MTR Corporation Limited

South Island Line (East)

Monthly EM&A Report No. 7

February 2012

Verified by:

Thomas Chan

Independent Environmental Checker

Date:

14 February 2012

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Certified by:

Richard Kwan

Environmental Team Leader

Date: 14 FEB 2012

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 seventh Monthly EM&A Report for SIL(E) Project. The Report presents the results of EM&A works undertaken during the period of 1 January 2012 to 31 January 2012. The major construction activities in the reporting period included piling, excavation and slope stabilization works as well as blasting works at WCH depot site.

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.

No environmental complaint was received from EPD in the reporting period. If such complaint was received, investigations would be carried out in accordance with the EM&A Manual and investigation reports would be 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 seventh 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 January 2012.

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	- ISL/TWL cofferdam - Secant piles, diaphragm wall and plunge columns works - Construction of site office - Construction of capping beam - Excavate and install 2nd and 3rd level of walings and struts

Contract No. 902

Site	Construction Activities
Hong Kong Park Ventilation Shaft	- Excavation and construction for plant room - Pipe piling at the upper platform - Utility diversion

Nam Fung Portal	- Site hoarding and noise barrier erection - Temporary haul road construction - Pipe piling for ventilation building & transition box - Pile cap excavation and construction - Soil nailing works - Installation of soil nails and boulder fence opposite to Nam Fung Road - Grouting works - ELS works (Shaft portion) - Installation of dewatering wells
Chung Hom Shan Magazine	- FSD / Police / Mines inspections completed - Pull out / proof tests for the boulder fence

Contract No. 903

Site	Construction Activities
OCP Station	- Bored piling
WCH Station	- Bored piling/ installation of socket-H-piles - Pipe piling - Demolition of existing nullah wall and construction of new nullah wall - Reinstatement of nullah base slab - Construction of Station Pad Footing - Nullah deck construction
Zone B (Ex-Canadian Site to OCP Station)	- Bored piling - Pile cap construction - Pier construction
Zone C (OCP Station to WCH Station)	- Utility diversion - Bored piling/ installation of socket-H-piles - Remove existing South nullah wall - Pile cap construction - Preparation works of slope stabilisation - Hoarding erection
Zone D (WCH Station to WCH nullah)	- Site formation - Cable diversion - Soil nailing and slope stabilisation - Excavation - Pipe piling - Bored piling
Zone E (Aberdeen Channel)	- Preparation works for piling - Pile cap construction

Contract No. 904

Site	Construction Activities
Ex-Harbour Mission School	- Site clearance and formation - Pipe piling and excavation - Installation of ground anchor - Demolition of caisson wall
Lee Wing Street	- Slope excavation and protection works - Retaining wall extension - Tunnel portal excavation
LET Station Entrance A	- Site clearance and formation - Drainage construction

Site	Construction Activities
	- Excavation - Soil nailing
LET Station Entrance B	- Site clearance and preparation - Construction of retaining wall, manhole and pipe laying
South Horizons	- Site clearance and formation of Yuk Kwai Shan - Water mains diversion - Installation of pipe piles
South Horizons Plant Building	- Site clearance and preparation - Erection of safety fence
Project site office at Ap Lei Chau Bridge Playground	- Establishment of welfare facility

Contract No. 907

Site	Construction Activities
WCH Depot	- Site formation - Bored piling - Pipe piling - Blasting
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	- ISL/TWL cofferdam - Secant piles, diaphragm wall and plunge columns works - Construction of site office - Excavate and install 2nd and 3rd level of walings and struts - Covered walkway at Harcourt Road - Temporary CITIC footbridge diversion

Contract No. 902

Site	Construction Activities
Hong Kong Park Ventilation Shaft	- Construction for plant room - Pipe piling at the upper platform - Preparation works for the provision of temporary refuse collection point to LCSD
Nam Fung Portal	- Site hoarding and noise barrier erection - Temporary haul road construction - Pipe piling for ventilation building & transition box - Pile cap excavation and construction - Pier construction - Grouting works - ELS works (Shaft portion) - Installation of dewatering wells
Chung Hom Shan Magazine	- FSD / Police / Mines inspections completed

Contract No. 903

Site	Construction Activities
OCP Station	- Bored piling - Formation of station substructure - Piling for OCP footbridge - Pile cap construction
WCH Station	- Construction of station pad footings / Bored piling - Installation of socket-H-piles - Pipe piling - Demolition of existing nullah wall & new south nullah wall excavation - Reinstatement of nullah base slab - Nullah deck construction
Zone B (Ex-Canadian Site to OCP Station)	- Pile cap construction - Pier construction - Segment erection - Pier and cross head construction
Zone C (OCP Station to WCH Station)	- Pipe piling - Bored piling - Pre-bored socket-H-piles - Pile cap construction - Construction of platform crossing nullah - Slope stabilization - Utilities diversion - Permanent rising main - Excavation and demolition of South nullah wall - Hoarding erection
Zone D (WCH Station to WCH nullah)	- Soil nailing and slope stabilisation - Bored piling - Pipe piling - Cable diversion - Pile cap construction
Zone E (Aberdeen Channel)	- Preparation works for piling - Pile cap construction - Pier construction

Contract No. 904

Site	Construction Activities
Ex-Harbour Mission School	- Site clearance and formation - Pipe piling and excavation - Installation of ground anchor - Demolition of caisson wall
Lee Wing Street	- Slope excavation and protection works - Retaining wall extension - Tunnel portal excavation
LET Station Entrance A	- Site clearance and formation - Drainage construction - Excavation - Soil nailing
LET Station Entrance B	- Site clearance and preparation - Construction of retaining wall, manhole and pipe laying

South Horizons	- Site clearance and formation of Yuk Kwai Shan - Water mains diversion - Installation of pipe piles
South Horizons Plant Building	- Site clearance and preparation - Erection of safety fence
Project site office at Ap Lei Chau Bridge Playground	- Establishment of welfare facility

Contract No. 907

Site	Construction Activities
WCH Depot	- Site formation - Bored piling - Pipe piling - 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 existing barging point at Telegraph Bay for the DSD's HKWDT project will be taken over and used for the SIL(E) project. Impact dust and noise monitoring will be carried out at designated monitoring locations during operation of the Telegraph Bay barging point.

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					
03-Jan	164.3	173	260	Yes	Fine
10-Jan	112.7	173	260	Yes	Fine
17-Jan	74.4	173	260	Yes	Fine
27-Jan	121.7	173	260	Yes	Fine
CD2 Police College – Police Quarters					
03-Jan	124.3	184	260	Yes	Fine
10-Jan	147.8	184	260	Yes	Fine
18-Jan	110.7	184	260	Yes	Fine
27-Jan	123.1	184	260	Yes	Fine
CD3 San Wui Commercial Society of HK Chan Pak Sha School					
03-Jan	113.9	169	260	Yes	Fine
10-Jan	79.5	169	260	Yes	Fine
17-Jan	59.1	169	260	Yes	Fine
27-Jan	74.4	169	260	Yes	Fine
CD4 Shan On House					
06-Jan-12	59.7	176	260	Yes	Fine
10-Jan-12	84.3	176	260	Yes	Fine
19-Jan-12	52.2	176	260	Yes	Fine
27-Jan-12	40.7	176	260	Yes	Fine
CD5 South Horizons Phase IV – Block 25					
06-Jan-12	79.5	169	260	Yes	Fine
10-Jan-12	97.7	169	260	Yes	Fine
19-Jan-12	101.6	169	260	Yes	Fine
27-Jan-12	66.9	169	260	Yes	Fine

Note: Please refer to Figures 3 to 6 for the location of construction air quality monitoring stations

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. The monitoring was conducted during the course of construction works, please refer to S2.2 for major construction activities of the respective SIL(E) civil works contracts in the reporting month. Weather conditions throughout the monitoring period were mild with light wind of not exceeding 2-3m/s on average.

Monitoring results are presented in the following table (see **Appendix D** for graphical plots). No exceedance was found. It was noted that the noise levels recorded at San Wui Commercial Society of HK Chan Pak Sha School on 4, 11, 17 and 27 January 2012 were of 70.8dBA to 72.1dBA. 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					
4-Jan	15:00	71.9	70#	Yes	Fine
11-Jan	10:50	70.8	70#	Yes	Fine
17-Jan	11:05	72.1	70#	Yes	Fine
27-Jan	13:20	71.2	70#	Yes	Fine
CN2 Holy Spirit Seminary					

Date	Time	LAeq (dBA)	Limit Level (dBA)	Compliance (Yes/No)	Weather Condition
6-Jan	16:30	68.9	70#	Yes	Fine
11-Jan	15:40	65.6	70#	Yes	Fine
18-Jan	14:20	69.6	70#	Yes	Fine
27-Jan	9:55	69.5	70#	Yes	Fine
CN3 Shun Fung Building					
4-Jan	10:00	70.3	75#	Yes	Fine
12-Jan	14:00	72.3	75#	Yes	Fine
17-Jan	16:30	73.6	75#	Yes	Fine
27-Jan	13:30	71.3	75#	Yes	Fine
CN4 South Horizons Phase IV – Block 25 Dover Court					
4-Jan	13:30	73.8	75#	Yes	Fine
12-Jan	9:00	74.6	75#	Yes	Fine
17-Jan	15:00	73.3	75#	Yes	Fine
27-Jan	11:00	71.8	75#	Yes	Fine
CN5 TWGHs Jockey Club Rehabilitation Complex Block A					
4-Jan	14:10	70.4	75	Yes	Fine
12-Jan	10:20	70.8	75	Yes	Fine
17-Jan	10:15	72.4	75	Yes	Fine
27-Jan	10:50	69.5	75	Yes	Fine

Note: (#)Or updated prediction of noise levels as contained in the construction noise mitigation measures plan
Please refer to Figures 7 to 8 for the location of construction noise monitoring stations

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 2nd, 4th, 6th, 9th, 11th, 13th, 16th, 18th, 20th, 26th, 28th and 30th 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 412 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 17 January 2012 at 5:42 p.m. A total of 460 ardeids, which included 434 Little Egrets, 24 Great Egrets and 2 Grey Heron, 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 were noted and these slope trees had been removed 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.

Regular monitoring on the transplanted *H. cordata*, *Ai. fordii* and the root-pruned *Aq. sinensis* has been conducted. The transplanted *H. cordata* and *Ai. fordii* were in fair health condition and protection fences have been maintained around the receptor sites. 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: January 2012				
Contract 901	1,130	308	4.28	0
Contract 902	2,514	0	36	0
Contract 903	7303	0	301	0
Contract 904	11,031	267	18	0
Contract 907	30,218	0	17	0

7 RECORD OF ENVIRONMENTAL COMPLAINTS

No environmental complaint was referred from EPD in the reporting period.

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 January 2012 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
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 20 Jan 2011
2.9	Construction noise mitigation measures plan	Submitted on 20 Jan 2011
2.11	Construction & demolition materials management plan for barging points	EP Condition fulfilled dated 12 December 2011
2.13 (a)	Ecological planting & landscape plan	EP Condition fulfilled dated 12 December 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

EP Clause No.	Description of Submission	Status
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 Aq. sinensis: Revised proposal sent for agreement on 23 Dec 2011 Ai. fordii: EP Condition fulfilled dated 18 Oct 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 Aq. sinensis: To be submitted no later than 1 month after completion of transplanting works Ai. fordii: EP Condition fulfilled dated 22 Dec 2011
2.15	Tree protection plan	EP Condition fulfilled dated 12 Aug 2011
2.16(a)	Silt curtain plan	For Aberdeen Channel: EP Condition fulfilled dated 12 Aug 2011 For Telegraph Bay: EP Condition fulfilled dated 14 Dec 2011
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

EP Clause No.	Description of Submission	Status
		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 January 2012 is shown below:

Description		Effective Date	Expiry Date
Environmental Permit for South Island Line (East)	EP-407/2010/A	14/12/2011	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
CNP for plunge column, pipepiles and secant piles works	GW-RS0003-12	3/1/2012	24/6/2012
CNP for covered walkway at Harcourt Road		Application submitted on 17/1/2012	Pending
Contract 902			
Chemical Waste Producer Licence	5213-175-N2206-12	24/6/2011	N/A
Chemical Waste Producer Licence	5213-124-N2345-02	28/10/2011	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-RS0012-12	13/01/2012	12/06/2012
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

Description		Effective Date	Expiry Date
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 OCP station	GW-RS0750-11	19/8/2011	14/2/2012
CNP for Zone D	GW-RS0999-11	4/11/2011	3/5/2012
CNP for Zone E	GW-RS1016-11	11/11/2011	9/5/2012
CNP for Zone C and WCH station	GW-RS1107-11	5/12/2011	15/4/2012
CNP for Zone E	GW-RS1191-11	30/12/2011	30/3/2012
CNP for Zone B	339803	Application cancelled	
CNP for Zone D	GW-RS0031-12	20/1/2012	29/2/2012
CNP for Zone C	GW-RS0060-12	30/1/2012	24/7/2012
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
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 Lee Nam Road near Horizon Plaza	GW-RS1090-11	28/11/2011	28/2/2012

Description		Effective Date	Expiry Date
CNP for J/O Lee Nam Road and Yi Nam Road	GW-RS1158-11	15/12/2011	16/1/2012 (expired)
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
CNP for water mains	GW-RS1159-11	21/12/2011	29/2/2012
CNP for water pumping	GW-RS1168-11	30/12/2011	29/6/2012
CNP for water mains		Application submitted on 18/1/2012	Pending

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.	On-going
2	The contractor was reminded to enhance the segregation of C&D waste and general refuse.	On-going
3	The contractor was reminded to provide drip trays to air compressor with adequate capacity.	Improved and standard to be maintained
4	The contractor was reminded to cover the stockpiles with impervious sheetings.	On-going
5	The contractor was reminded to enhance dust control for active works areas and earth moving activities.	On-going
6	The contractor was reminded to operate the air compressor with all the panel door closed.	Improved and standard to be maintained
7	The contractor was reminded to have proper Noise Emission Label affixed to air compressor and hand held breaker.	On-going
8	The contractor was reminded to properly treat all wastewater prior to discharge.	On-going
	Contract 902	
1	The contractor was reminded to provide drip tray during equipment maintenance works to prevent oil leakage.	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.	Improved and standard to be maintained
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

Item	Description	Follow up Status
	Contract 903	
1	The contractor was reminded to provide drip tray for chemicals.	Ongoing
2	The contractor was reminded to improve housekeeping of the site.	Improved and standard to be maintained
3	The contractor was reminded to follow strictly the conditions of the discharge licence, and ensure the effluent fully comply with the water quality standard.	Ongoing
4	The contractor was reminded to improve the tree protection works.	On-going
5	Water spraying system has been installed by the contractor at the WCH station area for dust suppression.	Improved and standard to be maintained
6	Acoustic fabric has been erected nearby the Holy Spirit Seminary for the noisy works. The contractor was reminded to closely monitor the effectiveness of the mitigation measures provided.	On-going
7	The Contractor was reminded to ensure all the trucks should be covered before leaving the site, and remain covered until reaching the loading point.	On-going
	Contract 904	
1	The contractor was reminded to provide drip trays for chemicals and remove stagnant water inside.	Improved and standard to be maintained
	The contractor was reminded to provide drip tray during equipment maintenance works to prevent oil leakage.	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 provide adequate silt removal facilities, as well as properly maintain the site drainage system and discharge.	On-going
4	The contractor was reminded to improve dust suppression measures.	On-going
5	The contractor was reminded to improve wheel washing facilities.	On-going
6	The contractor was reminded to provide adequate temporary noise mitigation measures.	On-going
	Contract 907	
1	The contractor was reminded to provide drip tray for chemicals.	On-going
2	The contractor was reminded to provide drip tray / tarpaulin sheet during equipment maintenance works to prevent oil leakage.	On-going
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.	On-going
5	The contractor was reminded to increase the water spraying frequency within the breaking zone.	On-going
6	Movable noise barriers and acoustic fabric have been provided for the designated PMEs and along the site boundary respectively. Acoustic fabric has also been erected next to the rock breaking works near the Police Quarters and along Nam Long Shan Road. The contractor was reminded to utilize the movable barrier for the breaking works.	On-going

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 4, 9, 12, 17 and 18 January 2012. Minor irregularities including provision of movable noise barriers as necessary and enhancing site drainage system and dust suppression measures 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)

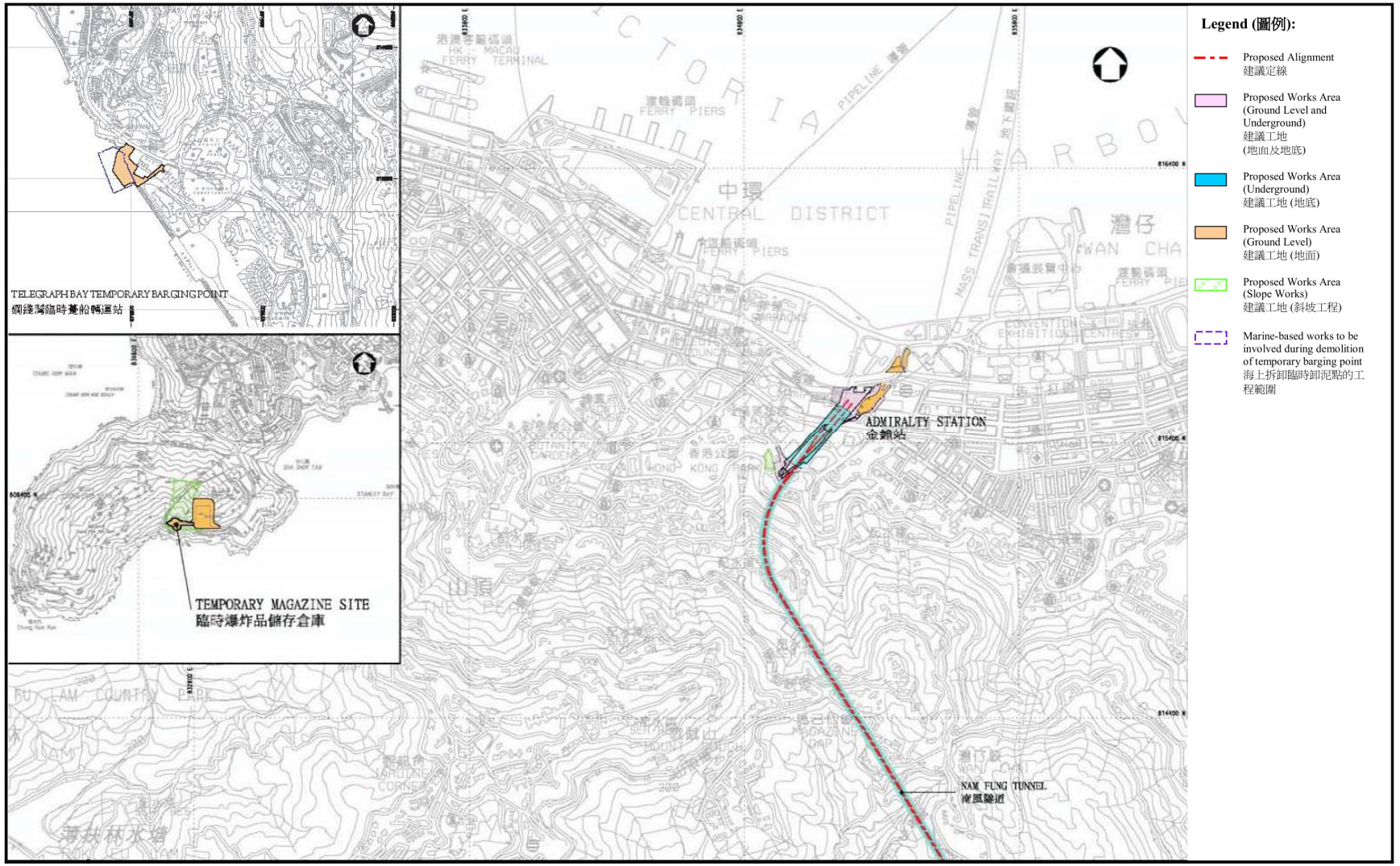


Figure 2 – Works Areas of the Project (2 of 2)

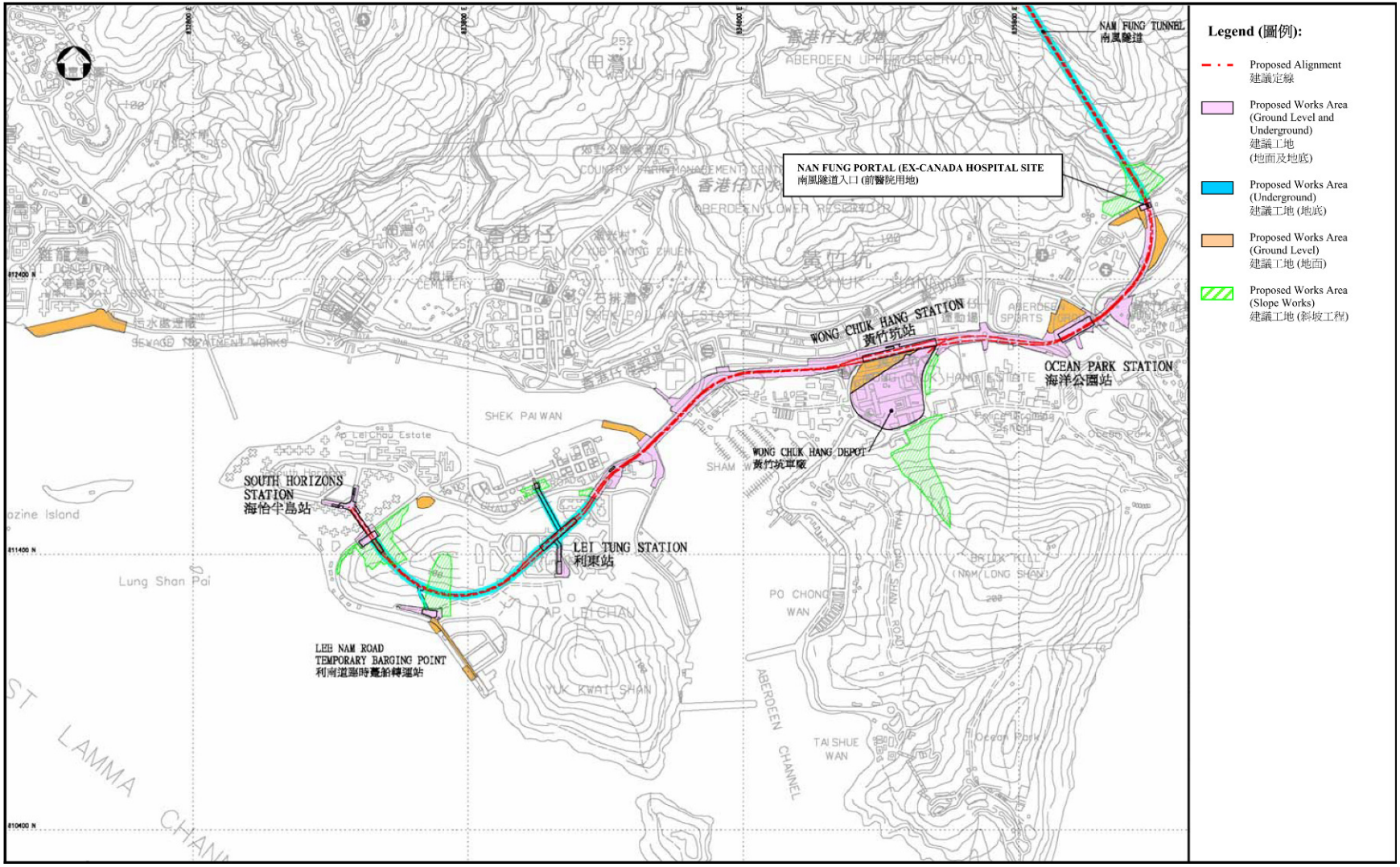


Figure 3 – Location of Construction Air Quality Monitoring Stations (1 of 4)

