Drainage Service Department

Preliminary Monthly Environmental Monitoring & Auditing report for

Contract No.DC/2006/11
Drainage Improvement in Southern Lantau

April 2010

Environmental Pioneers & Solutions Limited
8/F, Chaiwan Industrial Centre Building
20 Lee Chung Street, Chaiwan, Hong Kong
Tel: 2965 0828 Fax: 2856 2010

APPROVAL SHEET

Prepared and Certified by: ET Leader (Environmental Pioneers & Solutions Limited)

Signature: _____ Date: 27-07-10

Miss Patricia Chung
(ET* Leader)

Signature: _____ Date: 29/7/2010

Mr. Vincent Lai
(Ecologist)

* ET – Environmental Team

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APPENDIXES

EXECUTIVE SUMMARY

This is the twenty-first monthly environmental Monitoring and audit (EM&A) report for "Drainage Improvement in Southern Lantau Investigation". The environmental permit number is "EP-237/2005/B". The report concludes the impact monitoring for the activities undertaken during the period of 01 April 2010 to 30 April 2010. Construction of retaining walls, fish ladder, mass concrete wall, box culvert and riverwall at Pak Ngan Heung (PNH) and Luk Tei Tong (LTT).

Noise, water quality and ecological monitoring were performed. Results obtained were checked against the previously established Action / Limit (A/L) levels. Additionally, the implementation status of environmental mitigation measures, event / action plan and environmental complaint handling procedures were inspected during weekly site environmental audit.

In general, waste management was satisfactory during the reporting month.

Impact monitoring for construction noise was conducted in the reporting period. No exceedance of A/L level was reported.

Furthermore, impact monitoring for water quality was conducted. Total 64 non-compliance events of water quality criteria were recorded in this reporting period while 10 of them were believed to be mainly attributed to improper site practice and insufficient of water quality mitigation measures on site. As such, contractor was advised to implement necessary corrective actions and mitigation measures as to minimize further deterioration of water quality.

Ecological findings prepared by the Ecologist were outstanding therefore relevant information was not updated in this reporting period.

There was no complaint, notification of any summons and successful prosecutions against the project received during the reporting period.

Key construction activity in the coming month will include construction of box culvert, gabion wall, retaining wall and sloping seawall. It is expected that noise,

air and water quality impacts will be resulted from the works. With reference to the EM&A manual and mitigation measure report, mitigation measures are proposed to be taken, if necessary.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement.

1. Introduction

This is the twenty-first monthly Environmental Monitoring and Audit (EM&A) Report for "Drainage Improvement in Southern Lantau Investigation" project (Environmental Permit No. EP-237/2005/B)

2. Project Information

2.1 Construction program

The "Drainage Improvement in Southern Lantau Investigation" project will be completed by January 2011. The project comprises the following:

- Construction of approximately 80m long gabion with natural bed in Pak Ngan Heung River (PNHR), approximately 180m of three cells 3m x 2m box culvert and approximately 100m of rectangular channel at Pak Ngan Heung River;
- Construction of approximately 250m of 0.75m wide U-Channel at Ling Tsui Tau Village in Mui Wo;
- Construction of bypass channel of about 350m and 240m long of gabion channels at Luk Tei Tong River (LTTR) respectively; and
- Widening three existing bottlenecks with gabion lined at Tai Tei Tong River (TTTR).

Appendix A shows the construction program and location plan of the project.

2.2 Project organization

The Main Contractor, Yick Hing Construction Company Limited, has commissioned Environmental Pioneers & Solutions Limited and Ecosystems Limited as the Environmental Team, which comprises the environmental team leader, the ecologists and the environmental technicians to undertake the environmental monitoring and audit work for this project.

The environmental management structure and is shown in Fig 2.2.1.

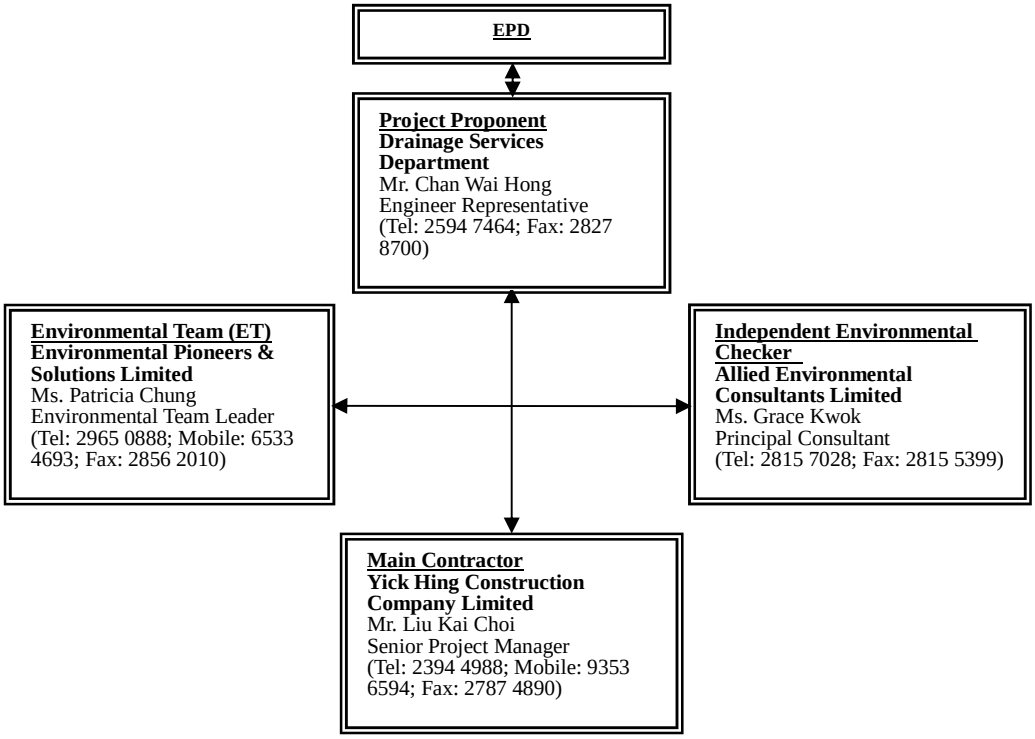


Figure. 2.2.1 Environmental Management structure for the project

2.3 Key personal contact information chart

Detailed contact of key persons involved in environmental aspect of the project is shown in Appendix B.

3. Construction Stage

3.1 Construction activities in the reporting month

Major activities in the reporting month included the followings:

1. Construction of retaining walls and fish ladder at the upstream end of PNHR.
2. Construction of alternative mass concrete wall at PNHR
3. Construction of box culvert A and inlet of bypass channel at LTT.
4. Construction of alternative mass concrete wall at LTT.
5. Construction of riverwall at LTTR.

3.2 Construction activities for the coming month

Construction activities mentioned in Section 3.1 will be continued in the upcoming month.

3.3 Environmental Status

Appendix A shows the drawing of the project area.

Locations of the monitoring and control stations with environmental sensitive receivers are presented in Section 4.3, 5.3 and 6.3 for noise, water and ecological monitoring respectively.

4. Noise Monitoring

4.1 Monitoring Parameters and Methodology

The construction noise level was measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq\ (30minutes)}$ was used as the monitoring parameter for the impact monitoring in the time period between 0700 to 1900 hours on normal weekdays. For all other time period, $L_{eq\ (5minutes)}$ was employed for comparison with the Noise Control Ordinance (NCO) criteria.

Noise measurement results obtained from each monitoring location were recorded in the Construction Noise Monitoring Data Sheet (Appendix E) immediately after the measurement. As supplementary information for data auditing, statistical results L_{10} and L_{90} were also be recorded for reference.

In case of non-compliance with the construction noise criteria, more frequent monitoring, as specified in the Action plan in Table 4.5.2, shall be carried out. This additional monitoring shall be carried out until the recorded noise levels are rectified or proved to be irrelevant to the construction activities.

4.2 Monitoring Equipment

The sound level meters and calibrators comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications as referred to in the Technical Memorandum (TM) to the Noise Control Ordinance was deployed as monitoring equipment for noise measurement.

Noise measurement was not be made in the presence of fog, rain, wind with a steady speed exceeding $5ms^{-1}$ or wind with gust exceeding $10ms^{-1}$. Thus wind speed was checked by the portable wind speed indicator capable of measuring the wind speed in m/s. Table 4.2.1 summarizes the equipment list for noise monitoring

Table 4.2.1 Equipment List for Noise Monitoring

Equipment	Manufacturer & Model No.	Precision Grade	Qty
Integrated sound level meter	ACO Japan, model 6224	IEC 651 Type 1 IEC 804 Type 1	1
Windscreen	Microtech gefell model W2	N/A	1
Acoustical calibrator	B & K, model 4231	IEC 942 Type 1	1
Wind speed indicator	Kestrel K1000	N/A	1
Remarks: Calibration details for the sound level meter is given in Appendix C for reference			

4.3 Monitoring Locations

According to the Baseline Monitoring Report issued in May 2008 for the captioned project, four locations where are alternative from the locations proposed in EM&A manual, were designated for baseline noise monitoring. For the data validation, impact noise monitoring was undertaken in the same locations during the construction phase of the project. The proposed monitoring locations are summarized in Table 4.3.1. Figure 4.3.1 shows the Noise Monitoring Locations

Noise measurement in each monitoring locations were taken at a point 1m from the exterior of the selected premises and at a height with no disturbance to the dweller and least obstructed view.

Table 4.3.1 Noise Monitoring Locations during Construction Phase

Identification No.	Noise Monitoring Locations
N1	No. 73, Village House, Ling Tsui Tau Tsuen (ground level)
N2	No. 31, Village House, Ling Tsui Tau Tsuen (ground level)
N3	Fence wall outside No. 5 village house adjacent to Luk Tei Tong River Outlet (ground level)
N4	No. 23, Village House, Tai Tei Tong River (ground level)

In accordance with the requirements in the EM&A manual, weekly impact monitoring was conducted. For the time period between 0700 and 1900 hours on normal weekdays, and noise parameter of $L_{eq\ (30minutes)}$ was measured. As if the construction works were carried out during restricted period (ie. 1900-2300, 2300-0700 of next day and Sundays / general holiday), impact monitoring that comprises 3 consecutive $L_{eq\ (5minutes)}$ would be carried out.

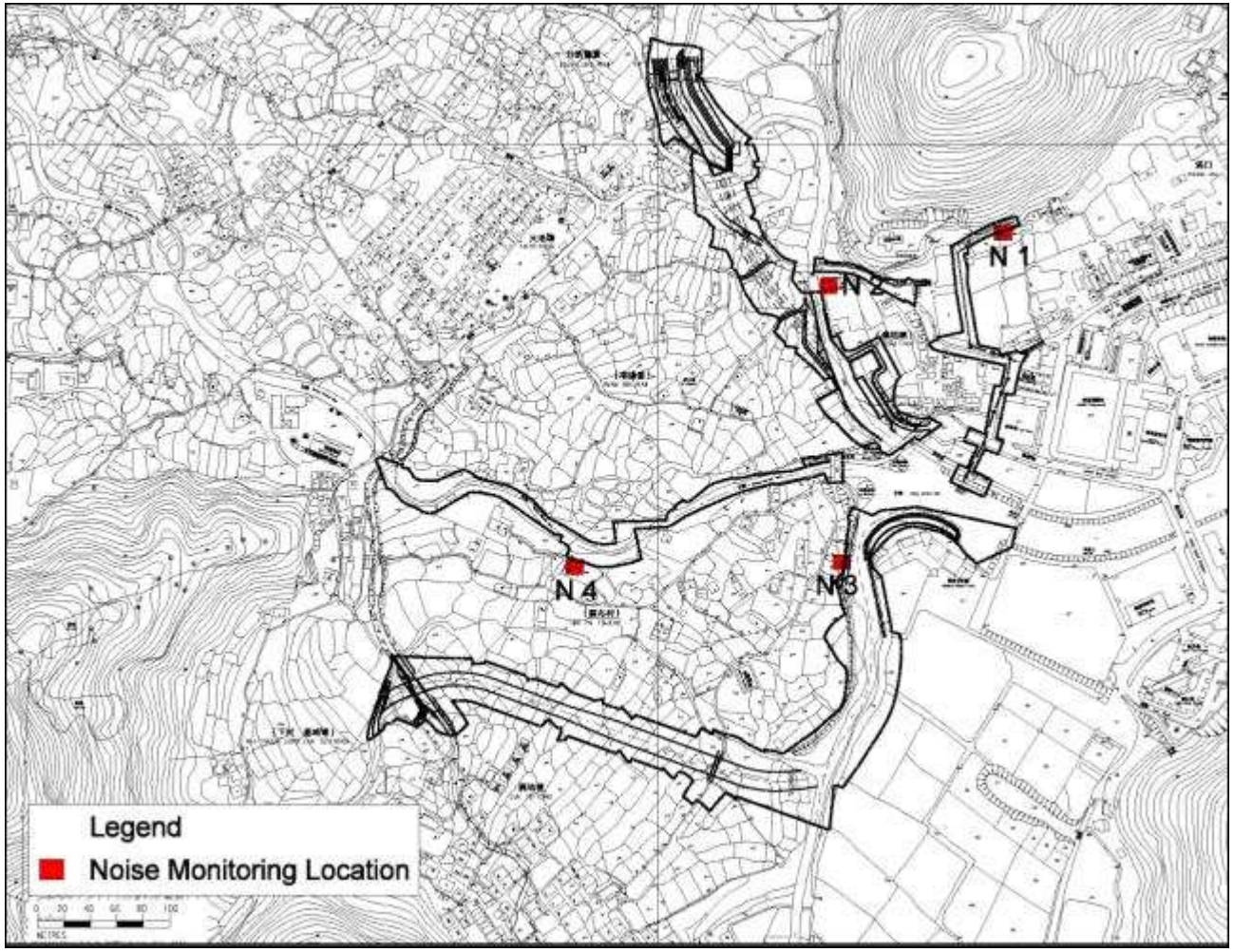


Figure 4.3.1 Impact noise monitoring locations

4.4 Monitoring Results and Interpretation

Relevant details of the noise monitoring results are presented in Table 4.4.1. The results, ranged between 49.2 dB(A) and 66.3 dB(A), were within the limit levels and therefore, no exceedance was found.

Table 4.4.1 Noise monitoring results

Table 4.4.1 Noise Monitoring Results for the reporting month

Location	Parameter	Date	Time	L_{Aeq} dB(A)	Limit dB(A)	Exceedance	Weather
N1	$L_{eq\ 30mins}$	1-Apr-10	15:10	49.2	75	N	Sunny
N1	$L_{eq\ 30mins}$	7-Apr-10	14:50	53.1	75	N	Cloudy
N1	$L_{eq\ 30mins}$	14-Apr-10	15:15	58.7	75	N	Cloudy
N1	$L_{eq\ 30mins}$	21-Apr-10	14:45	59.1	75	N	Sunny
N1	$L_{eq\ 30mins}$	28-Apr-10	14:45	57.2	75	N	Sunny
N2	$L_{eq\ 30mins}$	1-Apr-10	14:35	60	75	N	Sunny
N2	$L_{eq\ 30mins}$	7-Apr-10	14:15	65.7	75	N	Cloudy
N2	$L_{eq\ 30mins}$	14-Apr-10	14:40	59.1	75	N	Cloudy
N2	$L_{eq\ 30mins}$	21-Apr-10	14:10	66.3	75	N	Sunny
N2	$L_{eq\ 30mins}$	28-Apr-10	14:10	56.3	75	N	Sunny
N3*	$L_{eq\ 30mins}$	1-Apr-10	13:55	61.5	75	N	Sunny
N3*	$L_{eq\ 30mins}$	7-Apr-10	13:40	58.2	75	N	Cloudy
N3*	$L_{eq\ 30mins}$	14-Apr-10	14:05	60.8	75	N	Cloudy
N3*	$L_{eq\ 30mins}$	21-Apr-10	13:35	57.3	75	N	Sunny
N3*	$L_{eq\ 30mins}$	28-Apr-10	13:35	63.0	75	N	Sunny
N4	$L_{eq\ 30mins}$	1-Apr-10	13:20	50.6	75	N	Sunny
N4	$L_{eq\ 30mins}$	7-Apr-10	13:05	53.6	75	N	Cloudy
N4	$L_{eq\ 30mins}$	14-Apr-10	13:30	51.3	75	N	Cloudy
N4	$L_{eq\ 30mins}$	21-Apr-10	13:00	53.7	75	N	Sunny
N4	$L_{eq\ 30mins}$	28-Apr-10	13:00	53.6	75	N	Sunny

Remarks: Raw datasheet for noise monitoring are attached in Appendix E for reference.
Remark*: The equivalent noise level of N3 is corrected by +3 dB from the raw data result due to the fact that free field measurement was carried out in the location.

4.5 Action and Limit level for Construction noise

The Action and Limit (A/L) levels for construction noise are defined in Table 4.5.1. Should non-compliance of the criteria occur, action in accordance with the Action Plan in Table 4.5.2 should be carried out.

There was no exceedance recorded in the reporting month.

Table 4.5.1 Action and Limit Levels for Construction noise		
Time Period	**Action Level**	**Limit Level**
0700 – 1900 hours on normal weekdays	When one documented complaint is received	75dB(A)
Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.		

Table 4.5.2 Event / Action Plan for Construction Noise

EVENT	**ACTION**			
	ET	**IC(E)**	**ER**	**Contractor**
Action Level	1. Notify IC(E) and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IC(E), ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IC(E); 2. Implement Noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IC(E), ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IC(E), ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

4.6 Noise Mitigation Measures

The following mitigation measures were observed from the weekly site inspection in the reporting month:

- Use of quiet powered mechanical equipment (PME)
- Implementation of the following good site practices:
  - Only well-maintained and regularly serviced plant should be operated on site;
  - Silencers or mufflers on construction equipment;
  - Mobile plant, if any, should be sited as far from noise sensitive receivers as possible; and
  - Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.

5. Water Monitoring

5.1 Water Quality Monitoring Parameters and methodology

Turbidity in Nephelometric Turbidity Unit (NTU), Dissolved Oxygen (DO) in mg/L and Suspended Solids (SS) in mg/L are required to measure in this project. Turbidity, DO was measured in-situ while water samples were delivered to Accredited HOKLAS Laboratory for analysis of SS.

Other relevant data such as monitoring location, time, water depth, temperature, salinity, weather conditions and any other special phenomena and work underway at the construction site were recorded during sampling.

According to the requirement of the EM&A manual, two consecutive measurements for parameters of DO concentration, DO saturation and Turbidity are required to be taken at each monitoring location. When the difference in value between the first and second reading of DO or Turbidity is more than 25%, the reading would be discarded and further reading would be taken.

5.2 Monitoring Equipment

Turbidity, DO, Salinity, pH and temperature was measured by an instrument complied with the following requirements:

The instrument is a portable as well as weatherproof multimeter complete with cable and uses a DC power source. It is capable of measuring:

- A turbidity between 0-800NTU;
- A dissolved Oxygen level in the range of 0-20mg/L and 0-200% saturation;
- A temperature of 0-50^{o}C;
- Salinity in the range of 0-40ppt;
- pH in the range of 0-14.

Suspended solid was determined by the water samples collected from the monitoring locations for further analysis in accredited HOKLAS laboratory. Water samples were contained by polythene bottles, packed in ice (cooled in 4^{o}C without frozen) and delivered to the laboratory for analysis as soon as possible after collection. Duplicate samples from each independent sampling event were undertaken during impact monitoring.

Detailed calibration records of the multimeter were shown in Appendix C for reference.

5.3 Monitoring Locations

Seven locations included a control station in upstream of each stream/ river, a monitoring station at the end of each stream/ river of the works area and a monitoring station at Silver River were proposed for the impact water quality monitoring. Water samples were collected at mid-depth of each proposed monitoring stations for measurements and sample collection. The Location Plan is shown in Figure 5.3.1 for reference.

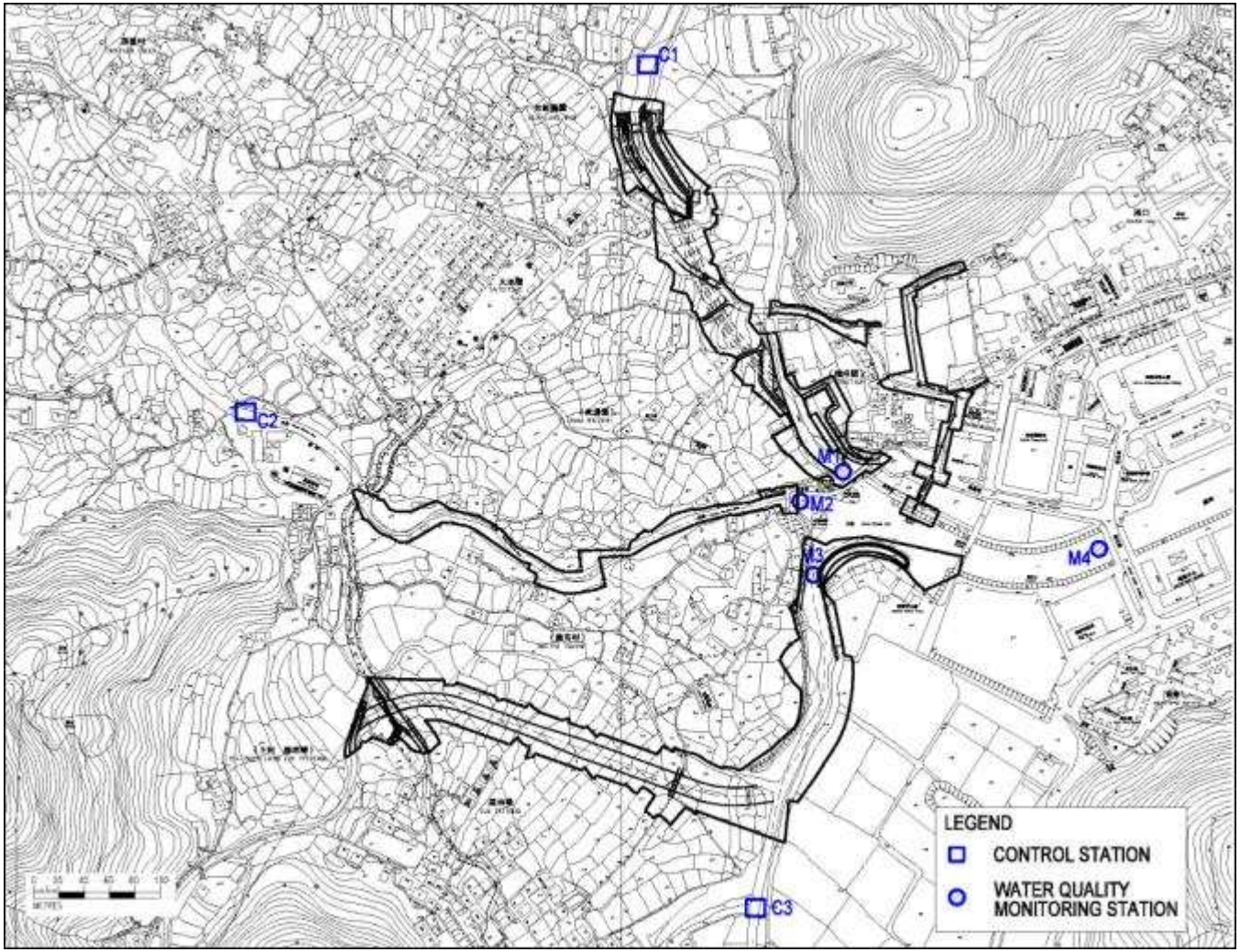


Figure 5.3.1 Water Quality Monitoring Locations

5.4 Monitoring Frequency

Impact water quality monitoring was undertaken three days per week and at ebb tides during the course of the construction river works. Upon the completion of the construction works, the monitoring exercises at the designated monitoring stations will be continued for four weeks in the same manner as the impact monitoring.

5.5 Monitoring Results and Interpretation

Water quality monitoring was carried out twenty times during March. Detailed on-site measurements and laboratory analysis reports including QA/QC results are shown in Appendix F1 and F2 respectively, while Table 5.5.1 presents consolidated results throughout the reporting month.

Total 64 exceedance events on parameters of turbidity and suspended solids were recorded in this reporting month according to the established level. Findings from the investigations showed most of the exceedance events were mainly caused by natural fluctuation and deficiencies of site practice.

As 10 events were suspected to be related to improper site practices, contractor was seriously reminded to review the site conditions and implement corrective actions as well as mitigation measures as soon as possible to minimize further deterioration of water quality.

Detailed information of the exceedance events and action taken were presented in Section 7.

Table 5.5.1 Water quality monitoring results in April 2010

	M1			M2			M3			M4		
	MIN	MAX	Ave	MIN	MAX	Ave	MIN	MAX	Ave	MIN	MAX	Ave
Turbidity (NTU)	4.8	46.2	14.0	0.0	5.2	0.9	6.6	24.8	13.6	3.7	19.2	8.5
DO (mg/l)	8.0	11.6	9.6	5.2	12.8	11.2	8.1	13.8	10.3	9.2	12.2	10.7
Suspended Solid (mg/l)	6.6	23.3	11.0	1.1	3.1	1.6	7.8	24.1	12.7	5.9	14.6	9.4

	C1			C2			C3		
	MIN	MAX	Ave	MIN	MAX	Ave	MIN	MAX	Ave
Turbidity (NTU)	0.0	4.1	0.3	0.0	1.3	0.3	1.3	11.8	7.7
DO (mg/l)	7.8	12.3	9.8	7.9	12.9	10.8	7.4	13.3	9.2
Suspended Solid (mg/l)	1.0	2.9	1.5	1.0	1.4	1.0	6.2	10.3	7.6

* Remarks: Detection limit for Turbidity, DO and SS are 1 NTU, 0.1 mg/L and 1 mg/L respectively.

