

MTR Corporation Limited

South Island Line (East)

Monthly EM&A Report No. 3

October 2011

Verified by:

A handwritten signature in cursive script, appearing to read "Thomas Chan", written over a horizontal line.

Thomas Chan

Independent Environmental Checker

Date:

A handwritten date "14 October 2011" written in cursive script, positioned above a horizontal line.

MTR Corporation Limited

South Island Line (East)

Monthly EM&A Report No. 3

October 2011

Certified by:



Richard Kwan

Environmental Team Leader

Date:



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 third Monthly EM&A Report for SIL(E) Project. The Report presents the results of EM&A works undertaken during the period of 1 September 2011 to 30 September 2011. The major construction activities in the reporting period included site preparation, piling and slope stabilization works.

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

No environmental complaint, 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 third 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 30 September 2011.

2 PROJECT INFORMATION

2.1 Project Organization and Management Structure

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

2.2 Construction Activities in the Reporting Month

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

Contract No. 901

Site	Construction Activities
Harcourt Garden	<ul style="list-style-type: none">- Site clearance and preparation, hoarding erection- Pre-drilling- EVA construction- FSD water tanks installation- Demolition of LCSD office and CITIC footbridge staircase- Installation of socket H-piles- Installation of bulkhead at Entrance E

Contract No. 902

Site	Construction Activities
Hong Kong Park Ventilation Shaft	<ul style="list-style-type: none">- Demolition of LCSD structure- Fencing and hoarding erection- Trial pit excavation- Pipe piling/ sheet piling at the upper platform

Site	Construction Activities
Nam Fung Portal	<ul style="list-style-type: none"> - Site clearance and preparation, hoarding erection - Temporary haul road construction - Pipe piling for ventilation building (shaft portion) - Bored piling
Chung Hom Shan Magazine	<ul style="list-style-type: none"> - Construction of magazine structures - Mass concrete walls and concrete slab construction - Construction of miscellaneous items for E&M installation

Contract No. 903

Site	Construction Activities
New OCP Site Office	<ul style="list-style-type: none"> - Construction of new site office and fitting out
WCH Station	<ul style="list-style-type: none"> - Pre-drilling / Ground Investigation - Excavation to formation level - Bored piling/ installation of socket-H-piles - Pipe piling - Construction of new nullah wall
Zone B (Ex-Canadian Site to OCP Station)	<ul style="list-style-type: none"> - Site clearance and preparation - Pre-drilling/ Ground investigation/ Utility diversion - Bored piling - Pile cap construction
Zone C (OCP Station to WCH Station)	<ul style="list-style-type: none"> - Site preparation, hoarding erection - Pre-drilling/ Ground investigation/Utility diversion - Bored piling/ installation of socket-H-piles
Zone D (WCH Station to WCH nullah)	<ul style="list-style-type: none"> - Site preparation, hoarding erection - Pre-drilling/ Ground Investigation/ Utility diversion - Soil nailing - Excavation and slope stabilisation - Demolition of Cooked Food Market newspaper kiosk
Zone E (Aberdeen Channel)	<ul style="list-style-type: none"> - Pre-drilling/ Ground Investigation - Set up of temporary working platform for pier

Contract No. 904

Site	Construction Activities
Ex-Harbour Mission School	<ul style="list-style-type: none"> - Site clearance and preparation - Pipe piling
Lee Wing Street	<ul style="list-style-type: none"> - Slope excavation
LET Station Entrance A	<ul style="list-style-type: none"> - Site clearance and preparation - Pipe piling
LET Station Entrance B	<ul style="list-style-type: none"> - Site clearance and preparation - Tree transplantation - Site access establishment
South Horizons	<ul style="list-style-type: none"> - Site clearance and preparation - Excavation for utility installation/ diversion
Ap Lei Chau Bridge Playground	<ul style="list-style-type: none"> - Erection of site office - Excavation for utility installation

Contract No. 907

Site	Construction Activities
WCH Depot	<ul style="list-style-type: none"> - Site preparation and utility diversion - Bored piling

Site	Construction Activities
	<ul style="list-style-type: none"> - Pipe piling - Preparatory works for blasting - Construction of the bus terminus (EPIW)
Lee Nam Road Barging Facility	<ul style="list-style-type: none"> - Miscellaneous installation of barging facility

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	<ul style="list-style-type: none"> - Socket H-pile works - Demolition work and installation of bulkhead at Entrance E - Sheet piling - Pipe Piling in SEE shaft - Covered walkway installation - FSD water tanks installation - Demolition of CITIC footbridge staircase

Contract No. 902

Site	Construction Activities
Hong Kong Park Ventilation Shaft	<ul style="list-style-type: none"> - Pipe piling / sheet piling at the upper platform - Demolition of LCSD structure - Trial pit excavation / Utilities diversion
Nam Fung Portal	<ul style="list-style-type: none"> - Hoarding erection - Bored piling - Pipe piling for ventilation building (shaft portion) & transition box
Chung Hom Shan Magazine	<ul style="list-style-type: none"> - Construction of magazine structures - Miscellaneous items for testing and commissioning of magazine

Contract No. 903

Site	Construction Activities
New OCP Site Office	<ul style="list-style-type: none"> - Site office construction and fitting out - Demolition of temporary site office - Bored piling
WCH Station	<ul style="list-style-type: none"> - Construction of footings / Bored piling - Installation of socket-H-pile - Pipe piling - Demolition of existing nullah wall & new south nullah wall excavation
Zone B (Ex-Canadian Site to OCP Station)	<ul style="list-style-type: none"> - Tree transplantation - Bored piling - Pile cap construction
Zone C (OCP Station to WCH Station)	<ul style="list-style-type: none"> - Hoarding erection - Pre-drilling/ Ground investigation/ Utility diversion - Pipe piling - Bored piling - Pre-bored socket-H-piles

Site	Construction Activities
	- Construction of platform crossing nullah
Zone D (WCH Station to WCH nullah)	- Hoarding erection - Pre-drilling/ Ground investigation - Slope stabilisation - Demolition of Cooked Food Market kiosk
Zone E (Aberdeen Channel)	- Pre-drilling / Ground investigation from temporary working platform - Bored piling - Construction of pile cap

Contract No. 904

Site	Construction Activities
Ex-Harbour Mission School	- Pipe piling - Site formation
Lee Wing Street	- Slope excavation and stabilization
LET Station Entrance A	- Fencing and hoarding erection - Site formation
LET Station Entrance B	- Site clearance and preparation - Tree transplantation - Utility installation
South Horizons	- Site clearance and preparation - Tree transplantation - Installation of king post/soldier piles
Ap Lei Chau Bridge Playground	- Erection of site office

Contract No. 907

Site	Construction Activities
WCH Depot	- Bored piling - Pipe piling - Preparatory works for blasting - Construction of the bus terminus (EPIW)
Lee Nam Road Barging Facility	- Barging facility in operation

2.4 Project Areas and Environmental Monitoring Locations

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

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

Table 1 Summary of impact dust and noise monitoring stations

ID	Monitoring Station
Dust	
CD1	Wong Chuk Hang San Wai
CD2	Police College – Police Quarters

ID	Monitoring Station
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 States 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. Calibration certificates are attached 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 ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)	Compliance (Yes/No)	Weather Condition
CD1 Wong Chuk Hang San Wai					
6-Sep	54.9	173	260	Yes	Fine
14-Sep	37.3	173	260	Yes	Fine
20-Sep	64.8	173	260	Yes	Cloudy
27-Sep	77.6	173	260	Yes	Cloudy
CD2 Police College – Police Quarters					
6-Sep	58.1	184	260	Yes	Fine
14-Sep	38.7	184	260	Yes	Fine
20-Sep	75.5	184	260	Yes	Cloudy

27-Sep	78.2	184	260	Yes	Cloudy
CD3 San Wui Commercial Society of HK Chan Pak Sha School					
6-Sep	54.2	169	260	Yes	Fine
14-Sep	39.9	169	260	Yes	Fine
20-Sep	65.9	169	260	Yes	Cloudy
27-Sep	80.6	169	260	Yes	Cloudy
CD4 Shan On House					
1-Sep	108.2	176	260	Yes	Fine
5-Sep	44.7	176	260	Yes	Fine
14-Sep	35.2	176	260	Yes	Fine
19-Sep	49.5	176	260	Yes	Fine
26-Sep	60	176	260	Yes	Fine
CD5 South Horizons Phase IV – Block 25					
1-Sep	126.2	169	260	Yes	Fine
5-Sep	58.4	169	260	Yes	Fine
14-Sep	77.2	169	260	Yes	Fine
19-Sep	72.1	169	260	Yes	Fine
26-Sep	79.6	169	260	Yes	Fine

3.2 Noise

Monitoring Methodology

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

Calibration Requirements

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

Immediately prior to and following each set of measurements at any NSR, the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. If the calibration levels before and after the measurement differs by more than 1.0dB, the measurement shall be repeated to obtain a reliable result (note: maximum deviation during this initial baseline monitoring period was 0.3dB). Periods of prolonged or repeated overloading of the sound level meter detector were avoided by setting the meter with adequate headroom prior to commencing measurements. Measurements were recorded to the nearest 0.1 dB, with values of 0.05 being rounded up.

Monitoring Results

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

Monitoring results are presented in the following table (see **Appendix D** for graphical plots). No exceedance was found.

Date	Time	LAeq (dBA)	Limit Level (dBA)	Compliance (Yes/No)	Weather Condition
CN1 San Wui Commercial Society of HK Chan Pak Sha School					
1-Sep	11:25	67.8	70	Yes	Cloudy
8-Sep	9:55	68.9	70	Yes	Fine
15-Sep	10:55	69.2	70	Yes	Fine
23-Sep	10:10	69.8	70	Yes	Cloudy
30-Sep	9:55	68.8	70	Yes	Cloudy
CN2 Holy Spirit Seminary					
1-Sep	16:15	66.9	70	Yes	Cloudy
7-Sep	11:10	67.4	70	Yes	Fine
15-Sep	16:20	68.1	70	Yes	Fine
21-Sep	16:05	66.2	70	Yes	Cloudy
28-Sep	10:30	68.6	70	Yes	Cloudy
CN3 Shun Fung Building					
5-Sep	16:35	69.8	75	Yes	Fine
12-Sep	11:20	67.3	75	Yes	Fine
19-Sep	15:00	65.0	75	Yes	Fine
26-Sep	11:25	69.5	75	Yes	Fine
CN4 South Horizons Phase IV – Block 25 Dover Court					
5-Sep	15:15	67.8	75	Yes	Fine
12-Sep	10:25	74.7	75	Yes	Fine
19-Sep	16:45	67.8	75	Yes	Fine
26-Sep	10:30	67.3	75	Yes	Fine
CN5 TWGHs Jockey Club Rehabilitation Complex Block A					
1-Sep	10:45	73.9	75	Yes	Cloudy
7-Sep	10:25	73.9	75	Yes	Fine
15-Sep	10:05	71.4	75	Yes	Fine
22-Sep	15:15	70.7	75	Yes	Cloudy
28-Sep	9:45	72.1	75	Yes	Cloudy

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 (°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 than 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, 5th, 7th, 9th, 12th, 14th, 16th, 19th, 21st, 23rd, 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 was reminded to properly maintain the tree protection zone.

Transplanted Tree

Total of 323 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 15 September 2011 at 5:45 pm.. A total of 158 ardeids, all of which were Little Egrets, arrived at the roost location at Wong Chuk Hang Nullah and no ardeid breeding behaviour was recorded during the monitoring survey.

Proper tree protection measures have been implemented as practical as possible by the contractor to the current and potential roost trees retained on site. However, potential risks of

some of these slope trees are noted and recommendation has been made to remove the these slope trees due to the safety concerns.

Plant Species of Conservation Interest

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

As in the Detailed Transplanting 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* and the root-pruned *Aq. sinensis* has been conducted. The transplanted herb has sustained its colony well in the receptor site. A protection fence has been maintained around the receptor site. The two root-pruned, *Aq. sinensis*, have remained in fair health condition and have been supported by guying to ensure their stability on the slope.

6 WASTE MANAGEMENT

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

Contract No	Inert C&D Materials Disposed at Public Fill (m ³)	Inert C&D Materials Reused (m ³)	Non-inert Waste Disposed at Landfill (m ³)	Chemical Waste to Designated Treatment Facility (litre)
Reporting Period: September 2011				
Contract 901	N/A	1,458	30	N/A
Contract 902	2,316	N/A	72	N/A
Contract 903	27	2,931	197	N/A
Contract 904	2,143	105	50	N/A
Contract 907	27,917	989	64	400

7 RECORD OF ENVIRONMENTAL COMPLAINTS

No public environmental complaint was received 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 30 September 2011 is shown below:

EP Clause No.	Description of Submission	Status
1.11	Commencement date of construction	Submitted on 25 May 2011
1.14	Commencement date of operation	To be submitted no later than 2 months prior to commencement of operation of the Project
2.1 & 2.2	Employment of IEC & ET	Submitted on 6 Apr 2011
2.3	Employment of Qualified Ecologist	Submitted on 6 Apr 2011
2.4	Employment of Certified Arborist	Submitted on 6 Apr 2011
2.5	Management organization of main construction companies	Submitted on 9 Jun 2011
2.6	Construction programme & EP submission schedule	Submitted on 10 Jun 2011
2.7	Set up of Community Liaison Group	Submitted on 20 Apr 2011
2.8	Updated EM&A Manual	Submitted on 16 May 2011
2.9	Construction noise mitigation measures plan	Contract 903: Resubmitted on 28 Jul 2011 Contract 907: Resubmitted on 5 Aug 2011 Contract 904 (South Horizons): Revised plan sent for agreement on 6 Oct 2011 Contract 904 (Lei Tung): Submitted on 17 Aug 2011
2.11	Construction & demolition materials management plan for barging points	Comments received from EPD on 2 Sep 2011 and resubmitted on 30 Sep 2011

EP Clause No.	Description of Submission	Status
2.13 (a)	Ecological planting & landscape plan	Further comments received on 27 Sep 2011 and to be resubmitted within 1 month of receipt of comments
2.13 (b)	As built drawings of ecological planting & landscape works	To be submitted no later than 1 month after completion of planting works (at Wong Chuk Hang nullah)
2.13 (c)	Final monitoring report of ecological planting & landscape works	To be submitted no later than 1 month after completion of the 3-year post planting care and maintenance period
2.14 (a)	Detailed transplanting baseline survey report for plant species of conservation interest	Resubmitted on 8 Sep 2011
2.14 (b)	Transplantation proposal for plant species of conservation interest	H. cordata: Resubmitted on 8 Sep 2011 EP Condition fulfilled dated 15 Sep 2011 A. sinensis: Further comments received on 16 Sep 2011 and to be resubmitted within 1 month of receipt of comments A. fordii: Resubmitted on 23 Sep 2011
2.14 (c)	As built drawings of transplanting works for plant species of conservation interest	H. cordata: EP Condition fulfilled dated 15 Sep 2011 A. sinensis & A. fordii: To be submitted no later than 1 month after completion of transplanting works
2.15	Tree protection plan	EP Condition fulfilled dated 12 Aug 2011
2.16(a)	Silt curtain plan	EP Condition fulfilled dated 12 Aug 2011
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

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

10.2 Statutory Permits and Licenses

A summary of the status of all relevant environmental permit and licenses as of 30 September 2011 is shown below:

Description	Effective Date	Expiry Date
Environmental Permit for South Island Line (East) EP-407/2010	8/12/2010	N/A
Contract 901		
Chemical Waste Producer Licence 5213-124-K3004-01	23/5/2011	N/A
Waste Disposal 7012859	1/6/2011	N/A
Water Discharge Licence WT00009466-2011	4/7/2011	30/7/2016
Construction Noise Permit (CNP) for Harcourt Road GW-RS0739-11	11/8/2011	31/1/2012
Contract 902		
Chemical Waste Producer Licence 5213-175-N2206-12	24/6/2011	N/A
Waste Disposal 7012912	26/5/2011	N/A
Water Discharge Licence for HK Park WT00009688-2011	22/7/2011	30/7/2016
Water Discharge Licence for Nam Fung Path WT00009749-2011	22/7/2011	30/7/2016
CNP for Nam Fung Path GW-RS0755-11	19/08/2011	19/1/2012
Contract 903		
Chemical Waste Producer Licence 5213-175-L2174-31	14/6/2011	N/A
Chemical Waste Producer Licence 5213-175-L2174-32	30/6/2011	N/A
Chemical Waste Producer Licence 5213-175-L2174-33	30/6/2011	N/A

Description		Effective Date	Expiry Date
Chemical Waste Producer Licence	5213-175-L2174-34	30/6/2011	N/A
Chemical Waste Producer Licence	5213-175-L2174-35	30/6/2011	N/A
Waste Disposal	7012721	12/5/2011	N/A
Water Discharge Licence for Ap Lei Chau (ALC) Bridge	WT00009838-2011	5/8/2011	31/8/2016
Water Discharge Licence for WCH Station	WT00009928-2011	16/8/2011	31/8/2016
Water Discharge Licence for Zone B	WT00009931-2011	16/8/2011	31/8/2016
Water Discharge Licence for OCP station	331178	Application submitted on 14/6/2011	Pending
Water Discharge Licence for Zone D	331175	Application submitted on 14/6/2011	Pending
Water Discharge Licence for Zone C	331707	Application submitted on 23/6/2011	Pending
CNP for WCH station	GW-RS0674-11	29/7/2011	28/1/2012
CNP for OCP station	GW-RS0750-11	12/8/2011	11/2/2012
CNP for Zone E	GW-RS0747-11	16/8/2011	15/2/2012
CNP for Zone C	GW-RS0786-11	23/8/2011	16/10/2011
CNP for WCH station	GW-RS0799-11	30/8/2011	14/10/2011
CNP for TTM	GW-RS0829-11	8/9/2011	30/9/2011
CNP for ALC Bridge	GW-RS0842-11	19/9/2011	4/3/2012
CNP for TTM	GW-RS0871-11	23/9/2011	21/10/2011
CNP for Zone C	GW-RS0892-11	28/9/2011	14/10/2011
CNP for extension of TTM	335620	Application submitted on 28/9/2011	Pending
CNP for Zone B	335622	Application submitted on 28/9/2011	Pending
Contract 904			
Chemical Waste Producer License for ALC Bridge Rd near Sham Wan Towers	5111-174-L2758-04	4/8/2011	N/A
Chemical Waste Producer License for ALC Bridge Rd near Harbour Mission School	5111-174-L2758-03	4/8/2011	N/A
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

Description		Effective Date	Expiry Date
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
Contract 907			
Chemical Waste Producer Licence	5113-175-C3675-01	24/6/2011	N/A
Waste Disposal	7012950	31/5/2011	N/A
Waste Disposal for barges	7013400	26/8/2011	N/A
Water Discharge Licence for barging point	WT00009896-2011	11/8/2011	31/8/2016
Water Discharge Licence for WCH Depot	WT00010365-2011	21/9/2011	30/9/2016
Water Discharge Licence for bus terminus	WT00010366-2011	21/9/2011	30/9/2016

11 SITE INSPECTIONS

11.1 Implementation of Environmental Mitigation Measures

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

11.2 Observations

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

Item	Description	Follow up Status
Contract 901		
1	The contractor was reminded to provide drip trays for chemicals.	Ongoing
2	The contractor was reminded to segregate C&D waste and general refuse properly.	Ongoing
3	The contractor was reminded to remove general refuse in a timely manner.	Ongoing
4	The contractor was reminded to complete the set up of wastewater treatment facilities and ensure that wastewater is properly treated prior to discharge.	Ongoing

Item	Description	Follow up Status
5	The contractor was reminded to regularly clear the septic tanks to avoid overflowing of sewage.	Ongoing
6	The contractor was reminded to keep tree protection zone free of stockpiles or materials stacking.	Ongoing
7	The contractor was reminded to improve dust suppression measures.	Ongoing
8	The contractor was reminded to provide proper dust screening before the demolition works of CITIC footbridge staircase.	Improved and standard to be maintained
Contract 902		
1	The contractor was reminded to provide drip trays for chemicals.	Improved and standard to be maintained
2	The contractor was reminded to properly maintain the site drainage system and provide adequate silt removal facilities.	On-going
3	The contractor was reminded to properly maintain the tree protection zone.	On-going
4	The contractor was reminded to spray water to the haul road and during handling of dusty materials for dust suppression.	On-going
5	The contractor is reminded to provide adequate temporary noise mitigation measures.	On-going
Contract 903		
1	The contractor was reminded to provide drip tray for chemicals.	Ongoing
2	The contractor was reminded to provide appropriate labels for the chemical waste in the chemical waste store.	Ongoing
3	The contractor was reminded to improve housekeeping of the site.	Improved and standard to be maintained
4	Muddy water was noted at the upstream of the WCH nullah. The Contractor conducted joint site inspections with MTRCL and there is no evidence suggesting that the muddy water was from MTRCL's works sites. An investigation report has been sent to EPD. The Contractor was reminded to pay attention to the site drainage for the works areas along the WCH nullah.	Noted Ongoing
5	Further to the site visit by EPD, improvement actions have been taken by the contractor on the site drainage at Zone D in term of blocking those drains connecting to the nullah, placing sandbags at the edge of the nullah.	Improved and standard to be maintained
6	The contractor was reminded to improve the tree protection works.	Ongoing
7	Water spraying system has been installed by the contractor at the WCH station area for dust suppression.	Improved and standard to be maintained
8	The contractor was reminded to cover the dump trucks for spoil transportation.	Ongoing
Contract 904		
1	The contractor was reminded to provide drip trays for chemicals and remove stagnant water inside.	Improved and standard to be maintained
2	The contractor was reminded to maintain good housekeeping.	Improved and standard to be maintained
3	The contractor was reminded to properly maintain the site drainage system and provide adequate silt removal facilities.	Ongoing

Item	Description	Follow up Status
4	The contractor was reminded to improve dust suppression measures.	Ongoing
5	The contractor was reminded to provide adequate temporary noise barrier.	Ongoing
Contract 907		
1	The contractor was reminded to provide drip tray for chemicals.	Ongoing
2	The contractor was reminded to provide drip tray / tarpaulin sheet during equipment maintenance works to prevent oil leakage.	Ongoing
3	The contractor was reminded to provide appropriate labels for the chemical waste in the chemical waste store.	Improved and standard to be maintained
4	The contractor was reminded to maintain good housekeeping.	Ongoing
5	The contractor was reminded to spray water to the haul/ access roads for dust suppression.	Improved and standard to be maintained
6	Movable noise barriers have been provided for the designated PMEs. In addition, the contractor was reminded to provide adequate acoustic fabric for the piling machine.	Ongoing

11.3 Solid and Liquid Waste Management Status

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

11.4 Other Notable Events

IEC Site Inspections

The IEC conducted site inspections for respective works areas on 5, 7, 14, 15 and 20 September 2011. Minor irregularities including provision of movable noise barriers as necessary, paying attention to the tree protection zone 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)

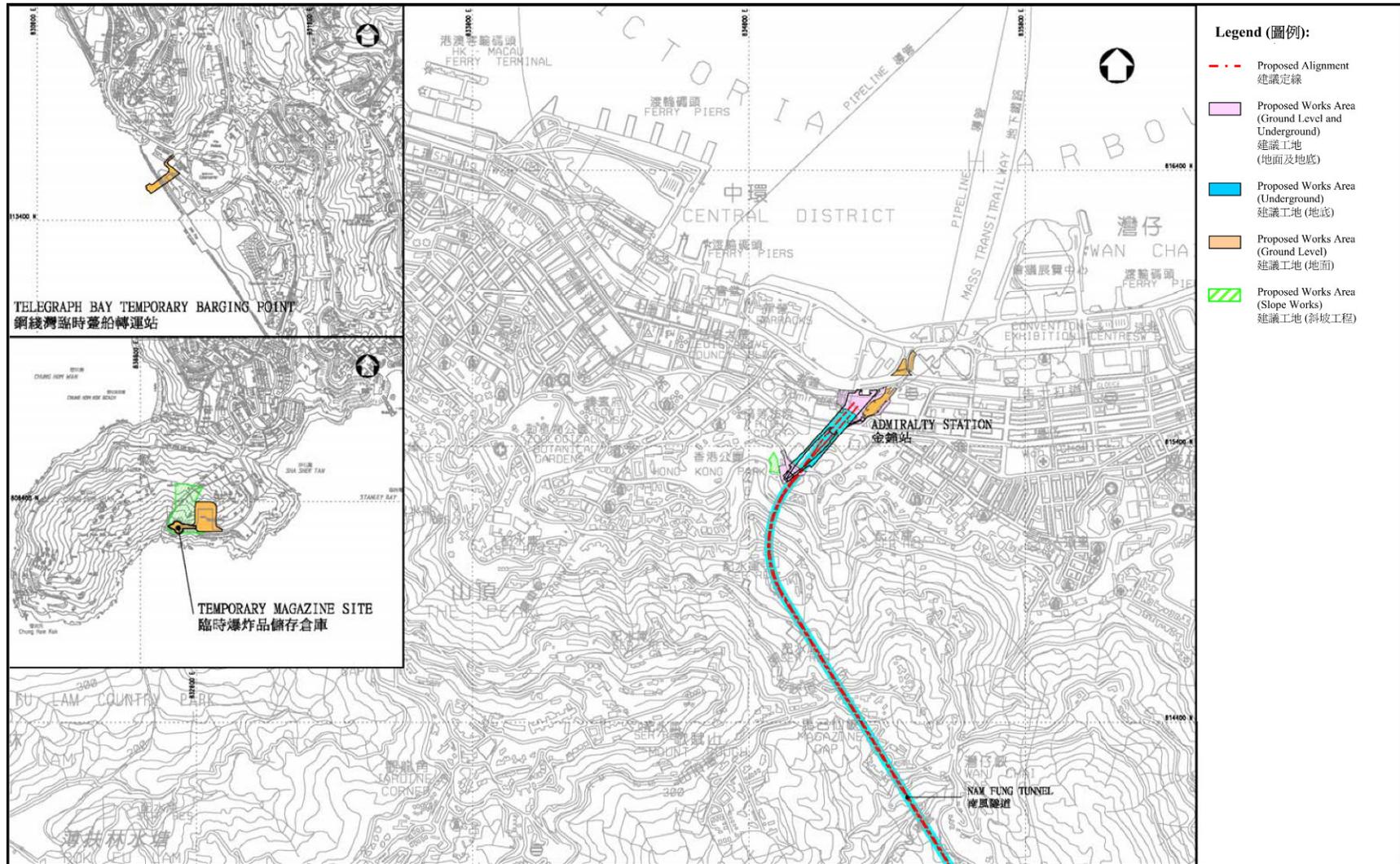


Figure 2 – Works Areas of the Project (2 of 2)