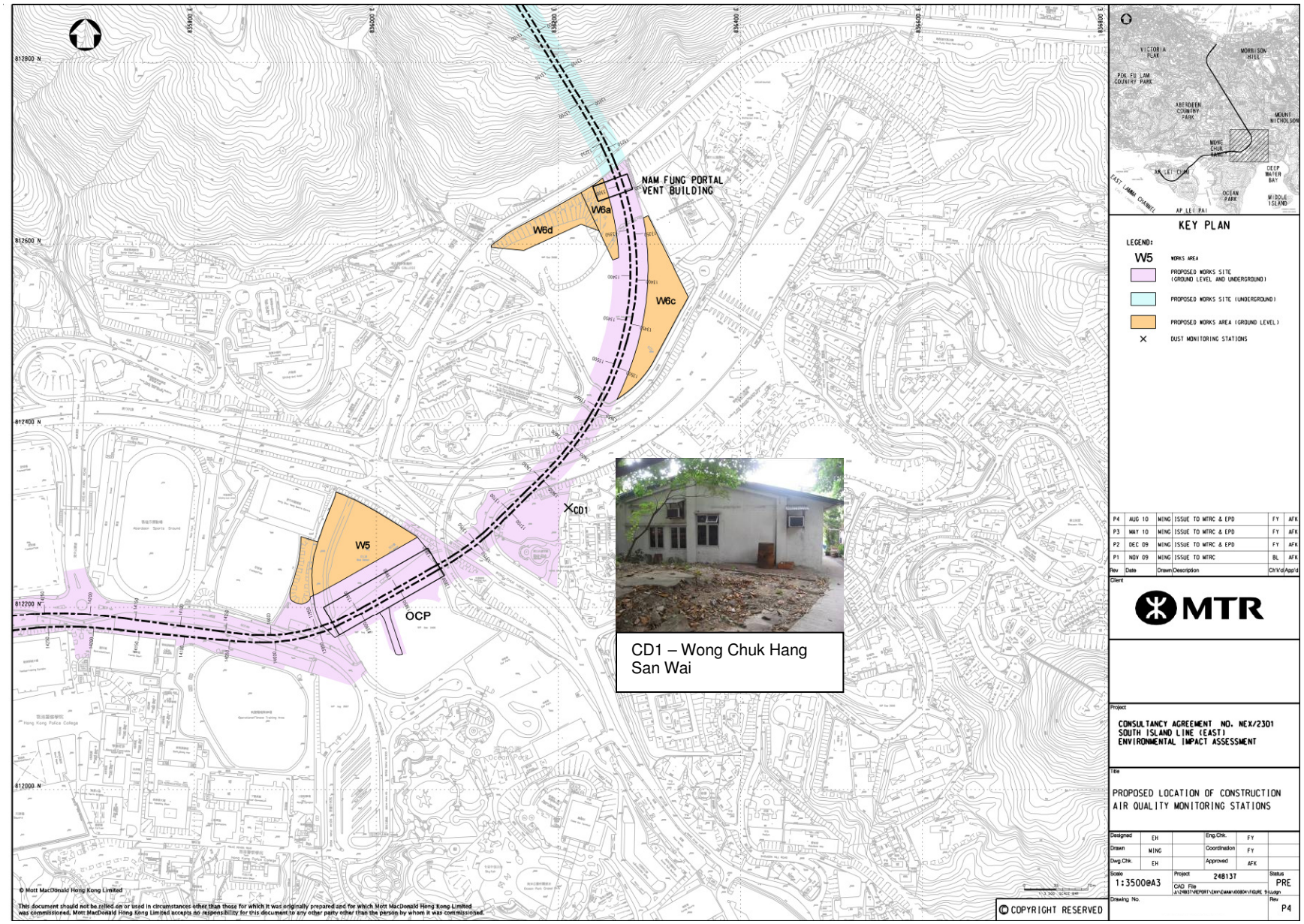


Figure 4 – Location of Construction Air Quality Monitoring Stations (2 of 4)

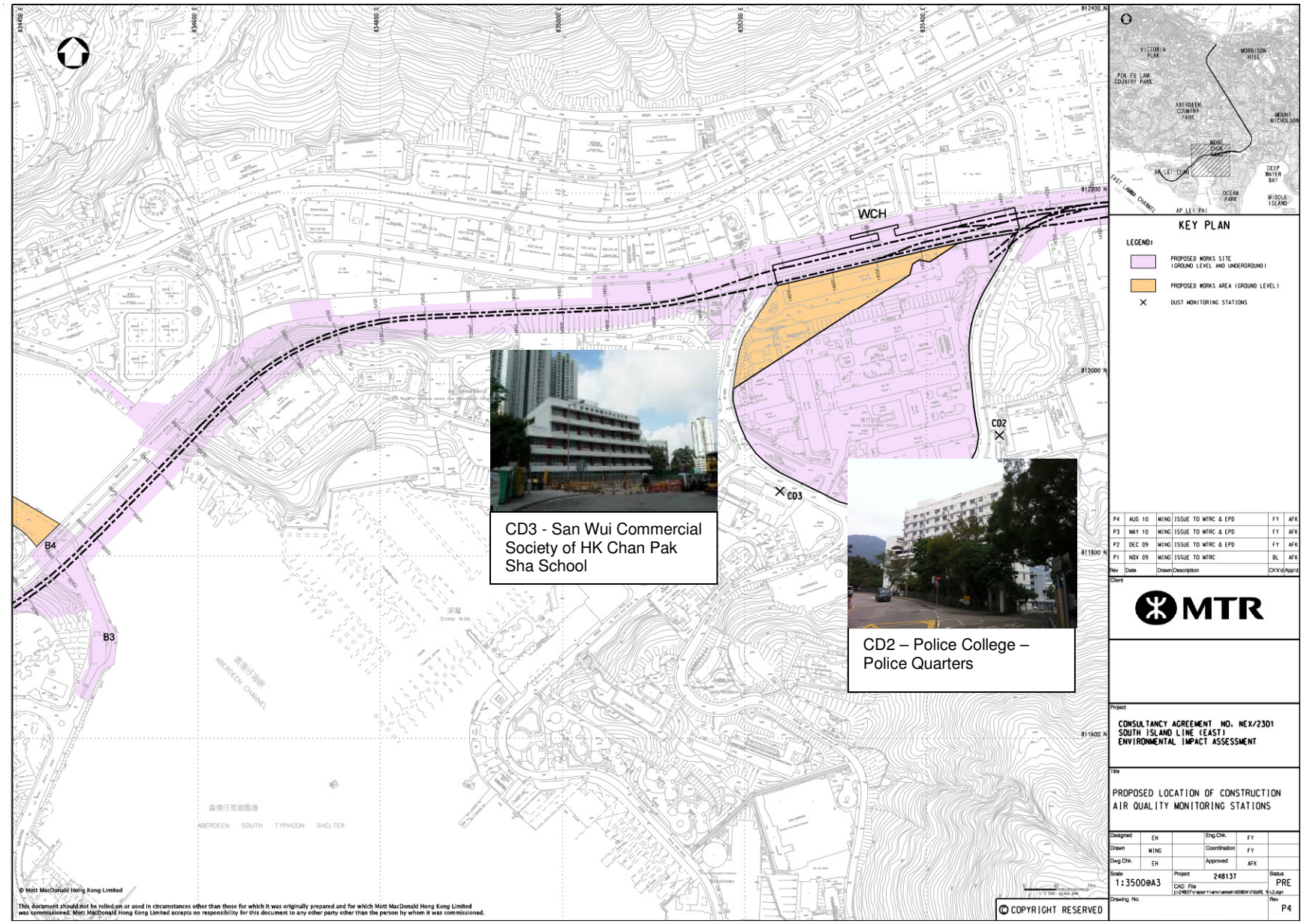


Figure 5 – Location of Construction Air Quality Monitoring Stations (3 of 4)

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

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

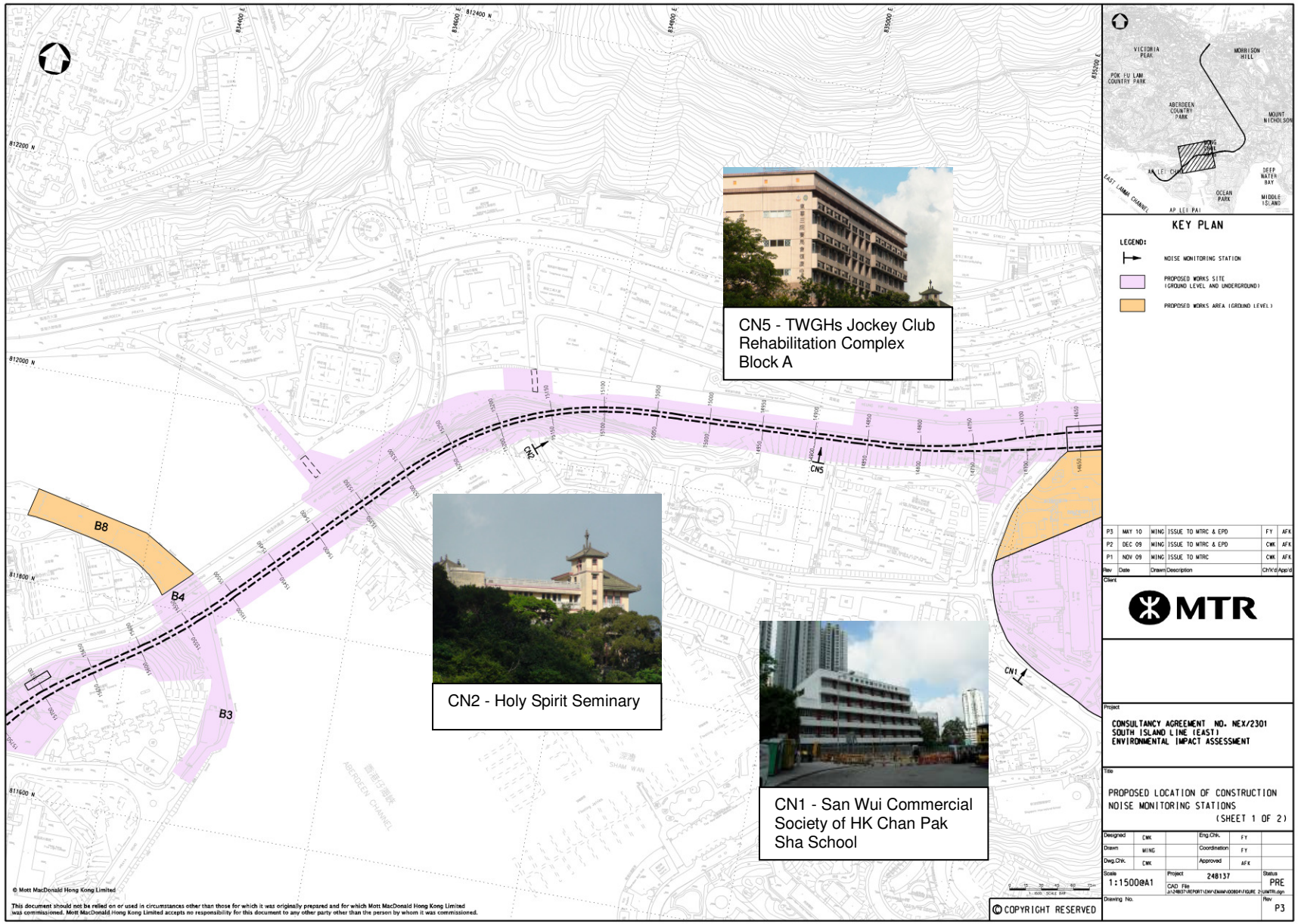


Figure 8 – Location of Construction Noise Monitoring Stations (2 of 2)

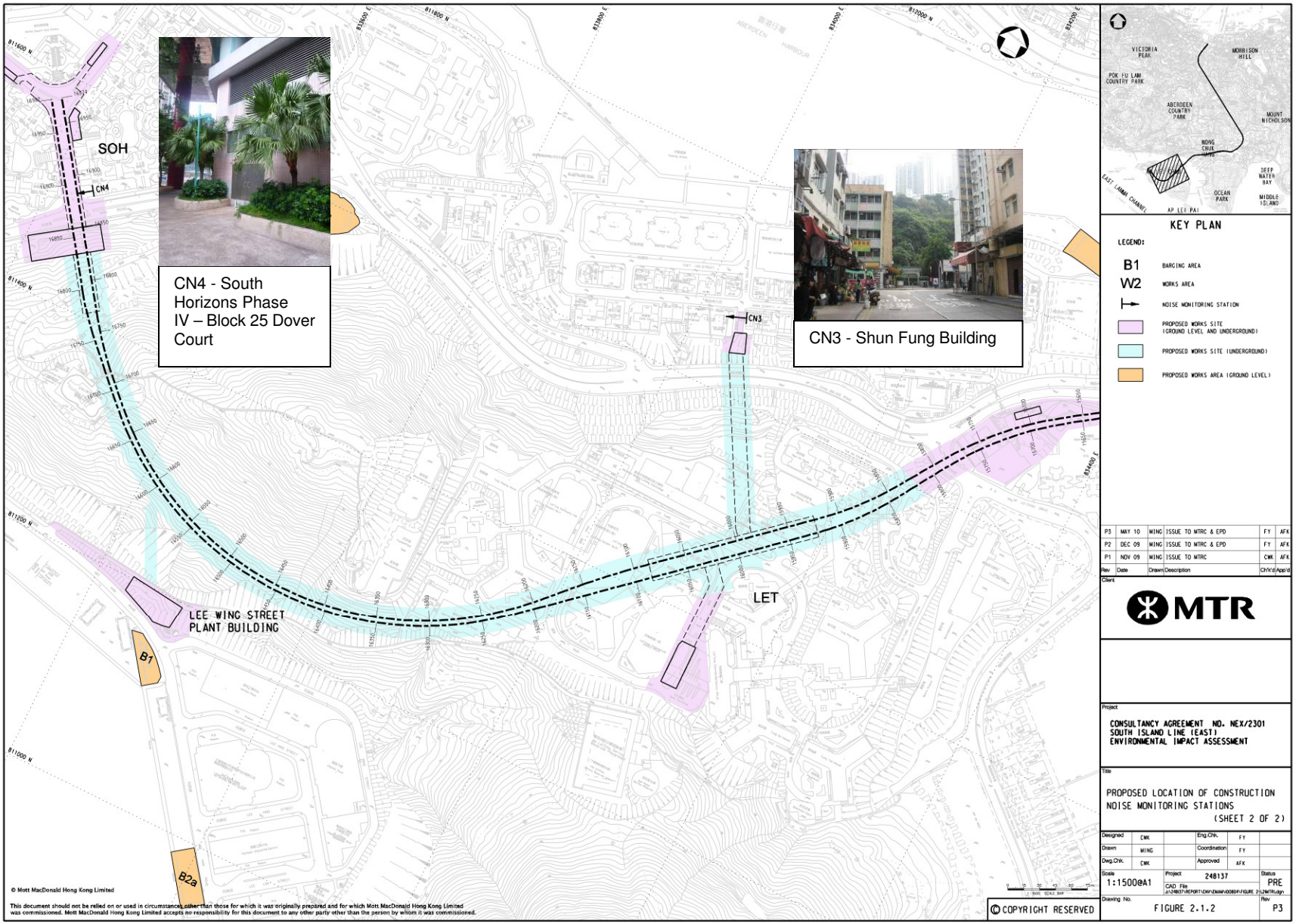
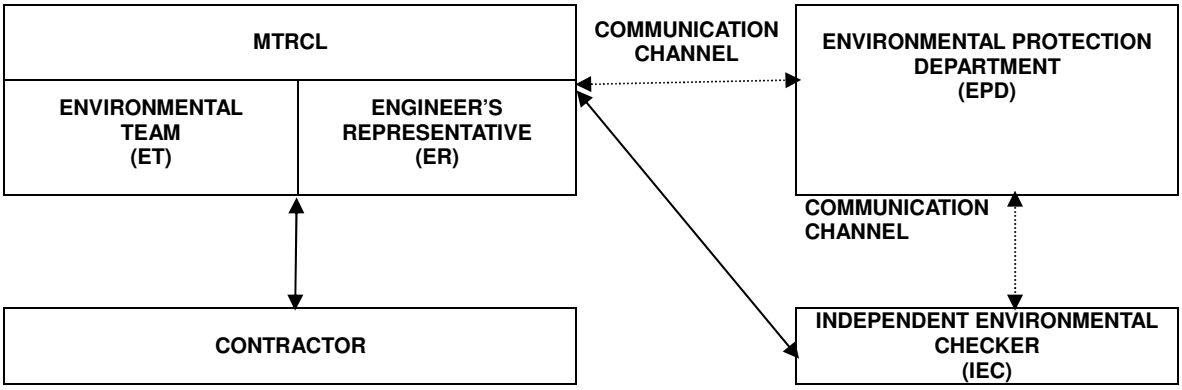


Figure 9 – Location of Water Quality Monitoring Stations

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. Alan Boden	2206 8688
Construction Manager – SIL (902 / 904)	Mr. Ken Wong	2285 4688
Construction Manager – SIL (903 / 907 / 908)	Mr. Kit Chan	3975 6988
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 [1]	
B&K 2250	2551244	25 Jan 2011	25 Jan 2013 [1]	
B&K 4231 Calibrator	2725557	15 Jun 2011	15 Jun 2013 [1]	
B&K 4231 Calibrator	2309393	15 Jun 2011	15 Jun 2013 [1]	

High Volume Sampler

Model	Sampler	Calibration Date	Expiry Date	Remark
Graseby-Andersen	694-0661	5 Aug 2011	5 Feb 2012 [2]	
Graseby-Andersen	894-0833	5 Aug 2011	5 Feb 2012 [2]	
Graseby-Andersen	994-0878	8 Aug 2011	8 Feb 2012 [2]	
Graseby-Andersen	1294-1104	8 Aug 2011	8 Feb 2012 [2]	
Graseby-Andersen	1294-1111	5 Aug 2011	5 Feb 2012 [2]	

Water Quality Monitoring Equipment

Model	Serial Number	Calibration Date	Expiry Date	Remark
Turbidimeter				
HACH 2100P	06070C018334	29 Oct 2011	28 Jan 2011 [3]	
HACH 2100P	06070C018334	28 Jan 2012	27 Apr 2012	
HACH 2100P	08060C030281	13 Oct 2011	12 Jan 2012 [3]	
HACH 2100P	08060C030281	13 Jan 2012	12 Apr 2012	
pH Meter				
HANNA HI8314	674469	12 Nov 2011	11 Dec 2011 [4]	
HANNA HI8314	674469	12 Dec 2011	11 Jan 2012 [5]	
HANNA HI8314	674469	12 Jan 2012	11 Feb 2012	
Multimeter for Temperature / Dissolved Oxygen / Salinity				
YSI 85	05L1285	29 Oct 2011	28 Jan 2012 [5]	
YSI 85	05L1285	28 Jan 2012	27 Apr 2012	
YSI 85	06C1998AD	14 Nov 2011	13 Feb 2012 [5]	

Note: [1] Calibration certificates refer to Appendix C of EM&A report - August 2011
[2] Calibration certificates refer to Appendix C of EM&A report - September 2011
[3] Calibration certificates refer to Appendix C of EM&A report - November 2011
[4] Calibration certificates refer to Appendix C of EM&A report - December 2011
[5] Calibration certificates refer to Appendix C of EM&A report - January 2012

東業德勤測試顧問有限公司
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 : 28/01/2012 Due Date : 27/04/2012

Gelex Vial Std	Theoretical Value (NTU)	Measured Value (NTU)	Difference %
0-10 NTU	5.34	5.15	3.56
10-100 NTU	52.5	53.2	1.33
100-1000 NTU	543	534	1.66

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 : Ada Lau 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/0505/007 Manufacturer : HACH

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

Date of Calibration : 13/01/2012 Due Date : 12/04/2012

Gelex Vial Std	Theoretical Value (NTU)	Measured Value (NTU)	Difference %
0-10 NTU	5.34	5.26	1.50
10-100 NTU	52.5	53.1	1.14
100-1000 NTU	543	538	0.92

Acceptance Criteria

Difference : <5 %

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

Checked by : _____ Approved by : _____

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Form E/CE/R/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 :	12/01/2012	Calibration Due Date :	11/02/2012

Liquid Junction Error

Primary Standard Solution Used : Phosphate — Ref No. of Primary Solution: 003/5.2/001/8

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

pH value of diluted buffer : 6.77 — pH (S) = 6.881

pH = pH(S) - pH of diluted buffer = 0.111 (Observed Deviation)

Liquid Junction Error (pH_j) = pH - $pH_{½}$ = 0.031

Shift on Stirring

pH of buffer solution (with stirring), pH_s = 6.93

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): 20.0 °C

Temperature record from the ATC (T_{ATC}): 19.9 °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 : [signature] Approved Signatory : [signature]

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Performance Check of Salinity Meter

Equipment Ref. No. :	ET/EW/008/001	Manufacturer :	YSI
Model No. :	85	Serial No. :	05L 1285
Date of Calibration :	28/01/2012	Due Date :	27/04/2012

Ref. No. of Salinity Standard used (30ppt)	S/001/3

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	30.5	1.67

Acceptance Criteria

Difference : <10 %

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

Checked by : Linda Lam

Approved by :

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No.	:	ET/EW/008/001	Manufacturer	:	YSI
Model No.	:	85	Serial No.	:	05L 1285
Date of Calibration	:	28/01/2012	Calibration Due Date	:	27/04/2012

Temperature Verification

Ref. No. of Reference Thermometer : ET/0521/001

Ref. No. of Water Bath : ---

	Temperature (°C)			
Reference Thermometer reading	Measured	20.5	Corrected	20.2
DO Meter reading	Measured	20.0	Difference	0.2

Standardization of sodium thiosulphate ($Na_2S_2O_3$) solution

Reagent No. of $Na_2S_2O_3$ titrant	CPE/012/4.5/001/4	Reagent No. of 0.025N $K_2Cr_2O_7$	CPE/012/4.4/001/6

	Trial 1	Trial 2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	0.00
Final Vol. of $Na_2S_2O_3$ (ml)	40.00	40.00
Vol. of $Na_2S_2O_3$ used (ml)	40.00	40.00
Normality of $Na_2S_2O_3$ solution (N)	0.02500	0.02500
Average Normality (N) of $Na_2S_2O_3$ solution (N)	0.02500	
Acceptance criteria, Deviation	Less than ± 0.001N	

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

Lineality Checking

Determination of dissolved oxygen content by Winkler Titration *

Purging Time (min)	2		5		10	
Trial	1	2	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	10.90	21.70	0.00	7.60	12.20
Final Vol. of $Na_2S_2O_3$ (ml)	10.90	21.70	29.40	7.60	12.20	16.80
Vol. (**V**) of $Na_2S_2O_3$ used (ml)	10.90	10.80	7.70	7.60	4.60	4.60
Dissolved Oxygen (**DO**), mg/L	7.32	7.25	5.17	5.10	3.09	3.09
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L		Less than + 0.3mg/L	

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

Purging time, min	DO meter reading, mg/L			Winkler Titration result *, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.42	7.38	7.40	7.32	7.25	7.29	1.50
5	5.32	5.26	5.29	5.17	5.10	5.14	2.88
10	2.95	2.99	2.97	3.09	3.09	3.09	3.96
Linear regression coefficient				0.99831			

Internal Calibration Report of Dissolved Oxygen Meter

Zero Point Checking

DO meter reading, mg/L	0.00

Salinity Checking

Reagent No. of NaCl (10ppt)	CPE/012/4.7/001/16	Reagent No. of NaCl (30ppt)	CPE/012/4.8/001/16

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
Trial	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	11.90	23.60	34.10
Final Vol. of $Na_2S_2O_3$ (ml)	11.90	23.60	34.10	44.70
Vol. (**V**) of $Na_2S_2O_3$ used (ml)	11.90	11.70	10.50	10.60
Dissolved Oxygen (**DO**), mg/L	7.99	7.85	7.05	7.11
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L	

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

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result**, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	7.82	7.76	7.79	7.99	7.85	7.92	1.65
30	7.12	7.16	7.14	7.05	7.11	7.08	0.84

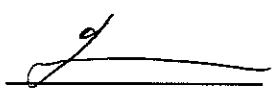
Acceptance Criteria

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

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

Delete as appropriate

Calibrated by : 

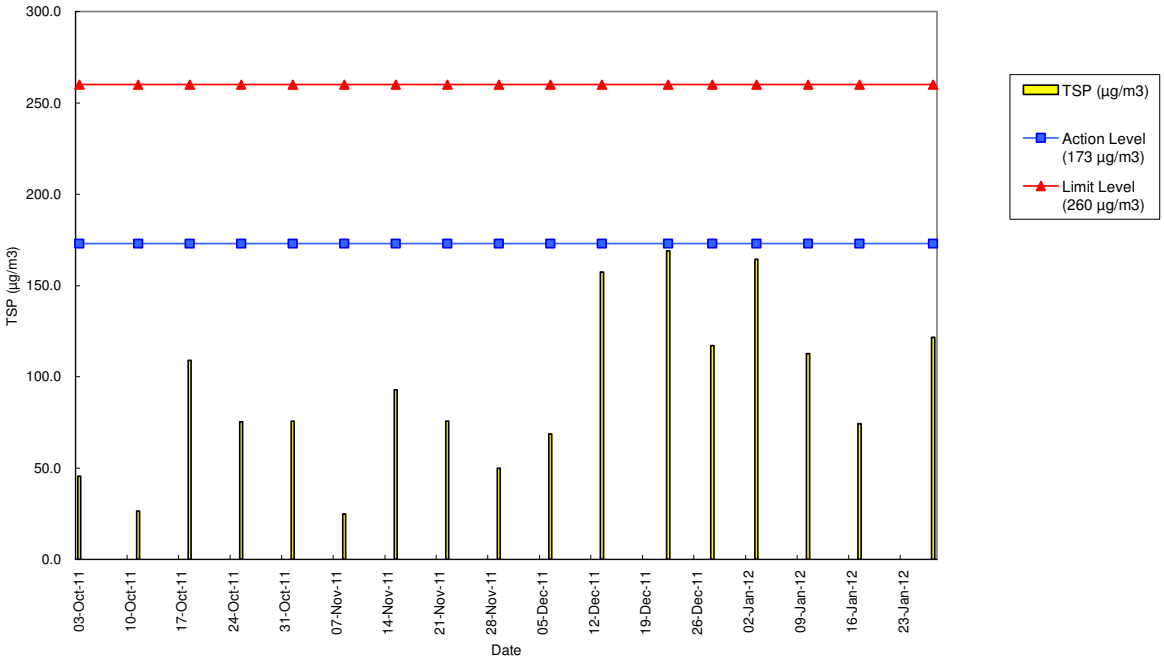
Approved by : 