5.6 Action and limit level for Water Quality

Based on the criteria stipulated in EM&A manual Section 4.8 and baseline water quality monitoring data obtained, the A/L levels are shown in Table 5.6.1 and Table 5.6.2. If the water quality monitoring results at any impact stations exceeded the criteria, the actions in accordance with the Event and Action Plan in Table 5.6.3 should be taken.

Table 5.6.1 Water quality criteria for monitoring

Parameters	Action	Limit
DO in mg/L (mid-depth)	- 5%-ile of baseline data	- 4mg/L
SS in mg/L (mid-depth)	- 95%-ile of baseline data; or - 120% of control station's SS on the same day of measurement	- 99%-ile of baseline; or - 130% of control station's SS on the same day of measurement
Turbidity in NTU (mid-depth)	- 95%-ile of baseline data; or - 120% of control station's turbidity on the same day of measurement	- 99%-ile of baseline; or - 130% of control station's turbidity on the same day of measurement

Table 5.6.2 Action and Limit Levels established according to baseline data

Parameters	Monitoring locations							
	M1		M2		M3		M4	
	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
Turbidity (NTU)	15.2	16.9	5.3	6.5	16.8	26.0	16.2	18.0
DO (mg/L)	5.7	4.0	6.2	4.0	5.9	4.0	5.9	4.0
SS (mg/L)	12.2	12.8	3.1	4.2	12.4	17.7	13.9	15.2

Remarks:
For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits
For SS and turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Table 5.6.3 Event and action Plan for Water Quality

EVENT	ACTION			
	ET	**IC(E)**	**ER**	**Contractor**
Action Level being exceed by one sampling day	1. Repeat in *situ* measurement to confirm findings; 2. Identify reasons for non-compliance and source(s) of impact; 3. Inform IC(E) and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IC(E) and Contractor; 6. Repeat measurement on next day of exceedance.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals in mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IC(E) on the proposed mitigation measures; 2. make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IC(E) and propose mitigation measures to IC(E) and ER; 6. Implement the agreed mitigation measures.
Action level being exceed by more than two consecutive sampling days	1. Repeat in *situ* measurement to confirm findings; 2. Identify reasons for non-compliance and source(s) of impact; 3. Inform IC(E) and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IC(E) and Contractor; 6. Ensure mitigation measures are implemented; prepare to increase the monitoring frequency to daily 7. Repeat measurement on next day of exceedance	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals in mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IC(E) on the proposed mitigation measures; 2. make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IC(E) and propose mitigation measures to IC(E) and ER within three working days; 6. Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	1. Repeat in *situ* measurement to confirm findings; 2. Identify reasons for non-compliance and source(s) of impact; 3. Inform IC(E) and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IC(E) and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals in mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	1. Discuss with IC(E) on the proposed mitigation measures; 2. make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IC(E) and propose mitigation measures to IC(E) and ER; 6. Implement the agreed mitigation measures.

5.7 Water Quality Mitigation Measures

Construction Run-off and Drainage

The site practices outlined in ProPECC PN 1/94 'Construction Site Drainage" should be followed as far as practicable during both construction and operation phase of the drainage improvement works in order to minimize surface runoff and the chance of erosion, and also to retain and reduce any suspended solids prior to discharge.

As recommended in the final EM&A manual, attention would be paid especially construction run-off and drainage, general construction activities, sewage discharged from construction workforce and river channel excavation works.

Contractor was recommended to provide sufficient water treatment facilities for accumulated site water and excavation activities carried out nearby river channel. Earth bunds should be provided to the construction site in / next to the river channel to form an enclosed, dry environment to minimize water quality impact.

For the generation of muddy water and accumulation of underground water in the sites, mitigation measures such as soak-away pond and temporary site water diversion channel were formed for site water treatment. Barriers formed by fine aggregates were also provided at the downstream area of the river channel acting as silt trap.

Contractor was also advised to pay serious cautious on any sudden change of water quality of rivers along the project sites. Should any deterioration of river water quality was observed to be caused by improper site practice immediate corrective actions should be carried out.

5.8 Water Monitoring Schedule for the Next reporting period

Water monitoring scheduled for the next reporting period is 3, 4, 6, 10, 12, 14, 17, 18, 19, 24, 26, 28 and 31 May 2010.

6. Ecology Monitoring

6.1 Ecological Monitoring Parameters

According to the Final EM&A Manual, a specific ecological monitoring programme of the improved section of PNH and LTT Rivers is recommended. The monitoring parameters required to measure in this project and survey methodology are described below:

(1) Avifauna species and abundance: Birds will be surveyed quantitatively using transect count method. Birds within the river channel and on the riverbank will be identified and their abundance will be recorded.

(2) Aquatic macroinvertebrate community species composition and abundance: Survey on aquatic fauna will focus on determination of the diversity and abundance of stream aquatic communities. Sampling methods, such as active searching, direct observation, netting, and kick sampling, will be determined according to the site conditions during field survey.

(3) Fish community species composition and abundance: Sampling methods, such as active searching, direct observation, and hand netting, will be determined according to the site conditions during field survey.

(4) Adult odonate community species composition and abundance: Adult dragonfly will be surveyed quantitatively using transect count method. Adult dragonflies within the river channel and on the riverbank will be identified and their abundance will be recorded. Species requiring close examination will be netted.

(5) Aquatic, emergent and riparian vegetation community species composition and abundance: The area will be walked through. Plant species composition and their relative abundance will be recorded.

(6) Surveys of White-shouldered Starling Sturnus sinensis will be conducted at the disused watchtowers next to LTT river. Breeding of the White-shouldered Starlings will be determined by checking signs of attempt to breed or sign of breeding which include carrying nesting materials, to-and-fro movement of adults carrying food, presence of recently fledged juveniles, etc. The number of breeding pairs and the site observation will be recorded whenever possible.

Water Quality Monitoring along LTT and PNH River as well as LTT bypass channel was carried out. Water quality monitoring will include Turbidity in Nephelometric Turbidity Unit (NTU), Dissolved Oxygen (DO) in mg/L and Suspended Solids (SS) in mg/L are required to measure in this project. Moreover, additional water monitoring parameters will be taken for the purposes of ecological monitoring of water quality in this project. The added information will include: BOD, Ammonia, Nitrate and Phosphate concentrations. Turbidity, DO, pH and water flow will be measured in-situ while water samples will be delivered to Accredited HOKLAS Laboratory accredited laboratory and the analyses followed the standard methods according to APHA Standard Methods for the Examination of Water and Wastewater, 20^{th} Edition, or equivalent for analysis of SS, BOD, Ammonia, Nitrate and Phosphate concentrations.

Other relevant data such as monitoring location, time, water depth, temperature, salinity, weather conditions and any other special phenomena and work underway at the construction site will be recorded during sampling.

According to the requirement of the EM&A manual, two consecutive measurements for parameters of DO concentration, DO saturation and Turbidity are required to be taken at each monitoring. When the difference in value between the first and second reading of DO or Turbidity is more than 25%, the reading will be discarded and further reading will be taken.

6.2 Monitoring Equipment and Methodology

Turbidity, DO, Salinity, pH and Temperature will be measured by a instrument complied with the following requirements:

The instrument is a portable as well as weatherproof multimeter complete with cable and uses a DC power source. It is capable of measuring:

- A turbidity between 0-800NTU;
- A dissolved Oxygen level in the range of 0-20mg/L and 0-200% saturation;
- A temperature of 0-50^{o}C;
- Salinity in the range of 0-40ppt;
- pH in the range of 0-14.

Suspended solid was determined by the water samples collected from the

monitoring locations for further analysis in accredited HOKLAS laboratory. Water samples were contained by polythene bottles, packed in ice (cooled in 4^{o}C without frozen) and delivered to the laboratory for analysis as soon as possible after collection. Duplicate samples from each independent sampling event were undertaken during impact monitoring.

6.3 Monitoring Locations

According to the Final EM&A Manual, the improved section of the river channels will be divided into 50m long sections, and ecological survey will be carried out in each of the 50m sections. A total of nine sections will be divided for the two rivers which include:

- Two sections for existing upstream of PNH river (i.e. the proposed 80m long trapezoidal channel)
- Two sections for existing downstream of PNH river (i.e. the proposed 100m long rectangular channel)
- Five sections for existing Luk Tei Tong River (i.e. the proposed 240m long trapezoidal channel)

The disused watchtowers are located at the confluence of the three rivers and next to LTT river.

The Location Plan for ecological is shown in Figure 6.1 for reference.

The improved sections of the river channels require to carrying out water quality monitoring for the ecological purpose. The sampling points for impact monitoring was undertaken in the same place as the baseline monitoring proposed, where include:

- Three points for existing of PNH river
- Three points for existing of Luk Tei Tong River

The Location Plan for ecological water monitoring is shown in Figure 6.2 for reference.

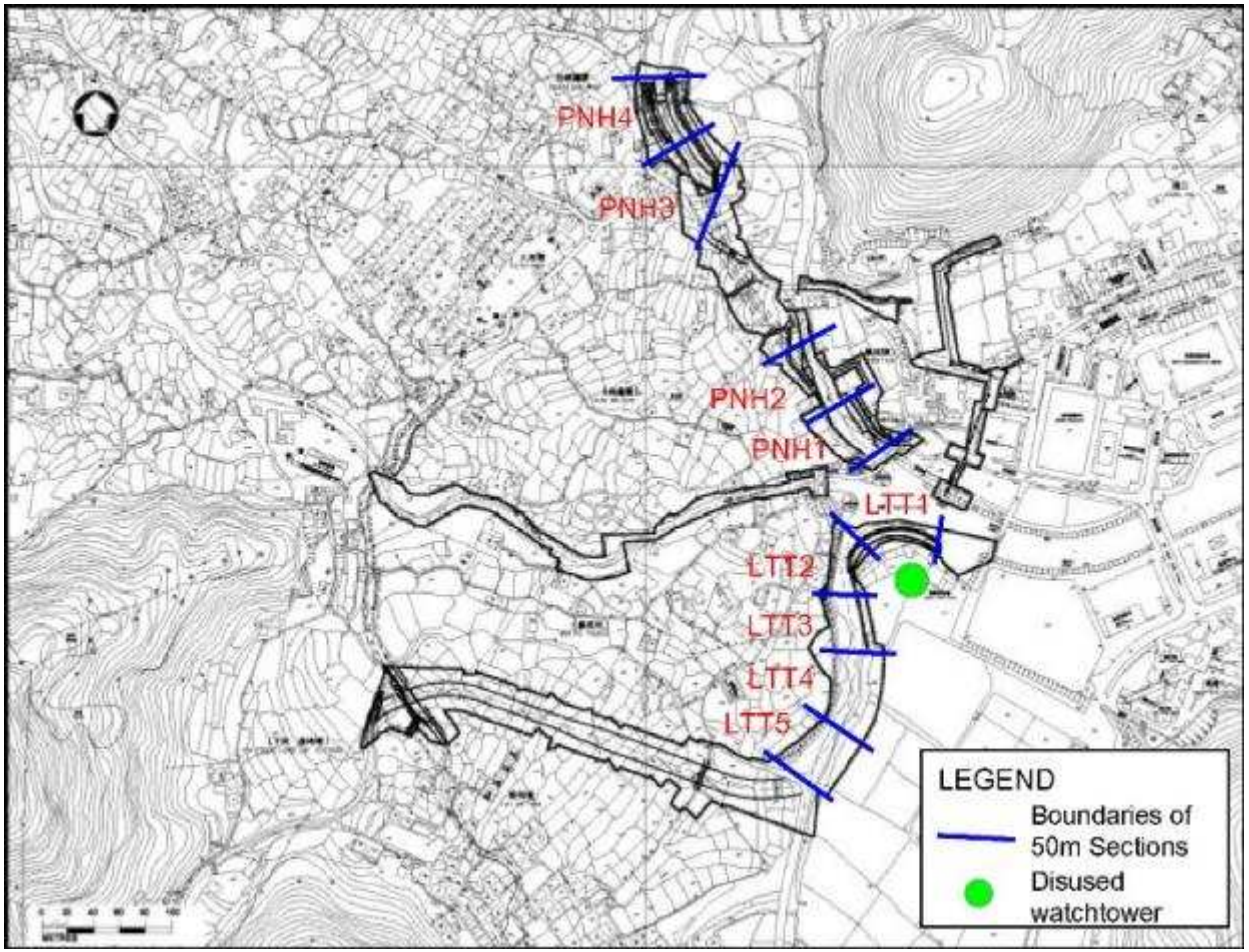


Figure 6.1 Ecological Monitoring Locations

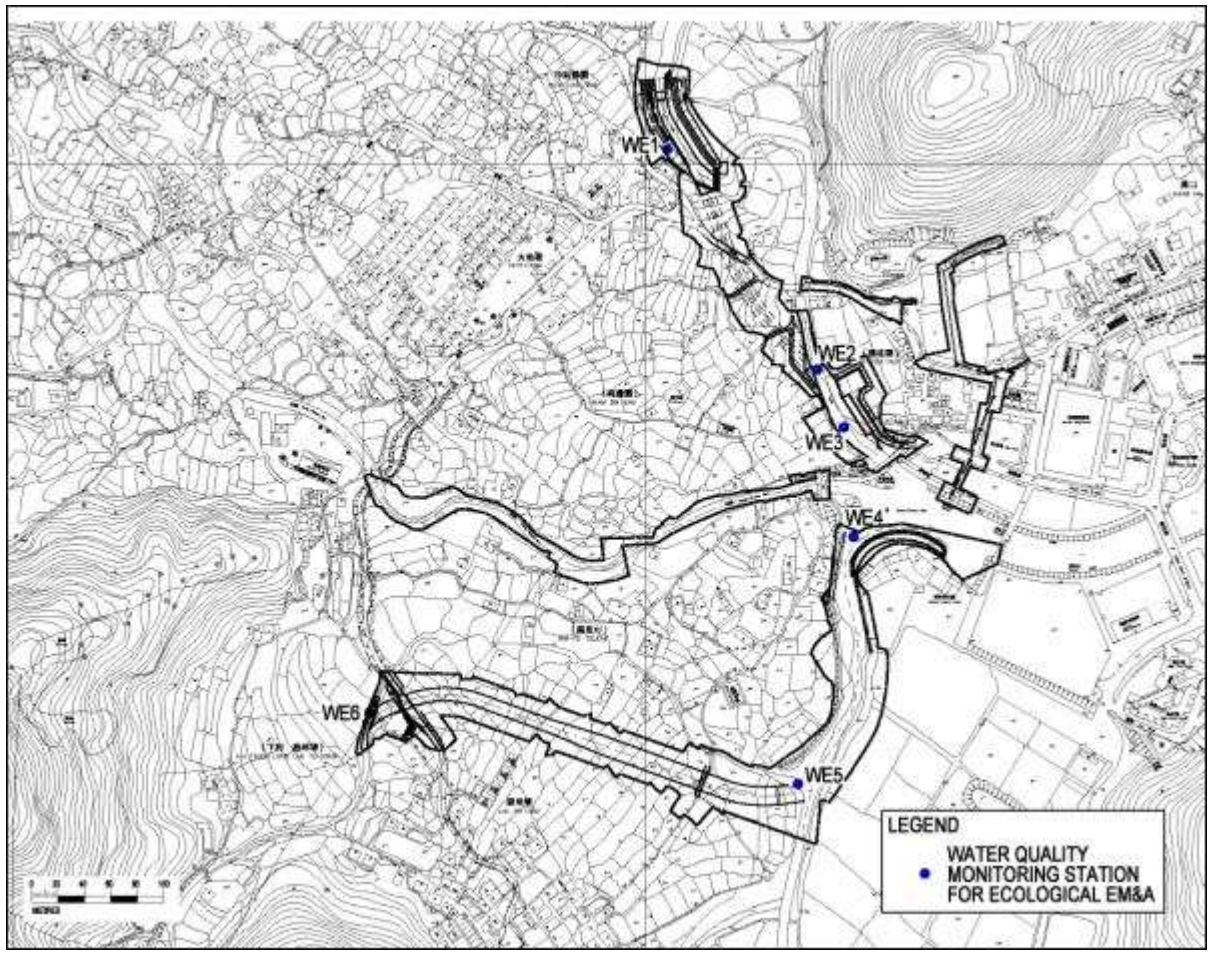


Figure 6.2 Ecological Water Quality monitoring locations

6.4 Monitoring Frequency

As proposed, ecological impact monitoring was carried out once for each monitoring location in the reporting month.

6.5 Monitoring results

Surveys were conducted on 15 April 2010. During the current monitoring session, new rock gabion wall was under construction. Stream bank and stream bed of PNH3 was completely cleared. Stream bank of PNH4 was mostly cleared, while the weir is still intact.

The walk through survey recorded a total of 26 species, including 10 trees, 1 shrub, 7 herb and 4 grass species (Appendix D1) on PNH N section. 20 of the species recorded are natives, while 6 were exotics. Remnants of vegetation including native trees (e.g. *Ficus hispida, Macaranga tanarius),* aquatic floating plant (e.g. *Pistia stratoides*) and grasses species (e.g. *Microstegium ciliatum*) were still seen along the weir or retained at east stream bank. No species of conservation interest was recorded. No quantitative surveys were carried out on both PNH3 and PNH4 due to vegetation clearance and construction works on stream banks as part of the site clearance works under the project.

During the current monitoring session, construction work ongoing along PNH S section. Vegetation was only found on remnants of the old concrete bank. A total of 6 species recorded, 4 of which were native and 2 were exotic. It was composed of isolated individuals of mangrove (*Kandelia obovata*), exotic shrub (*Lantana camara*) and native trees (*Ficus supbera, Ficus microcarpa*) (Appendix D2). No species of conservation interest was recorded.

Terrestrial Fauna

Surveys were conducted on 9 April 2010.

Two species of birds were recorded in the proposed work area of the Pak Ngan Heung River (Table 6.5.2). Both are common in Hong Kong.

Table 6.5.2 Avifauna in Pak Ngan Heung

Common names	**Latin names**	**PNH 1**	**PNH 2**	**PNH 3**	**PNH 4**	**Commonness & distribution**
Spotted Dove	*Streptopelia chinensis*			1		CW
Common Tailorbird	*Orthotomus sutorius*				1	CW

CW = common and widespread

No dragonfly was recorded in the proposed work area of the Pak Ngan Heung River in April 2010.

Aquatic fauna and fish

Sections of stream within the PNH3 boundary had been diverted to a bypass channel to facilitate the construction of the fish ladder. Therefore the PNH 3 was not covered by the present monitoring. In the remaining three survey section at PNH, 6 species of fish and 3 crustacean were recorded. All are common and widespread in Hong Kong. Though Predaceous Chub was observed, the another one fish species of conservation concern reported in the EIA report, i.e. Flagtail *Kuhlia marginata*, was not recorded in PNH during the present monthly monitoring survey.

Table 6.5.4 Aquatic Invertebrates and fish in Pak Ngan Heung

Common names	Scientific names	PNH 1	PNH 2	PNH3	PNH4
Invertebrates					
Atyid shrimp	*Caridina elongata*			\	+
Palaemond shrimp	*Macrobrachium hainanensis*			\	
Crab	*Varuna litterata*	+	+	\	+
Mitten Crab	*Eriocheir japonica*			\	+
Fish					
Mosquito fish	*Gamusia affinis*			\	+
Goby	*Rhinogobius duospilus*			\	+
Barcheek Goby	*Rhinogobius giurinus*		+	\	
Swordtail	*Xiphophorus hellerii*			\	
Six-banded Barb	*Puntius semifasciolatus*			\	
Unidentified Cichlid fish				\	
Tilapia		++	++	\	
Predaceous Chub	*Parazacco spilurus*			\	+
Jarbua Terapon	*Terapon jarbua*			\	
Common Silver-biddy	*Gerres oyena*			\	
Mullet	*Mugil cephalus*	+	+++	\	
Broken-band Hillstream Loach	*Liniparhomaloptera disparis*			\	

+ = Occasional, less than 5 individuals were found; ++ = Common, 5 – 20 individuals were found; +++ = Abundant, more than 20 individuals were found.

Luk Tei Tong Stream Section

Vegetation

Surveys were conducted on 15 April 2010. During the current survey, site clearance was completed in most sections. Removal of old rock gabion at LLT1 was underway, while some renmants of grasses and mangroves remained at both LLT1 and LLT2 respectively.

The walk through survey recorded a total of 5 species, including 1 tree, and 3 grass species (Appendix D3). Three species recorded are natives, while 2 were exotics. No quantitative survey was carried out due to vegetation clearance on stream banks as part of the site clearance works under the project.

Terrestrial Fauna

The proposed work area of Luk Tei Tong River was divided into 5 sections. All recorded avifauna and dragonfly species are common in Hong Kong

Surveys were conducted on 9 April 2010.

A total of seven species of birds were recorded in these sections (Table 6.5.6). All these species are common in Hong Kong.

Table 6.5.6 Avifauna in Luk Tei Tong River

Common names	**Latin names**	**LTT 1**	**LTT 2**	**LTT 3**	**LTT 4**	**LTT 5**	**Commonness & distribution**
Little Egret	*Egretta garzetta*	1			1	1	CW
Great Egret	*Casmerodius albus*	1					CL
Common Sandpiper	*Actitis hypoleucos*	1					CW
Large Hawk Cuckoo	*Hierococcyx sparverioides*		1				CW
White Wagtail	*Motacilla alba*	2					CW
Chinese Bulbul	*Pycnonotus sinensis*					1	CW
Magpie Robin	*Copsychus saularis*					1	CW

CW = common and widespread, CL = common/uncommon and localised

Two species of dragonfly were recorded in the Luk Tei Tong River in April 2010 (Table 6.5.7).

Table 6.5.7 Dragonfly in Luk Tei Tong River

Common names	**Latin names**	**LTT 1**	**LTT 2**	**LTT 3**	**LTT 4**	**LTT 5**	**Commonness & distribution**
Green Skimmer	*Orthetrum sabina*					2	C
Wandering Glider	*Pantala flavescens*	15			8	9	A

A = abundant, C = common

Aquatic invertebrates and fish

4 species of fish, 2 species of crustacean and 4 species of mollusks were recorded in the 5 sections at LTT. All are common and widespread in Hong Kong. The two fish species of conservation concern reported in the EIA report, i.e. Flagtail *Kuhlia marginata* and Predaceous Chub *Parazacco spilurus* were not recorded in LTT during the present monitoring as well as the baseline monitoring survey.

Table 6.5.8 Aquatic invertebrates and fish in Luk Tei Tong River

Common names	Scientific names	LTT1	LTT2	LTT3	LTT4	LTT5
Invertebrates						
Mangrove clam	*Geloina erosa*					
Rock oyster	*Saccostrea cuculata*	+++	+++			
Snail	*Melanoides tuberculata*				+++	+++
Snail	*Terebralia* sp.			+		
Snail	*Nerita* sp.		+++			
Snail	*Littoraria articulata*					
Crab	*Varuna litterata*	+				
Fiddler crab	*Uca lactea*					
Fiddler crab	*Uca arcuata*					
Fiddler crab	*Uca crassipes*					
Crab	*Perisesarma bidens*		+	+		
Mangrove mud crab	*Scylla paramamosain*					
Mitten crab	*Eriocheir japonica*					
Fish						
Common mudskipper	*Periophthalmus cantonensis*		+			
Tilapia		++	+	+		
Jarbua terapon	*Terapon jarbua*					
Mullet	*Mugil cephalus*	+++	+++	++		
Common Silver-biddy	*Gerres oyena*					
Barcheek Goby	*Rhinogobius giurinus*				+	

+ = Occasional, less than 5 individuals were found; ++ = Common, 5 – 20 individuals were found; +++ = Abundant, more than 20 individuals were found.

Disused Watchtowers

Surveys were conducted on 9 April 2010.

There was no sign (e.g., adults carrying food or nesting materials) of use of the watchtower as nesting habitat by White-shouldered Starling.

White-shouldered Starling was not observed during the April 2010 monitoring. No bird of other species was observed entering the watchtower.

Since the monitoring surveys commenced in August 2008, no bird was observed entering the watchtower. It seems the birds do not prefer the watchtower as roosting or nesting habitat.

Ecological Water Quality Monitoring (EWQM)

EWQM was conducted on 9 April 2010. Monitoring results are summarized in Table 6.9. Detailed on-site measurements and laboratory report are presented in Appendix D4 and D5.

Table 6.10 shows the baseline results of Ecological Water Quality Monitoring, from the information given in Baseline Monitoring Report.

To review the results in Table 6.9 in general, the measured results of Suspended Solids and Turbidity measured in WE3 (PNH River) and WE4 (LTT River) was found higher than the previous months. Such facts were believed to be caused by disturbance of sediments, and site effluent discharge due to construction activities.