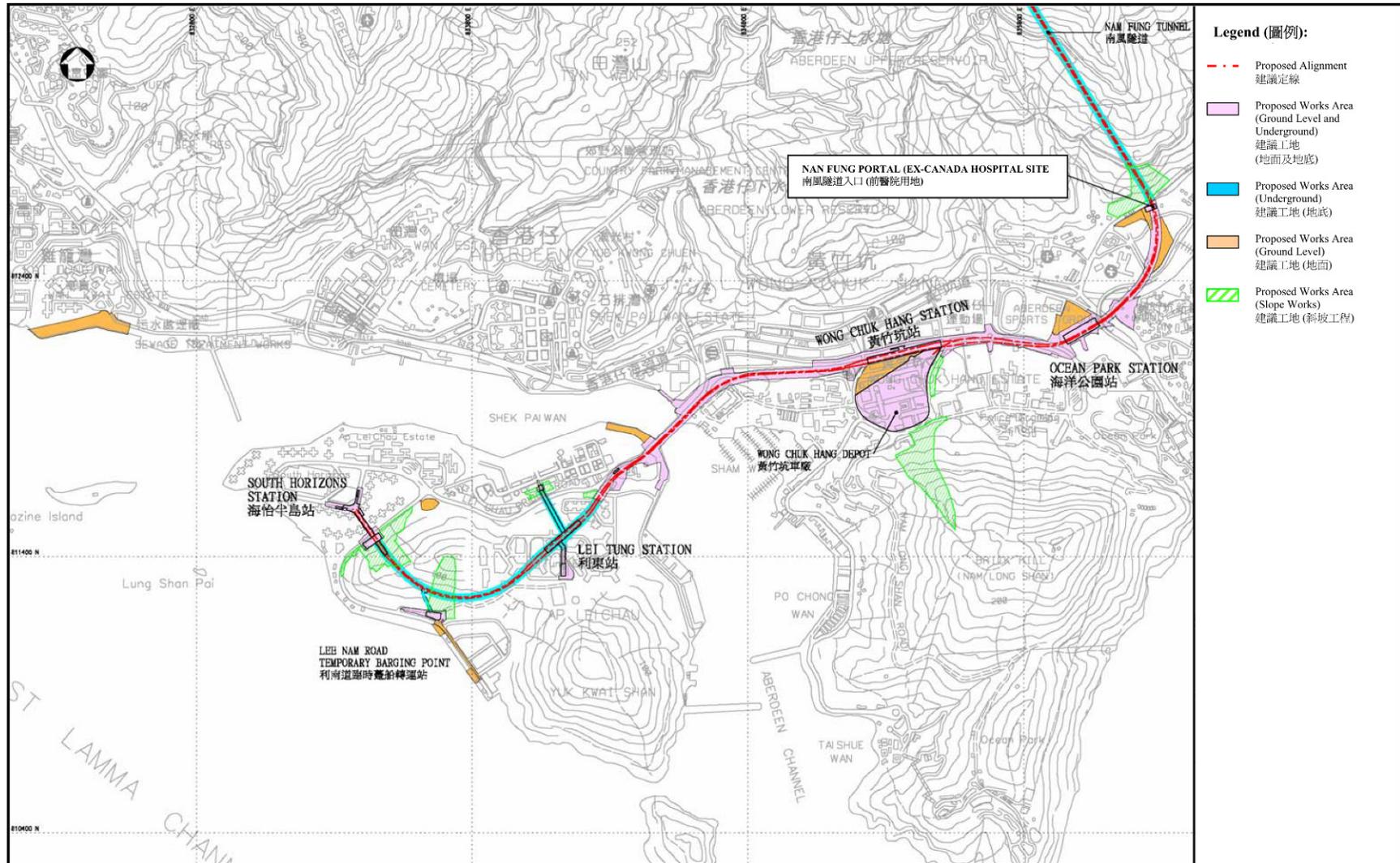


Figure 3 – Location of Construction Air Quality Monitoring Stations (1 of 4)

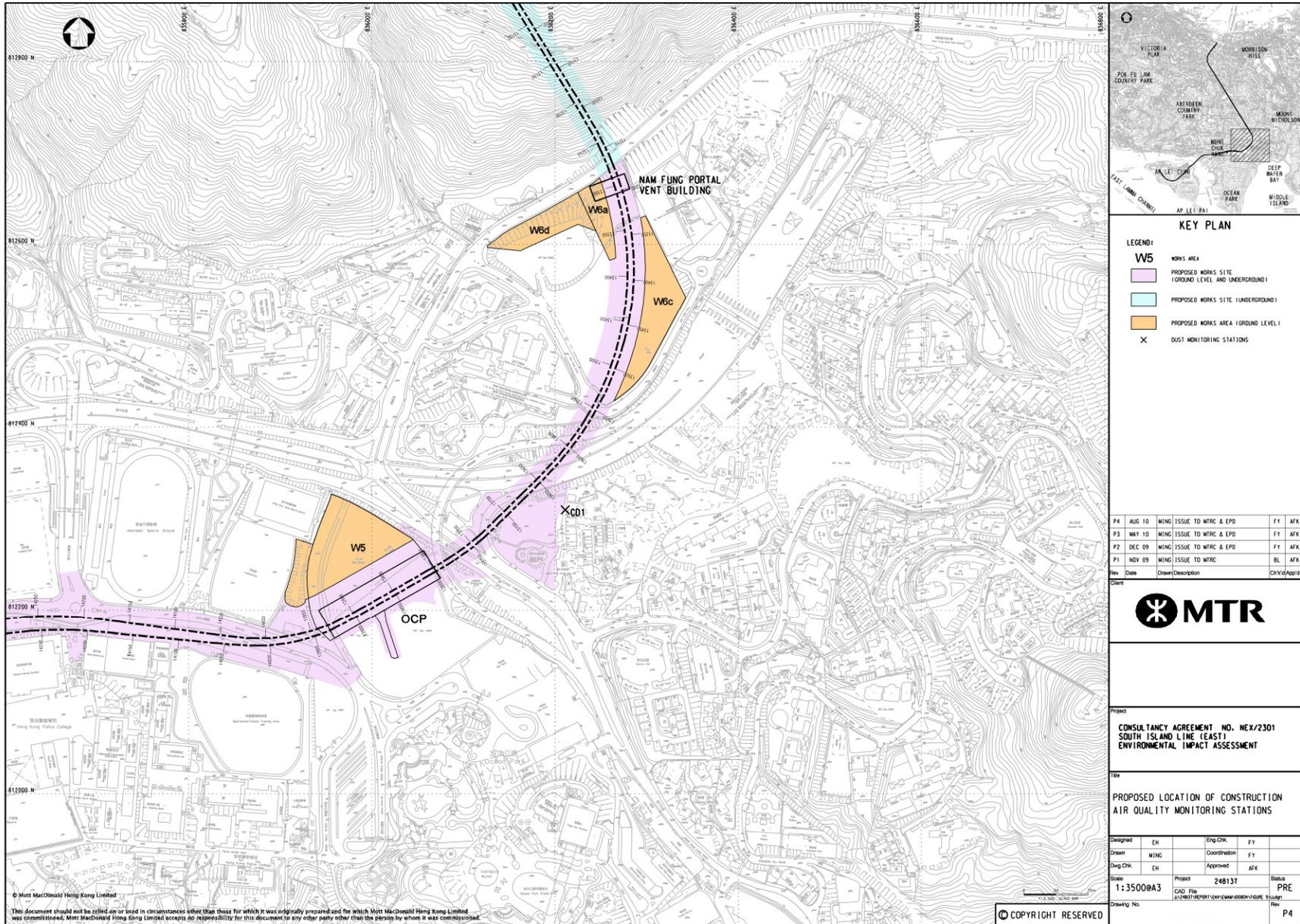


Figure 4 – Location of Construction Air Quality Monitoring Stations (2 of 4)

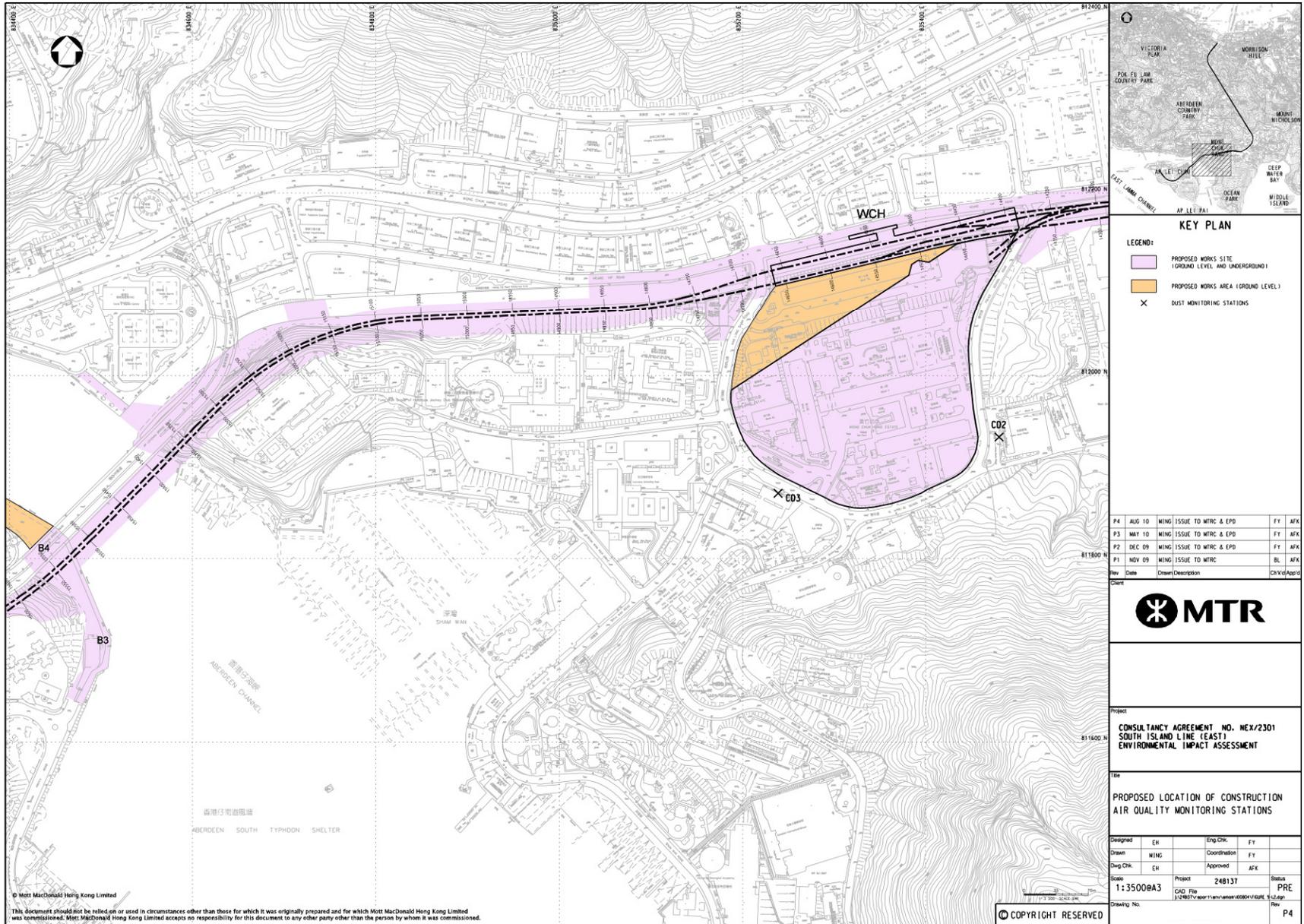


Figure 5 – Location of Construction Air Quality Monitoring Stations (3 of 4)

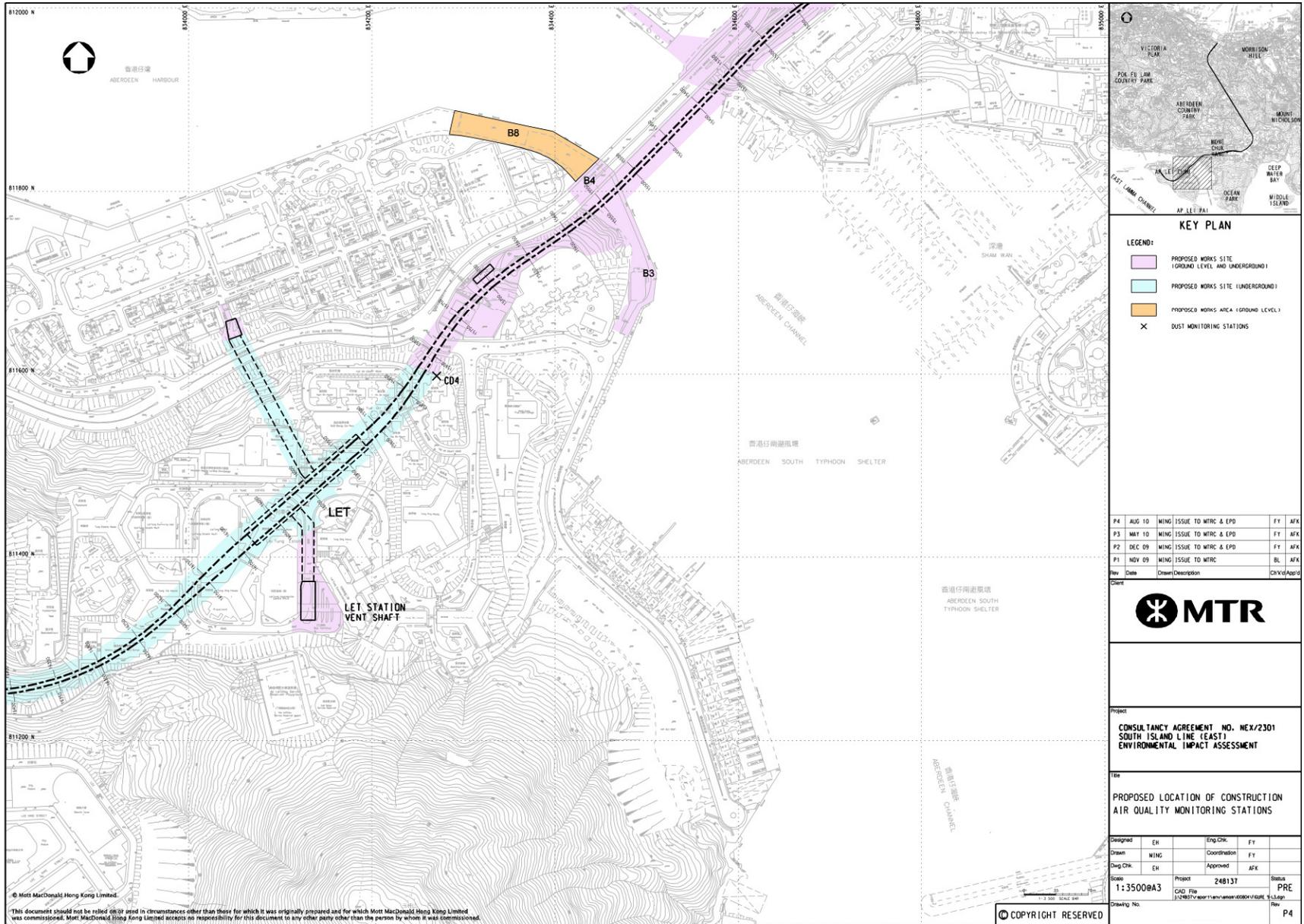


Figure 6 – Location of Construction Air Quality Monitoring Stations (4 of 4)



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

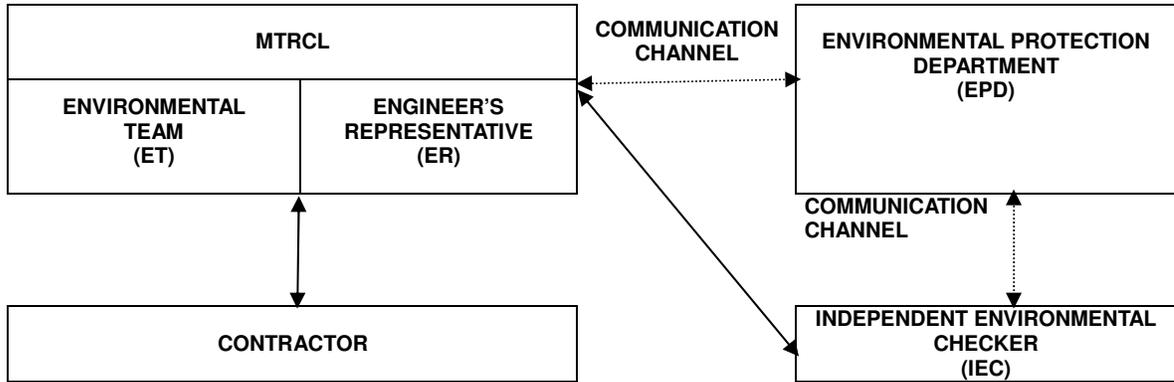


Figure 8 – Location of Construction Noise Monitoring Stations (2 of 2)



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	Dr. Glenn Frommer	2688 1552
	Mr. Richard Kwan (with effective from 1 Oct 2011)	2688 1179
Engineer's Representative		
Project Manager – SIL Civil	Mr. Mark Cuzner	3987 8288
Construction Manager – SIL (901)	Mr. Neil Smith	2206 8688
Construction Manager – SIL (902 / 904)	Mr. Ken Wong	3987 8388
Construction Manager – SIL (903 / 907 / 908)	Mr. Kit Chan	2871 5888
Contract No. 901		
Admiralty Integrated Station and SCL Enabling Works		
Main Contractor: Kier – Laing O'Rourke – Kaden Joint Venture		
Project Director	Mr. Matthew Bowe	9726 6117
QA & Environmental Manager	Mr. Ronald Fung	9777 7667
Contract No. 902		
Nam Fung Tunnel and Ventilation Buildings		
Main Contractor: Nishimatsu Construction Co., Ltd.		
Contractors Representative	Mr. Colin Birky	9641 2485
Project Manager	Mr. Kozo Suguta	9227 9717
Contract No. 903		
Ocean Park Station, Wong Chuk Hang Station, Viaduct and Aberdeen Channel Bridge		
Main Contractor: Leighton Contractors (Asia) Ltd.		
Project Director	Mr. Paul Freeman	9856 1988
Project Manager, Stations and Nullah	Mr. Ian Rawsthorne	9383 0735
Project Manager, Viaducts, Bridge and Precast	Mr. Jon Kitching	9101 9013

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

Table A2.2 Contact List of Key Personnel of EPD

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

APPENDIX B1

Action and Limit Levels for Construction Noise and Air Quality

Appendix B1

Action and Limit Levels for Construction Noise and Air Quality

Action and Limit Levels for 24-hours TSP

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

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

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

Action and Limit Levels for Construction Noise

Table B1.3 Action and Limit Levels for Construction Noise

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

(1) 70dB(A) for schools and 65dB(A) during school examination periods.

(2) Updated prediction of noise levels as contained in the construction noise mitigation measures plan.

APPENDIX B2

Action and Limit Levels for Water Quality

Appendix B2
Action and Limit Levels for Water Quality

Table B2.1 Action and Limit Levels for Ebb Condition

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

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

Table B2.2 Action and Limit Levels for Flood Condition

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

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

APPENDIX C

Calibration Details

Summary of Calibration Certificate

Noise Equipment

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

High Volume Sampler

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

Water Quality Monitoring Equipment

Model	Serial Number	Calibration Date	Expiry Date	Remark
Turbidimeter				
HACH 2100P	06070C018334	29 Jul 2011	29 Oct 2011 *	
HACH 2100P	080600030281	13 Jul 2011	13 Oct 2011 *	
pH Meter				
HANNA HI8314	674469	16 Aug 2011	15 Sep 2011 **	
HANNA HI8314	674469	16 Sep 2011	15 Oct 2011	
Multimeter for Temperature / Dissolved Oxygen / Salinity				
YSI 85D	08L100716	27 Jun 2011	26 Sep 2011 *	
YSI 85D	08L100716	24 Sep 2011	23 Dec 2011	

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

** Calibration certificates refer to Appendix C of EM&A report for September 2011.



Internal Calibration & Performance Check Report of pH Meter

Equipment Ref. No. : ET/EN/007/003 Manufacturer : HANNA
 Model No. : HI 8314 Serial No. : 67469
 Date of Calibration : 16/9/14 Calibration Due Date : 15/10/11

Liquid Junction Error

Primary Standard Solution Used : Phosphate Ref No. of Primary Solution: 003/5.2/001/6
 Temperature of Solution : 20.0 pH_s = +0.08
 pH value of diluted buffer : 6.77 pH (S) = 6.88
 pH = pH(S) - pH of diluted buffer = 0.11 (Observed Deviation)
 Liquid Junction Error (pH_j) = pH - pH_s = 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}): 20.0 °C
 Temperature Difference (T_R - T_{ATC}): 0.0 °C

Acceptance Criteria

Performance Characteristic	Acceptable Range
Liquid Junction Error pH _j	≤0.05
Shift on Stirring pH _s	≤0.02
Noise pH _n	≤0.02
Verification 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 by : [Signature]



Performance Check of Salinity Meter

Equipment Ref. No. : ET/EW/008/03 Manufacturer : YSI
Model No. : 85D Serial No. : 08L 100716
Date of Calibration : 24/09/2011 Due Date : 23/12/2011

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

S/001/3

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	30.3	1.00

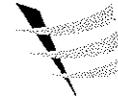
Acceptance Criteria

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 : 

Approved by : 



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : ET/EW/008/03 Manufacturer : YSI
 Model No. : 85D Serial No. : 08L 100716
 Date of Calibration : 24/09/2011 Calibration Due Date : 23/12/2011

Temperature Verification

Ref. No. of Reference Thermometer : ET/0521/001
 Ref. No. of Water Bath : ET/0533/001

Reference Thermometer reading	Temperature (°C)			
	Measured	20.8	Corrected	20.5
DO Meter reading	Measured	20.7	Difference	0.2

Standardization of sodium thiosulphate ($\text{Na}_2\text{S}_2\text{O}_3$) solution

Reagent No. of $\text{Na}_2\text{S}_2\text{O}_3$ titrant	CPE/012/4.5/001/3	Reagent No. of 0.025N $\text{K}_2\text{Cr}_2\text{O}_7$	CPE/012/4.4/001/4
		Trial 1	Trial 2
Initial Vol. of $\text{Na}_2\text{S}_2\text{O}_3$ (ml)		0.00	0.00
Final Vol. of $\text{Na}_2\text{S}_2\text{O}_3$ (ml)		40.50	40.00
Vol. of $\text{Na}_2\text{S}_2\text{O}_3$ used (ml)		40.50	40.00
Normality of $\text{Na}_2\text{S}_2\text{O}_3$ solution (N)		0.02469	0.02500
Average Normality (N) of $\text{Na}_2\text{S}_2\text{O}_3$ solution (N)			
Acceptance criteria, Deviation		Less than $\pm 0.001\text{N}$	

Calculation: Normality of $\text{Na}_2\text{S}_2\text{O}_3$, $N = 1 / \text{ml } \text{Na}_2\text{S}_2\text{O}_3 \text{ used}$

Lineality Checking

Determination of dissolved oxygen content by Winkler Titration *

Purging Time (min)	2		5		10	
	1	2	1	2	1	2
Initial Vol. of $\text{Na}_2\text{S}_2\text{O}_3$ (ml)	0.00	12.10	24.10	0.00	8.00	12.80
Final Vol. of $\text{Na}_2\text{S}_2\text{O}_3$ (ml)	12.10	24.10	32.00	8.00	12.80	17.70
Vol. (V) of $\text{Na}_2\text{S}_2\text{O}_3$ used (ml)	12.10	12.00	7.90	8.00	4.80	4.90
Dissolved Oxygen (DO), mg/L	8.07	8.01	5.27	5.34	3.20	3.27
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: $\text{DO (mg/L)} = V \times N \times 8000/298$

Purging time, min	DO meter reading, mg/L			Winkler Titration result *, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	8.09	8.12	8.11	8.07	8.01	8.04	0.81
5	5.38	5.42	5.40	5.27	5.34	5.31	1.77
10	3.08	3.12	3.10	3.20	3.27	3.24	4.26
Linear regression coefficient				0.99891			



Internal Calibration Report of Dissolved Oxygen Meter

Zero Point Checking

DO meter reading, mg/L	0.00
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Salinity Checking

Reagent No. of NaCl (10ppt)	CPE/012/4.7/001/9	Reagent No. of NaCl (30ppt)	CPE/012/4.8/001/9
-----------------------------	-------------------	-----------------------------	-------------------

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
	1	2	1	2
Trial				
Initial Vol. of Na ₂ S ₂ O ₃ (ml)	0	11.7	23.3	33.4
Final Vol. of Na ₂ S ₂ O ₃ (ml)	11.7	23.3	33.4	43.6
Vol. (V) of Na ₂ S ₂ O ₃ used (ml)	11.7	11.6	10.1	10.2
Dissolved Oxygen (DO), mg/L	7.81	7.74	6.74	6.77
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	7.92	7.89	7.905	7.81	7.74	7.78	1.66
30	7.09	7.13	7.11	6.74	6.8	6.77	4.9