APPENDIX D

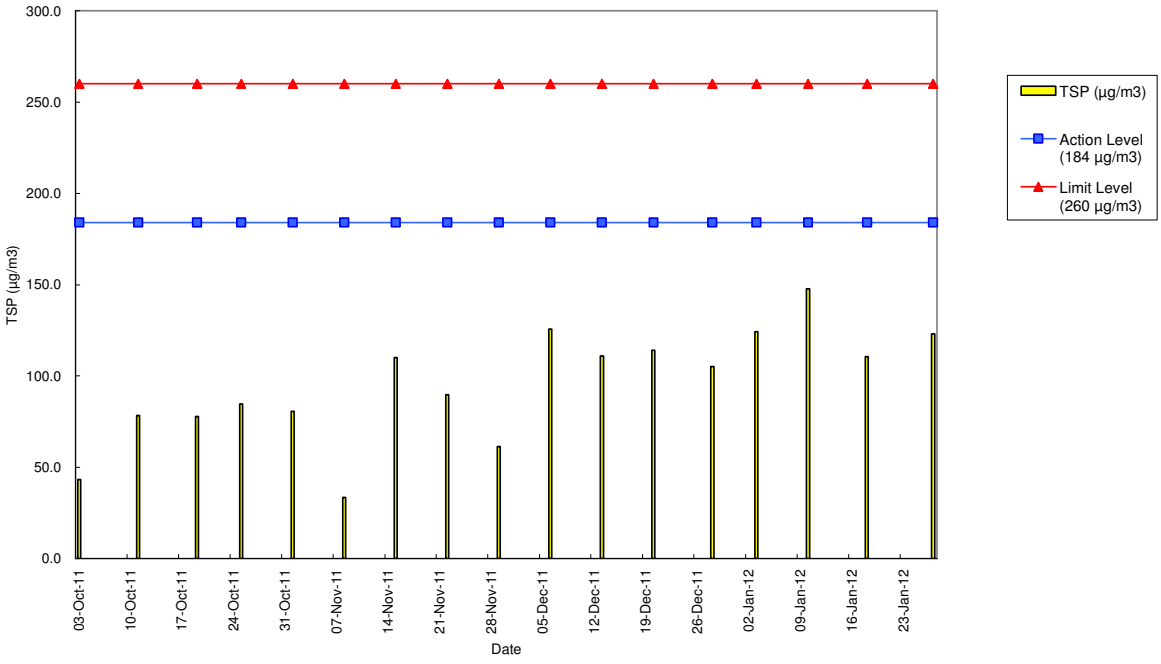
Graphical Plots of Air Quality, Noise & Water Quality Impact Monitoring and Monitoring Results for Water Quality

Graphical Plots of Air Quality Monitoring Results

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

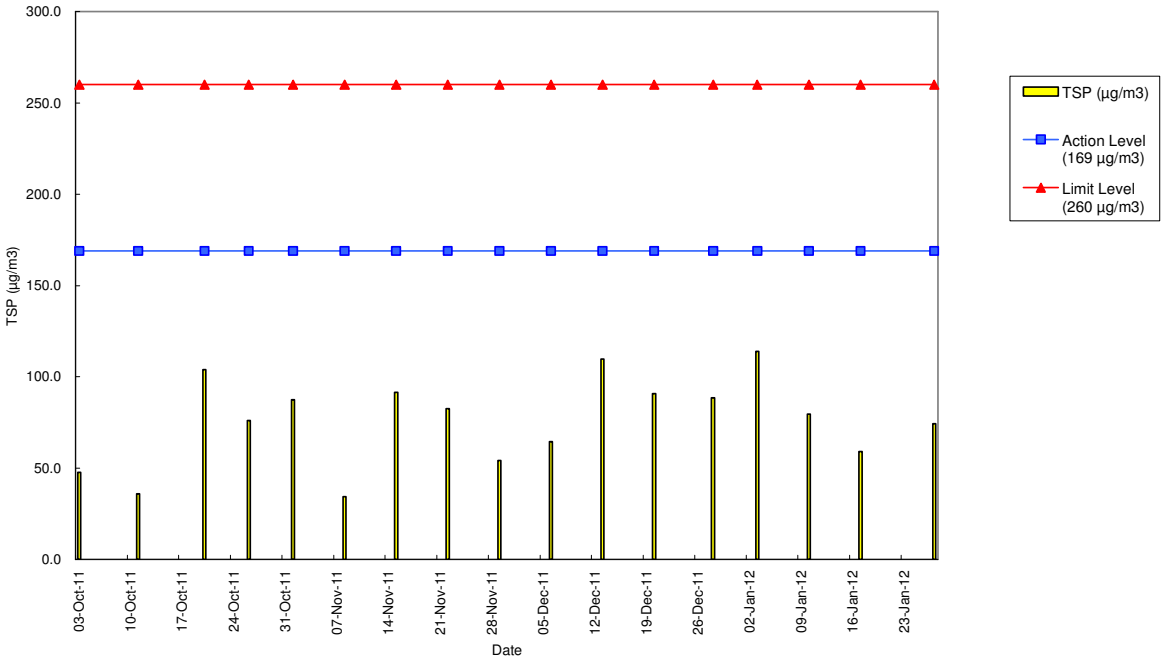


24-hr TSP Level at CD2 Police College - Police Quaeters

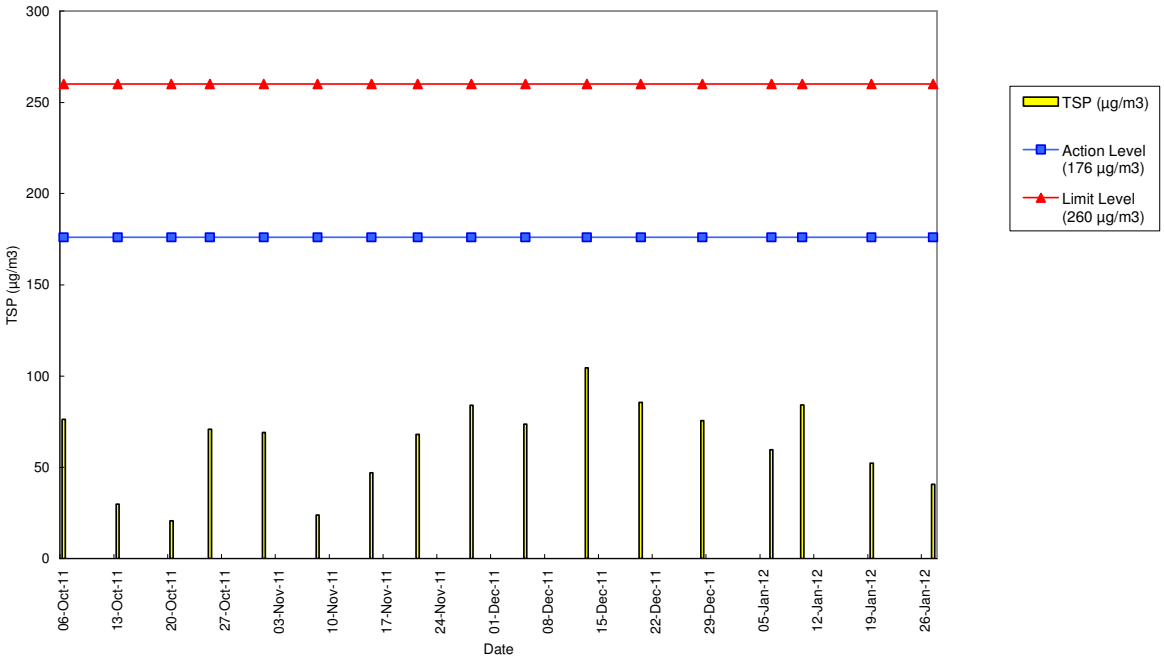


Graphical Plots of Air Quality Monitoring Results

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

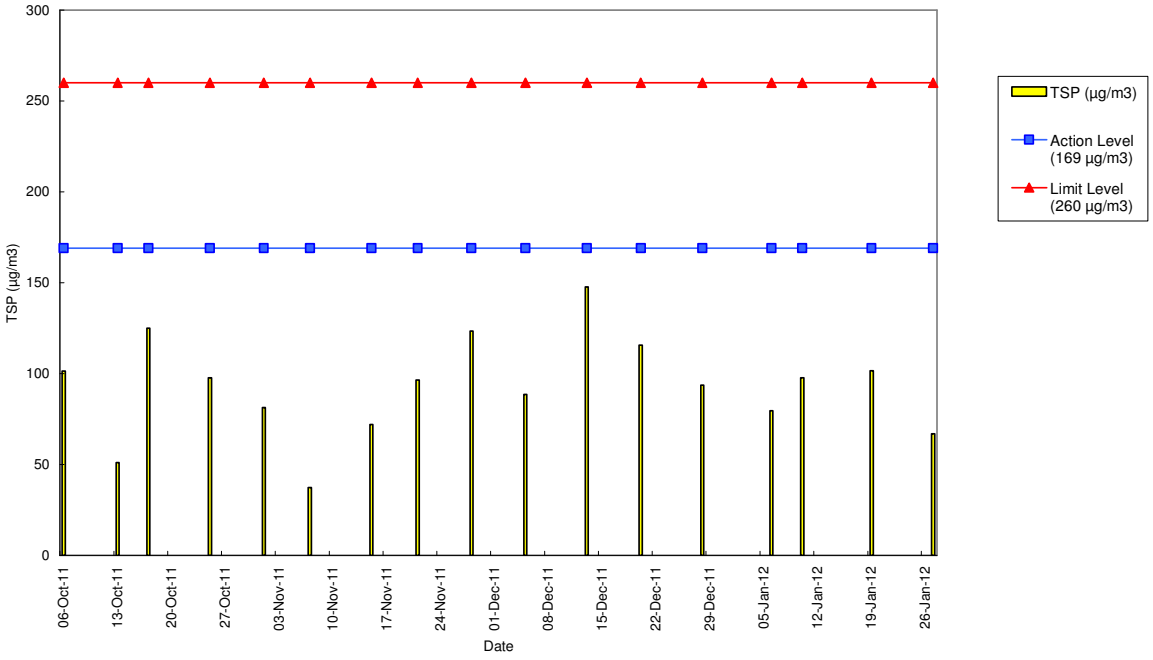


24-hr TSP Level at CD4 Shan On House



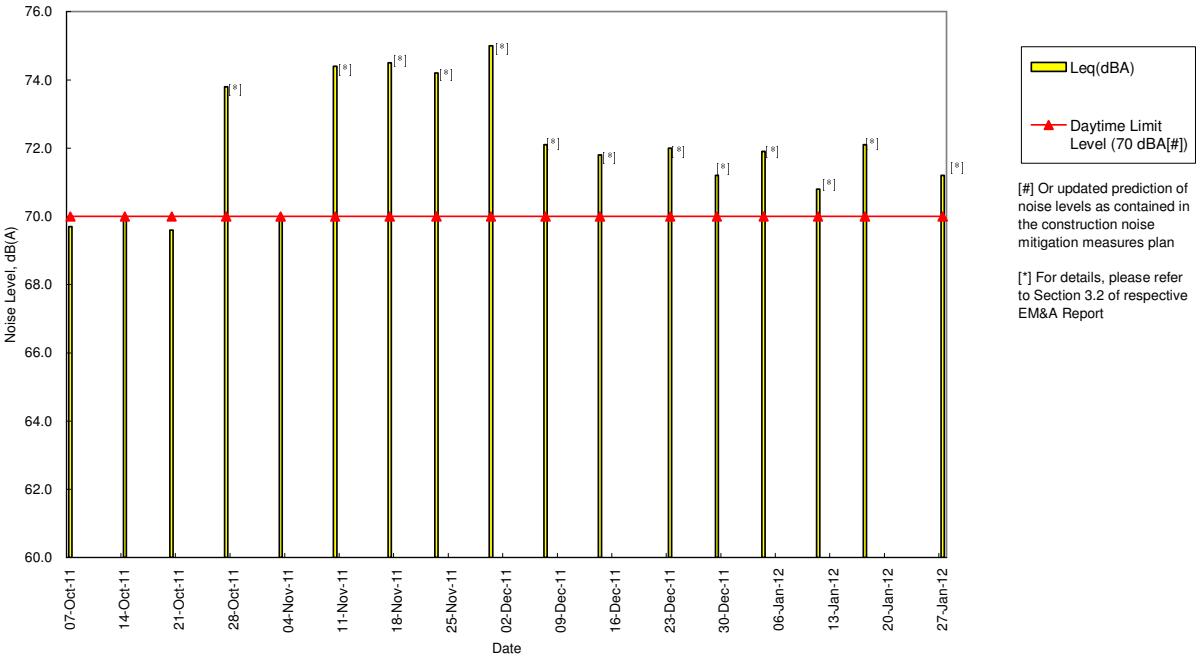
Graphical Plots of Air Quality Monitoring Results

24-hr TSP Level at CD5 South Horizons Phase IV – Block 25



Graphical Plots of Noise Monitoring Results

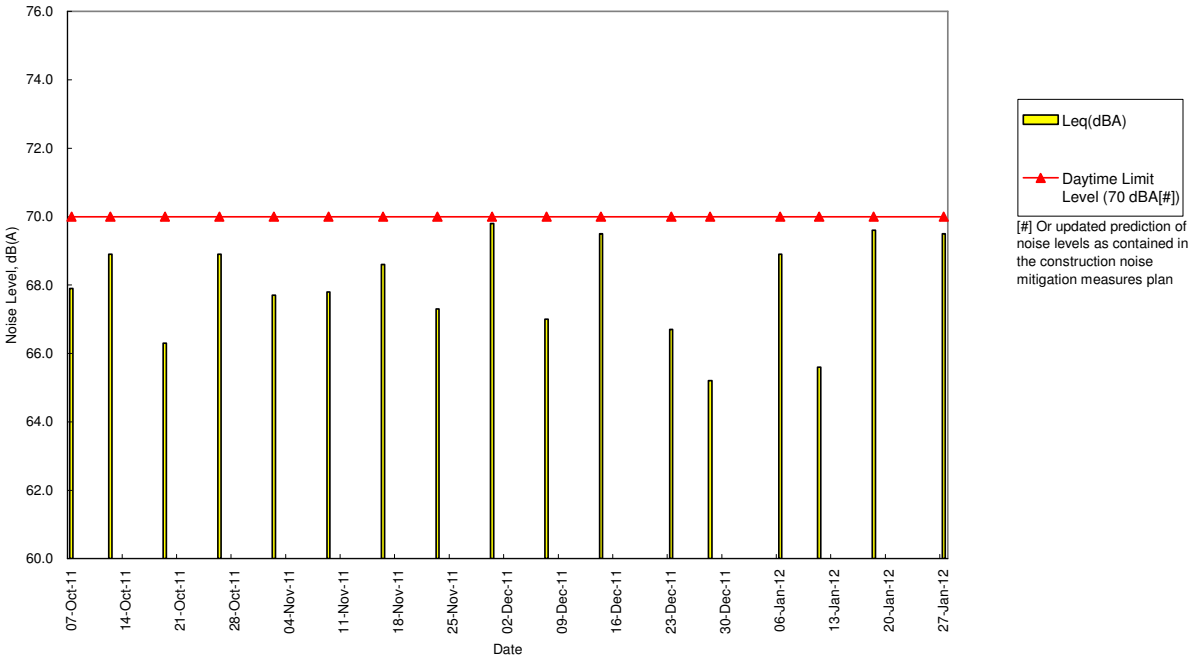
Noise Level at CN1 San Wui Commercial Society of HK Chan Pak Sha School (Educational Institution)



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

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

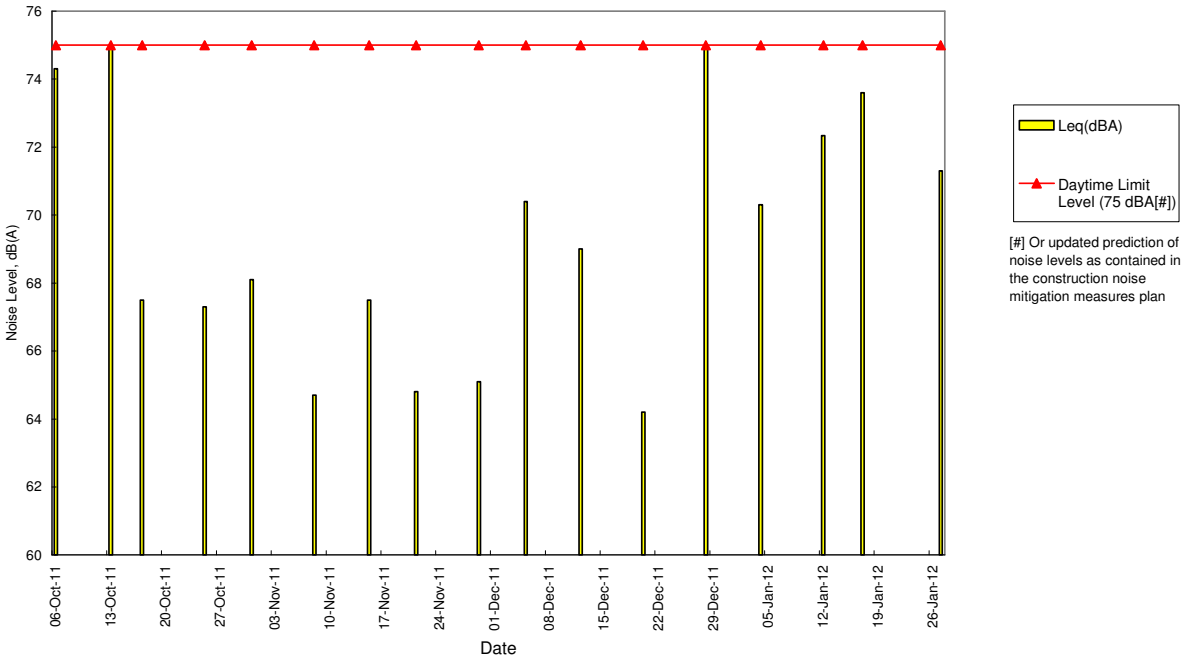
Noise Level at CN2 Holy Spirit Seminary (Educational Institution)



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

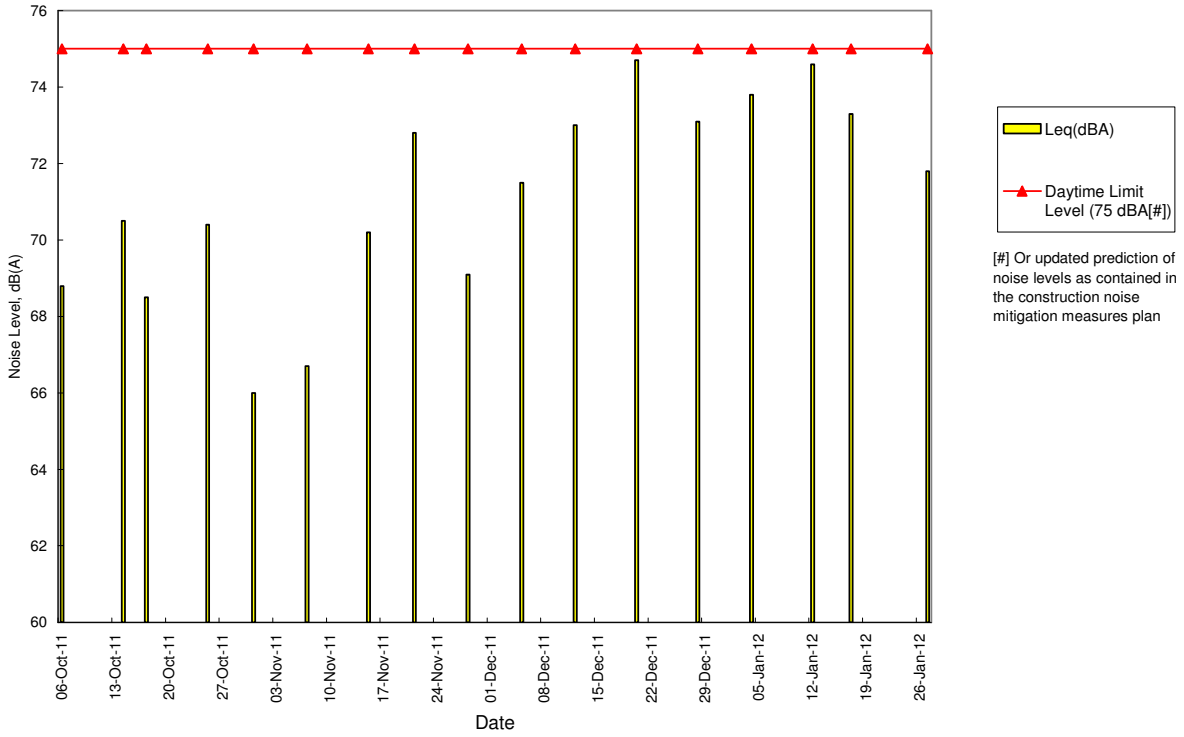
Graphical Plots of Noise Monitoring Results

Noise Level at CN3 Shun Fung Building (Residential)



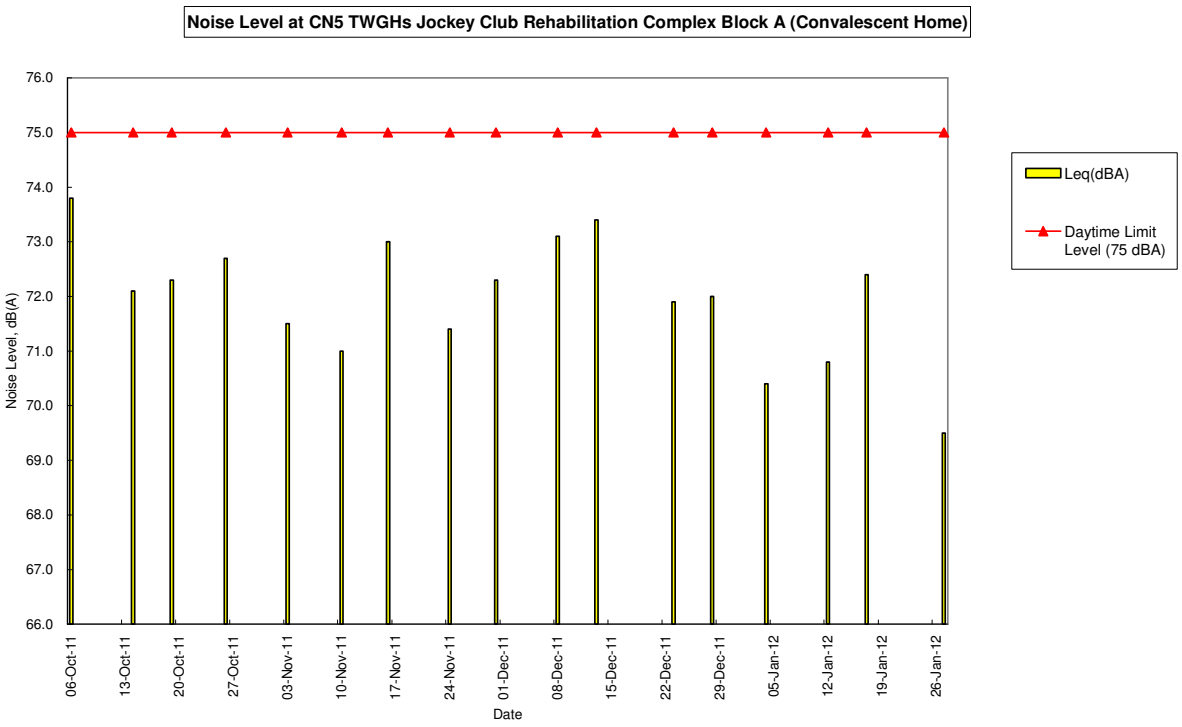
[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

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



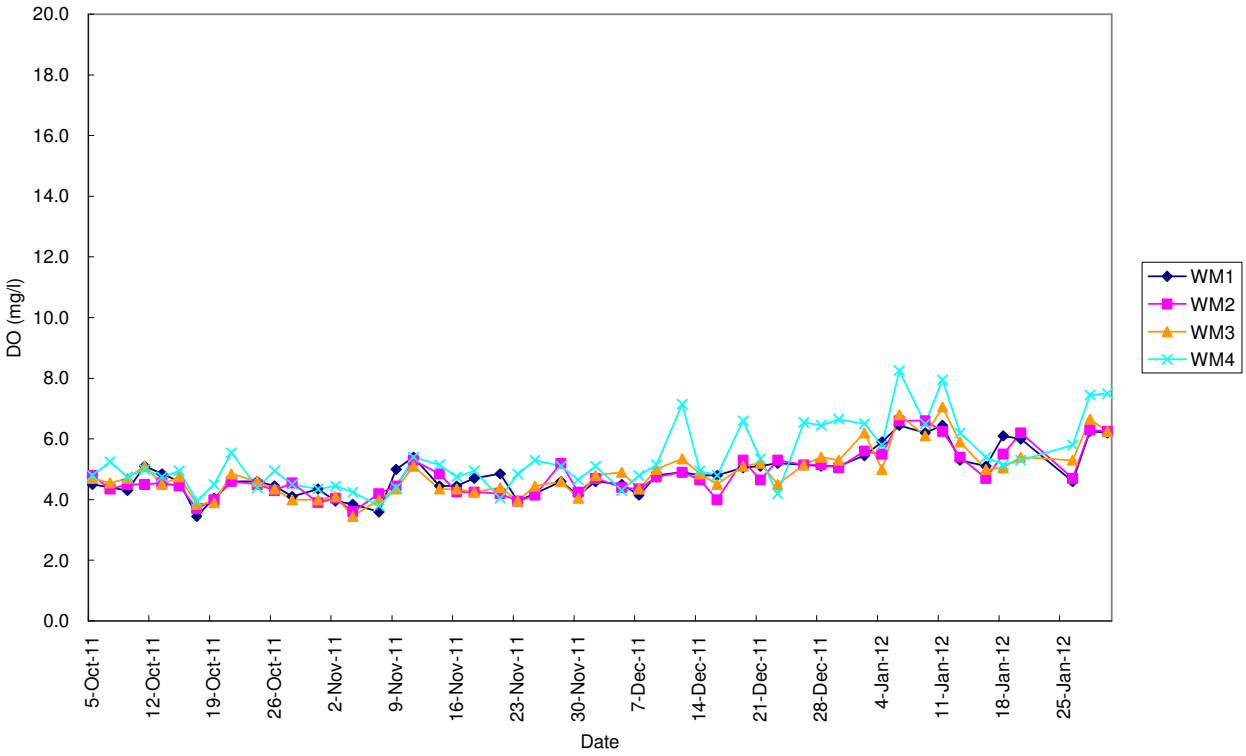
[#] Or updated prediction of noise levels as contained in the construction noise mitigation measures plan