Table 6.9 Summarized Ecological water quality monitoring results (9 Apr 2010)

Parameters	Limit of detection	WE1	WE2	WE3	WE4	WE5	WE6
Suspended Solid (mg/l)	1	1.70	2.60	9.70	11.75	8.45	1.35
Nitrogen (Ammonia) (mg/l)	0.01	0.08	0.04	1.23	1.88	4.01	0.11
Nitrogen (Nitrate) (mg/l)	0.01	0.36	0.42	0.77	0.42	0.19	0.22
Phosphorous (mg/l)	0.01	0.06	0.07	0.19	0.14	0.48	0.06
BOD_5 (mg/l)	1	2.00	1.00	4.00	2.00	4.00	1.00
DO (mg/l)	0.01	9.22	11.72	9.83	9.42	10.97	9.13
Turbidity (NTU)	0.1	0.00	0.00	13.55	8.35	3.15	0.00
Temperature (oC)	0.1	19.3	19.5	20.3	21.0	22.9	20.2
pH	0.01	7.06	7.91	8.01	7.23	6.82	6.83
Salinity (ppt)	0.1	0.0	0.3	1.3	6.4	2.2	0.0
Conductivity (ms/m)	0.1	8.5	72.1	248.0	1150.0	418.0	7.1
Water Flow (m/s)	N/A	0.005	0.005	0.02	0.01	0.02	0.005

Table 6.10 Baseline Results of Ecological water quality monitoring

Parameters	WE1	WE2	WE3	WE4	WE5	WE6
Suspended Solid (mg/l)	1.0	2.0	3.0	3.0	<1	<1
Nitrogen (Ammonia) (mg/l)	0.07	0.12	0.11	0.23	0.03	0.02
Nitrogen (Nitrate) (mg/l)	0.12	0.13	0.13	0.31	0.04	0.05
Phosphorous (mg/l)	0.04	0.06	0.06	0.09	0.06	0.05
BOD_5 (mg/l)	<2	<2	<2	<2	<2	<2
DO (mg/l)	6.58	6.82	6.37	7.61	6.87	5.70
Turbidity (NTU)	4.44	5.12	5.93	6.96	4.65	2.73
PH	6.4	7.1	7.0	6.8	6.6	6.1
Salinity (ppt)	<0.1	0.1	0.3	7.6	0.1	<0.1

6.6 Action and Limit level for Monitoring of White-shouldered Starlings

A simple Event and Action Plan is shown in Table 6.6.1. Should the Event occur, action in accordance with the Action Plan should be carried out.

There was no recorded event in the reporting month.

Table 6.6.1 Event / Action Plan for Monitoring of White-shouldered Starlings

EVENT	ACTION	
	ET Leader	**Contractor**
Identification of disturbance to breeding White-shouldered Starlings	1. Increase frequency of monitoring to twice weekly	1. Check all construction actions and working methods
	2. Notify Site Engineer	2. Submit proposals for remedial action to prevent abandonment of the breeding site.
	3. Review construction activities of previous week.	3. Implement remedial action.
	4. Identify any changes in construction activities in previous week	4. Liaise with ET regarding effectiveness of remedial actions.
	5. Discuss remedial actions with Site Engineer	

6.7 Ecological monitoring Schedule

The next ecological surveys are scheduled on 9 and 16 May 2010, while ecological water quality monitoring is scheduled on 12 May 2010.

7. Action taken in Event of Exceedence

If the measurements (Noise, Water, Ecology) exceed the action / limit level, exceedance details will be reported and follow-up actions will be taken by relevant parties involved.

During the reporting period there was no exceedance for noise, ecological measurements recorded; therefore no actions were taken.

Total 64 non-compliance events of water quality limits (Turbidity and Suspended Solids) were recorded in this reporting month according to the established level. ET has arranged site investigations for the exceedance events. Except the reasons of natural fluctuation, 10 events were identified to be substantially attributable to improper site practices. As such, the contractor was strongly recommended to review their sites condition and working method. Necessary as well as effective mitigation measures have to be implemented to minimize water quality impact from project site activities.

The summary of non-compliance events for water quality exceedance is listed in Table 7.1 for reference.

Table 7.1 Summary of Non-compliance for Water Quality

Date	Location	Parameter	Level of exceedance	Main cause of exceedance
14/4/10	M1	Turbidity, S.S.	Limit Level	Disturbance of sediment and runoff from excavation works
26/4/10	M1	Turbidity, S.S.	Limit Level	Disturbance of sediment and runoff from excavation and reformation of earth bund.
30/4/10	M1	Turbidity, S.S.	Limit Level	Surface runoff from the construction sites and disturbance of sediment by heavy rainfall.
	M3	Turbidity, S.S.	Limit Level	
	M4	Turbidity, S.S.	Limit Level	

8. Construction waste disposal

It is the contractor's responsibility to ensure that all wastes produced during the construction phase for the drainage improvement works are handled, stored and disposed of in accordance with good waste management practices and EPD's regulation and requirement. Waste materials generated during construction activities, such as construction and demolition (C&D) material, chemical wastes and general refuse, are recommended to be audited at regular intervals to ensure that proper storage, transportation and disposal practices are being implemented.

Contractor has completed the registration of Waste Producer under the Waste Disposal (Chemical Waste)(General) Regulation. The Waste Producer Number, WPN 5213-950-Y2443-03 was assigned by EPD on 12 Aug 2008. The Contractor would be responsible for the implementation of any mitigation measure to minimize waste or redress problems arising from the waste materials.

Table 8.1 is a summary of figures of the construction wastes disposal provided by Contractor.

Table 8.1 Summary of Construction Waste Disposal

	Amount of Construction Waste disposed		
Month	**Inert Waste (to Public Fill)**	**Non-inert Waste (to Landfill)**	**Chemical Waste (to treatment plant)**
1st to 30th Apr 10	235.90 (ton)	10.90 (ton)	Nil
Total	24463.56 (ton)	182.83 (ton)	0

9. Status of Permits and Licenses obtained

Table 9.1 is the updated status of environmental related permits/ license obtained for the construction activities

Table 9 .1 Status of Permits and Licenses Obtained

Description	License / Permit No.#	Date of Issue	Date of Expiry	Remarks
Environmental Permit	EP-237/2005/A	05 Mar 2007	--	Issued
Variation of Environmental Permit	EP-237/2005/B	23 April 2009	--	Issued
Registration of C&D Waste Producer	7006521	--	--	Issued
Chemical Waste Producer	5213-950-Y2443-03	12 Aug 2008	--	Issued
Construction Noise Permit	N/A	N/A	N/A	N/A
Effluent Discharge License	EP890/W2/XG032 EP890/W2/XG033 EP890/W2/XG034 EP890/W2/XG035 EP890/W2/XG036 EP890/W2/XG037 EP890/W2/XG038 EP890/W2/XG039 EP890/W2/XG040 EP890/W2/XG041	23 Oct 2008	31 Oct 2013	Issued

The contractor implemented various environmental mitigation measures as recommended in the Environmental Permit and Final Mitigation Measures Report. The implemented schedule is presented in Appendix H.

10. Complaint Log

There was no formal complaint received during the reporting month.

Table 10.1 Summary of Formal Complaints received

	Noise	Water	Ecology	Cultural	Others
April 2010	0	0	0	0	0
Total	0	1	0	0	0

11. Site Environmental Audits

Site Inspection

With an intention to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented, regular environmental site inspections have been scheduled.

Within the reporting month, site inspections were conducted on 8, 15, 22 and 29 April 2010.

A detailed checklist of each site inspection together with comments, relevant photos and maps have been filed and kept. A summary of observation and follow-up action is shown in Table 11.1

Table 11.1 Summary of site inspection

Date	Observations	Advice from ET	Action taken	Closing Date
25 Mar 10	Riverbanks of the diversion channel at PNH fish ladder, was directly exposed without protection	Contractor was advised to geo-textile coverings to the exposed diversion channel to prevent erosion therefore causing contamination to the river body	To be followed in the next reporting period	Ongoing
25, 30 Mar & 8 Apr 10	Open stockpiles of earth materials were observed at LTT site box culvert A	Contractor was recommended to provide tarpaulin coverings to the concerned stockpiles to prevent erosion and runoff	Follow up action was taken as advised prior to the inspection on 15 Apr 10	15 Apr 10
25 Mar 10	No protective measure implemented to avoid surface runoff from entering into the river channel from the haul access at LTT seawall site as well as retaining wall site PNH	Contractor was recommended to provide proper bund walls and barriers along edges along the concerned haul access soon as possible	Geo-textile coverings were provided to prevent erosion from the surface of bund wall	8 Apr 10
30 Mar & 8 Apr 10	Geo-textile coverings for the part of riverbanks at LTT seawall site were found removed during inspection	Contractor was requested to rectify such discrepancy immediately to prevent erosion and site water runoff.	Follow up actions were taken as advised prior to the inspection on 8 Apr	8 Apr 10
30 Mar & 8 Apr 10	Site water diversion pipeline at PNH seawall site was found damaged. Site water being leaked out caused erosion to the edge of the haul access where is connected with the pond of Yuen's Compound	Contractor was advised to replace the damages hose and implement rectification to the eroded haul access as soon as possible	Follow up action was taken as advised prior to the inspection on 15 Apr	15 Apr 10
30 Mar & 8 Apr 10	Chemicals for the construction of retaining wall C at PNH was found placed on the edge of the haul access during inspection	To prevent potential chemical spillage to the surrounding environment and river course, Contractor was recommended to assign a proper area with proper spillage containment measures implemented for chemicals using on the concerned site area.	As reported by the Contractor the concerned chemical containers were relocated to chemical storage area prior to the inspection on 15 Apr	15 Apr 10
8 Apr 10	Muddy water was accumulated in the wheel washing bay at the site entrance of PNH fish ladder site	Contractor was reminded to clean up the wheel washing bay to maintain its effectiveness regularly as part of site clean		15 Apr 10

Table 11.1 Summary of site inspection

Date	Observations	Advice from ET	Action taken	Closing Date
8 Apr 10	General wastes and stagnant water were accumulated in the wheel washing bay for box culvert/ retaining wall site at PNH	Contractor was recommended to clean up the wastes and drain off the grey water regularly to maintain good hygiene condition of the site	As reported by Contractor cleaning to the concerned wheel washing bay was conducted during the daily cleaning activities carried out on 9 Apr. Condition of the wheel washing bay was observed to acceptable	15 Apr 10
8 Apr 10	Earthy material was found deposited to the EVA access due to transportation of site vehicles	Contractor was advised to clean up the public access. Also, site vehicles should be well washed at the wheel washing bay provided before leaving site	Cleaning to the EVA access by water spraying was conducted regularly as reported by Contractor	15 Apr 10
8 Apr 10	Power generator for construction activity at PNH fish ladder was found separated with its drip tray during inspection	Contractor was advised to rectify such discrepancy immediately to prevent potential oil spillage	Still outstanding. To be followed during next reporting period	Ongoing
15 Apr 10	Muddy water was found accumulated on the footbridge (outside site of PNH retaining wall/ box culvert site), which was believed to be caused by earth deposition by site vehicles.	Contractor was reminded to clean up all site vehicles at wheel washing bays before leaving site. Also, muddy water accumulated public access should be drained to prevent environmental impact to the public area	Cleaning by water spraying was conducted regularly as reported by Contractor	22 Apr 10
15 Apr 10	Riverbanks of the reformed haul access at PNH retaining wall site were not covered to protect from erosion	Contractor was advised to provided geo-textile coverings to the exposed earth surface as soon as possible to prevent erosion from causing water pollution	Still outstanding. To be followed during next reporting period	Ongoing
15 Apr 10	Geo-textile coverings to the bund wall along alternative mass concrete wall site at PNH were drifted during inspection	Contractor was advised to rectify such discrepancy as soon as possible to prevent erosion from causing water pollution	Follow up action was taken as advised prior to the inspection on 22 Apr 10	22 Apr 10
22 Apr 10	Silt clay and muddy water accumulated in the wheel washing bay at site entrance of	Contractor was recommended to clean up the wheel washing bay once it was saturated with silt and muddy	Regular cleaning by water spraying was conducted as reported by Contractor.	Ongoing

Table 11.1 Summary of site inspection				
Date	Observations	Advice from ET	Action taken	Closing Date
	PNH fish ladder sit, was brought to the public access during inspection	water as to avoid earth deposition to the public area	However, condition of the wheel washing was still not satisfied	
22 Apr 10	Stagnant water was found accumulated in drip pan for the power generator at PNH fish ladder	Contractor was recommended to review site equipments with drip tray stationed on site; stagnant water accumulated in the drip tray should be regularly drained to prevent mosquito breeding	Follow up action was taken as advised prior to the inspection on 29 Apr	29 Apr 10
22 Apr 10	Mud track was left on the EVA access by site vehicles at the section of Mui Wo School	Contractor was advised to clean up the concerned section of EVA access to minimize environmental impact to the public area. Also, to prevent earth deposition to public area site vehicles should be well washed before leaving site	Follow up action was taken as advised prior to the inspection on 29 Apr	29 Apr 10
22 Apr 10	Muddy water was accumulated in the pit at the retaining wall structure at PNH fish ladder Those water would seep through the gabion wall and enter into the river course causing pollution	Contractor was recommended to implement proper mitigation measures to prevent muddy water seepage as soon as possible	A de-silting tank was provided prior to the inspection on 29 Apr	29 Apr 10
22 Apr 10	Partial of the reformed bund wall at PNH retaining wall site was exposed during inspection	Contractor was reminded to rectify such discrepancy as soon as possible	Follow up action was taken advised prior to the inspection on 29 Apr	29 Apr 10
22 Apr 10	Condition of wooden boards and geo-textile coverings to the surface channel at PNH retaining wall site entrance were drifted and damaged	Contractor was advised to rectify the coverings provided to prevent surface runoff entering into the public drainage causing water pollution	Follow up action was taken as advised prior to the inspection on 29 Apr	29 Apr 10
22 Apr 10	River water of LTTR was observed to be muddy during inspection	Contractor was recommended to trace the source of contamination. Should such condition be caused by site works immediate corrective action should be implemented to stop further deterioration of water quality	As reported by contractor condition observed was found to be caused by site water overflow. Corrective action was taken immediately Further deterioration of water quality	29 Apr 10

Table 11.1 Summary of site inspection				
Date	Observations	Advice from ET	Action taken	Closing Date
			was not observed during inspection on 29 Apr	
29 Apr 10	Open stockpile of earth materials was found at fish ladder of PNHR	Contractor was advised to provide tarpaulin coverings to the concerned stockpile to prevent erosion and dust generation	To be followed in the next reporting period	Ongoing
29 Apr 10	Hoses diverting site water from LTT mass concrete wall site were damaged. Site water leakage from damaged hose caused accumulated of stagnant water on haul access	Contractor was recommended to replace or repair the damage hoses to prevent leakage causing environmental impacts to the surrounding area	To be followed in the next reporting period	Ongoing
29 Apr 10	Geo-textiles coverings for the earth bunds along LTTR were found drifted during inspection	Contractor was advised to rectify such discrepancies as soon as possible to minimize erosion and runoff from causing pollution	To be followed in the next reporting period	Ongoing

11.2 Compliance with legal and Contractual requirement

ET leader has reviewed the progress and programme of the works to check any relevant environmental laws has not violated.

11.3 Environmental Complaint and follow up actions

During this reporting period, there was no documented complaint received. Therefore, follow up actions for the environmental complaint is not required.

Findings of monthly survey was still pending therefore relevant was not provided in this reporting month.

12. Future key issues

As informed by contractor major site activities carried out in this reporting month will be continued in the upcoming month including construction of retaining wall, fish ladder, alternative mass concrete wall, box culvert and riverwall at LTT and PNH. With reference to the EM&A manual, mitigation measure report as well as the environmental permit, proper mitigation measures are proposed to be taken, if necessary.

Contractor was reminded again to provide proper measures to mitigate water quality impacts to the river channels due to construction works. River based construction sites should be well enclosed by bunds in dry condition, as to prevent surface run-off and site water seepage to the stream. Bare soil surface, which is directly exposed to the river channel in the site area, should be completely covered with geo-textile to prevent soil erosion. For river-based and any construction activities carried at riverside, contractor should implement proper protection measures such as barriers and/or silt curtains to prevent surface run-off from entering water bodies.

Underground water and site water may be accumulated on site. Contractor is recommended to treat the accumulated site water by proper silt removal facilities before discharging to the designated discharge point; reuse of site water should be considered also. Channel, trench and manholes connected with project sites should be sealed to prevent site water and any construction materials entering public drainage and causing water quality impact.

Construction activities such as backfilling, earth movement may generate dust impact to the vicinity of sensitive receivers. Contractor is advised to provide regular water spraying for the dusty static area. Stockpiling may be found on site and those should be covered by tarpaulin to prevent erosion and run-off.

Heavy plants and vehicles may be deployed for the construction and those would generate certain noise impacts to the sensitive receivers. Noisy activities should be well planned and scheduled to avoid parallel operation of multiple plants, so as to minimize noise impacts to the nearby sensitive receivers.

Construction activities and operation of site equipments may require use of chemicals and fuel on site. Secondary containment and spillage preventative measures should be implemented to such chemicals using on site.

13. Conclusions

In this reporting month, major site activities included construction of retaining walls, fish ladder, mass concrete wall, box culvert and riverwall at Pak Ngan Heung and Luk Tei Tong.

Regular site meetings and inspection audits led by the seniors for discussing site environmental matters were held among Project Proponent, Contractor and the ET on weekly basis. Also monthly site meeting and inspection audits with the above parties and IEC were carried out on 29 April 2009.

For noise level monitoring, all results were within the established A/L limits.

For water quality monitoring, total 64 non-compliance events of water quality criteria were recorded in this reporting month. Except the natural fluctuation, 10 events were believed to be caused by improper site practices. Hence, the contractor was urged to review the site condition and implement necessary mitigation measures and corrective actions as soon as possible to minimize water quality impact due to site works.

During ecological monitoring survey, no White-shouldered Starling was recorded breeding in the watch tower. Some drainage improvement works were on-going at a distance from the watchtower on inter-tidal areas at downstream of Luk Tei Tong River (LTT1). The works area was screened from the watchtower by tall plantations. The absence of nesting of White-shouldered Starling in the watch tower did not seem to be related to construction works in Luk Tei Tong River. A bird species nests in village houses should be to certain extent disturbance tolerant.

No bird was observed entering the watchtower since the monitoring surveys commenced in August 2008. Also, no breeding was recorded in the baseline survey in September 2007. It appears that the birds do not prefer to roost or nest in the watch tower.

Also, there were not any notifications of summons recorded during the reporting period. Furthermore, there were not any formal prosecution and complaints recorded.

Site water control was the major concern in this reporting month. Therefore,

ET recommended the contractor to implement sufficient and effective mitigation measures to minimize water quality impact from site works. Proper de-silting facilities should be provided for site water treatment. To prevent surface run-off and soil erosion from site activities, earth bunds with complete coverage of geo-textile materials should be formed at river-based and/or riverside project sites. Contractor should be cautious on change of river water quality, immediate corrective action was required once muddy effluent discharge, or disturbance of sediment was found from site works.

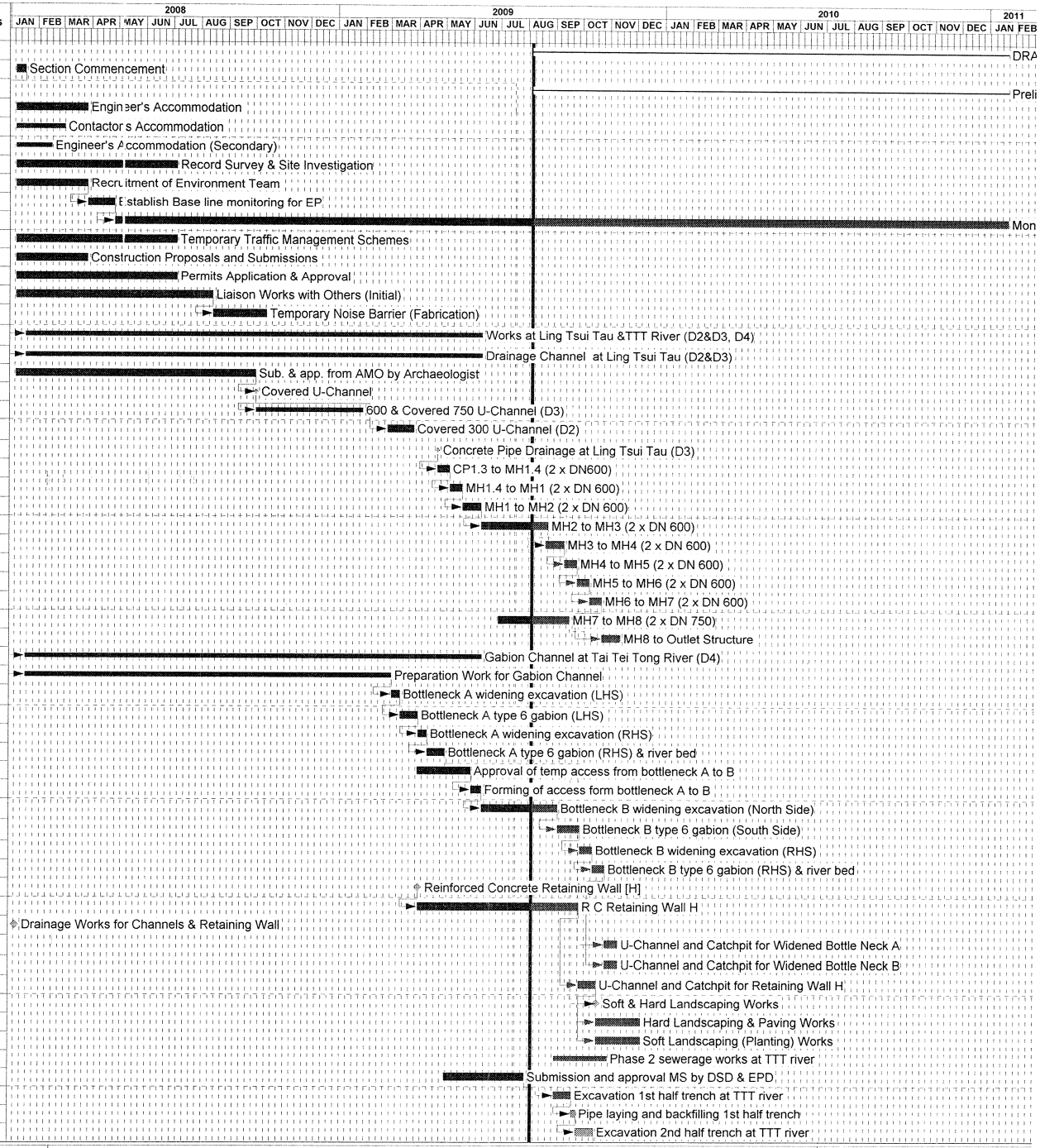
ET has reminded the contractor to provide environmental pollution control measures wherever necessary; and to keep a good environmental management at site practice.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement.

