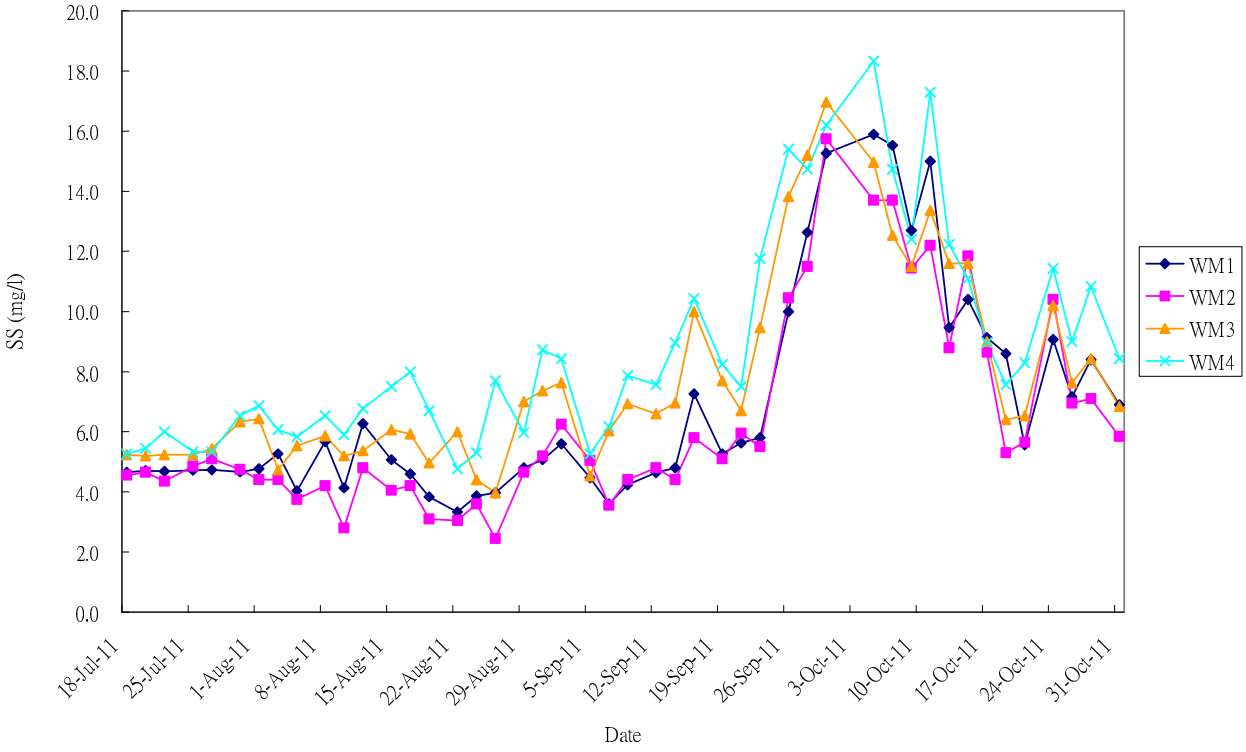


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Turbidity in Ebb Tide - Depth Average



Monitoring Results for Suspended Solids in Ebb Tide - Depth Average



SIL(E) Water Quality Monitoring Data Record Sheet

Date: 5-Oct-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1452	10.0	*Surface*	26.7	26.7	26.7	8.0	8.0	8.0	31.9	31.9	31.9	4.8	4.8	4.8	75.0	75.2	75.1	9.4	9.8	9.6		17.6	17.8	17.7	
			Middle	26.5	26.5	26.5	8.0	8.0	8.0	32.0	32.0	32.0	4.6	4.6	4.6	73.6	73.4	73.5	8.8	8.2	8.5	9.5	16.8	15.6	16.2	17.4
			Bottom	26.5	26.5	26.5	8.0	8.0	8.0	31.9	31.9	31.9	4.1	4.1	4.1	68.9	68.5	68.7	10.2	10.7	10.5		18.2	18.4	18.3	
WM1	1420	12.0	*Surface*	26.6	26.6	26.6	8.1	8.1	8.1	31.7	31.7	31.7	4.5	4.5	4.5	69.4	69.3	69.4	6.4	6.8	6.6		10.2	10.8	10.5	
			Middle	26.5	26.5	26.5	8.1	8.1	8.1	31.7	31.7	31.7	4.2	4.2	4.2	67.3	67.6	67.5	8.4	8.2	8.3	7.9	13.2	13.8	13.5	13.7
			Bottom	26.5	26.5	26.5	8.1	8.1	8.1	31.9	31.9	31.9	4.0	4.0	4.0	62.9	62.3	62.6	8.8	8.6	8.7		17.4	17.0	17.2	
WM2	1348	5.8	*Surface*	26.7	26.7	26.7	8.1	8.1	8.1	31.7	31.7	31.7	4.8	4.8	4.8	86.9	86.1	86.5	6.8	6.8	6.8		12.4	13.0	12.7	
			Middle																			7.0				13.1
			Bottom	26.8	26.8	26.8	8.1	8.1	8.1	31.6	31.6	31.6	4.4	4.4	4.4	68.0	68.4	68.2	7.2	7.0	7.1		13.6	13.2	13.4	
WM3	1308	9.0	*Surface*	26.8	26.8	26.8	8.0	8.0	8.0	31.8	31.8	31.8	4.7	4.7	4.7	71.2	71.6	71.4	6.4	6.8	6.6		11.0	12.0	11.5	
			Middle	26.6	26.6	26.6	8.0	8.0	8.0	31.8	31.8	31.8	4.3	4.3	4.3	68.2	68.4	68.3	6.3	6.4	6.4	7.1	13.6	14.2	13.9	13.5
			Bottom	26.7	26.7	26.7	8.0	8.0	8.0	31.9	31.9	31.9	4.0	4.0	4.0	60.4	60.6	60.5	8.4	8.0	8.2		15.6	14.6	15.1	
WM4	1245	8.6	*Surface*	26.8	26.8	26.8	8.0	8.0	8.0	31.8	31.8	31.8	4.8	4.8	4.8	73.3	73.6	73.5	7.8	7.4	7.6		16.6	15.6	16.1	
			Middle	26.7	26.6	26.7	8.0	8.0	8.0	31.9	31.9	31.9	4.2	4.2	4.2	70.2	70.8	70.5	7.0	7.6	7.3	7.2	15.0	16.0	15.5	15.9
			Bottom	26.6	26.6	26.6	8.1	8.1	8.1	32.0	32.0	32.0	4.0	4.0	4.0	63.2	63.8	63.5	6.8	6.8	6.8		15.8	16.4	16.1	
CS2	1215	14.6	*Surface*	26.7	26.7	26.7	8.0	8.0	8.0	31.8	31.8	31.8	5.2	5.2	5.2	84.4	84.6	84.5	8.8	8.9	8.9		16.6	17.0	16.8	
			Middle	26.4	26.4	26.4	8.0	8.0	8.0	32.0	32.0	32.0	5.3	5.3	5.3	79.5	79.2	79.4	10.2	10.4	10.3	10.5	19.6	18.8	19.2	18.9
			Bottom	26.3	26.3	26.3	8.0	8.0	8.0	32.0	32.0	32.0	5.1	5.1	5.1	82.3	82.6	82.5	12.4	12.2	12.3		20.6	21.0	20.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 5-Oct-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Calm
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0700	10.8	*Surface*	26.7	26.7	26.7	7.9	8.0	8.0	30.4	30.4	30.4	5.4	5.4	5.4	80.9	80.6	80.8	11.9	11.9	11.9		18.8	18.2	18.5	
			Middle	26.6	26.6	26.6	8.0	8.0	8.0	31.8	31.8	31.8	5.3	5.2	5.3	80.1	79.6	79.9	11.9	11.9	11.9	12.1	20.2	19.4	19.8	19.6
			Bottom	26.7	26.7	26.7	8.1	8.1	8.1	31.8	31.7	31.8	5.3	5.3	5.3	79.7	80.2	80.0	12.5	12.4	12.5		20.6	20.4	20.5	
WM1	0725	13.5	*Surface*	26.7	26.7	26.7	8.2	8.2	8.2	31.5	31.5	31.5	5.0	5.0	5.0	74.6	74.1	74.4	8.1	8.1	8.1		13.4	13.2	13.3	
			Middle	26.8	26.8	26.8	8.2	8.2	8.2	31.7	31.7	31.7	5.0	5.0	5.0	76.0	75.5	75.8	8.8	8.8	8.8	8.9	16.0	16.6	16.3	15.9
			Bottom	26.8	26.8	26.8	8.2	8.2	8.2	31.7	31.7	31.7	5.1	5.1	5.1	76.3	76.7	76.5	9.9	9.9	9.9		18.2	18.0	18.1	
WM2	0757	5.2	*Surface*	26.6	26.6	26.6	8.2	8.2	8.2	31.7	31.7	31.7	4.9	4.9	4.9	74.0	74.4	74.2	7.5	7.4	7.5		13.6	13.2	13.4	
			Middle																			7.4				13.7
			Bottom	26.8	26.8	26.8	8.2	8.2	8.2	31.6	31.6	31.6	4.8	4.8	4.8	72.7	72.2	72.5	7.4	7.4	7.4		13.8	14.2	14.0	
WM3	0827	9.2	*Surface*	26.8	26.8	26.8	8.2	8.2	8.2	31.5	31.5	31.5	4.6	4.6	4.6	69.1	69.5	69.3	6.7	6.7	6.7		12.8	13.2	13.0	
			Middle	26.9	26.9	26.9	8.2	8.2	8.2	31.7	31.7	31.7	4.7	4.7	4.7	70.8	71.3	71.1	5.9	5.9	5.9	7.0	12.4	13.2	12.8	15.0
			Bottom	26.7	26.7	26.7	8.2	8.2	8.2	31.8	31.8	31.8	4.8	4.8	4.8	72.5	72.1	72.3	8.4	8.4	8.4		19.0	19.2	19.1	
WM4	0857	7.2	*Surface*	26.5	26.5	26.5	8.2	8.2	8.2	31.9	31.8	31.9	4.8	4.8	4.8	71.6	71.2	71.4	8.2	8.2	8.2		19.0	18.8	18.9	
			Middle	26.7	26.7	26.7	8.2	8.2	8.2	31.8	31.8	31.8	4.8	4.8	4.8	71.8	71.5	71.7	6.8	6.9	6.9	7.5	15.6	16.0	15.8	18.3
			Bottom	26.9	26.9	26.9	8.2	8.2	8.2	31.7	31.7	31.7	4.6	4.6	4.6	69.2	69.7	69.5	7.4	7.4	7.4		20.0	20.6	20.3	
CS2	0927	14.5	*Surface*	26.8	26.8	26.8	8.2	8.2	8.2	31.8	31.8	31.8	4.9	4.9	4.9	74.1	74.5	74.3	6.8	6.8	6.8		15.0	14.6	14.8	
			Middle	27.0	27.0	27.0	8.2	8.2	8.2	31.8	31.8	31.8	5.2	5.2	5.2	78.1	78.4	78.3	7.9	7.9	7.9	7.5	15.0	15.6	15.3	15.7
			Bottom	26.6	26.7	26.7	8.2	8.2	8.2	31.9	31.9	31.9	5.3	5.3	5.3	80.1	80.5	80.3	7.8	7.9	7.9		17.2	16.6	16.9	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 7-Oct-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1607	12.6	*Surface*	27.1	27.0	27.1	8.2	8.2	8.2	31.8	31.9	31.9	5.1	5.2	5.2	77.1	78.6	77.9	9.1	9.0	9.1		17.2	16.8	17.0	
			Middle	26.9	26.9	26.9	8.1	8.2	8.2	31.9	31.9	31.9	3.5	3.6	3.6	53.3	55.2	54.3	8.8	8.9	8.9	9.7	16.8	16.4	16.6	18.2
			Bottom	26.7	26.7	26.7	8.2	8.1	8.2	32.0	32.1	32.1	3.3	3.3	3.3	49.9	50.8	50.4	11.2	11.0	11.1		20.8	21.0	20.9	
WM1	1528	14.6	*Surface*	27.1	27.1	27.1	8.1	8.2	8.2	31.7	31.7	31.7	4.4	4.4	4.4	66.1	67.2	66.7	6.0	6.4	6.2		9.6	10.0	9.8	
			Middle	26.9	26.9	26.9	8.1	8.2	8.2	31.4	31.3	31.4	3.2	3.3	3.3	49.2	50.4	49.8	6.3	6.6	6.5	6.6	9.8	10.6	10.2	11.3
			Bottom	27.0	27.0	27.0	8.2	8.2	8.2	31.5	31.6	31.6	2.8	2.9	2.9	43.2	44.1	43.7	7.0	7.2	7.1		14.0	13.6	13.8	
WM2	1500	5.6	*Surface*	27.0	27.1	27.1	8.1	8.1	8.1	31.6	31.7	31.7	4.3	4.4	4.4	65.1	67.1	66.1	5.3	5.5	5.4		12.4	12.6	12.5	
			Middle																			5.8				12.0
			Bottom	27.1	27.2	27.2	8.1	8.2	8.2	31.7	31.8	31.8	3.0	2.9	3.0	45.5	44.6	45.1	6.0	6.2	6.1		11.2	11.8	11.5	
WM3	1427	9.2	*Surface*	27.0	27.0	27.0	8.2	8.2	8.2	31.8	31.8	31.8	4.5	4.6	4.6	68.0	70.2	69.1	5.3	5.1	5.2		9.6	9.2	9.4	
			Middle	26.8	26.8	26.8	8.1	8.2	8.2	31.5	31.6	31.6	3.5	3.6	3.6	53.1	55.1	54.1	6.0	6.5	6.3	6.1	13.6	15.0	14.3	12.7
			Bottom	26.6	26.6	26.6	8.1	8.2	8.2	31.9	32.0	32.0	3.2	3.3	3.3	49.1	50.6	49.9	6.7	7.0	6.9		14.2	14.8	14.5	
WM4	1358	10.4	*Surface*	26.9	27.0	27.0	8.1	8.2	8.2	31.8	31.7	31.8	5.2	5.3	5.3	78.6	80.6	79.6	5.4	5.6	5.5		13.6	14.2	13.9	
			Middle	27.0	27.0	27.0	8.1	8.1	8.1	31.8	31.8	31.8	3.2	3.3	3.3	48.6	50.6	49.6	5.2	5.0	5.1	5.9	12.2	12.6	12.4	14.0
			Bottom	26.7	26.7	26.7	8.1	8.2	8.2	32.1	32.1	32.1	3.1	3.2	3.2	47.1	49.2	48.2	7.0	7.4	7.2		15.4	16.2	15.8	
CS2	1330	14.8	*Surface*	27.2	27.3	27.3	8.1	8.1	8.1	31.4	31.4	31.4	6.7	6.8	6.8	101.1	102.8	102.0	6.9	7.0	7.0		14.6	14.8	14.7	
			Middle	27.1	27.1	27.1	8.1	8.2	8.2	32.1	32.2	32.2	5.7	5.6	5.7	86.1	84.3	85.2	5.8	6.0	5.9	6.8	12.8	13.6	13.2	15.6
			Bottom	26.7	26.7	26.7	8.1	8.1	8.1	32.4	32.3	32.4	5.8	5.6	5.7	87.6	84.5	86.1	7.2	7.6	7.4		18.4	19.2	18.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 7-Oct-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0900	12.2	*Surface*	27.0	27.0	27.0	8.1	8.1	8.1	31.6	31.6	31.6	8.0	8.0	8.0	120.2	120.8	120.5	7.8	8.0	7.9		14.8	15.2	15.0	
			Middle	27.0	27.0	27.0	8.2	8.1	8.2	31.9	31.8	31.9	5.2	5.0	5.1	77.9	75.6	76.8	7.2	7.2	7.2	8.1	15.2	14.6	14.9	16.3
			Bottom	26.7	26.8	26.8	8.1	8.1	8.1	32.0	32.0	32.0	3.4	3.4	3.4	50.4	50.9	50.7	9.1	9.0	9.1		19.2	19.0	19.1	
WM1	0937	14.4	*Surface*	27.1	27.0	27.1	8.1	8.2	8.2	31.7	31.6	31.7	4.5	4.4	4.5	67.3	66.1	66.7	7.2	7.5	7.4		12.8	13.6	13.2	