Acceptance Criteria

- (1) Difference 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

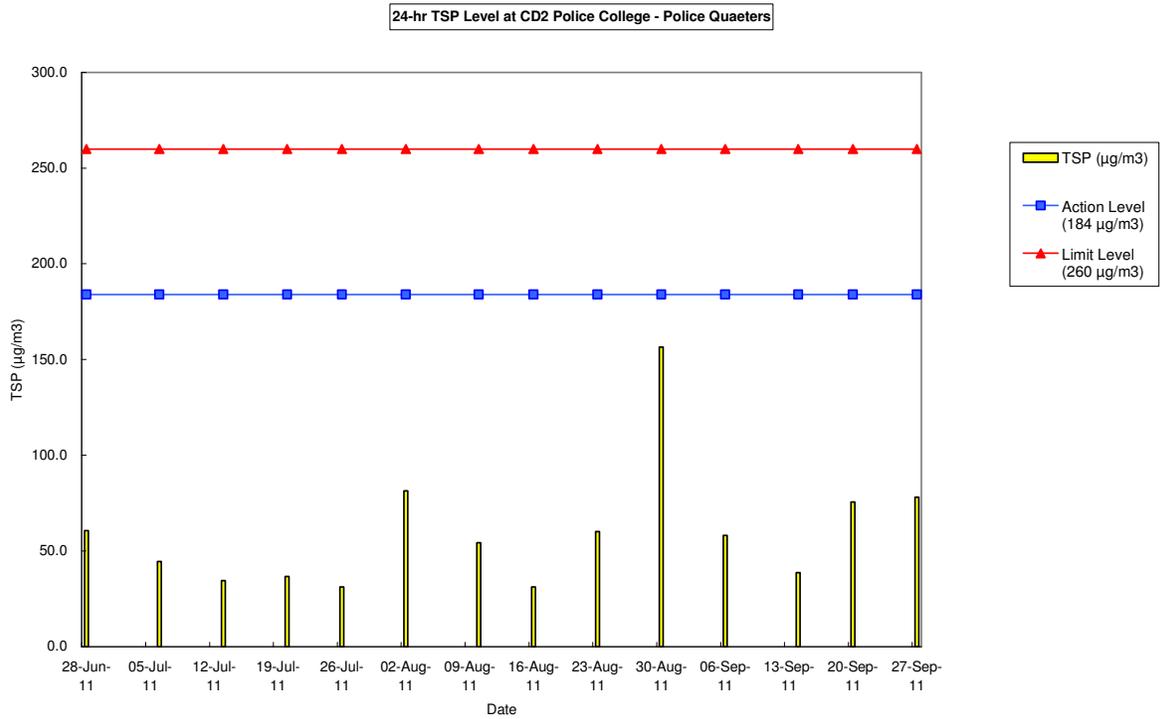
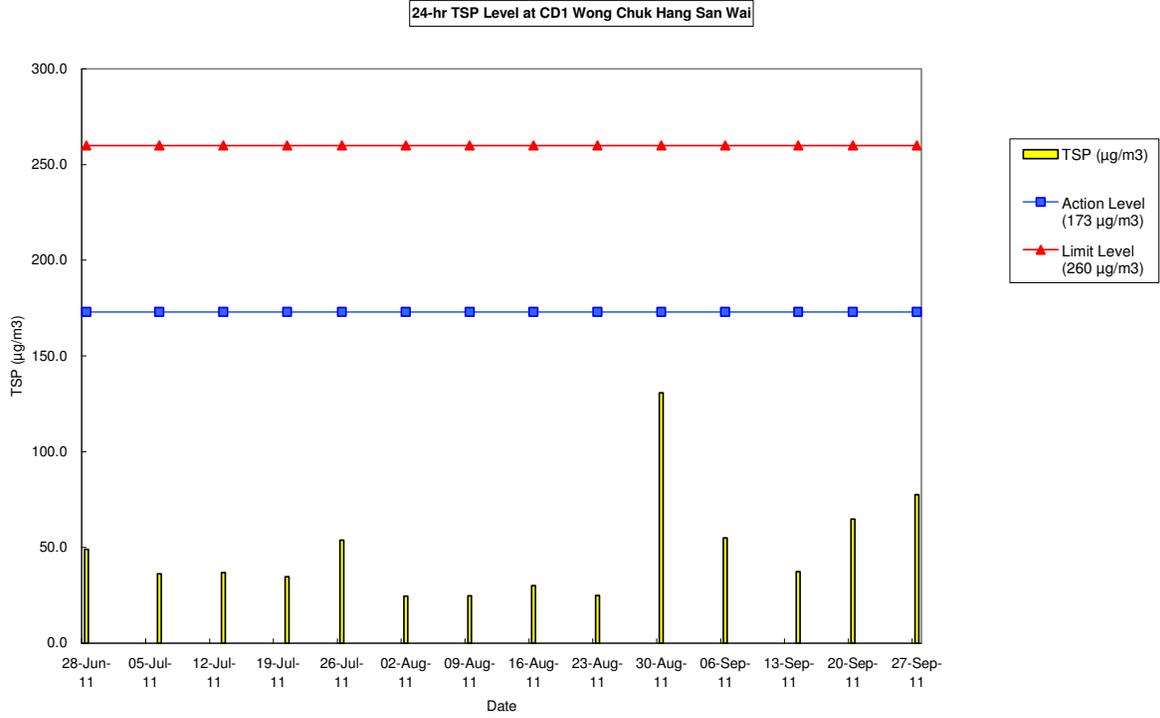
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Approved by :

APPENDIX D

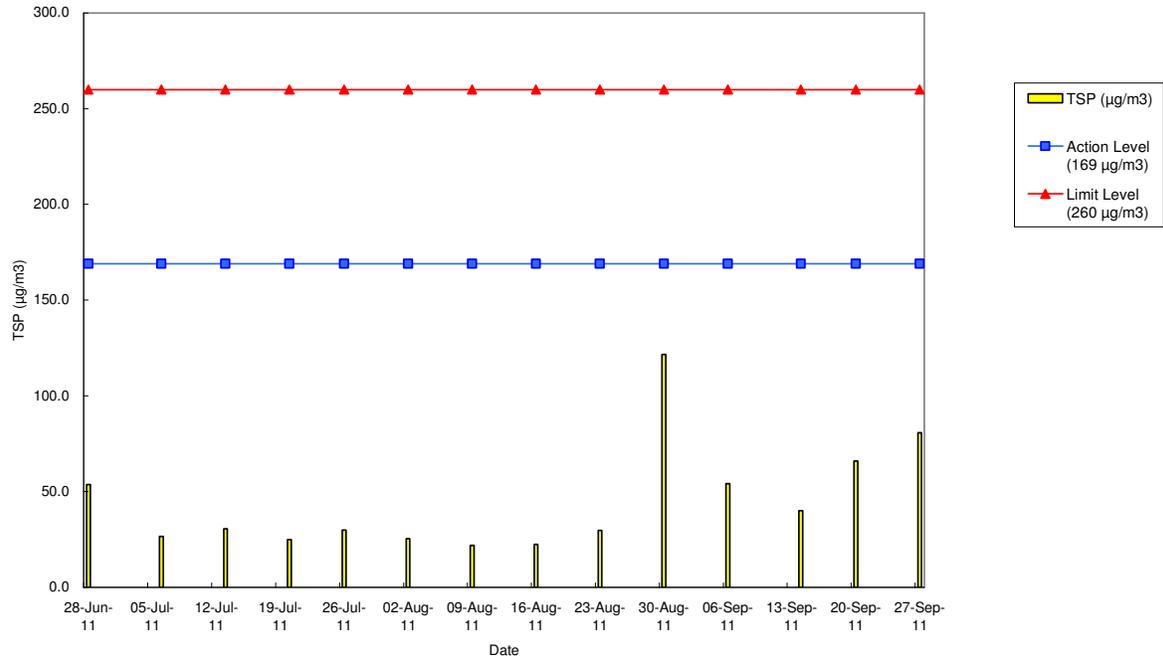
Graphical Plots of Air Quality, Noise & Water Quality Impact Monitoring
and Monitoring Results for Water Quality

Graphical Plots of Air Quality Monitoring Results

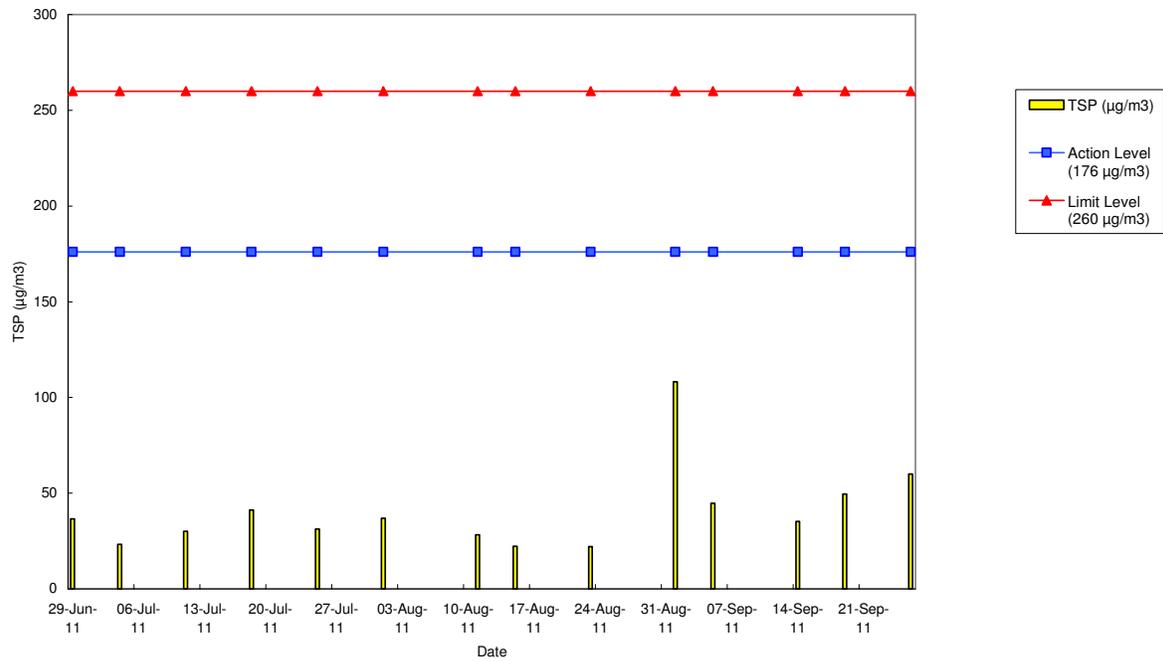


Graphical Plots of Air Quality Monitoring Results

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

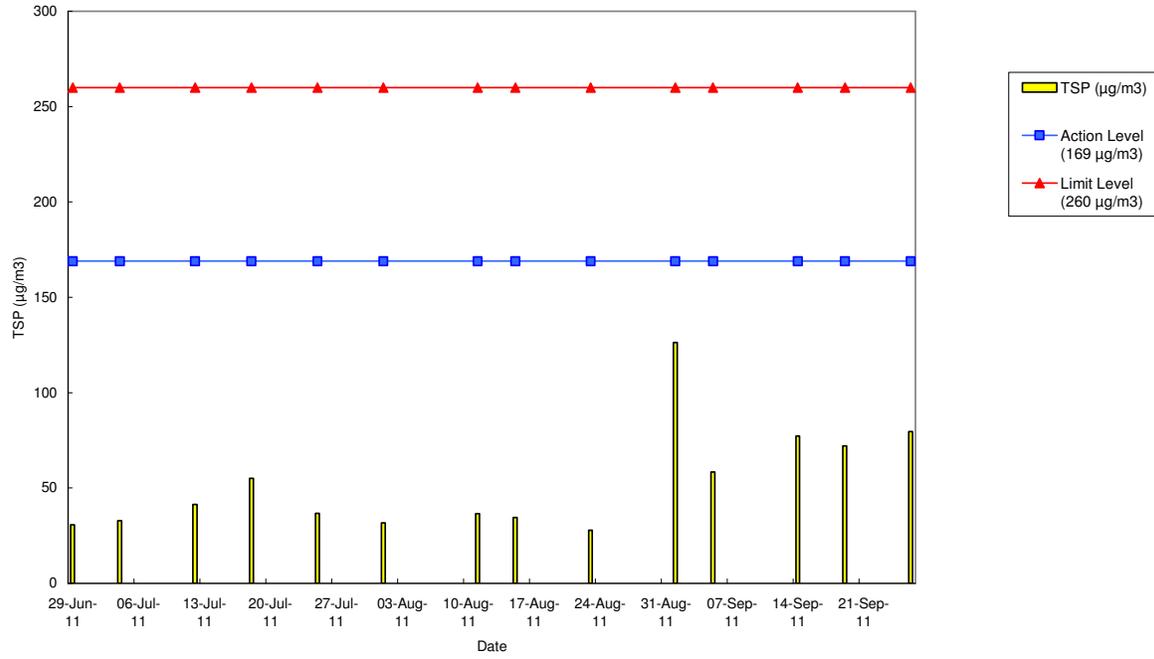


24-hr TSP Level at CD4 Shan On House



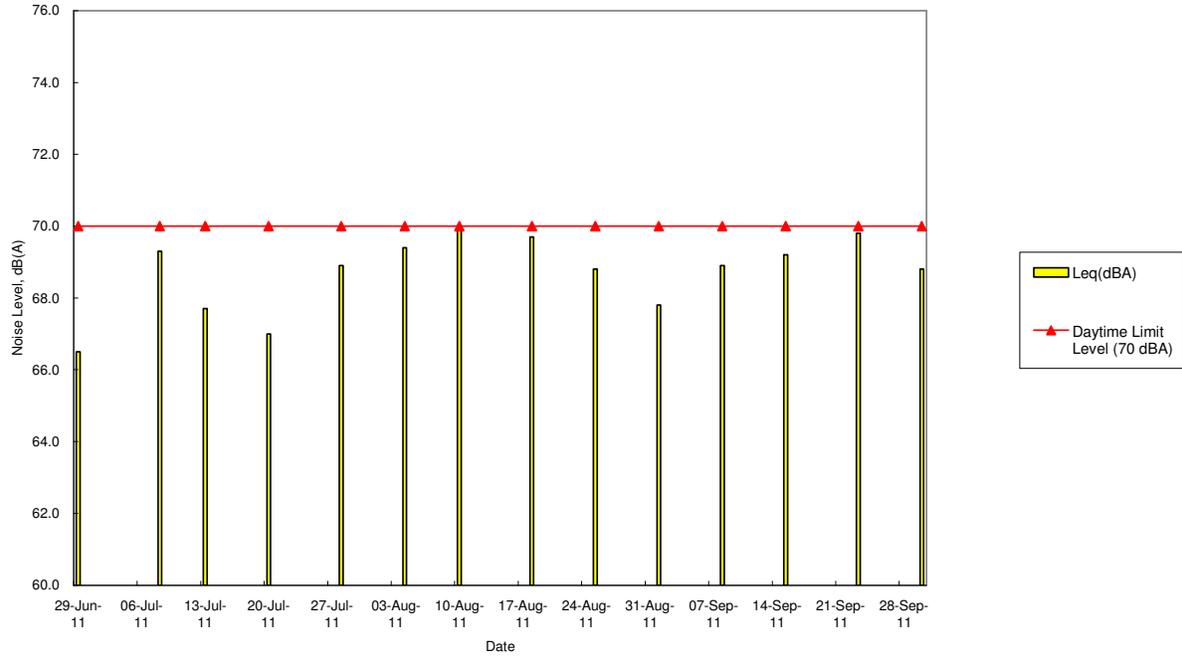
Graphical Plots of Air Quality Monitoring Results

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

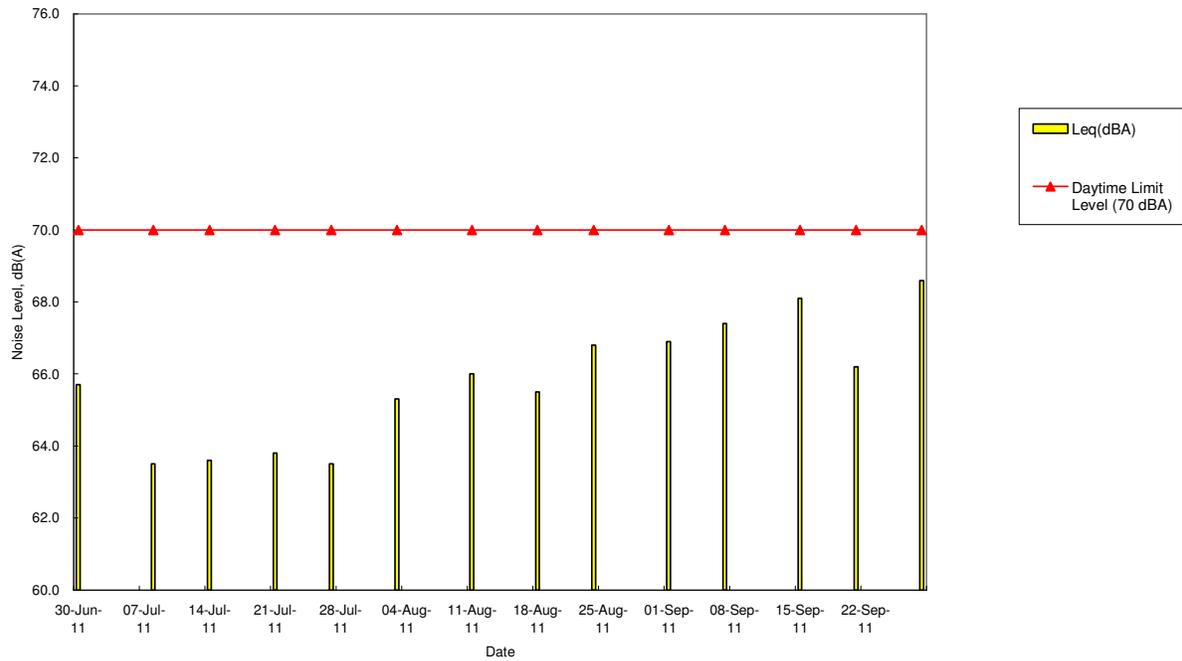


Graphical Plots of Noise Monitoring Results

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

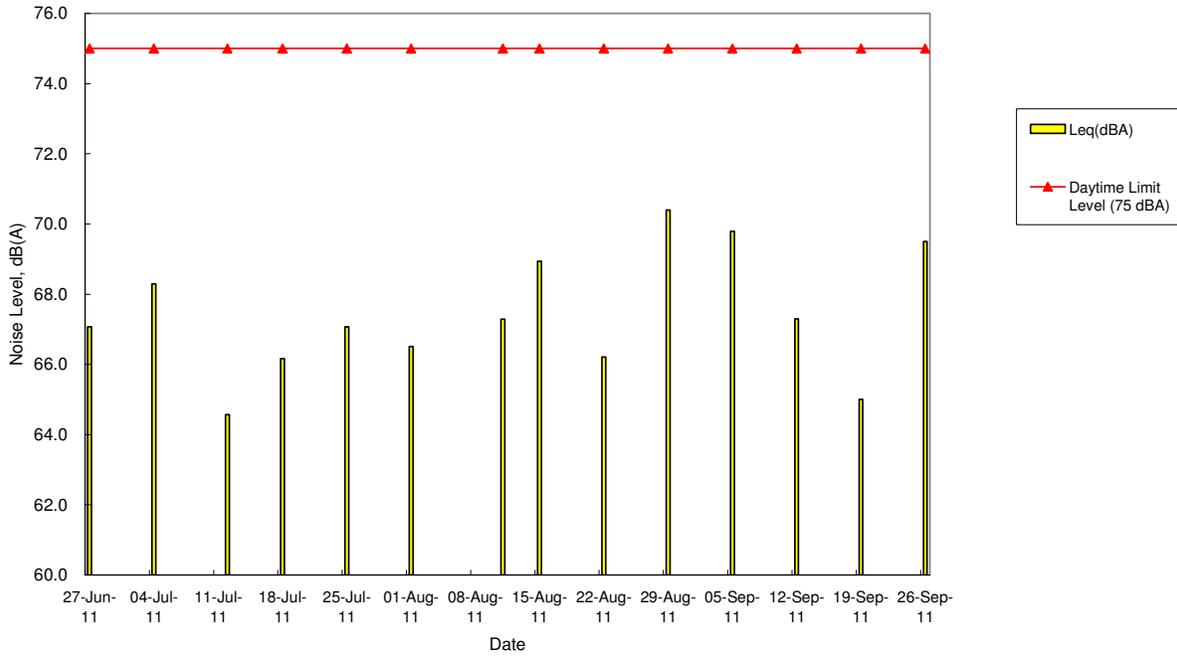


Noise Level at CN2 Holy Spirit Seminary (Educational Institution)

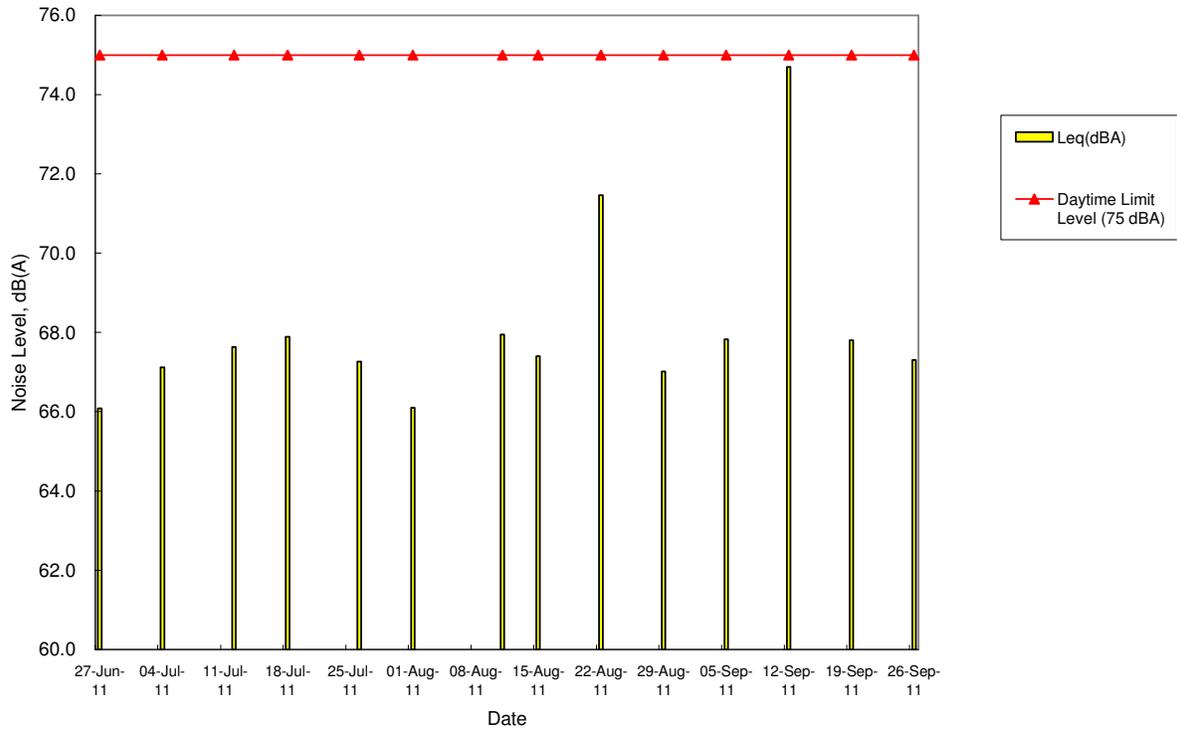


Graphical Plots of Noise Monitoring Results

Noise Level at CN3 Shun Fung Building (Residential)

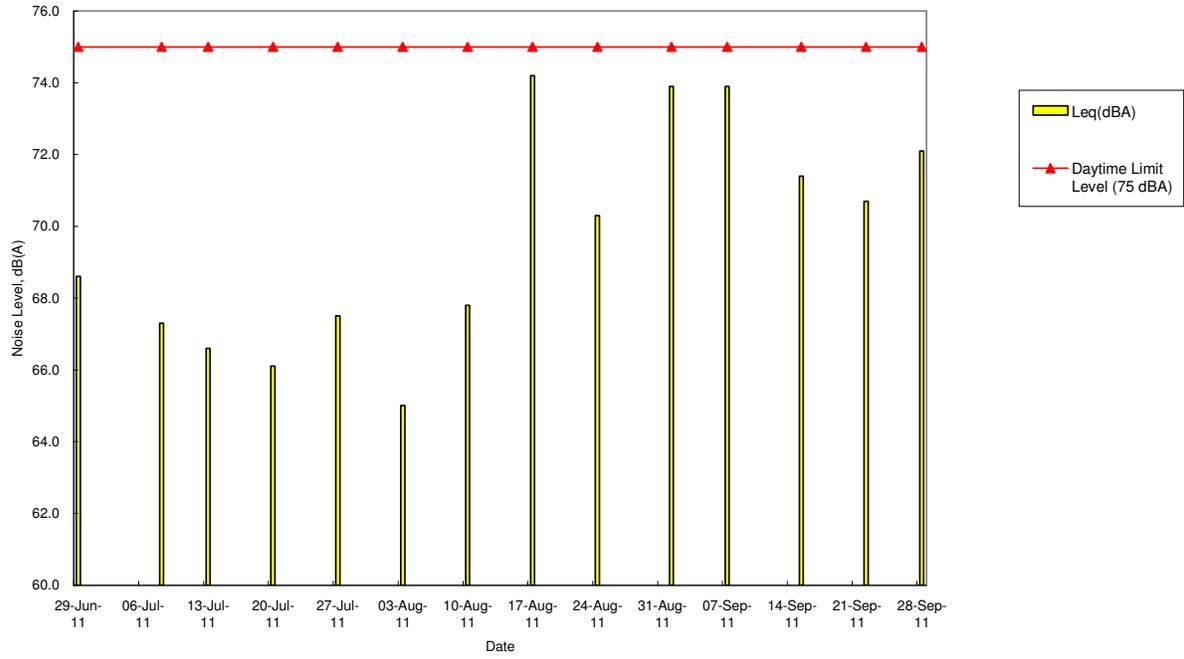


Noise Level at CN4 South Horizons Phase IV – Block 25 Dover Court (Residential)



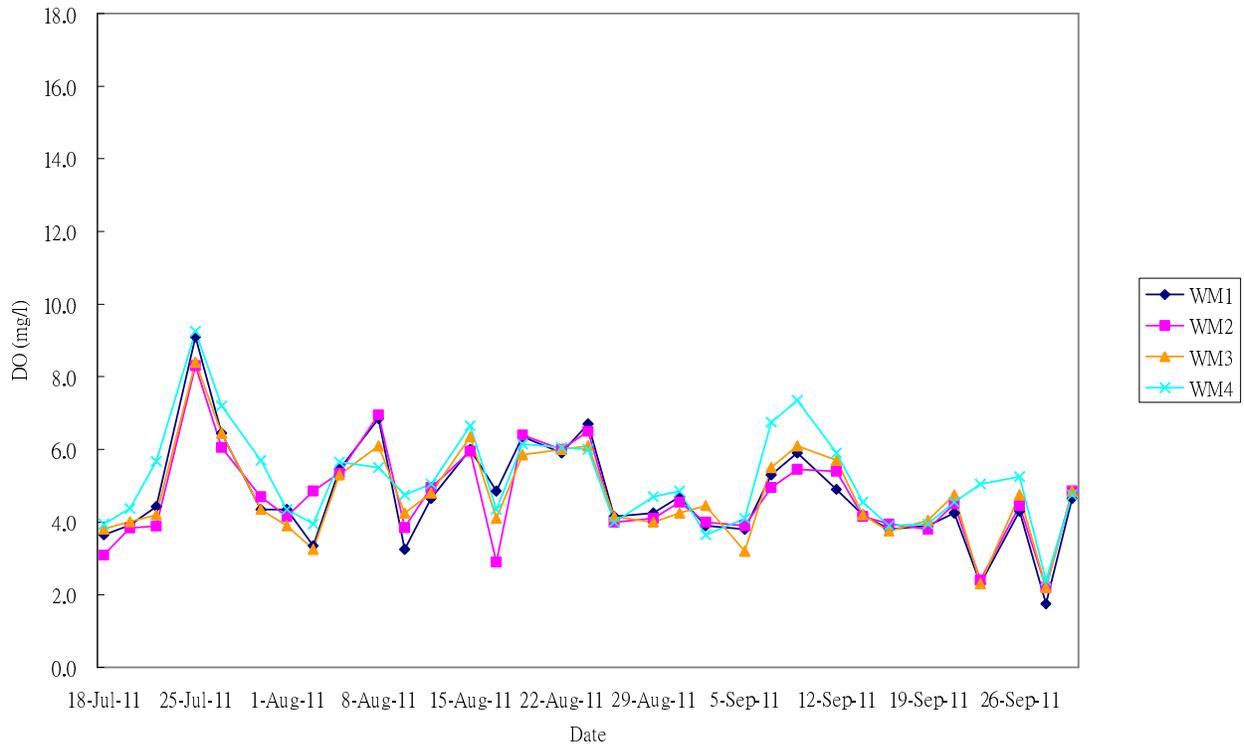
Graphical Plots of Noise Monitoring Results