Appendix A

Construction Programmer and Location plan

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	%	Predecessors
0000	DRAINAGE IMPROVEMENT WORK IN S LANTAU	534 *	534 *	06AUG2009	21JAN2011	0	
0001	Section Commencement	11	0	07JAN2008 A	17JAN2008 A	100	
0010	Preliminaries	534 *	534 *	06AUG2009	21JAN2011	0	
0020	Engineer's Accommodation	80	0	07JAN2008 A	26MAR2008 A	100	
0030	Contactor's Accommodation	55	0	07JAN2008 A	01MAR2008 A	100	
0040	Engineer's Accommodation (Secondary)	40	0	07JAN2008 A	15FEB2008 A	100	
0050	Record Survey & Site Investigation	180	0	07JAN2008 A	04JUL2008 A	100	
0060	Recruitment of Environment Team	80	0	07JAN2008 A	26MAR2008 A	100	
0070	Establish Base line monitoring for EP	30	0	27MAR2008 A	25APR2008 A	100	**0060**
0080	Monitoring for Environmental Permit	1001	534	26APR2008 A	21JAN2011	47	**0070**
0100	Temporary Traffic Management Schemes	180	0	07JAN2008 A	04JUL2008 A	100	
0110	Construction Proposals and Submissions	80	0	07JAN2008 A	26MAR2008 A	100	
0120	Permits Application & Approval	180	0	07JAN2008 A	04JUL2008 A	100	
0130	Liaison Works with Others (Initial)	220	0	07JAN2008 A	13AUG2008 A	100	
0140	Temporary Noise Barrier (Fabrication)	60	0	14AUG2008 A	12OCT2008 A	100	**0130**
1000	Works at Ling Tsui Tau &TTT River (D2&D3, D4)	510	0	18JAN2008 A	10JUN2009 A	100	**0001**
1010	Drainage Channel at Ling Tsui Tau (D2&D3)	510	0	18JAN2008 A	10JUN2009 A	100	**0001**
1020	Sub. & app. from AMO by Archaeologist	268	0	07JAN2008 A	30SEP2008 A	100	
1030	Covered U-Channel	0	0	01OCT2008 A		100	**1020**
1031	600 & Covered 750 U-Channel (D3)	120	0	01OCT2008 A	28JAN2009 A	100	**1030**
1032	Covered 300 U-Channel (D2)	30	0	25FEB2009 A	26MAR2009 A	100	**1030**
1040	Concrete Pipe Drainage at Ling Tsui Tau (D3)	0	0	22APR2009 A		100	
1041	CP1.3 to MH1.4 (2 x DN600)	14	0	22APR2009 A	05MAY2009 A	100	**1040**
1042	MH1.4 to MH1 (2 x DN 600)	14	0	06MAY2009 A	19MAY2009 A	100	**1041**
1043	MH1 to MH2 (2 x DN 600)	21	0	20MAY2009 A	09JUN2009 A	100	**1042**
1044	MH2 to MH3 (2 x DN 600)	75	18	10JUN2009 A	23AUG2009	76	**1043**
1045	MH3 to MH4 (2 x DN 600)	21	21	21AUG2009 *	10SEP2009	0	**1044**
1046	MH4 to MH5 (2 x DN 600)	14	14	11SEP2009	24SEP2009	0	**1045**
1047	MH5 to MH6 (2 x DN 600)	14	14	25SEP2009	08OCT2009	0	**1046**
1048	MH6 to MH7 (2 x DN 600)	14	14	09OCT2009	22OCT2009	0	**1047**
1049	MH7 to MH8 (2 x DN 750)	80	42	29JUN2009 A	16SEP2009	48	
1050	MH8 to Outlet Structure	21	21	23OCT2009	12NOV2009	0	**1048, 1049**
1100	Gabion Channel at Tai Tei Tong River (D4)	510	0	18JAN2008 A	10JUN2009 A	100	**0001**
1110	Preparation Work for Gabion Channel	409	0	18JAN2008 A	01MAR2009 A	100	**0001**
1120	Bottleneck A widening excavation (LHS)	10	0	02MAR2009 A	11MAR2009 A	100	**1110**
1121	Bottleneck A type 6 gabion (LHS)	20	0	12MAR2009 A	31MAR2009 A	100	**1120**
1122	Bottleneck A widening excavation (RHS)	10	0	01APR2009 A	10APR2009 A	100	**1121**
1123	Bottleneck A type 6 gabion (RHS) & river bed	20	0	11APR2009 A	30APR2009 A	100	**1122**
1130	Approval of temp access from bottleneck A to B	60	0	31MAR2009 A	29MAY2009 A	100	
1131	Forming of access form bottleneck A to B	12	0	30MAY2009 A	10JUN2009 A	100	**1130**
1132	Bottleneck B widening excavation (North Side)	85	29	11JUN2009 A	03SEP2009	66	**1131**
1133	Bottleneck B type 6 gabion (South Side)	25	25	04SEP2009	28SEP2009	0	**1132**
1134	Bottleneck B widening excavation (RHS)	14	14	29SEP2009	12OCT2009	0	**1133**
1135	Bottleneck B type 6 gabion (RHS) & river bed	14	14	13OCT2009	26OCT2009	0	**1134**
1140	Reinforced Concrete Retaining Wall [H]	0	0	01APR2009 A		100	
1141	R C Retaining Wall H	180	53	01APR2009 A	27SEP2009	71	**1140**
1150	Drainage Works for Channels & Retaining Wall	0	0	07JAN2008 A		100	
1151	U-Channel and Catchpit for Widened Bottle Neck A	15	15	27OCT2009	10NOV2009	0	**1123, 1135**
1152	U-Channel and Catchpit for Widened Bottle Neck B	15	15	27OCT2009	10NOV2009	0	**1135**
1153	U-Channel and Catchpit for Retaining Wall H	20	20	28SEP2009	17OCT2009	0	**1141**
1160	Soft & Hard Landscaping Works	0	0	18OCT2009		0	**1123, 1153**
1170	Hard Landscaping & Paving Works	50	50	18OCT2009	06DEC2009	0	**1153**
1180	Soft Landscaping (Planting) Works	50	50	18OCT2009	06DEC2009	0	**1153**
1200	Phase 2 sewerage works at TTT river	60	60	01SEP2009 *	30OCT2009	0	
1210	Submission and approval MS by DSD & EPD	90	0	01MAY2009 A	29JUL2009 A	100	
1220	Excavation 1st half trench at TTT river	20	20	01SEP2009 *	20SEP2009	0	**1210**
1230	Pipe laying and backfilling 1st half trench	5	5	21SEP2009	25SEP2009	0	**1220**
1240	Excavation 2nd half trench at TTT river	20	20	26SEP2009	15OCT2009	0	**1230**



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Progress bar
Critical bar
Summary bar
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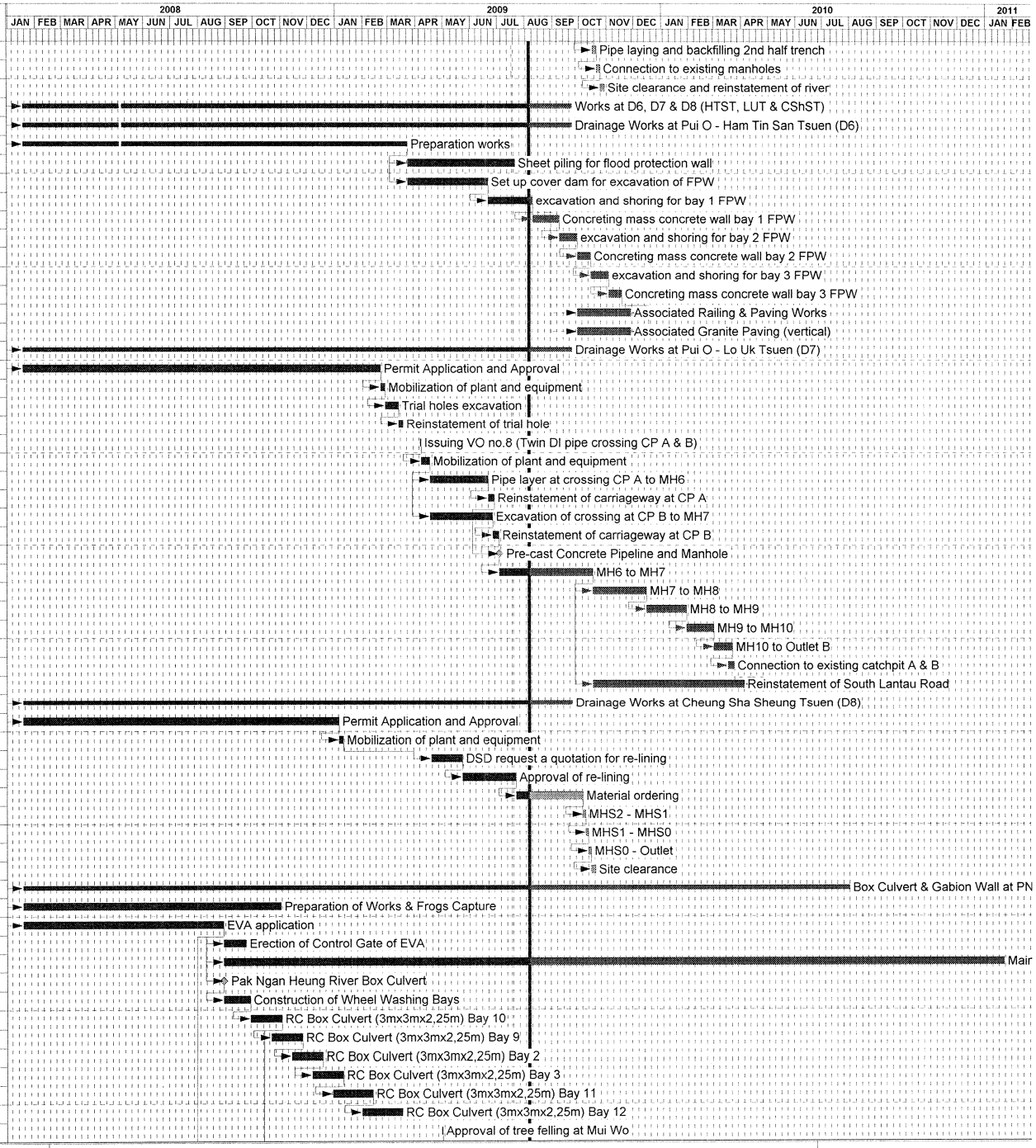
Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	%	Predecessors
1250	Pipe laying and backfilling 2nd half trench	5	5	16OCT2009	20OCT2009	0	**1240**
1260	Connection to existing manholes	4	4	21OCT2009	24OCT2009	0	**1250**
1270	Site clearance and reinstatement of river	5	5	25OCT2009	29OCT2009	0	**1260**
2000	Works at D6, D7 & D8 (HTST, LUT & CShST)	614	48	18JAN2008 A	22SEP2009	92	**0001**
2100	Drainage Works at Pui O - Ham Tin San Tsuen (D6)	614	48	18JAN2008 A	22SEP2009	92	**0001**
2110	Preparation works	430	0	18JAN2008 A	22MAR2009 A	100	**0001**
2111	Sheet piling for flood protection wall	120	0	23MAR2009 A	20JUL2009 A	100	**2110**
2112	Set up cover dam for excavation of FPW	90	0	23MAR2009 A	20JUN2009 A	100	**2110**
2113	excavation and shoring for bay 1 FPW	50	4	21JUN2009 A	09AUG2009	92	**2112**
2114	Concreting mass concrete wall bay 1 FPW	30	30	10AUG2009	08SEP2009	0	**2113**
2115	excavation and shoring for bay 2 FPW	20	20	09SEP2009	28SEP2009	0	**2114**
2116	Concreting mass concrete wall bay 2 FPW	15	15	29SEP2009	13OCT2009	0	**2115**
2117	excavation and shoring for bay 3 FPW	20	20	14OCT2009	02NOV2009	0	**2116**
2118	Concreting mass concrete wall bay 3 FPW	15	15	03NOV2009	17NOV2009	0	**2117**
2120	Associated Railing & Paving Works	60	60	29SEP2009 *	27NOV2009	0	**2113, 2118**
2130	Associated Granite Paving (vertical)	60	60	29SEP2009	27NOV2009	0	**2113, 2118**
2200	Drainage Works at Pui O - Lo Uk Tsuen (D7)	614	48	18JAN2008 A	22SEP2009	92	**0001**
2210	Permit Application and Approval	400	0	18JAN2008 A	20FEB2009 A	100	**0001**
2211	Mobilization of plant and equipment	5	0	21FEB2009 A	25FEB2009 A	100	**2210**
2212	Trial holes excavation	15	0	26FEB2009 A	12MAR2009 A	100	**2211**
2213	Reinstatement of trial hole	5	0	13MAR2009 A	17MAR2009 A	100	**2212**
2220	Issuing VO no.8 (Twin DI pipe crossing CP A & B)	1	0	06APR2009 A	06APR2009 A	100	
2223	Mobilization of plant and equipment	10	0	07APR2009 A	16APR2009 A	100	**2220**
2224	Pipe layer at crossing CP A to MH6	65	0	17APR2009 A	20JUN2009 A	100	**2223**
2225	Reinstatement of carriageway at CP A	7	0	21JUN2009 A	27JUN2009 A	100	**2224**
2226	Excavation of crossing at CP B to MH7	70	0	17APR2009 A	25JUN2009 A	100	**2223**
2227	Reinstatement of carriageway at CP B	7	0	26JUN2009 A	02JUL2009 A	100	**2226**
2230	Pre-cast Concrete Pipeline and Manhole	0	0	03JUL2009 A		100	**2225, 2227**
2231	MH6 to MH7	105	71	03JUL2009 A	15OCT2009	32	**2230**
2232	MH7 to MH8	60	60	16OCT2009	14DEC2009	0	**2231**
2233	MH8 to MH9	45	45	15DEC2009	28JAN2010	0	**2232**
2234	MH9 to MH10	31	31	29JAN2010	28FEB2010	0	**2233**
2235	MH10 to Outlet B	21	21	01MAR2010	21MAR2010	0	**2234**
2236	Connection to existing catchpit A & B	7	7	17MAR2010	23MAR2010	0	**2235**
2240	Reinstatement of South Lantau Road	170	170	16OCT2009	03APR2010	0	**2231, 2236**
2300	Drainage Works at Cheung Sha Sheung Tsuen (D8)	614	48	18JAN2008 A	22SEP2009	92	**0001**
2310	Permit Application and Approval	353	0	18JAN2008 A	04JAN2009 A	100	**0001**
2311	Mobilization of plant and equipment	5	0	05JAN2009 A	09JAN2009 A	100	**2310**
2312	DSD request a quotation for re-lining	35	0	18APR2009 A	22MAY2009 A	100	**2311**
2313	Approval of re-lining	60	0	23MAY2009 A	21JUL2009 A	100	**2312**
2314	Material ordering	75	60	22JUL2009 A	04OCT2009	20	**2313**
2315	MHS2 - MHS1	3	3	05OCT2009	07OCT2009	0	**2314**
2316	MHS1 - MHS0	3	3	08OCT2009	10OCT2009	0	**2315**
2317	MHS0 - Outlet	3	3	11OCT2009	13OCT2009	0	**2316**
2340	Site clearance	5	5	14OCT2009	18OCT2009	0	**2317**
3000	Box Culvert & Gabion Wall at PNH River (D1)	926	360	18JAN2008 A	31JUL2010	61	**0001**
3010	Preparation of Works & Frogs Capture	288	0	18JAN2008 A	31OCT2008 A	100	**0001**
3020	EVA application	224	0	18JAN2008 A	28AUG2008 A	100	**0001**
3030	Erection of Control Gate of EVA	25	0	29AUG2008 A	22SEP2008 A	100	**3020**
3040	Maintenance of EVA	876	534	29AUG2008 A	21JAN2011	39	**3020**
3100	Pak Ngan Heung River Box Culvert	0	0	29AUG2008 A		100	**3020**
3110	Construction of Wheel Washing Bays	30	0	29AUG2008 A	27SEP2008 A	100	**3100**
3111	RC Box Culvert (3mx3mx2,25m) Bay 10	35	0	28SEP2008 A	01NOV2008 A	100	**3110**
3112	RC Box Culvert (3mx3mx2,25m) Bay 9	35	0	21OCT2008 A	24NOV2008 A	100	**3111**
3113	RC Box Culvert (3mx3mx2,25m) Bay 2	35	0	13NOV2008 A	17DEC2008 A	100	**3112**
3114	RC Box Culvert (3mx3mx2,25m) Bay 3	35	0	06DEC2008 A	09JAN2009 A	100	**3113**
3115	RC Box Culvert (3mx3mx2,25m) Bay 11	45	0	29DEC2008 A	11FEB2009 A	100	**3114**
3116	RC Box Culvert (3mx3mx2,25m) Bay 12	45	0	31JAN2009 A	16MAR2009 A	100	**3115**
3117	Approval of tree felling at Mui Wo	1	0	30APR2009 A	30APR2009 A	100	



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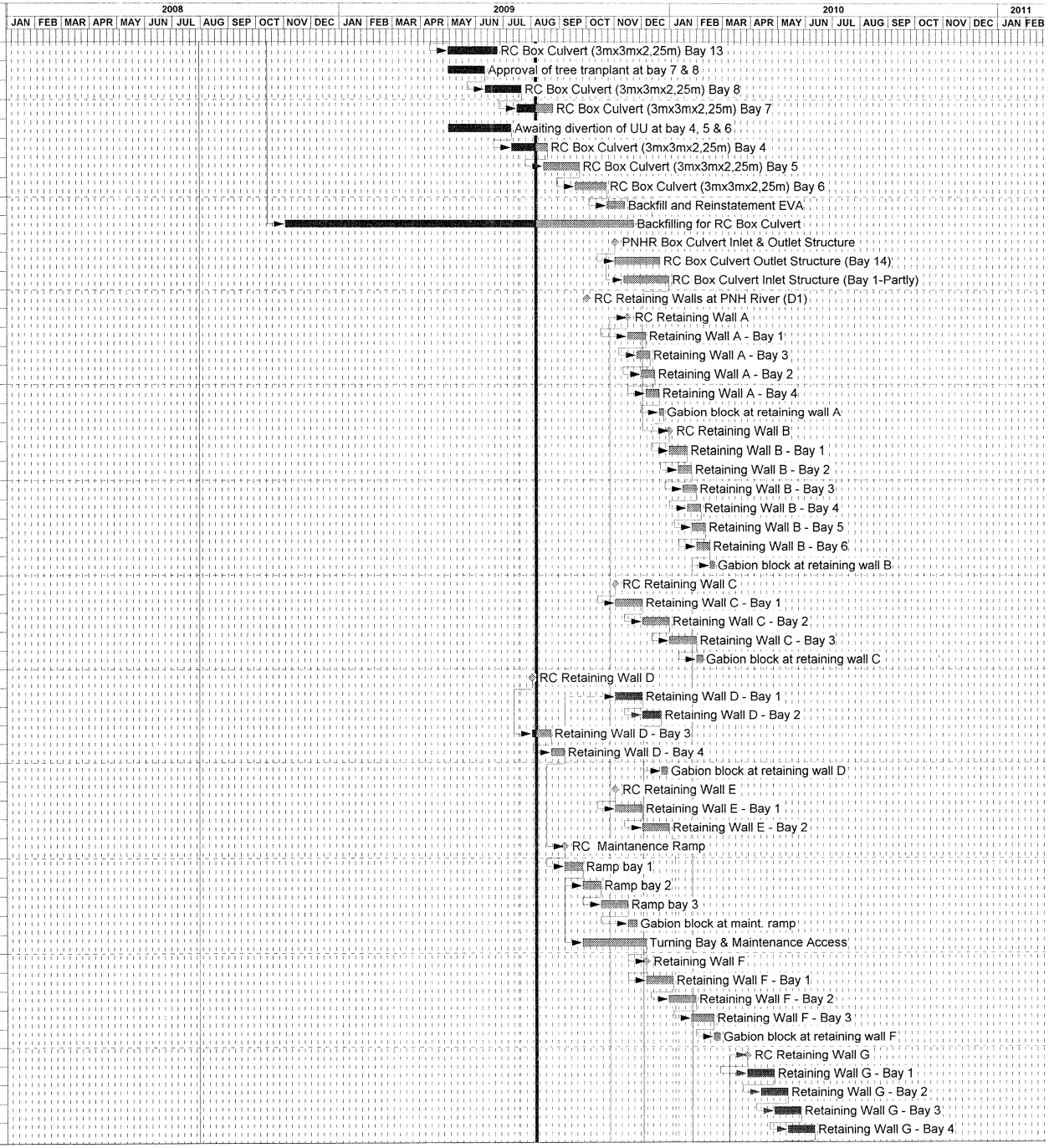
3118	RC Box Culvert (3mx3mx2,25m) Bay 13	55	0	01MAY2009 A	24JUN2009 A	100	3117
3119	Approval of tree tranplant at bay 7 & 8	41	0	01MAY2009 A	10JUN2009 A	100	
3120	RC Box Culvert (3mx3mx2,25m) Bay 8	40	0	11JUN2009 A	20JUL2009 A	100	3119
3121	RC Box Culvert (3mx3mx2,25m) Bay 7	40	19	16JUL2009 A	24AUG2009	53	3120
3122	Awaiting divertion of UU at bay 4, 5 & 6	70	0	01MAY2009 A	09JUL2009 A	100	
3123	RC Box Culvert (3mx3mx2,25m) Bay 4	40	13	10JUL2009 A	18AUG2009	68	3122
3124	RC Box Culvert (3mx3mx2,25m) Bay 5	40	40	14AUG2009	22SEP2009	0	3123
3125	RC Box Culvert (3mx3mx2,25m) Bay 6	35	35	18SEP2009	22OCT2009	0	3124
3130	Backfill and Reinstatement EVA	20	20	23OCT2009	11NOV2009	0	3125
3140	Backfilling for RC Box Culvert	385	108	02NOV2008 A	21NOV2009	72	3111, 3125
3150	PNHR Box Culvert Inlet & Outlet Structure	0	0	01NOV2009 *		0	
3160	RC Box Culvert Outlet Structure (Bay 14)	50	50	01NOV2009	20DEC2009	0	3150
3170	RC Box Culvert Inlet Structure (Bay 1-Partly)	50	50	11NOV2009	30DEC2009	0	3150
3300	RC Retaining Walls at PNH River (D1)	0	0	01OCT2009 *		0	
3310	RC Retaining Wall A	0	0	15NOV2009		0	3510
3311	Retaining Wall A - Bay 1	20	20	15NOV2009	04DEC2009	0	3310
3312	Retaining Wall A - Bay 3	15	15	25NOV2009	09DEC2009	0	3311
3313	Retaining Wall A - Bay 2	15	15	30NOV2009	14DEC2009	0	3312
3314	Retaining Wall A - Bay 4	15	15	05DEC2009	19DEC2009	0	3313
3315	Gabion block at retaining wall A	5	5	20DEC2009	24DEC2009	0	3314
3320	RC Retaining Wall B	0	0	31DEC2009		0	3170, 3315
3321	Retaining Wall B - Bay 1	20	20	31DEC2009	19JAN2010	0	3320
3322	Retaining Wall B - Bay 2	15	15	10JAN2010	24JAN2010	0	3321
3323	Retaining Wall B - Bay 3	15	15	15JAN2010	29JAN2010	0	3322
3324	Retaining Wall B - Bay 4	15	15	20JAN2010	03FEB2010	0	3323
3325	Retaining Wall B - Bay 5	15	15	25JAN2010	08FEB2010	0	3324
3326	Retaining Wall B - Bay 6	15	15	30JAN2010	13FEB2010	0	3325
3327	Gabion block at retaining wall B	5	5	14FEB2010	18FEB2010	0	3326
3330	RC Retaining Wall C	0	0	01NOV2009 *		0	
3331	Retaining Wall C - Bay 1	30	30	01NOV2009	30NOV2009	0	3330
3332	Retaining Wall C - Bay 2	30	30	01DEC2009	30DEC2009	0	3331
3333	Retaining Wall C - Bay 3	30	30	31DEC2009	29JAN2010	0	3332
3334	Gabion block at retaining wall C	7	7	30JAN2010	05FEB2010	0	3333
3340	RC Retaining Wall D	0	0	01AUG2009 A		100	
3341	Retaining Wall D - Bay 1	30	30	01NOV2009 *	30NOV2009	0	3344
3342	Retaining Wall D - Bay 2	21	21	01DEC2009	21DEC2009	0	3341
3343	Retaining Wall D - Bay 3	21	16	01AUG2009 A	21AUG2009	24	3340
3344	Retaining Wall D - Bay 4	15	15	22AUG2009	05SEP2009	0	3343
3345	Gabion block at retaining wall D	7	7	22DEC2009	28DEC2009	0	3342
3350	RC Retaining Wall E	0	0	01NOV2009 *		0	
3351	Retaining Wall E - Bay 1	30	30	01NOV2009	30NOV2009	0	3350
3352	Retaining Wall E - Bay 2	30	30	01DEC2009	30DEC2009	0	3351
3360	RC Maintanence Ramp	0	0	06SEP2009		0	3344
3361	Ramp bay 1	20	20	06SEP2009	25SEP2009	0	3360
3362	Ramp bay 2	20	20	26SEP2009	15OCT2009	0	3361
3363	Ramp bay 3	30	30	16OCT2009	14NOV2009	0	3362
3368	Gabion block at maint. ramp	10	10	15NOV2009	24NOV2009	0	3363
3369	Turning Bay & Maintenance Access	70	70	26SEP2009	04DEC2009	0	3361
3370	Retaining Wall F	0	0	05DEC2009		0	3369
3371	Retaining Wall F - Bay 1	30	30	05DEC2009	03JAN2010	0	3370
3372	Retaining Wall F - Bay 2	30	30	30DEC2009	28JAN2010	0	3371
3373	Retaining Wall F - Bay 3	25	25	24JAN2010	17FEB2010	0	3372
3374	Gabion block at retaining wall F	7	7	18FEB2010	24FEB2010	0	3373
3380	RC Retaining Wall G	0	0	27MAR2010		0	3421
3381	Retaining Wall G - Bay 1	30	30	27MAR2010	25APR2010	0	3380
3382	Retaining Wall G - Bay 2	30	30	11APR2010	10MAY2010	0	3381
3383	Retaining Wall G - Bay 3	30	30	26APR2010	25MAY2010	0	3382
3384	Retaining Wall G - Bay 4	30	30	11MAY2010	09JUN2010	0	3383