			Middle	27.0	27.1	27.1	8.2	8.2	8.2	31.8	31.7	31.8	2.7	2.8	2.8	40.2	40.5	40.4	9.0	8.9	9.0	8.7	15.2	14.8	15.0	15.5
			Bottom	27.2	27.3	27.3	8.1	8.2	8.2	31.7	31.7	31.7	2.4	2.4	2.4	36.1	36.7	36.4	9.9	9.7	9.8		18.8	18.0	18.4	
WM2	1009	5.4	*Surface*	27.1	27.1	27.1	8.2	8.2	8.2	31.7	31.7	31.7	4.5	4.7	4.6	68.0	70.6	69.3	7.4	7.4	7.4		14.0	13.6	13.8	
			Middle																			7.3				13.7
			Bottom	27.1	27.1	27.1	8.2	8.1	8.2	31.7	31.6	31.7	2.6	2.5	2.6	38.7	38.4	38.6	7.1	7.2	7.2		13.4	13.8	13.6	
WM3	1036	9.2	*Surface*	27.0	27.1	27.1	8.1	8.1	8.1	31.7	31.7	31.7	3.9	4.0	4.0	58.3	59.2	58.8	5.5	5.7	5.6		10.4	11.0	10.7	
			Middle	27.2	27.1	27.2	8.2	8.2	8.2	31.6	31.7	31.7	2.9	2.8	2.9	43.2	42.8	43.0	6.3	6.4	6.4	6.1	12.8	13.4	13.1	12.5
			Bottom	27.1	27.1	27.1	8.2	8.1	8.2	31.7	31.7	31.7	2.2	2.3	2.3	33.8	34.5	34.2	6.2	6.2	6.2		14.2	13.4	13.8	
WM4	1108	10.2	*Surface*	27.1	27.1	27.1	8.1	8.1	8.1	31.7	31.6	31.7	4.3	4.5	4.4	64.8	66.1	65.5	6.5	6.2	6.4		15.2	14.2	14.7	
			Middle	27.0	27.1	27.1	8.1	8.2	8.2	31.7	31.7	31.7	2.2	2.2	2.2	33.0	33.4	33.2	5.5	5.5	5.5	5.9	14.2	14.0	14.1	14.7
			Bottom	26.9	27.0	27.0	8.1	8.2	8.2	31.6	31.7	31.7	2.1	2.3	2.2	31.6	34.3	33.0	5.8	6.0	5.9		15.2	15.6	15.4	
CS2	1140	14.4	*Surface*	27.0	27.0	27.0	8.2	8.1	8.2	31.7	31.8	31.8	4.7	4.8	4.8	70.9	71.4	71.2	5.8	6.1	6.0		12.8	13.6	13.2	
			Middle	26.8	26.8	26.8	8.1	8.1	8.1	31.9	31.9	31.9	2.6	2.7	2.7	38.5	39.2	38.9	4.8	4.9	4.9	5.4	10.2	11.0	10.6	12.2
			Bottom	26.8	26.8	26.8	8.1	8.1	8.1	31.8	31.8	31.8	3.1	3.0	3.1	46.6	45.8	46.2	5.2	5.4	5.3		12.4	13.0	12.7	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 9-Oct-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1709	11.0	*Surface*	27.3	27.3	27.3	8.1	8.1	8.1	31.7	31.8	31.8	4.8	5.0	4.9	71.7	72.8	72.3	5.9	6.2	6.1		11.0	11.8	11.4	
			Middle	27.3	27.4	27.4	8.2	8.1	8.2	31.8	31.8	31.8	2.9	3.0	3.0	44.1	44.9	44.5	6.6	6.7	6.7	6.6	12.6	12.8	12.7	12.6
			Bottom	27.3	27.3	27.3	8.1	8.1	8.1	31.7	31.8	31.8	2.7	2.6	2.7	41.6	41.0	41.3	7.1	7.3	7.2		13.6	14.0	13.8	
WM1	1628	17.1	*Surface*	27.2	27.3	27.3	8.2	8.2	8.2	31.7	31.7	31.7	4.3	4.3	4.3	64.0	64.6	64.3	5.9	5.9	5.9		10.0	10.2	10.1	
			Middle	27.3	27.2	27.3	8.1	8.2	8.2	31.8	31.7	31.8	2.3	2.2	2.3	34.1	33.2	33.7	6.0	5.9	6.0	6.0	11.2	10.6	10.9	11.3
			Bottom	27.6	27.5	27.6	8.1	8.1	8.1	31.6	31.6	31.6	3.0	3.2	3.1	46.1	48.5	47.3	6.0	6.1	6.1		12.8	13.2	13.0	
WM2	1600	5.8	*Surface*	27.6	27.6	27.6	8.2	8.1	8.2	31.6	31.5	31.6	4.4	4.6	4.5	65.9	66.7	66.3	4.5	4.3	4.4		9.2	9.4	9.3	
			Middle																			4.8				9.6
			Bottom	27.5	27.6	27.6	8.2	8.2	8.2	31.7	31.7	31.7	2.4	2.4	2.4	35.7	35.2	35.5	5.2	5.1	5.2		9.8	9.8	9.8	
WM3	1529	8.6	*Surface*	27.4	27.3	27.4	8.2	8.2	8.2	31.7	31.8	31.8	4.6	4.8	4.7	69.5	71.3	70.4	5.3	5.1	5.2		8.0	8.2	8.1	
			Middle	27.5	27.5	27.5	8.2	8.1	8.2	31.8	31.8	31.8	2.6	2.7	2.7	39.8	40.6	40.2	4.4	4.5	4.5	5.5	8.0	8.2	8.1	9.8
			Bottom	27.6	27.6	27.6	8.1	8.2	8.2	31.7	31.8	31.8	3.9	3.9	3.9	60.3	61.0	60.7	7.0	6.9	7.0		13.4	12.8	13.1	
WM4	1457	10.0	*Surface*	27.3	27.3	27.3	8.1	8.2	8.2	31.8	31.8	31.8	4.8	4.7	4.8	72.1	71.6	71.9	4.4	4.1	4.3		7.0	6.6	6.8	
			Middle	27.6	27.5	27.6	8.1	8.1	8.1	31.9	31.8	31.9	3.1	3.2	3.2	47.6	48.3	48.0	5.4	5.2	5.3	5.2	8.2	8.4	8.3	9.1
			Bottom	27.5	27.4	27.5	8.1	8.1	8.1	31.7	31.7	31.7	2.8	2.8	2.8	43.2	43.5	43.4	6.0	6.0	6.0		12.6	11.8	12.2	
CS2	1430	14.9	*Surface*	27.3	27.4	27.4	8.2	8.2	8.2	31.8	31.7	31.8	7.5	7.5	7.5	114.0	114.5	114.3	4.7	4.9	4.8		10.6	10.8	10.7	
			Middle	27.6	27.7	27.7	8.1	8.2	8.2	32.0	32.0	32.0	4.5	4.6	4.6	69.9	70.3	70.1	5.2	5.2	5.2	5.1	13.4	13.2	13.3	12.5
			Bottom	27.3	27.3	27.3	8.1	8.2	8.2	32.0	32.0	32.0	3.7	3.8	3.8	56.1	56.8	56.5	5.3	5.2	5.3		13.8	13.2	13.5	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 9-Oct-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1000	10.8	*Surface*	27.4	27.3	27.4	8.1	8.1	8.1	31.4	31.5	31.5	7.8	7.6	7.7	116.8	113.2	115.0	5.8	6.2	6.0		9.2	10.0	9.6	
			Middle	27.4	27.4	27.4	8.1	8.2	8.2	31.6	31.7	31.7	5.6	5.4	5.5	84.1	81.1	82.6	6.9	7.0	7.0	8.1	13.0	13.4	13.2	14.4
			Bottom	27.1	27.1	27.1	8.1	8.1	8.1	31.8	31.8	31.8	3.9	4.0	4.0	58.7	60.2	59.5	11.2	11.4	11.3		20.0	20.6	20.3	
WM1	1030	16.8	*Surface*	27.4	27.4	27.4	8.1	8.2	8.2	31.6	31.5	31.6	4.4	4.5	4.5	66.2	67.5	66.9	6.2	6.3	6.3		9.4	10.0	9.7	
			Middle	27.4	27.3	27.4	8.2	8.2	8.2	31.4	31.4	31.4	3.8	3.8	3.8	57.2	58.1	57.7	7.7	7.8	7.8	7.4	12.6	13.2	12.9	12.7
			Bottom	27.0	27.0	27.0	8.1	8.2	8.2	31.7	31.8	31.8	3.0	3.0	3.0	45.3	45.1	45.2	8.2	8.4	8.3		15.4	15.6	15.5	
WM2	1100	5.4	*Surface*	27.4	27.4	27.4	8.1	8.2	8.2	31.3	31.4	31.4	4.4	4.4	4.4	66.1	66.9	66.5	7.2	7.6	7.4		11.6	12.2	11.9	
			Middle																			6.9				11.5
			Bottom	27.3	27.4	27.4	8.2	8.2	8.2	31.4	31.4	31.4	4.0	3.9	4.0	60.3	59.0	59.7	6.4	6.2	6.3		10.8	11.2	11.0	
WM3	1125	8.4	*Surface*	27.3	27.4	27.4	8.2	8.2	8.2	31.6	31.7	31.7	4.3	4.2	4.3	65.1	63.9	64.5	5.6	5.7	5.7		10.4	10.4	10.4	
			Middle	27.3	27.3	27.3	8.1	8.2	8.2	31.4	31.4	31.4	3.4	3.3	3.4	51.2	50.3	50.8	6.2	6.4	6.3	5.9	11.8	12.2	12.0	11.5
			Bottom	27.4	27.5	27.5	8.1	8.2	8.2	31.5	31.6	31.6	3.0	3.0	3.0	45.2	46.0	45.6	5.8	5.8	5.8		11.8	12.4	12.1	
WM4	1150	9.6	*Surface*	27.5	27.5	27.5	8.2	8.1	8.2	31.6	31.6	31.6	4.3	4.4	4.4	64.9	66.7	65.8	6.0	6.2	6.1		9.6	10.2	9.9	
			Middle	27.5	27.6	27.6	8.2	8.2	8.2	31.7	31.7	31.7	4.1	4.2	4.2	62.2	63.6	62.9	5.3	5.5	5.4	6.1	12.0	12.4	12.2	12.4
			Bottom	27.4	27.4	27.4	8.1	8.2	8.2	31.8	31.9	31.9	3.1	3.3	3.2	47.3	50.1	48.7	6.6	6.8	6.7		14.8	15.4	15.1	
CS2	1227	14.6	*Surface*	27.5	27.6	27.6	8.1	8.1	8.1	31.7	31.8	31.8	5.3	5.4	5.4	80.2	81.1	80.7	4.9	5.0	5.0		10.4	11.0	10.7	
			Middle	27.5	27.4	27.5	8.1	8.2	8.2	32.0	32.1	32.1	4.5	4.5	4.5	67.1	68.2	67.7	4.4	4.2	4.3	4.7	8.4	7.8	8.1	10.0
			Bottom	27.2	27.2	27.2	8.1	8.2	8.2	32.0	32.1	32.1	3.4	3.6	3.5	51.9	54.3	53.1	4.8	5.0	4.9		11.0	11.2	11.1	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 11-Oct-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1740	14.0	*Surface*	25.8	25.7	25.8	8.1	8.1	8.1	31.5	31.4	31.5	5.4	5.3	5.4	63.9	63.6	63.8	6.4	6.0	6.2		13.4	13.2	13.3	
			Middle	26.4	26.3	26.4	8.1	8.1	8.1	31.6	31.6	31.6	5.0	5.0	5.0	60.8	60.4	60.6	7.4	7.2	7.3	8.0	15.6	15.2	15.4	16.4
			Bottom	26.1	26.1	26.1	8.0	8.0	8.0	31.7	31.7	31.7	4.4	4.4	4.4	59.1	59.3	59.2	10.2	10.6	10.4		20.2	21.0	20.6	
WM1	1705	15.6	*Surface*	26.4	26.6	26.5	8.1	8.1	8.1	31.6	31.6	31.6	5.1	5.1	5.1	62.0	62.8	62.4	6.0	6.2	6.1		11.4	11.2	11.3	
			Middle	26.5	26.5	26.5	8.1	8.1	8.1	31.4	31.4	31.4	5.1	5.1	5.1	63.4	63.2	63.3	6.3	6.6	6.5	7.6	11.6	12.2	11.9	14.8
			Bottom	26.6	26.6	26.6	8.0	8.0	8.0	31.6	31.6	31.6	4.9	4.9	4.9	60.2	60.8	60.5	10.3	10.1	10.2		21.6	21.0	21.3	
WM2	1628	5.8	*Surface*	26.8	26.6	26.7	8.1	8.1	8.1	31.2	31.2	31.2	4.5	4.5	4.5	74.7	73.7	74.2	6.6	6.8	6.7		15.2	15.4	15.3	
			Middle																			7.2				15.7
			Bottom	26.9	26.9	26.9	8.1	8.1	8.1	31.4	31.4	31.4	4.1	4.1	4.1	63.9	64.8	64.4	7.8	7.4	7.6		16.4	15.6	16.0	
WM3	1603	9.2	*Surface*	26.7	26.7	26.7	8.0	8.0	8.0	31.5	31.6	31.6	5.1	5.1	5.1	72.4	73.6	73.0	5.4	5.4	5.4		10.2	10.8	10.5	
			Middle	26.6	26.6	26.6	8.1	8.1	8.1	31.3	31.3	31.3	4.9	4.9	4.9	65.1	65.8	65.5	6.4	6.2	6.3	6.1	13.6	13.0	13.3	12.7
			Bottom	26.3	26.3	26.3	8.1	8.1	8.1	31.7	31.6	31.7	4.4	4.4	4.4	62.3	62.6	62.5	6.6	6.6	6.6		14.0	14.8	14.4	
WM4	1540	7.4	*Surface*	26.7	26.8	26.8	8.0	8.0	8.0	31.6	31.6	31.6	5.0	5.0	5.0	74.5	74.8	74.7	5.2	5.4	5.3		12.8	12.6	12.7	