Noise Level at CNS TWGHs Jockey Club Rehabilitation Complex Block A (Convalescent Home)

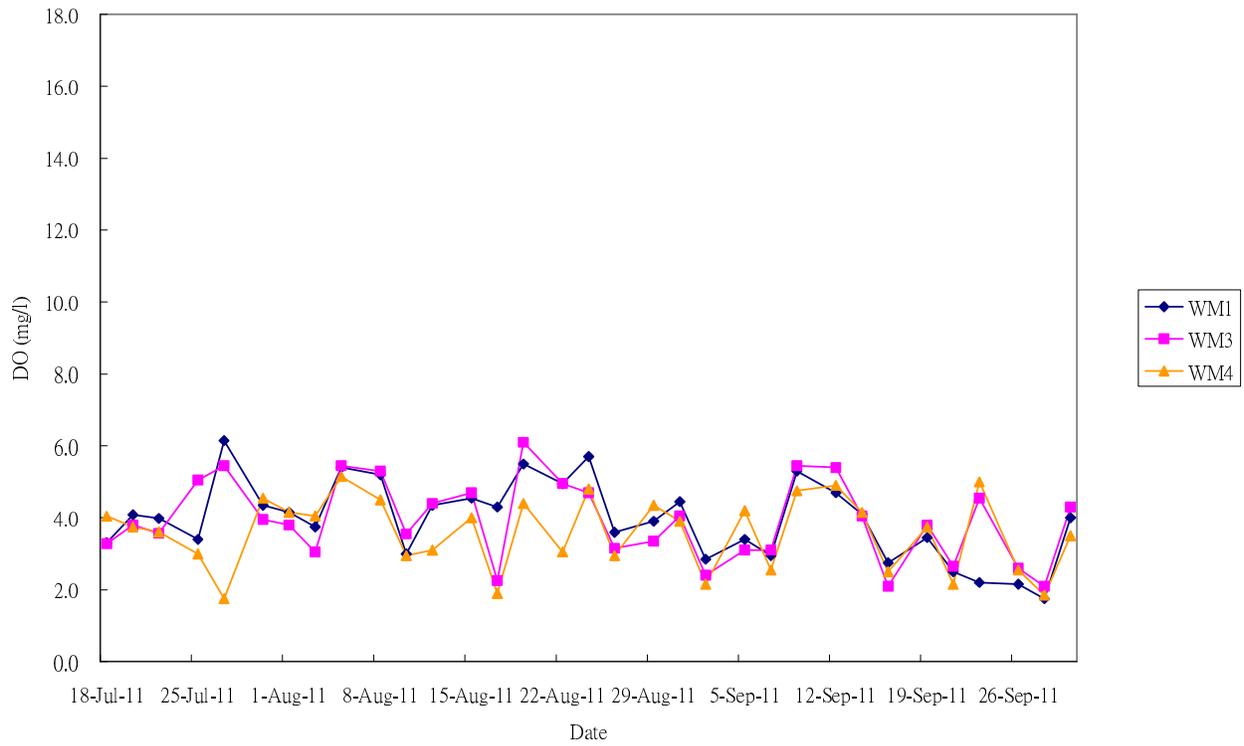


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Flood Tide - Surface Level

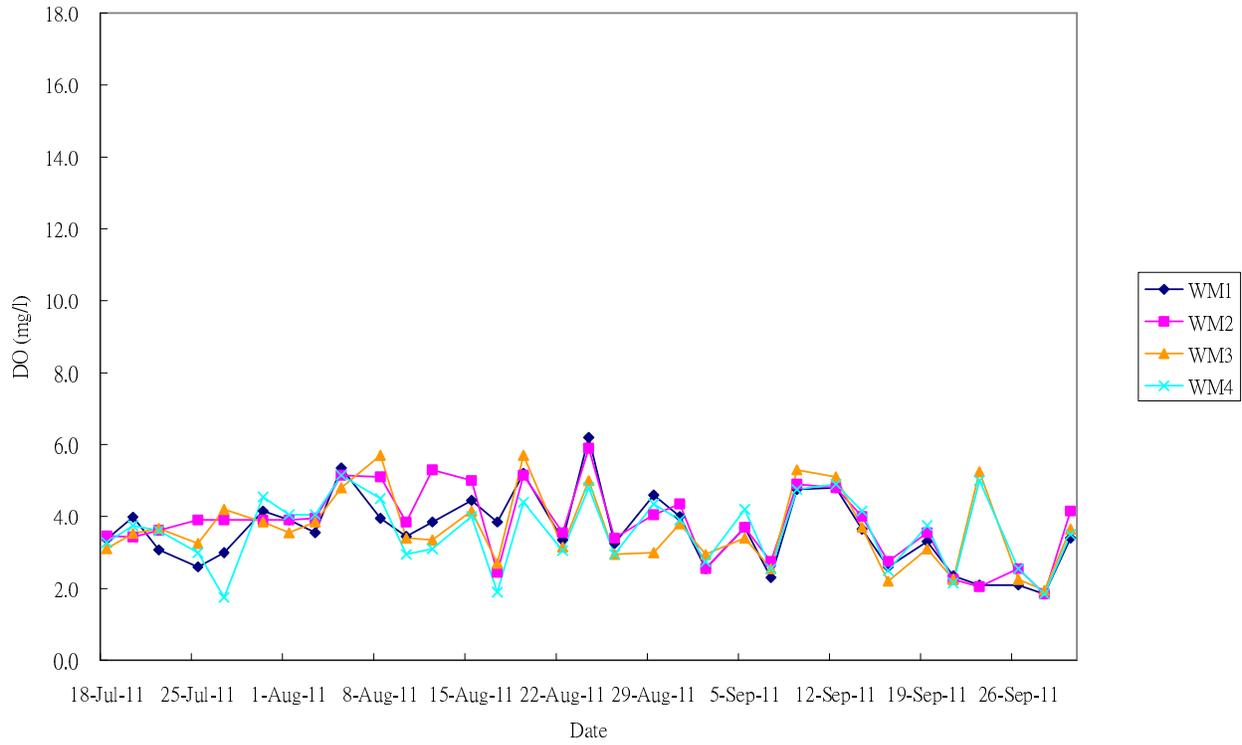


Monitoring Results for Dissolved Oxygen in Flood Tide - Middle Level

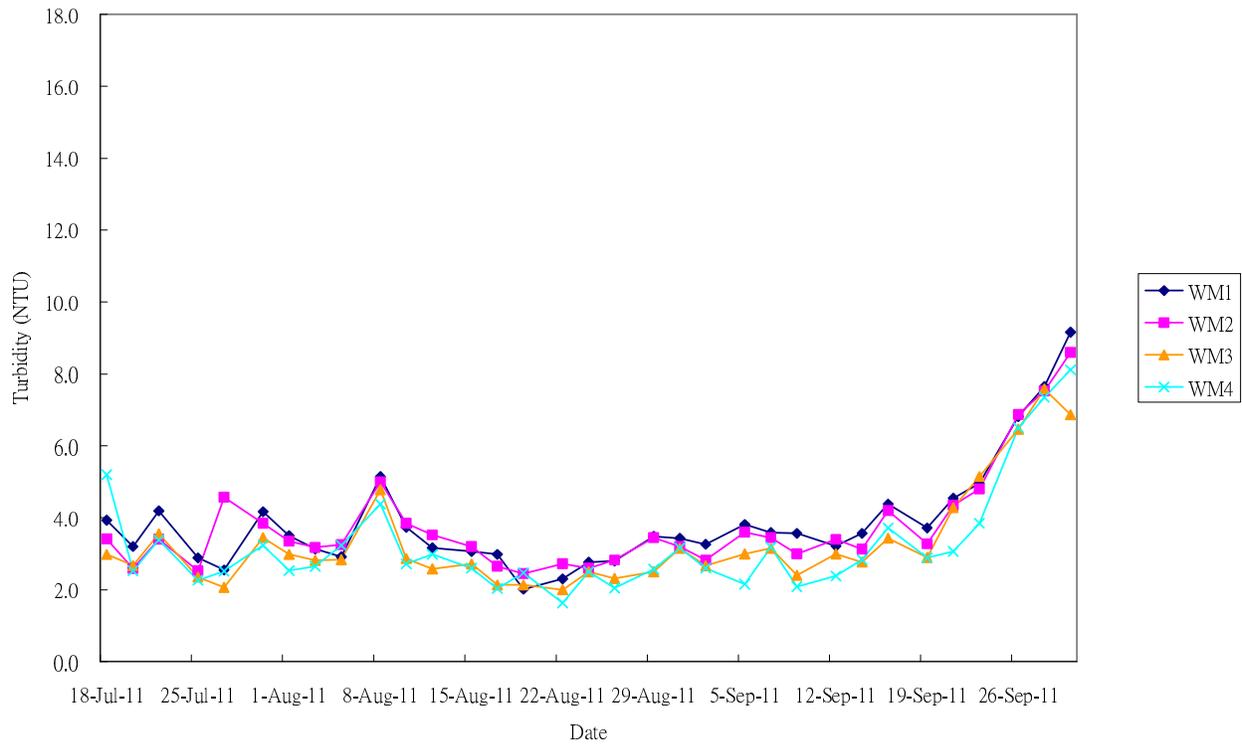


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Flood Tide - Bottom Level

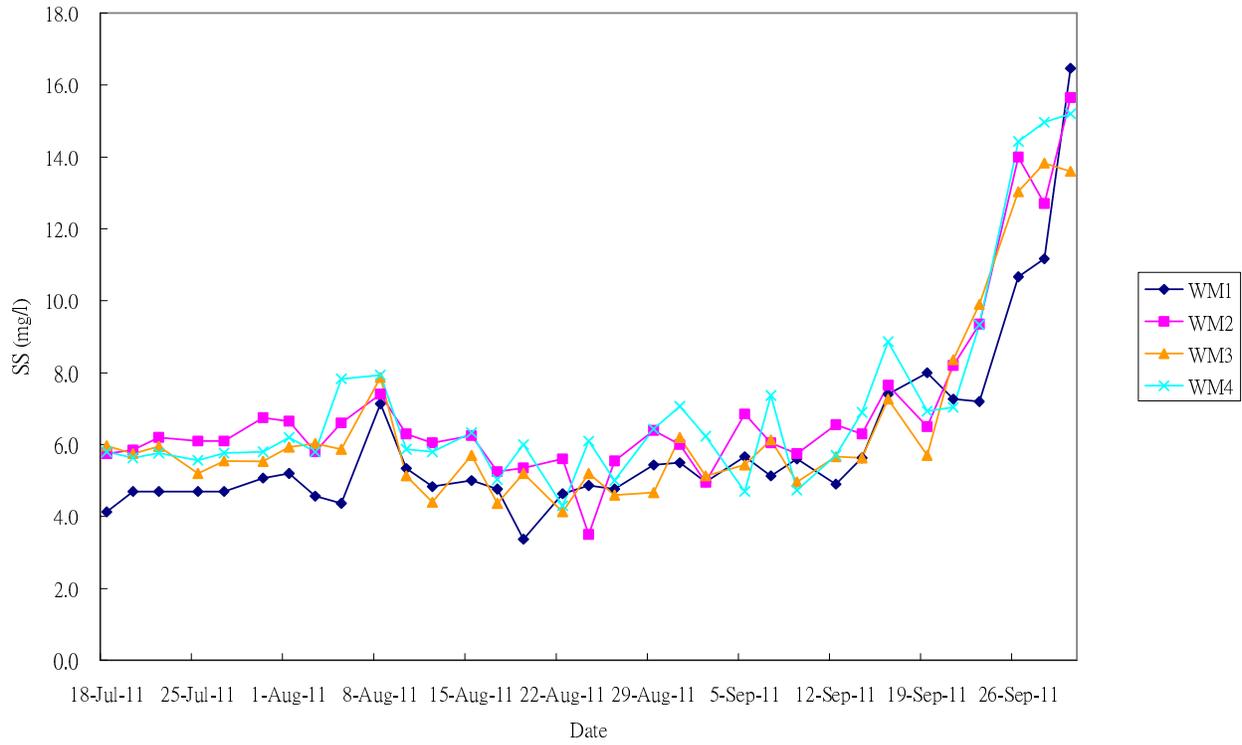


Monitoring Results for Turbidity in Flood Tide - Depth Average

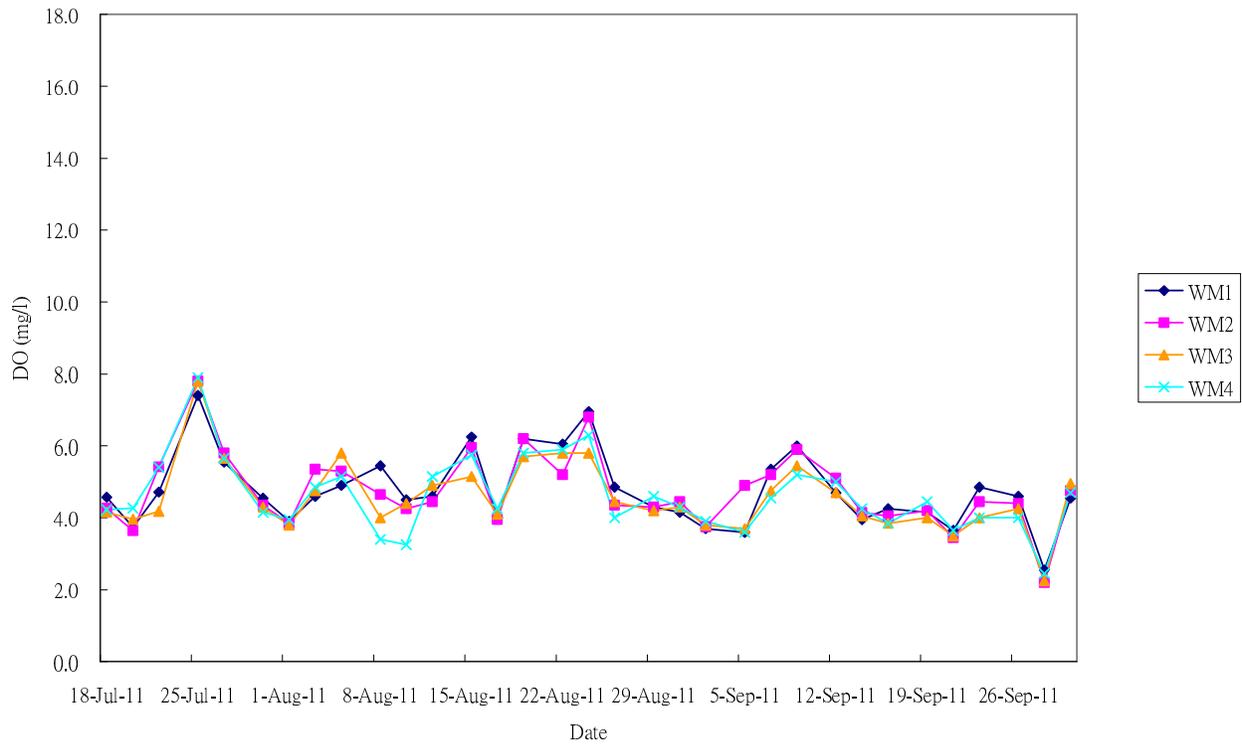


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Suspended Solids in Flood Tide - Depth Average