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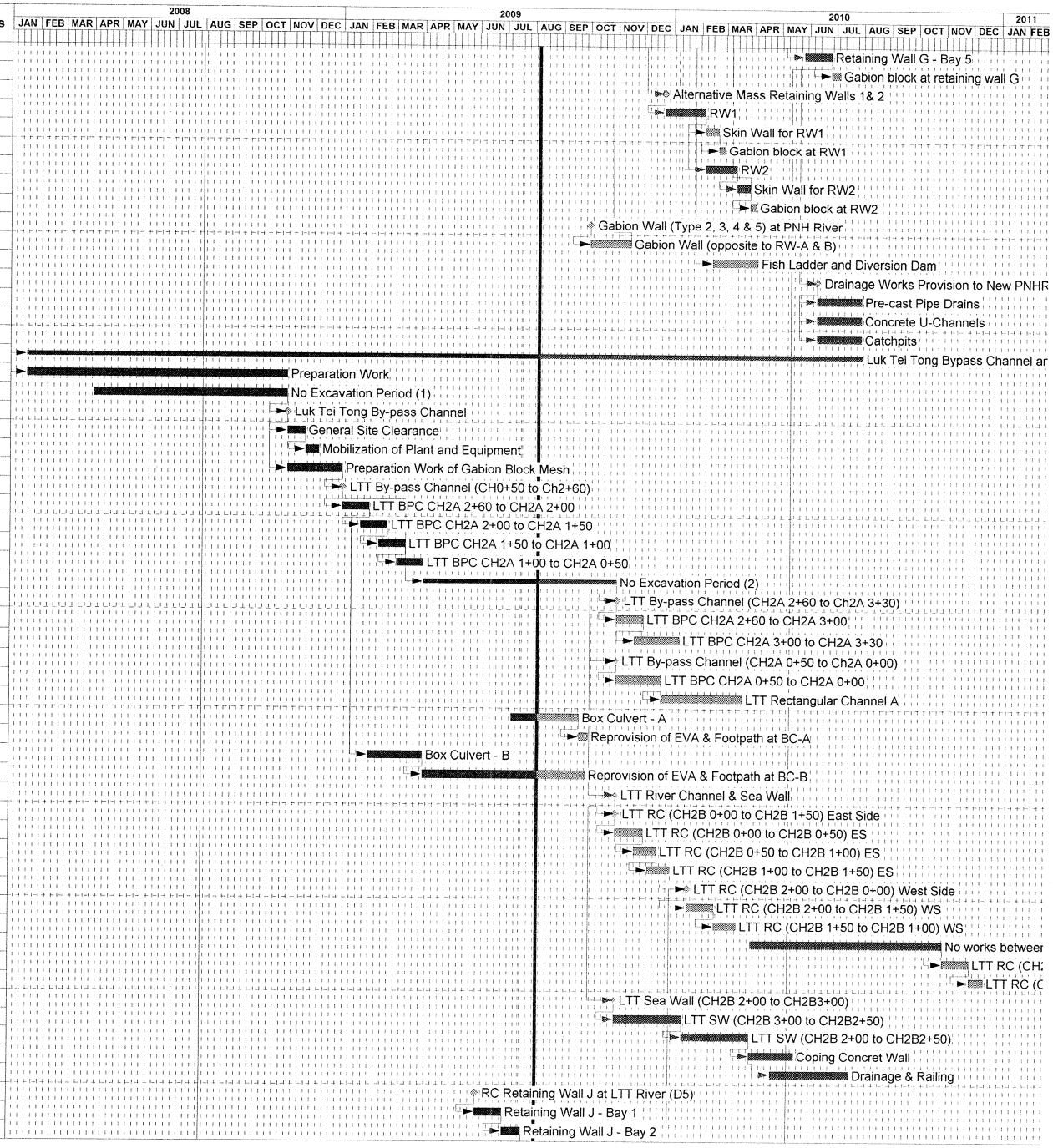
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	%	Predecessors
3385	Retaining Wall G - Bay 5	30	30	26MAY2010	24JUN2010	0	**3384**
3386	Gabion block at retaining wall G	10	10	25JUN2010	04JUL2010	0	**3385**
3400	Alternative Mass Retaining Walls 1& 2	0	0	22DEC2009		0	**3342**
3410	RW1	45	45	22DEC2009	04FEB2010	0	**3400**
3411	Skin Wall for RW1	15	15	05FEB2010	19FEB2010	0	**3410**
3412	Gabion block at RW1	7	7	20FEB2010	26FEB2010	0	**3411**
3420	RW2	35	35	05FEB2010	11MAR2010	0	**3352, 3410**
3421	Skin Wall for RW2	15	15	12MAR2010	26MAR2010	0	**3420**
3422	Gabion block at RW2	7	7	27MAR2010	02APR2010	0	**3421**
3500	Gabion Wall (Type 2, 3, 4 & 5) at PNH River	0	0	01OCT2009 *		0	
3510	Gabion Wall (opposite to RW-A & B)	45	45	01OCT2009	14NOV2009	0	**3500**
3530	Fish Ladder and Diversion Dam	50	50	14FEB2010	04APR2010	0	**3326**
3600	Drainage Works Provision to New PNHR Channel	0	0	10JUN2010		0	**3385**
3610	Pre-cast Pipe Drains	50	50	10JUN2010	29JUL2010	0	**3600**
3620	Concrete U-Channels	50	50	10JUN2010	29JUL2010	0	**3600**
3630	Catchpits	50	50	10JUN2010	29JUL2010	0	**3600**
4000	Luk Tei Tong Bypass Channel and River (D5)	926	360	18JAN2008 A	31JUL2010	61	**0001**
4010	Preparation Work	288	0	18JAN2008 A	31OCT2008 A	100	**0001**
4020	No Excavation Period (1)	214	0 *	01APR2008 A	31OCT2008 A	100	
4100	Luk Tei Tong By-pass Channel	0	0	01NOV2008 A		100	**4020**
4101	General Site Clearance	20	0	01NOV2008 A	20NOV2008 A	100	**4100**
4102	Mobilization of Plant and Equipment	15	0	21NOV2008 A	05DEC2008 A	100	**4101**
4103	Preparation Work of Gabion Block Mesh	61	0	01NOV2008 A	31DEC2008 A	100	**4100**
4110	LTT By-pass Channel (CH0+50 to Ch2+60)	0	0	01JAN2009 A		100	**4103**
4111	LTT BPC CH2A 2+60 to CH2A 2+00	30	0	01JAN2009 A	30JAN2009 A	100	**4110**
4112	LTT BPC CH2A 2+00 to CH2A 1+50	30	0	21JAN2009 A	19FEB2009 A	100	**4111**
4113	LTT BPC CH2A 1+50 to CH2A 1+00	30	0	10FEB2009 A	11MAR2009 A	100	**4112**
4114	LTT BPC CH2A 1+00 to CH2A 0+50	30	0	02MAR2009 A	31MAR2009 A	100	**4113**
4200	No Excavation Period (2)	214	87 *	01APR2009 A	31OCT2009	59	**4110**
4210	LTT By-pass Channel (CH2A 2+60 to Ch2A 3+30)	0	0	01NOV2009		0	**4200**
4211	LTT BPC CH2A 2+60 to CH2A 3+00	30	30	01NOV2009	30NOV2009	0	**4210**
4212	LTT BPC CH2A 3+00 to CH2A 3+30	50	50	21NOV2009	09JAN2010	0	**4211**
4220	LTT By-pass Channel (CH2A 0+50 to Ch2A 0+00)	0	0	01NOV2009		0	**4200**
4221	LTT BPC CH2A 0+50 to CH2A 0+00	50	50	01NOV2009	20DEC2009	0	**4220**
4230	LTT Rectangular Channel A	90	90	21DEC2009	20MAR2010	0	**4221**
4240	Box Culvert - A	75	46	08JUL2009 A	20SEP2009	39	
4241	Reprovision of EVA & Footpath at BC-A	10	10	21SEP2009	30SEP2009	0	**4240**
4250	Box Culvert - B	60	0	31JAN2009 A	31MAR2009 A	100	**4111**
4260	Reprovision of EVA & Footpath at BC-B	180	53	01APR2009 A	27SEP2009	71	**4250**
4300	LTT River Channel & Sea Wall	0	0	01NOV2009		0	**4200**
4310	LTT RC (CH2B 0+00 to CH2B 1+50) East Side	0	0	01NOV2009		0	**4300**
4311	LTT RC (CH2B 0+00 to CH2B 0+50) ES	31	31	01NOV2009	01DEC2009	0	**4310**
4312	LTT RC (CH2B 0+50 to CH2B 1+00) ES	25	25	22NOV2009	16DEC2009	0	**4311**
4313	LTT RC (CH2B 1+00 to CH2B 1+50) ES	25	25	07DEC2009	31DEC2009	0	**4312**
4314	LTT RC (CH2B 2+00 to CH2B 0+00) West Side	0	0	20JAN2010		0	**4313, 4428**
4315	LTT RC (CH2B 2+00 to CH2B 1+50) WS	30	30	20JAN2010	18FEB2010	0	**4314**
4316	LTT RC (CH2B 1+50 to CH2B 1+00) WS	25	25	19FEB2010	15MAR2010	0	**4315**
4317	No works between Apr & Oct 2010	214	214	01APR2010 *	31OCT2010	0	
4318	LTT RC (CH2B 1+00 to CH2B 0+50) WS	30	30	01NOV2010	30NOV2010	0	**4317**
4319	LTT RC (CH2B 0+50 to CH2B 0+00) WS	16	16	01DEC2010	16DEC2010	0	**4318**
4320	LTT Sea Wall (CH2B 2+00 to CH2B3+00)	0	0	01NOV2009		0	**4300**
4321	LTT SW (CH2B 3+00 to CH2B2+50)	75	75	01NOV2009	14JAN2010	0	**4320**
4322	LTT SW (CH2B 2+00 to CH2B2+50)	75	75	15JAN2010	30MAR2010	0	**4321**
4323	Coping Concret Wall	50	50	31MAR2010	19MAY2010	0	**4322**
4324	Drainage & Railing	88	88	24APR2010	20JUL2010	0	**4323**
4340	RC Retaining Wall J at LTT River (D5)	0	0	01JUN2009 A		100	
4341	Retaining Wall J - Bay 1	30	0	01JUN2009 A	30JUN2009 A	100	**4340**
4342	Retaining Wall J - Bay 2	21	0	01JUL2009 A	21JUL2009 A	100	**4341**



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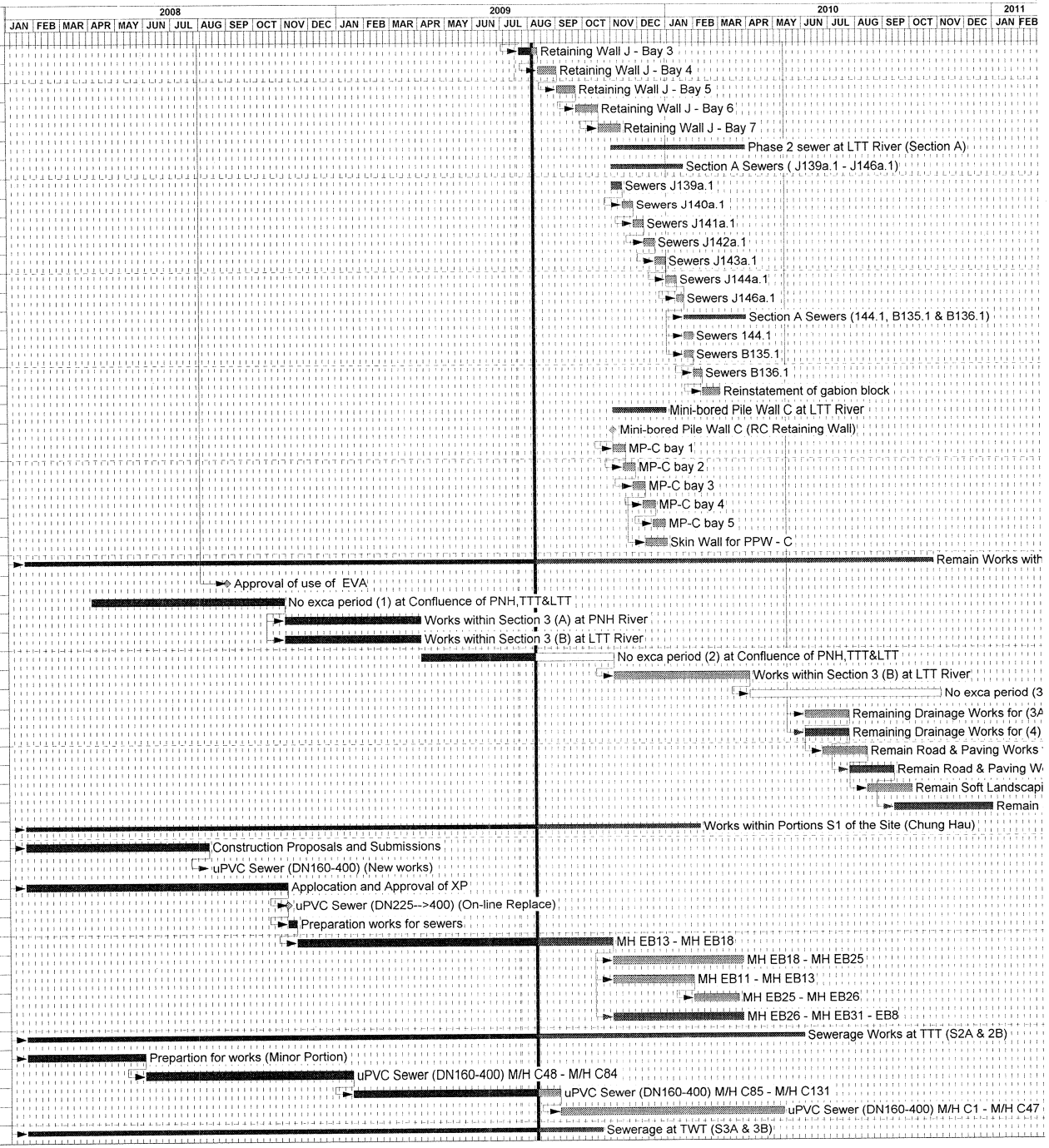
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	%	Predecessors
4343	Retaining Wall J - Bay 3	21	6	22JUL2009 A	11AUG2009	71	4342
4344	Retaining Wall J - Bay 4	21	21	12AUG2009	01SEP2009	0	4343
4345	Retaining Wall J - Bay 5	21	21	02SEP2009	22SEP2009	0	4344
4346	Retaining Wall J - Bay 6	25	25	23SEP2009	17OCT2009	0	4345
4347	Retaining Wall J - Bay 7	25	25	18OCT2009	11NOV2009	0	4346
4400	Phase 2 sewer at LTT River (Section A)	149	149	01NOV2009 *	29MAR2010	0	
4420	Section A Sewers (J139a.1 - J146a.1)	80	80	01NOV2009 *	19JAN2010	0	
4421	Sewers J139a.1	12	12	01NOV2009 *	12NOV2009	0	
4422	Sewers J140a.1	12	12	13NOV2009	24NOV2009	0	4421
4423	Sewers J141a.1	12	12	25NOV2009	06DEC2009	0	4422
4424	Sewers J142a.1	12	12	07DEC2009	18DEC2009	0	4423
4425	Sewers J143a.1	12	12	19DEC2009	30DEC2009	0	4424
4427	Sewers J144a.1	12	12	31DEC2009	11JAN2010	0	4425
4428	Sewers J146a.1	8	8	12JAN2010	19JAN2010	0	4427
4430	Section A Sewers (144.1, B135.1 & B136.1)	69	69	20JAN2010	29MAR2010	0	4428
4431	Sewers 144.1	10	10	20JAN2010	29JAN2010	0	4428
4433	Sewers B135.1	10	10	20JAN2010	29JAN2010	0	4428
4434	Sewers B136.1	10	10	30JAN2010	08FEB2010	0	4433
4435	Reinstatement of gabion block	20	20	09FEB2010	28FEB2010	0	4434
4500	Mini-bored Pile Wall C at LTT River	60	60	01NOV2009 *	30DEC2009	0	
4510	Mini-bored Pile Wall C (RC Retaining Wall)	0	0	01NOV2009 *		0	
4511	MP-C bay 1	14	14	01NOV2009	14NOV2009	0	4510
4512	MP-C bay 2	14	14	12NOV2009	25NOV2009	0	4511
4513	MP-C bay 3	14	14	23NOV2009	06DEC2009	0	4512
4514	MP-C bay 4	14	14	04DEC2009	17DEC2009	0	4513
4515	MP-C bay 5	14	14	15DEC2009	28DEC2009	0	4514
4520	Skin Wall for PPW - C	24	24	07DEC2009	30DEC2009	0	4513
4800	Remain Works within PNH & LTT River (D1&D5)	1010	444	18JAN2008 A	23OCT2010	56	0001
4810	Approval of use of EVA	0	0	29AUG2008 A		100	3020
4820	No exca period (1) at Confluence of PNH,TTT&LTT	214	0	01APR2008 A	31OCT2008 A	100	
4830	Works within Section 3 (A) at PNH River	151	0	01NOV2008 A	31MAR2009 A	100	4820
4840	Works within Section 3 (B) at LTT River	151	0	01NOV2008 A	31MAR2009 A	100	4820
4850	No exca period (2) at Confluence of PNH,TTT&LTT	214	87	01APR2009 A	31OCT2009	59	
4860	Works within Section 3 (B) at LTT River	151	151	01NOV2009	31MAR2010	0	4850
4900	No exca period (3) at Confluence of PNH,TTT&LTT	214	214	01APR2010	31OCT2010	0	4860
4910	Remaining Drainage Works for (3A) Embankment	50	50	01JUN2010	20JUL2010	0	3385
4920	Remaining Drainage Works for (4) Embankment	50	50	01JUN2010	20JUL2010	0	3385
4930	Remain Road & Paving Works for (3A) Embankment	50	50	21JUN2010	09AUG2010	0	4910
4940	Remain Road & Paving Works for (4) Embankment	50	50	21JUL2010	08SEP2010	0	4920
4950	Remain Soft Landscaping Planting(3A) Works	50	50	10AUG2010	28SEP2010	0	4930
4960	Remain Soft Landscaping Planting (4) Works	110	110	09SEP2010	27DEC2010	0	4940
5000	Works within Portions S1 of the Site (Chung Hau)	748	182	18JAN2008 A	03FEB2010	76	0001
5010	Construction Proposals and Submissions	203	0	18JAN2008 A	07AUG2008 A	100	0001
5020	uPVC Sewer (DN160-400) (New works)	0	0	08AUG2008 A	07AUG2008 A	100	5010
5030	Applocation and Approval of XP	290	0	18JAN2008 A	02NOV2008 A	100	0001
5040	uPVC Sewer (DN225-->400) (On-line Replace)	0	0	03NOV2008 A		100	5030
5041	Preparation works for sewers	10	0	03NOV2008 A	12NOV2008 A	100	5040
5042	MH EB13 - MH EB18	350	84	13NOV2008 A	28OCT2009	76	5041
5043	MH EB18 - MH EB25	145	145	29OCT2009	22MAR2010	0	5042
5044	MH EB11 - MH EB13	90	90	29OCT2009	26JAN2010	0	5042
5045	MH EB25 - MH EB26	50	50	27JAN2010	17MAR2010	0	5044
5046	MH EB26 - MH EB31 - EB8	145	145	29OCT2009	22MAR2010	0	5042
6000	Sewerage Works at TTT (S2A & 2B)	863	297	18JAN2008 A	29MAY2010	66	0001
6010	Prepartion for works (Minor Portion)	131	0	18JAN2008 A	27MAY2008 A	100	0001
6020	uPVC Sewer (DN160-400) M/H C48 - M/H C84	230	0	28MAY2008 A	12JAN2009 A	100	6010
6030	uPVC Sewer (DN160-400) M/H C85 - M/H C131	230	25	13JAN2009 A	30AUG2009	89	6020
6040	uPVC Sewer (DN160-400) M/H C1 - M/H C47	249	249	31AUG2009	06MAY2010	0	6030
7000	Sewerage at TWT (S3A & 3B)	638	72	18JAN2008 A	16OCT2009	89	0001



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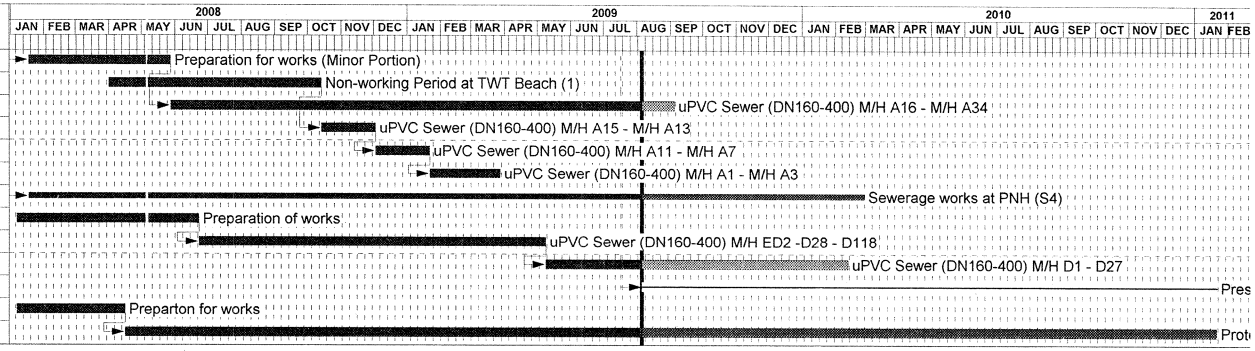
7010	Preparation for works (Minor Portion)	131	0	18JAN2008 A	27MAY2008 A	100	**0001**
7020	Non-working Period at TWT Beach (1)	196	0 *	01APR2008 A	13OCT2008 A	100	
7030	uPVC Sewer (DN160-400) M/H A16 - M/H A34	465	30	28MAY2008 A	04SEP2009	94	**7010**
7040	uPVC Sewer (DN160-400) M/H A15 - M/H A13	50	0	14OCT2008 A	02DEC2008 A	100	**7020**
7050	uPVC Sewer (DN160-400) M/H A11 - M/H A7	50	0	03DEC2008 A	21JAN2009 A	100	**7040**
7060	uPVC Sewer (DN160-400) M/H A1 - M/H A3	65	0	22JAN2009 A	27MAR2009 A	100	**7050**
8000	Sewerage works at PNH (S4)	772	206	18JAN2008 A	27FEB2010	73	**0001**
8010	Preparation of works	168	0	07JAN2008 A	22JUN2008 A	100	
8020	uPVC Sewer (DN160-400) M/H ED2 -D28 - D118	320	0	23JUN2008 A	08MAY2009 A	100	**8010**
8030	uPVC Sewer (DN160-400) M/H D1 - D27	280	191	09MAY2009 A	12FEB2010	32	**8020**
9000	Preservation & Protection of Exist Trees	534 *	534 *	06AUG2009	21JAN2011	0	**0001**
9010	Preparton for works	100	0	07JAN2008 A	15APR2008 A	100	
9020	Protection & Transplanting Works	1011	534	16APR2008 A	21JAN2011	47	**9010**



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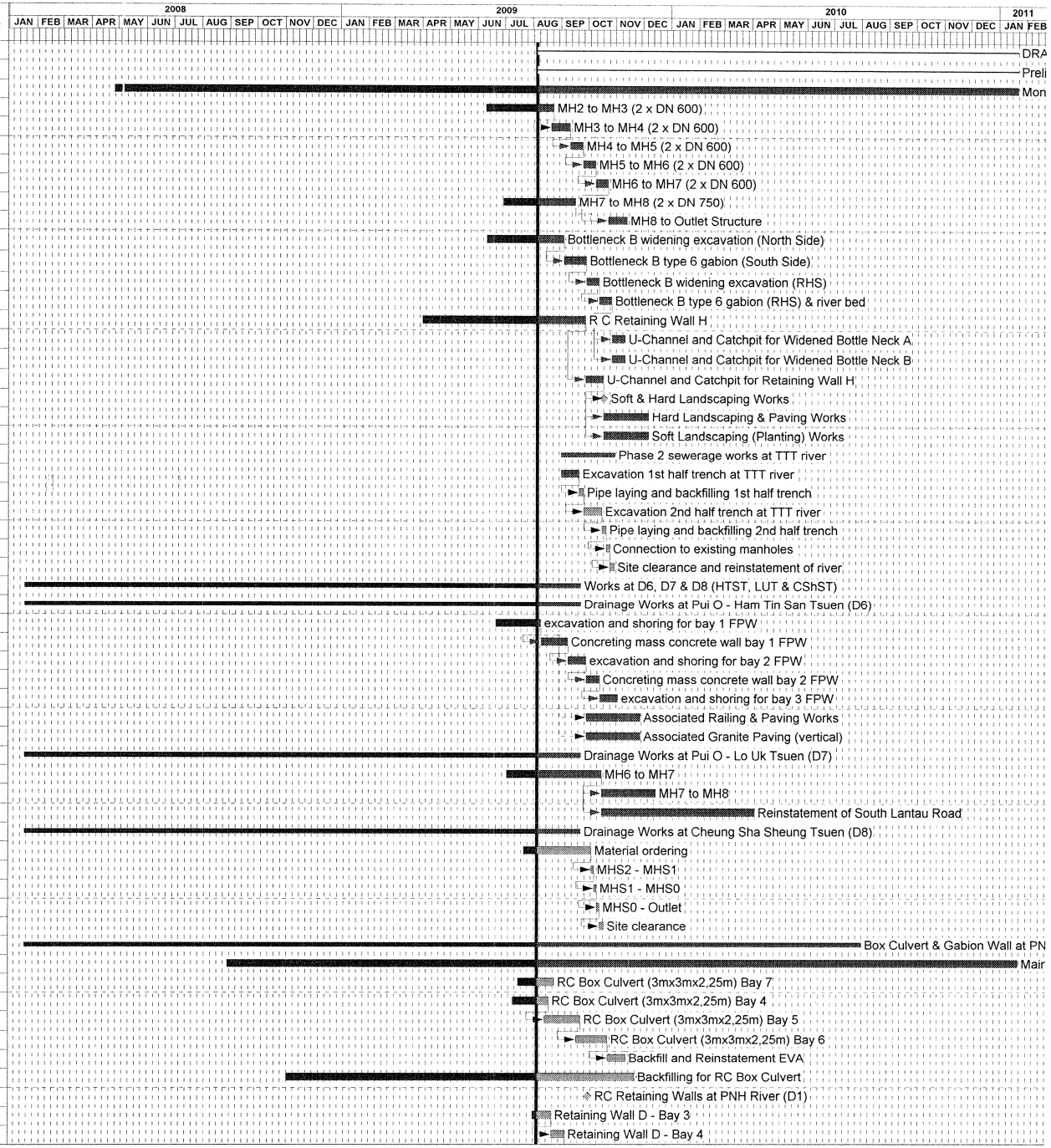
- Finish milestone point