Graphical Plots of Noise Monitoring Results

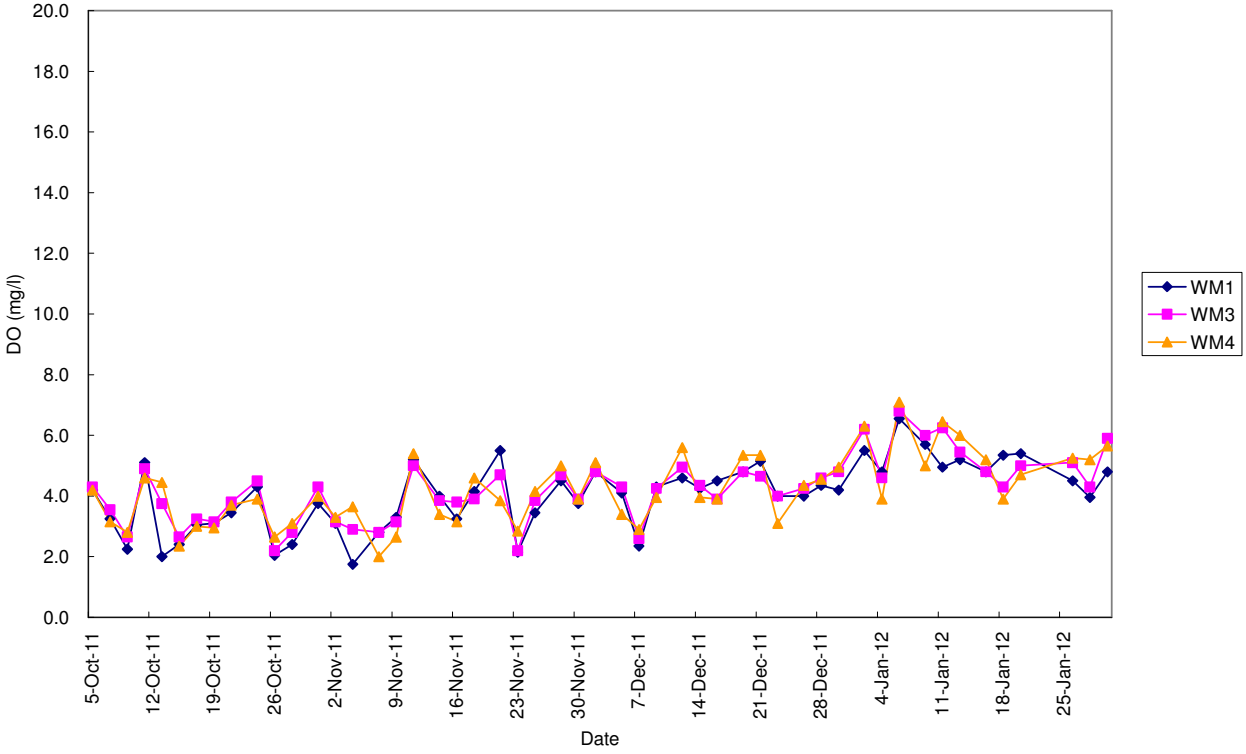


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Flood Tide - Surface Level

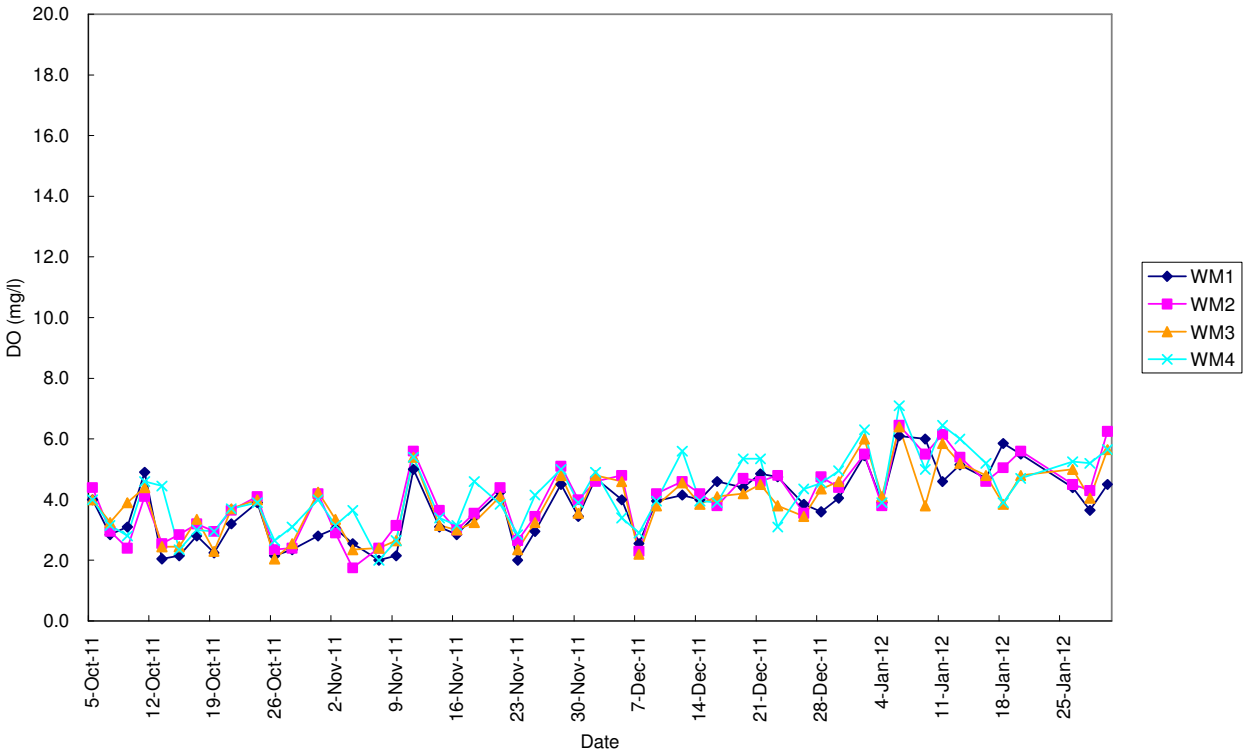


Monitoring Results for Dissolved Oxygen in Flood Tide - Middle Level

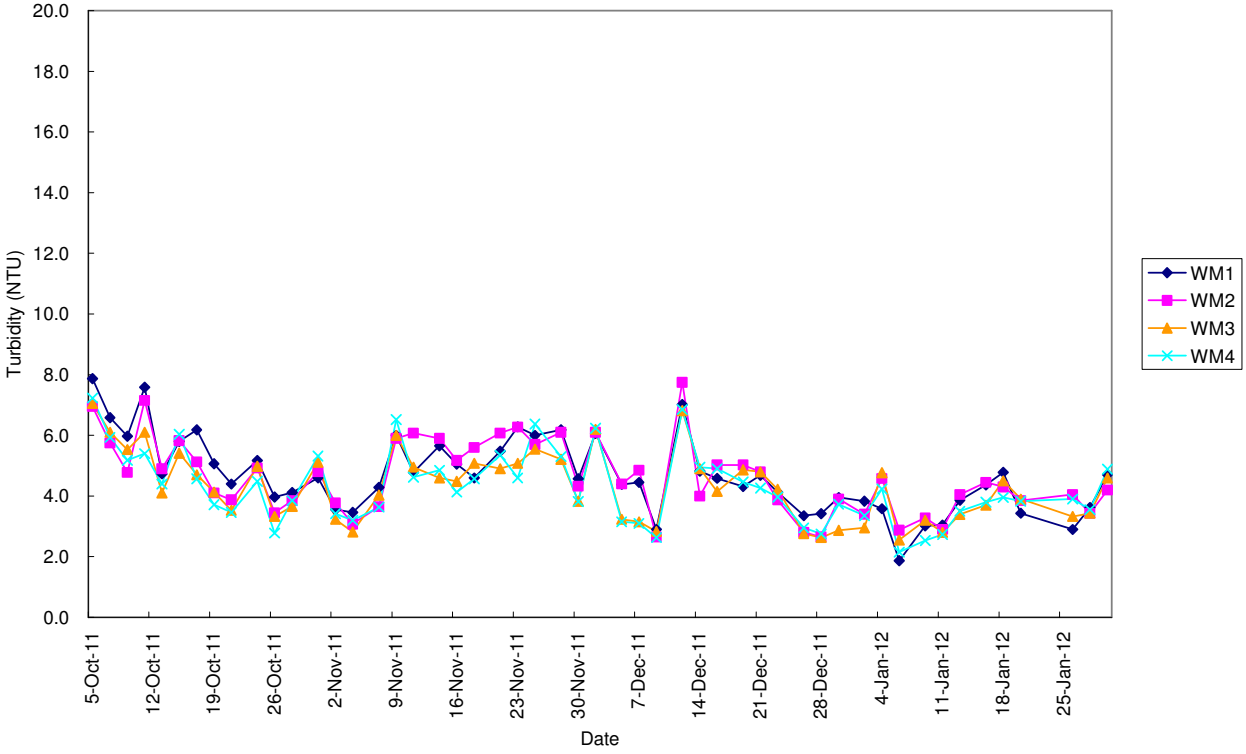


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Flood Tide - Bottom Level

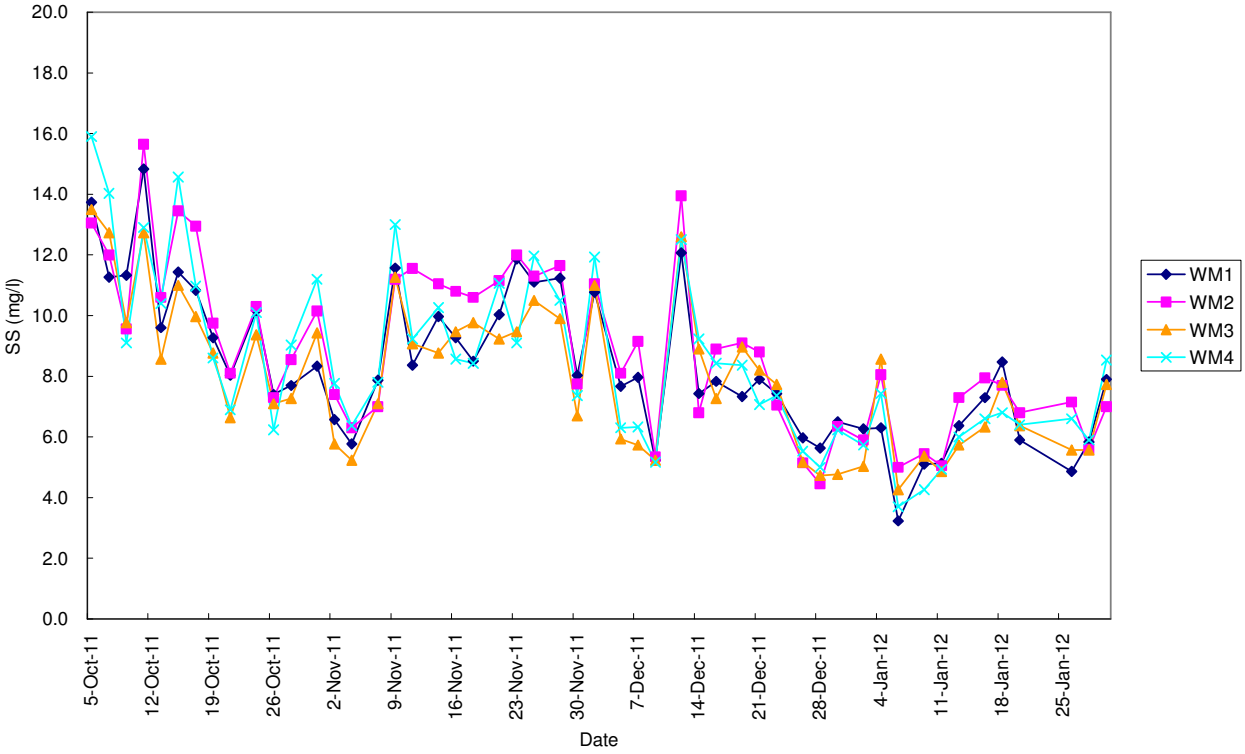


Monitoring Results for Turbidity in Flood Tide - Depth Average

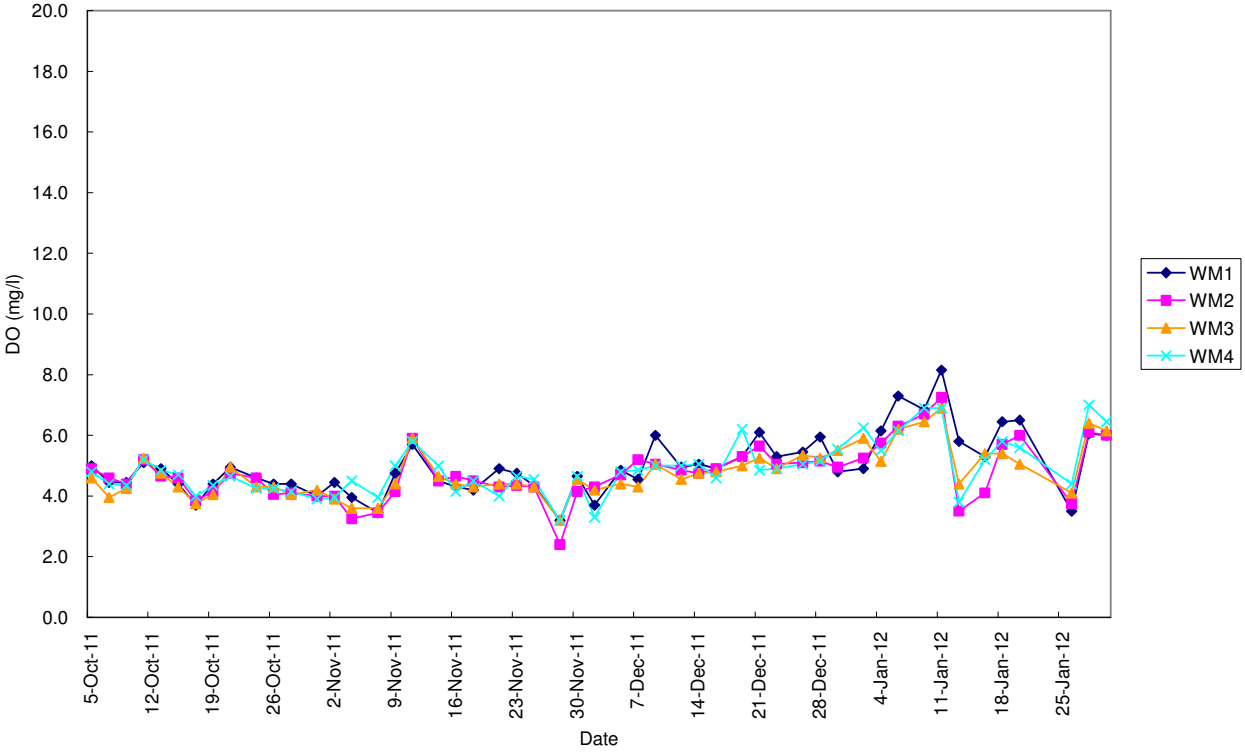


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Suspended Solids in Flood Tide - Depth Average