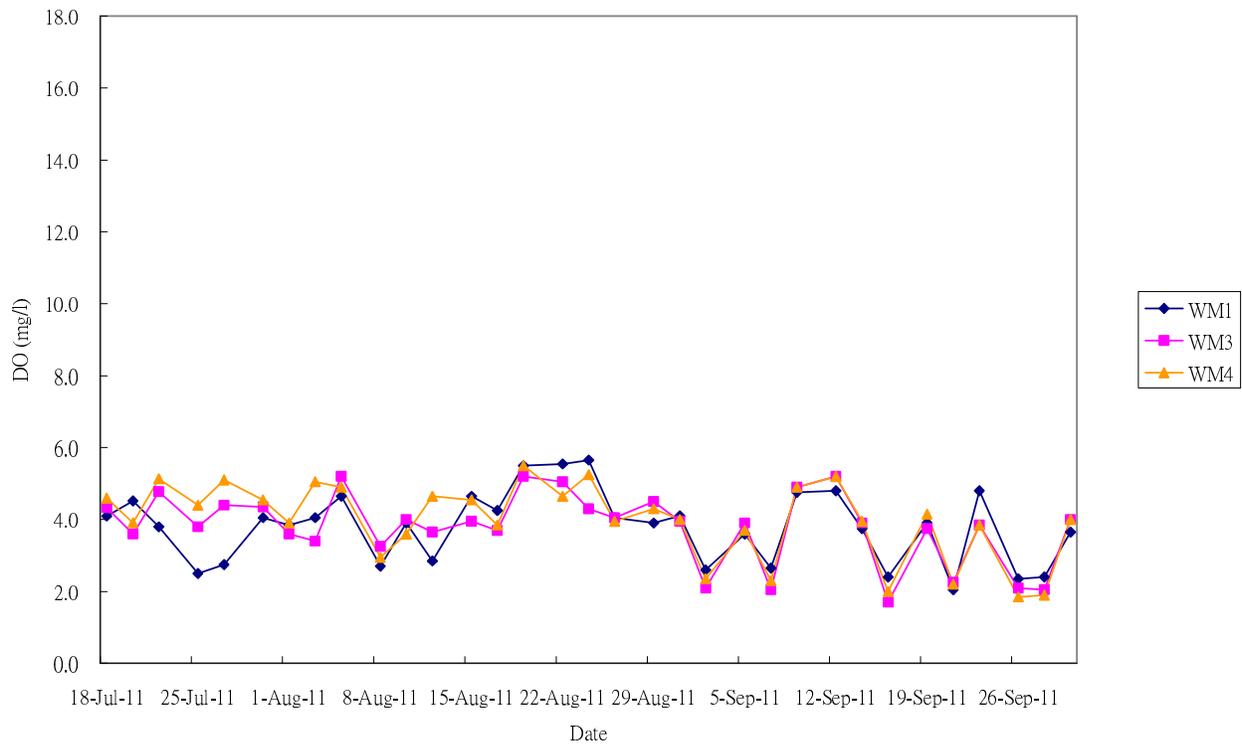


Monitoring Results for Dissolved Oxygen in Ebb Tide - Surface Level

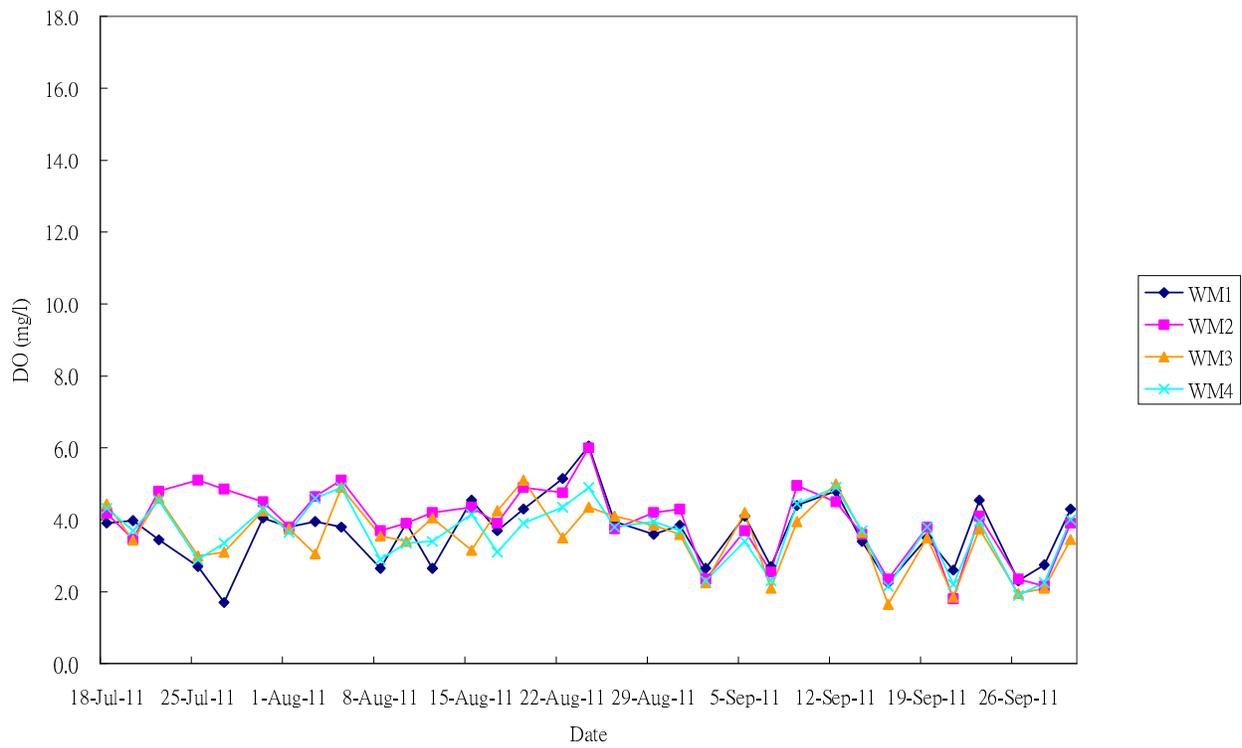


Graphical Plots of Water Quality Monitoring Results

Monitoring Results for Dissolved Oxygen in Ebb Tide - Middle Level

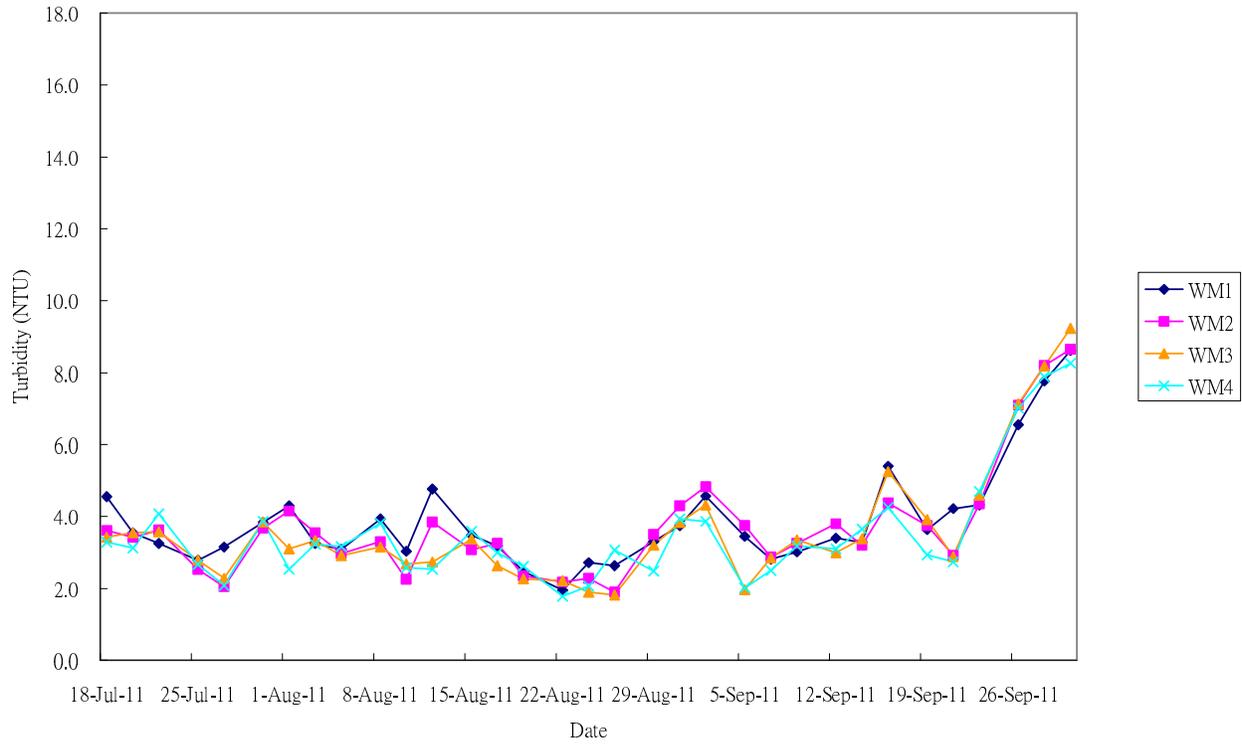


Monitoring Results for Dissolved Oxygen in Ebb Tide - Bottom Level

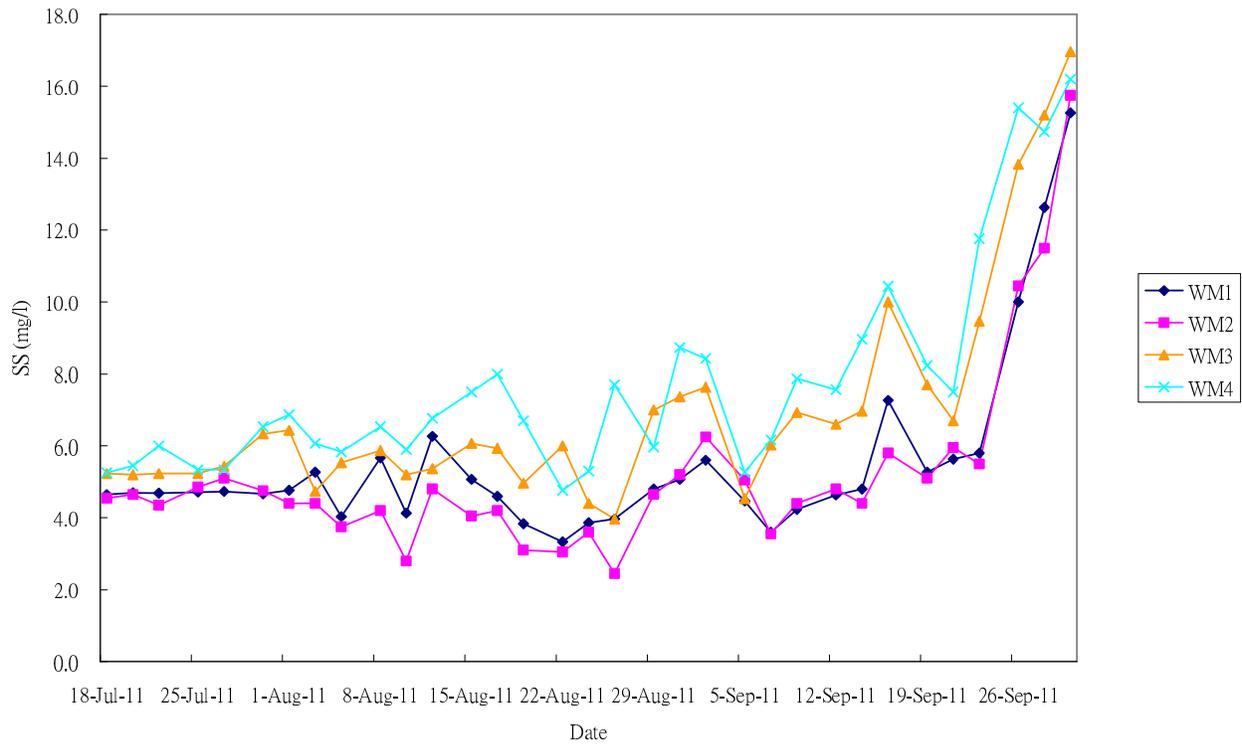


Graphical Plots of Water Quality Monitoring Results

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-Sep-11
 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	1135	11.0	Surface	26.2	26.1	26.2	8.0	8.1	8.1	31.3	31.3	31.3	4.3	4.3	4.3	63.3	62.6	63.0	3.7	3.6	3.7					8.4	8.2	8.3		
			Middle	26.1	26.1	26.1	8.1	8.0	8.1	31.5	31.5	31.5	2.6	2.5	2.6	38.7	38.4	38.6	3.9	3.9	3.9	3.9					8.8	9.0	8.9	7.4
			Bottom	25.8	25.9	25.9	8.1	8.1	8.1	31.7	31.6	31.7	3.0	3.0	3.0	44.0	44.5	44.3	4.1	4.1	4.1					5.2	5.0	5.1		
WM1	1054	14.5	Surface	26.1	26.1	26.1	8.2	8.1	8.2	31.5	31.5	31.5	3.9	3.9	3.9	57.9	57.1	57.5	2.9	2.8	2.9					3.6	3.8	3.7		
			Middle	26.2	26.1	26.2	8.2	8.2	8.2	31.4	31.5	31.5	2.8	2.9	2.9	43.1	44.3	43.7	3.4	3.4	3.4	3.3					4.4	4.6	4.5	5.0
			Bottom	26.0	26.1	26.1	8.1	8.1	8.1	31.5	31.4	31.5	2.5	2.6	2.6	37.2	37.8	37.5	3.7	3.4	3.6					7.0	6.4	6.7		
WM2	1027	5.8	Surface	26.0	26.0	26.0	8.1	8.1	8.1	31.4	31.5	31.5	4.0	4.0	4.0	59.4	59.9	59.7	2.3	2.6	2.5					5.2	5.8	5.5		
			Middle																		2.8							5.0		
			Bottom	26.2	26.1	26.2	8.0	8.1	8.1	31.3	31.4	31.4	2.6	2.5	2.6	38.5	37.6	38.1	3.2	3.2	3.2					4.4	4.4	4.4		
WM3	0957	10.2	Surface	26.2	26.2	26.2	8.1	8.2	8.2	31.3	31.2	31.3	4.4	4.5	4.5	61.7	62.4	62.1	2.4	2.6	2.5					3.2	3.6	3.4		
			Middle	26.3	26.3	26.3	8.2	8.1	8.2	31.3	31.4	31.4	2.4	2.4	2.4	35.5	35.8	35.7	2.8	2.8	2.8	2.7					7.0	6.6	6.8	5.1
			Bottom	26.3	26.3	26.3	8.1	8.1	8.1	31.5	31.5	31.5	2.9	3.0	3.0	42.2	43.4	42.8	2.8	2.6	2.7					5.4	5.0	5.2		
WM4	0926	10.4	Surface	26.3	26.2	26.3	8.1	8.0	8.1	31.2	31.2	31.2	3.7	3.6	3.7	53.3	52.9	53.1	2.6	2.5	2.6					6.2	6.0	6.1		
			Middle	26.3	26.4	26.4	8.1	8.1	8.1	31.3	31.3	31.3	2.2	2.1	2.2	33.2	32.4	32.8	2.3	2.3	2.3	2.6					5.2	5.4	5.3	6.2
			Bottom	26.2	26.2	26.2	8.0	8.1	8.1	31.3	31.3	31.3	2.7	2.8	2.8	49.4	50.1	49.8	2.9	3.0	3.0					7.2	7.4	7.3		
CS2	0900	14.7	Surface	26.7	26.6	26.7	8.1	8.0	8.1	30.3	30.4	30.4	5.5	5.5	5.5	81.6	82.2	81.9	1.4	1.7	1.6					2.8	3.2	3.0		
			Middle	26.3	26.3	26.3	8.1	8.1	8.1	31.1	31.0	31.1	3.9	3.9	3.9	54.0	54.6	54.3	3.4	3.5	3.5	2.6					6.4	6.8	6.6	5.3
			Bottom	26.4	26.4	26.4	8.0	8.0	8.0	31.4	31.4	31.4	3.0	3.1	3.1	39.7	40.5	40.1	2.7	2.9	2.8					6.0	6.6	6.3		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 2-Sep-11
 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	1400	10.7	Surface	26.2	26.2	26.2	8.1	8.1	8.1	31.3	31.4	31.4	6.5	6.6	6.6	95.7	96.5	96.1	5.9	5.2	5.6	6.0	5.4	5.7		
			Middle	26.2	26.2	26.2	8.0	8.1	8.1	31.5	31.5	31.5	4.7	4.6	4.7	69.6	67.3	68.5	5.2	5.5	5.4	5.2	7.0	7.6	7.3	6.5
			Bottom	26.0	25.8	25.9	8.2	8.1	8.2	31.6	31.7	31.7	3.7	3.7	3.7	56.3	54.1	55.2	4.6	4.7	4.7		6.2	6.6	6.4	
WM1	1440	14.2	Surface	26.3	26.3	26.3	8.2	8.2	8.2	31.4	31.4	31.4	3.8	3.6	3.7	56.1	53.4	54.8	3.8	3.9	3.9	5.8	5.8	5.8		
			Middle	26.1	26.1	26.1	8.1	8.2	8.2	31.5	31.5	31.5	2.5	2.7	2.6	36.7	39.1	37.9	4.6	4.7	4.7	4.6	5.2	5.6	5.4	5.6
			Bottom	25.9	25.9	25.9	8.0	8.2	8.1	31.6	31.6	31.6	2.7	2.6	2.7	40.3	37.8	39.1	5.1	5.3	5.2		5.4	5.8	5.6	
WM2	1510	5.2	Surface	26.1	26.2	26.2	8.0	8.1	8.1	31.3	31.4	31.4	3.8	3.7	3.8	55.4	55.0	55.2	5.2	5.1	5.2	7.0	6.8	6.9		
			Middle																		4.8					6.3
			Bottom	26.3	26.3	26.3	8.2	8.2	8.2	31.3	31.4	31.4	2.5	2.2	2.4	37.5	32.6	35.1	4.7	4.3	4.5		5.8	5.4	5.6	
WM3	1540	9.7	Surface	26.2	26.2	26.2	8.2	8.2	8.2	31.5	31.4	31.5	3.8	3.8	3.8	56.6	56.2	56.4	3.7	3.5	3.6	6.8	6.4	6.6		
			Middle	26.4	26.5	26.5	8.2	8.3	8.3	31.4	31.5	31.5	2.1	2.1	2.1	30.7	30.4	30.6	3.3	3.5	3.4	4.3	5.0	5.4	5.2	7.6
			Bottom	26.4	26.5	26.5	8.2	8.3	8.3	31.4	31.4	31.4	2.4	2.1	2.3	35.6	31.8	33.7	6.0	5.9	6.0		11.2	11.0	11.1	
WM4	1611	9.8	Surface	26.1	26.2	26.2	8.2	8.1	8.2	31.5	31.5	31.5	4.0	3.8	3.9	58.7	56.1	57.4	3.6	3.5	3.6	7.6	7.4	7.5		
			Middle	26.2	26.3	26.3	8.0	8.0	8.0	31.4	31.4	31.4	2.4	2.3	2.4	35.4	34.5	35.0	3.8	3.4	3.6	3.9	8.4	7.8	8.1	8.4
			Bottom	26.2	26.2	26.2	8.0	8.1	8.1	31.5	31.5	31.5	2.4	2.2	2.3	35.1	32.2	33.7	4.8	4.1	4.5		10.2	9.2	9.7	
CS2	1638	14.2	Surface	27.1	27.1	27.1	8.1	8.1	8.1	31.4	31.5	31.5	6.5	6.2	6.4	97.1	94.2	95.7	2.4	2.5	2.5	5.2	5.4	5.3		
			Middle	25.9	25.9	25.9	8.2	8.0	8.1	31.7	31.8	31.8	2.6	2.5	2.6	38.3	37.4	37.9	5.2	5.0	5.1	5.1	9.8	9.4	9.6	8.9
			Bottom	25.4	25.4	25.4	8.2	8.1	8.2	32.0	32.1	32.1	2.7	2.6	2.7	39.7	37.9	38.8	7.8	7.6	7.7		11.8	12.0	11.9	

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	1115	14.4	Surface	27.5	27.4	27.5	7.9	7.9	7.9	30.5	30.5	30.5	4.4	4.4	4.4	63.8	64.0	63.9	4.3	4.4	4.4					9.2	9.0	9.1		
			Middle	27.2	27.1	27.2	7.9	7.9	7.9	30.7	30.6	30.7	3.9	3.9	3.9	60.4	60.1	60.3	2.9	3.2	3.1	3.8					7.2	7.8	7.5	7.1
			Bottom	27.3	27.2	27.3	7.9	7.9	7.9	30.7	30.8	30.8	4.0	4.0	4.0	59.8	60.1	60.0	3.9	4.1	4.0					4.4	4.8	4.6		
WM1	1146	14.0	Surface	27.4	27.4	27.4	7.8	7.8	7.8	30.5	30.4	30.5	3.8	3.8	3.8	56.6	56.2	56.4	4.0	4.0	4.0					4.8	5.0	4.9		
			Middle	27.1	27.1	27.1	7.8	7.8	7.8	30.7	30.7	30.7	3.4	3.4	3.4	50.3	51.2	50.8	4.0	3.5	3.8	3.8					5.0	4.4	4.7	5.7
			Bottom	27.0	27.1	27.1	7.9	7.9	7.9	30.8	30.8	30.8	3.7	3.7	3.7	57.2	57.8	57.5	3.6	3.8	3.7					7.2	7.6	7.4		
WM2	1205	5.6	Surface	27.4	27.4	27.4	7.7	7.7	7.7	30.6	30.6	30.6	3.9	3.9	3.9	58.6	58.4	58.5	4.0	3.8	3.9					8.8	8.4	8.6		
			Middle																			3.6							6.9	
			Bottom	27.2	27.2	27.2	7.8	7.8	7.8	30.7	30.7	30.7	3.7	3.7	3.7	55.8	55.7	55.8	3.2	3.4	3.3					4.8	5.4	5.1		
WM3	1230	9.0	Surface	27.5	27.5	27.5	7.8	7.8	7.8	30.8	30.8	30.8	3.2	3.2	3.2	47.8	48.2	48.0	3.0	3.2	3.1					4.4	4.8	4.6		
			Middle	27.2	27.2	27.2	7.7	7.7	7.7	30.9	30.9	30.9	3.1	3.1	3.1	47.6	48.0	47.8	2.8	2.8	2.8	3.0					7.0	6.8	6.9	5.4
			Bottom	27.0	27.1	27.1	7.7	7.7	7.7	31.0	31.0	31.0	3.4	3.4	3.4	50.7	50.9	50.8	3.2	3.0	3.1					5.0	4.6	4.8		
WM4	1258	10.4	Surface	27.4	27.4	27.4	7.9	7.9	7.9	30.8	30.7	30.8	4.1	4.1	4.1	60.5	60.8	60.7	2.0	2.2	2.1					4.4	4.6	4.5		
			Middle	27.2	27.2	27.2	7.7	7.7	7.7	30.7	30.8	30.8	4.1	4.1	4.1	57.7	57.9	57.8	1.8	1.9	1.9	2.2					4.0	4.2	4.1	4.7
			Bottom	27.1	27.1	27.1	7.6	7.6	7.6	30.9	30.9	30.9	4.2	4.2	4.2	60.5	61.2	60.9	2.5	2.5	2.5					5.4	5.6	5.5		
CS2	1340	14.0	Surface	28.1	28.2	28.2	7.9	7.9	7.9	26.4	26.4	26.4	6.5	6.5	6.5	97.3	96.2	96.8	3.2	3.4	3.3					7.2	7.8	7.5		
			Middle	27.7	27.8	27.8	8.0	8.0	8.0	30.8	30.8	30.8	4.6	4.6	4.6	69.7	68.3	69.0	2.4	2.4	2.4	3.2					3.8	3.8	3.8	7.0
			Bottom	27.1	27.2	27.2	8.0	8.0	8.0	31.0	31.0	31.0	3.9	3.9	3.9	60.5	60.2	60.4	3.8	3.8	3.8					9.4	9.8	9.6		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 5-Sep-11
 Tide: Mid-Ebb
 Weather: Fine
 Sea Conditions: Great Wave
 Upstream Control Station CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	1545	15.4	Surface	27.8	27.7	27.8	7.8	7.8	7.8	30.8	30.8	30.8	5.3	5.3	5.3	79.0	79.8	79.4	3.4	3.2	3.3	3.8	4.0	3.9						
			Middle	27.6	27.5	27.6	7.9	7.9	7.9	30.6	30.7	30.7	4.4	4.4	4.4	67.9	68.0	68.0	3.9	4.0	4.0	3.7	5.8	6.0	5.9	4.8				
			Bottom	26.3	26.4	26.4	7.8	7.8	7.8	31.2	31.2	31.2	4.1	4.1	4.1	62.4	63.1	62.8	3.9	3.5	3.7		4.8	4.4	4.6					
WM1	1610	14.2	Surface	27.5	27.6	27.6	7.7	7.7	7.7	30.9	30.9	30.9	3.6	3.6	3.6	51.6	52.4	52.0	2.9	2.9	2.9	4.4	4.4	4.4						
			Middle	27.6	27.6	27.6	7.8	7.8	7.8	31.0	31.0	31.0	3.6	3.6	3.6	51.1	51.3	51.2	4.0	3.8	3.9	3.5	4.6	4.4	4.5	4.5				
			Bottom	27.4	27.4	27.4	7.8	7.8	7.8	30.9	30.9	30.9	4.1	4.1	4.1	60.1	59.4	59.8	3.5	3.6	3.6		4.4	4.6	4.5					
WM2	1640	5.8	Surface	27.8	27.9	27.9	7.9	7.9	7.9	30.8	30.8	30.8	4.9	4.9	4.9	75.4	75.8	75.6	3.1	3.2	3.2	4.8	4.8	4.8						
			Middle																		3.8								5.1	
			Bottom	27.4	27.4	27.4	7.9	7.9	7.9	30.9	30.9	30.9	3.7	3.7	3.7	54.1	55.7	54.9	4.5	4.2	4.4		5.4	5.2	5.3					
WM3	1725	9.6	Surface	27.5	27.6	27.6	8.0	8.0	8.0	31.2	31.2	31.2	3.7	3.7	3.7	56.8	56.6	56.7	2.1	2.2	2.2	4.6	5.0	4.8						
			Middle	27.3	27.3	27.3	8.0	8.0	8.0	31.1	31.1	31.1	3.9	3.9	3.9	58.8	59.3	59.1	1.9	2.0	2.0	2.0	4.2	4.2	4.2	4.5				
			Bottom	27.3	27.2	27.3	8.0	8.0	8.0	31.2	31.2	31.2	4.2	4.2	4.2	64.6	65.0	64.8	1.7	1.9	1.8		4.4	4.8	4.6					
WM4	1751	9.8	Surface	27.6	27.5	27.6	8.0	8.0	8.0	31.1	31.1	31.1	3.6	3.6	3.6	53.4	54.2	53.8	1.8	1.7	1.8	4.2	3.8	4.0						
			Middle	27.3	27.3	27.3	8.1	8.1	8.1	31.2	31.2	31.2	3.7	3.7	3.7	53.9	54.1	54.0	2.1	2.2	2.2	2.0	5.2	5.0	5.1	5.3				
			Bottom	27.1	27.1	27.1	8.1	8.1	8.1	31.1	31.1	31.1	3.4	3.4	3.4	51.5	51.8	51.7	2.2	2.1	2.2		6.8	6.6	6.7					
CS2	1825	14.6	Surface	27.3	27.4	27.4	8.1	8.1	8.1	31.3	31.3	31.3	4.2	4.2	4.2	63.7	63.1	63.4	1.9	1.8	1.9	4.2	4.0	4.1						
			Middle	26.7	26.7	26.7	8.1	8.1	8.1	31.4	31.3	31.4	3.8	3.8	3.8	56.8	57.2	57.0	2.0	2.0	2.0	2.3	4.2	4.4	4.3	5.0				
			Bottom	26.2	26.1	26.2	8.1	8.1	8.1	31.6	31.6	31.6	3.9	3.9	3.9	57.6	57.8	57.7	3.1	3.0	3.1		7.0	6.4	6.7					

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)						
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**			
CS1	1625	11.2	Surface	28.6	28.5	28.6	8.3	8.3	8.3	30.4	30.4	30.4	6.7	6.6	6.7	103.4	101.5	102.5	3.2	3.5	3.4				8.0	8.2	8.1		
			Middle	28.4	28.5	28.5	8.4	8.3	8.4	30.3	30.4	30.4	3.6	3.4	3.5	55.4	52.6	54.0	3.3	3.4	3.4	3.5				7.4	7.6	7.5	6.9
			Bottom	27.8	27.9	27.9	8.3	8.3	8.3	30.7	30.7	30.7	2.9	3.0	3.0	43.6	44.9	44.3	3.8	3.8	3.8				5.2	5.0	5.1		
WM1	1545	15.3	Surface	28.2	28.3	28.3	8.3	8.4	8.4	30.6	30.5	30.6	5.3	5.3	5.3	81.1	80.4	80.8	3.3	3.4	3.4				3.8	3.8	3.8		
			Middle	28.0	28.1	28.1	8.2	8.2	8.2	30.8	30.8	30.8	3.0	2.9	3.0	45.7	44.4	45.1	3.4	3.5	3.5	3.6				4.0	4.2	4.1	5.1
			Bottom	27.8	27.8	27.8	8.2	8.3	8.3	30.9	31.0	31.0	2.4	2.2	2.3	36.6	33.7	35.2	3.9	4.0	4.0				7.4	7.6	7.5		
WM2	1514	5.9	Surface	28.2	28.2	28.2	8.3	8.2	8.3	30.6	30.6	30.6	5.0	4.9	5.0	76.6	74.5	75.6	3.0	3.1	3.1				6.8	7.0	6.9		
			Middle																			3.5						6.1	
			Bottom	28.1	28.0	28.1	8.3	8.3	8.3	30.7	30.6	30.7	2.7	2.8	2.8	40.4	42.3	41.4	3.9	3.8	3.9				5.2	5.2	5.2		
WM3	1443	8.4	Surface	28.3	28.4	28.4	8.2	8.3	8.3	30.7	30.7	30.7	5.6	5.4	5.5	85.0	82.2	83.6	3.3	3.2	3.3				5.2	4.8	5.0		
			Middle	28.2	28.3	28.3	8.3	8.3	8.3	30.7	30.8	30.8	3.3	2.9	3.1	50.3	45.6	48.0	3.0	2.8	2.9	3.2				7.4	7.0	7.2	6.1
			Bottom	28.2	28.2	28.2	8.2	8.3	8.3	30.8	30.9	30.9	2.6	2.5	2.6	39.1	38.5	38.8	3.2	3.4	3.3				6.0	6.4	6.2		
WM4	1412	9.6	Surface	28.7	28.8	28.8	8.3	8.3	8.3	30.8	30.7	30.8	6.9	6.6	6.8	106.1	100.6	103.4	2.1	2.2	2.2				5.6	5.6	5.6		
			Middle	28.1	28.0	28.1	8.4	8.3	8.4	30.9	30.9	30.9	2.8	2.6	2.7	41.8	40.4	41.1	2.9	2.8	2.9	3.2				6.4	6.2	6.3	7.4
			Bottom	27.4	27.5	27.5	8.2	8.3	8.3	31.2	31.3	31.3	2.5	2.6	2.6	38.1	39.8	39.0	4.5	4.6	4.6				10.2	10.2	10.2		
CS2	1345	14.1	Surface	29.4	29.4	29.4	8.3	8.2	8.3	30.4	30.3	30.4	9.3	9.4	9.4	144.4	146.8	145.6	2.5	2.6	2.6				5.4	5.6	5.5		
			Middle	29.0	28.9	29.0	8.3	8.3	8.3	30.7	30.6	30.7	4.7	4.5	4.6	72.6	70.3	71.5	3.1	3.0	3.1	3.1				5.8	5.6	5.7	6.7
			Bottom	27.1	27.2	27.2	8.2	8.3	8.3	31.5	31.6	31.6	3.0	2.9	3.0	44.8	43.7	44.3	3.8	3.7	3.8				9.0	8.6	8.8		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	0830	10.8	Surface	28.4	28.5	28.5	8.2	8.1	8.2	30.3	30.3	30.3	6.2	6.2	6.2	85.0	85.4	85.2	2.6	2.8	2.7					3.2	3.4	3.3		
			Middle	28.2	28.3	28.3	8.2	8.2	8.2	30.5	30.5	30.5	3.6	3.5	3.6	54.6	53.8	54.2	3.7	3.7	3.7	3.4					5.8	6.0	5.9	4.7
			Bottom	28.2	28.1	28.2	8.1	8.1	8.1	30.5	30.4	30.5	3.1	3.1	3.1	47.3	47.9	47.6	3.7	3.8	3.8					4.6	5.0	4.8		
WM1	0907	15.0	Surface	28.2	28.2	28.2	8.2	8.3	8.3	30.4	30.3	30.4	5.3	5.4	5.4	81.1	81.7	81.4	2.3	2.3	2.3					3.6	3.8	3.7		
			Middle	28.0	28.0	28.0	8.3	8.2	8.3	30.7	30.7	30.7	2.6	2.7	2.7	39.8	40.3	40.1	2.5	2.8	2.7	2.8					3.0	3.4	3.2	3.6
			Bottom	28.0	28.0	28.0	8.3	8.3	8.3	30.6	30.7	30.7	2.7	2.7	2.7	41.2	41.5	41.4	3.6	3.4	3.5					4.0	3.8	3.9		
WM2	0939	5.2	Surface	28.0	28.1	28.1	8.3	8.3	8.3	30.5	30.4	30.5	5.2	5.2	5.2	79.7	79.0	79.4	2.8	3.1	3.0					3.4	3.8	3.6		
			Middle																			2.9						3.6		
			Bottom	28.1	28.1	28.1	8.3	8.2	8.3	30.5	30.5	30.5	2.5	2.6	2.6	38.5	39.4	39.0	2.8	2.8	2.8					3.4	3.6	3.5		
WM3	1007	8.8	Surface	27.8	27.8	27.8	8.2	8.2	8.2	30.7	30.7	30.7	4.8	4.7	4.8	71.4	70.6	71.0	1.7	1.8	1.8					3.2	3.4	3.3		
			Middle	27.9	27.8	27.9	8.2	8.3	8.3	30.8	30.8	30.8	2.0	2.1	2.1	30.8	31.3	31.1	3.2	3.2	3.2	2.9				6.8	7.2	7.0	6.0	
			Bottom	27.8	27.8	27.8	8.2	8.2	8.2	30.7	30.7	30.7	2.1	2.1	2.1	32.2	32.7	32.5	3.6	3.6	3.6					8.0	7.6	7.8		
WM4	1040	9.7	Surface	27.6	27.6	27.6	8.3	8.3	8.3	30.8	30.7	30.8	4.6	4.5	4.6	69.6	69.0	69.3	2.2	2.1	2.2					5.0	4.8	4.9		
			Middle	27.6	27.7	27.7	8.2	8.2	8.2	30.8	30.8	30.8	2.2	2.4	2.3	32.5	33.4	33.0	2.4	2.4	2.4	2.5				5.8	5.8	5.8	6.2	
			Bottom	27.6	27.6	27.6	8.3	8.3	8.3	30.8	30.9	30.9	2.3	2.3	2.3	33.9	33.2	33.6	3.0	2.9	3.0					8.0	7.6	7.8		
CS2	1111	14.0	Surface	28.6	28.5	28.6	8.2	8.3	8.3	30.7	30.7	30.7	6.9	6.9	6.9	105.2	105.5	105.4	1.8	1.5	1.7					4.0	3.4	3.7		
			Middle	28.4	28.4	28.4	8.2	8.3	8.3	30.5	30.6	30.6	2.9	2.8	2.9	44.0	43.3	43.7	2.6	2.7	2.7	2.2				5.6	6.0	5.8	4.8	
			Bottom	27.6	27.5	27.6	8.2	8.2	8.2	31.0	31.1	31.1	2.7	2.7	2.7	41.8	41.6	41.7	2.2	2.2	2.2					5.0	5.0	5.0		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	1737	11.2	Surface	28.3	28.3	28.3	7.9	8.0	8.0	30.7	30.8	30.8	6.1	6.2	6.2	95.0	96.4	95.7	3.2	3.4	3.3	7.2	7.6	7.4						
			Middle	28.0	28.0	28.0	8.0	8.0	8.0	30.7	30.6	30.7	6.0	5.9	6.0	93.0	91.9	92.5	3.8	4.0	3.9	3.8	8.0	8.2	8.1	6.9				
			Bottom	27.7	27.6	27.7	8.0	8.0	8.0	30.8	30.9	30.9	4.1	4.4	4.3	62.8	68.3	65.6	4.2	4.3	4.3		5.2	5.4	5.3					
WM1	1700	15.0	Surface	28.4	28.5	28.5	7.9	7.9	7.9	30.7	30.7	30.7	5.9	5.9	5.9	90.8	91.6	91.2	3.4	3.4	3.4	4.2	4.2	4.2						
			Middle	28.3	28.3	28.3	7.9	8.0	8.0	30.7	30.7	30.7	5.3	5.3	5.3	81.6	82.9	82.3	3.6	3.5	3.6	3.6	4.4	4.2	4.3	5.6				
			Bottom	28.2	28.1	28.2	8.0	8.0	8.0	31.1	31.1	31.1	4.8	4.7	4.8	74.5	72.8	73.7	3.8	3.7	3.8		8.4	8.2	8.3					
WM2	1630	5.8	Surface	28.7	28.8	28.8	8.0	8.0	8.0	30.4	30.4	30.4	5.5	5.4	5.5	85.1	83.6	84.4	2.9	2.9	2.9				6.8	6.6	6.7			
			Middle																			3.0							5.8	
			Bottom	28.5	28.5	28.5	8.0	8.0	8.0	30.4	30.4	30.4	5.0	4.8	4.9	77.6	74.4	76.0	3.1	3.1	3.1		4.8	4.8	4.8					
WM3	1602	8.4	Surface	28.9	28.9	28.9	8.0	8.0	8.0	30.7	30.6	30.7	6.1	6.1	6.1	94.0	95.1	94.6	1.8	1.7	1.8	2.2	2.2	2.2						
			Middle	28.6	28.6	28.6	8.0	8.0	8.0	30.7	30.8	30.8	5.4	5.5	5.5	83.3	85.2	84.3	2.5	2.7	2.6	2.4	6.4	6.8	6.6	5.0				
			Bottom	28.5	28.4	28.5	8.0	8.0	8.0	30.9	30.8	30.9	5.4	5.2	5.3	83.7	80.4	82.1	2.8	2.9	2.9		6.0	6.2	6.1					
WM4	1530	9.8	Surface	29.3	29.3	29.3	8.0	7.9	8.0	30.6	30.5	30.6	7.4	7.3	7.4	114.3	113.2	113.8	1.4	1.4	1.4	3.2	3.2	3.2						
			Middle	29.2	29.2	29.2	7.9	7.9	7.9	30.5	30.5	30.5	4.8	5.0	4.9	74.5	81.6	78.1	2.2	2.4	2.3	2.1	5.0	5.4	5.2	4.7				
			Bottom	28.9	28.9	28.9	7.9	8.0	8.0	30.5	30.6	30.6	4.7	4.8	4.8	73.6	74.7	74.2	2.5	2.6	2.6		5.6	6.0	5.8					
CS2	1500	14.6	Surface	29.7	29.6	29.7	8.0	8.0	8.0	30.4	30.5	30.5	8.6	8.5	8.6	136.5	131.7	134.1	1.6	1.4	1.5	3.6	3.2	3.4						
			Middle	28.8	28.9	28.9	8.0	7.9	8.0	30.6	30.7	30.7	6.2	6.3	6.3	96.3	97.4	96.9	2.6	2.6	2.6	2.5	5.0	5.0	5.0	5.7				
			Bottom	28.4	28.4	28.4	8.0	8.0	8.0	30.9	30.8	30.9	5.8	5.8	5.8	88.8	89.3	89.1	3.5	3.4	3.5		8.8	8.4	8.6					