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	%	Predecessors
0000	DRAINAGE IMPROVEMENT WORK IN S LANTAU	534 *	534 *	06AUG2009	21JAN2011	0	
0010	Preliminaries	534 *	534 *	06AUG2009	21JAN2011	0	
0080	Monitoring for Environmental Permit	1001	534	26APR2008 A	21JAN2011	47	0070
1044	MH2 to MH3 (2 x DN 600)	75	18	10JUN2009 A	23AUG2009	76	1043
1045	MH3 to MH4 (2 x DN 600)	21	21	21AUG2009 *	10SEP2009	0	1044
1046	MH4 to MH5 (2 x DN 600)	14	14	11SEP2009	24SEP2009	0	1045
1047	MH5 to MH6 (2 x DN 600)	14	14	25SEP2009	08OCT2009	0	1046
1048	MH6 to MH7 (2 x DN 600)	14	14	09OCT2009	22OCT2009	0	1047
1049	MH7 to MH8 (2 x DN 750)	80	42	29JUN2009 A	16SEP2009	48	
1050	MH8 to Outlet Structure	21	21	23OCT2009	12NOV2009	0	1048, 1049
1132	Bottleneck B widening excavation (North Side)	85	29	11JUN2009 A	03SEP2009	66	1131
1133	Bottleneck B type 6 gabion (South Side)	25	25	04SEP2009	28SEP2009	0	1132
1134	Bottleneck B widening excavation (RHS)	14	14	29SEP2009	12OCT2009	0	1133
1135	Bottleneck B type 6 gabion (RHS) & river bed	14	14	13OCT2009	26OCT2009	0	1134
1141	R C Retaining Wall H	180	53	01APR2009 A	27SEP2009	71	1140
1151	U-Channel and Catchpit for Widened Bottle Neck A	15	15	27OCT2009	10NOV2009	0	1123, 1135
1152	U-Channel and Catchpit for Widened Bottle Neck B	15	15	27OCT2009	10NOV2009	0	1135
1153	U-Channel and Catchpit for Retaining Wall H	20	20	28SEP2009	17OCT2009	0	1141
1160	Soft & Hard Landscaping Works	0	0	18OCT2009		0	1123, 1153
1170	Hard Landscaping & Paving Works	50	50	18OCT2009	06DEC2009	0	1153
1180	Soft Landscaping (Planting) Works	50	50	18OCT2009	06DEC2009	0	1153
1200	Phase 2 sewerage works at TTT river	60	60	01SEP2009 *	30OCT2009	0	
1220	Excavation 1st half trench at TTT river	20	20	01SEP2009 *	20SEP2009	0	1210
1230	Pipe laying and backfilling 1st half trench	5	5	21SEP2009	25SEP2009	0	1220
1240	Excavation 2nd half trench at TTT river	20	20	26SEP2009	15OCT2009	0	1230
1250	Pipe laying and backfilling 2nd half trench	5	5	16OCT2009	20OCT2009	0	1240
1260	Connection to existing manholes	4	4	21OCT2009	24OCT2009	0	1250
1270	Site clearance and reinstatement of river	5	5	25OCT2009	29OCT2009	0	1260
2000	Works at D6, D7 & D8 (HTST, LUT & CShST)	614	48	18JAN2008 A	22SEP2009	92	0001
2100	Drainage Works at Pui O - Ham Tin San Tsuen (D6)	614	48	18JAN2008 A	22SEP2009	92	0001
2113	excavation and shoring for bay 1 FPW	50	4	21JUN2009 A	09AUG2009	92	2112
2114	Concreting mass concrete wall bay 1 FPW	30	30	10AUG2009	08SEP2009	0	2113
2115	excavation and shoring for bay 2 FPW	20	20	09SEP2009	28SEP2009	0	2114
2116	Concreting mass concrete wall bay 2 FPW	15	15	29SEP2009	13OCT2009	0	2115
2117	excavation and shoring for bay 3 FPW	20	20	14OCT2009	02NOV2009	0	2116
2120	Associated Railing & Paving Works	60	60	29SEP2009 *	27NOV2009	0	2113, 2118
2130	Associated Granite Paving (vertical)	60	60	29SEP2009	27NOV2009	0	2113, 2118
2200	Drainage Works at Pui O - Lo Uk Tsuen (D7)	614	48	18JAN2008 A	22SEP2009	92	0001
2231	MH6 to MH7	105	71	03JUL2009 A	15OCT2009	32	2230
2232	MH7 to MH8	60	60	16OCT2009	14DEC2009	0	2231
2240	Reinstatement of South Lantau Road	170	170	16OCT2009	03APR2010	0	2231, 2236
2300	Drainage Works at Cheung Sha Sheung Tsuen (D8)	614	48	18JAN2008 A	22SEP2009	92	0001
2314	Material ordering	75	60	22JUL2009 A	04OCT2009	20	2313
2315	MHS2 - MHS1	3	3	05OCT2009	07OCT2009	0	2314
2316	MHS1 - MHS0	3	3	08OCT2009	10OCT2009	0	2315
2317	MHS0 - Outlet	3	3	11OCT2009	13OCT2009	0	2316
2340	Site clearance	5	5	14OCT2009	18OCT2009	0	2317
3000	Box Culvert & Gabion Wall at PNH River (D1)	926	360	18JAN2008 A	31JUL2010	61	0001
3040	Maintenance of EVA	876	534	29AUG2008 A	21JAN2011	39	3020
3121	RC Box Culvert (3mx3mx2,25m) Bay 7	40	19	16JUL2009 A	24AUG2009	53	3120
3123	RC Box Culvert (3mx3mx2,25m) Bay 4	40	13	10JUL2009 A	18AUG2009	68	3122
3124	RC Box Culvert (3mx3mx2,25m) Bay 5	40	40	14AUG2009	22SEP2009	0	3123
3125	RC Box Culvert (3mx3mx2,25m) Bay 6	35	35	18SEP2009	22OCT2009	0	3124
3130	Backfill and Reinstatement EVA	20	20	23OCT2009	11NOV2009	0	3125
3140	Backfilling for RC Box Culvert	385	108	02NOV2008 A	21NOV2009	72	3111, 3125
3300	RC Retaining Walls at PNH River (D1)	0	0	01OCT2009 *		0	
3343	Retaining Wall D - Bay 3	21	16	01AUG2009 A	21AUG2009	24	3340
3344	Retaining Wall D - Bay 4	15	15	22AUG2009	05SEP2009	0	3343



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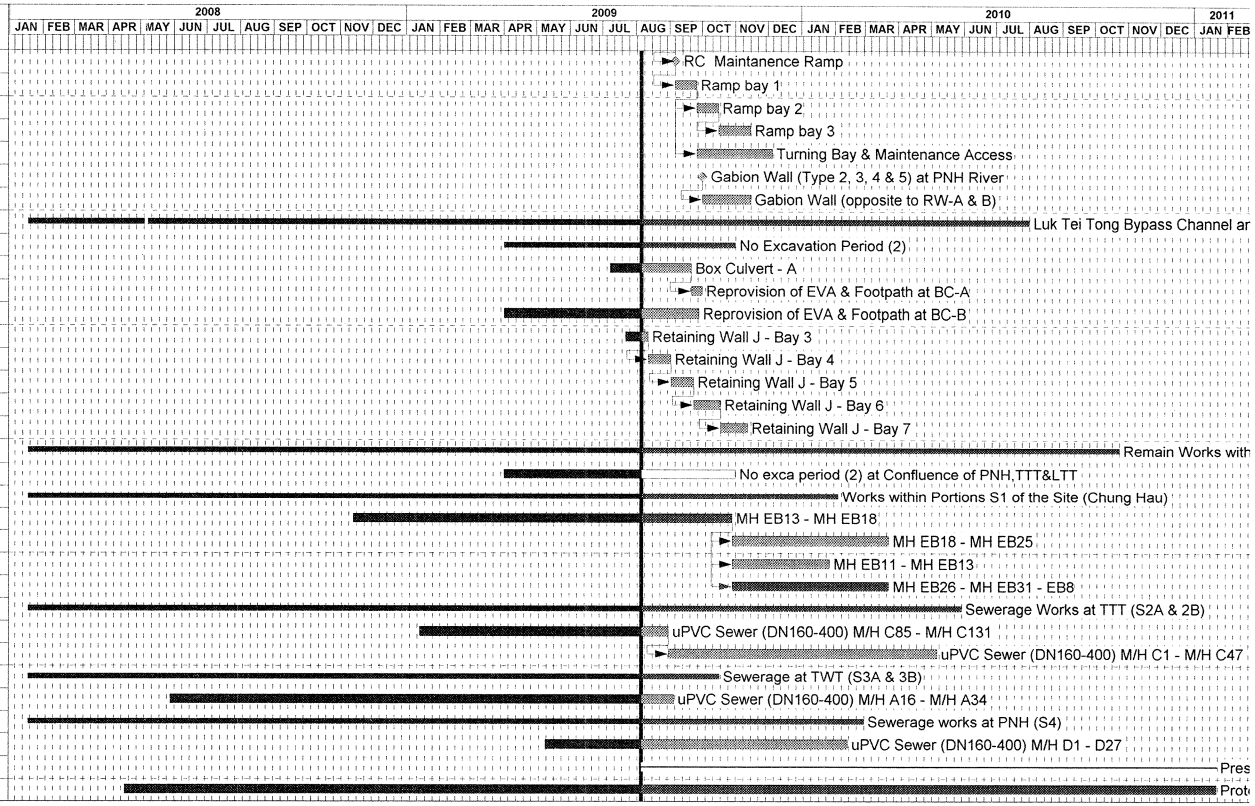
3-Month Rolling Programme (Rev.9b)

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

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	%	Predecessors
3360	RC Maintanence Ramp	0	0	06SEP2009		0	**3344**
3361	Ramp bay 1	20	20	06SEP2009	25SEP2009	0	**3360**
3362	Ramp bay 2	20	20	26SEP2009	15OCT2009	0	**3361**
3363	Ramp bay 3	30	30	16OCT2009	14NOV2009	0	**3362**
3369	Turning Bay & Maintenance Access	70	70	26SEP2009	04DEC2009	0	**3361**
3500	Gabion Wall (Type 2, 3, 4 & 5) at PNH River	0	0	01OCT2009 *		0	
3510	Gabion Wall (opposite to RW-A & B)	45	45	01OCT2009	14NOV2009	0	**3500**
4000	Luk Tei Tong Bypass Channel and River (D5)	926	360	18JAN2008 A	31JUL2010	61	**0001**
4200	No Excavation Period (2)	214	87 *	01APR2009 A	31OCT2009	59	**4110**
4240	Box Culvert - A	75	46	08JUL2009 A	20SEP2009	39	
4241	Reprovision of EVA & Footpath at BC-A	10	10	21SEP2009	30SEP2009	0	**4240**
4260	Reprovision of EVA & Footpath at BC-B	180	53	01APR2009 A	27SEP2009	71	**4250**
4343	Retaining Wall J - Bay 3	21	6	22JUL2009 A	11AUG2009	71	**4342**
4344	Retaining Wall J - Bay 4	21	21	12AUG2009	01SEP2009	0	**4343**
4345	Retaining Wall J - Bay 5	21	21	02SEP2009	22SEP2009	0	**4344**
4346	Retaining Wall J - Bay 6	25	25	23SEP2009	17OCT2009	0	**4345**
4347	Retaining Wall J - Bay 7	25	25	18OCT2009	11NOV2009	0	**4346**
4800	Remain Works within PNH & LTT River (D1&D5)	1010	444	18JAN2008 A	23OCT2010	56	**0001**
4850	No exca period (2) at Confluence of PNH,TTT&LTT	214	87	01APR2009 A	31OCT2009	59	
5000	Works within Portions S1 of the Site (Chung Hau)	748	182	18JAN2008 A	03FEB2010	76	**0001**
5042	MH EB13 - MH EB18	350	84	13NOV2008 A	28OCT2009	76	**5041**
5043	MH EB18 - MH EB25	145	145	29OCT2009	22MAR2010	0	**5042**
5044	MH EB11 - MH EB13	90	90	29OCT2009	26JAN2010	0	**5042**
5046	MH EB26 - MH EB31 - EB8	145	145	29OCT2009	22MAR2010	0	**5042**
6000	Sewerage Works at TTT (S2A & 2B)	863	297	18JAN2008 A	29MAY2010	66	**0001**
6030	uPVC Sewer (DN160-400) M/H C85 - M/H C131	230	25	13JAN2009 A	30AUG2009	89	**6020**
6040	uPVC Sewer (DN160-400) M/H C1 - M/H C47	249	249	31AUG2009	06MAY2010	0	**6030**
7000	Sewerage at TWT (S3A & 3B)	638	72	18JAN2008 A	16OCT2009	89	**0001**
7030	uPVC Sewer (DN160-400) M/H A16 - M/H A34	465	30	28MAY2008 A	04SEP2009	94	**7010**
8000	Sewerage works at PNH (S4)	772	206	18JAN2008 A	27FEB2010	73	**0001**
8030	uPVC Sewer (DN160-400) M/H D1 - D27	280	191	09MAY2009 A	12FEB2010	32	**8020**
9000	Preservation & Protection of Exist Trees	534 *	534 *	06AUG2009	21JAN2011	0	**0001**
9020	Protection & Transplanting Works	1011	534	16APR2008 A	21JAN2011	47	**9010**



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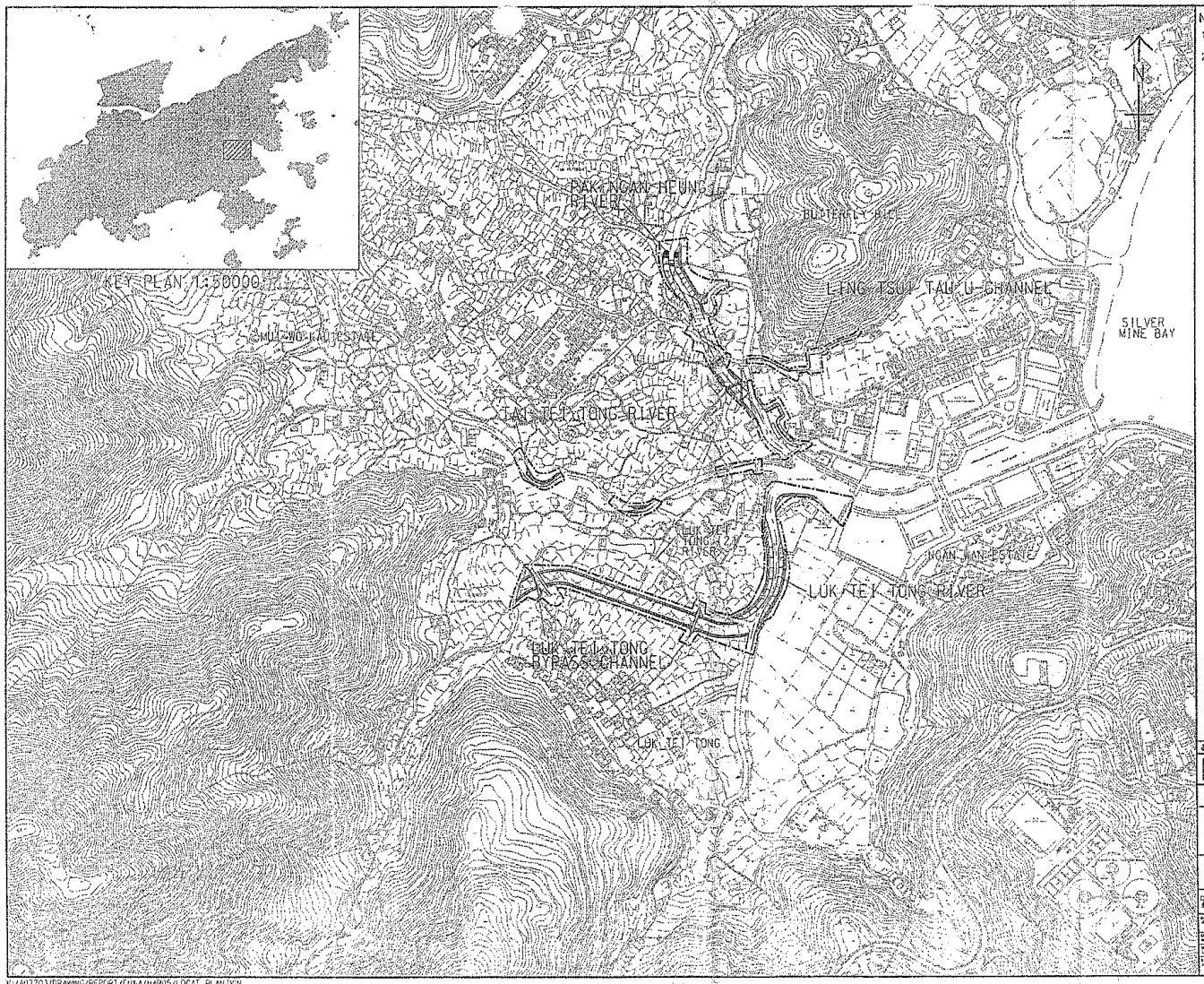
and Construction of Mui Wo Village Sewerage Phase 1

3-Month Rolling Programme (Rev.9b)

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



NOTES:

1. GRID LINES ARE HONG KONG GRID 1980
2. ALL LEVELS ARE IN METERS AND REFERRED TO H.K.P.D.

DRAINAGE SERVICES DEPARTMENT, THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

STORMWATER IMPROVEMENT IN SOUTHERN KOWLOON INVESTIGATION

LOCATION PLAN OF THE PROJECT

Metcalf & Eddy Ltd 美地工程顧問有限公司

ORIGINAL SIZE: A3

1.1

SEP 2004

PREPARED BY: JLFL

SCALE: 1:50000

PRELIMINARY

DRAWING NO. IN METRES

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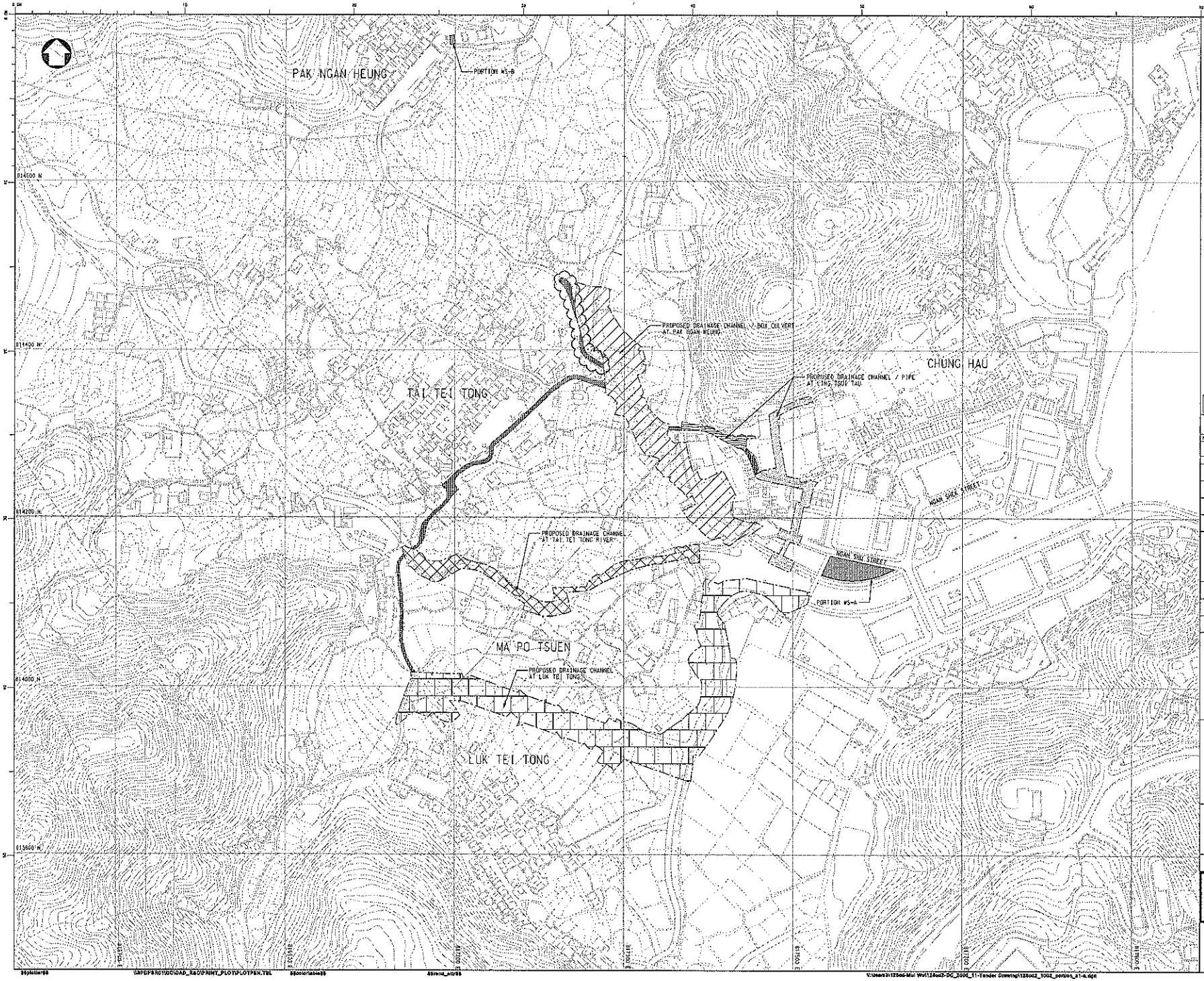
K:/A02703/DRAWING/REPORT/EM&A/MAPS/LOCAT_PLAN.DGN



NOTES :

1. ALL LEVELS ARE IN METRES ABOVE P.D.H.K..
2. ALL GRIDS REFER TO HONG KONG 1980 GRID.

LEGENDS :

- SITE BOUNDARIES
- PORTION D1 - PAK NGAN HEUNG
- PORTION D2 - LING TSUI TAU (A)
- PORTION D3 - LING TSUI TAU (B)
- PORTION D4 - TAI TEI TONG RIVER
- PORTION D5 - LUK TEI TONG
- PORTION D6 - PUI O
- PORTION D7 - LO UK TSUEN
- PORTION D8 - CHEUNG SHA SHEUNG TSUEN
- PORTION D9 - EMERGENCY VEHICULAR ACCESS (EVA) AT HUI WO

FOR TENDER PURPOSES ONLY

No.	date	description	initial
A	16 MAY 2007	GENERAL REVISION	SIGNED H. Y. CHOW for

REVISION

	name		date
designed	SIGNED	H. Y. CHOW	12 FEB 2006
drawn	SIGNED	B. D. CHAN	23 MAR 2007
checked	SIGNED	W. H. CHAN	10 MAY 2007
vetted	SIGNED	T. Y. CHAN	11 MAY 2007

approved

SIGNED K. K. CHAN, Chief Engineer, 14 MAY 2007 Date

contract no. DC/2006/11

file no. DP/6/4128CD

project no. 128CD

contract

DRAINAGE IMPROVEMENT IN SOUTHERN LANTAU

drawing title

PORTIONS OF SITE - SOUTHERN LANTAU

(SHEET 1 OF 2)

drawing no.	scale
DDN/128CD2/1002A	1 : 2000

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office

DRAINAGE PROJECTS DIVISION

DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION

A1 841x594

Appendix B Key Personal Contact information chart

Organization Name	Role	Title	Name	Telephone	Fax Number
Drainage Service Department	Project Proponent	Engineering Representative	Mr. Chan Wai Hong	2594 7464	2827 8700
Ellied Environmental Consultants Limited	Independent Environmental Checker (IEC)	Principal Consultant	Ms. Grace Kwok	2815 7028	2815 5399
Yick-Hing Construction Company Limited	Main Contractor	Senior Project Manager	Mr. Liu Kai Choi	2394 4988	2787 4890
Environmental Pioneers & Solutions Limited	Environmental Team (ET)	Environmental Team Leader	Ms. Patricia Chung	2965 0888	2856 2010

Appendix C

Calibration Certificates for Measuring Equipments

校正証明書
CALIBRATION CERTIFICATE

品名	PRODUCT NAME	:	積分形精密騒音計 Integrating Precision Sound Level Meter
型式	TYPE	:	6224
器物番号	PRODUCT NUMBER	:	060166
マイク	MICROPHONE	:	34733
製造者	MANUFACTURER	:	株式会社アコー ACO CO., LTD.

※特記事項

[基準器、校正機器のトレーサビリティ証明]

校正に使用した基準器、校正機器は国家基準にトレーサブル
であることを証明致します。

※Special notes

[Traceability certificate of standard instruments and calibration equipment.]

We certify that the standard instruments and calibration equipment
are traceable to the national standards.

平成21年11月16日

November 16, 2009

東京都世田谷区代沢2-6-10
株式会社アコー
代表取締役 寺園信一
2-6-10 Daizawa Setagaya-ku
Tokyo Japan
President : Shinichi Terazono
ACO CO., LTD.

型式 TYPE: 6224　　器番 PRODUCT NUMBER: 060166

1 試験成績　Test Results

別紙試験成績表添付　Test results are attached as an exhibit.