			Middle	26.6	26.6	26.6	8.0	8.1	8.1	31.6	31.7	31.7	4.8	4.8	4.8	72.5	72.1	72.3	5.9	5.5	5.7	5.4	13.8	12.8	13.3	12.9
			Bottom	26.8	26.8	26.8	8.1	8.1	8.1	31.7	31.7	31.7	4.6	4.6	4.6	70.2	70.4	70.3	5.2	5.2	5.2		12.4	13.0	12.7	
CS2	1500	14.0	*Surface*	26.5	26.5	26.5	8.1	8.1	8.1	31.4	31.4	31.4	4.2	4.2	4.2	55.2	55.8	55.5	6.0	6.2	6.1		14.0	14.4	14.2	
			Middle	26.7	26.7	26.7	8.1	8.1	8.1	31.7	31.7	31.7	3.8	3.8	3.8	46.8	46.4	46.6	5.8	5.6	5.7	6.4	13.0	12.6	12.8	15.2
			Bottom	26.2	26.2	26.2	8.1	8.1	8.1	31.8	31.9	31.9	4.9	4.9	4.9	59.2	59.7	59.5	7.2	7.4	7.3		18.4	18.6	18.5	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 11-Oct-11
Tide: Mid-Ebb
Weather: Rainy
Sea Conditions: Calm
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1030	10.8	*Surface*	26.9	26.9	26.9	7.6	7.7	7.7	31.4	31.4	31.4	5.8	5.8	5.8	86.6	86.2	86.4	7.0	7.1	7.1		12.8	13.4	13.1	
			Middle	26.7	26.7	26.7	7.7	7.7	7.7	31.5	31.5	31.5	5.8	5.8	5.8	86.9	86.4	86.7	9.7	9.7	9.7	9.9	16.4	15.8	16.1	17.6
			Bottom	26.7	26.7	26.7	7.8	7.8	7.8	31.6	31.6	31.6	5.9	5.8	5.9	87.7	87.3	87.5	12.8	12.8	12.8		23.2	24.2	23.7	
WM1	1055	15.8	*Surface*	26.9	26.9	26.9	8.0	8.0	8.0	31.5	31.5	31.5	5.1	5.1	5.1	76.6	76.2	76.4	8.9	8.9	8.9		16.2	16.4	16.3	
			Middle	26.8	26.8	26.8	8.1	8.0	8.1	31.7	31.7	31.7	5.2	5.2	5.2	78.7	78.2	78.5	7.6	7.6	7.6	8.3	13.4	13.8	13.6	15.0
			Bottom	26.9	26.9	26.9	8.1	8.1	8.1	31.7	31.6	31.7	5.3	5.3	5.3	79.6	79.2	79.4	8.3	8.3	8.3		14.8	15.4	15.1	
WM2	1125	5.2	*Surface*	27.0	27.0	27.0	8.1	8.1	8.1	31.6	31.6	31.6	5.2	5.2	5.2	78.8	78.4	78.6	6.8	6.8	6.8		11.6	12.0	11.8	
			Middle																			7.1				12.2
			Bottom	27.1	27.0	27.1	8.1	8.1	8.1	31.5	31.5	31.5	5.3	5.3	5.3	79.8	79.5	79.7	7.3	7.4	7.4		12.4	12.8	12.6	
WM3	1150	9.8	*Surface*	26.8	26.8	26.8	8.1	8.1	8.1	31.6	31.6	31.6	5.3	5.2	5.3	79.3	78.7	79.0	5.6	5.7	5.7		10.8	11.0	10.9	
			Middle	26.9	26.9	26.9	8.1	8.1	8.1	31.6	31.6	31.6	5.3	5.3	5.3	79.8	80.3	80.1	6.2	6.2	6.2	6.4	13.2	13.6	13.4	13.4
			Bottom	26.8	26.8	26.8	8.1	8.1	8.1	31.4	31.4	31.4	5.3	5.4	5.4	80.5	81.1	80.8	7.3	7.4	7.4		15.6	16.0	15.8	
WM4	1223	8.2	*Surface*	26.9	26.8	26.9	8.1	8.1	8.1	31.7	31.6	31.7	5.2	5.2	5.2	78.4	78.1	78.3	6.8	6.9	6.9		15.2	15.4	15.3	
			Middle	26.8	26.7	26.8	8.1	8.1	8.1	31.7	31.7	31.7	5.4	5.3	5.4	80.9	80.3	80.6	6.7	6.7	6.7	7.1	16.8	17.0	16.9	17.3
			Bottom	26.8	26.8	26.8	8.1	8.1	8.1	31.6	31.6	31.6	5.4	5.4	5.4	81.2	81.5	81.4	7.7	7.8	7.8		19.6	19.8	19.7	
CS2	1258	14.4	*Surface*	26.8	26.7	26.8	8.1	8.2	8.2	31.6	31.6	31.6	5.8	5.7	5.8	85.2	84.7	85.0	7.6	7.6	7.6		17.0	16.0	16.5	
			Middle	26.6	26.7	26.7	8.1	8.1	8.1	31.6	31.6	31.6	5.9	5.8	5.9	86.1	85.7	85.9	8.2	8.2	8.2	8.1	17.4	17.8	17.6	17.8
			Bottom	26.7	26.7	26.7	8.1	8.1	8.1	31.5	31.6	31.6	5.9	5.9	5.9	86.4	86.1	86.3	8.5	8.4	8.5		19.6	18.8	19.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 13-Oct-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1825	10.6	*Surface*	26.6	26.6	26.6	8.2	8.1	8.2	31.8	31.8	31.8	5.0	5.0	5.0	74.0	74.6	74.3	5.6	5.7	5.7		8.6	9.2	8.9	
			Middle	26.5	26.6	26.6	8.1	8.2	8.2	31.8	31.7	31.8	2.7	2.9	2.8	39.6	41.9	40.8	6.6	6.4	6.5	6.3	10.4	11.6	11.0	10.7
			Bottom	26.6	26.6	26.6	8.1	8.1	8.1	31.7	31.7	31.7	3.1	3.2	3.2	46.4	47.1	46.8	6.6	6.6	6.6		12.0	12.4	12.2	
WM1	1744	10.0	*Surface*	26.6	26.6	26.6	8.2	8.2	8.2	31.4	31.4	31.4	4.8	4.9	4.9	70.8	71.5	71.2	4.4	4.4	4.4		8.2	8.4	8.3	
			Middle	26.6	26.5	26.6	8.2	8.2	8.2	31.6	31.6	31.6	2.0	2.0	2.0	29.8	29.1	29.5	4.8	4.6	4.7	4.7	10.2	9.2	9.7	9.6
			Bottom	26.6	26.5	26.6	8.1	8.2	8.2	31.5	31.6	31.6	2.0	2.1	2.1	30.2	31.5	30.9	5.0	5.2	5.1		10.6	11.0	10.8	
WM2	1717	5.9	*Surface*	26.7	26.7	26.7	8.2	8.2	8.2	31.1	31.0	31.1	4.5	4.6	4.6	67.2	67.9	67.6	4.0	4.2	4.1		8.0	8.8	8.4	
			Middle																			4.9				10.6
			Bottom	26.5	26.5	26.5	8.1	8.2	8.2	31.4	31.4	31.4	2.5	2.6	2.6	37.3	38.3	37.8	5.7	5.7	5.7		12.6	13.0	12.8	
WM3	1645	9.1	*Surface*	26.6	26.7	26.7	8.1	8.2	8.2	31.4	31.4	31.4	4.6	4.4	4.5	68.1	67.3	67.7	3.8	3.7	3.8		7.6	7.0	7.3	
			Middle	26.6	26.6	26.6	8.2	8.1	8.2	31.5	31.4	31.5	3.8	3.7	3.8	56.8	55.3	56.1	4.0	4.0	4.0	4.1	8.4	8.2	8.3	8.6
			Bottom	26.4	26.4	26.4	8.2	8.2	8.2	31.6	31.6	31.6	2.5	2.4	2.5	36.8	36.5	36.7	4.6	4.5	4.6		10.2	10.0	10.1	
WM4	1612	9.4	*Surface*	26.7	26.8	26.8	8.2	8.1	8.2	31.5	31.4	31.5	4.7	4.8	4.8	70.5	71.2	70.9	3.8	4.1	4.0		8.6	9.2	8.9	
			Middle	26.7	26.7	26.7	8.1	8.1	8.1	31.4	31.4	31.4	3.4	3.6	3.5	50.9	51.7	51.3	4.9	4.8	4.9	4.4	11.2	11.0	11.1	10.4
			Bottom	26.8	26.8	26.8	8.1	8.2	8.2	31.4	31.4	31.4	4.5	4.4	4.5	69.2	68.8	69.0	4.4	4.4	4.4		11.0	11.4	11.2	
CS2	1545	14.8	*Surface*	27.0	27.1	27.1	8.1	8.1	8.1	31.6	31.6	31.6	6.2	6.2	6.2	93.1	93.9	93.5	3.8	3.8	3.8		8.8	8.6	8.7	
			Middle	26.7	26.7	26.7	8.2	8.1	8.2	31.7	31.6	31.7	4.5	4.3	4.4	68.3	66.7	67.5	4.4	4.6	4.5	4.4	9.6	10.4	10.0	10.3
			Bottom	26.5	26.5	26.5	8.2	8.2	8.2	31.8	31.9	31.9	3.3	3.2	3.3	49.6	48.8	49.2	4.8	4.9	4.9		12.0	12.4	12.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 13-Oct-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1115	10.2	*Surface*	26.7	26.7	26.7	8.1	8.0	8.1	31.4	31.5	31.5	6.5	6.7	6.6	95.2	98.8	97.0	6.5	6.7	6.6		9.8	10.8	10.3	
			Middle	26.8	26.8	26.8	8.1	8.1	8.1	31.8	31.8	31.8	3.9	4.0	4.0	57.5	58.9	58.2	7.0	7.2	7.1	6.9	10.8	11.2	11.0	11.3
			Bottom	27.0	27.0	27.0	8.0	8.1	8.1	31.9	31.8	31.9	3.8	3.7	3.8	56.1	54.8	55.5	6.8	7.2	7.0		12.2	13.0	12.6	
WM1	1150	9.8	*Surface*	26.8	26.8	26.8	8.1	8.1	8.1	31.5	31.6	31.6	4.8	5.0	4.9	71.2	73.4	72.3	5.7	5.8	5.8		9.6	9.6	9.6	
			Middle	27.2	27.3	27.3	8.1	8.0	8.1	31.4	31.5	31.5	4.0	3.9	4.0	59.1	57.8	58.5	6.1	6.0	6.1	6.2	9.6	9.2	9.4	9.5
			Bottom	27.0	27.0	27.0	8.1	8.0	8.1	31.6	31.6	31.6	3.2	3.4	3.3	47.3	50.2	48.8	6.8	7.0	6.9		9.0	9.8	9.4	
WM2	1220	5.6	*Surface*	26.7	26.7	26.7	8.1	8.1	8.1	31.5	31.5	31.5	4.6	4.7	4.7	67.8	69.6	68.7	6.2	6.0	6.1		9.2	9.0	9.1	
			Middle																			5.9				8.8
			Bottom	26.6	26.7	26.7	8.1	8.1	8.1	31.5	31.6	31.6	3.8	4.0	3.9	56.1	59.2	57.7	5.7	5.5	5.6		8.6	8.4	8.5	
WM3	1248	8.8	*Surface*	26.7	26.8	26.8	8.1	8.2	8.2	31.4	31.4	31.4	4.8	4.7	4.8	71.1	69.4	70.3	4.9	5.0	5.0		9.4	9.8	9.6	
			Middle	26.8	26.8	26.8	8.1	8.1	8.1	31.3	31.4	31.4	3.9	3.8	3.9	57.5	56.6	57.1	5.7	5.5	5.6	5.5	12.0	11.6	11.8	11.6
			Bottom	26.9	26.9	26.9	8.1	8.2	8.2	31.4	31.5	31.5	3.0	3.2	3.1	44.5	47.3	45.9	6.0	5.9	6.0		13.8	13.0	13.4	
WM4	1312	9.2	*Surface*	26.6	26.7	26.7	8.1	8.1	8.1	31.3	31.3	31.3	4.8	4.9	4.9	71.2	72.4	71.8	4.6	4.6	4.6		10.4	10.0	10.2	
			Middle	26.8	26.9	26.9	8.1	8.0	8.1	31.5	31.6	31.6	4.0	4.1	4.1	59.6	60.6	60.1	4.9	5.0	5.0	5.1	12.4	11.8	12.1	12.2
			Bottom	26.6	26.5	26.6	8.1	8.1	8.1	31.7	31.7	31.7	3.4	3.5	3.5	50.5	51.9	51.2	5.8	5.6	5.7		14.2	14.6	14.4	
CS2	1352	14.6	*Surface*	26.8	26.8	26.8	8.0	8.1	8.1	31.8	31.8	31.8	5.0	5.1	5.1	73.3	75.0	74.2	3.3	3.6	3.5		7.2	7.8	7.5	
			Middle	26.5	26.4	26.5	8.0	8.0	8.0	30.5	30.6	30.6	3.8	4.0	3.9	56.3	58.4	57.4	3.4	3.5	3.5	4.0	7.6	7.8	7.7	9.1
			Bottom	26.6	26.5	26.6	8.1	8.0	8.1	31.7	31.6	31.7	3.7	3.7	3.7	54.8	55.1	55.0	4.9	5.0	5.0		12.4	12.0	12.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 15-Oct-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1006	10.2	*Surface*	26.5	26.4	26.5	8.1	8.1	8.1	31.7	31.7	31.7	4.8	4.9	4.9	72.2	73.5	72.9	8.3	8.4	8.4		15.6	16.0	15.8	
			Middle	26.3	26.3	26.3	8.2	8.1	8.2	31.8	31.8	31.8	3.0	3.1	3.1	44.4	45.9	45.2	9.6	9.7	9.7	9.5	19.2	19.4	19.3	18.5