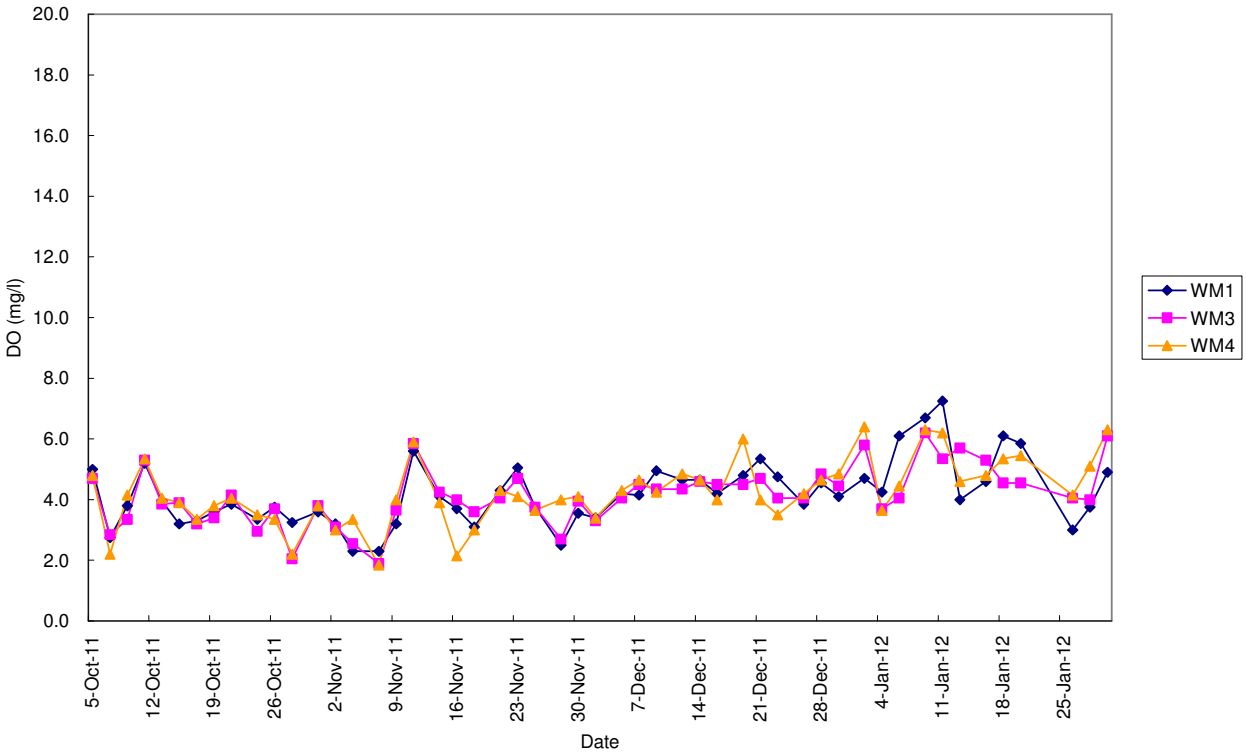


Monitoring Results for Dissolved Oxygen in Ebb Tide - Surface Level

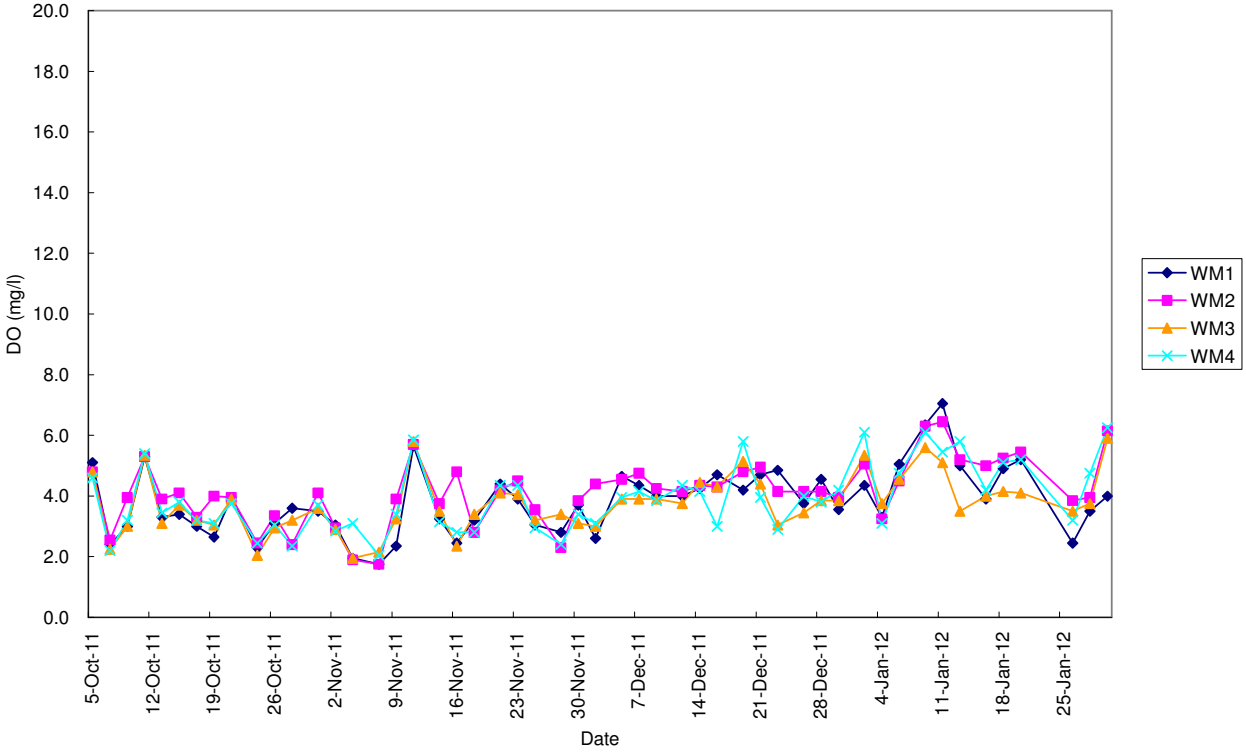


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Ebb Tide - Middle Level

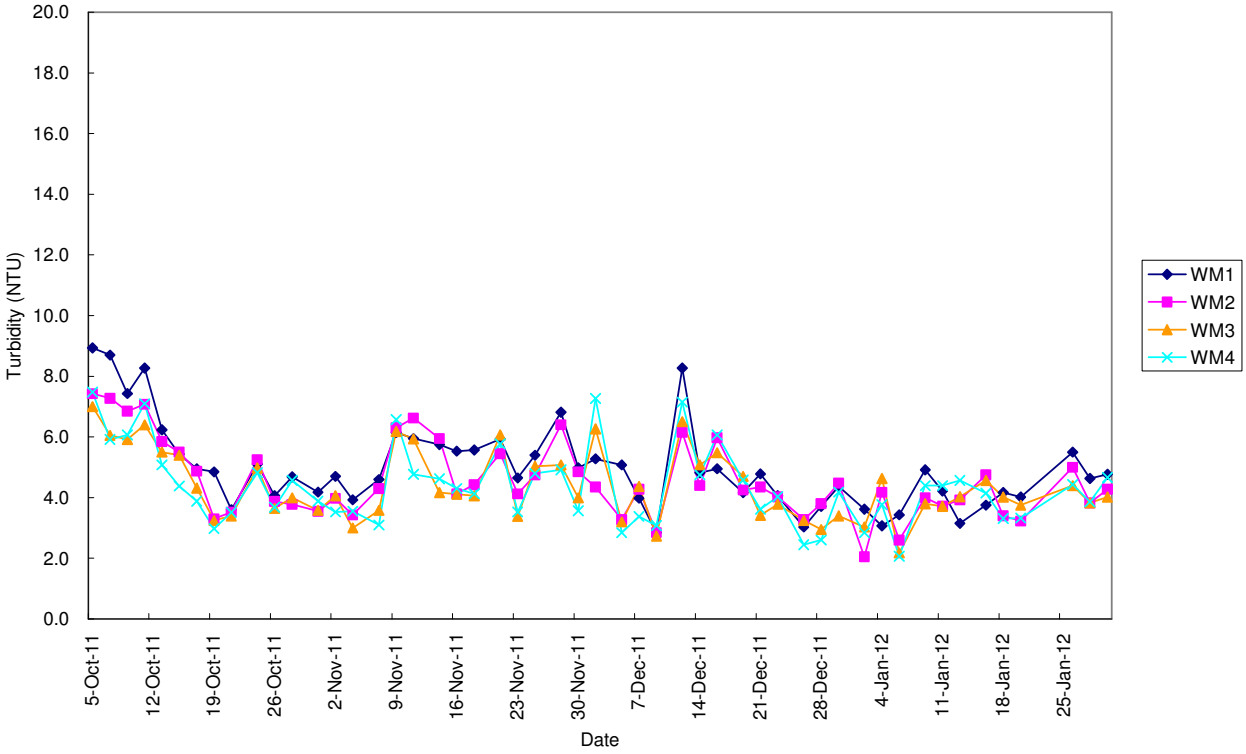


Monitoring Results for Dissolved Oxygen in Ebb Tide - Bottom Level

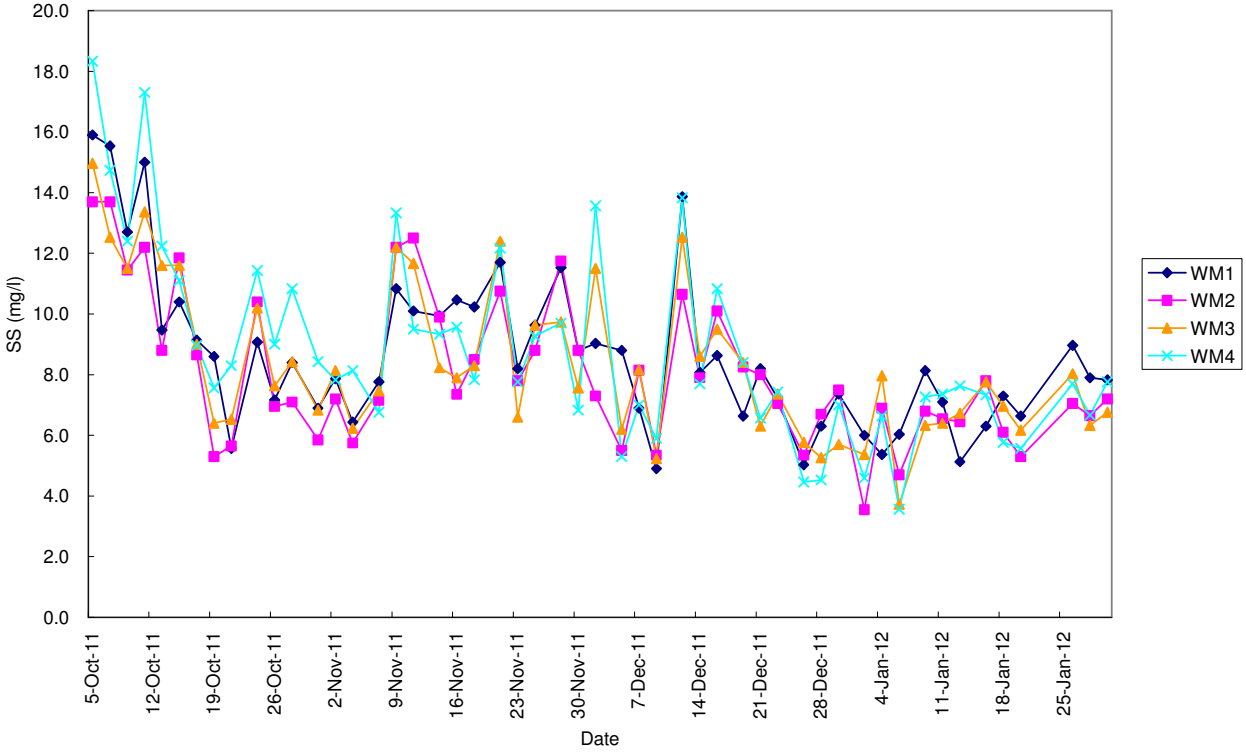


Graphical Plots of Water Quality Monitoring Results

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: 2-Jan-12
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	1428	9.8	*Surface*	19.0	19.0	19.0	8.2	8.2	8.2	29.7	29.7	29.7	6.1	6.1	6.1	78.6	78.2	78.4	3.5	3.5	3.5		5.4	5.6	5.5	
			Middle	19.1	19.1	19.1	8.2	8.2	8.2	29.7	29.7	29.7	6.0	6.0	6.0	77.5	77.1	77.3	2.9	2.9	2.9	3.2	4.8	5.2	5.0	5.4
			Bottom	19.1	19.1	19.1	8.2	8.2	8.2	29.7	29.6	29.7	6.0	5.9	6.0	77.2	76.7	77.0	3.1	3.1	3.1		5.6	5.8	5.7	
WM1	1350	14.4	*Surface*	19.6	19.6	19.6	8.1	8.1	8.1	29.5	29.5	29.5	5.5	5.4	5.5	71.5	70.9	71.2	3.4	3.4	3.4		5.2	5.4	5.3	
			Middle	19.5	19.5	19.5	8.1	8.1	8.1	29.5	29.5	29.5	5.5	5.5	5.5	71.6	71.2	71.4	4.3	4.4	4.4	3.8	6.8	7.2	7.0	6.3
			Bottom	19.3	19.3	19.3	8.1	8.1	8.1	29.5	29.5	29.5	5.5	5.4	5.5	70.9	70.4	70.7	3.8	3.7	3.8		6.6	6.4	6.5	
WM2	1320	5.8	*Surface*	19.5	19.5	19.5	8.2	8.2	8.2	29.6	29.6	29.6	5.6	5.6	5.6	73.2	73.6	73.4	2.6	2.6	2.6		4.4	4.8	4.6	
			Middle																			3.4				5.9
			Bottom	19.6	19.6	19.6	8.2	8.2	8.2	29.3	29.3	29.3	5.5	5.5	5.5	72.7	73.1	72.9	4.2	4.2	4.2		7.4	7.0	7.2	
WM3	1250	8.2	*Surface*	19.3	19.3	19.3	8.2	8.2	8.2	29.6	29.6	29.6	6.2	6.2	6.2	80.6	81.1	80.9	3.5	3.5	3.5		5.6	5.8	5.7	
			Middle	18.9	18.9	18.9	8.2	8.2	8.2	29.8	29.8	29.8	6.2	6.2	6.2	79.8	80.3	80.1	2.7	2.8	2.8	3.0	4.6	5.0	4.8	5.0
			Bottom	19.0	19.0	19.0	8.2	8.2	8.2	29.5	29.6	29.6	6.0	6.0	6.0	78.5	78.0	78.3	2.6	2.6	2.6		4.4	4.8	4.6	
WM4	1224	9.8	*Surface*	19.8	19.8	19.8	8.1	8.1	8.1	29.5	29.5	29.5	6.5	6.5	6.5	83.5	83.1	83.3	2.8	2.9	2.9		4.8	4.8	4.8	
			Middle	19.1	19.1	19.1	8.1	8.1	8.1	29.6	29.6	29.6	6.3	6.3	6.3	81.9	82.4	82.2	3.5	3.5	3.5	3.4	6.2	6.0	6.1	5.7
			Bottom	19.1	19.1	19.1	8.1	8.1	8.1	29.7	29.7	29.7	6.3	6.3	6.3	82.2	82.6	82.4	3.7	3.7	3.7		6.4	6.2	6.3	
CS2	1200	14.6	*Surface*	20.0	20.0	20.0	8.1	8.1	8.1	29.6	29.6	29.6	7.5	7.5	7.5	98.9	98.6	98.8	5.2	5.2	5.2		8.6	8.8	8.7	
			Middle	19.4	19.4	19.4	8.1	8.1	8.1	29.8	29.8	29.8	7.1	7.1	7.1	97.5	97.1	97.3	4.7	4.8	4.8	5.3	7.8	8.0	7.9	8.8
			Bottom	19.3	19.2	19.3	8.1	8.1	8.1	29.9	29.9	29.9	6.9	6.9	6.9	93.8	93.4	93.6	5.8	5.9	5.9		9.6	10.0	9.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 2-Jan-12
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	1715	9.3	*Surface*	19.1	19.0	19.1	8.1	8.2	8.2	29.6	29.7	29.7	5.6	5.7	5.7	75.0	75.7	75.4	4.7	4.7	4.7		8.0	8.2	8.1	
			Middle	19.1	19.1	19.1	8.1	8.2	8.2	29.7	29.7	29.7	5.4	5.4	5.4	72.5	71.4	72.0	5.2	5.5	5.4	5.1	9.0	9.6	9.3	8.9
			Bottom	19.0	19.1	19.1	8.1	8.1	8.1	29.7	29.7	29.7	5.2	5.4	5.3	70.3	72.9	71.6	5.3	5.1	5.2		9.4	9.2	9.3	
WM1	1752	14.1	*Surface*	19.7	19.6	19.7	8.2	8.2	8.2	29.6	29.6	29.6	4.9	4.9	4.9	65.9	65.0	65.5	2.9	3.0	3.0		4.6	4.8	4.7	
			Middle	19.5	19.5	19.5	8.1	8.1	8.1	29.6	29.5	29.6	4.6	4.8	4.7	61.2	63.4	62.3	3.7	3.9	3.8	3.6	6.0	6.6	6.3	6.0
			Bottom	19.3	19.4	19.4	8.1	8.1	8.1	29.6	29.6	29.6	4.3	4.4	4.4	57.5	58.1	57.8	4.1	4.1	4.1		7.0	7.0	7.0	
WM2	1824	5.4	*Surface*	19.4	19.4	19.4	8.2	8.1	8.2	29.5	29.6	29.6	5.1	5.4	5.3	68.3	71.8	70.1	2.1	2.3	2.2		3.4	4.0	3.7	
			Middle																			2.1				3.6
			Bottom	19.4	19.5	19.5	8.2	8.2	8.2	29.5	29.5	29.5	5.1	5.0	5.1	67.7	65.1	66.4	1.9	1.9	1.9		3.2	3.6	3.4	
WM3	1852	7.7	*Surface*	19.3	19.3	19.3	8.1	8.1	8.1	29.6	29.5	29.6	5.9	5.9	5.9	78.5	77.5	78.0	3.3	3.0	3.2		5.6	5.0	5.3	
			Middle	18.9	19.0	19.0	8.2	8.2	8.2	29.8	29.8	29.8	5.7	5.9	5.8	75.8	77.4	76.6	3.0	3.1	3.1	3.0	5.2	5.6	5.4	5.4
			Bottom	19.0	18.9	19.0	8.1	8.1	8.1	29.6	29.7	29.7	5.3	5.4	5.4	71.0	72.3	71.7	2.9	2.9	2.9		5.2	5.6	5.4	
WM4	1924	9.5	*Surface*	19.9	19.8	19.9	8.2	8.2	8.2	29.6	29.6	29.6	6.3	6.2	6.3	84.3	83.0	83.7	1.9	2.1	2.0		3.0	3.6	3.3	
			Middle	19.1	19.1	19.1	8.1	8.2	8.2	29.5	29.6	29.6	6.3	6.5	6.4	83.6	85.2	84.4	3.1	3.1	3.1	2.9	5.2	4.8	5.0	4.6
			Bottom	19.1	19.2	19.2	8.1	8.2	8.2	29.7	29.7	29.7	6.1	6.1	6.1	81.1	81.6	81.4	3.5	3.4	3.5		5.6	5.4	5.5	
CS2	1955	14.2	*Surface*	20.0	20.1	20.1	8.2	8.1	8.2	29.7	29.6	29.7	7.1	7.3	7.2	94.4	96.7	95.6	3.2	3.5	3.4		5.2	5.6	5.4	
			Middle	19.4	19.4	19.4	8.1	8.1	8.1	29.7	29.8	29.8	6.4	6.4	6.4	85.1	85.8	85.5	4.3	4.3	4.3	4.2	6.8	6.8	6.8	6.8
			Bottom	19.2	19.2	19.2	8.1	8.2	8.2	29.9	29.9	29.9	6.0	6.1	6.1	80.4	81.3	80.9	4.7	4.9	4.8		7.8	8.4	8.1	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 4-Jan-12
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	1445	12.0	*Surface*	19.2	19.3	19.3	8.3	8.3	8.3	29.2	29.2	29.2	6.2	6.2	6.2	80.3	80.7	80.5	4.4	4.0	4.2		7.6	7.0	7.3	
			Middle	18.6	18.6	18.6	8.2	8.2	8.2	29.8	29.8	29.8	4.5	4.5	4.5	58.6	58.3	58.5	5.0	5.4	5.2	5.0	8.4	8.8	8.6	8.7
			Bottom	18.4	18.3	18.4	8.3	8.3	8.3	29.4	29.4	29.4	4.3	4.3	4.3	59.3	59.9	59.6	5.6	5.4	5.5		10.6	9.8	10.2	
WM1	1408	14.2	*Surface*	19.3	19.3	19.3	8.2	8.2	8.2	29.8	29.7	29.8	5.9	5.9	5.9	76.8	76.2	76.5	3.2	3.8	3.5		5.4	6.2	5.8	
			Middle	18.5	18.5	18.5	8.1	8.1	8.1	29.6	29.6	29.6	4.8	4.8	4.8	62.4	62.0	62.2	2.8	2.9	2.9	3.6	4.8	5.0	4.9	6.3
			Bottom	18.6	18.6	18.6	8.1	8.1	8.1	29.7	29.7	29.7	3.9	3.9	3.9	50.7	50.3	50.5	4.7	4.1	4.4		8.6	7.8	8.2	
WM2	1335	5.6	*Surface*	19.4	19.3	19.4	8.3	8.2	8.3	29.5	29.5	29.5	5.5	5.5	5.5	65.7	65.3	65.5	4.1	4.9	4.5		7.0	8.4	7.7	
			Middle																			4.6				8.1
			Bottom	18.8	18.7	18.8	8.2	8.2	8.2	29.6	29.6	29.6	3.8	3.8	3.8	45.6	44.9	45.3	4.9	4.4	4.7		8.8	8.0	8.4	
WM3	1305	8.8	*Surface*	18.6	18.6	18.6	8.2	8.2	8.2	29.9	29.8	29.9	5.0	5.0	5.0	65.3	65.7	65.5	4.0	4.4	4.2		7.2	7.6	7.4	
			Middle	18.5	18.5	18.5	8.2	8.1	8.2	29.7	29.7	29.7	4.6	4.6	4.6	59.8	59.2	59.5	4.8	4.6	4.7	4.8	8.6	8.4	8.5	8.6
			Bottom	18.3	18.2	18.3	8.2	8.2	8.2	29.2	29.3	29.3	4.1	4.1	4.1	53.3	53.8	53.6	5.2	5.6	5.4		9.4	10.2	9.8	
WM4	1235	9.4	*Surface*	18.8	18.9	18.9	8.2	8.2	8.2	29.9	29.8	29.9	5.8	5.8	5.8	75.4	75.6	75.5	3.6	3.8	3.7		5.8	6.2	6.0	
			Middle	18.4	18.3	18.4	8.3	8.3	8.3	29.6	29.7	29.7	4.1	4.1	4.1	53.3	53.1	53.2	4.0	4.2	4.1	4.2	6.6	7.2	6.9	7.4
			Bottom	18.4	18.3	18.4	8.2	8.2	8.2	29.9	29.9	29.9	3.9	3.9	3.9	50.4	50.2	50.3	4.8	5.0	4.9		9.0	9.8	9.4	
CS2	1200	14.0	*Surface*	19.0	19.0	19.0	8.3	8.2	8.3	29.9	29.8	29.9	6.1	6.1	6.1	79.3	79.6	79.5	4.8	5.0	4.9		8.2	8.4	8.3	
			Middle	18.6	18.7	18.7	8.2	8.2	8.2	29.7	29.7	29.7	4.9	4.9	4.9	63.7	63.3	63.5	4.2	4.8	4.5	4.9	7.6	8.6	8.1	8.7
			Bottom	18.5	18.4	18.5	8.1	8.2	8.2	29.9	30.0	30.0	4.0	4.0	4.0	52.0	52.6	52.3	5.1	5.7	5.4		9.2	10.4	9.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 4-Jan-12
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	0745	10.1	*Surface*	19.1	19.1	19.1	8.3	8.2	8.3	29.1	29.2	29.2	6.6	6.4	6.5	84.0	81.3	82.7	4.1	4.0	4.1		7.0	6.8	6.9	
			Middle	18.7	18.7	18.7	8.2	8.2	8.2	29.7	29.7	29.7	4.3	4.5	4.4	54.6	57.2	55.9	4.8	4.9	4.9	4.9	8.6	9.0	8.8	8.9
			Bottom	18.4	18.4	18.4	8.1	8.2	8.2	29.4	29.5	29.5	4.1	4.0	4.1	52.4	50.8	51.6	5.6	5.7	5.7		10.8	11.0	10.9	
WM1	0820	13.6	*Surface*	18.8	18.9	18.9	8.2	8.2	8.2	29.7	29.7	29.7	6.0	6.3	6.2	77.1	81.3	79.2	3.0	2.7	2.9		4.8	5.0	4.9	
			Middle	18.4	18.4	18.4	8.1	8.2	8.2	29.5	29.6	29.6	4.4	4.1	4.3	56.5	51.9	54.2	2.3	2.4	2.4	3.1	4.0	4.6	4.3	5.4
			Bottom	18.5	18.4	18.5	8.1	8.1	8.1	29.6	29.6	29.6	3.2	3.4	3.3	41.2	43.6	42.4	4.1	3.9	4.0		7.0	6.8	6.9	
WM2	0849	5.3	*Surface*	18.6	18.7	18.7	8.1	8.2	8.2	29.4	29.5	29.5	5.8	5.7	5.8	74.2	72.5	73.4	3.9	3.7	3.8		6.6	6.0	6.3	
			Middle																			4.2				6.9
			Bottom	18.6	18.6	18.6	8.2	8.1	8.2	29.5	29.4	29.5	3.2	3.3	3.3	41.1	42.4	41.8	4.5	4.6	4.6		7.6	7.4	7.5	
WM3	0918	8.2	*Surface*	18.7	18.7	18.7	8.2	8.1	8.2	29.8	29.7	29.8	5.2	5.1	5.2	66.7	65.6	66.2	3.8	3.9	3.9		6.2	6.4	6.3	
			Middle	18.6	18.5	18.6	8.1	8.1	8.1	29.6	29.7	29.7	3.8	3.6	3.7	48.5	45.2	46.9	4.5	4.7	4.6	4.6	7.6	8.0	7.8	8.0
			Bottom	18.3	18.3	18.3	8.2	8.1	8.2	29.1	29.2	29.2	3.7	3.8	3.8	46.2	48.0	47.1	5.3	5.6	5.5		9.6	10.0	9.8	
WM4	0947	8.8	*Surface*	18.7	18.8	18.8	8.1	8.2	8.2	29.8	29.7	29.8	5.6	5.4	5.5	71.9	69.4	70.7	3.2	3.3	3.3		5.2	5.6	5.4	
			Middle	18.2	18.3	18.3	8.1	8.2	8.2	29.7	29.7	29.7	3.6	3.7	3.7	45.6	46.9	46.3	3.7	3.9	3.8	3.8	6.0	6.4	6.2	6.6
			Bottom	18.2	18.3	18.3	8.1	8.1	8.1	29.8	29.8	29.8	3.2	3.0	3.1	40.5	37.9	39.2	4.2	4.3	4.3		8.0	8.6	8.3	
CS2	1020	13.7	*Surface*	18.6	18.6	18.6	8.2	8.2	8.2	29.8	29.8	29.8	6.2	6.0	6.1	79.0	77.1	78.1	4.3	4.1	4.2		7.8	7.2	7.5	
			Middle	18.5	18.6	18.6	8.1	8.2	8.2	29.8	29.8	29.8	4.7	4.3	4.5	60.1	55.1	57.6	4.7	5.0	4.9	4.9	8.6	9.2	8.9	8.9
			Bottom	18.3	18.3	18.3	8.1	8.1	8.1	29.9	29.8	29.9	3.8	3.6	3.7	48.6	46.1	47.4	5.6	5.4	5.5		10.6	10.0	10.3	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 6-Jan-12
Tide: Mid-Flood
Weather: Cloudy
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	1539	14.7	*Surface*	18.1	18.1	18.1	8.2	8.2	8.2	29.6	29.5	29.6	6.7	6.9	6.8	84.1	86.1	85.1	3.1	2.9	3.0		5.2	4.8	5.0	
			Middle	18.0	18.1	18.1	8.3	8.2	8.3	29.5	29.5	29.5	6.5	6.2	6.4	82.9	79.4	81.2	2.4	2.7	2.6	3.3	4.0	4.6	4.3	5.5
			Bottom	17.8	17.9	17.9	8.2	8.2	8.2	29.6	29.6	29.6	6.2	6.2	6.2	79.1	79.8	79.5	4.2	4.5	4.4		6.8	7.4	7.1	
WM1	1457	14.3	*Surface*	18.1	18.1	18.1	8.3	8.2	8.3	29.5	29.5	29.5	6.6	6.3	6.5	84.8	81.1	83.0	1.6	1.9	1.8		2.8	3.2	3.0	
			Middle	18.4	18.3	18.4	8.2	8.2	8.2	29.4	29.5	29.5	6.6	6.5	6.6	85.2	84.6	84.9	1.4	1.4	1.4	1.9	2.4	2.6	2.5	3.2
			Bottom	18.1	18.1	18.1	8.2	8.3	8.3	29.5	29.5	29.5	6.2	6.0	6.1	80.0	78.7	79.4	2.3	2.6	2.5		4.0	4.4	4.2	
WM2	1429	5.8	*Surface*	18.2	18.1	18.2	8.3	8.2	8.3	29.1	29.0	29.1	6.5	6.7	6.6	82.4	84.5	83.5	2.8	2.9	2.9		4.8	5.0	4.9	
			Middle																			2.9				5.0
			Bottom	18.2	18.1	18.2	8.3	8.3	8.3	29.3	29.3	29.3	6.5	6.4	6.5	83.5	82.7	83.1	2.8	3.0	2.9		4.8	5.4	5.1	
WM3	1356	9.9	*Surface*	18.1	18.1	18.1	8.2	8.2	8.2	29.6	29.5	29.6	6.9	6.7	6.8	88.4	86.6	87.5	2.0	2.1	2.1		3.4	3.6	3.5	
			Middle	18.0	18.0	18.0	8.2	8.2	8.2	29.5	29.6	29.6	6.8	6.8	6.8	87.5	86.1	86.8	2.7	2.4	2.6	2.6	4.4	4.0	4.2	4.3
			Bottom	17.9	18.0	18.0	8.2	8.3	8.3	29.5	29.5	29.5	6.3	6.5	6.4	80.9	82.3	81.6	3.0	3.1	3.1		5.0	5.2	5.1	
WM4	1325	11.0	*Surface*	18.1	18.1	18.1	8.2	8.3	8.3	29.6	29.5	29.6	8.4	8.1	8.3	106.5	103.9	105.2	1.8	2.1	2.0		3.0	3.6	3.3	
			Middle	18.0	18.1	18.1	8.2	8.3	8.3	29.5	29.5	29.5	7.6	7.7	7.7	97.2	98.0	97.6	2.0	2.0	2.0	2.2	3.4	3.6	3.5	3.7
			Bottom	18.0	18.0	18.0	8.3	8.3	8.3	29.2	29.1	29.2	7.2	7.0	7.1	91.8	89.3	90.6	2.4	2.6	2.5		4.2	4.4	4.3	
CS2	1300	15.3	*Surface*	18.1	18.0	18.1	8.3	8.3	8.3	29.5	29.5	29.5	8.5	8.5	8.5	109.0	109.7	109.4	3.5	3.3	3.4		5.8	5.4	5.6	
			Middle	17.9	17.9	17.9	8.3	8.2	8.3	29.5	29.6	29.6	8.4	8.2	8.3	106.3	104.6	105.5	4.1	4.0	4.1	3.8	7.0	6.8	6.9	6.5
			Bottom	17.9	17.9	17.9	8.3	8.3	8.3	29.5	29.5	29.5	8.1	8.1	8.1	102.5	101.1	101.8	4.0	3.9	4.0		7.2	6.8	7.0	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 6-Jan-12
Tide: Mid-Ebb
Weather: Cloudy
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	0830	14.2	*Surface*	18.1	18.2	18.2	8.2	8.2	8.2	28.9	28.9	28.9	7.3	7.2	7.3	94.9	94.3	94.6	2.9	3.1	3.0		5.0	4.8	4.9	
			Middle	17.9	18.0	18.0	8.1	8.2	8.2	29.5	29.5	29.5	6.9	6.9	6.9	89.7	90.4	90.1	3.0	2.7	2.9	4.2	5.4	4.8	5.1	7.2
			Bottom	17.8	17.8	17.8	8.2	8.3	8.3	29.6	29.7	29.7	6.5	6.6	6.6	85.2	85.9	85.6	7.0	6.7	6.9		11.8	11.4	11.6	
WM1	0900	13.8	*Surface*	18.1	18.2	18.2	8.2	8.3	8.3	29.2	29.3	29.3	7.3	7.3	7.3	95.2	95.9	95.6	2.9	2.6	2.8		4.8	4.4	4.6	
			Middle	17.9	17.9	17.9	8.2	8.2	8.2	29.3	29.4	29.4	6.1	6.1	6.1	79.3	79.9	79.6	2.6	2.7	2.7	3.4	4.6	4.8	4.7	6.0
			Bottom	17.8	17.8	17.8	8.1	8.2	8.2	29.5	29.6	29.6	5.1	5.0	5.1	66.3	65.9	66.1	4.8	5.0	4.9		8.8	8.8	8.8	
WM2	0927	5.6	*Surface*	18.1	18.2	18.2	8.2	8.2	8.2	29.1	29.2	29.2	6.3	6.3	6.3	82.0	82.5	82.3	2.3	2.5	2.4		4.0	4.4	4.2	
			Middle																			2.6				4.7
			Bottom	18.0	18.0	18.0	8.2	8.2	8.2	29.0	29.0	29.0	4.5	4.5	4.5	58.7	59.4	59.1	2.7	2.9	2.8		5.0	5.4	5.2	
WM3	0952	9.6	*Surface*	18.1	18.2	18.2	8.2	8.2	8.2	29.6	29.7	29.7	6.2	6.2	6.2	80.6	81.3	81.0	2.0	2.2	2.1		3.4	3.8	3.6	
			Middle	18.0	17.9	18.0	8.2	8.2	8.2	29.4	29.4	29.4	4.0	4.1	4.1	53.1	53.6	53.4	2.4	2.6	2.5	2.2	4.2	4.6	4.4	3.7
			Bottom	17.7	17.8	17.8	8.2	8.2	8.2	29.5	29.5	29.5	4.6	4.5	4.6	59.8	59.1	59.5	1.9	2.0	2.0		3.4	3.0	3.2	
WM4	1025	10.4	*Surface*	18.1	18.2	18.2	8.2	8.2	8.2	29.6	29.6	29.6	6.2	6.1	6.2	80.9	80.2	80.6	1.9	2.0	2.0		3.0	3.2	3.1	
			Middle	17.8	17.9	17.9	8.2	8.2	8.2	29.4	29.3	29.4	4.5	4.4	4.5	58.8	58.2	58.5	1.9	1.8	1.9	2.1	3.6	3.2	3.4	3.6
			Bottom	17.7	17.7	17.7	8.2	8.2	8.2	29.4	29.5	29.5	4.7	4.8	4.8	61.8	62.5	62.2	2.5	2.3	2.4		4.2	4.2	4.2	
CS2	1055	15.0	*Surface*	18.1	18.2	18.2	8.2	8.3	8.3	29.6	29.5	29.6	6.4	6.5	6.5	83.7	84.6	84.2	2.0	2.0	2.0		3.4	3.4	3.4	
			Middle	17.7	17.8	17.8	8.2	8.2	8.2	29.6	29.7	29.7	5.2	5.3	5.3	68.2	69.0	68.6	1.6	1.8	1.7	2.0	3.0	3.6	3.3	3.6
			Bottom	17.7	17.7	17.7	8.2	8.2	8.2	29.8	29.7	29.8	4.9	4.9	4.9	63.9	64.6	64.3	2.1	2.3	2.2		4.0	4.2	4.1	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 9-Jan-12
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	1723	10.8	*Surface*	17.8	17.8	17.8	8.1	8.1	8.1	29.5	29.5	29.5	6.6	6.6	6.6	82.6	82.0	82.3	3.8	4.0	3.9		6.4	6.8	6.6	
			Middle	17.8	17.8	17.8	8.0	8.0	8.0	29.5	29.5	29.5	4.8	4.8	4.8	60.9	61.2	61.1	4.8	5.0	4.9	4.8	8.2	8.8	8.5	8.3
			Bottom	17.8	17.8	17.8	8.0	8.0	8.0	29.5	29.5	29.5	4.6	4.6	4.6	58.2	58.8	58.5	5.7	5.3	5.5		10.0	9.8	9.9	
WM1	1657	14.0	*Surface*	17.9	17.9	17.9	8.1	8.1	8.1	29.4	29.4	29.4	6.2	6.2	6.2	78.7	78.3	78.5	3.2	3.3	3.3		5.4	5.6	5.5	
			Middle	17.8	17.8	17.8	8.1	8.0	8.1	29.4	29.4	29.4	5.7	5.7	5.7	72.4	72.0	72.2	2.9	2.1	2.5	3.0	4.8	3.6	4.2	5.1
			Bottom	18.0	18.0	18.0	8.1	8.1	8.1	29.4	29.4	29.4	6.0	6.0	6.0	76.2	76.4	76.3	3.5	3.1	3.3		6.0	5.2	5.6	
WM2	1626	5.8	*Surface*	18.1	18.2	18.2	8.0	8.0	8.0	28.7	28.6	28.7	6.6	6.6	6.6	83.8	83.4	83.6	3.0	3.4	3.2		5.2	5.4	5.3	
			Middle																			3.3				5.5
			Bottom	18.0	18.0	18.0	8.1	8.1	8.1	29.2	29.2	29.2	5.5	5.5	5.5	69.9	70.1	70.0	3.2	3.5	3.4		5.4	5.8	5.6	
WM3	1558	10.0	*Surface*	17.9	17.9	17.9	8.1	8.1	8.1	29.5	29.5	29.5	6.1	6.1	6.1	76.9	77.1	77.0	3.0	3.4	3.2		4.8	5.6	5.2	
			Middle	17.9	17.9	17.9	8.0	8.0	8.0	29.5	29.4	29.5	6.0	6.0	6.0	76.2	76.0	76.1	2.3	2.7	2.5	3.2	4.0	4.6	4.3	5.4
			Bottom	17.9	18.0	18.0	8.1	8.1	8.1	29.5	29.5	29.5	3.8	3.8	3.8	49.0	49.4	49.2	3.8	4.0	3.9		6.4	6.8	6.6	
WM4	1520	9.8	*Surface*	18.0	18.0	18.0	8.0	8.0	8.0	29.5	29.5	29.5	6.5	6.5	6.5	82.4	82.8	82.6	2.4	2.0	2.2		4.0	3.4	3.7	
			Middle	18.0	18.1	18.1	8.0	8.1	8.1	29.5	29.4	29.5	5.8	5.8	5.8	73.1	73.9	73.5	3.0	2.8	2.9	2.5	5.2	4.6	4.9	4.3
			Bottom	17.9	17.9	17.9	8.0	8.0	8.0	29.4	29.4	29.4	5.0	5.0	5.0	63.5	63.3	63.4	2.3	2.7	2.5		3.8	4.6	4.2	
CS2	1445	14.6	*Surface*	18.0	18.0	18.0	8.1	8.1	8.1	29.5	29.5	29.5	7.8	7.8	7.8	98.3	98.0	98.2	3.0	3.8	3.4		5.0	6.4	5.7	
			Middle	17.8	17.9	17.9	8.1	8.1	8.1	29.6	29.6	29.6	6.2	6.2	6.2	70.9	70.7	70.8	5.0	5.4	5.2	4.7	8.4	9.2	8.8	8.1
			Bottom	17.6	17.7	17.7	8.2	8.2	8.2	29.5	29.4	29.5	5.3	5.3	5.3	67.2	67.8	67.5	5.6	5.4	5.5		9.8	9.6	9.7	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 9-Jan-12
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	1030	10.7	*Surface*	18.0	17.9	18.0	8.0	8.1	8.1	28.6	28.6	28.6	8.7	8.6	8.7	109.8	108.4	109.1	5.1	5.3	5.2		8.6	9.2	8.9	
			Middle	18.0	18.0	18.0	8.1	8.1	8.1	29.2	29.2	29.2	7.6	7.8	7.7	96.6	98.1	97.4	5.5	5.8	5.7	5.5	10.2	9.8	10.0	9.4
			Bottom	17.8	17.9	17.9	8.1	8.1	8.1	29.3	29.3	29.3	7.4	7.3	7.4	93.6	92.4	93.0	5.7	5.6	5.7		9.6	9.2	9.4	
WM1	1101	13.8	*Surface*	18.1	18.1	18.1	8.0	8.0	8.0	29.3	29.4	29.4	6.9	6.8	6.9	88.4	87.4	87.9	4.6	4.4	4.5		7.4	7.2	7.3	
			Middle	18.6	18.6	18.6	8.0	8.0	8.0	29.3	29.2	29.3	6.8	6.6	6.7	87.1	85.5	86.3	5.3	5.2	5.3	4.9	9.0	8.8	8.9	8.1
			Bottom	18.3	18.3	18.3	8.0	8.1	8.1	29.5	29.4	29.5	6.5	6.2	6.4	83.0	80.7	81.9	5.0	5.0	5.0		7.8	8.6	8.2	
WM2	1131	5.4	*Surface*	18.0	18.1	18.1	8.1	8.0	8.1	29.4	29.4	29.4	6.7	6.7	6.7	85.4	84.0	84.7	3.9	3.9	3.9		7.2	6.6	6.9	
			Middle																			4.0				6.8
			Bottom	18.3	18.2	18.3	8.1	8.1	8.1	29.4	29.4	29.4	6.2	6.4	6.3	80.5	82.6	81.6	4.2	4.0	4.1		6.8	6.6	6.7	
WM3	1156	9.4	*Surface*	18.1	18.0	18.1	8.1	8.1	8.1	29.4	29.3	29.4	6.6	6.3	6.5	84.1	81.3	82.7	3.5	3.7	3.6		6.0	6.2	6.1	