2 試験条件　Test Requirements

試験日	Test date	:	平成21年11月16日	November 16, 2009
温度	Temperature	:	22 ℃	
湿度	Humidity	:	73 %	
気圧	Barometric pressure	:	980 hPa	

3 使用機器　Used Equipment

デジタルマルチメーター Digital multimeter　VP-2661B　No. 780010E122
（有効期間　：　平成21年3月から平成22年3月 ）
（Effective life　：　from March, 2009 to March, 2010 ）

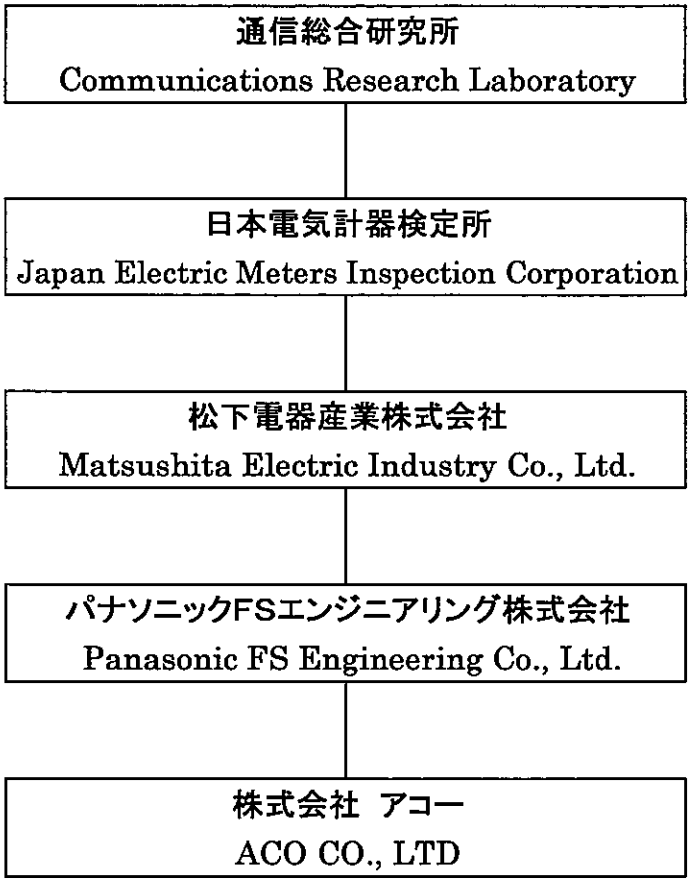
アッテネーター　Attenuator　STA-115　No. 11075
（有効期間　：　平成21年3月から平成22年3月 ）
（Effective life　：　from March, 2009 to March, 2010 ）

周波数カウンター　Frequency counter　VP-4545A　No. 700008E122
（有効期間　：　平成21年3月から平成22年3月 ）
（Effective life　：　from March, 2009 to March, 2010 ）

オーディオアナライザー Audio Analyzer　VP-7721A　No. 740039D125
（有効期間　：　平成21年3月から平成22年3月 ）
（Effective life　：　from March, 2009 to March, 2010 ）

コンデンサマイクロホン Condenser Microphone　4160　No. 1248087
（有効期間　：　平成21年2月から平成23年2月 ）
（Effective life　：　from February, 2009 to February, 2011 ）

デジタルマルチメーター、アッテネーター
周波数カウンター、オーディオアナライザー
トレーサビリティ体系図
Traceability Flow Chart
of
Digital Multimeters, Attenuators,
Frequency Counters, and Audio Analyzers



基準静電型マイクロホン
トレーサビリティ体系図
Traceability Flow Chart
of
Standard Electrostatic Microphones

積分形精密騒音計
Integrating Precision Sound Level Meter
TYPE 6224

検査成績書
INSPECTION CERTIFICATE

本体製造番号
Serial No. of body: 060166

マイクロホン製造番号
Serial No. of Microphone: 34733

Ver:1.6D-06-10

年月日: 平成21年11月16日
Date: November 16, 2009

承認 Approved	点検 Passed	担当 Inspected
J. Yasukuge	T. Matumoto	S. Inoue

株式会社 アコー
ACO CO., LTD.

1. 検査年月日 Inspection Date

平成21年11月16日　　November 16, 2009

2. 検査条件 Inspection Condition

1) 温度　Temperature　:　22 ℃

2) 湿度　Humidity　:　73 %

3) 気圧　Barometric pressure　:　980 hPa

3. 検査項目及び結果 Inspection Results

1) RANGE 切換誤差検査 The RANGE Shifting Error

RANGE : 20－100dB 70dB 入力基準 ±0.5dB以下

Within ±0.5dB of the value at 70dB input, Range 20-100dB.

RANGE (dB)	入力レベル Input level (dB)	周波数 Frequency (Hz)		
		31.5	1000	8000
20-80	50	-0.1	-0.1	-0.1
20-90	60	0.0	0.0	-0.1
20-100	70	0.0	0.0	0.0
20-110	80	0.0	0.0	0.0
30-120	90	0.0	0.0	0.0
40-130	100	0.0	0.0	0.0
判定	Passed	Pass		

2) 安定性特性検査　　Stability Caracteristic

RANGE : 20－100dB 1分後基準　±0.5dB以下

Within ±0.5dB of the value one minute later, Range 20-100dB.

	10分後 ten minutes later
誤差 Error (dB)	0.0
判定 Passed	Pass

3) 目盛誤差特性検査　The Scale Error

RANGE : 20－110dB 65dB入力基準

Error of the value at 65dB input, Range 20-110dB.

入力 Input (dB)	規格 Standard (dB)	周波数 Frequency (Hz)		
		31.5	1000	8000
110	±0.7	0.0	0.0	-0.1
105	±0.7	-0.1	-0.1	-0.1
100	±0.7	-0.1	-0.1	0.0
95	±0.7	-0.1	-0.1	-0.1
90	±0.7	0.1	0.1	0.0
85	±0.7	0.1	0.1	0.0
80	±0.7	0.0	0.0	0.0
75	±0.7	0.0	0.0	0.0
70	±0.7	0.0	0.0	0.0
65	0.0	0.0	0.0	0.0
60	±0.7	0.0	0.0	0.0
55	±0.7	0.0	0.0	-0.1
50	±0.7	0.0	0.0	0.0
45	±0.7	0.0	0.0	0.0
40	±0.7	0.0	0.0	0.0
35	±0.7	0.0	0.0	0.0
30	±0.7	0.0	0.0	0.0
25	±0.7	0.2	0.2	0.2
判定	Passed	Pass		

4) 動特性検査　Dynamic Characteristic

RANGE : 20－100dB 100dB、1kHz 入力基準

When 100dB input, Range 20-100dB at 1kHz.

	規格 Standard	測定値 Measured Value
FAST	$^{+0.5}_{-1.0}$ (dB)	-1.5
SLOW	-4.0±1.0 (dB)	-4.5
判定	Passed	Pass

5) 周波数特性検査　　Frequency Response

RANGE ： 20－100dB 95dB入力基準(マイクを含む)

When 95dB input, including Microphone value, Range 20－100dB.

周波数 Frequency (Hz)	A特性			C特性			FLAT(Z)特性	許容差 Tolerance
	規格 Standard (dB)	レスポンス Response (dB)	偏差 Deviation (dB)	規格 Standard (dB)	レスポンス Response (dB)	偏差 Deviation (dB)	レスポンス Response (dB)	
20	-50.5	-50.0	0.5	-6.2	-5.8	0.4	-0.9	±3.0
40	-34.6	-34.3	0.3	-2.0	-1.9	0.1	-0.1	±1.5
100	-19.1	-18.9	0.2	-0.3	-0.3	0.0	0.1	±1.0
250	-8.6	-8.4	0.2	0.0	0.0	0.0	0.1	±1.0
500	-3.2	-3.1	0.1	0.0	0.0	0.0	0.1	±1.0
1000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	±1.0
2k	1.2	1.1	-0.1	-0.2	-0.3	-0.1	0.0	±1.0
4k	1.0	0.8	-0.2	-0.8	-0.9	-0.1	0.2	±1.0
5k	0.5	0.5	0.0	-1.3	-1.2	0.1	0.3	±1.5
6.3k	-0.1	-0.1	0.0	-2.0	-1.8	0.2	0.3	+1.5 -2
8k	-1.1	-1.1	0.0	-3.0	-3.5	-0.5	0.3	+1.5 -3
10k	-2.5	-2.5	0.0	-4.4	-4.2	0.2	-0.1	+2 -4
12.5k	-4.3	-3.5	0.8	-6.2	-5.2	1.0	0.2	+3 -6
16k							0.1	
20k							-0.9	
判定 Passed	Pass							

6) 実効値指示誤差検査　　Effective Value Error

RANGE ： 20－100dB　　波高率3のバースト信号に対して1.0dB以内

Within 1.0dB on the Burst signal of the peak factor 3, Ragne 20-100dB.

周波数 Frequency 2kHz、繰り返し周波数 Repeat fequency 40Hz

実効値指示誤差 Effective value Error (dB)	判定 Passed
0.3	Pass

7) 自己雑音特性検査　Self-noise

RANGE ： 20-80dB (マイクを含む)

RANGE ： 20-80dB (Including Microphone value)

RANGE：20-80dB (Including Microphone value)	A特性	C特性	FLAT(Z)特性
規格 Standard (dB)	18以下 Below 18	29以下 Below 29	32以下 Below 32
自己雑音 Self-noise (dB)	16.6	22.1	25.3
判定 Passed	Pass		

校 正 証 明 書

株式会社 アコー 殿

パナソニックエンジニアリング株式会社
九州営業所
福岡市博多区博多駅前4丁目9番2号

品　　名：　ディジタルマルチメータ

型　　番：　ＶＰ－２６６１Ｂ

製造会社：　松下通信工業株式会社

管理番号：　EMC-1 0004

製造番号：　780010E122

校 正 日：　2009年　3月

温 湿 度：　温度　23 ℃　湿度　42 %

上記の測定器は、当社が運用する標準器により校正した結果、所定の基準に適合していることを証明致します。
尚、使用標準器は当社管理規定により管理され、また、トレーサビリティ体系に基づき国家標準（日本電気計器検定所・日本品質保証機構）にトレースされております。

品　名	型　名	製造会社	製造番号	管理番号	校正有効月
ｷｬﾘﾌﾞﾚｰﾀ	5700A	ﾌﾙｰｸ	5440004	KNK1007	2009／06

校 正 証 明 書

株式会社 アコー 殿

パナソニックFAエンジニアリング株式会社
九州営業所
福岡市博多区博多駅前4丁目9番2号

品　　名：　アッテネータ

型　　番：　ＳＴＡ－１１５

製造会社：　東京光音電波株式会社

管理番号：　EMC-1 0006

製造番号：　11075

校 正 日：　2009 年　3 月

温 湿 度：　温度　23 ℃　湿度　40 ％

上記の測定器は、当社が運用する標準器により校正した結果、所定の基準に適合していることを証明致します。
尚、使用標準器は当社管理規定により管理され、また、トレーサビリティ体系に基づき国家標準（日本電気計器検定所・日本品質保証機構）にトレースされております。

品　名	型　名	製造会社	製造番号	管理番号	校正有効月
ｵｰﾃﾞｨｵｱﾅﾗｲｻﾞｰ	VP-7723A	松下通信工業	101417B122	KNK1006	2009／06

校 正 証 明 書

株式会社 アコー 殿

パナソニック電工エンジニアリング株式会社
九州営業所
福岡市博多区博多駅前4-1-1 9番2号

品　　名：　周波数カウンタ

型　　番：　ＶＰ－４５４５Ａ

製造会社：　松下通信工業株式会社

管理番号：　EMC-1 0005

製造番号：　700008E122

校 正 日：　2009 年　3 月

温 湿 度：　温度　23 ℃　湿度　42 %

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品　名	型　名	製造会社	製造番号	管理番号	校正有効月
周波数ｶｳﾝﾀ	R5363	ｱﾄﾞﾊﾞﾝﾃｽﾄ	40260090	KNK1016	2010／01

校 正 証 明 書

株式会社 アコー 殿

パナソニックSSコンストラクション株式会社
九州営業部
福岡市博多区博多駅前4丁目9番2号

品　　名：　オーディオアナライザー

型　　番：　ＶＰ－７７２１Ａ

製造会社：　松下通信工業株式会社

管理番号：　EMC-1 0007

製造番号：　740039D125

校 正 日：　2009 年　3 月

温 湿 度：　温度　23 ℃　湿度　40 ％

上記の測定器は、当社が運用する標準器により校正した結果、所定の基準に適合していることを証明致します。
尚、使用標準器は当社管理規定により管理され、また、トレーサビリティ体系に基づき国家標準（日本電気計器検定所・日本品質保証機構）にトレースされております。

品　名	型　名	製造会社	製造番号	管理番号	校正有効月
ｷｬﾘﾌﾞﾚｰﾀ	5700A	ﾌﾙｰｸ	5440004	KNK1007	2009／06
周波数ｶｳﾝﾀ	R5363	ｱﾄﾞﾊﾞﾝﾃｽﾄ	40260090	KNK1016	2010／01
ｵｰﾃﾞｨｵ･ｱﾅﾗｲｻﾞｰ	VP-7723A	松下通信工業	101417B122	KNK1006	2009／06

基準器検査成績書

09SL第4号

騒音基準器

種　　類　　基準静電型マイクロホン

器物番号　　1248087 （BK4160）

（1）音圧感度の周波数特性

（音圧感度レベルは1V/Paを0dBとする）

測定周波数 (Hz)	音圧感度レベル (dB)	測定周波数 (Hz)	音圧感度レベル (dB)
20	−27.1	3000	−26.9
30	−27.2	4000	−26.7
50	−27.2	5000	−26.6
100	−27.3	6000	−26.7
150	−27.2	7000	−27.0
200	−27.3	8000	−27.9
300	−27.3	9000	−29.1
500	−27.3	10000	−30.6
700	−27.3	11000	−32.3
1000	−27.2	12000	−34.1
1500	−27.2	12500	−34.8
2000	−27.1		

（2）測定条件　温度 23 ℃、 湿度 27 %、 気圧 1012 hPa、 バイアス電圧 200V

（3）有効期間　平成２１年２月１７日 から 平成２３年２月１６日 まで

（4）その他

平成２１年２月１６日

独立行政法人 産業技術総合研究所

华南国家计量测试中心
广东省计量科学研究院
SOUTH CHINA NATIONAL CENTER OF METROLOGY
GUANGDONG INSTITUTE OF METROLOGY

CNAS L0730

检定证书
VERIFICATION CERTIFICATE

证书编号 Certificate No. SSD20093126

委托方 Client

委托方地址 Add. of Client

计量器具名称 Description: Sound Level Calibrator

型号规格 Model/Type: 4231

制造厂 Manufacturer: B & K

出厂编号 Serial No.: 1820929/E-028-4

接收日期 Date of Receipt: 2009年 Y 9月 M 21日 D

结论 Conclusion: 1级合格 (Class 1)

检定日期 Date of Verification: 2009年 Y 9月 M 22日 D

依据检定规程：被检仪器检定周期为 壹 年
The verification period is 1 Year(s)

批准人 Approved Signatory

核 验 Inspected by

检 定 Verified by

证书专用章

本中心地址：中国广州市广园中路松柏东街30号 邮政编码：510405
电话：(8620)86594172 传真：(8620)86590743 E-mail: scm@scm.com.cn
Add: No.30, Songbaidong Street, Guangyuanzhong Road, Guangzhou, P. R. China
Post Code: 510405 Tel: (8620)86594172 Fax: (8620)86590743

说 明

证书编号 SS020093126 第 2 页 共 3 页
Certificate No. Page of

DIRECTIONS

1. 本中心是国家质量监督检验检疫总局在华南地区设立的国家法定计量检定机构，计量授权证书号是：（国）法计（2007）01043号、（国）法计（2007）01032号。
This laboratory is the National Legal Metrological Verification Institution in southern China set up by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ) under authorization certificates No.(2007)01043 & (2007)01032.

2. 本中心所出具的数据均可溯源至保存在中国计量科学研究院的国家计量基准和国际单位制(SI)。中国计量科学研究院于1999年代表中国签署了"国家计量基标准及国家计量研究院出具的校准和测量证书相互承认协议"。
All data issued by this laboratory are traceable to national primary standards maintained in National Institute of Metrology (NIM) and International System of Units (SI). NIM is the signatory to the Mutual Recognition Arrangement (MRA) for national measurement standards and for calibration and measurement certificates issued by national metrology institutes.

3. 本次检定的技术依据：
Reference documents for the verification:

JJG 176-2005 声校准器检定规程 V.R of Sound Calibrators

4. 本次检定所使用的主要计量标准器具：
Major standards of measurement used in the verification:

设备名称/型号 Name of Equipment /Model	编号 Serial No	证书号/有效期 Certificate NO. /Due Date	计量特性 Metrological Characteristic
电声标准装置 Sound Level Meters Verification Device	声01	[1992]国量标卷证字第085号 /2010-01-08	声压级：(0.4~1.0)dB(k=2)；在参考频率上：0.08 dB(k=2)(压力场) Sound Level Meters 0.3 dB(k=2) ;Sound Calibrator 0.15 dB(k=2)

5. 检定地点、环境条件：
Place and environmental conditions of the verification:

地点 声学/振动实验室 温度 (23±3) ℃ 相对湿度 (40~80) %
Place Acoustics/Vibration Lab Temperature RH

6. 被检定仪器限制使用条件：
Limiting condition of the instrument verified:

注：1. 本证书检定结果只与受检定仪器有关。
2. 未经本中心书面批准，不得部分复制此证书。
Note:1. The results relate only to the items verified.
2. This certificate shall not be reproduced except in full, without the written approval of our laboratory.

华南国家计量测试中心
广东省计量科学研究院
SOUTH CHINA NATIONAL CENTER OF METROLOGY
GUANGDONG INSTITUTE OF METROLOGY

CNAS L0730

检定结果
RESULTS OF VERIFICATION

证书编号：SSD20093126　　原始记录编号：22009312　　第 3 页，共 3 页
Certification No.　　Record No.　　Page　of

1　外观检查：合格
Check on appearance: pass

2　声压级（dB）：见表1
Sound Pressure Level: The value showed in table 1

表1 Table 1

标称值（dB）Nominal Value	实测值（dB）Measured Value	允差（dB）Tolerance	结论 Conclusion	稳定度（dB）Stabilization	稳定度允差（dB）Stabilization Tolerance	结论 Conclusion
94	94.06	±0.40	合格(Pass)	0.02	0.10	合格(Pass)
114	114.07	±0.40	合格(Pass)	0.02	0.10	合格(Pass)

3　频率：见表2
Frequency: The value showed in table 2

表2 Table 2

标称值（Hz）Nominal Value	实测值（Hz）Measured Value	允差（%）Tolerance	结论 Conclusion
1000	999.84	±1.0	合格(Pass)

4　总失真：见表3
Total harmonic distortion: The value showed in table 3

表3 Table 3

声压级（dB）Sound Pressure Level	失真度（%）Distortion	允差（%）Tolerance	结论 Conclusion
94	0.6	≤3	合格(Pass)
114	0.5	≤3	合格(Pass)

说明(Note)：

1、声压级测量结果扩展不确定度：
Expanded uncertainty of measurement in Sound Pressure Level Calibration:

U=0.15 dB，k=2

（依据JJF1059-1999测量不确定度评定与表示）
(According to JJF1059-1999 Evaluation and Expression of Uncertainty in Measurement)

GEOTECHNICS & CONCRETE ENGINEERING (H. K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

Report for Calibration of Hand-held Water Quality Meter WQC-24

Calibration Reference No. : GCE/CAL/2009/MW/WQM/C4

Client : ENVIRONMENTAL PIONEER AND SOLUTION LIMITED

Equipment No. : WQC-24 Location : Mui Wo Site

Manufacturer : DKK-TOA Serial No.: 640274

Calibration Date : 16 to 20-3-2010 Due Date : 15-06-2010

Criterion: (Repeatabilty, Linearity)

pH	:	Both within ±0.05pH
Dissolved oxygen	:	Both within ±0.1mg/L
Electric conductivity	:	Both within ±1%FS
Turbidity	:	Repeatability : within ±3%FS
Temperature	:	Repeatability ±0.25°C; Linearity ±0.5°C; (Ambient 5~45°C)

Electric Conductivity (Salinity converted from EC):

(Reference : APHA 20ed 2510 B, ISO 7888 - 1985 (E) and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

Concentration of KCl Standard Solution (M)	Reference conductivity value at 25.0 °C	Indicated value by meter	Linearity (R^2)
0	0.0 mS/m*	0.0 mS/m	1.0000
0.001	14.7 mS/m	14.3 mS/m	
0.005	71.8 mS/m	71.2mS/m	Acceptance Criterion
0.01	0.141 S/m	0.143 S/m	$R^2 > 0.995$ Within ± 1% F.S. against calibration standard value 71.8 mS/m, 0.667 S/m and 5.87 S/m.
0.05	0.667 S/m	0.661 S/m	
0.1	1.29 S/m	1.29 S/m	
0.5	5.87 S/m	5.87 S/m	
Repeatability	1st time	0.00 , 5.87 S/m	Within ± 1% F.S. against average value
	2nd time	0.00 , 5.87 S/m	
	3rd time	0.00 , 5.87 S/m	
	0.00 , 5.87 S/m	Ave.: 0.00 , 5.87	

* 1 S/m = 10^4 µmhos/cm = 10^3 mS/m

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.

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Dissolved Oxygen:

(Reference : APHA 20ed 4500-O B&C, ISO 5814:1990(E) and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

DO value evaluated by Iodometric Method (mg/L)		Indicated value by meter (mg/L)	Linearity (R^2)
0.00		0.00	0.9999
2.94		3.01	
5.28		5.22	Acceptance Criterion
8.24		8.30	$R^2 > 0.995$ Within ± 0.1 mg/L against standard value
10.56		10.53	
13.22		13.30	
Repeatability	1st time	0.00 , 8.28	Within ± 0.1 mg/L against average value
	2nd time	0.00 , 8.30	
	3rd time	0.00 , 8.31	
	0.00 , 8.24	Ave.: 0.00 , 0.03	

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.

pH Value:

(Reference : APHA 20ed 4500-H^+ B, ISO 10523:1994(E) and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

Calibration pH buffer (20°C)	Input value (pH buffer) (20°C)	Indicated pH value by meter (20°C)	Linearity (R^2)
pH = 1.67	1.67	1.70	1.0000
pH = 6.88	4.00	4.01	Acceptance Criterion
pH = 7.43	7.00	6.98	$R^2 > 0.995$ Within ± 0.05 pH against standard value
pH = 9.22	10.00	10.03	
pH = 12.64	12.64	12.60	
Repeatability	1st time	4.01 , 10.03	Within ± 0.05 pH against average value
	2nd time	4.02 , 10.02	
	3rd time	4.01 , 10.03	
	pH 4.00 , 10.00	Ave.: 4.01 , 10.03	

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.

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TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

Temperature:

(Reference : APHA 20ed 2550 B, In-house method and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

Setting Temperature (°C)	Indicated value by meter (°C)		Linearity (R^2)
5.0	4.7		0.9999
15.0	14.8		
25.0	24.8		Acceptance Criterion
35.0	34.7		$R^2 > 0.995$ Within ± 0.5°C against standard value
45.0	45.2		
55.0	55.4		
Repeatability	1st time	14.8 , 45.1	Within ± 0.25°C against average value
	2nd time	14.9 , 45.2	
	3rd time	14.7 , 45.4	
	15.0 , 45.0	Ave.: 14.8 , 45.2	

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.

Turbidity:

(Reference : APHA 20ed 2130 B and DKK-TOA Hand-held Water Quality Meter WQC-24 Instruction Manual)

Formazin Standards (NTU)	Indicated value by meter (NTU)		Linearity (R^2)
0.0	0.0		1.0000
20.0	19.5		Acceptance Criterion
100.0	98.7		$R^2 > 0.995$ Within ± 3% F.S. against span calibration value 100.0 and 400.0 NTU
400.0	397.9		
800.0	796.8		
Repeatability	1st time	0.0 , 797.4	
	2nd time	0.0 , 796.0	Within ± 3% F.S. against average value
	3rd time	0.0 , 796.9	
	0.0 , 800.0	Ave.: 0.0 , 796.8	

Remark: For repeatability, the maximum difference from the average value of 3 measurements was taken.