			Bottom	26.3	26.2	26.3	8.2	8.1	8.2	31.9	31.8	31.9	2.1	2.2	2.2	30.6	32.1	31.4	10.4	10.5	10.5		20.0	20.6	20.3	
WM1	0924	11.1	*Surface*	26.4	26.5	26.5	8.1	8.1	8.1	31.7	31.7	31.7	4.7	4.5	4.6	69.2	67.2	68.2	5.2	5.4	5.3		9.8	10.4	10.1	
			Middle	26.2	26.1	26.2	8.2	8.1	8.2	31.7	31.7	31.7	2.5	2.3	2.4	37.7	34.3	36.0	5.7	6.0	5.9	5.8	10.4	10.8	10.6	11.4
			Bottom	26.0	26.0	26.0	8.2	8.1	8.2	31.8	31.8	31.8	2.2	2.1	2.2	33.2	31.0	32.1	6.3	6.2	6.3		13.8	13.4	13.6	
WM2	0854	5.2	*Surface*	26.3	26.3	26.3	8.3	8.2	8.3	31.8	31.9	31.9	4.4	4.5	4.5	65.9	67.2	66.6	5.2	5.4	5.3		13.0	13.8	13.4	
			Middle																			5.8				13.5
			Bottom	26.2	26.1	26.2	8.2	8.3	8.3	31.6	31.7	31.7	2.9	2.8	2.9	43.1	42.1	42.6	6.4	6.3	6.4		13.6	13.4	13.5	
WM3	0822	9.2	*Surface*	26.5	26.4	26.5	8.2	8.3	8.3	31.7	31.7	31.7	4.7	4.8	4.8	69.3	71.5	70.4	5.3	5.4	5.4		8.6	9.2	8.9	
			Middle	26.2	26.2	26.2	8.3	8.3	8.3	31.8	31.7	31.8	2.6	2.7	2.7	38.6	40.1	39.4	6.0	6.2	6.1	5.4	14.6	15.4	15.0	11.0
			Bottom	26.2	26.3	26.3	8.2	8.2	8.2	31.7	31.8	31.8	2.5	2.4	2.5	37.4	35.6	36.5	4.9	4.7	4.8		9.4	8.8	9.1	
WM4	0755	8.2	*Surface*	26.2	26.2	26.2	8.2	8.1	8.2	32.0	31.9	32.0	4.9	5.0	5.0	72.4	73.1	72.8	6.7	6.8	6.8		16.0	16.6	16.3	
			Middle	26.1	26.2	26.2	8.3	8.2	8.3	31.9	31.9	31.9	2.8	2.6	2.7	41.5	38.3	39.9	5.8	5.7	5.8	6.0	13.6	14.2	13.9	14.6
			Bottom	26.1	26.1	26.1	8.2	8.2	8.2	31.9	32.0	32.0	2.4	2.3	2.4	35.6	34.2	34.9	5.5	5.7	5.6		13.4	13.6	13.5	
CS2	0730	14.2	*Surface*	26.2	26.2	26.2	8.1	8.2	8.2	31.4	31.3	31.4	3.2	3.1	3.2	47.2	46.4	46.8	4.2	4.4	4.3		9.0	9.6	9.3	
			Middle	25.7	25.8	25.8	8.2	8.2	8.2	31.4	31.3	31.4	2.7	2.4	2.6	39.8	35.7	37.8	6.8	7.0	6.9	6.4	12.8	13.0	12.9	13.8
			Bottom	25.6	25.6	25.6	8.2	8.1	8.2	31.9	31.8	31.9	3.3	2.9	3.1	46.6	43.1	44.9	8.0	8.1	8.1		19.0	19.4	19.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 15-Oct-11
Tide: Mid-Ebb
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1200	10.4	*Surface*	26.8	26.8	26.8	8.2	8.2	8.2	31.8	31.8	31.8	4.4	4.4	4.4	75.6	75.8	75.7	7.0	7.2	7.1		12.2	13.0	12.6	
			Middle	26.9	26.9	26.9	8.1	8.1	8.1	32.0	32.0	32.0	4.2	4.2	4.2	60.8	60.4	60.6	6.7	6.9	6.8	7.4	12.2	13.0	12.6	13.4
			Bottom	26.5	26.5	26.5	8.1	8.1	8.1	31.8	31.8	31.8	3.5	3.5	3.5	52.2	52.6	52.4	8.0	8.4	8.2		14.6	15.2	14.9	
WM1	1240	12.8	*Surface*	26.7	26.7	26.7	8.2	8.2	8.2	31.8	31.8	31.8	4.4	4.4	4.4	66.8	66.2	66.5	5.3	5.5	5.4		9.4	9.6	9.5	
			Middle	26.9	26.9	26.9	8.1	8.2	8.2	31.9	31.9	31.9	3.2	3.2	3.2	44.8	44.4	44.6	5.2	5.2	5.2	5.4	9.4	10.0	9.7	10.4
			Bottom	26.7	26.7	26.7	8.1	8.1	8.1	31.9	31.9	31.9	3.4	3.4	3.4	45.7	45.3	45.5	5.6	5.8	5.7		11.8	12.2	12.0	
WM2	1320	5.8	*Surface*	26.5	26.5	26.5	8.2	8.1	8.2	31.8	31.8	31.8	4.6	4.6	4.6	69.2	69.6	69.4	6.2	6.4	6.3		13.6	14.0	13.8	
			Middle																			5.5				11.9
			Bottom	26.6	26.6	26.6	8.1	8.1	8.1	31.8	31.8	31.8	4.1	4.1	4.1	63.8	64.0	63.9	4.8	4.6	4.7		10.0	9.8	9.9	
WM3	1355	9.8	*Surface*	26.4	26.4	26.4	8.1	8.1	8.1	31.8	31.8	31.8	4.3	4.3	4.3	63.9	63.7	63.8	4.5	4.7	4.6		8.6	9.0	8.8	
			Middle	26.6	26.6	26.6	8.1	8.1	8.1	31.9	31.9	31.9	3.9	3.9	3.9	62.2	62.8	62.5	4.2	4.0	4.1	5.4	9.0	8.2	8.6	11.6
			Bottom	26.7	26.7	26.7	8.1	8.1	8.1	31.9	31.9	31.9	3.7	3.7	3.7	61.3	61.1	61.2	7.6	7.4	7.5		17.6	17.2	17.4	
WM4	1425	7.8	*Surface*	26.5	26.5	26.5	8.1	8.1	8.1	31.8	31.8	31.8	4.7	4.7	4.7	69.8	69.4	69.6	4.5	4.2	4.4		11.2	10.6	10.9	
			Middle	27.1	27.1	27.1	8.1	8.1	8.1	31.9	31.8	31.9	3.9	3.9	3.9	51.3	51.7	51.5	3.4	3.8	3.6	4.4	8.4	9.2	8.8	11.1
			Bottom	26.7	26.7	26.7	8.1	8.1	8.1	32.0	32.0	32.0	3.8	3.8	3.8	50.2	50.6	50.4	5.0	5.4	5.2		13.2	14.0	13.6	
CS2	1445	14.6	*Surface*	26.8	26.8	26.8	8.2	8.2	8.2	31.9	31.9	31.9	5.2	5.2	5.2	75.8	75.6	75.7	3.6	3.9	3.8		7.6	8.2	7.9	
			Middle	26.7	26.7	26.7	8.2	8.2	8.2	32.0	32.0	32.0	4.9	4.9	4.9	70.2	70.6	70.4	4.2	4.4	4.3	4.3	9.0	9.6	9.3	9.7
			Bottom	26.5	26.5	26.5	8.2	8.2	8.2	31.9	31.9	31.9	4.1	4.1	4.1	63.8	63.5	63.7	4.7	4.9	4.8		12.0	11.8	11.9	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 17-Oct-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Calm
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1104	14.2	*Surface*	26.5	26.5	26.5	8.0	8.0	8.0	31.7	31.8	31.8	4.2	4.2	4.2	59.2	60.3	59.8	4.5	4.7	4.6		10.0	10.6	10.3	
			Middle	26.4	26.4	26.4	8.1	8.1	8.1	31.7	31.8	31.8	3.9	4.0	4.0	55.8	56.9	56.4	6.5	6.7	6.6	6.2	13.6	14.0	13.8	13.1
			Bottom	26.2	26.1	26.2	8.1	8.0	8.1	32.0	31.9	32.0	3.6	3.7	3.7	51.0	52.1	51.6	7.2	7.6	7.4		15.2	15.0	15.1	
WM1	1025	13.6	*Surface*	26.3	26.4	26.4	8.1	8.1	8.1	31.8	31.8	31.8	3.4	3.5	3.5	48.7	50.1	49.4	5.0	5.2	5.1		7.4	8.0	7.7	
			Middle	26.3	26.3	26.3	8.1	8.1	8.1	31.8	31.9	31.9	3.0	3.1	3.1	43.0	44.1	43.6	6.4	6.6	6.5	6.2	10.8	11.0	10.9	10.8
			Bottom	26.1	26.0	26.1	8.0	8.1	8.1	32.0	32.0	32.0	2.8	2.8	2.8	39.9	40.7	40.3	7.0	6.9	7.0		14.0	13.8	13.9	
WM2	0957	5.8	*Surface*	26.4	26.4	26.4	8.1	8.0	8.1	31.7	31.8	31.8	3.7	3.7	3.7	52.6	53.4	53.0	4.9	5.0	5.0		12.2	12.8	12.5	
			Middle																			5.1				13.0
			Bottom	26.3	26.3	26.3	8.1	8.1	8.1	31.8	31.8	31.8	3.2	3.2	3.2	45.2	46.1	45.7	5.2	5.4	5.3		13.0	13.8	13.4	
WM3	0927	9.4	*Surface*	26.3	26.3	26.3	8.1	8.1	8.1	31.9	31.8	31.9	3.8	3.9	3.9	54.1	55.6	54.9	4.0	4.2	4.1		6.2	6.6	6.4	
			Middle	26.1	26.1	26.1	8.0	8.1	8.1	31.9	31.9	31.9	3.2	3.3	3.3	45.9	47.6	46.8	4.8	5.2	5.0	4.7	11.2	12.0	11.6	10.0
			Bottom	26.1	26.0	26.1	8.1	8.1	8.1	31.9	31.9	31.9	3.3	3.4	3.4	47.5	49.1	48.3	5.1	4.9	5.0		12.0	11.8	11.9	
WM4	0858	10.0	*Surface*	26.4	26.4	26.4	8.0	8.1	8.1	31.9	31.9	31.9	3.9	4.0	4.0	55.0	56.6	55.8	4.4	4.7	4.6		10.8	11.6	11.2	
			Middle	26.1	26.1	26.1	8.1	8.1	8.1	31.9	31.9	31.9	3.4	3.5	3.5	48.6	49.8	49.2	4.9	5.0	5.0	4.6	11.2	11.6	11.4	11.0
			Bottom	25.8	25.9	25.9	8.1	8.1	8.1	32.0	32.1	32.1	3.0	3.0	3.0	42.1	43.4	42.8	4.2	4.2	4.2		10.0	10.6	10.3	
CS2	0830	14.8	*Surface*	26.4	26.4	26.4	8.0	8.0	8.0	31.7	31.7	31.7	4.2	4.4	4.3	58.7	61.2	60.0	3.8	4.0	3.9		8.0	8.2	8.1	
			Middle	25.8	25.8	25.8	8.0	8.1	8.1	32.0	32.0	32.0	3.5	3.6	3.6	49.2	51.2	50.2	7.9	8.2	8.1	6.1	13.4	13.2	13.3	12.0
			Bottom	25.6	25.7	25.7	8.0	8.1	8.1	32.2	32.1	32.2	3.7	3.6	3.7	52.1	51.7	51.9	6.0	6.4	6.2		14.0	15.0	14.5	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 17-Oct-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1300	13.6	*Surface*	26.6	26.7	26.7	8.1	8.2	8.2	31.6	31.6	31.6	6.7	6.6	6.7	96.1	95.0	95.6	6.8	7.0	6.9		11.4	12.0	11.7	
			Middle	26.7	26.8	26.8	8.1	8.1	8.1	31.7	31.8	31.8	5.2	5.0	5.1	74.7	72.2	73.5	8.0	8.2	8.1	7.3	15.2	15.8	15.5	13.4
			Bottom	26.6	26.5	26.6	8.1	8.2	8.2	31.8	31.9	31.9	4.0	4.2	4.1	58.4	60.6	59.5	6.6	6.9	6.8		13.2	13.0	13.1	
WM1	1334	13.0	*Surface*	26.7	26.8	26.8	8.2	8.2	8.2	31.8	31.7	31.8	3.8	3.6	3.7	54.3	52.6	53.5	4.2	4.6	4.4		7.8	8.4	8.1	
			Middle	26.7	26.7	26.7	8.1	8.2	8.2	31.7	31.7	31.7	3.4	3.2	3.3	49.3	46.9	48.1	4.4	4.7	4.6	5.0	7.8	8.6	8.2	9.1
			Bottom	26.3	26.4	26.4	8.1	8.2	8.2	31.8	31.9	31.9	3.0	3.0	3.0	42.9	43.8	43.4	5.8	6.0	5.9		11.0	11.2	11.1	
WM2	1410	5.6	*Surface*	26.6	26.7	26.7	8.2	8.2	8.2	31.7	31.6	31.7	3.9	3.8	3.9	55.8	55.0	55.4	5.9	4.8	5.4		9.4	9.2	9.3	
			Middle																			4.9				8.7
			Bottom	26.6	26.6	26.6	8.2	8.1	8.2	31.6	31.6	31.6	3.3	3.3	3.3	47.2	48.1	47.7	4.2	4.6	4.4		7.6	8.4	8.0	
WM3	1435	9.2	*Surface*	26.8	26.8	26.8	8.2	8.2	8.2	31.7	31.7	31.7	3.8	3.7	3.8	54.9	53.6	54.3	3.8	4.0	3.9		7.0	7.4	7.2	