			Middle	18.1	18.1	18.1	8.1	8.0	8.1	29.5	29.5	29.5	6.1	6.3	6.2	79.7	81.3	80.5	3.6	3.5	3.6	3.8	6.0	5.6	5.8	6.3
			Bottom	18.2	18.3	18.3	8.1	8.1	8.1	29.5	29.5	29.5	5.7	5.5	5.6	74.3	72.9	73.6	4.1	4.4	4.3		6.8	7.4	7.1	
WM4	1226	9.0	*Surface*	18.0	18.0	18.0	8.1	8.1	8.1	29.4	29.4	29.4	6.9	6.9	6.9	86.9	86.2	86.6	4.4	4.4	4.4		7.2	7.0	7.1	
			Middle	18.2	18.3	18.3	8.0	8.1	8.1	29.5	29.4	29.5	6.4	6.2	6.3	82.3	80.8	81.6	4.3	4.1	4.2	4.4	7.0	6.8	6.9	7.3
			Bottom	18.3	18.3	18.3	8.0	8.1	8.1	29.5	29.5	29.5	6.0	6.2	6.1	77.7	79.6	78.7	4.7	4.5	4.6		8.0	7.6	7.8	
CS2	1256	14.3	*Surface*	18.1	18.1	18.1	8.1	8.1	8.1	29.4	29.5	29.5	6.6	6.8	6.7	84.3	86.8	85.6	4.1	4.0	4.1		7.6	7.2	7.4	
			Middle	18.5	18.4	18.5	8.0	8.0	8.0	29.3	29.4	29.4	6.6	6.5	6.6	84.5	83.6	84.1	4.6	4.6	4.6	4.4	7.6	7.6	7.6	7.6
			Bottom	18.4	18.4	18.4	8.1	8.1	8.1	29.5	29.5	29.5	5.8	5.9	5.9	74.3	75.9	75.1	4.4	4.6	4.5		8.2	7.6	7.9	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 11-Jan-12
Tide: Mid-Flood
Weather: Cloudy
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	0956	14.8	*Surface*	17.7	17.8	17.8	8.1	8.2	8.2	29.5	29.6	29.6	6.5	6.6	6.6	85.8	86.7	86.3	4.6	4.5	4.6		7.6	7.6	7.6	
			Middle	17.7	17.7	17.7	8.2	8.2	8.2	29.6	29.7	29.7	4.8	4.9	4.9	63.6	64.3	64.0	4.8	4.9	4.9	5.2	8.2	8.6	8.4	8.9
			Bottom	17.5	17.6	17.6	8.1	8.2	8.2	29.4	29.4	29.4	4.6	4.6	4.6	60.5	61.0	60.8	6.0	6.5	6.3		10.4	11.0	10.7	
WM1	0922	14.6	*Surface*	17.7	17.7	17.7	8.2	8.2	8.2	29.4	29.4	29.4	6.5	6.4	6.5	85.1	84.6	84.9	2.9	3.1	3.0		4.6	5.2	4.9	
			Middle	17.6	17.7	17.7	8.2	8.2	8.2	29.4	29.5	29.5	4.9	5.0	5.0	64.9	65.7	65.3	3.2	3.5	3.4	3.1	5.4	5.6	5.5	5.1
			Bottom	17.6	17.6	17.6	8.2	8.2	8.2	29.3	29.2	29.3	4.6	4.6	4.6	60.5	61.3	60.9	2.7	2.9	2.8		4.8	5.2	5.0	
WM2	0855	5.8	*Surface*	17.7	17.8	17.8	8.2	8.2	8.2	29.3	29.2	29.3	6.2	6.3	6.3	82.1	82.7	82.4	2.6	2.8	2.7		4.4	4.8	4.6	
			Middle																			2.9				5.1
			Bottom	17.6	17.6	17.6	8.1	8.2	8.2	28.8	28.9	28.9	6.1	6.2	6.2	80.6	81.2	80.9	3.2	3.0	3.1		5.8	5.2	5.5	
WM3	0828	9.6	*Surface*	17.7	17.7	17.7	8.1	8.1	8.1	29.4	29.3	29.4	7.1	7.0	7.1	93.0	92.3	92.7	2.4	2.5	2.5		4.0	4.2	4.1	
			Middle	17.6	17.7	17.7	8.1	8.2	8.2	29.2	29.2	29.2	6.2	6.3	6.3	82.0	82.7	82.4	2.7	2.8	2.8	2.8	4.8	5.2	5.0	4.9
			Bottom	17.6	17.6	17.6	8.2	8.1	8.2	29.3	29.3	29.3	5.8	5.9	5.9	76.7	77.6	77.2	3.1	3.3	3.2		5.2	5.8	5.5	
WM4	0805	9.4	*Surface*	17.7	17.8	17.8	8.1	8.2	8.2	29.0	29.1	29.1	8.0	7.9	8.0	104.8	103.4	104.1	2.7	2.9	2.8		4.6	5.2	4.9	
			Middle	17.7	17.8	17.8	8.1	8.2	8.2	29.2	29.2	29.2	7.0	6.9	7.0	92.0	91.4	91.7	2.9	3.1	3.0	2.7	5.2	5.8	5.5	4.9
			Bottom	17.6	17.6	17.6	8.2	8.2	8.2	29.4	29.4	29.4	6.5	6.4	6.5	85.5	84.7	85.1	2.3	2.5	2.4		4.2	4.6	4.4	
CS2	0740	14.2	*Surface*	17.8	17.9	17.9	8.1	8.2	8.2	28.6	28.7	28.7	7.4	7.5	7.5	97.4	98.5	98.0	2.7	3.0	2.9		4.6	5.2	4.9	
			Middle	17.7	17.6	17.7	8.1	8.1	8.1	29.3	29.3	29.3	6.6	6.5	6.6	87.2	86.1	86.7	3.2	3.4	3.3	3.3	5.6	5.8	5.7	5.7
			Bottom	17.5	17.5	17.5	8.1	8.2	8.2	29.4	29.5	29.5	7.0	6.9	7.0	91.7	91.0	91.4	3.6	3.8	3.7		6.4	6.8	6.6	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 11-Jan-12
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	1200	14.4	*Surface*	17.8	17.9	17.9	8.1	8.1	8.1	29.4	29.4	29.4	7.9	7.7	7.8	99.4	97.0	98.2	5.7	5.4	5.6		9.8	9.6	9.7	
			Middle	17.9	17.9	17.9	8.1	8.2	8.2	29.5	29.4	29.5	7.5	7.4	7.5	95.5	94.7	95.1	5.5	5.6	5.6	5.7	9.4	9.8	9.6	10.2
			Bottom	17.8	17.8	17.8	8.1	8.1	8.1	29.5	29.5	29.5	7.3	7.3	7.3	91.7	91.1	91.4	6.2	6.0	6.1		11.2	11.6	11.4	
WM1	1235	14.2	*Surface*	17.8	17.8	17.8	8.2	8.1	8.2	29.4	29.4	29.4	8.1	8.2	8.2	101.9	102.6	102.3	4.2	4.0	4.1		6.6	6.4	6.5	
			Middle	17.8	17.9	17.9	8.2	8.2	8.2	29.4	29.4	29.4	7.4	7.1	7.3	94.4	91.9	93.2	4.1	4.4	4.3	4.2	7.0	7.6	7.3	7.1
			Bottom	18.0	18.0	18.0	8.2	8.1	8.2	29.3	29.4	29.4	7.1	7.0	7.1	90.9	89.8	90.4	4.3	4.3	4.3		7.6	7.4	7.5	
WM2	1308	5.5	*Surface*	17.8	17.9	17.9	8.2	8.2	8.2	29.3	29.3	29.3	7.2	7.3	7.3	90.4	91.8	91.1	3.9	3.7	3.8		6.8	6.6	6.7	
			Middle																			3.7				6.6
			Bottom	18.1	18.0	18.1	8.2	8.2	8.2	29.2	29.3	29.3	6.3	6.6	6.5	79.9	82.3	81.1	3.7	3.6	3.7		6.6	6.2	6.4	
WM3	1336	9.1	*Surface*	17.7	17.8	17.8	8.1	8.1	8.1	29.5	29.5	29.5	6.8	7.0	6.9	85.2	87.8	86.5	3.2	3.2	3.2		5.4	5.6	5.5	
			Middle	18.0	18.0	18.0	8.2	8.1	8.2	29.3	29.4	29.4	5.4	5.3	5.4	69.0	68.3	68.7	3.9	3.7	3.8	3.7	6.8	6.4	6.6	6.4
			Bottom	18.0	18.0	18.0	8.2	8.1	8.2	29.4	29.4	29.4	5.2	5.0	5.1	65.5	63.2	64.4	4.2	4.1	4.2		7.2	7.0	7.1	
WM4	1407	8.9	*Surface*	17.8	17.8	17.8	8.1	8.2	8.2	29.5	29.5	29.5	6.9	6.9	6.9	86.7	86.0	86.4	4.2	4.0	4.1		6.8	6.4	6.6	
			Middle	18.0	17.9	18.0	8.1	8.1	8.1	29.4	29.5	29.5	6.1	6.3	6.2	77.5	79.6	78.6	4.5	4.5	4.5	4.4	7.6	7.0	7.3	7.4
			Bottom	18.0	18.0	18.0	8.1	8.1	8.1	29.5	29.5	29.5	5.6	5.3	5.5	71.8	68.1	70.0	4.5	4.7	4.6		8.0	8.4	8.2	
CS2	1440	13.8	*Surface*	17.9	17.8	17.9	8.2	8.1	8.2	29.4	29.5	29.5	7.5	7.4	7.5	94.5	93.8	94.2	3.0	3.3	3.2		5.4	6.2	5.8	
			Middle	17.9	18.0	18.0	8.2	8.2	8.2	29.4	29.4	29.4	7.1	7.1	7.1	88.1	88.8	88.5	3.6	3.5	3.6	3.4	6.6	6.0	6.3	6.1
			Bottom	18.0	18.0	18.0	8.2	8.1	8.2	29.5	29.4	29.5	6.7	6.8	6.8	85.1	86.1	85.6	3.4	3.5	3.5		6.4	6.0	6.2	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 13-Jan-12
Tide: Mid-Flood
Weather: Cloudy
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	1128	11.2	*Surface*	17.3	17.3	17.3	8.1	8.1	8.1	29.5	29.5	29.5	5.6	5.6	5.6	70.3	70.7	70.5	6.9	6.9	6.9		11.4	11.6	11.5	
			Middle	17.4	17.4	17.4	8.1	8.1	8.1	29.5	29.5	29.5	5.5	5.5	5.5	69.4	69.0	69.2	9.0	9.0	9.0	8.4	15.0	14.4	14.7	14.0
			Bottom	17.4	17.4	17.4	8.1	8.1	8.1	29.4	29.4	29.4	5.4	5.4	5.4	68.7	68.3	68.5	9.4	9.4	9.4		16.2	15.6	15.9	
WM1	1053	14.2	*Surface*	17.3	17.3	17.3	8.1	8.1	8.1	29.0	29.0	29.0	5.3	5.3	5.3	66.7	66.9	66.8	3.9	3.9	3.9		6.2	6.4	6.3	
			Middle	17.4	17.4	17.4	8.1	8.1	8.1	29.0	29.0	29.0	5.2	5.2	5.2	65.3	65.7	65.5	3.7	3.7	3.7	3.9	6.2	6.0	6.1	6.4
			Bottom	17.4	17.4	17.4	8.2	8.2	8.2	29.2	29.2	29.2	5.2	5.1	5.2	65.1	64.7	64.9	4.0	4.0	4.0		6.8	6.6	6.7	
WM2	1027	5.8	*Surface*	17.2	17.3	17.3	8.2	8.2	8.2	29.2	29.2	29.2	5.4	5.4	5.4	68.4	68.8	68.6	3.9	3.9	3.9		7.2	6.8	7.0	
			Middle																			4.1				7.3
			Bottom	17.5	17.5	17.5	8.2	8.2	8.2	29.3	29.3	29.3	5.4	5.4	5.4	68.3	67.9	68.1	4.2	4.2	4.2		7.8	7.4	7.6	
WM3	0955	8.7	*Surface*	17.5	17.5	17.5	8.2	8.2	8.2	29.4	29.4	29.4	5.9	5.9	5.9	74.3	73.8	74.1	3.1	3.1	3.1		5.0	5.2	5.1	
			Middle	17.4	17.4	17.4	8.2	8.2	8.2	29.0	29.0	29.0	5.5	5.4	5.5	69.9	69.5	69.7	3.4	3.4	3.4	3.4	5.6	6.0	5.8	5.7
			Bottom	17.3	17.3	17.3	8.2	8.2	8.2	29.3	29.3	29.3	5.2	5.2	5.2	66.0	66.4	66.2	3.7	3.7	3.7		6.2	6.4	6.3	
WM4	0926	10.2	*Surface*	17.2	17.2	17.2	8.2	8.2	8.2	29.4	29.4	29.4	6.2	6.2	6.2	77.9	78.3	78.1	3.6	3.6	3.6		6.0	5.6	5.8	
			Middle	17.3	17.3	17.3	8.2	8.2	8.2	29.5	29.5	29.5	6.0	6.0	6.0	76.6	76.1	76.4	3.7	3.7	3.7	3.5	6.8	6.2	6.5	6.0
			Bottom	17.3	17.3	17.3	8.2	8.2	8.2	29.3	29.3	29.3	6.0	6.0	6.0	75.5	75.1	75.3	3.2	3.2	3.2		5.8	5.6	5.7	
CS2	0900	13.7	*Surface*	17.4	17.3	17.4	8.2	8.2	8.2	29.3	29.3	29.3	6.7	6.7	6.7	84.3	84.5	84.4	4.6	4.6	4.6		7.8	7.6	7.7	
			Middle	17.1	17.2	17.2	8.2	8.2	8.2	29.5	29.5	29.5	6.4	6.4	6.4	81.3	80.8	81.1	4.8	4.8	4.8	4.8	8.4	8.8	8.6	8.4
			Bottom	17.2	17.2	17.2	8.2	8.2	8.2	29.1	29.1	29.1	6.1	6.1	6.1	76.3	76.6	76.5	5.0	4.9	5.0		9.2	8.6	8.9	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 13-Jan-12
Tide: Mid-Ebb
Weather: Drizzle
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	1330	10.8	*Surface*	17.9	18.0	18.0	8.1	8.1	8.1	29.2	29.2	29.2	7.2	7.2	7.2	88.3	88.7	88.5	5.8	6.4	6.1		9.6	10.4	10.0	
			Middle	17.6	17.6	17.6	8.2	8.2	8.2	29.5	29.5	29.5	6.6	6.6	6.6	83.4	83.2	83.3	7.0	7.4	7.2	7.0	12.0	12.8	12.4	12.1
			Bottom	17.6	17.5	17.6	8.2	8.2	8.2	29.4	29.3	29.4	6.4	6.4	6.4	80.1	80.7	80.4	7.8	7.4	7.6		14.2	13.6	13.9	
WM1	1405	13.0	*Surface*	17.4	17.4	17.4	8.2	8.2	8.2	29.5	29.5	29.5	5.8	5.8	5.8	70.0	70.4	70.2	3.4	3.2	3.3		5.4	5.2	5.3	
			Middle	17.6	17.6	17.6	8.1	8.1	8.1	29.5	29.5	29.5	4.0	4.0	4.0	51.4	51.8	51.6	2.8	2.7	2.8	3.2	4.6	4.4	4.5	5.1
			Bottom	17.3	17.4	17.4	8.1	8.1	8.1	29.5	29.5	29.5	5.0	5.0	5.0	60.9	60.3	60.6	3.0	3.8	3.4		5.0	6.2	5.6	
WM2	1435	5.4	*Surface*	17.6	17.6	17.6	8.1	8.1	8.1	29.4	29.4	29.4	3.5	3.5	3.5	43.5	43.3	43.4	4.0	4.6	4.3		6.2	7.4	6.8	
			Middle																			3.9				6.5
			Bottom	17.5	17.5	17.5	8.0	8.0	8.0	28.5	28.6	28.6	5.2	5.2	5.2	72.8	72.4	72.6	3.4	3.7	3.6		6.2	6.0	6.1	
WM3	1505	9.4	*Surface*	17.7	17.7	17.7	8.2	8.2	8.2	29.4	29.4	29.4	4.4	4.4	4.4	60.1	57.7	58.9	2.7	2.3	2.5		4.4	3.8	4.1	
			Middle	17.5	17.6	17.6	8.1	8.2	8.2	29.5	29.5	29.5	5.7	5.7	5.7	68.1	68.7	68.4	4.1	4.3	4.2	4.0	7.0	7.4	7.2	6.7
			Bottom	17.5	17.5	17.5	8.2	8.2	8.2	29.5	29.5	29.5	3.5	3.5	3.5	42.3	42.1	42.2	5.2	5.6	5.4		8.6	9.2	8.9	
WM4	1535	9.6	*Surface*	17.5	17.5	17.5	8.1	8.1	8.1	29.4	29.4	29.4	3.8	3.8	3.8	45.4	45.8	45.6	3.3	3.9	3.6		5.4	6.4	5.9	
			Middle	17.4	17.4	17.4	8.2	8.2	8.2	29.5	29.5	29.5	4.6	4.6	4.6	55.2	55.6	55.4	5.2	5.8	5.5	4.6	8.6	9.6	9.1	7.6
			Bottom	17.4	17.5	17.5	8.1	8.2	8.2	29.5	29.5	29.5	5.8	5.8	5.8	69.6	69.4	69.5	4.8	4.4	4.6		8.0	7.8	7.9	
CS2	1605	13.8	*Surface*	17.7	17.6	17.7	8.1	8.1	8.1	29.5	29.5	29.5	6.1	6.1	6.1	73.2	73.6	73.4	4.1	4.3	4.2		6.8	7.2	7.0	
			Middle	17.5	17.4	17.5	8.2	8.1	8.2	29.4	29.4	29.4	6.2	6.2	6.2	74.9	74.1	74.5	5.0	4.9	5.0	4.3	9.0	8.8	8.9	7.4
			Bottom	17.4	17.4	17.4	8.2	8.2	8.2	29.5	29.5	29.5	6.0	6.0	6.0	72.3	72.7	72.5	3.9	3.5	3.7		6.6	6.0	6.3	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 16-Jan-12
Tide: Mid-Flood
Weather: Drizzle
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	1344	10.2	*Surface*	17.4	17.4	17.4	8.2	8.2	8.2	29.5	29.5	29.5	5.0	5.0	5.0	62.8	62.4	62.6	6.2	6.2	6.2		10.4	10.4	10.4	
			Middle	17.4	17.4	17.4	8.2	8.2	8.2	29.3	29.3	29.3	4.8	4.8	4.8	60.9	60.6	60.8	6.0	6.0	6.0	6.5	10.0	10.2	10.1	11.1
			Bottom	17.5	17.5	17.5	8.2	8.2	8.2	29.5	29.4	29.5	4.7	4.7	4.7	60.0	59.6	59.8	7.2	7.2	7.2		12.6	13.0	12.8	
WM1	1310	14.6	*Surface*	17.7	17.7	17.7	8.2	8.2	8.2	29.3	29.3	29.3	5.1	5.1	5.1	65.9	65.4	65.7	4.2	4.2	4.2		6.4	7.0	6.7	
			Middle	17.6	17.6	17.6	8.2	8.2	8.2	29.3	29.3	29.3	4.8	4.8	4.8	60.7	61.1	60.9	4.5	4.5	4.5	4.4	7.4	7.6	7.5	7.3
			Bottom	17.5	17.5	17.5	8.2	8.2	8.2	29.3	29.3	29.3	4.7	4.7	4.7	60.5	60.1	60.3	4.4	4.4	4.4		8.0	7.4	7.7	
WM2	1234	5.8	*Surface*	17.6	17.6	17.6	8.2	8.2	8.2	29.1	29.1	29.1	4.7	4.7	4.7	59.7	60.1	59.9	4.3	4.3	4.3		7.4	7.6	7.5	
			Middle																			4.5				8.0
			Bottom	17.6	17.6	17.6	8.2	8.2	8.2	29.2	29.2	29.2	4.6	4.6	4.6	58.9	58.4	58.7	4.6	4.6	4.6		8.6	8.2	8.4	
WM3	1200	9.8	*Surface*	17.8	17.8	17.8	8.2	8.2	8.2	29.2	29.2	29.2	5.0	5.0	5.0	64.0	64.4	64.2	3.1	3.1	3.1		5.0	5.2	5.1	
			Middle	17.8	17.7	17.8	8.2	8.2	8.2	29.4	29.4	29.4	4.8	4.8	4.8	61.3	61.6	61.5	3.7	3.7	3.7	3.7	6.8	6.4	6.6	6.3
			Bottom	17.6	17.6	17.6	8.2	8.2	8.2	29.5	29.5	29.5	4.8	4.8	4.8	61.2	61.5	61.4	4.3	4.3	4.3		7.2	7.4	7.3	
WM4	1127	11.1	*Surface*	17.6	17.6	17.6	8.1	8.1	8.1	29.4	29.4	29.4	5.4	5.4	5.4	68.4	68.0	68.2	3.6	3.6	3.6		6.0	6.4	6.2	
			Middle	17.6	17.6	17.6	8.1	8.1	8.1	29.5	29.5	29.5	5.3	5.3	5.3	67.5	67.1	67.3	4.2	4.2	4.2	3.8	7.2	7.4	7.3	6.6
			Bottom	17.7	17.7	17.7	8.1	8.2	8.2	29.4	29.5	29.5	5.2	5.2	5.2	66.5	66.8	66.7	3.6	3.6	3.6		6.6	6.0	6.3	
CS2	1100	15.1	*Surface*	17.9	17.8	17.9	8.1	8.1	8.1	29.3	29.3	29.3	6.9	6.9	6.9	87.3	86.8	87.1	4.1	4.1	4.1		7.0	7.4	7.2	
			Middle	17.5	17.5	17.5	8.1	8.1	8.1	29.5	29.6	29.6	6.1	6.1	6.1	78.2	78.5	78.4	5.0	5.0	5.0	5.0	8.8	9.2	9.0	8.9
			Bottom	17.4	17.4	17.4	8.1	8.1	8.1	29.5	29.5	29.5	6.0	6.0	6.0	76.1	76.4	76.3	5.8	5.8	5.8		10.6	10.4	10.5	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 16-Jan-12
Tide: Mid-Ebb
Weather: Drizzle
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	1530	10.2	*Surface*	17.8	17.8	17.8	8.2	8.2	8.2	29.4	29.4	29.4	6.2	6.2	6.2	74.4	74.6	74.5	4.0	4.8	4.4		7.0	8.2	7.6	
			Middle	17.5	17.5	17.5	8.3	8.3	8.3	29.3	29.3	29.3	5.4	5.4	5.4	64.8	64.2	64.5	5.8	6.0	5.9	6.3	9.8	11.0	10.4	10.9
			Bottom	17.4	17.4	17.4	8.2	8.2	8.2	29.4	29.4	29.4	4.2	4.2	4.2	50.4	50.2	50.3	8.4	8.6	8.5		14.4	15.0	14.7	
WM1	1605	13.4	*Surface*	17.9	17.8	17.9	8.1	8.1	8.1	29.3	29.3	29.3	5.3	5.3	5.3	63.6	63.9	63.8	3.8	3.4	3.6		6.2	5.6	5.9	
			Middle	17.7	17.6	17.7	8.2	8.2	8.2	29.4	29.4	29.4	4.6	4.6	4.6	55.2	55.4	55.3	3.2	3.8	3.5	3.8	5.4	6.4	5.9	6.3
			Bottom	17.4	17.4	17.4	8.2	8.3	8.3	29.4	29.5	29.5	3.9	3.9	3.9	46.8	46.2	46.5	4.2	4.1	4.2		7.2	7.0	7.1	
WM2	1635	5.4	*Surface*	17.8	17.8	17.8	8.1	8.1	8.1	29.4	29.4	29.4	4.1	4.1	4.1	49.2	49.6	49.4	5.6	5.0	5.3		9.2	8.0	8.6	
			Middle																			4.8				7.8
			Bottom	17.5	17.5	17.5	8.2	8.1	8.2	29.5	29.5	29.5	5.0	5.0	5.0	60.4	60.6	60.5	4.4	4.0	4.2		7.4	6.6	7.0	
WM3	1704	8.8	*Surface*	17.8	17.8	17.8	8.1	8.1	8.1	29.4	29.5	29.5	5.4	5.4	5.4	64.8	64.2	64.5	3.7	3.9	3.8		6.0	6.6	6.3	
			Middle	17.4	17.4	17.4	8.1	8.2	8.2	29.3	29.3	29.3	5.3	5.3	5.3	63.6	63.8	63.7	4.9	4.5	4.7	4.6	8.2	7.2	7.7	7.8
			Bottom	17.4	17.4	17.4	8.0	8.1	8.1	29.5	29.4	29.5	4.0	4.0	4.0	60.2	60.4	60.3	5.0	5.4	5.2		8.8	9.8	9.3	
WM4	1734	9.8	*Surface*	17.7	17.7	17.7	8.2	8.2	8.2	29.5	29.5	29.5	5.2	5.2	5.2	62.4	62.8	62.6	3.6	3.3	3.5		5.8	5.4	5.6	
			Middle	17.5	17.5	17.5	8.1	8.2	8.2	29.2	29.3	29.3	4.8	4.8	4.8	57.6	57.2	57.4	4.2	4.8	4.5	4.2	7.4	8.8	8.1	7.3
			Bottom	17.4	17.4	17.4	8.1	8.1	8.1	29.4	29.4	29.4	4.2	4.2	4.2	50.4	50.2	50.3	4.1	4.9	4.5		7.6	9.0	8.3	
CS2	1804	14.0	*Surface*	17.9	17.9	17.9	8.1	8.1	8.1	29.7	29.7	29.7	6.1	6.1	6.1	73.2	73.6	73.4	4.9	5.1	5.0		9.0	9.8	9.4	
			Middle	17.6	17.6	17.6	8.0	8.1	8.1	29.6	29.6	29.6	5.4	5.4	5.4	64.1	64.8	64.5	6.7	6.9	6.8	6.4	12.2	11.8	12.0	11.7
			Bottom	17.4	17.4	17.4	8.2	8.2	8.2	29.5	29.5	29.5	5.2	5.2	5.2	66.7	67.0	66.9	7.4	7.6	7.5		13.6	14.0	13.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 18-Jan-12
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	1435	12.8	*Surface*	17.6	17.7	17.7	8.1	8.1	8.1	29.5	29.6	29.6	6.3	6.4	6.4	80.0	81.6	80.8	6.0	6.2	6.1		10.2	10.6	10.4	
			Middle	17.6	17.6	17.6	8.1	8.2	8.2	29.6	29.6	29.6	5.7	5.8	5.8	72.6	73.8	73.2	6.6	6.5	6.6	6.3	11.4	11.2	11.3	11.1
			Bottom	17.7	17.6	17.7	8.1	8.2	8.2	29.6	29.5	29.6	5.4	5.3	5.4	68.8	67.6	68.2	6.2	6.3	6.3		11.4	11.8	11.6	
WM1	1401	13.7	*Surface*	17.6	17.6	17.6	8.2	8.3	8.3	29.4	29.4	29.4	6.2	6.0	6.1	78.1	75.7	76.9	4.3	4.4	4.4		6.8	7.6	7.2	
			Middle	17.7	17.6	17.7	8.2	8.2	8.2	29.4	29.5	29.5	5.3	5.4	5.4	66.6	68.1	67.4	4.7	4.8	4.8	4.8	8.2	9.0	8.6	8.5
			Bottom	17.6	17.6	17.6	8.2	8.2	8.2	29.5	29.5	29.5	5.8	5.9	5.9	73.1	74.3	73.7	5.2	5.3	5.3		9.4	9.8	9.6	
WM2	1337	5.9	*Surface*	17.7	17.7	17.7	8.2	8.3	8.3	29.5	29.4	29.5	5.4	5.6	5.5	68.0	70.6	69.3	4.1	4.0	4.1		7.4	6.8	7.1	
			Middle																			4.3				7.7
			Bottom	17.7	17.6	17.7	8.3	8.3	8.3	29.5	29.4	29.5	5.0	5.1	5.1	63.1	64.4	63.8	4.6	4.5	4.6		8.4	8.2	8.3	
WM3	1305	10.2	*Surface*	17.6	17.6	17.6	8.2	8.2	8.2	29.5	29.4	29.5	5.0	5.1	5.1	63.3	64.4	63.9	4.4	4.5	4.5		7.0	7.8	7.4	
			Middle	17.6	17.5	17.6	8.1	8.2	8.2	29.5	29.5	29.5	4.2	4.4	4.3	53.4	56.1	54.8	4.1	4.0	4.1	4.5	7.2	7.0	7.1	7.8
			Bottom	17.6	17.5	17.6	8.2	8.1	8.2	29.6	29.5	29.6	3.9	3.8	3.9	49.7	48.3	49.0	5.1	4.9	5.0		9.0	8.8	8.9	
WM4	1233	11.4	*Surface*	17.5	17.6	17.6	8.2	8.3	8.3	29.5	29.4	29.5	5.3	5.0	5.2	67.0	63.1	65.1	4.1	4.0	4.1		6.6	6.4	6.5	
			Middle	17.7	17.6	17.7	8.2	8.2	8.2	29.5	29.4	29.5	4.6	4.5	4.6	58.2	56.8	57.5	3.6	3.7	3.7	4.0	6.6	6.8	6.7	6.8
			Bottom	17.7	17.7	17.7	8.1	8.2	8.2	29.5	29.5	29.5	3.8	4.0	3.9	48.1	50.9	49.5	4.2	4.1	4.2		7.4	7.0	7.2	
CS2	1200	14.7	*Surface*	17.4	17.4	17.4	8.2	8.1	8.2	29.6	29.5	29.6	5.5	5.7	5.6	69.5	71.8	70.7	5.1	5.3	5.2		8.8	9.2	9.0	
			Middle	17.4	17.5	17.5	8.2	8.2	8.2	29.6	29.7	29.7	5.1	5.2	5.2	64.5	66.1	65.3	6.0	5.9	6.0	5.9	10.6	10.0	10.3	10.4
			Bottom	17.4	17.5	17.5	8.2	8.2	8.2	29.7	29.8	29.8	5.8	5.7	5.8	73.8	72.3	73.1	6.4	6.6	6.5		11.6	12.0	11.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 18-Jan-12
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	0730	12.3	*Surface*	17.6	17.6	17.6	8.2	8.1	8.2	29.5	29.5	29.5	7.6	7.4	7.5	94.6	92.2	93.4	5.8	5.7	5.8		9.8	10.0	9.9	
			Middle	17.6	17.6	17.6	8.1	8.1	8.1	29.6	29.5	29.6	7.3	7.2	7.3	92.3	91.5	91.9	6.4	6.1	6.3	6.0	11.8	10.4	11.1	10.4
			Bottom	17.6	17.5	17.6	8.1	8.1	8.1	29.5	29.5	29.5	6.3	6.3	6.3	80.1	80.8	80.5	6.1	6.1	6.1		10.2	10.2	10.2	
WM1	0806	13.4	*Surface*	17.6	17.5	17.6	8.2	8.2	8.2	29.4	29.5	29.5	6.4	6.5	6.5	80.3	81.0	80.7	4.0	4.3	4.2		6.6	7.4	7.0	