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 9-Sep-11
 Tide: Mid-Ebb
 Weather: Sunny
 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	10.8	Surface	28.5	28.5	28.5	7.9	8.0	8.0	29.9	29.8	29.9	5.8	5.9	5.9	89.2	90.3	89.8	2.8	3.0	2.9	3.4	3.8	3.6			
			Middle	28.3	28.3	28.3	8.0	8.0	8.0	30.6	30.5	30.6	5.1	5.4	5.3	79.1	83.2	81.2	3.2	3.2	3.2	3.3	5.2	5.2	5.2	4.5	
			Bottom	28.0	28.0	28.0	8.0	8.0	8.0	30.6	30.7	30.7	5.2	5.2	5.2	80.1	80.9	80.5	3.6	3.7	3.7		4.6	5.0	4.8		
WM1	1100	14.8	Surface	28.4	28.4	28.4	8.0	8.1	8.1	30.6	30.5	30.6	6.0	6.0	6.0	92.4	92.9	92.7	2.1	2.5	2.3	3.4	3.8	3.6			
			Middle	27.8	27.9	27.9	8.1	8.1	8.1	31.0	31.0	31.0	4.8	4.7	4.8	74.2	72.7	73.5	3.0	3.0	3.0	3.0	3.8	3.8	3.8	4.2	
			Bottom	27.7	27.6	27.7	8.0	8.1	8.1	31.2	31.2	31.2	4.4	4.4	4.4	67.9	67.0	67.5	3.7	3.8	3.8		5.0	5.6	5.3		
WM2	1125	5.6	Surface	28.1	28.2	28.2	8.0	8.0	8.0	30.8	30.7	30.8	5.9	5.9	5.9	90.6	91.1	90.9	3.0	3.4	3.2		4.0	4.6	4.3		
			Middle																			3.3				4.4	
			Bottom	28.1	28.1	28.1	8.0	8.0	8.0	30.8	30.9	30.9	4.9	5.0	5.0	76.0	77.2	76.6	3.3	3.3	3.3		4.4	4.6	4.5		
WM3	1148	8.0	Surface	28.2	28.2	28.2	8.0	8.1	8.1	30.9	30.9	30.9	5.4	5.5	5.5	83.6	84.9	84.3	2.9	2.9	2.9		5.4	5.6	5.5		
			Middle	27.9	27.9	27.9	8.1	8.1	8.1	30.9	30.9	30.9	4.9	4.9	4.9	75.6	76.3	76.0	3.2	3.2	3.2	3.4	6.4	6.4	6.4	6.9	
			Bottom	27.8	27.8	27.8	8.0	8.1	8.1	31.1	31.1	31.1	3.9	4.0	4.0	61.0	62.1	61.6	4.0	3.9	4.0		9.0	8.8	8.9		
WM4	1220	9.6	Surface	28.2	28.2	28.2	8.1	8.1	8.1	30.9	30.9	30.9	5.2	5.2	5.2	80.6	79.8	80.2	2.9	2.7	2.8		6.8	6.8	6.8		
			Middle	28.0	28.0	28.0	8.1	8.1	8.1	30.8	30.8	30.8	5.0	4.8	4.9	77.5	74.1	75.8	3.0	3.0	3.0	3.2	7.6	7.6	7.6	7.9	
			Bottom	28.0	27.9	28.0	8.0	8.1	8.1	30.9	31.0	31.0	4.5	4.4	4.5	69.9	68.3	69.1	3.7	3.8	3.8		9.0	9.4	9.2		
CS2	1255	14.2	Surface	28.7	28.7	28.7	8.0	8.1	8.1	30.7	30.8	30.8	6.5	6.6	6.6	100.3	101.6	101.0	1.9	2.0	2.0		4.2	4.4	4.3		
			Middle	28.4	28.4	28.4	8.0	8.0	8.0	31.0	31.0	31.0	5.0	5.0	5.0	77.3	77.9	77.6	2.4	2.4	2.4	2.4	5.4	5.4	5.4	5.5	
			Bottom	27.7	27.7	27.7	8.0	8.0	8.0	31.2	31.3	31.3	4.7	4.7	4.7	72.4	72.9	72.7	2.9	3.0	3.0		7.0	6.8	6.9		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 12-Sep-11
 Tide: Mid-Flood
 Weather: Fine
 Sea Conditions: Great Wave
 Upstream Control Station CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	1848	14.2	Surface	29.2	29.1	29.2	8.2	8.1	8.2	30.8	30.8	30.8	4.2	4.2	4.2	63.0	64.3	63.7	3.2	3.4	3.3					8.0	8.6	8.3		
			Middle	28.8	28.8	28.8	8.1	8.1	8.1	30.6	30.7	30.7	4.0	4.0	4.0	60.2	61.2	60.7	4.1	4.1	4.1	3.9					10.0	10.2	10.1	7.9
			Bottom	28.6	28.6	28.6	8.2	8.2	8.2	30.5	30.6	30.6	4.4	4.4	4.4	66.3	66.9	66.6	4.2	4.3	4.3					5.2	5.4	5.3		
WM1	1812	13.0	Surface	29.4	29.3	29.4	8.1	8.1	8.1	30.3	30.3	30.3	4.9	4.9	4.9	73.5	73.8	73.7	3.2	3.1	3.2					3.6	3.8	3.7		
			Middle	28.9	29.0	29.0	8.1	8.0	8.1	30.6	30.6	30.6	4.7	4.7	4.7	70.5	71.3	70.9	3.6	3.4	3.5	3.2					4.4	4.2	4.3	4.9
			Bottom	28.8	28.8	28.8	8.1	8.1	8.1	30.5	30.5	30.5	4.8	4.8	4.8	72.0	72.6	72.3	3.0	3.0	3.0					6.6	6.8	6.7		
WM2	1742	5.6	Surface	29.3	29.2	29.3	8.2	8.2	8.2	30.6	30.6	30.6	5.4	5.4	5.4	81.0	81.4	81.2	3.8	3.4	3.6					8.6	7.8	8.2		
			Middle																			3.4							6.6	
			Bottom	28.8	28.9	28.9	8.1	8.1	8.1	30.7	30.6	30.7	4.8	4.8	4.8	72.0	72.8	72.4	3.2	3.2	3.2					4.8	5.0	4.9		
WM3	1709	9.7	Surface	29.4	29.4	29.4	8.2	8.2	8.2	30.8	30.7	30.8	5.7	5.7	5.7	82.6	82.9	82.8	3.0	3.0	3.0					3.8	3.8	3.8		
			Middle	28.9	28.9	28.9	8.2	8.2	8.2	30.4	30.4	30.4	5.4	5.4	5.4	79.1	79.7	79.4	2.9	2.9	2.9	3.0					7.4	7.2	7.3	5.7
			Bottom	28.2	28.1	28.2	8.1	8.2	8.2	30.7	30.8	30.8	5.1	5.1	5.1	76.3	76.9	76.6	3.1	3.1	3.1					5.8	6.0	5.9		
WM4	1635	9.8	Surface	29.3	29.4	29.4	8.2	8.2	8.2	30.9	30.8	30.9	5.9	5.9	5.9	85.6	86.2	85.9	2.5	2.5	2.5					6.4	6.4	6.4		
			Middle	28.9	29.0	29.0	8.2	8.2	8.2	30.8	30.8	30.8	5.6	5.6	5.6	81.2	80.8	81.0	2.7	2.6	2.7	2.4					6.4	6.0	6.2	5.7
			Bottom	28.1	28.2	28.2	8.1	8.2	8.2	30.9	30.9	30.9	4.9	4.9	4.9	73.5	73.0	73.3	2.0	2.0	2.0					4.4	4.6	4.5		
CS2	1600	14.0	Surface	29.4	29.4	29.4	8.1	8.1	8.1	30.8	30.8	30.8	6.0	6.0	6.0	92.8	92.2	92.5	1.8	2.0	1.9					4.0	4.2	4.1		
			Middle	29.2	29.2	29.2	8.2	8.2	8.2	30.6	30.6	30.6	4.4	4.5	4.5	72.7	74.4	73.6	1.6	1.7	1.7	2.1					3.0	3.2	3.1	4.4
			Bottom	28.9	28.9	28.9	8.2	8.2	8.2	30.6	30.6	30.6	4.6	4.6	4.6	68.9	67.8	68.4	2.8	2.4	2.6					6.4	5.6	6.0		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 12-Sep-11
 Tide: Mid-Ebb
 Weather: Fine
 Sea Conditions: Great Wave
 Upstream Control Station CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1130	14.4	Surface	28.9	28.8	28.9	8.1	8.1	8.1	30.4	30.4	30.4	3.9	3.9	3.9	59.8	59.2	59.5	3.8	4.0	3.9		4.6	5.0	4.8	
			Middle	28.6	28.6	28.6	8.1	8.1	8.1	30.5	30.5	30.5	4.5	4.5	4.5	66.5	67.2	66.9	4.2	4.2	4.2	4.0	7.0	6.8	6.9	5.3
			Bottom	28.7	28.7	28.7	8.1	8.1	8.1	30.4	30.4	30.4	4.2	4.2	4.2	61.9	60.8	61.4	3.8	3.9	3.9		4.2	4.2	4.2	
WM1	1200	12.0	Surface	28.9	28.8	28.9	8.0	8.0	8.0	30.5	30.5	30.5	4.7	4.7	4.7	72.8	73.4	73.1	3.0	3.0	3.0		4.6	4.6	4.6	
			Middle	29.0	29.0	29.0	8.0	8.0	8.0	30.5	30.5	30.5	4.8	4.8	4.8	73.5	73.9	73.7	3.4	3.4	3.4	3.4	4.2	4.4	4.3	4.6
			Bottom	28.7	28.8	28.8	8.0	8.0	8.0	30.4	30.4	30.4	4.8	4.8	4.8	73.9	72.0	73.0	3.8	3.8	3.8		4.8	5.2	5.0	
WM2	1235	5.8	Surface	29.0	29.0	29.0	8.0	8.0	8.0	30.4	30.4	30.4	5.1	5.1	5.1	75.3	75.8	75.6	3.4	3.4	3.4		4.2	4.2	4.2	
			Middle																			3.8				4.8
			Bottom	28.9	28.9	28.9	8.0	8.0	8.0	30.0	30.1	30.1	4.5	4.5	4.5	73.7	75.1	74.4	4.2	4.2	4.2		5.2	5.6	5.4	
WM3	1305	8.2	Surface	29.0	29.0	29.0	8.1	8.1	8.1	30.5	30.5	30.5	4.7	4.7	4.7	72.1	72.9	72.5	2.8	2.8	2.8		6.2	6.2	6.2	
			Middle	28.8	28.9	28.9	8.1	8.1	8.1	30.2	30.2	30.2	5.2	5.2	5.2	77.4	78.4	77.9	3.0	3.0	3.0	3.0	6.4	6.8	6.6	6.6
			Bottom	28.0	28.1	28.1	8.1	8.1	8.1	30.6	30.6	30.6	5.0	5.0	5.0	75.4	75.6	75.5	3.2	3.2	3.2		7.2	6.8	7.0	
WM4	1335	9.0	Surface	29.0	29.0	29.0	8.1	8.1	8.1	30.6	30.7	30.7	5.0	5.0	5.0	75.9	75.1	75.5	2.8	2.8	2.8		6.2	6.4	6.3	
			Middle	28.7	28.6	28.7	8.1	8.1	8.1	30.7	30.6	30.7	5.2	5.2	5.2	78.2	79.0	78.6	3.1	3.1	3.1	3.1	7.0	7.2	7.1	7.6
			Bottom	28.2	28.3	28.3	8.1	8.1	8.1	30.7	30.7	30.7	4.9	4.9	4.9	74.2	76.6	75.4	3.4	3.4	3.4		9.6	9.0	9.3	
CS2	1405	14.0	Surface	29.0	29.0	29.0	8.0	8.0	8.0	30.8	30.8	30.8	5.2	5.2	5.2	79.4	79.2	79.3	2.9	2.9	2.9		6.2	6.6	6.4	
			Middle	28.7	28.7	28.7	8.0	8.0	8.0	30.9	30.8	30.9	5.1	5.1	5.1	76.9	76.3	76.6	3.2	3.1	3.2	3.1	6.8	6.4	6.6	6.7
			Bottom	28.7	28.7	28.7	8.0	8.0	8.0	31.0	31.0	31.0	4.8	4.8	4.8	72.9	72.6	72.8	3.1	3.1	3.1		7.0	7.0	7.0	

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 14-Sep-11
 Tide: Mid-Flood
 Weather: Fine
 Sea Conditions: Great Wave
 Upstream Control Station CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)				
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**	
CS1	1912	11.8	Surface	28.4	28.2	28.3	8.0	8.1	8.1	30.5	30.6	30.6	5.1	5.2	5.2	78.2	79.9	79.1	3.6	3.5	3.6	8.0	7.8	7.9			
			Middle	28.1	28.1	28.1	8.0	8.0	8.0	30.6	30.6	30.6	4.8	4.8	4.8	73.5	74.1	73.8	3.7	3.6	3.7	3.8	9.4	8.8	9.1	7.1	
			Bottom	28.0	28.0	28.0	8.0	8.0	8.0	30.7	30.8	30.8	4.4	4.3	4.4	67.5	65.9	66.7	4.1	4.0	4.1		4.4	4.4	4.4		
WM1	1835	12.6	Surface	29.4	29.4	29.4	8.0	8.0	8.0	30.4	30.5	30.5	4.2	4.2	4.2	64.1	65.0	64.6	3.3	3.4	3.4	4.0	4.2	4.1			
			Middle	29.3	29.3	29.3	8.0	8.0	8.0	30.4	30.3	30.4	4.1	4.1	4.1	62.3	63.5	62.9	3.6	3.6	3.6	3.6	4.8	5.0	4.9	5.6	
			Bottom	29.2	29.1	29.2	8.0	8.0	8.0	30.6	30.7	30.7	3.7	3.6	3.7	57.3	55.3	56.3	3.7	3.8	3.8		7.8	8.0	7.9		
WM2	1805	5.8	Surface	29.4	29.4	29.4	8.0	8.0	8.0	30.4	30.3	30.4	4.1	4.2	4.2	63.8	65.1	64.5	3.1	3.1	3.1				7.6	7.8	7.7
			Middle																								6.3
			Bottom	29.4	29.3	29.4	8.0	8.0	8.0	30.4	30.4	30.4	4.0	4.0	4.0	61.3	62.0	61.7	3.1	3.2	3.2		4.8	5.0	4.9		
WM3	1736	10.0	Surface	29.7	29.7	29.7	8.0	8.0	8.0	30.5	30.5	30.5	4.2	4.2	4.2	64.1	64.8	64.5	2.8	2.8	2.8	4.2	4.2	4.2			
			Middle	29.6	29.6	29.6	8.0	8.0	8.0	30.4	30.4	30.4	4.1	4.0	4.1	63.3	61.2	62.3	2.6	2.6	2.6	2.8	6.6	6.6	6.6	5.6	
			Bottom	29.4	29.4	29.4	8.0	8.0	8.0	30.5	30.5	30.5	3.7	3.7	3.7	56.2	57.3	56.8	2.9	2.9	2.9		6.2	6.0	6.1		
WM4	1705	10.4	Surface	29.5	29.6	29.6	7.9	8.0	8.0	30.6	30.6	30.6	4.6	4.5	4.6	71.1	69.2	70.2	3.0	2.8	2.9	7.6	7.2	7.4			
			Middle	29.6	29.6	29.6	8.0	8.0	8.0	30.6	30.6	30.6	3.9	4.0	4.0	59.8	61.7	60.8	3.0	3.1	3.1	2.8	6.6	7.0	6.8	6.9	
			Bottom	29.4	29.4	29.4	8.0	8.0	8.0	30.8	30.7	30.8	4.2	4.1	4.2	65.1	62.9	64.0	2.5	2.6	2.6		6.4	6.6	6.5		
CS2	1630	14.8	Surface	29.8	29.9	29.9	7.9	7.9	7.9	29.2	29.3	29.3	5.5	5.6	5.6	84.1	86.0	85.1	3.3	3.1	3.2	7.4	7.0	7.2			
			Middle	29.5	29.5	29.5	7.9	8.0	8.0	30.5	30.6	30.6	4.7	4.8	4.8	72.2	74.1	73.2	2.8	2.9	2.9	3.0	4.4	4.4	4.4	6.4	
			Bottom	29.2	29.2	29.2	8.0	8.0	8.0	30.8	30.9	30.9	4.2	4.3	4.3	64.1	66.3	65.2	2.9	3.0	3.0		7.4	7.6	7.5		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 14-Sep-11
 Tide: Mid-Ebb
 Weather: Fine
 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	1200	11.6	Surface	29.6	29.6	29.6	8.0	8.0	8.0	30.5	30.4	30.5	5.0	5.1	5.1	77.4	78.9	78.2	3.3	3.1	3.2	4.0	3.8	3.9		
			Middle	28.9	29.1	29.0	7.9	8.0	8.0	30.5	30.5	30.5	4.2	4.3	4.3	64.6	65.8	65.2	3.4	3.3	3.4	3.5	5.2	5.0	5.1	4.6
			Bottom	29.0	29.0	29.0	8.0	8.0	8.0	30.7	30.7	30.7	4.1	4.0	4.1	62.7	61.5	62.1	3.9	4.0	4.0	4.8	5.0	4.9		
WM1	1233	10.9	Surface	29.5	29.5	29.5	8.0	7.9	8.0	30.4	30.5	30.5	4.0	3.9	4.0	61.3	60.1	60.7	3.0	2.8	2.9	4.6	4.4	4.5		
			Middle	29.5	29.4	29.5	7.9	8.0	8.0	30.5	30.5	30.5	3.8	3.7	3.8	58.3	57.4	57.9	3.5	3.6	3.6	3.3	4.6	4.8	4.7	4.8
			Bottom	29.3	29.2	29.3	8.0	8.0	8.0	30.6	30.5	30.6	3.4	3.4	3.4	51.8	52.3	52.1	3.3	3.5	3.4	5.0	5.4	5.2		
WM2	1305	5.6	Surface	29.5	29.5	29.5	7.9	7.9	7.9	30.3	30.3	30.3	4.2	4.1	4.2	63.8	62.7	63.3	3.1	3.0	3.1	4.4	4.2	4.3		
			Middle																		3.2	4.4				
			Bottom	29.4	29.4	29.4	7.9	8.0	8.0	30.3	30.3	30.3	3.6	3.6	3.6	55.3	55.9	55.6	3.3	3.4	3.4	4.4	4.6	4.5		
WM3	1328	10.0	Surface	29.5	29.5	29.5	7.9	7.9	7.9	30.4	30.5	30.5	4.0	4.1	4.1	61.4	63.4	62.4	3.2	3.2	3.2	6.0	6.2	6.1		
			Middle	29.4	29.4	29.4	7.9	8.0	8.0	30.4	30.4	30.4	3.9	3.9	3.9	59.3	60.2	59.8	3.3	3.4	3.4	3.4	7.0	7.2	7.1	7.0
			Bottom	29.3	29.3	29.3	8.0	8.0	8.0	30.5	30.6	30.6	3.6	3.7	3.7	55.1	56.8	56.0	3.6	3.6	3.6	7.6	7.8	7.7		
WM4	1400	10.2	Surface	29.4	29.4	29.4	8.0	7.9	8.0	30.5	30.6	30.6	4.2	4.3	4.3	64.0	66.4	65.2	3.5	3.6	3.6	8.2	8.6	8.4		
			Middle	29.3	29.3	29.3	8.0	8.0	8.0	30.4	30.4	30.4	4.0	3.9	4.0	61.4	59.4	60.4	3.7	3.5	3.6	3.7	9.0	8.4	8.7	9.0
			Bottom	29.1	29.1	29.1	8.0	7.9	8.0	30.6	30.7	30.7	3.7	3.7	3.7	57.3	56.7	57.0	3.8	3.8	3.8	9.8	9.8	9.8		
CS2	1435	14.6	Surface	29.7	29.6	29.7	8.0	8.0	8.0	30.6	30.6	30.6	5.2	5.3	5.3	80.3	81.1	80.7	2.7	2.9	2.8	5.8	6.4	6.1		
			Middle	29.4	29.5	29.5	8.0	8.0	8.0	30.7	30.7	30.7	4.3	4.4	4.4	65.4	67.5	66.5	3.2	3.3	3.3	3.2	6.8	7.0	6.9	7.2
			Bottom	29.0	29.0	29.0	8.0	8.0	8.0	30.9	30.9	30.9	4.1	4.1	4.1	63.6	62.7	63.2	3.5	3.6	3.6	8.6	8.8	8.7		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 16-Sep-11
 Tide: Mid-Flood
 Weather: Drizzle
 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	1039	11.1	Surface	29.8	29.9	29.9	8.1	8.2	8.2	30.1	30.2	30.2	4.4	4.5	4.5	67.4	68.1	67.8	5.0	4.9	5.0					11.2	10.8	11.0		
			Middle	29.9	29.9	29.9	8.2	8.2	8.2	30.1	30.2	30.2	2.8	2.8	2.8	43.3	42.7	43.0	6.2	6.0	6.1	6.2					13.0	12.6	12.8	11.4
			Bottom	29.8	29.8	29.8	8.2	8.1	8.2	30.2	30.2	30.2	3.7	3.8	3.8	58.0	58.9	58.5	7.4	7.4	7.4					10.4	10.6	10.5		
WM1	0957	7.9	Surface	30.0	30.0	30.0	8.1	8.2	8.2	30.1	30.2	30.2	3.8	3.8	3.8	59.7	59.0	59.4	3.6	3.8	3.7					4.4	4.8	4.6		
			Middle	29.9	30.0	30.0	8.2	8.1	8.2	30.2	30.2	30.2	2.7	2.8	2.8	41.8	42.5	42.2	4.3	4.1	4.2	4.4					6.6	6.4	6.5	7.4
			Bottom	29.8	29.8	29.8	8.2	8.2	8.2	30.2	30.2	30.2	2.7	2.5	2.6	42.2	40.3	41.3	5.4	5.1	5.3					11.4	10.8	11.1		
WM2	0929	5.8	Surface	30.0	29.9	30.0	8.2	8.2	8.2	30.2	30.2	30.2	3.9	4.0	4.0	61.3	61.9	61.6	3.6	3.7	3.7					8.0	8.4	8.2		
			Middle																			4.2						7.7		
			Bottom	29.9	29.9	29.9	8.1	8.2	8.2	30.2	30.1	30.2	2.6	2.9	2.8	40.2	42.5	41.4	4.8	4.7	4.8					7.2	7.0	7.1		
WM3	0857	10.0	Surface	30.0	30.0	30.0	8.1	8.1	8.1	30.1	30.2	30.2	3.8	3.7	3.8	58.6	58.1	58.4	1.7	1.4	1.6					2.4	2.0	2.2		
			Middle	30.1	30.1	30.1	8.1	8.1	8.1	30.2	30.1	30.2	2.0	2.2	2.1	31.7	32.4	32.1	4.3	4.1	4.2	3.4					11.0	10.6	10.8	7.3
			Bottom	30.0	29.9	30.0	8.1	8.2	8.2	30.3	30.2	30.3	2.1	2.3	2.2	32.6	34.7	33.7	4.6	4.5	4.6					9.0	8.6	8.8		
WM4	0826	10.2	Surface	30.0	30.0	30.0	8.2	8.2	8.2	30.2	30.3	30.3	4.0	3.8	3.9	63.6	61.9	62.8	2.9	2.9	2.9					7.4	7.4	7.4		
			Middle	29.9	30.0	30.0	8.2	8.1	8.2	30.3	30.3	30.3	2.0	2.1	2.1	30.9	31.2	31.1	3.7	3.4	3.6	3.7					8.4	7.8	8.1	8.9
			Bottom	30.1	30.0	30.1	8.2	8.1	8.2	30.2	30.2	30.2	2.5	2.5	2.5	39.4	40.0	39.7	4.7	4.7	4.7					11.0	11.2	11.1		
CS2	0800	14.4	Surface	30.0	29.9	30.0	8.1	8.2	8.2	30.2	30.2	30.2	4.4	4.4	4.4	68.3	68.8	68.6	3.7	3.9	3.8					8.4	8.6	8.5		
			Middle	29.9	29.9	29.9	8.1	8.1	8.1	30.4	30.3	30.4	2.3	2.5	2.4	36.7	38.1	37.4	4.0	4.0	4.0	4.1					6.8	7.0	6.9	10.2
			Bottom	29.8	29.8	29.8	8.2	8.1	8.2	30.3	30.3	30.3	2.7	2.7	2.7	42.5	42.8	42.7	4.4	4.6	4.5					20.0	10.4	15.2		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 16-Sep-11
 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	1300	11.4	Surface	30.3	30.2	30.3	8.1	8.2	8.2	30.0	30.0	30.0	5.4	5.5	5.5	85.4	86.6	86.0	3.2	3.4	3.3					4.0	4.4	4.2		
			Middle	30.3	30.3	30.3	8.3	8.2	8.3	30.1	30.2	30.2	3.4	3.2	3.3	52.4	50.0	51.2	4.2	4.5	4.4	4.6					6.8	7.2	7.0	6.2
			Bottom	30.1	30.0	30.1	8.2	8.2	8.2	30.3	30.3	30.3	3.2	3.1	3.2	50.5	48.0	49.3	6.1	6.2	6.2					7.4	7.6	7.5		
WM1	1336	9.3	Surface	30.1	30.1	30.1	8.2	8.3	8.3	30.0	30.0	30.0	4.3	4.2	4.3	67.1	65.2	66.2	4.5	4.3	4.4					7.0	6.6	6.8		
			Middle	30.1	30.2	30.2	8.2	8.1	8.2	30.1	30.1	30.1	2.3	2.5	2.4	36.7	38.5	37.6	4.9	4.7	4.8	5.4					6.6	6.2	6.4	7.3
			Bottom	30.0	29.9	30.0	8.3	8.3	8.3	30.2	30.3	30.3	2.2	2.3	2.3	34.6	35.1	34.9	7.1	6.9	7.0					8.6	8.6	8.6		
WM2	1410	5.2	Surface	30.2	30.3	30.3	8.1	8.2	8.2	30.0	30.0	30.0	4.0	4.1	4.1	61.8	63.5	62.7	4.3	4.4	4.4					5.4	5.8	5.6		
			Middle																			4.4						5.8		
			Bottom	30.1	30.2	30.2	8.2	8.1	8.2	29.9	30.0	30.0	2.5	2.2	2.4	38.5	34.4	36.5	4.1	4.7	4.4					5.6	6.4	6.0		
WM3	1442	10.0	Surface	29.9	30.0	30.0	8.1	8.2	8.2	30.1	30.0	30.1	3.7	4.0	3.9	57.9	62.4	60.2	5.1	4.7	4.9					8.0	7.4	7.7		
			Middle	29.9	29.9	29.9	8.3	8.2	8.3	30.2	30.0	30.1	1.7	1.7	1.7	27.6	26.2	26.9	5.2	5.3	5.3	5.3					9.8	10.2	10.0	10.0
			Bottom	30.0	29.9	30.0	8.2	8.2	8.2	30.1	30.1	30.1	1.7	1.6	1.7	26.1	24.9	25.5	5.5	5.7	5.6					12.0	12.6	12.3		
WM4	1514	9.9	Surface	30.0	30.0	30.0	8.3	8.3	8.3	30.1	30.0	30.1	3.8	3.9	3.9	59.1	60.7	59.9	3.8	3.7	3.8					8.4	8.4	8.4		
			Middle	30.0	29.9	30.0	8.2	8.2	8.2	30.1	30.1	30.1	2.1	1.9	2.0	32.4	30.1	31.3	4.4	4.2	4.3	4.3					10.8	10.2	10.5	10.4
			Bottom	29.7	29.8	29.8	8.2	8.3	8.3	30.2	30.1	30.2	2.2	2.1	2.2	33.9	33.1	33.5	4.6	4.8	4.7					12.0	12.8	12.4		
CS2	1542	14.6	Surface	30.1	30.2	30.2	8.2	8.3	8.3	30.2	30.2	30.2	4.7	4.9	4.8	74.3	76.2	75.3	2.2	2.4	2.3					4.6	5.2	4.9		
			Middle	30.0	30.0	30.0	8.1	8.2	8.2	30.2	30.3	30.3	2.6	2.5	2.6	40.2	39.1	39.7	3.2	3.3	3.3	2.9					6.0	6.4	6.2	6.4
			Bottom	29.9	29.9	29.9	8.1	8.2	8.2	30.2	30.2	30.2	2.4	2.7	2.6	37.5	41.4	39.5	3.1	3.3	3.2					7.8	8.4	8.1		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	1134	14.6	Surface	29.6	29.7	29.7	7.9	7.9	7.9	30.2	30.2	30.2	4.6	4.7	4.7	71.1	73.2	72.2	3.0	3.1	3.1	5.0	5.6	5.3						
			Middle	29.5	29.4	29.5	7.9	8.0	8.0	30.3	30.4	30.4	4.3	4.2	4.3	66.7	65.3	66.0	3.8	4.0	3.9	3.9	7.2	6.8	7.0	6.7				
			Bottom	29.4	29.4	29.4	7.9	8.0	8.0	30.6	30.7	30.7	3.9	3.9	3.9	60.3	61.0	60.7	4.8	4.9	4.9		7.8	7.8	7.8					
WM1	1053	14.0	Surface	29.7	29.7	29.7	8.0	8.0	8.0	30.3	30.3	30.3	3.9	3.9	3.9	59.8	60.3	60.1	3.3	3.4	3.4	7.0	7.4	7.2						
			Middle	29.7	29.7	29.7	8.0	8.0	8.0	30.3	30.4	30.4	3.4	3.5	3.5	53.1	54.6	53.9	3.3	3.3	3.3	3.7	10.2	10.4	10.3	8.0				
			Bottom	29.4	29.5	29.5	8.0	7.9	8.0	30.5	30.4	30.5	3.3	3.3	3.3	50.9	51.8	51.4	4.6	4.4	4.5		6.4	6.6	6.5					
WM2	1023	5.8	Surface	29.6	29.6	29.6	7.9	8.0	8.0	30.2	30.2	30.2	3.8	3.8	3.8	58.5	59.3	58.9	3.2	3.1	3.2	8.0	7.8	7.9						
			Middle																		3.3								6.5	
			Bottom	29.6	29.6	29.6	7.9	7.9	7.9	30.2	30.2	30.2	3.5	3.6	3.6	54.5	56.0	55.3	3.4	3.4	3.4		5.0	5.2	5.1					
WM3	0956	8.6	Surface	29.7	29.7	29.7	7.9	7.9	7.9	30.3	30.3	30.3	4.1	4.0	4.1	63.9	61.8	62.9	2.2	2.4	2.3	3.0	3.4	3.2						
			Middle	29.5	29.5	29.5	7.9	8.0	8.0	30.3	30.4	30.4	3.8	3.8	3.8	58.1	59.4	58.8	2.9	3.0	3.0	2.9	7.4	7.6	7.5	5.7				
			Bottom	29.4	29.5	29.5	7.9	8.0	8.0	30.4	30.5	30.5	3.0	3.2	3.1	47.1	50.2	48.7	3.5	3.4	3.5		6.6	6.2	6.4					
WM4	0930	9.0	Surface	29.7	29.8	29.8	7.8	7.9	7.9	30.3	30.3	30.3	3.9	4.0	4.0	60.2	61.5	60.9	3.0	3.1	3.1	7.6	7.8	7.7						
			Middle	29.8	29.8	29.8	7.9	7.9	7.9	30.3	30.3	30.3	3.7	3.7	3.7	56.8	57.7	57.3	2.9	2.9	2.9	2.9	6.4	6.4	6.4	6.9				
			Bottom	29.6	29.5	29.6	8.0	7.9	8.0	30.5	30.6	30.6	3.7	3.8	3.8	57.5	58.6	58.1	2.7	2.7	2.7		6.6	6.8	6.7					
CS2	0900	14.8	Surface	29.7	29.6	29.7	7.9	7.9	7.9	30.5	30.5	30.5	4.6	4.7	4.7	70.8	72.8	71.8	2.4	2.6	2.5	5.4	5.8	5.6						
			Middle	29.6	29.6	29.6	7.9	8.0	8.0	30.6	30.6	30.6	4.3	4.2	4.3	66.2	64.7	65.5	3.4	3.2	3.3	3.0	5.4	5.0	5.2	6.6				
			Bottom	28.9	29.0	29.0	8.0	7.9	8.0	30.8	30.9	30.9	3.8	3.9	3.9	59.1	62.7	60.9	3.1	3.1	3.1		9.0	9.0	9.0					