			Middle	26.7	26.6	26.7	8.2	8.2	8.2	31.7	31.7	31.7	3.2	3.2	3.2	46.0	46.9	46.5	4.5	4.3	4.4	4.3	9.6	8.6	9.1	9.0
			Bottom	26.6	26.6	26.6	8.2	8.2	8.2	31.7	31.8	31.8	3.3	3.1	3.2	47.7	45.3	46.5	4.5	4.8	4.7		10.4	11.0	10.7	
WM4	1511	10.0	*Surface*	26.9	26.9	26.9	8.2	8.2	8.2	31.8	31.8	31.8	4.0	4.0	4.0	57.2	58.3	57.8	3.7	3.5	3.6		8.4	7.8	8.1	
			Middle	26.8	26.8	26.8	8.2	8.1	8.2	31.9	31.8	31.9	3.3	3.4	3.4	48.2	49.3	48.8	4.1	4.2	4.2	3.9	10.0	10.2	10.1	9.0
			Bottom	26.4	26.4	26.4	8.2	8.2	8.2	31.9	32.0	32.0	3.2	3.2	3.2	46.6	47.0	46.8	3.8	4.0	3.9		8.4	9.0	8.7	
CS2	1545	14.6	*Surface*	26.9	26.9	26.9	8.1	8.2	8.2	32.0	32.1	32.1	4.5	4.8	4.7	65.6	68.6	67.1	3.5	3.5	3.5		7.4	7.6	7.5	
			Middle	26.5	26.5	26.5	8.2	8.2	8.2	32.3	32.2	32.3	4.2	4.0	4.1	60.4	58.3	59.4	4.3	4.5	4.4	4.7	8.6	9.0	8.8	9.9
			Bottom	26.1	26.1	26.1	8.2	8.2	8.2	32.0	32.1	32.1	3.0	3.1	3.1	44.0	45.2	44.6	6.2	6.4	6.3		13.2	13.4	13.3	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 19-Oct-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1607	10.8	*Surface*	25.9	25.9	25.9	8.2	8.2	8.2	32.1	32.1	32.1	6.8	7.1	7.0	99.7	104.3	102.0	5.1	5.3	5.2		10.8	11.2	11.0	
			Middle	25.8	25.9	25.9	8.2	8.3	8.3	32.0	32.1	32.1	4.4	4.7	4.6	64.7	69.1	66.9	5.9	6.1	6.0	5.9	11.2	11.6	11.4	11.5
			Bottom	25.6	25.5	25.6	8.2	8.2	8.2	32.1	32.1	32.1	3.2	3.4	3.3	47.1	50.1	48.6	6.4	6.5	6.5		12.2	12.0	12.1	
WM1	1528	15.9	*Surface*	25.8	25.9	25.9	8.3	8.2	8.3	32.1	32.0	32.1	4.2	3.9	4.1	61.8	57.7	59.8	4.5	4.3	4.4		7.6	7.2	7.4	
			Middle	25.7	25.7	25.7	8.2	8.2	8.2	31.9	32.0	32.0	3.2	3.0	3.1	47.4	44.4	45.9	5.1	4.9	5.0	5.1	9.6	9.0	9.3	9.3
			Bottom	25.4	25.5	25.5	8.3	8.2	8.3	32.2	32.1	32.2	2.3	2.2	2.3	33.8	32.3	33.1	5.9	5.7	5.8		11.2	11.0	11.1	
WM2	1457	5.9	*Surface*	25.8	25.8	25.8	8.1	8.2	8.2	31.9	31.9	31.9	4.1	3.9	4.0	60.2	57.7	59.0	4.0	3.7	3.9		9.8	9.0	9.4	
			Middle																			4.1				9.8
			Bottom	25.7	25.7	25.7	8.1	8.1	8.1	31.9	32.0	32.0	3.0	2.9	3.0	44.2	42.9	43.6	4.3	4.4	4.4		9.8	10.4	10.1	
WM3	1427	9.6	*Surface*	25.8	25.7	25.8	8.1	8.1	8.1	31.9	31.9	31.9	3.8	4.0	3.9	56.2	59.3	57.8	3.7	3.8	3.8		6.2	6.6	6.4	
			Middle	25.7	25.8	25.8	8.2	8.1	8.2	32.0	32.0	32.0	3.1	3.2	3.2	45.9	47.4	46.7	4.0	4.2	4.1	4.1	9.8	10.6	10.2	8.8
			Bottom	25.5	25.5	25.5	8.2	8.2	8.2	32.0	32.1	32.1	2.4	2.2	2.3	35.2	32.6	33.9	4.4	4.7	4.6		9.4	10.0	9.7	
WM4	1355	9.9	*Surface*	25.8	25.9	25.9	8.2	8.2	8.2	32.0	31.9	32.0	4.6	4.4	4.5	68.1	65.1	66.6	3.2	3.4	3.3		7.0	7.4	7.2	
			Middle	25.7	25.7	25.7	8.3	8.2	8.3	31.9	31.9	31.9	3.7	4.0	3.9	54.7	59.3	57.0	3.7	3.8	3.8	3.7	8.6	9.2	8.9	8.6
			Bottom	25.4	25.5	25.5	8.3	8.2	8.3	32.0	32.0	32.0	3.0	2.9	3.0	44.4	43.1	43.8	4.0	4.2	4.1		9.4	10.0	9.7	
CS2	1330	14.7	*Surface*	25.7	25.8	25.8	8.3	8.2	8.3	31.8	31.9	31.9	5.2	5.4	5.3	76.8	79.9	78.4	5.3	5.1	5.2		10.0	9.6	9.8	
			Middle	25.4	25.4	25.4	8.2	8.2	8.2	32.1	32.0	32.1	4.7	4.6	4.7	69.6	68.1	68.9	5.9	5.8	5.9	5.8	10.0	10.4	10.2	11.1
			Bottom	25.4	25.5	25.5	8.2	8.3	8.3	32.1	32.1	32.1	3.2	3.3	3.3	47.3	48.7	48.0	6.2	6.3	6.3		13.2	13.6	13.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 19-Oct-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0445	10.5	*Surface*	25.6	25.5	25.6	8.3	8.2	8.3	32.0	32.1	32.1	7.5	7.5	7.5	111.4	110.7	111.1	4.9	4.7	4.8		8.2	8.4	8.3	
			Middle	25.4	25.4	25.4	8.3	8.3	8.3	31.9	32.0	32.0	5.0	5.2	5.1	74.3	77.0	75.7	5.4	5.5	5.5	5.3	9.2	10.6	9.9	9.7
			Bottom	25.5	25.4	25.5	8.3	8.3	8.3	32.0	31.9	32.0	3.8	3.9	3.9	56.8	57.3	57.1	5.5	5.5	5.5		11.0	10.8	10.9	
WM1	0521	15.6	*Surface*	25.5	25.5	25.5	8.2	8.3	8.3	32.0	32.1	32.1	4.3	4.5	4.4	63.6	65.8	64.7	3.8	4.0	3.9		6.4	6.6	6.5	
			Middle	25.4	25.5	25.5	8.2	8.3	8.3	32.0	32.0	32.0	3.6	3.6	3.6	53.1	53.9	53.5	4.6	4.7	4.7	4.9	8.4	8.6	8.5	8.6
			Bottom	25.2	25.2	25.2	8.2	8.2	8.2	32.2	32.2	32.2	2.7	2.6	2.7	40.0	38.7	39.4	5.9	6.1	6.0		10.6	11.0	10.8	
WM2	0554	5.5	*Surface*	25.6	25.5	25.6	8.3	8.3	8.3	31.8	31.9	31.9	4.1	4.2	4.2	61.6	62.2	61.9	3.2	3.5	3.4		4.6	5.4	5.0	
			Middle																			3.3				5.3
			Bottom	25.5	25.5	25.5	8.3	8.2	8.3	31.9	31.9	31.9	3.9	4.1	4.0	57.5	60.5	59.0	3.3	3.2	3.3		5.6	5.6	5.6	
WM3	0622	9.1	*Surface*	25.7	25.7	25.7	8.2	8.2	8.2	32.0	31.9	32.0	4.0	4.1	4.1	59.7	60.3	60.0	3.1	3.2	3.2		5.6	5.2	5.4	
			Middle	25.6	25.7	25.7	8.2	8.3	8.3	31.9	32.0	32.0	3.3	3.5	3.4	48.9	51.6	50.3	3.1	3.1	3.1	3.3	6.2	6.0	6.1	6.4
			Bottom	25.6	25.6	25.6	8.2	8.3	8.3	32.1	32.1	32.1	3.1	3.0	3.1	45.1	44.4	44.8	3.5	3.5	3.5		8.2	7.2	7.7	
WM4	0653	9.4	*Surface*	25.6	25.7	25.7	8.3	8.2	8.3	32.0	31.9	32.0	4.4	4.3	4.4	65.1	63.8	64.5	2.8	2.9	2.9		7.0	7.4	7.2	
			Middle	25.6	25.6	25.6	8.3	8.3	8.3	32.0	32.0	32.0	3.8	3.8	3.8	56.4	55.9	56.2	2.9	2.9	2.9	3.0	7.4	7.2	7.3	7.6
			Bottom	25.6	25.7	25.7	8.2	8.3	8.3	32.1	32.1	32.1	3.2	3.0	3.1	47.0	44.7	45.9	3.2	3.2	3.2		8.4	8.0	8.2	
CS2	0724	14.3	*Surface*	25.6	25.6	25.6	8.2	8.3	8.3	31.9	31.9	31.9	5.6	5.7	5.7	83.5	84.7	84.1	4.2	4.1	4.2		7.6	7.8	7.7	
			Middle	25.5	25.5	25.5	8.3	8.3	8.3	32.1	32.1	32.1	4.3	4.1	4.2	63.2	60.1	61.7	4.3	4.5	4.4	4.2	7.8	8.6	8.2	8.7
			Bottom	25.2	25.1	25.2	8.2	8.2	8.2	32.1	32.0	32.1	3.6	3.5	3.6	52.9	52.3	52.6	4.1	4.1	4.1		10.0	10.4	10.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 21-Oct-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1613	15.4	*Surface*	26.6	26.6	26.6	8.1	8.1	8.1	31.7	31.8	31.8	5.0	5.2	5.1	75.6	78.2	76.9	4.0	3.9	4.0		9.0	8.0	8.5	
			Middle	26.4	26.4	26.4	8.2	8.2	8.2	31.8	31.9	31.9	3.7	3.8	3.8	56.0	58.1	57.1	3.5	3.7	3.6	4.6	8.2	8.8	8.5	9.6
			Bottom	26.0	26.1	26.1	8.2	8.2	8.2	32.1	32.1	32.1	3.3	3.4	3.4	50.1	51.6	50.9	6.2	6.5	6.4		11.2	12.2	11.7	
WM1	1535	14.0	*Surface*	26.4	26.5	26.5	8.2	8.2	8.2	31.8	31.9	31.9	4.7	4.5	4.6	70.5	68.4	69.5	4.3	4.6	4.5		7.8	8.2	8.0	
			Middle	26.2	26.2	26.2	8.2	8.2	8.2	31.8	31.9	31.9	3.5	3.4	3.5	53.3	51.8	52.6	5.2	5.2	5.2	4.4	8.4	8.8	8.6	8.0
			Bottom	26.0	26.0	26.0	8.2	8.2	8.2	31.9	31.9	31.9	3.2	3.2	3.2	48.3	49.2	48.8	3.6	3.5	3.6		7.6	7.4	7.5	
WM2	1507	5.8	*Surface*	26.3	26.4	26.4	8.2	8.2	8.2	31.6	31.7	31.7	4.6	4.6	4.6	69.1	70.0	69.6	4.1	3.9	4.0		8.6	8.2	8.4	
			Middle																			3.9				8.1
			Bottom	26.2	26.3	26.3	8.2	8.2	8.2	31.8	31.8	31.8	3.6	3.7	3.7	54.6	56.3	55.5	3.7	3.8	3.8		7.6	8.0	7.8	
WM3	1434	9.6	*Surface*	26.6	26.7	26.7	8.2	8.2	8.2	31.7	31.6	31.7	4.8	4.9	4.9	72.7	74.4	73.6	3.8	3.4	3.6		6.2	5.8	6.0	
			Middle	26.5	26.5	26.5	8.1	8.2	8.2	31.8	31.8	31.8	3.7	3.9	3.8	56.4	58.7	57.6	2.9	3.0	3.0	3.5	6.2	6.4	6.3	6.6
			Bottom	26.1	26.2	26.2	8.2	8.2	8.2	31.9	31.9	31.9	3.8	3.6	3.7	57.2	54.9	56.1	4.0	4.1	4.1		7.2	8.0	7.6	
WM4	1359	10.2	*Surface*	26.7	26.7	26.7	8.1	8.2	8.2	31.5	31.6	31.6	5.6	5.5	5.6	84.1	82.8	83.5	4.0	3.8	3.9		9.2	8.4	8.8	
			Middle	26.3	26.4	26.4	8.2	8.2	8.2	31.9	31.9	31.9	4.9	5.2	5.1	74.4	78.5	76.5	3.3	3.5	3.4	3.5	6.0	6.4	6.2	6.9
			Bottom	26.1	26.1	26.1	8.1	8.2	8.2	32.1	32.0	32.1	3.7	3.7	3.7	55.5	56.7	56.1	3.0	3.2	3.1		5.8	5.6	5.7	
CS2	1330	14.4	*Surface*	27.2	27.2	27.2	8.1	8.1	8.1	30.7	30.8	30.8	6.8	6.9	6.9	102.2	103.5	102.9	3.8	3.9	3.9		8.0	7.8	7.9	
			Middle	26.2	26.3	26.3	8.1	8.2	8.2	32.1	32.0	32.1	4.9	5.0	5.0	73.5	75.6	74.6	4.6	4.7	4.7	4.6	9.8	9.4	9.6	9.8
			Bottom	26.3	26.4	26.4	8.2	8.2	8.2	31.9	31.9	31.9	4.0	4.0	4.0	60.2	61.4	60.8	5.4	5.1	5.3		12.2	11.8	12.0	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 21-Oct-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1700	15.2	*Surface*	26.5	26.6	26.6	8.1	8.2	8.2	31.4	31.4	31.4	6.0	6.1	6.1	90.3	92.1	91.2	6.0	6.3	6.2		9.0	9.2	9.1	