			Middle	17.5	17.6	17.6	8.1	8.2	8.2	29.4	29.4	29.4	6.1	6.1	6.1	78.1	78.6	78.4	4.0	3.9	4.0	4.2	6.8	7.0	6.9	7.3
			Bottom	17.7	17.7	17.7	8.2	8.2	8.2	29.5	29.5	29.5	5.0	4.8	4.9	62.8	60.4	61.6	4.3	4.5	4.4		7.8	8.2	8.0	
WM2	0839	5.4	*Surface*	17.6	17.6	17.6	8.1	8.1	8.1	29.4	29.4	29.4	5.8	5.6	5.7	73.9	71.8	72.9	3.4	3.4	3.4		5.8	6.2	6.0	
			Middle																			3.4				6.1
			Bottom	17.6	17.6	17.6	8.1	8.2	8.2	29.4	29.5	29.5	5.2	5.3	5.3	66.5	67.3	66.9	3.3	3.5	3.4		6.0	6.4	6.2	
WM3	0907	9.5	*Surface*	17.6	17.6	17.6	8.1	8.2	8.2	29.5	29.4	29.5	5.3	5.5	5.4	67.6	69.0	68.3	4.0	4.1	4.1		6.8	6.8	6.8	
			Middle	17.5	17.6	17.6	8.2	8.2	8.2	29.5	29.4	29.5	4.6	4.5	4.6	58.9	57.4	58.2	3.5	3.7	3.6	4.0	6.0	6.2	6.1	7.0
			Bottom	17.5	17.5	17.5	8.1	8.2	8.2	29.4	29.5	29.5	4.3	4.0	4.2	54.8	51.3	53.1	4.3	4.5	4.4		7.8	8.2	8.0	
WM4	0938	10.2	*Surface*	17.5	17.6	17.6	8.1	8.1	8.1	29.5	29.4	29.5	5.8	5.8	5.8	74.2	74.9	74.6	3.7	3.9	3.8		6.2	6.4	6.3	
			Middle	17.7	17.7	17.7	8.1	8.1	8.1	29.5	29.5	29.5	5.4	5.3	5.4	69.1	68.1	68.6	3.0	3.3	3.2	3.3	5.2	5.6	5.4	5.8
			Bottom	17.7	17.8	17.8	8.1	8.2	8.2	29.4	29.4	29.4	5.0	5.2	5.1	63.3	65.4	64.4	3.0	3.0	3.0		5.4	5.8	5.6	
CS2	1010	14.1	*Surface*	17.4	17.5	17.5	8.1	8.2	8.2	29.6	29.6	29.6	5.8	5.9	5.9	72.7	73.8	73.3	5.3	5.5	5.4		9.4	9.6	9.5	
			Middle	17.5	17.5	17.5	8.2	8.2	8.2	29.7	29.6	29.7	5.6	5.4	5.5	70.2	68.7	69.5	5.8	5.7	5.8	5.6	10.6	10.4	10.5	10.1
			Bottom	17.3	17.3	17.3	8.2	8.2	8.2	29.8	29.8	29.8	5.7	5.6	5.7	72.2	71.0	71.6	5.5	5.6	5.6		10.2	10.6	10.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 20-Jan-12
Tide: Mid-Flood
Weather: Cloudy
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	1505	14.0	*Surface*	17.7	17.7	17.7	8.3	8.2	8.3	29.8	29.8	29.8	6.8	6.8	6.8	85.7	85.3	85.5	5.8	5.4	5.6		9.4	9.2	9.3	
			Middle	17.4	17.4	17.4	8.3	8.3	8.3	29.7	29.8	29.8	6.4	6.4	6.4	80.6	80.2	80.4	6.0	6.2	6.1	6.2	11.0	11.4	11.2	10.9
			Bottom	17.3	17.3	17.3	8.2	8.2	8.2	29.7	29.7	29.7	5.8	5.8	5.8	73.1	73.5	73.3	7.0	6.8	6.9		12.0	12.2	12.1	
WM1	1426	14.4	*Surface*	17.6	17.6	17.6	8.3	8.2	8.3	29.6	29.6	29.6	6.0	6.0	6.0	75.6	75.8	75.7	3.5	3.3	3.4		6.0	5.4	5.7	
			Middle	17.7	17.8	17.8	8.3	8.3	8.3	29.7	29.7	29.7	5.4	5.4	5.4	68.0	68.8	68.4	4.2	4.2	4.2	3.4	7.2	7.4	7.3	5.9
			Bottom	17.5	17.5	17.5	8.2	8.3	8.3	29.7	29.6	29.7	5.5	5.5	5.5	69.3	69.7	69.5	2.8	2.6	2.7		4.8	4.6	4.7	
WM2	1355	5.6	*Surface*	17.8	17.8	17.8	8.3	8.3	8.3	29.7	29.7	29.7	6.2	6.2	6.2	78.1	78.9	78.5	3.5	3.7	3.6		6.4	6.8	6.6	
			Middle																			3.9				6.8
			Bottom	17.4	17.5	17.5	8.4	8.4	8.4	29.6	29.6	29.6	5.6	5.6	5.6	70.6	70.2	70.4	4.2	4.0	4.1		7.2	6.8	7.0	
WM3	1325	9.8	*Surface*	17.7	17.7	17.7	8.3	8.3	8.3	29.7	29.7	29.7	5.4	5.4	5.4	68.1	68.9	68.5	4.0	3.8	3.9		6.4	6.2	6.3	
			Middle	17.7	17.9	17.8	8.2	8.1	8.2	29.6	29.6	29.6	5.0	5.0	5.0	63.0	63.8	63.4	3.5	3.4	3.5	3.9	5.6	5.8	5.7	6.4
			Bottom	17.6	17.7	17.7	8.1	8.1	8.1	29.7	29.7	29.7	4.8	4.8	4.8	60.5	60.1	60.3	4.2	4.5	4.4		6.8	7.4	7.1	
WM4	1259	10.0	*Surface*	17.8	17.7	17.8	8.3	8.3	8.3	29.6	29.7	29.7	5.3	5.3	5.3	66.8	66.6	66.7	3.4	3.6	3.5		5.6	6.0	5.8	
			Middle	17.5	17.5	17.5	8.2	8.3	8.3	29.7	29.6	29.7	5.6	5.6	5.6	70.5	70.3	70.4	3.8	3.8	3.8	3.8	6.2	6.4	6.3	6.4
			Bottom	17.4	17.4	17.4	8.2	8.2	8.2	29.7	29.7	29.7	4.7	4.7	4.7	59.2	59.8	59.5	4.1	4.3	4.2		7.0	7.2	7.1	
CS2	1230	14.8	*Surface*	17.8	17.8	17.8	8.3	8.3	8.3	29.8	29.8	29.8	6.2	6.2	6.2	77.9	77.1	77.5	5.0	4.8	4.9		8.6	8.4	8.5	
			Middle	17.7	17.8	17.8	8.2	8.2	8.2	29.3	29.4	29.4	5.4	5.4	5.4	68.2	68.6	68.4	5.4	5.5	5.5	5.0	9.6	10.0	9.8	8.9
			Bottom	17.3	17.4	17.4	8.2	8.2	8.2	29.9	29.9	29.9	4.8	4.8	4.8	60.5	60.3	60.4	4.3	4.7	4.5		8.2	8.8	8.5	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 20-Jan-12
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	0800	13.6	*Surface*	17.5	17.6	17.6	8.3	8.2	8.3	29.7	29.7	29.7	7.0	6.9	7.0	87.9	86.5	87.2	6.1	6.4	6.3		10.2	10.8	10.5	
			Middle	17.3	17.3	17.3	8.3	8.3	8.3	29.8	29.7	29.8	6.5	6.7	6.6	82.1	84.3	83.2	6.9	6.8	6.9	6.7	11.6	11.4	11.5	11.2
			Bottom	17.4	17.3	17.4	8.3	8.3	8.3	29.6	29.6	29.6	6.0	6.1	6.1	74.7	75.3	75.0	7.1	6.9	7.0		11.8	11.4	11.6	
WM1	0835	13.9	*Surface*	17.7	17.7	17.7	8.2	8.2	8.2	29.5	29.5	29.5	6.5	6.5	6.5	82.0	81.4	81.7	3.9	4.0	4.0		6.4	6.4	6.4	
			Middle	17.7	17.7	17.7	8.2	8.3	8.3	29.5	29.6	29.6	5.8	5.9	5.9	73.2	74.2	73.7	3.9	3.9	3.9	4.0	6.6	6.8	6.7	6.6
			Bottom	17.5	17.6	17.6	8.2	8.2	8.2	29.7	29.7	29.7	5.3	5.1	5.2	67.5	65.9	66.7	4.3	4.1	4.2		7.0	6.6	6.8	
WM2	0907	5.3	*Surface*	17.7	17.6	17.7	8.3	8.2	8.3	29.6	29.5	29.6	5.9	6.1	6.0	73.7	75.9	74.8	3.2	3.5	3.4		5.2	5.8	5.5	
			Middle																			3.2				5.3
			Bottom	17.8	17.7	17.8	8.3	8.3	8.3	29.5	29.5	29.5	5.5	5.4	5.5	70.0	69.5	69.8	3.0	3.2	3.1		5.0	5.2	5.1	
WM3	0935	9.2	*Surface*	17.7	17.7	17.7	8.3	8.3	8.3	29.6	29.6	29.6	4.9	5.2	5.1	62.4	65.6	64.0	3.3	3.1	3.2		5.2	5.0	5.1	
			Middle	17.7	17.7	17.7	8.3	8.3	8.3	29.5	29.6	29.6	4.6	4.5	4.6	57.9	56.9	57.4	3.8	3.8	3.8	3.8	6.2	6.4	6.3	6.2
			Bottom	17.6	17.7	17.7	8.3	8.3	8.3	29.6	29.7	29.7	4.0	4.2	4.1	50.7	52.8	51.8	4.1	4.4	4.3		6.8	7.4	7.1	
WM4	1007	9.5	*Surface*	17.7	17.6	17.7	8.3	8.2	8.3	29.6	29.6	29.6	5.5	5.7	5.6	68.5	70.1	69.3	3.2	3.2	3.2		5.2	5.4	5.3	
			Middle	17.5	17.5	17.5	8.2	8.3	8.3	29.7	29.7	29.7	5.5	5.4	5.5	70.4	67.3	68.9	3.2	3.3	3.3	3.3	5.4	5.6	5.5	5.6
			Bottom	17.5	17.5	17.5	8.3	8.3	8.3	29.7	29.6	29.7	5.1	5.3	5.2	64.3	66.3	65.3	3.6	3.5	3.6		6.2	5.6	5.9	
CS2	1039	14.5	*Surface*	17.7	17.7	17.7	8.2	8.2	8.2	29.7	29.6	29.7	6.1	6.0	6.1	76.5	75.4	76.0	4.1	4.3	4.2		6.8	7.2	7.0	
			Middle	17.6	17.7	17.7	8.2	8.2	8.2	29.3	29.4	29.4	5.7	5.7	5.7	72.2	72.7	72.5	4.4	4.2	4.3	4.4	7.4	7.2	7.3	7.3
			Bottom	17.4	17.5	17.5	8.2	8.3	8.3	29.8	29.7	29.8	5.1	5.0	5.1	65.0	64.1	64.6	4.6	4.6	4.6		7.6	7.6	7.6	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 26-Jan-12
Tide: Mid-Flood
Weather: Cloudy
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	1105	11.9	*Surface*	16.2	16.3	16.3	8.2	8.2	8.2	29.6	29.7	29.7	4.2	4.2	4.2	52.9	53.3	53.1	6.2	6.2	6.2		10.0	10.6	10.3	
			Middle	16.8	16.8	16.8	8.2	8.2	8.2	29.7	29.7	29.7	4.4	4.4	4.4	55.8	55.4	55.6	5.6	5.6	5.6	5.5	9.4	9.6	9.5	9.3
			Bottom	16.6	16.7	16.7	8.2	8.2	8.2	29.8	29.8	29.8	4.5	4.5	4.5	56.4	56.8	56.6	4.6	4.6	4.6		8.0	8.4	8.2	
WM1	1028	14.4	*Surface*	16.0	16.0	16.0	8.2	8.2	8.2	30.0	30.0	30.0	4.6	4.6	4.6	56.5	56.1	56.3	3.5	3.5	3.5		5.4	5.6	5.5	
			Middle	16.4	16.4	16.4	8.2	8.2	8.2	29.9	29.9	29.9	4.5	4.5	4.5	56.0	55.7	55.9	2.7	2.7	2.7	2.9	5.0	4.6	4.8	4.9
			Bottom	16.5	16.5	16.5	8.2	8.2	8.2	29.9	29.9	29.9	4.4	4.4	4.4	55.5	55.1	55.3	2.5	2.5	2.5		4.6	4.0	4.3	
WM2	1000	5.8	*Surface*	16.0	16.0	16.0	8.2	8.2	8.2	29.0	30.0	29.5	4.7	4.7	4.7	58.1	58.5	58.3	4.4	4.4	4.4		7.6	7.8	7.7	
			Middle																			4.1				7.2
			Bottom	16.2	16.2	16.2	8.2	8.2	8.2	29.8	29.8	29.8	4.5	4.5	4.5	55.8	55.4	55.6	3.7	3.7	3.7		6.8	6.4	6.6	
WM3	0928	9.9	*Surface*	16.1	16.1	16.1	8.2	8.2	8.2	29.9	29.9	29.9	5.3	5.3	5.3	65.5	65.9	65.7	3.2	3.2	3.2		5.2	5.4	5.3	
			Middle	16.3	16.3	16.3	8.2	8.2	8.2	29.8	29.8	29.8	5.1	5.1	5.1	63.0	62.7	62.9	3.3	3.3	3.3	3.3	5.6	5.4	5.5	5.6
			Bottom	16.3	16.3	16.3	8.2	8.2	8.2	30.0	30.0	30.0	5.0	5.0	5.0	62.6	62.2	62.4	3.5	3.5	3.5		6.0	5.8	5.9	
WM4	0857	10.7	*Surface*	16.6	16.6	16.6	8.1	8.1	8.1	29.8	29.8	29.8	5.8	5.8	5.8	72.3	72.6	72.5	3.9	3.9	3.9		6.6	6.4	6.5	
			Middle	16.2	16.1	16.2	8.1	8.1	8.1	30.1	30.0	30.1	5.5	5.5	5.5	68.6	68.9	68.8	4.1	4.1	4.1	3.9	6.8	7.0	6.9	6.6
			Bottom	16.6	16.7	16.7	8.2	8.2	8.2	29.8	29.8	29.8	5.3	5.2	5.3	66.6	66.0	66.3	3.7	3.7	3.7		6.4	6.4	6.4	
CS2	0830	14.9	*Surface*	16.4	16.4	16.4	8.0	8.0	8.0	30.0	30.0	30.0	6.1	6.1	6.1	75.9	75.5	75.7	4.4	4.4	4.4		7.2	7.4	7.3	
			Middle	16.1	16.1	16.1	8.0	8.0	8.0	29.9	29.9	29.9	6.4	6.4	6.4	78.4	78.1	78.3	4.9	4.9	4.9	4.8	8.2	8.4	8.3	8.0
			Bottom	16.2	16.2	16.2	8.1	8.1	8.1	29.9	29.9	29.9	6.2	6.2	6.2	76.8	77.1	77.0	5.0	5.0	5.0		8.6	8.2	8.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 26-Jan-12
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	1300	11.6	*Surface*	16.3	16.3	16.3	8.1	8.2	8.2	29.7	29.7	29.7	3.9	3.7	3.8	48.8	46.4	47.6	6.8	6.6	6.7		11.0	11.2	11.1	
			Middle	16.7	16.7	16.7	8.2	8.2	8.2	29.7	29.6	29.7	3.3	3.0	3.2	41.6	38.6	40.1	6.4	6.7	6.6	6.8	11.0	11.4	11.2	11.4
			Bottom	16.8	16.7	16.8	8.1	8.2	8.2	29.8	29.7	29.8	2.8	2.8	2.8	35.3	35.9	35.6	6.9	7.1	7.0		11.4	12.2	11.8	
WM1	1336	13.9	*Surface*	16.1	16.0	16.1	8.1	8.2	8.2	29.8	29.9	29.9	3.5	3.5	3.5	44.1	44.7	44.4	5.1	5.4	5.3		8.4	8.4	8.4	
			Middle	16.4	16.4	16.4	8.1	8.1	8.1	29.8	29.8	29.8	3.1	2.9	3.0	38.9	36.7	37.8	5.6	5.6	5.6	5.5	9.6	9.0	9.3	9.0
			Bottom	16.6	16.5	16.6	8.2	8.1	8.2	29.9	29.9	29.9	2.3	2.6	2.5	28.5	31.0	29.8	5.7	5.6	5.7		9.4	9.0	9.2	
WM2	1409	5.4	*Surface*	16.1	16.1	16.1	8.2	8.2	8.2	29.9	29.9	29.9	3.7	3.8	3.8	46.6	47.7	47.2	5.2	4.9	5.1		7.2	6.8	7.0	
			Middle																			5.0				7.1
			Bottom	16.1	16.2	16.2	8.2	8.2	8.2	29.8	29.9	29.9	3.9	3.8	3.9	49.1	48.3	48.7	5.0	4.9	5.0		7.0	7.2	7.1	
WM3	1437	9.5	*Surface*	16.2	16.3	16.3	8.1	8.1	8.1	29.9	29.9	29.9	4.1	4.1	4.1	51.3	51.7	51.5	4.5	4.3	4.4		8.0	8.6	8.3	
			Middle	16.3	16.3	16.3	8.1	8.1	8.1	29.9	29.9	29.9	3.9	4.2	4.1	49.0	52.6	50.8	4.0	4.2	4.1	4.4	7.0	7.6	7.3	8.0
			Bottom	16.2	16.2	16.2	8.1	8.2	8.2	30.0	29.9	30.0	3.6	3.4	3.5	45.4	43.4	44.4	4.7	4.7	4.7		8.6	8.4	8.5	
WM4	1508	10.4	*Surface*	16.7	16.6	16.7	8.1	8.1	8.1	29.8	29.9	29.9	4.3	4.5	4.4	53.5	55.1	54.3	4.1	4.1	4.1		7.0	7.2	7.1	
			Middle	16.6	16.6	16.6	8.2	8.1	8.2	30.0	29.9	30.0	4.2	4.1	4.2	52.2	51.3	51.8	4.5	4.6	4.6	4.4	7.4	7.8	7.6	7.7
			Bottom	16.7	16.7	16.7	8.1	8.2	8.2	30.0	30.0	30.0	3.2	3.2	3.2	40.1	40.9	40.5	4.8	4.5	4.7		8.6	8.2	8.4	
CS2	1540	14.3	*Surface*	16.5	16.6	16.6	8.1	8.2	8.2	29.9	29.9	29.9	4.9	5.1	5.0	62.2	64.0	63.1	5.3	5.3	5.3		9.0	8.8	8.9	
			Middle	16.5	16.6	16.6	8.2	8.2	8.2	29.9	30.0	30.0	4.5	4.2	4.4	56.7	53.4	55.1	5.4	5.3	5.4	5.5	9.8	9.6	9.7	9.8
			Bottom	16.5	16.5	16.5	8.2	8.2	8.2	29.9	30.0	30.0	3.8	3.8	3.8	48.2	47.5	47.9	5.8	6.0	5.9		10.6	11.0	10.8	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 28-Jan-12
Tide: Mid-Flood
Weather: Cloudy
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	1140	12.4	*Surface*	17.1	17.1	17.1	8.2	8.2	8.2	29.8	29.8	29.8	6.3	6.2	6.3	78.3	76.6	77.5	4.6	4.7	4.7		7.4	7.6	7.5	
			Middle	17.2	17.1	17.2	8.1	8.2	8.2	29.7	29.8	29.8	4.1	4.0	4.1	50.6	49.4	50.0	5.2	5.3	5.3	5.3	8.4	8.6	8.5	8.6
			Bottom	17.2	17.2	17.2	8.2	8.2	8.2	29.9	29.8	29.9	3.7	3.5	3.6	45.9	43.4	44.7	5.9	6.0	6.0		9.6	10.0	9.8	
WM1	1108	14.6	*Surface*	17.1	17.0	17.1	8.2	8.1	8.2	29.8	29.7	29.8	6.2	6.3	6.3	76.8	78.7	77.8	3.2	3.3	3.3		5.0	5.2	5.1	
			Middle	17.1	17.2	17.2	8.2	8.2	8.2	29.8	29.8	29.8	4.0	3.9	4.0	49.3	47.9	48.6	4.2	4.3	4.3	3.6	6.6	7.0	6.8	5.8
			Bottom	17.2	17.3	17.3	8.1	8.2	8.2	29.8	29.9	29.9	3.7	3.6	3.7	45.7	44.9	45.3	3.4	3.3	3.4		5.8	5.4	5.6	
WM2	1036	5.8	*Surface*	17.1	17.1	17.1	8.2	8.1	8.2	29.7	29.8	29.8	6.2	6.4	6.3	76.7	79.6	78.2	3.4	3.6	3.5		5.6	6.0	5.8	
			Middle																			3.4				5.6
			Bottom	17.2	17.3	17.3	8.1	8.1	8.1	29.7	29.8	29.8	4.4	4.2	4.3	55.0	52.1	53.6	3.3	3.4	3.4		5.2	5.6	5.4	
WM3	1004	9.8	*Surface*	17.1	17.1	17.1	8.1	8.1	8.1	29.8	29.7	29.8	6.7	6.6	6.7	83.0	82.3	82.7	3.2	3.0	3.1		5.2	4.8	5.0	
			Middle	17.2	17.3	17.3	8.1	8.2	8.2	29.7	29.7	29.7	4.4	4.2	4.3	55.1	53.1	54.1	3.4	3.3	3.4	3.4	5.6	5.2	5.4	5.6
			Bottom	17.3	17.3	17.3	8.1	8.1	8.1	29.7	29.6	29.7	4.1	4.0	4.1	51.0	50.0	50.5	4.0	3.7	3.9		6.4	6.2	6.3	
WM4	0932	10.4	*Surface*	17.2	17.2	17.2	8.1	8.2	8.2	29.8	29.7	29.8	7.5	7.4	7.5	93.1	92.0	92.6	3.0	3.2	3.1		4.8	5.4	5.1	
			Middle	17.1	17.2	17.2	8.2	8.2	8.2	29.9	29.9	29.9	5.8	5.4	5.6	72.7	67.5	70.1	3.4	3.5	3.5	3.6	5.6	5.6	5.6	5.9
			Bottom	17.2	17.3	17.3	8.2	8.1	8.2	29.8	29.7	29.8	5.3	5.1	5.2	66.1	63.5	64.8	4.0	4.2	4.1		6.8	7.2	7.0	
CS2	0900	15.0	*Surface*	17.2	17.2	17.2	8.3	8.2	8.3	29.7	29.7	29.7	6.9	6.7	6.8	86.2	83.8	85.0	4.0	4.1	4.1		6.8	6.8	6.8	
			Middle	17.3	17.2	17.3	8.2	8.2	8.2	29.7	29.8	29.8	5.7	5.6	5.7	71.5	69.3	70.4	4.7	4.8	4.8	4.7	8.0	8.4	8.2	8.3
			Bottom	17.3	17.3	17.3	8.2	8.3	8.3	29.9	30.0	30.0	6.0	5.9	6.0	74.1	73.2	73.7	5.3	5.5	5.4		9.8	10.2	10.0	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 28-Jan-12
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	1330	12.0	*Surface*	17.2	17.3	17.3	8.1	8.2	8.2	29.9	29.8	29.9	6.1	6.1	6.1	75.0	75.5	75.3	4.8	4.7	4.8		7.6	7.4	7.5	
			Middle	17.2	17.2	17.2	8.2	8.2	8.2	29.8	29.9	29.9	4.0	3.9	4.0	53.1	52.2	52.7	5.3	5.5	5.4	5.4	8.6	8.8	8.7	8.8
			Bottom	17.3	17.3	17.3	8.1	8.2	8.2	29.9	30.0	30.0	3.5	3.4	3.5	46.7	45.2	46.0	6.0	5.8	5.9		10.2	10.4	10.3	
WM1	1359	14.0	*Surface*	17.2	17.2	17.2	8.2	8.2	8.2	29.8	29.9	29.9	6.0	6.1	6.1	74.7	75.6	75.2	3.5	3.8	3.7		5.6	6.2	5.9	
			Middle	17.2	17.3	17.3	8.1	8.2	8.2	29.9	30.0	30.0	3.8	3.7	3.8	46.7	45.7	46.2	4.7	5.0	4.9	4.6	7.8	8.6	8.2	7.9
			Bottom	17.3	17.4	17.4	8.2	8.2	8.2	30.0	30.0	30.0	3.5	3.5	3.5	43.4	44.1	43.8	5.3	5.5	5.4		9.4	9.8	9.6	
WM2	1428	5.6	*Surface*	17.2	17.3	17.3	8.2	8.2	8.2	29.8	29.8	29.8	6.1	6.1	6.1	75.3	76.0	75.7	3.9	3.7	3.8		6.8	6.4	6.6	
			Middle																			3.8				6.7
			Bottom	17.3	17.3	17.3	8.2	8.2	8.2	29.8	29.9	29.9	3.9	4.0	4.0	48.7	49.2	49.0	3.7	4.0	3.9		6.4	7.0	6.7	
WM3	1456	9.6	*Surface*	17.3	17.3	17.3	8.2	8.2	8.2	29.8	29.9	29.9	6.4	6.4	6.4	79.0	79.8	79.4	3.6	3.4	3.5		5.8	5.6	5.7	
			Middle	17.3	17.3	17.3	8.2	8.2	8.2	29.9	29.8	29.9	4.0	4.0	4.0	49.2	49.9	49.6	3.7	3.7	3.7	3.8	6.0	6.2	6.1	6.3
			Bottom	17.4	17.5	17.5	8.2	8.2	8.2	29.7	29.8	29.8	3.8	3.7	3.8	47.1	46.3	46.7	4.2	4.4	4.3		7.0	7.4	7.2	
WM4	1530	10.2	*Surface*	17.3	17.4	17.4	8.2	8.2	8.2	29.9	29.9	29.9	7.0	7.0	7.0	86.2	86.8	86.5	3.3	3.4	3.4		5.4	5.6	5.5	
			Middle	17.3	17.3	17.3	8.2	8.2	8.2	29.9	30.0	30.0	5.2	5.0	5.1	63.9	62.6	63.3	3.8	3.9	3.9	3.9	7.0	6.8	6.9	6.7
			Bottom	17.5	17.5	17.5	8.2	8.2	8.2	29.0	30.0	29.5	4.8	4.7	4.8	59.1	58.6	58.9	4.2	4.6	4.4		7.2	8.0	7.6	
CS2	1608	14.6	*Surface*	17.4	17.4	17.4	8.2	8.2	8.2	29.8	29.9	29.9	6.8	6.8	6.8	83.6	84.0	83.8	3.9	3.8	3.9		6.4	6.2	6.3	
			Middle	17.4	17.5	17.5	8.2	8.1	8.2	29.9	30.0	30.0	5.5	5.4	5.5	67.6	67.2	67.4	4.3	4.4	4.4	4.4	7.0	7.4	7.2	7.3
			Bottom	17.5	17.5	17.5	8.2	8.2	8.2	30.1	30.2	30.2	5.2	5.2	5.2	64.0	64.5	64.3	5.0	4.7	4.9		8.2	8.6	8.4	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 30-Jan-12
Tide: Mid-Flood
Weather: Cloudy
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	1225	13.5	*Surface*	17.0	17.0	17.0	8.2	8.3	8.3	29.9	29.9	29.9	6.4	6.4	6.4	80.9	79.4	80.2	6.1	6.3	6.2		10.0	10.4	10.2	
			Middle	17.5	17.6	17.6	8.2	8.3	8.3	29.7	29.8	29.8	5.9	6.0	6.0	75.4	76.0	75.7	6.8	6.5	6.7	6.6	11.4	10.6	11.0	10.9
			Bottom	17.4	17.5	17.5	8.3	8.3	8.3	29.9	29.9	29.9	5.4	5.1	5.3	68.8	65.1	67.0	6.8	6.8	6.8		11.4	11.6	11.5	
WM1	1143	14.4	*Surface*	17.3	17.2	17.3	8.2	8.2	8.2	29.8	29.8	29.8	6.3	6.1	6.2	78.5	76.5	77.5	4.3	4.4	4.4		6.8	7.4	7.1	
			Middle	17.6	17.7	17.7	8.3	8.3	8.3	29.8	29.8	29.8	4.7	4.9	4.8	60.2	62.6	61.4	4.8	4.8	4.8	4.7	8.0	8.2	8.1	7.9
			Bottom	17.6	17.7	17.7	8.2	8.2	8.2	29.8	29.8	29.8	4.5	4.5	4.5	56.1	55.2	55.7	4.8	5.1	5.0		8.2	8.8	8.5	
WM2	1115	5.9	*Surface*	17.2	17.1	17.2	8.2	8.3	8.3	29.8	29.8	29.8	6.1	6.4	6.3	76.0	79.3	77.7	4.0	4.0	4.0		6.6	6.8	6.7	
			Middle																			4.2				7.0
			Bottom	17.8	17.9	17.9	8.2	8.2	8.2	29.7	29.7	29.7	6.2	6.3	6.3	76.9	78.3	77.6	4.5	4.3	4.4		7.6	7.0	7.3	
WM3	1043	10.2	*Surface*	17.4	17.4	17.4	8.3	8.3	8.3	29.7	29.7	29.7	6.2	6.3	6.3	77.3	78.7	78.0	4.2	4.5	4.4		6.8	7.4	7.1	
			Middle	17.4	17.4	17.4	8.2	8.3	8.3	29.8	29.7	29.8	6.0	5.8	5.9	75.4	73.9	74.7	4.6	4.5	4.6	4.6	7.8	7.6	7.7	7.7
			Bottom	17.5	17.4	17.5	8.3	8.2	8.3	29.8	29.9	29.9	5.6	5.7	5.7	71.4	72.1	71.8	4.8	5.0	4.9		8.2	8.6	8.4	
WM4	1012	11.0	*Surface*	17.3	17.2	17.3	8.3	8.3	8.3	29.7	29.8	29.8	7.6	7.4	7.5	94.6	92.6	93.6	4.9	4.7	4.8		8.2	8.0	8.1	
			Middle	17.7	17.7	17.7	8.3	8.3	8.3	29.7	29.8	29.8	7.0	7.0	7.0	89.0	88.1	88.6	4.6	4.7	4.7	4.9	7.8	8.2	8.0	8.5
			Bottom	17.8	17.7	17.8	8.2	8.3	8.3	29.7	29.7	29.7	5.8	5.5	5.7	73.1	70.8	72.0	5.2	5.2	5.2		9.6	9.4	9.5	
CS2	0945	15.2	*Surface*	17.1	17.2	17.2	8.2	8.2	8.2	29.9	29.9	29.9	6.8	6.6	6.7	86.3	84.7	85.5	5.1	5.1	5.1		8.2	8.4	8.3	
			Middle	17.6	17.6	17.6	8.2	8.3	8.3	29.9	29.8	29.9	6.4	6.5	6.5	81.2	82.0	81.6	5.4	5.6	5.5	5.5	8.8	9.2	9.0	9.0
			Bottom	17.6	17.6	17.6	8.2	8.2	8.2	29.8	29.8	29.8	6.1	6.0	6.1	76.6	75.1	75.9	5.9	5.6	5.8		10.0	9.4	9.7	