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	1330	14.0	Surface	29.9	29.8	29.9	8.0	8.0	8.0	29.4	29.4	29.4	5.8	5.7	5.8	89.6	87.7	88.7	4.4	4.5	4.5					5.4	5.6	5.5		
			Middle	29.8	29.7	29.8	8.0	8.0	8.0	30.5	30.6	30.6	4.5	4.6	4.6	69.6	71.4	70.5	4.2	4.0	4.1	4.3					6.2	6.2	6.2	5.9
			Bottom	29.5	29.4	29.5	8.0	8.0	8.0	30.7	30.8	30.8	4.0	3.9	4.0	62.1	60.3	61.2	4.3	4.4	4.4					5.8	6.0	5.9		
WM1	1403	13.6	Surface	29.9	29.9	29.9	8.0	8.0	8.0	29.6	29.7	29.7	4.1	4.2	4.2	63.5	65.4	64.5	3.1	3.3	3.2					4.6	5.0	4.8		
			Middle	29.8	29.8	29.8	8.0	7.9	8.0	30.4	30.4	30.4	4.0	3.8	3.9	61.9	58.8	60.4	3.6	3.6	3.6	3.6					4.8	5.2	5.0	5.3
			Bottom	29.4	29.4	29.4	8.0	8.0	8.0	30.5	30.6	30.6	3.5	3.5	3.5	53.7	54.8	54.3	4.0	4.2	4.1					5.8	6.2	6.0		
WM2	1433	5.6	Surface	29.9	29.9	29.9	8.0	7.9	8.0	29.9	30.0	30.0	4.2	4.2	4.2	65.1	64.3	64.7	3.4	3.6	3.5					4.6	5.0	4.8		
			Middle																			3.8							5.1	
			Bottom	29.8	29.8	29.8	8.0	8.0	8.0	30.3	30.3	30.3	3.8	3.8	3.8	58.1	61.1	59.6	4.0	4.0	4.0					5.4	5.4	5.4		
WM3	1507	8.6	Surface	29.6	29.7	29.7	7.9	8.0	8.0	30.6	30.7	30.7	4.0	4.0	4.0	61.2	62.4	61.8	3.4	3.5	3.5					6.2	6.2	6.2		
			Middle	29.6	29.6	29.6	8.0	8.0	8.0	30.5	30.5	30.5	3.8	3.7	3.8	59.3	57.7	58.5	3.9	3.9	3.9	3.9					7.4	7.6	7.5	7.7
			Bottom	29.4	29.4	29.4	8.0	8.0	8.0	30.7	30.8	30.8	3.5	3.5	3.5	53.5	54.7	54.1	4.3	4.5	4.4					9.2	9.6	9.4		
WM4	1538	8.8	Surface	29.9	29.8	29.9	7.9	7.9	7.9	30.6	30.7	30.7	4.4	4.5	4.5	67.9	69.3	68.6	2.4	2.1	2.3					6.0	5.4	5.7		
			Middle	29.8	29.7	29.8	7.9	8.0	8.0	30.5	30.5	30.5	4.1	4.2	4.2	63.5	65.4	64.5	2.5	2.7	2.6	2.9					6.4	6.8	6.6	8.2
			Bottom	29.5	29.5	29.5	8.0	7.9	8.0	30.8	30.8	30.8	3.8	3.8	3.8	58.4	59.2	58.8	3.9	4.0	4.0					12.2	12.6	12.4		
CS2	1615	14.4	Surface	29.9	29.9	29.9	7.9	8.0	8.0	30.8	30.9	30.9	5.8	5.6	5.7	88.7	86.1	87.4	2.2	2.0	2.1					4.6	4.6	4.6		
			Middle	29.6	29.6	29.6	8.0	8.0	8.0	31.0	31.0	31.0	4.9	4.9	4.9	75.2	76.0	75.6	3.4	3.6	3.5	3.4					7.2	7.6	7.4	7.9
			Bottom	29.2	29.2	29.2	8.0	8.0	8.0	31.4	31.3	31.4	4.0	4.0	4.0	61.2	62.4	61.8	4.6	4.7	4.7					11.6	12.0	11.8		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1838	9.4	Surface	29.6	29.6	29.6	8.2	8.3	8.3	31.2	31.2	31.2	5.1	5.0	5.1	80.2	78.1	79.2	4.0	4.1	4.1	8.8	9.2	9.0		
			Middle	29.3	29.4	29.4	8.1	8.1	8.1	31.2	31.3	31.3	2.9	3.0	3.0	45.2	46.8	46.0	4.6	4.7	4.7	4.9	11.8	11.8	11.8	9.9
			Bottom	29.3	29.3	29.3	8.2	8.1	8.2	31.0	31.0	31.0	3.1	3.0	3.1	47.6	46.8	47.2	6.0	5.7	5.9		9.2	8.8	9.0	
WM1	1800	8.2	Surface	29.6	29.7	29.7	8.2	8.2	8.2	30.8	30.8	30.8	4.2	4.3	4.3	65.3	66.7	66.0	3.9	3.8	3.9	4.6	4.6	4.6		
			Middle	29.5	29.6	29.6	8.1	8.2	8.2	30.9	30.9	30.9	2.6	2.4	2.5	39.7	37.9	38.8	4.4	4.5	4.5	4.6	6.0	6.0	6.0	7.3
			Bottom	29.5	29.5	29.5	8.2	8.2	8.2	31.0	30.9	31.0	2.4	2.3	2.4	37.7	36.1	36.9	5.3	5.4	5.4		11.2	11.2	11.2	
WM2	1727	5.8	Surface	29.7	29.7	29.7	8.2	8.3	8.3	31.0	31.0	31.0	4.5	4.5	4.5	70.4	69.1	69.8	3.9	3.7	3.8	9.6	9.0	9.3		
			Middle																							8.2
			Bottom	29.4	29.4	29.4	8.3	8.2	8.3	30.9	31.0	31.0	2.3	2.2	2.3	36.5	34.7	35.6	5.1	4.7	4.9		7.4	6.8	7.1	
WM3	1655	9.6	Surface	29.7	29.7	29.7	8.1	8.2	8.2	31.1	31.1	31.1	4.7	4.8	4.8	73.5	75.1	74.3	3.4	3.6	3.5	4.8	5.4	5.1		
			Middle	29.5	29.6	29.6	8.2	8.3	8.3	31.0	31.1	31.1	2.7	2.6	2.7	42.1	40.2	41.2	4.2	4.1	4.2	4.3	10.6	10.4	10.5	8.4
			Bottom	29.3	29.3	29.3	8.3	8.2	8.3	31.1	31.1	31.1	2.3	2.2	2.3	36.6	34.4	35.5	5.3	5.1	5.2		9.6	9.4	9.5	
WM4	1625	9.8	Surface	29.6	29.6	29.6	8.2	8.2	8.2	31.0	30.9	31.0	4.7	4.4	4.6	73.7	68.7	71.2	2.2	2.3	2.3	5.2	5.4	5.3		
			Middle	29.4	29.5	29.5	8.1	8.2	8.2	31.1	31.0	31.1	2.6	2.4	2.5	40.3	37.5	38.9	3.2	3.0	3.1	3.1	7.2	6.8	7.0	7.0
			Bottom	29.5	29.5	29.5	8.2	8.2	8.2	31.2	31.1	31.2	2.2	2.1	2.2	34.7	33.4	34.1	3.8	3.9	3.9		8.6	9.0	8.8	
CS2	1600	14.4	Surface	29.8	29.8	29.8	8.3	8.2	8.3	30.2	30.1	30.2	8.1	7.7	7.9	125.8	120.3	123.1	3.7	3.8	3.8	7.8	8.2	8.0		
			Middle	29.6	29.6	29.6	8.2	8.2	8.2	31.1	31.1	31.1	3.5	3.2	3.4	54.7	50.6	52.7	4.1	4.2	4.2	4.2	7.4	7.8	7.6	9.1
			Bottom	29.5	29.6	29.6	8.2	8.1	8.2	31.1	31.2	31.2	3.0	2.8	2.9	46.7	43.3	45.0	4.6	4.8	4.7		11.6	12.0	11.8	

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 21-Sep-11
 Tide: Mid-Ebb
 Weather: Cloudy
 Sea Conditions: Small Wave
 Upstream Control Station CS1

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	0545	10.3	Surface	29.9	29.8	29.9	8.1	8.1	8.1	30.8	30.8	30.8	7.4	7.4	7.4	116.3	116.9	116.6	4.2	4.2	4.2					5.2	5.4	5.3		
			Middle	29.4	29.4	29.4	8.2	8.1	8.2	30.9	31.0	31.0	3.2	3.3	3.3	48.5	49.2	48.9	4.2	4.3	4.3	4.3					6.8	7.0	6.9	5.7
			Bottom	29.5	29.6	29.6	8.1	8.1	8.1	30.8	30.8	30.8	3.5	3.6	3.6	55.4	56.6	56.0	4.5	4.5	4.5					4.6	5.0	4.8		
WM1	0622	14.6	Surface	29.7	29.8	29.8	8.2	8.1	8.2	30.6	30.6	30.6	3.7	3.6	3.7	57.4	56.7	57.1	3.3	3.5	3.4					5.4	5.8	5.6		
			Middle	29.5	29.5	29.5	8.2	8.2	8.2	30.7	30.6	30.7	2.0	2.1	2.1	31.3	32.2	31.8	4.2	4.2	4.2	4.2					5.2	5.2	5.2	5.6
			Bottom	29.6	29.5	29.6	8.1	8.2	8.2	30.7	30.7	30.7	2.6	2.6	2.6	41.0	41.5	41.3	5.1	5.0	5.1					6.2	6.0	6.1		
WM2	0653	5.5	Surface	29.6	29.7	29.7	8.1	8.2	8.2	30.6	30.6	30.6	3.4	3.5	3.5	53.8	54.6	54.2	2.9	3.0	3.0					5.2	5.4	5.3		
			Middle																		2.9							6.0		
			Bottom	29.2	29.2	29.2	8.2	8.2	8.2	30.4	30.3	30.4	1.8	1.8	1.8	27.4	27.9	27.7	2.9	2.9	2.9					6.8	6.4	6.6		
WM3	0720	8.4	Surface	29.5	29.4	29.5	8.1	8.1	8.1	30.7	30.8	30.8	3.5	3.5	3.5	55.2	55.6	55.4	2.7	2.8	2.8					6.0	6.4	6.2		
			Middle	29.3	29.3	29.3	8.1	8.2	8.2	30.6	30.6	30.6	2.3	2.2	2.3	35.7	34.4	35.1	2.8	2.8	2.8	2.9					6.0	6.0	6.0	6.7
			Bottom	29.3	29.3	29.3	8.1	8.2	8.2	30.7	30.7	30.7	1.8	1.9	1.9	27.1	27.8	27.5	3.0	3.2	3.1					7.6	8.2	7.9		
WM4	0753	8.6	Surface	29.5	29.4	29.5	8.2	8.2	8.2	30.6	30.5	30.6	3.7	3.6	3.7	58.0	57.3	57.7	2.4	2.4	2.4					6.2	6.4	6.3		
			Middle	29.3	29.4	29.4	8.2	8.2	8.2	30.7	30.7	30.7	2.1	2.3	2.2	33.2	35.4	34.3	2.9	3.0	3.0	2.7					7.6	7.8	7.7	7.5
			Bottom	29.5	29.4	29.5	8.2	8.1	8.2	30.8	30.7	30.8	2.2	2.2	2.2	34.7	34.5	34.6	2.7	3.0	2.9					8.2	8.8	8.5		
CS2	0824	14.2	Surface	29.7	29.6	29.7	8.2	8.1	8.2	31.0	31.0	31.0	4.8	4.8	4.8	74.8	74.3	74.6	3.3	3.5	3.4					7.4	7.8	7.6		
			Middle	29.2	29.2	29.2	8.1	8.2	8.2	31.0	31.1	31.1	2.5	2.4	2.5	39.4	38.5	39.0	3.7	3.7	3.7	3.6					7.0	7.2	7.1	7.9
			Bottom	29.1	29.2	29.2	8.1	8.1	8.1	31.0	31.0	31.0	2.2	2.1	2.2	34.7	34.3	34.5	3.6	3.7	3.7					9.0	9.0	9.0		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 23-Sep-11
 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	1622	9.9	Surface	29.0	29.0	29.0	8.3	8.3	8.3	31.1	31.1	31.1	2.5	2.7	2.6	39.1	41.5	40.3	5.2	5.4	5.3					12.2	12.8	12.5		
			Middle	29.2	29.1	29.2	8.3	8.3	8.3	31.1	31.2	31.2	2.3	2.3	2.3	37.8	37.2	37.5	5.7	5.7	5.7	5.6					14.0	14.4	14.2	13.0
			Bottom	29.0	29.0	29.0	8.3	8.2	8.3	31.1	31.1	31.1	2.4	2.3	2.4	36.2	35.4	35.8	5.9	5.7	5.8					12.4	12.0	12.2		
WM1	1541	12.9	Surface	28.9	29.0	29.0	8.2	8.3	8.3	31.0	31.0	31.0	2.3	2.3	2.3	35.5	35.9	35.7	4.9	4.8	4.9					5.2	5.0	5.1		
			Middle	29.1	29.0	29.1	8.3	8.2	8.3	31.0	30.9	31.0	2.1	2.3	2.2	32.3	34.1	33.2	5.1	5.3	5.2	5.0					6.8	7.2	7.0	7.2
			Bottom	29.1	29.0	29.1	8.3	8.3	8.3	31.0	31.1	31.1	2.0	2.2	2.1	30.2	33.0	31.6	4.7	5.0	4.9					9.2	9.8	9.5		
WM2	1515	5.8	Surface	29.1	29.2	29.2	8.3	8.2	8.3	30.7	30.7	30.7	2.3	2.5	2.4	35.2	37.8	36.5	4.3	4.6	4.5					10.6	11.2	10.9		
			Middle																		4.8							9.4		
			Bottom	29.0	29.1	29.1	8.2	8.3	8.3	31.0	30.9	31.0	2.0	2.1	2.1	31.3	31.7	31.5	5.2	5.1	5.2					8.0	7.6	7.8		
WM3	1443	8.7	Surface	29.1	29.0	29.1	8.3	8.3	8.3	31.1	31.2	31.2	2.3	2.3	2.3	35.2	35.5	35.4	5.4	5.3	5.4					7.8	7.6	7.7		
			Middle	29.1	29.1	29.1	8.3	8.2	8.3	31.2	31.1	31.2	4.6	4.5	4.6	63.0	62.4	62.7	4.8	4.8	4.8	5.2					11.8	11.6	11.7	9.9
			Bottom	29.1	29.1	29.1	8.3	8.2	8.3	31.2	31.2	31.2	5.3	5.2	5.3	74.4	73.6	74.0	5.3	5.3	5.3					10.0	10.6	10.3		
WM4	1410	9.5	Surface	28.8	28.7	28.8	8.3	8.2	8.3	31.1	31.1	31.1	5.0	5.1	5.1	77.3	77.8	77.6	3.7	3.9	3.8					9.2	10.0	9.6		
			Middle	28.9	28.8	28.9	8.3	8.3	8.3	31.3	31.2	31.3	4.8	4.6	4.7	73.4	71.5	72.5	4.0	3.7	3.9	3.9					9.4	9.0	9.2	9.3
			Bottom	29.0	29.0	29.0	8.3	8.3	8.3	31.2	31.2	31.2	5.0	5.0	5.0	76.7	77.1	76.9	3.9	3.9	3.9					9.2	9.2	9.2		
CS2	1345	14.3	Surface	29.3	29.3	29.3	8.2	8.2	8.2	31.3	31.4	31.4	6.6	6.5	6.6	103.2	102.6	102.9	4.9	5.1	5.0					10.0	10.8	10.4		
			Middle	29.1	29.1	29.1	8.1	8.2	8.2	31.3	31.3	31.3	4.1	4.1	4.1	63.9	63.4	63.7	4.7	4.7	4.7	5.0					7.4	7.6	7.5	10.3
			Bottom	29.0	29.1	29.1	8.2	8.2	8.2	31.3	31.2	31.3	3.3	3.4	3.4	51.6	52.1	51.9	5.1	5.2	5.2					12.8	13.2	13.0		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 23-Sep-11
 Tide: Mid-Ebb
 Weather: Drizzle
 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	0830	9.9	Surface	28.9	28.8	28.9	8.2	8.2	8.2	31.3	31.3	31.3	5.0	5.0	5.0	77.3	76.8	77.1	4.5	4.4	4.5					6.6	6.4	6.5		
			Middle	29.2	29.2	29.2	8.2	8.2	8.2	31.2	31.2	31.2	5.1	5.0	5.1	78.4	77.9	78.2	4.4	4.4	4.4	4.7					7.0	7.2	7.1	6.6
			Bottom	29.2	29.2	29.2	8.3	8.3	8.3	31.2	31.2	31.2	5.1	5.1	5.1	79.2	79.5	79.4	5.2	5.1	5.2					6.4	6.2	6.3		
WM1	0855	14.1	Surface	28.5	28.5	28.5	8.3	8.3	8.3	31.0	31.0	31.0	4.9	4.8	4.9	68.4	67.8	68.1	3.9	4.0	4.0					6.0	6.4	6.2		
			Middle	28.7	28.7	28.7	8.3	8.3	8.3	31.1	31.1	31.1	4.8	4.8	4.8	67.5	67.1	67.3	4.1	4.2	4.2	4.3					4.6	4.8	4.7	5.8
			Bottom	29.1	29.1	29.1	8.3	8.3	8.3	31.1	31.1	31.1	4.6	4.5	4.6	66.2	65.7	66.0	4.8	4.9	4.9					6.4	6.6	6.5		
WM2	0923	5.2	Surface	28.6	28.5	28.6	8.3	8.3	8.3	30.9	30.9	30.9	4.5	4.4	4.5	62.7	62.1	62.4	4.0	4.0	4.0					4.8	5.2	5.0		
			Middle																			4.4							5.5	
			Bottom	29.1	29.1	29.1	8.3	8.3	8.3	31.0	31.0	31.0	4.1	4.1	4.1	60.4	60.8	60.6	4.7	4.7	4.7					5.8	6.2	6.0		
WM3	0945	9.3	Surface	29.1	29.1	29.1	8.3	8.3	8.3	31.0	31.0	31.0	4.0	4.0	4.0	62.2	61.8	62.0	4.3	4.4	4.4					8.0	8.4	8.2		
			Middle	29.1	29.1	29.1	8.3	8.3	8.3	31.0	31.0	31.0	3.8	3.9	3.9	60.0	60.7	60.4	4.5	4.6	4.6	4.6					9.0	9.8	9.4	9.5
			Bottom	29.2	29.2	29.2	8.2	8.2	8.2	30.8	30.8	30.8	3.8	3.7	3.8	60.0	59.5	59.8	4.9	4.9	4.9					10.8	10.8	10.8		
WM4	1015	8.3	Surface	29.0	29.0	29.0	8.3	8.3	8.3	30.9	31.0	31.0	4.0	4.0	4.0	62.8	63.2	63.0	4.6	4.5	4.6					10.6	10.0	10.3		
			Middle	29.0	29.0	29.0	8.2	8.2	8.2	31.0	31.0	31.0	3.9	3.8	3.9	61.3	60.7	61.0	4.7	4.8	4.8	4.7					11.4	11.6	11.5	11.8
			Bottom	29.0	29.0	29.0	8.2	8.2	8.2	31.0	31.0	31.0	4.0	3.9	4.0	62.8	62.2	62.5	4.8	4.8	4.8					13.6	13.4	13.5		
CS2	1053	14.2	Surface	28.9	28.9	28.9	8.3	8.3	8.3	31.1	31.1	31.1	4.7	4.7	4.7	72.5	72.1	72.3	4.3	4.2	4.3					8.6	8.8	8.7		
			Middle	29.0	29.0	29.0	8.3	8.3	8.3	31.2	31.2	31.2	4.9	4.8	4.9	76.6	76.1	76.4	4.9	4.8	4.9	4.7					10.2	10.0	10.1	10.4
			Bottom	28.7	28.7	28.7	8.3	8.2	8.3	31.1	31.1	31.1	5.1	5.1	5.1	77.9	78.3	78.1	5.0	4.9	5.0					12.4	12.2	12.3		