			Middle	26.3	26.3	26.3	8.2	8.2	8.2	31.6	31.7	31.7	6.2	6.1	6.2	93.6	92.7	93.2	5.2	4.9	5.1	5.2	9.6	8.4	9.0	8.7
			Bottom	25.8	25.8	25.8	8.2	8.1	8.2	31.9	31.9	31.9	4.9	4.8	4.9	74.4	72.5	73.5	4.6	4.4	4.5		8.2	7.8	8.0	
WM1	1730	14.0	*Surface*	26.4	26.4	26.4	8.2	8.2	8.2	31.7	31.6	31.7	4.9	5.0	5.0	74.4	75.9	75.2	3.4	3.2	3.3		5.2	5.0	5.1	
			Middle	26.4	26.3	26.4	8.1	8.2	8.2	31.8	31.8	31.8	3.8	3.9	3.9	58.2	59.1	58.7	3.5	3.7	3.6	3.6	5.6	6.0	5.8	5.6
			Bottom	26.0	26.0	26.0	8.2	8.2	8.2	31.9	31.9	31.9	4.0	3.9	4.0	61.3	59.7	60.5	3.8	4.0	3.9		5.6	6.0	5.8	
WM2	1803	5.6	*Surface*	26.4	26.4	26.4	8.2	8.2	8.2	31.5	31.6	31.6	4.7	4.8	4.8	71.3	72.3	71.8	3.9	3.5	3.7		5.2	5.6	5.4	
			Middle																			3.5				5.7
			Bottom	26.4	26.4	26.4	8.2	8.2	8.2	31.6	31.6	31.6	4.0	3.9	4.0	60.9	59.6	60.3	3.5	3.2	3.4		6.4	5.4	5.9	
WM3	1832	9.4	*Surface*	26.0	26.0	26.0	8.2	8.2	8.2	31.9	31.8	31.9	5.0	4.9	5.0	76.2	74.4	75.3	3.8	4.0	3.9		6.6	6.4	6.5	
			Middle	26.0	25.9	26.0	8.2	8.2	8.2	31.9	31.9	31.9	4.2	4.1	4.2	63.6	62.5	63.1	3.0	2.8	2.9	3.4	6.0	5.4	5.7	6.5
			Bottom	25.5	25.5	25.5	8.2	8.2	8.2	31.9	32.0	32.0	3.8	4.0	3.9	58.2	60.6	59.4	3.3	3.5	3.4		7.0	7.8	7.4	
WM4	1855	10.0	*Surface*	26.1	26.1	26.1	8.2	8.2	8.2	32.0	32.0	32.0	4.6	4.7	4.7	69.9	70.9	70.4	3.3	3.5	3.4		7.6	7.8	7.7	
			Middle	26.1	26.1	26.1	8.2	8.2	8.2	31.9	32.0	32.0	4.0	4.1	4.1	60.7	61.9	61.3	3.5	3.6	3.6	3.5	8.4	8.2	8.3	8.3
			Bottom	25.6	25.5	25.6	8.2	8.2	8.2	32.1	32.0	32.1	3.7	3.8	3.8	55.8	57.6	56.7	3.5	3.7	3.6		9.2	8.6	8.9	
CS2	1934	14.0	*Surface*	26.3	26.2	26.3	8.1	8.2	8.2	32.2	32.1	32.2	6.0	6.0	6.0	90.4	91.3	90.9	3.3	3.4	3.4		7.2	7.6	7.4	
			Middle	26.0	26.0	26.0	8.2	8.2	8.2	32.0	32.0	32.0	4.9	5.0	5.0	73.9	75.7	74.8	3.0	3.0	3.0	3.2	5.8	6.0	5.9	6.9
			Bottom	25.5	25.4	25.5	8.1	8.2	8.2	32.1	32.1	32.1	4.4	4.4	4.4	66.3	67.2	66.8	3.4	3.3	3.4		7.4	7.4	7.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 24-Oct-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1606	14.0	*Surface*	26.7	26.7	26.7	8.1	8.1	8.1	31.5	31.5	31.5	5.0	5.0	5.0	75.3	75.6	75.5	3.9	4.2	4.1		9.0	9.0	9.0	
			Middle	26.5	26.5	26.5	8.1	8.1	8.1	31.6	31.6	31.6	4.8	4.8	4.8	73.4	73.6	73.5	5.0	5.4	5.2	4.9	11.6	12.2	11.9	10.5
			Bottom	26.4	26.4	26.4	8.2	8.2	8.2	31.9	31.8	31.9	4.5	4.5	4.5	66.6	66.3	66.5	5.3	5.6	5.5		10.4	11.0	10.7	
WM1	1530	14.6	*Surface*	26.7	26.8	26.8	8.1	8.1	8.1	31.5	31.5	31.5	4.6	4.6	4.6	66.9	67.2	67.1	4.6	4.7	4.7		8.4	8.8	8.6	
			Middle	26.5	26.5	26.5	8.2	8.2	8.2	31.7	31.7	31.7	4.3	4.3	4.3	63.2	63.6	63.4	5.2	5.4	5.3	5.2	10.0	9.8	9.9	10.2
			Bottom	26.3	26.4	26.4	8.1	8.1	8.1	31.8	31.7	31.8	3.9	3.9	3.9	57.3	57.7	57.5	5.5	5.6	5.6		11.6	12.4	12.0	
WM2	1455	5.8	*Surface*	27.0	27.0	27.0	8.1	8.2	8.2	31.1	31.2	31.2	4.5	4.5	4.5	66.6	66.3	66.5	4.4	4.7	4.6		9.6	10.2	9.9	
			Middle																			4.9				10.3
			Bottom	26.8	26.7	26.8	8.1	8.1	8.1	31.5	31.5	31.5	4.1	4.1	4.1	60.7	60.9	60.8	5.2	5.4	5.3		10.2	11.2	10.7	
WM3	1425	9.0	*Surface*	26.8	26.8	26.8	8.1	8.1	8.1	31.4	31.4	31.4	4.6	4.6	4.6	68.1	68.4	68.3	4.8	4.6	4.7		8.8	8.4	8.6	
			Middle	26.7	26.7	26.7	8.1	8.1	8.1	31.5	31.5	31.5	4.5	4.5	4.5	66.2	66.0	66.1	4.7	4.8	4.8	5.0	8.6	9.0	8.8	9.4
			Bottom	26.6	26.7	26.7	8.2	8.2	8.2	31.7	31.7	31.7	4.0	4.0	4.0	59.2	59.4	59.3	5.4	5.6	5.5		10.4	11.0	10.7	
WM4	1359	11.2	*Surface*	26.8	26.8	26.8	8.2	8.2	8.2	31.5	31.5	31.5	4.4	4.4	4.4	65.2	65.8	65.5	4.0	4.1	4.1		9.6	9.2	9.4	
			Middle	26.6	26.6	26.6	8.2	8.2	8.2	31.7	31.7	31.7	4.2	4.2	4.2	61.7	61.3	61.5	4.6	4.9	4.8	4.5	9.8	10.6	10.2	10.1
			Bottom	26.0	26.0	26.0	8.2	8.2	8.2	31.8	31.8	31.8	3.9	3.9	3.9	57.3	57.1	57.2	4.5	4.8	4.7		10.4	11.0	10.7	
CS2	1330	14.4	*Surface*	27.4	27.3	27.4	8.1	8.2	8.2	31.4	31.4	31.4	4.7	4.7	4.7	69.5	69.3	69.4	4.8	4.6	4.7		10.8	10.4	10.6	
			Middle	26.8	26.9	26.9	8.1	8.1	8.1	31.6	31.6	31.6	4.5	4.5	4.5	66.2	66.8	66.5	5.2	5.4	5.3	5.5	11.2	11.4	11.3	12.4
			Bottom	26.6	26.6	26.6	8.2	8.2	8.2	31.8	31.8	31.8	4.0	4.0	4.0	58.8	58.2	58.5	6.4	6.4	6.4		15.4	15.0	15.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 24-Oct-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0900	12.1	*Surface*	26.6	26.6	26.6	8.2	8.2	8.2	31.4	31.2	31.3	5.9	5.8	5.9	88.7	86.4	87.6	3.7	4.0	3.9		7.2	7.6	7.4	
			Middle	26.3	26.3	26.3	8.2	8.1	8.2	31.7	31.6	31.7	5.3	5.6	5.5	79.3	82.4	80.9	4.8	4.7	4.8	4.7	9.2	9.4	9.3	9.1
			Bottom	26.4	26.4	26.4	8.2	8.2	8.2	31.7	31.7	31.7	4.9	5.1	5.0	72.6	75.1	73.9	5.5	5.6	5.6		10.4	11.0	10.7	
WM1	0929	14.4	*Surface*	26.5	26.5	26.5	8.1	8.2	8.2	31.5	31.5	31.5	4.5	4.7	4.6	67.0	68.5	67.8	4.2	4.3	4.3		7.2	7.8	7.5	
			Middle	26.3	26.4	26.4	8.1	8.1	8.1	31.6	31.5	31.6	3.3	3.4	3.4	48.8	50.3	49.6	5.1	5.3	5.2	5.1	8.6	9.2	8.9	9.1
			Bottom	26.4	26.4	26.4	8.1	8.1	8.1	31.7	31.8	31.8	2.2	2.4	2.3	32.8	35.7	34.3	5.8	5.9	5.9		10.6	11.0	10.8	
WM2	0958	5.2	*Surface*	26.6	26.6	26.6	8.3	8.2	8.3	31.5	31.4	31.5	4.7	4.5	4.6	69.3	66.6	68.0	4.9	5.1	5.0		9.4	10.2	9.8	
			Middle																			5.3				10.4
			Bottom	26.5	26.6	26.6	8.2	8.2	8.2	31.5	31.5	31.5	2.4	2.5	2.5	35.5	37.1	36.3	5.6	5.4	5.5		11.2	10.8	11.0	
WM3	1028	8.7	*Surface*	26.7	26.6	26.7	8.3	8.3	8.3	31.4	31.4	31.4	4.2	4.4	4.3	62.5	64.8	63.7	4.3	4.2	4.3		8.2	7.6	7.9	
			Middle	26.6	26.6	26.6	8.2	8.3	8.3	31.5	31.4	31.5	3.0	2.9	3.0	44.6	43.0	43.8	4.9	4.8	4.9	5.0	9.8	10.2	10.0	10.2
			Bottom	26.5	26.6	26.6	8.3	8.2	8.3	31.6	31.6	31.6	2.1	2.0	2.1	31.1	29.6	30.4	5.9	5.8	5.9		13.0	12.4	12.7	
WM4	1057	10.3	*Surface*	26.7	26.7	26.7	8.2	8.1	8.2	31.4	31.4	31.4	4.2	4.3	4.3	62.6	64.3	63.5	4.1	4.2	4.2		9.4	9.0	9.2	
			Middle	26.6	26.7	26.7	8.1	8.2	8.2	31.6	31.5	31.6	3.6	3.4	3.5	53.2	50.4	51.8	4.8	4.7	4.8	4.8	11.0	10.6	10.8	11.4
			Bottom	26.5	26.4	26.5	8.1	8.1	8.1	31.7	31.7	31.7	2.5	2.4	2.5	37.2	35.5	36.4	5.5	5.6	5.6		14.4	14.2	14.3	
CS2	1133	13.9	*Surface*	26.7	26.7	26.7	8.2	8.2	8.2	31.5	31.4	31.5	4.9	5.0	5.0	72.7	74.1	73.4	4.2	4.1	4.2		9.8	9.4	9.6	
			Middle	26.5	26.6	26.6	8.1	8.2	8.2	31.7	31.6	31.7	4.2	4.1	4.2	62.1	60.6	61.4	4.7	5.0	4.9	4.9	9.4	10.6	10.0	10.9
			Bottom	26.4	26.4	26.4	8.2	8.1	8.2	31.8	31.8	31.8	2.9	2.7	2.8	42.9	39.8	41.4	5.7	5.8	5.8		13.2	13.0	13.1	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 26-Oct-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1709	11.9	*Surface*	26.4	26.3	26.4	8.1	8.2	8.2	31.6	31.7	31.7	4.7	4.5	4.6	69.5	67.8	68.7	4.2	4.0	4.1		9.2	9.0	9.1	
			Middle	26.0	26.0	26.0	8.1	8.1	8.1	31.7	31.7	31.7	3.6	3.7	3.7	54.7	55.6	55.2	6.0	5.9	6.0	5.3	13.8	13.2	13.5	11.4
			Bottom	25.4	25.5	25.5	8.1	8.1	8.1	31.7	31.7	31.7	3.0	3.1	3.1	44.4	44.9	44.7	6.0	5.7	5.9		12.0	11.2	11.6	
WM1	1628	15.1	*Surface*	26.4	26.4	26.4	8.1	8.2	8.2	31.6	31.5	31.6	4.4	4.5	4.5	67.1	67.8	67.5	3.7	3.9	3.8		6.8	7.0	6.9	
			Middle	26.0	26.1	26.1	8.2	8.1	8.2	31.6	31.5	31.6	2.0	2.1	2.1	30.1	31.3	30.7	3.8	4.0	3.9	4.0	6.8	7.0	6.9	7.4
			Bottom	25.7	25.8	25.8	8.2	8.2	8.2	31.6	31.6	31.6	2.1	2.2	2.2	30.8	31.9	31.4	4.2	4.2	4.2		8.0	8.8	8.4	
WM2	1601	5.8	*Surface*	26.5	26.5	26.5	8.2	8.2	8.2	31.4	31.5	31.5	4.3	4.3	4.3	63.8	63.4	63.6	3.2	3.5	3.4		6.8	7.4	7.1	
			Middle																			3.5				7.3
			Bottom	26.0	26.0	26.0	8.1	8.2	8.2	31.5	31.5	31.5	2.2	2.5	2.4	32.6	34.8	33.7	3.6	3.5	3.6		7.6	7.4	7.5	
WM3	1529	9.0	*Surface*	26.5	26.4	26.5	8.1	8.1	8.1	31.5	31.6	31.6	4.3	4.4	4.4	63.7	64.2	64.0	3.2	2.9	3.1		5.8	5.2	5.5	