Remark or Obsevation:

Note: * Average
** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 30-Jan-12
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	1415	12.8	*Surface*	17.6	17.6	17.6	8.3	8.3	8.3	29.9	29.8	29.9	6.2	6.2	6.2	78.1	78.7	78.4	5.8	5.6	5.7		9.4	9.2	9.3	
			Middle	17.4	17.5	17.5	8.2	8.3	8.3	29.8	29.8	29.8	5.8	5.8	5.8	73.1	73.9	73.5	6.0	6.2	6.1	6.4	9.8	10.4	10.1	10.5
			Bottom	17.6	17.6	17.6	8.2	8.2	8.2	29.9	29.9	29.9	5.0	5.0	5.0	63.3	63.1	63.2	7.4	7.2	7.3		12.2	12.0	12.1	
WM1	1450	13.8	*Surface*	17.8	17.8	17.8	8.2	8.3	8.3	29.7	29.8	29.8	6.0	6.0	6.0	75.6	75.4	75.5	4.0	4.8	4.4		6.4	7.8	7.1	
			Middle	17.5	17.6	17.6	8.2	8.2	8.2	29.8	29.9	29.9	4.9	4.9	4.9	61.7	61.1	61.4	5.0	5.8	5.4	4.8	8.2	9.6	8.9	7.8
			Bottom	17.7	17.8	17.8	8.3	8.2	8.3	29.7	29.7	29.7	4.0	4.0	4.0	50.4	50.2	50.3	4.3	4.7	4.5		7.2	7.8	7.5	
WM2	1520	5.4	*Surface*	17.4	17.4	17.4	8.3	8.3	8.3	29.9	29.8	29.9	6.0	6.0	6.0	75.2	75.6	75.4	3.8	3.5	3.7		6.4	5.8	6.1	
			Middle																			4.3				7.2
			Bottom	17.7	17.8	17.8	8.2	8.3	8.3	29.8	29.8	29.8	6.2	6.1	6.2	78.1	78.5	78.3	4.8	5.0	4.9		8.0	8.6	8.3	
WM3	1559	9.8	*Surface*	17.6	17.6	17.6	8.2	8.2	8.2	29.6	29.7	29.7	6.1	6.2	6.2	76.9	78.1	77.5	3.5	3.7	3.6		5.6	6.0	5.8	
			Middle	17.3	17.4	17.4	8.3	8.3	8.3	29.9	29.8	29.9	6.1	6.1	6.1	77.8	77.2	77.5	3.9	4.0	4.0	4.0	6.8	6.8	6.8	6.8
			Bottom	17.3	17.3	17.3	8.2	8.2	8.2	29.8	29.8	29.8	5.9	5.9	5.9	74.1	74.9	74.5	4.3	4.7	4.5		7.2	8.2	7.7	
WM4	1628	10.6	*Surface*	17.5	17.6	17.6	8.3	8.3	8.3	29.7	29.7	29.7	6.5	6.4	6.5	81.9	80.6	81.3	4.1	4.3	4.2		6.6	7.2	6.9	
			Middle	17.8	17.7	17.8	8.3	8.3	8.3	29.8	29.8	29.8	6.3	6.3	6.3	79.4	79.6	79.5	4.8	4.4	4.6	4.7	8.0	7.4	7.7	7.8
			Bottom	17.9	17.8	17.9	8.2	8.2	8.2	29.6	29.7	29.7	6.2	6.3	6.3	75.6	76.2	75.9	5.4	5.0	5.2		9.0	8.4	8.7	
CS2	1658	15.0	*Surface*	17.4	17.4	17.4	8.3	8.3	8.3	29.8	29.8	29.8	6.7	6.6	6.7	84.5	84.1	84.3	5.4	5.6	5.5		8.8	9.2	9.0	
			Middle	17.5	17.6	17.6	8.2	8.2	8.2	29.9	29.9	29.9	6.2	6.2	6.2	78.1	78.9	78.5	5.9	5.8	5.9	5.9	10.0	9.8	9.9	9.8
			Bottom	17.6	17.6	17.6	8.3	8.2	8.3	29.9	29.9	29.9	6.0	6.0	6.0	75.2	75.6	75.4	6.2	6.4	6.3		10.4	10.8	10.6	

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	
2 Jan 2012	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), except surface & middle levels at WM3 & WM4, bottom level at WM4 for mid-flood tide and surface & middle levels at WM4 for mid-ebb tide. 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.
4 Jan 2012	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), except surface level at WM1 for both mid-flood and mid-ebb tide. 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.
6 Jan 2012	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at bottom level at WM1 for mid-flood tide, middle level at WM3 & WM4 for mid-ebb tide and bottom level at all monitoring stations (WM1, WM2, WM3, WM4) for mid-ebb tide. The exceedances have been investigated and were considered not related to the project works. For mid-flood tide, DO exceedance recorded only at WM1 while it was situated far away from the work sites. For mid-ebb flood, the DO levels were low among all monitoring stations. Also, 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	
9 Jan 2012	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at middle level at WM1, WM3 & WM4, bottom level at all monitoring stations (WM1, WM2, WM3, WM4) for mid-flood tide and bottom level at WM3 & WM4 for mid-ebb tide. The exceedances have been investigated and were considered not related to the project works. For mid-flood tide, the DO levels were low among all monitoring stations. For mid-ebb tide, DO exceedances recorded only at WM3 & WM4 while they were situated far away from the work sites. Also, 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.
11 Jan 2012	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at middle & bottom levels at WM1, bottom level at WM3 for mid-flood tide, middle & bottom levels at WM3 & WM4 for mid-ebb tide. The exceedances have been investigated and were considered not related to the project works. DO exceedances recorded only at WM1, WM3 & WM4 while they were situated far away from the work sites. Also, 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 Jan 2012	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), except surface level at WM4 for mid-flood tide. 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.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
16 Jan 2012	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.
18 Jan 2012	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), except surface level at WM1 for mid-flood tide and surface & middle levels at WM1 for mid-ebb tide. 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.
20 Jan 2012	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), except surface level at WM1 & WM2 for both mid-flood and mid-ebb tides. 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.

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
26 Jan 2012	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.
28 Jan 2012	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at middle & bottom levels at all monitoring stations (WM1, WM2, WM3, WM4) for both mid-flood and mid-ebb tides. 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.
30 Jan 2012	Mid-Ebb & Mid-Flood	AL, LL	-	-	Exceedances of Action/ Limit Levels were recorded at middle level at WM1 & WM3 , bottom level at WM1, WM3 & WM4 for mid-flood tide and middle level at WM1, bottom level at WM1, WM3 & WM4 for mid-ebb tide. The exceedances have been investigated and were considered not related to the project works. DO exceedances recorded only at WM1, WM3 & WM4 while they were situated far away from the work sites. Also, 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