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)						
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**			
CS1	1734	11.7	Surface	28.4	28.3	28.4	8.1	8.1	8.1	31.5	31.5	31.5	4.9	4.8	4.9	75.7	74.1	74.9	6.3	6.4	6.4	13.4	13.6	13.5					
			Middle	28.5	28.5	28.5	8.1	8.2	8.2	31.5	31.6	31.6	2.8	2.6	2.7	42.4	40.1	41.3	7.0	7.2	7.1	7.1	15.6	15.4	15.5	13.8			
			Bottom	28.2	28.1	28.2	8.2	8.2	8.2	31.4	31.5	31.5	3.2	3.4	3.3	49.1	52.1	50.6	7.7	7.8	7.8		12.2	12.6	12.4				
WM1	1659	14.9	Surface	29.0	29.0	29.0	8.1	8.2	8.2	31.2	31.3	31.3	4.2	4.4	4.3	65.4	68.0	66.7	6.3	6.2	6.3	7.8	8.2	8.0					
			Middle	28.7	28.8	28.8	8.2	8.1	8.2	31.5	31.4	31.5	2.2	2.1	2.2	34.4	32.4	33.4	6.7	6.8	6.8	6.8	9.2	9.6	9.4	10.7			
			Bottom	28.4	28.4	28.4	8.2	8.2	8.2	31.5	31.5	31.5	2.2	2.0	2.1	33.5	30.5	32.0	7.4	7.5	7.5		14.2	15.0	14.6				
WM2	1626	5.9	Surface	29.1	29.0	29.1	8.2	8.3	8.3	31.1	31.2	31.2	4.5	4.4	4.5	68.9	67.3	68.1	7.1	7.0	7.1				15.8	15.6	15.7		
			Middle																		6.9							14.0	
			Bottom	28.6	28.6	28.6	8.2	8.2	8.2	31.2	31.2	31.2	2.7	2.4	2.6	41.5	37.3	39.4	6.8	6.6	6.7		12.4	12.2	12.3				
WM3	1555	9.6	Surface	28.6	28.6	28.6	8.2	8.2	8.2	31.4	31.5	31.5	4.8	4.7	4.8	74.4	72.7	73.6	6.0	5.8	5.9	9.4	9.0	9.2					
			Middle	28.4	28.5	28.5	8.2	8.1	8.2	31.5	31.5	31.5	2.7	2.5	2.6	41.4	38.4	39.9	6.2	6.3	6.3	6.5	15.6	15.6	15.6	13.0			
			Bottom	28.5	28.5	28.5	8.2	8.2	8.2	31.4	31.5	31.5	2.3	2.2	2.3	35.5	33.7	34.6	7.3	7.2	7.3		14.6	14.0	14.3				
WM4	1525	10.6	Surface	28.6	28.6	28.6	8.1	8.2	8.2	31.5	31.5	31.5	5.2	5.3	5.3	80.2	81.5	80.9	5.9	5.7	5.8	14.8	14.6	14.7					
			Middle	28.1	28.2	28.2	8.2	8.3	8.3	31.4	31.4	31.4	3.4	2.9	3.2	51.4	45.7	48.6	6.4	6.3	6.4	6.5	13.4	12.8	13.1	14.4			
			Bottom	28.4	28.4	28.4	8.2	8.3	8.3	31.5	31.5	31.5	2.6	2.5	2.6	40.4	38.7	39.6	7.3	7.4	7.4		15.4	15.6	15.5				
CS2	1500	14.5	Surface	28.8	28.9	28.9	8.3	8.2	8.3	31.4	31.5	31.5	7.1	7.2	7.2	109.4	111.4	110.4	5.8	5.7	5.8	13.2	13.0	13.1					
			Middle	28.5	28.5	28.5	8.2	8.2	8.2	31.7	31.7	31.7	5.3	5.1	5.2	81.3	77.6	79.5	6.2	6.3	6.3	6.3	11.8	12.0	11.9	14.1			
			Bottom	28.4	28.5	28.5	8.3	8.2	8.3	31.4	31.5	31.5	4.0	4.2	4.1	61.3	64.3	62.8	6.8	6.9	6.9		17.2	17.4	17.3				

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	1030	13.0	Surface	28.6	28.6	28.6	8.2	8.3	8.3	31.2	31.2	31.2	8.9	8.8	8.9	136.2	135.4	135.8	5.1	5.2	5.2	11.6	12.0	11.8						
			Middle	28.4	28.5	28.5	8.3	8.3	8.3	31.4	31.4	31.4	7.8	7.8	7.8	116.4	116.7	116.6	7.0	7.0	7.0	6.4	14.8	15.0	14.9	14.1				
			Bottom	28.2	28.2	28.2	8.2	8.3	8.3	31.4	31.3	31.4	3.4	3.5	3.5	52.4	53.1	52.8	7.1	7.0	7.1		15.8	15.6	15.7					
WM1	1106	11.6	Surface	28.5	28.6	28.6	8.2	8.2	8.2	31.4	31.3	31.4	4.5	4.7	4.6	68.8	70.1	69.5	6.1	6.1	6.1	9.6	9.8	9.7						
			Middle	28.4	28.3	28.4	8.3	8.2	8.3	31.2	31.3	31.3	2.3	2.4	2.4	34.6	35.9	35.3	6.7	6.8	6.8	6.6	10.2	10.6	10.4	10.0				
			Bottom	28.4	28.5	28.5	8.2	8.2	8.2	31.2	31.2	31.2	2.3	2.3	2.3	35.7	35.3	35.5	6.8	6.8	6.8		9.6	10.2	9.9					
WM2	1139	5.4	Surface	28.8	28.7	28.8	8.3	8.3	8.3	31.2	31.3	31.3	4.4	4.4	4.4	68.1	68.6	68.4	7.4	7.2	7.3	10.2	10.0	10.1						
			Middle																		7.1								10.5	
			Bottom	28.7	28.7	28.7	8.3	8.2	8.3	31.4	31.3	31.4	2.3	2.4	2.4	35.7	36.8	36.3	6.8	7.0	6.9		10.6	11.0	10.8					
WM3	1207	8.9	Surface	28.8	28.7	28.8	8.3	8.2	8.3	31.3	31.3	31.3	4.2	4.3	4.3	65.0	65.9	65.5	6.7	6.8	6.8	12.2	12.6	12.4						
			Middle	28.6	28.6	28.6	8.3	8.3	8.3	31.2	31.3	31.3	2.1	2.1	2.1	32.8	32.4	32.6	7.4	7.3	7.4	7.1	13.6	13.2	13.4	13.8				
			Bottom	28.6	28.7	28.7	8.2	8.2	8.2	31.2	31.2	31.2	1.9	2.0	2.0	28.8	29.5	29.2	7.3	7.3	7.3		15.4	16.0	15.7					
WM4	1238	9.3	Surface	28.7	28.6	28.7	8.2	8.3	8.3	31.3	31.4	31.4	4.0	4.0	4.0	61.4	61.1	61.3	7.1	7.0	7.1	14.2	14.8	14.5						
			Middle	28.7	28.7	28.7	8.2	8.3	8.3	31.3	31.3	31.3	1.8	1.9	1.9	28.0	28.6	28.3	6.9	6.9	6.9	7.0	15.4	15.6	15.5	15.4				
			Bottom	28.7	28.6	28.7	8.3	8.2	8.3	31.4	31.4	31.4	1.9	1.9	1.9	29.9	30.3	30.1	7.1	7.1	7.1		15.8	16.6	16.2					
CS2	1310	14.9	Surface	28.6	28.7	28.7	8.3	8.3	8.3	31.4	31.4	31.4	5.1	5.2	5.2	78.6	79.2	78.9	5.8	5.9	5.9	12.2	12.4	12.3						
			Middle	28.5	28.6	28.6	8.2	8.2	8.2	31.4	31.3	31.4	2.8	2.8	2.8	42.3	42.7	42.5	5.9	5.7	5.8	5.9	11.8	12.4	12.1	12.8				
			Bottom	28.4	28.4	28.4	8.2	8.2	8.2	31.5	31.4	31.5	2.2	2.2	2.2	34.2	34.5	34.4	6.1	6.1	6.1		13.8	14.2	14.0					

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperrature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1759	17.4	Surface	28.6	28.6	28.6	8.3	8.3	8.3	31.4	31.4	31.4	3.2	3.2	3.2	50.2	50.5	50.4	9.4	9.6	9.5	14.2	14.8	14.5		
			Middle	28.6	28.5	28.6	8.3	8.2	8.3	31.3	31.4	31.4	3.7	3.6	3.7	56.4	55.1	55.8	9.8	9.8	9.8	9.6	15.4	15.4	15.4	14.9
			Bottom	28.5	28.5	28.5	8.3	8.3	8.3	31.4	31.4	31.4	2.5	2.7	2.6	38.8	40.0	39.4	9.4	9.5	9.5		15.0	14.4	14.7	
WM1	1729	15.5	Surface	28.8	28.7	28.8	8.3	8.2	8.3	31.3	31.3	31.3	1.7	1.8	1.8	25.6	26.3	26.0	7.3	7.1	7.2	8.2	8.2	8.2		
			Middle	28.8	28.7	28.8	8.2	8.2	8.2	31.3	31.4	31.4	1.7	1.8	1.8	26.0	26.7	26.4	7.7	7.7	7.7	7.7	11.0	10.2	10.6	11.2
			Bottom	28.9	28.9	28.9	8.3	8.3	8.3	31.3	31.3	31.3	1.8	1.9	1.9	27.8	28.3	28.1	8.1	8.0	8.1		14.8	14.6	14.7	
WM2	1710	5.9	Surface	28.8	28.8	28.8	8.3	8.3	8.3	31.3	31.2	31.3	2.1	2.3	2.2	32.7	34.2	33.5	7.2	7.4	7.3	13.0	13.8	13.4		
			Middle																		7.5				12.7	
			Bottom	28.7	28.8	28.8	8.2	8.3	8.3	31.2	31.2	31.2	1.9	1.8	1.9	28.8	28.5	28.7	7.8	7.7	7.8		11.8	12.2	12.0	
WM3	1644	10.1	Surface	28.9	28.9	28.9	8.3	8.3	8.3	31.4	31.4	31.4	2.3	2.1	2.2	36.3	34.9	35.6	7.2	7.2	7.2	11.0	11.2	11.1		
			Middle	28.8	28.9	28.9	8.3	8.3	8.3	31.3	31.4	31.4	2.1	2.1	2.1	32.6	33.1	32.9	7.6	7.6	7.6	7.6	16.0	15.4	15.7	13.8
			Bottom	28.8	28.9	28.9	8.2	8.3	8.3	31.4	31.4	31.4	2.0	1.9	2.0	30.5	29.4	30.0	7.9	8.0	8.0		14.8	14.6	14.7	
WM4	1619	10.6	Surface	28.9	28.9	28.9	8.2	8.2	8.2	31.4	31.3	31.4	2.3	2.5	2.4	35.2	37.6	36.4	6.8	7.0	6.9	14.4	15.2	14.8		
			Middle	28.9	28.8	28.9	8.3	8.2	8.3	31.3	31.3	31.3	1.9	2.0	2.0	29.7	30.5	30.1	7.3	7.4	7.4	7.4	15.2	15.0	15.1	15.0
			Bottom	28.8	28.8	28.8	8.2	8.2	8.2	31.3	31.4	31.4	1.9	1.8	1.9	30.0	28.3	29.2	7.8	7.8	7.8		14.8	15.2	15.0	
CS2	1600	15.4	Surface	29.4	29.4	29.4	8.1	8.2	8.2	31.2	31.2	31.2	4.1	4.1	4.1	64.9	64.2	64.6	6.2	6.2	6.2	13.2	13.0	13.1		
			Middle	28.9	29.0	29.0	8.1	8.1	8.1	31.4	31.3	31.4	3.0	3.1	3.1	46.3	47.4	46.9	6.8	6.6	6.7	6.7	12.8	12.4	12.6	13.6
			Bottom	28.8	28.9	28.9	8.1	8.1	8.1	31.4	31.4	31.4	3.0	3.0	3.0	47.0	47.5	47.3	7.3	7.3	7.3		15.4	14.8	15.1	

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

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

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)							
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**				
CS1	1130	17.2	Surface	30.2	30.2	30.2	8.1	8.2	8.2	30.9	30.9	30.9	5.1	5.1	5.1	80.3	80.9	80.6	6.1	6.3	6.2	11.6	11.8	11.7						
			Middle	29.1	29.0	29.1	8.1	8.1	8.1	31.1	31.2	31.2	4.3	4.2	4.3	67.3	66.5	66.9	7.6	7.6	7.6	7.3	16.0	15.6	15.8	14.6				
			Bottom	29.2	29.2	29.2	8.2	8.2	8.2	31.4	31.3	31.4	3.4	3.4	3.4	53.0	53.7	53.4	8.1	8.0	8.1		16.4	16.2	16.3					
WM1	1206	15.2	Surface	29.1	29.2	29.2	8.2	8.3	8.3	31.3	31.3	31.3	2.6	2.5	2.6	40.3	39.1	39.7	6.2	6.2	6.2	11.4	11.6	11.5						
			Middle	29.0	29.0	29.0	8.3	8.3	8.3	31.3	31.2	31.3	2.4	2.4	2.4	37.5	36.8	37.2	8.5	8.3	8.4	7.8	13.2	12.8	13.0	12.6				
			Bottom	29.3	29.2	29.3	8.3	8.3	8.3	31.3	31.3	31.3	2.8	2.7	2.8	44.0	43.2	43.6	8.7	8.7	8.7		13.2	13.6	13.4					
WM2	1237	5.4	Surface	29.0	28.9	29.0	8.3	8.3	8.3	31.3	31.4	31.4	2.2	2.2	2.2	34.3	34.6	34.5	8.3	8.6	8.5	11.0	11.4	11.2						
			Middle																		8.2								11.5	
			Bottom	28.9	28.9	28.9	8.3	8.2	8.3	31.5	31.4	31.5	2.2	2.1	2.2	33.5	33.0	33.3	7.9	8.0	8.0		11.8	11.8	11.8					
WM3	1304	9.9	Surface	29.2	29.2	29.2	8.2	8.3	8.3	31.4	31.3	31.4	2.2	2.3	2.3	35.2	36.3	35.8	7.8	7.9	7.9	14.8	15.0	14.9						
			Middle	29.0	29.0	29.0	8.3	8.3	8.3	31.3	31.3	31.3	2.1	2.0	2.1	32.6	31.9	32.3	8.3	8.1	8.2	8.2	15.0	14.8	14.9	15.2				
			Bottom	28.9	28.8	28.9	8.2	8.3	8.3	31.4	31.4	31.4	2.1	2.1	2.1	32.2	32.8	32.5	8.5	8.5	8.5		16.2	15.4	15.8					
WM4	1337	10.5	Surface	29.2	29.2	29.2	8.3	8.2	8.3	31.4	31.3	31.4	2.4	2.5	2.5	36.7	37.1	36.9	7.1	7.4	7.3	12.2	13.0	12.6						
			Middle	29.0	28.9	29.0	8.3	8.2	8.3	31.4	31.3	31.4	1.9	1.9	1.9	29.5	28.8	29.2	8.2	8.3	8.3	7.9	14.2	14.8	14.5	14.7				
			Bottom	28.8	28.9	28.9	8.2	8.3	8.3	31.4	31.4	31.4	2.3	2.2	2.3	36.2	35.4	35.8	8.2	8.1	8.2		17.4	16.8	17.1					
CS2	1409	14.9	Surface	29.2	29.3	29.3	8.3	8.3	8.3	31.4	31.4	31.4	2.5	2.5	2.5	39.0	39.4	39.2	6.1	6.3	6.2	13.0	13.4	13.2						
			Middle	28.9	28.9	28.9	8.3	8.2	8.3	31.3	31.4	31.4	2.8	2.8	2.8	43.3	43.6	43.5	6.5	6.5	6.5	6.9	13.0	13.0	13.0	13.6				
			Bottom	28.9	28.8	28.9	8.3	8.3	8.3	31.4	31.3	31.4	2.3	2.4	2.4	35.7	36.6	36.2	7.9	8.1	8.0		14.4	14.8	14.6					

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 30-Sep-11
 Tide: Mid-Flood
 Weather: Cloudy
 Sea Conditions: Great Wave
 Upstream Control Station CS2

Location	Sampling Time	Water Depth (m)	Monitoring Depth	Temperature (°C)			pH			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
				1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
CS1	1040	15.0	Surface	28.3	28.3	28.3	8.1	8.1	8.1	31.4	31.4	31.4	4.8	4.9	4.9	71.3	73.1	72.2	9.8	9.8	9.8	16.4	16.6	16.5		
			Middle	28.1	28.1	28.1	8.1	8.1	8.1	31.6	31.6	31.6	4.2	4.3	4.3	62.6	64.3	63.5	10.5	10.8	10.7	10.9	19.8	19.6	19.7	19.7
			Bottom	27.8	27.9	27.9	8.0	8.1	8.1	31.7	31.8	31.8	3.6	3.6	3.6	53.1	54.0	53.6	12.1	12.2	12.2		23.0	22.6	22.8	
WM1	1005	14.8	Surface	28.3	28.3	28.3	8.0	8.1	8.1	31.3	31.4	31.4	4.6	4.7	4.7	67.9	70.1	69.0	8.2	8.3	8.3	13.8	14.0	13.9		
			Middle	28.1	28.1	28.1	8.1	8.1	8.1	31.6	31.5	31.6	4.0	4.0	4.0	58.8	59.8	59.3	9.0	9.2	9.1	9.2	16.4	16.8	16.6	16.5
			Bottom	27.9	27.9	27.9	8.1	8.1	8.1	31.7	31.8	31.8	3.4	3.4	3.4	49.9	51.0	50.5	10.1	10.2	10.2		19.0	18.8	18.9	
WM2	0936	5.8	Surface	28.2	28.3	28.3	8.1	8.1	8.1	31.3	31.3	31.3	4.8	4.9	4.9	72.8	73.3	73.1	7.6	7.8	7.7					
			Middle																		8.6				15.7	
			Bottom	28.3	28.3	28.3	8.1	8.1	8.1	31.3	31.3	31.3	4.1	4.2	4.2	60.4	62.6	61.5	9.4	9.6	9.5		17.6	17.4	17.5	
WM3	0909	10.2	Surface	28.2	28.2	28.2	8.0	8.1	8.1	31.3	31.4	31.4	4.9	4.8	4.9	72.7	71.6	72.2	5.9	6.1	6.0					
			Middle	27.9	27.9	27.9	8.0	8.1	8.1	31.6	31.5	31.6	4.3	4.3	4.3	63.2	64.3	63.8	6.5	6.5	6.5	6.9	13.8	14.2	14.0	13.6
			Bottom	28.0	27.7	27.9	8.1	8.1	8.1	31.7	31.6	31.7	3.6	3.7	3.7	53.2	54.9	54.1	8.1	8.1	8.1		14.8	14.8	14.8	
WM4	0837	10.8	Surface	28.3	28.2	28.3	8.0	8.1	8.1	31.2	31.3	31.3	4.7	4.8	4.8	70.1	71.4	70.8	6.8	6.9	6.9					
			Middle	28.3	28.3	28.3	8.0	8.0	8.0	31.5	31.5	31.5	4.2	4.0	4.1	62.4	59.7	61.1	7.0	7.2	7.1	8.1	13.4	13.6	13.5	15.2
			Bottom	28.0	28.1	28.1	8.0	8.1	8.1	31.5	31.6	31.6	3.5	3.5	3.5	51.7	52.6	52.2	10.2	10.6	10.4		18.6	19.4	19.0	
CS2	0810	14.6	Surface	28.3	28.3	28.3	8.1	8.1	8.1	31.1	31.2	31.2	5.2	5.3	5.3	76.3	78.1	77.2	8.2	8.4	8.3					
			Middle	28.1	28.1	28.1	8.1	8.1	8.1	31.5	31.5	31.5	4.9	5.0	5.0	72.1	73.7	72.9	8.6	8.7	8.7	8.7	16.2	16.6	16.4	16.6
			Bottom	27.8	27.8	27.8	8.0	8.1	8.1	31.8	31.8	31.8	4.4	4.3	4.4	64.5	63.4	64.0	9.0	9.0	9.0		17.6	17.6	17.6	

Remark or Observation:

Note: * Average

** Depth Average

SIL(E) Water Quality Monitoring Data Record Sheet

Date: 30-Sep-11
 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	1300	13.2	Surface	28.5	28.6	28.6	8.1	8.1	8.1	31.2	31.3	31.3	7.0	6.9	7.0	103.1	102.4	102.8	7.7	7.9	7.8					14.6	14.8	14.7		
			Middle	28.4	28.4	28.4	8.0	8.1	8.1	31.2	31.2	31.2	5.4	5.6	5.5	79.8	83.2	81.5	8.2	8.1	8.2	8.3					15.8	16.0	15.9	15.9
			Bottom	28.1	28.1	28.1	8.0	8.1	8.1	31.4	31.4	31.4	4.4	4.5	4.5	65.2	67.3	66.3	9.0	8.8	8.9					17.2	16.8	17.0		
WM1	1333	14.2	Surface	28.5	28.5	28.5	8.0	8.1	8.1	31.2	31.2	31.2	4.5	4.6	4.6	66.7	68.7	67.7	7.5	7.5	7.5					13.6	13.6	13.6		
			Middle	28.4	28.4	28.4	8.1	8.1	8.1	31.4	31.3	31.4	3.7	3.6	3.7	54.4	53.5	54.0	8.7	8.9	8.8	8.6					14.8	15.4	15.1	15.3
			Bottom	28.2	28.2	28.2	8.1	8.1	8.1	31.2	31.2	31.2	4.4	4.2	4.3	64.8	62.6	63.7	9.5	9.6	9.6					17.2	17.0	17.1		
WM2	1403	5.4	Surface	28.4	28.4	28.4	8.1	8.1	8.1	31.2	31.3	31.3	4.8	4.7	4.8	70.6	69.3	70.0	8.1	8.4	8.3					14.8	15.2	15.0		
			Middle																			8.7							15.8	
			Bottom	28.3	28.4	28.4	8.1	8.1	8.1	31.3	31.2	31.3	4.0	3.8	3.9	59.3	57.0	58.2	9.1	9.0	9.1					16.6	16.4	16.5		
WM3	1433	9.6	Surface	28.4	28.4	28.4	8.1	8.1	8.1	31.2	31.2	31.2	5.0	4.9	5.0	73.5	72.7	73.1	8.6	8.8	8.7					14.8	15.4	15.1		
			Middle	28.3	28.4	28.4	8.1	8.1	8.1	31.2	31.2	31.2	4.0	4.0	4.0	59.5	60.1	59.8	9.0	8.8	8.9	9.2					16.6	15.8	16.2	17.0
			Bottom	28.1	28.2	28.2	8.1	8.1	8.1	31.4	31.3	31.4	3.5	3.4	3.5	52.7	51.1	51.9	10.2	10.0	10.1					20.0	19.2	19.6		
WM4	1505	10.0	Surface	28.4	28.3	28.4	8.1	8.1	8.1	31.2	31.3	31.3	4.8	4.6	4.7	70.5	68.7	69.6	7.2	7.6	7.4					12.8	13.4	13.1		
			Middle	28.3	28.3	28.3	8.1	8.1	8.1	31.3	31.3	31.3	4.1	3.9	4.0	61.5	58.2	59.9	8.6	8.8	8.7	8.3					16.0	15.6	15.8	16.2
			Bottom	28.1	28.1	28.1	8.1	8.1	8.1	31.3	31.3	31.3	4.1	3.9	4.0	61.5	58.2	59.9	8.6	8.8	8.7					19.8	19.6	19.7		
CS2	1540	13.8	Surface	28.5	28.5	28.5	8.1	8.1	8.1	31.3	31.4	31.4	5.3	5.4	5.4	79.1	80.2	79.7	7.4	7.8	7.6					14.2	14.8	14.5		
			Middle	28.3	28.2	28.3	8.1	8.1	8.1	31.5	31.5	31.5	5.0	4.8	4.9	74.0	71.3	72.7	8.5	8.7	8.6	8.4					16.2	16.6	16.4	16.0
			Bottom	28.1	28.1	28.1	8.1	8.1	8.1	31.6	31.5	31.6	4.0	4.1	4.1	59.5	61.5	60.5	9.2	9.0	9.1					17.4	16.6	17.0		

Remark or Observation:

Note: * Average

** Depth Average

APPENDIX E

Review of Exceedance in Water Quality Monitoring

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
2 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>
5 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>
7 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>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.</p> <p>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.</p>

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
9 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>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, WM3, WM4 for mid-flood tide and surface level at WM1, WM2 for mid-ebb tide.</p> <p>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.</p>
12 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>
14 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
16 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>
19 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>
21 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
23 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>
26 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>
28 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>

Sampling Date	Tidal Mode	Parameter			Remarks
		DO	Turbidity	SS	
30 Sep 2011	Mid-Ebb & Mid-Flood	AL, LL	-	-	<p>Exceedances of Action/ Limit Levels were recorded at all monitoring stations (WM1, WM2, WM3, WM4) & water depth (Surface, Middle and Bottom).</p> <p>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.</p>

Note: AL – Action Level ; LL – Limit Level