			Middle	26.0	26.0	26.0	8.1	8.2	8.2	31.6	31.5	31.6	2.2	2.2	2.2	32.8	32.2	32.5	3.6	3.7	3.7	3.3	8.8	8.4	8.6	7.1
			Bottom	26.0	26.0	26.0	8.1	8.2	8.2	31.6	31.7	31.7	2.1	2.0	2.1	30.9	30.5	30.7	3.3	3.3	3.3		7.0	7.4	7.2	
WM4	1457	10.8	*Surface*	26.5	26.5	26.5	8.2	8.1	8.2	31.6	31.6	31.6	4.9	5.0	5.0	73.1	73.9	73.5	2.7	2.6	2.7		6.4	6.0	6.2	
			Middle	26.1	26.0	26.1	8.1	8.1	8.1	31.6	31.6	31.6	4.1	4.0	4.1	61.6	60.7	61.2	2.9	2.7	2.8	2.8	6.4	6.0	6.2	6.2
			Bottom	26.0	26.1	26.1	8.2	8.2	8.2	31.7	31.6	31.7	2.6	2.7	2.7	39.0	39.5	39.3	2.9	2.9	2.9		6.2	6.4	6.3	
CS2	1430	15.0	*Surface*	26.4	26.4	26.4	8.2	8.2	8.2	31.8	31.9	31.9	5.6	5.7	5.7	83.5	84.2	83.9	3.7	3.9	3.8		7.8	8.6	8.2	
			Middle	26.5	26.4	26.5	8.1	8.2	8.2	31.7	31.7	31.7	3.6	3.6	3.6	54.1	54.7	54.4	3.2	3.3	3.3	3.5	6.8	7.0	6.9	7.6
			Bottom	26.4	26.4	26.4	8.2	8.1	8.2	31.6	31.6	31.6	3.4	3.2	3.3	51.7	49.9	50.8	3.3	3.5	3.4		7.6	7.8	7.7	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 26-Oct-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1000	11.4	*Surface*	27.0	26.9	27.0	8.1	8.1	8.1	31.1	31.1	31.1	7.3	7.2	7.3	106.2	104.8	105.5	4.6	4.5	4.6		7.8	8.0	7.9	
			Middle	26.5	26.5	26.5	8.1	8.2	8.2	31.6	31.6	31.6	5.6	5.7	5.7	81.6	83.0	82.3	3.6	3.8	3.7	4.7	7.2	7.0	7.1	8.5
			Bottom	25.6	25.7	25.7	8.2	8.2	8.2	31.6	31.7	31.7	4.0	4.2	4.1	58.7	61.3	60.0	5.7	6.0	5.9		10.4	10.8	10.6	
WM1	1034	14.8	*Surface*	26.6	26.7	26.7	8.2	8.2	8.2	31.4	31.4	31.4	4.3	4.5	4.4	63.1	66.4	64.8	4.1	3.9	4.0		7.0	6.8	6.9	
			Middle	26.7	26.7	26.7	8.2	8.2	8.2	31.5	31.6	31.6	3.8	3.7	3.8	55.5	54.6	55.1	4.1	3.7	3.9	4.1	7.4	6.8	7.1	7.2
			Bottom	26.5	26.5	26.5	8.1	8.2	8.2	31.6	31.7	31.7	3.0	3.2	3.1	44.8	46.4	45.6	4.0	4.6	4.3		7.0	8.0	7.5	
WM2	1106	5.6	*Surface*	26.6	26.6	26.6	8.2	8.2	8.2	31.5	31.4	31.5	4.0	4.1	4.1	58.8	60.0	59.4	3.5	3.8	3.7		6.0	6.4	6.2	
			Middle																			3.9				7.0
			Bottom	26.5	26.6	26.6	8.2	8.2	8.2	31.5	31.5	31.5	3.3	3.4	3.4	48.7	49.8	49.3	4.1	4.1	4.1		7.8	7.6	7.7	
WM3	1143	8.8	*Surface*	26.4	26.5	26.5	8.1	8.2	8.2	31.4	31.5	31.5	4.4	4.2	4.3	64.4	62.1	63.3	3.4	3.6	3.5		6.4	7.0	6.7	
			Middle	26.4	26.4	26.4	8.2	8.2	8.2	31.5	31.5	31.5	3.8	3.6	3.7	55.2	53.4	54.3	3.3	3.1	3.2	3.7	6.8	6.4	6.6	7.6
			Bottom	26.6	26.4	26.5	8.2	8.2	8.2	31.3	31.2	31.3	3.0	2.9	3.0	44.4	43.1	43.8	4.4	4.1	4.3		9.8	9.4	9.6	
WM4	1212	10.0	*Surface*	26.6	26.6	26.6	8.2	8.2	8.2	31.5	31.6	31.6	4.2	4.3	4.3	61.6	62.7	62.2	3.3	3.1	3.2		8.0	7.2	7.6	
			Middle	26.4	26.5	26.5	8.2	8.2	8.2	31.2	31.3	31.3	3.3	3.4	3.4	48.8	50.2	49.5	3.5	3.0	3.3	3.7	8.4	7.4	7.9	9.0
			Bottom	26.4	26.4	26.4	8.2	8.2	8.2	31.5	31.6	31.6	3.1	3.0	3.1	45.5	44.1	44.8	4.5	4.7	4.6		11.4	11.6	11.5	
CS2	1243	14.4	*Surface*	26.6	26.6	26.6	8.1	8.2	8.2	31.6	31.7	31.7	4.9	5.0	5.0	71.9	73.2	72.6	2.5	2.7	2.6		5.4	6.0	5.7	
			Middle	26.1	26.1	26.1	8.1	8.2	8.2	32.0	32.0	32.0	3.2	3.6	3.4	47.7	52.2	50.0	2.9	2.8	2.9	4.0	6.2	6.0	6.1	8.8
			Bottom	25.9	25.8	25.9	8.2	8.2	8.2	31.9	32.0	32.0	3.4	3.4	3.4	49.3	50.3	49.8	6.8	6.5	6.7		15.0	14.4	14.7	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 28-Oct-11
Tide: Mid-Flood
Weather: Cloudy
Sea Conditions: Great Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	0955	10.2	*Surface*	26.3	26.2	26.3	8.3	8.3	8.3	31.4	31.4	31.4	4.5	4.6	4.6	66.0	67.2	66.6	5.2	5.0	5.1		11.0	10.4	10.7	
			Middle	25.3	25.3	25.3	8.3	8.2	8.3	31.5	31.6	31.6	5.1	5.1	5.1	76.1	76.7	76.4	4.3	4.6	4.5	5.6	9.4	10.0	9.7	11.8
			Bottom	25.9	26.0	26.0	8.2	8.3	8.3	31.6	31.6	31.6	2.5	2.5	2.5	37.9	37.3	37.6	7.2	7.5	7.4		14.6	15.4	15.0	
WM1	0913	16.4	*Surface*	26.2	26.2	26.2	8.3	8.2	8.3	31.5	31.5	31.5	4.1	4.1	4.1	59.5	59.9	59.7	3.8	3.7	3.8		6.8	6.4	6.6	
			Middle	26.2	26.2	26.2	8.2	8.2	8.2	31.5	31.4	31.5	2.5	2.3	2.4	35.1	33.5	34.3	3.9	4.0	4.0	4.1	7.2	7.4	7.3	7.7
			Bottom	25.7	25.8	25.8	8.3	8.3	8.3	31.7	31.7	31.7	2.3	2.4	2.4	33.8	34.6	34.2	4.8	4.5	4.7		9.6	8.8	9.2	
WM2	0845	5.9	*Surface*	26.3	26.2	26.3	8.3	8.3	8.3	31.5	31.4	31.5	4.4	4.7	4.6	64.8	66.3	65.6	3.5	3.3	3.4		8.2	7.6	7.9	
			Middle																			3.9				8.6
			Bottom	25.9	26.0	26.0	8.2	8.3	8.3	31.5	31.5	31.5	2.4	2.4	2.4	35.1	35.7	35.4	4.2	4.4	4.3		9.0	9.4	9.2	
WM3	0812	10.2	*Surface*	26.4	26.3	26.4	8.3	8.2	8.3	31.5	31.4	31.5	4.0	4.0	4.0	58.9	58.1	58.5	3.0	3.1	3.1		5.4	5.8	5.6	
			Middle	26.2	26.3	26.3	8.2	8.3	8.3	31.3	31.3	31.3	2.7	2.9	2.8	41.3	43.0	42.2	3.5	3.4	3.5	3.7	7.4	7.2	7.3	7.3
			Bottom	25.7	25.8	25.8	8.3	8.3	8.3	31.6	31.5	31.6	2.5	2.6	2.6	36.7	37.3	37.0	4.6	4.4	4.5		9.2	8.6	8.9	
WM4	0741	9.6	*Surface*	26.3	26.3	26.3	8.2	8.2	8.2	31.5	31.4	31.5	4.4	4.6	4.5	65.0	67.2	66.1	4.1	4.3	4.2		9.2	9.6	9.4	
			Middle	26.5	26.4	26.5	8.3	8.2	8.3	31.4	31.4	31.4	2.5	2.6	2.6	37.9	39.4	38.7	3.5	3.6	3.6	3.9	8.8	8.2	8.5	9.0
			Bottom	26.3	26.3	26.3	8.2	8.2	8.2	31.5	31.4	31.5	3.0	3.2	3.1	45.2	46.9	46.1	3.8	3.8	3.8		9.0	9.4	9.2	
CS2	0715	13.5	*Surface*	26.3	26.3	26.3	8.2	8.3	8.3	31.5	31.5	31.5	6.6	6.6	6.6	97.9	97.4	97.7	4.8	4.6	4.7		10.2	9.6	9.9	
			Middle	26.1	26.0	26.1	8.2	8.2	8.2	31.2	31.3	31.3	3.3	3.2	3.3	48.6	47.9	48.3	4.7	4.6	4.7	4.6	9.4	9.0	9.2	9.7
			Bottom	26.1	26.1	26.1	8.3	8.3	8.3	31.4	31.4	31.4	3.8	3.9	3.9	57.0	57.8	57.4	4.2	4.5	4.4		10.2	9.6	9.9	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 28-Oct-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1145	9.9	*Surface*	26.5	26.6	26.6	8.3	8.3	8.3	31.3	31.4	31.4	5.9	6.0	6.0	86.8	87.6	87.2	4.7	4.9	4.8		8.6	9.4	9.0	
			Middle	26.7	26.6	26.7	8.2	8.3	8.3	31.6	31.5	31.6	3.6	3.7	3.7	53.6	53.9	53.8	5.1	5.1	5.1	5.6	8.6	8.4	8.5	10.0
			Bottom	26.6	26.6	26.6	8.3	8.3	8.3	31.7	31.7	31.7	3.3	3.3	3.3	49.7	49.1	49.4	6.7	6.9	6.8		12.2	12.6	12.4	
WM1	1222	15.6	*Surface*	26.3	26.3	26.3	8.2	8.3	8.3	31.6	31.6	31.6	4.3	4.5	4.4	62.8	63.4	63.1	5.2	5.1	5.2		8.4	8.6	8.5	
			Middle	26.9	27.0	27.0	8.2	8.2	8.2	31.6	31.7	31.7	3.3	3.2	3.3	48.3	47.9	48.1	4.1	4.0	4.1	4.7	7.4	7.6	7.5	8.4
			Bottom	26.7	26.7	26.7	8.3	8.2	8.3	31.6	31.6	31.6	3.5	3.7	3.6	53.7	55.5	54.6	4.8	4.9	4.9		9.0	9.4	9.2	
WM2	1254	5.6	*Surface*	26.2	26.2	26.2	8.2	8.3	8.3	31.3	31.4	31.4	4.1	4.1	4.1	60.2	60.6	60.4	3.8	4.1	4.0		6.4	7.0	6.7	
			Middle																			3.8				7.1
			Bottom	26.3	26.2	26.3	8.2	8.2	8.2	31.4	31.5	31.5	2.3	2.5	2.4	34.4	36.6	35.5	3.6	3.6	3.6		7.6	7.4	7.5	
WM3	1321	10.0	*Surface*	26.2	26.2	26.2	8.3	8.2	8.3	31.6	31.5	31.6	4.1	4.0	4.1	60.5	59.2	59.9	3.7	3.9	3.8		7.2	7.6	7.4	
			Middle	26.1	26.2	26.2	8.3	8.3	8.3	31.7	31.7	31.7	2.0	2.1	2.1	30.1	31.2	30.7	3.8	3.6	3.7	4.0	8.0	7.4	7.7	8.4
			Bottom	26.1	26.1	26.1	8.2	8.3	8.3	31.6	31.6	31.6	3.2	3.2	3.2	48.7	47.9	48.3	4.5	4.5	4.5		10.0	10.4	10.2	
WM4	1352	9.3	*Surface*	26.2	26.3	26.3	8.2	8.3	8.3	31.6	31.6	31.6	4.0	4.3	4.2	58.5	61.1	59.8	5.4	5.3	5.4		12.4	11.8	12.1	
			Middle	26.3	26.2	26.3	8.3	8.2	8.3	31.6	31.7	31.7	2.2	2.2	2.2	32.3	32.8	32.6	3.9	4.1	4.0	4.6	8.8	9.0	8.9	10.8
			Bottom	26.3	26.3	26.3	8.3	8.2	8.3	31.5	31.6	31.6	2.2	2.5	2.4	32.4	35.3	33.9	4.4	4.3	4.4		11.6	11.4	11.5	
CS2	1425	13.1	*Surface*	26.4	26.3	26.4	8.2	8.2	8.2	31.7	31.6	31.7	4.9	5.0	5.0	73.1	74.6	73.9	3.4	3.7	3.6		7.2	7.8	7.5	
			Middle	26.4	26.4	26.4	8.3	8.3	8.3	31.7	31.7	31.7	3.6	3.8	3.7	54.6	56.9	55.8	2.5	2.5	2.5	2.8	4.8	4.8	4.8	6.2
			Bottom	26.2	26.1	26.2	8.2	8.3	8.3	31.6	31.6	31.6	3.2	3.2	3.2	47.4	47.7	47.6	2.5	2.4	2.5		6.4	6.0	6.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 31-Oct-11
Tide: Mid-Flood
Weather: Fine
Sea Conditions: Small Wave
Upstream Control Station: CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1109	9.8	*Surface*	26.3	26.3	26.3	8.2	8.2	8.2	31.3	31.3	31.3	4.5	4.7	4.6	66.9	68.4	67.7	4.5	4.8	4.7		8.6	9.0	8.8	
			Middle	26.2	26.3	26.3	8.1	8.1	8.1	31.2	31.3	31.3	3.7	3.9	3.8	55.6	57.1	56.4	5.7	5.4	5.6	5.6	11.0	10.4	10.7	10.5
			Bottom	26.2	26.2	26.2	8.1	8.2	8.2	31.3	31.3	31.3	3.6	3.8	3.7	55.2	56.6	55.9	6.5	6.6	6.6		11.8	12.2	12.0	
WM1	1027	12.0	*Surface*	26.3	26.3	26.3	8.2	8.2	8.2	31.4	31.3	31.4	4.2	4.5	4.4	63.1	64.6	63.9	4.5	4.5	4.5		8.0	7.6	7.8	
			Middle	26.2	26.2	26.2	8.1	8.2	8.2	31.4	31.4	31.4	3.7	3.8	3.8	55.7	56.3	56.0	4.4	4.6	4.5	4.6	7.4	8.0	7.7	8.3
			Bottom	26.1	26.0	26.1	8.2	8.2	8.2	31.4	31.4	31.4	2.8	2.8	2.8	42.0	42.6	42.3	4.7	4.9	4.8		9.4	9.6	9.5	
WM2	1000	5.8	*Surface*	26.2	26.3	26.3	8.1	8.1	8.1	31.3	31.3	31.3	3.8	4.0	3.9	56.1	58.3	57.2	4.9	5.0	5.0		10.8	10.2	10.5	
			Middle																			4.8				10.2
			Bottom	26.1	26.2	26.2	8.1	8.2	8.2	31.2	31.3	31.3	4.2	4.2	4.2	65.2	65.6	65.4	4.5	4.8	4.7		9.6	10.0	9.8	
WM3	0928	9.0	*Surface*	26.2	26.3	26.3	8.1	8.2	8.2	31.3	31.4	31.4	4.0	4.0	4.0	59.8	59.1	59.5	4.1	4.2	4.2		7.0	7.2	7.1	
			Middle	25.9	26.0	26.0	8.2	8.2	8.2	31.5	31.4	31.5	4.2	4.4	4.3	61.5	63.3	62.4	4.7	4.6	4.7	5.1	9.0	8.6	8.8	9.4
			Bottom	26.0	26.0	26.0	8.2	8.1	8.2	31.5	31.5	31.5	4.4	4.1	4.3	63.9	61.5	62.7	6.4	6.7	6.6		12.2	12.6	12.4	
WM4	0856	9.5	*Surface*	26.3	26.3	26.3	8.1	8.2	8.2	31.4	31.4	31.4	4.4	4.3	4.4	66.0	65.3	65.7	5.8	6.1	6.0		11.2	11.8	11.5	
			Middle	26.0	26.1	26.1	8.1	8.1	8.1	31.4	31.5	31.5	3.5	3.5	3.5	52.5	52.9	52.7	4.6	4.8	4.7	5.3	10.2	10.4	10.3	11.2
			Bottom	26.1	26.0	26.1	8.2	8.1	8.2	31.6	31.6	31.6	3.9	4.1	4.0	59.8	60.7	60.3	5.2	5.4	5.3		11.6	12.0	11.8	
CS2	0830	14.1	*Surface*	26.3	26.2	26.3	8.1	8.1	8.1	31.3	31.3	31.3	7.1	7.0	7.1	104.6	103.8	104.2	5.4	5.2	5.3		10.2	10.0	10.1	
			Middle	26.3	26.3	26.3	8.2	8.1	8.2	31.6	31.5	31.6	4.4	4.5	4.5	65.5	66.1	65.8	6.3	6.0	6.2	6.1	11.4	11.0	11.2	11.8
			Bottom	26.3	26.3	26.3	8.1	8.1	8.1	31.5	31.4	31.5	4.4	4.6	4.5	66.9	67.3	67.1	6.8	6.8	6.8		14.4	14.0	14.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 31-Oct-11
Tide: Mid-Ebb
Weather: Fine
Sea Conditions: Great Wave
Upstream Control Station: CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1300	9.4	*Surface*	26.5	26.5	26.5	8.1	8.1	8.1	31.2	31.2	31.2	7.2	7.2	7.2	105.6	105.2	105.4	6.5	6.8	6.7		10.6	11.0	10.8	
			Middle	26.4	26.4	26.4	8.2	8.2	8.2	31.4	31.4	31.4	4.6	4.6	4.6	68.2	67.8	68.0	7.0	7.4	7.2	6.7	11.6	12.2	11.9	11.0
			Bottom	26.0	26.1	26.1	8.1	8.1	8.1	31.4	31.4	31.4	3.8	3.8	3.8	58.0	58.4	58.2	5.9	6.3	6.1		10.0	10.8	10.4	
WM1	1334	11.2	*Surface*	26.5	26.5	26.5	8.2	8.1	8.2	31.1	31.2	31.2	4.0	4.0	4.0	59.0	59.4	59.2	4.2	4.6	4.4		7.0	7.8	7.4	
			Middle	26.3	26.3	26.3	8.1	8.1	8.1	31.4	31.4	31.4	3.6	3.6	3.6	54.0	54.6	54.3	4.0	4.3	4.2	4.2	6.6	7.4	7.0	6.9
			Bottom	26.1	26.1	26.1	8.1	8.1	8.1	31.4	31.4	31.4	3.5	3.5	3.5	53.2	53.3	53.3	3.9	4.1	4.0		6.0	6.6	6.3	
WM2	1404	5.2	*Surface*	26.5	26.5	26.5	8.1	8.1	8.1	31.2	31.2	31.2	4.0	4.0	4.0	60.5	60.2	60.4	3.6	3.8	3.7		5.8	6.2	6.0	
			Middle																			3.6				5.9
			Bottom	26.4	26.3	26.4	8.1	8.1	8.1	31.4	31.4	31.4	4.1	4.1	4.1	59.4	59.6	59.5	3.7	3.1	3.4		6.2	5.2	5.7	
WM3	1436	8.0	*Surface*	26.4	26.3	26.4	8.1	8.1	8.1	31.3	31.3	31.3	4.2	4.2	4.2	63.3	63.8	63.6	3.2	3.5	3.4		6.0	6.4	6.2	
			Middle	26.3	26.3	26.3	8.1	8.2	8.2	31.4	31.4	31.4	3.8	3.8	3.8	58.0	58.4	58.2	3.3	3.0	3.2	3.6	6.4	5.4	5.9	6.8
			Bottom	25.9	25.9	25.9	8.1	8.1	8.1	31.5	31.5	31.5	3.6	3.6	3.6	55.4	55.5	55.5	4.4	4.1	4.3		8.6	8.2	8.4	
WM4	1506	9.2	*Surface*	26.4	26.3	26.4	8.2	8.1	8.2	31.5	31.5	31.5	3.9	3.9	3.9	59.5	59.3	59.4	3.1	3.5	3.3		6.6	7.4	7.0	
			Middle	26.1	26.1	26.1	8.1	8.1	8.1	31.6	31.6	31.6	3.8	3.8	3.8	58.2	58.4	58.3	3.7	4.0	3.9	3.9	8.2	8.4	8.3	8.4
			Bottom	25.9	25.9	25.9	8.1	8.1	8.1	31.6	31.6	31.6	3.7	3.7	3.7	57.0	57.1	57.1	4.9	4.1	4.5		10.8	9.2	10.0	
CS2	1536	14.0	*Surface*	26.4	26.4	26.4	8.2	8.2	8.2	31.5	31.5	31.5	4.5	4.5	4.5	65.8	65.2	65.5	4.1	4.4	4.3		8.2	8.2	8.2	
			Middle	26.1	26.1	26.1	8.1	8.1	8.1	31.6	31.6	31.6	4.2	4.2	4.2	62.0	62.4	62.2	3.8	3.8	3.8	4.5	7.0	7.4	7.2	9.0
			Bottom	26.0	26.0	26.0	8.2	8.2	8.2	31.6	31.6	31.6	4.0	4.0	4.0	60.1	60.3	60.2	5.6	5.4	5.5		11.6	11.4	11.5	

Remark or Obsevation:

Note: * Average
** Depth Average

APPENDIX E

Review of Exceedance in Water Quality Monitoring

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
5 Oct 2011*	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as no marine based works were being carried out on the day. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
7 Oct 2011*	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
9 Oct 2011*	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as no marine based works were being carried out on the day. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
11 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
13 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations, and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
15 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations. Works (pre-drilling and bored piling) have been restricted to the temporary working platform and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
17 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations. Works (pre-drilling and bored piling) have been restricted to the temporary working platform and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
19 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations. Works (pre-drilling and bored piling) have been restricted to the temporary working platform and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
21 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations. Works (pre-drilling and bored piling) have been restricted to the temporary working platform and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
24 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations. Works (pre-drilling and bored piling) have been restricted to the temporary working platform and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
26 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations. Works (pre-drilling and bored piling) have been restricted to the temporary working platform and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.
28 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations. Works (pre-drilling and bored piling) have been restricted to the temporary working platform and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
31 Oct 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom). The exceedances have been investigated and were considered not related to the project works as the DO levels were low among all monitoring stations, including the control stations. Works (pre-drilling and bored piling) have been restricted to the temporary working platform and the silt curtain has been inspected and was functioned properly. As such, the natural fluctuation of the marine water quality has been considered attributed to the low DO levels.

Note: AL – Action Level ; LL – Limit Level

** Impact water quality monitoring rescheduled as typhoon signal no. 3 hoisted on 3 October 2011.*