Comments : Pass, (comply with the criteria)

Tested by : Ho Tin Kau Certified by : Gu Chin
Chemist

Checked by : Gu Chin Date : 20-3-2010

Appendix D1 Plant species recorded at Pak Ngan Heung River (N)

			Relative	Occurrence	
Species	**Habit**	**Native**	**Abundance**	**PNH3**	**PNH4**
Acacia confusa	tree	no	occasional		+
Achyranthes aspera	herb	yes	scarce		+
Acorus gramineus	herb	yes	occasional		+
Alangium chinensis	tree	yes	scarce		+
Alocasia macrorrhiza	herb	yes	occasional		+
Bidens pilosa	herb	no	occasional		+
Celtis sinensis	tree	yes	scarce		+
Christella parasitica	fern	yes	occasional		+
Dimocarpus longan	tree	no	occasional		+
Ficus hispida	tree	yes	occasional		+
Ficus superba	tree	yes	occasional		+
Hedychium coronarium	herb	no	occasional		+
Litsea glutinosa	tree	yes	scarce		+
Macaranga tanarius	tree	yes	occasional		+
Mallotus paniculatus	tree	yes	scarce		+
Microstegium ciliatum	grass	yes	common		+
Mikania micrantha	climber	no	occasional		+
Oxalis corymbosa	herb	yes	occasional		+
Panicum maximum	grass	no	scarce		+
Phyllanthus urinaria	shrub	yes	scarce		+
Pistia stratiotes	herb	yes	scarce		+
Pogonatherum crinitum	grass	yes	scarce		+
Pteris vittata	fern	yes	scarce		+
Pueraria phaseoloides	climber	yes	occasional		+
Sporobolus fertilis	grass	yes	scarce		+
Sterculia lanceolata	tree	yes	scarce		+

Appendix D2 Plant species recorded at Pak Ngan Heung River (S)

			Relative	Occurrence	
Species	**Habit**	**Native**	**Abundance**	**PNH1**	**PNH2**
Ficus microcarpa	tree	yes	scarce		+
Ficus superba	tree	yes	occasional		+
Ipomoea cairica	climber	yes	occasional		+
Kandelia obovata	tree	yes	scarce	+	
Lantana camara	shrub	no	scarce		+
Panicum maximum	grass	no	common		+

Appendix D3 Plant species recorded at Luk Tei Tong River

			Relative	Occurrence				
Species	**Habit**	**Native**	**Abundance**	**LLT1**	**LLT2**	**LLT3**	**LLT4**	**LLT5**
Cyperus malaccensis	sedge	yes	scarce	+	+			
Kandelia obovata	tree	yes	scarce		+			
Panicum maximum	grass	no	scarce	+				
Rhynchelytrum repens	grass	no	scarce	+				
Saccharum arundinaceum	grass	yes	scarce	+				

Appendix D4

Ecological Water Monitoring Results (on-site measurements)

Environmental Pioneers & Solutions Limited

Ecological Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 9/4/2010 **Weather Condition: Sunny**

Monitoring Location	**WE1**			**WE2**			**WE3**			**WE4**			**WE5**			**WE6**		
Time (hhmm)	1130			1120			1050			1105			1205			1150		
Tide Mode	ebb			ebb			ebb			ebb			ebb			ebb		
River Condition	Normal			Normal			Normal			Normal			Normal			Normal		
Water Depth (m)	< 1.0			< 1.0			< 1.0			< 1.0			< 1.0			< 1.0		
pH value	7.06			7.91			8.01			7.23			6.82			6.83		
Temperature (oC)	19.3			19.5			20.3			21.0			22.9			20.2		
Salinity (ppt)	0.0			0.3			1.3			6.4			2.2			0.0		
Conductivity (ms/m)	8.5			72.1			248.0			1150.0			418.0			7.1		
Water flow (m/s)	0.005			0.005			0.020			0.010			0.020			0.005		
Turbidity (NTU)	0.0	0.0	Average 0.00	0.0	0.0	Average 0.00	13.6	13.5	Average 13.55	8.4	8.3	Average 8.4	3.3	3.0	Average 3.15	0.0	0.0	Average 0.0
DO (mg/l)	9.21	9.23	Average 9.22	11.73	11.71	Average 11.72	9.84	9.81	Average 9.83	9.43	9.41	Average 9.42	10.96	10.98	Average 10.97	9.13	9.12	Average 9.13
DO Saturation (%)	101	101	Average 101	128	128	Average 128	109	109	Average 109	104	104	Average 104	128	128	Average 128	101	101	Average 101

Name **Signature** **Date**

Prepared By: Jimmy Cheng 9/4/2010

remark or observation: M1 & M3: Accumulated some of mud at the riverbed

Appendix D5

Ecological Water Monitoring Results (lab report)

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400049 Date of Issue : 12-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 10-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	499	503	-0.8	26.3
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		WE1	WE1 Duplicate	WE2	WE2 Duplicate	WE3	WE3 Duplicate		
	Sampling Date/Time		09 Apr. 2010 / 11:30		09 Apr. 2010 / 11:20		09 Apr. 2010 / 10:50			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	1.8	1.6	2.6	2.6	9.8	9.6		

TEST RESULTS	Sample ID		WE4	WE4 Duplicate	WE5	WE5 Duplicate	WE6	WE6 Duplicate		
	Sampling Date/Time		09 Apr. 2010 / 11:05		09 Apr. 2010 / 12:05		09 Apr. 2010 / 11:50			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	11.6	11.9	8.4	8.5	1.4	1.3		

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : Location M1 & WE3 and Location M3 & WE4 are the same location.

----- End -----

Tested By : K.L FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400332 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 11:30 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE1

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [ ] °C		APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	0.08
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.36
Phosphorus	mg/L	APHA 20ed 4500-P D	0.06
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	2
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE1.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400340 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 11:30 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE1 Duplicate

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [	] °C	APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	0.08
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.35
Phosphorus	mg/L	APHA 20ed 4500-P D	0.06
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	2
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE1.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400358 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 11:20 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE2

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [ ] °C		APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	0.04
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.42
Phosphorus	mg/L	APHA 20ed 4500-P D	0.07
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	1
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE2.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400366 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 11:20 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE2 Duplicate

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [ ] °C		APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	0.04
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.42
Phosphorus	mg/L	APHA 20ed 4500-P D	0.07
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	1
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE2.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400374 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 10:50 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE3

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [	] °C	APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	1.22
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.76
Phosphorus	mg/L	APHA 20ed 4500-P D	0.19
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	4
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE3.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
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TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400382 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 10:50 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE3 Duplicate

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [ ] °C		APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	1.24
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.77
Phosphorus	mg/L	APHA 20ed 4500-P D	0.18
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	4
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE3.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400390 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 11:05 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE4

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [ ] °C		APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	1.89
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.42
Phosphorus	mg/L	APHA 20ed 4500-P D	0.14
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	2
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE4.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
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TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400405 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 11:05 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE4 Duplicate

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [	] °C	APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	1.87
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.42
Phosphorus	mg/L	APHA 20ed 4500-P D	0.14
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	2
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE4.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400413 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 12:05 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE5

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [ ] °C		APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	4.01
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.19
Phosphorus	mg/L	APHA 20ed 4500-P D	0.47
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	4
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE5.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

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TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400421 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 12:05 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE5 Duplicate

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [	] °C	APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	4.01
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.18
Phosphorus	mg/L	APHA 20ed 4500-P D	0.48
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	4
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE5.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
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TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400439 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 11:50 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE6

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [ ] °C		APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	0.1
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.22
Phosphorus	mg/L	APHA 20ed 4500-P D	0.06
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	1
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE6.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
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TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST REPORT ON ENVIRONMENTAL ANALYSIS OF WATER

Report No. : GCC100400447 Date of Issue : 03-05-2010

Client* : Environmental Pioneers & Solutions Limited Order Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Contract No.* : -- Date Completed : 26-04-2010

GCE Serial No. : WQM042010 Sampling Date* : 09-04-2010 / 11:50 Sample Type* : River Water

GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258 Sample I.D.* : WE6 Duplicate

Descripption : River Water

DESCRIPTION		TEST REFERENCE (In-House Method based on)	TEST RESULT
Appearance		APHA 20ed 2110	--
Odour		APHA 20ed 2150 B	Odour Characteristics : --
			Threshold Odour Number (TON) : --
pH Value at temperature [	] °C	APHA 20ed 4500-H^+ B	--
Colour	TCU	APHA 20ed 2120 B	--
Turbidity	NTU	APHA 20ed 2130 B	--
Conductivity at 25°C	µS/cm	APHA 20ed 2510 B	--
Salinity	g/L	APHA 20ed 2520 B	--
Nitrogen (Ammonia)	mg/L	APHA 20ed 4500-NH_3 D	0.11
		APHA 20ed 4500-NH_3 E	--
		APHA 18ed 4500-NH_3 C	--
Nitrogen (Nitrate)	mg/L	APHA 20ed 4500-NO_3^- E	0.21
Phosphorus	mg/L	APHA 20ed 4500-P D	0.06
Biochemical Oxygen Demand (BOD_5)	mg/L	APHA 20ed 5210 B	1
Chemical Oxygen Demand (COD)	mg/L	APHA 20ed 5220 D	--
Total Suspended Solid	mg/L	APHA 20ed 2540 D	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Sample received on 9 April 2010.

REMARKS : Sample Location WE6.

----- End -----

Tested By : T.W. Lam, K.L. Fong Certified By :

Name : Gu Chin

Checked By : Gu Chin Post : Chemist

Appendix E

Construction Noise Monitoring Data Sheet

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N1	N2
Description of Location		Façade	Façade
Date of Monitoring		1/4/2010	
Measurement Start Time (hhmm)		15:10	14:35
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		0.0	0.6
Measurement Results	L_{90} (dB(A))	45.3	45.9
	L_{10} (dB(A))	51.0	61.4
	Leq (dB(A))	49.2	60.0
Weather condition:		Sunny	
Major Construction Noise Sourse(s) During Monitoring		No construction works are being carried out during measurement.	1. Excavator noise
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise (bicycle)	1. Public noise 2. Traffic noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		1/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N3	N4
Description of Location		Freefield	Facede
Date of Monitoring		1/4/2010	
Measurement Start Time (hhmm)		13:55	13:20
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		0.0	0.4
Measurement Results	L_{90} (dB(A))	55.1	44.6
	L_{10} (dB(A))	60.0	51.7
	Leq (dB(A))	58.5	50.6
Weather condition:		Sunny	
Major Construction Noise Sourse(s) During Monitoring		1. Excavator noise	1. Excavator noise
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise (bicycle)	
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		1/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N1	N2
Description of Location		Façade	Façade
Date of Monitoring		7/4/2010	
Measurement Start Time (hhmm)		14:50	14:15
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		1.3	1.2
Measurement Results	L_{90} (dB(A))	45.6	54.3
	L_{10} (dB(A))	54.8	68.0
	Leq (dB(A))	53.1	65.7
Weather condition:		Cloudy	
Major Construction Noise Sourse(s) During Monitoring		No construction works are being carried out during measurement.	1. Excavator noise 2. Power generator noise 3. Construction trucks noise
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise	1. Public noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		7/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N3	N4
Description of Location		Freefield	Facede
Date of Monitoring		7/4/2010	
Measurement Start Time (hhmm)		13:40	13:05
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		1.4	1.3
Measurement Results	L_{90} (dB(A))	51.6	46.7
	L_{10} (dB(A))	56.4	56.6
	Leq (dB(A))	55.2	53.6
Weather condition:		Cloudy	
Major Construction Noise Sourse(s) During Monitoring		1. Excavator noise 2. Construction trucks noise	No construction works are being carried out during measurement.
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise (bicycle)	1. Public noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		7/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N1	N2
Description of Location		Façade	Façade
Date of Monitoring		14/4/2010	
Measurement Start Time (hhmm)		15:15	14:40
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		0.8	0.6
Measurement Results	L_{90} (dB(A))	48.5	46.1
	L_{10} (dB(A))	60.8	63.0
	Leq (dB(A))	58.7	59.1
Weather condition:		Cloudy	
Major Construction Noise Sourse(s) During Monitoring		No construction works are being carried out during measurement.	1. Excavator noise 2. Power generator noise 3. Construction trucks noise
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise	1. Public noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		14/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N3	N4
Description of Location		Freefield	Facede
Date of Monitoring		14/4/2010	
Measurement Start Time (hhmm)		14:05	13:30
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		1.1	0.7
Measurement Results	L_{90} (dB(A))	51.7	48.2
	L_{10} (dB(A))	60.3	53.6
	Leq (dB(A))	57.8	51.3
Weather condition:		Cloudy	
Major Construction Noise Sourse(s) During Monitoring		1. Excavator noise 2. Power generator noise	No construction works are being carried out during measurement.
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise (bicycle)	1. Public noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		14/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N1	N2
Description of Location		Façade	Façade
Date of Monitoring		21/4/2010	
Measurement Start Time (hhmm)		14:45	14:10
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		0.7	0.6
Measurement Results	L_{90} (dB(A))	50.8	56.4
	L_{10} (dB(A))	61.5	68.7
	Leq (dB(A))	59.1	66.3
Weather condition:		Sunny	
Major Construction Noise Sourse(s) During Monitoring		No construction works are being carried out during measurement.	1. Excavator noise 2. Construction trucks noise 3. Power generator noise
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise (bicycle)	1. Public noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		21/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N3	N4
Description of Location		Freefield	Facede
Date of Monitoring		14/4/2010	
Measurement Start Time (hhmm)		13:35	13:30
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		0.8	0.7
Measurement Results	L_{90} (dB(A))	43.7	45.5
	L_{10} (dB(A))	57.5	56.5
	Leq (dB(A))	54.3	53.7
Weather condition:		Sunny	
Major Construction Noise Sourse(s) During Monitoring		1. Excavator noise	No construction works are being carried out during measurement.
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise (bicycle)	1. Public noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		21/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N1	N2
Description of Location		Façade	Façade
Date of Monitoring		28/4/2010	
Measurement Start Time (hhmm)		14:45	14:10
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		0.3	0.4
Measurement Results	L_{90} (dB(A))	49.1	48.4
	L_{10} (dB(A))	60.8	58.1
	Leq (dB(A))	57.2	56.3
Weather condition:		Sunny	
Major Construction Noise Sourse(s) During Monitoring		No construction works are being carried out during measurement.	1. Construction trucks noise
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise	1. Public noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		28/4/2010

大成環境科技拓展有限公司
Environmental Pioneers and Solutions Limited

Construction Noise Monitoring Data Sheet

Monitoring Location		N3	N4
Description of Location		Freefield	Facede
Date of Monitoring		28/4/2010	
Measurement Start Time (hhmm)		13:35	13:00
Measurement Time Length (mins.)		30 mins	
Noise Meter Model/ Identification		ACO Japan, model 6224	
Calibrator Model/ Identification		Castle Group, GA607	
Wind Speed (m/s)		0.3	0.2
Measurement Results	L_{90} (dB(A))	53.9	43.0
	L_{10} (dB(A))	61.3	55.9
	Leq (dB(A))	60.0	53.6
Weather condition:		Sunny	
Major Construction Noise Sourse(s) During Monitoring		1. Excavator noise 2. Power generator noise 3. Concrete curing noise	No construction works are being carried out during measurement.
Other Noise Source(s) During Monitoring		1. Public noise 2. Traffic noise (bicycle)	1. Public noise
Remarks			

	Name & Designation	Signature	Date:
Prepared by:	Jimmy Cheng		28/4/2010

Appendix F1

Water Quality
Monitoring Data Sheet

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **1/4/2010** Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1300			1250			1240			1310			1200			1210			1225		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.4			< 1			< 1			< 1		
pH value	7.89			8.06			7.83			7.93			8.10			7.06			6.93		
Temperature (oC)	23.0			23.9			23.8			23.7			22.1			23.7			24.6		
Salinity (ppt)	11.3			5.4			23.6			23.8			0.3			0.1			15.2		
Turbidity (NTU)	**9.2**	**9.2**	Average **9.2**	**2.6**	**2.6**	Average **2.6**	**11.4**	**11.4**	Average **11.4**	4.9	4.9	Average 4.9	0.0	0.0	Average 0.0	0.0	0.0	Average 0.0	8.4	8.4	Average 8.4
DO (mg/l)	10.74	10.74	Average 10.74	12.82	12.82	Average 12.82	10.87	10.87	Average 10.87	9.72	9.72	Average 9.72	8.75	8.75	Average 8.75	8.41	8.41	Average 8.41	8.90	8.90	Average 8.90
DO Saturation (%)	128	128	Average 128	155	155	Average 155	131	131	Average 131	118	118	Average 118	105	105	Average 105	102	102	Average 102	112	112	Average 112

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		1/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **7/4/2010** Cloudy

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1625			1620			1615			1635			1545			1555			1605		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.8			< 1			< 1			< 1		
pH value	7.67			7.65			7.51			7.73			7.71			7.02			7.24		
Temperature (oC)	20.6			20.3			20.5			20.6			20.7			20.6			20.8		
Salinity (ppt)	17.6			12.7			21.2			26.8			0.0			0.0			6.7		
Turbidity (NTU)	**11.0**	**11.0**	Average **11.0**	**5.2**	**5.1**	Average **5.2**	**13.8**	**13.7**	Average **13.8**	3.6	3.7	Average 3.7	0.0	0.0	Average 0.0	0.0	0.0	Average 0.0	7.2	7.1	Average 7.2
DO (mg/l)	8.85	8.87	Average 8.86	9.71	9.70	Average 9.71	8.13	8.11	Average 8.12	9.21	9.20	Average 9.21	7.84	7.83	Average 7.84	7.87	7.89	Average 7.88	7.51	7.53	Average 7.52
DO Saturation (%)	99	99	Average 99	108	108	Average 108	90	90	Average 90	102	102	Average 102	89	89	Average 89	89	89	Average 89	85	85	Average 85

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		7/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **9/4/2010** Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1050			1055			1105			1040			1130			1140			1200		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.4			< 1			< 1			< 1		
pH value	8.01			8.09			7.23			7.96			7.43			7.11			7.01		
Temperature (oC)	20.3			20.4			21.0			21.0			19.4			20.7			23.2		
Salinity (ppt)	1.3			0.2			6.4			15.8			0.0			0.0			1.9		
Turbidity (NTU)	**13.6**	**13.5**	Average **13.6**	**0.0**	**0.0**	Average **0.0**	**8.4**	**8.3**	Average **8.4**	12.4	12.3	Average 12.4	0.0	0.0	Average 0.0	0.0	0.0	Average 0.0	1.3	1.2	Average 1.3
DO (mg/l)	9.84	9.81	Average 9.83	11.39	11.38	Average 11.39	9.43	9.41	Average 9.42	11.15	11.17	Average 11.16	10.01	10.02	Average 10.02	11.19	11.17	Average 11.18	10.93	10.92	Average 10.93
DO Saturation (%)	109	109	Average 109	127	127	Average 127	104	104	Average 104	126	126	Average 126	108	108	Average 108	125	125	Average 125	128	128	Average 128

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		9/4/2010

remark or observation: M1 & M3 : Accumulated some of mud at the riverbed

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **12/4/2010** Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1155			1200			1205			1140			1215			1225			1235		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.3			< 1			< 1			< 1		
pH value	8.11			8.07			7.22			7.83			7.72			7.25			7.09		
Temperature (oC)	23.6			23.8			25.9			25.4			23.6			23.7			25.5		
Salinity (ppt)	0.7			0.0			7.4			10.7			0.1			0.0			0.7		
Turbidity (NTU)	**4.7**	**4.8**	Average **4.8**	**0.0**	**0.0**	Average **0.0**	**24.9**	**24.7**	Average 24.8	5.8	5.6	Average 5.7	0.6	0.7	Average 0.7	0.0	0.0	Average 0.0	10.8	10.6	Average 10.7
DO (mg/l)	8.77	8.76	Average 8.77	11.95	11.94	Average 11.95	9.36	9.37	Average 9.37	10.54	10.53	Average 10.54	10.21	10.22	Average 10.22	11.73	11.72	Average 11.73	8.80	8.79	Average 8.80
DO Saturation (%)	105	105	Average 105	141	141	Average 141	116	116	Average 116	129	129	Average 129	119	119	Average 119	139	139	Average 139	106	106	Average 106

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		12/4/2010

remark or observation: No construction works and discharging water are being carried out during sampling.

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **14/4/2010** Cloudy

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1225			1235			1245			1215			1255			1305			1315		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	Muddy			normal			Muddy			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.4			< 1			< 1			< 1		
pH value	7.90			7.76			7.53			7.75			7.98			7.65			7.03		
Temperature (oC)	21.2			20.8			21.3			20.9			21.4			21.1			20.8		
Salinity (ppt)	7.6			4.3			18.5			17.7			0.0			0.0			7.3		
Turbidity (NTU)	**30.7**	**30.6**	Average 30.7	**0.0**	**0.0**	Average **0.0**	**21.9**	**21.8**	Average 21.9	6.7	6.8	Average 6.8	0.0	0.0	Average 0.0	0.0	0.0	Average 0.0	10.0	10.1	Average 10.1
DO (mg/l)	7.96	7.98	Average 7.97	11.54	11.57	Average 11.56	10.63	10.61	Average 10.62	9.71	9.71	Average 9.71	9.03	9.02	Average 9.03	11.25	11.26	Average 11.26	8.34	8.33	Average 8.34
DO Saturation (%)	90	90	Average 90	129	129	Average 129	118	118	Average 118	109	109	Average 109	103	103	Average 103	127	127	Average 127	95	95	Average 95

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		14/4/2010

remark or observation: Soil runoff arising from earth movement and excavation works from site retaining wall C

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **15/4/2010** Cloudy

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1330						1340						1350						1400		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.2			< 1			< 1			< 1		
pH value	7.69						7.51						8.46						7.22		
Temperature (oC)	19.3						19.7						19.3						17.8		
Salinity (ppt)	7.7						18.8						0.1						3.2		
Turbidity (NTU)	**8.4**	**8.3**	Average **8.4**			Average #DIV/0!	**10.8**	**10.6**	Average **10.7**			Average #DIV/0!	0.0	0.0	Average 0.0			Average #DIV/0!	7.2	7.0	Average 7.1
DO (mg/l)	8.02	8.01	Average 8.02			Average #DIV/0!	9.55	9.56	Average 9.56			Average #DIV/0!	10.08	10.07	Average 10.08			Average #DIV/0!	9.16	9.15	Average 9.16
DO Saturation (%)	88	88	Average 88			Average #DIV/0!	103	103	Average 103			Average #DIV/0!	111	111	Average 111			Average #DIV/0!	93	93	Average 93

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		15/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **16/4/2010** Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1345			1355			1405			1335			1415			1425			1435		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.3			< 1			< 1			< 1		
pH value	7.95			8.11			7.51			7.77			7.53			8.07			7.32		
Temperature (oC)	18.5			18.5			19.1			19.4			19.6			18.5			19.1		
Salinity (ppt)	7.5			1.1			21.2			18.8			0.0			0.0			6.5		
Turbidity (NTU)	**7.8**	**7.8**	Average **7.8**	**0.0**	**0.0**	Average **0.0**	7.1	6.9	Average 7.0	7.8	7.9	Average 7.9	0.0	0.0	Average 0.0	0.0	0.0	Average 0.0	8.3	8.1	Average 8.2
DO (mg/l)	10.28	10.27	Average 10.28	12.19	12.18	Average 12.19	11.96	11.98	Average 11.97	11.07	11.08	Average 11.08	9.36	9.37	Average 9.37	12.06	12.07	Average 12.07	9.04	9.03	Average 9.04
DO Saturation (%)	110	110	Average 110	130	130	Average 130	129	129	Average 129	121	121	Average 121	99	99	Average 99	129	129	Average 129	94	94	Average 94

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		16/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 19/4/2010 Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1550			1545			1535			1600			1500			1510			1520		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			Muddy			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.3			< 1			< 1			< 1		
pH value	7.71			8.12			7.81			7.76			7.68			7.33			7.09		
Temperature (oC)	22.5			23.5			24.8			24.0			22.3			23.4			23.9		
Salinity (ppt)	5.4			1.9			19.3			14.8			0.0			0.0			19.7		
Turbidity (NTU)	**5.5**	**5.6**	Average **5.6**	0.0	0.0	Average 0.0	**20.5**	**20.4**	Average 20.5	10.8	10.6	Average 10.7	0.0	0.0	Average 0.0	1.3	1.2	Average 1.3	6.2	6.1	Average 6.2
DO (mg/l)	10.12	10.13	Average 10.13	12.82	12.81	Average 12.82	13.84	13.82	Average 13.83	12.21	12.20	Average 12.21	12.32	12.31	Average 12.32	12.47	12.48	Average 12.48	13.28	13.27	Average 13.28
DO Saturation (%)	118	118	Average 118	151	151	Average 151	167	167	Average 167	146	146	Average 146	141	141	Average 141	147	147	Average 147	158	158	Average 158

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		19/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 20/4/2010 Cloudy

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1620			1615			1610			1630			1540			1550			1600		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.4			< 1			< 1			< 1		
pH value	7.75			8.06			7.32			7.45			7.90			7.67			6.93		
Temperature (oC)	22.0			22.1			23.1			22.5			22.0			21.5			22.7		
Salinity (ppt)	2.0			2.1			17.4			10.7			0.0			0.0			6.5		
Turbidity (NTU)	**9.4**	**9.3**	Average **9.4**	**0.0**	**0.0**	Average **0.0**	**12.2**	**12.1**	Average **12.2**	9.5	9.6	Average 9.6	0.0	0.0	Average 0.0	0.0	0.0	Average 0.0	2.6	2.5	Average 2.6
DO (mg/l)	11.65	11.64	Average 11.65	12.63	12.61	Average 12.62	10.53	10.52	Average 10.53	11.31	11.30	Average 11.31	10.36	10.36	Average 10.36	12.87	12.87	Average 12.87	9.81	9.80	Average 9.81
DO Saturation (%)	135	135	Average 135	146	146	Average 146	126	126	Average 126	131	131	Average 131	119	119	Average 119	146	146	Average 146	115	115	Average 115

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		20/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **21/4/2010** Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1605			1555			1545			1615			1515			1525			1535		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.5			< 1			< 1			< 1		
pH value	7.68			8.02			7.55			7.84			7.81			7.63			6.97		
Temperature (oC)	23.8			24.0			25.1			24.3			24.0			23.3			24.9		
Salinity (ppt)	6.5			1.1			11.1			12.8			0.0			0.0			5.2		
Turbidity (NTU)	**12.9**	**12.8**	Average **12.9**	**0.0**	**0.0**	Average **0.0**	7.4	7.4	Average 7.4	6.5	6.4	Average 6.5	0.0	0.0	Average 0.0	0.0	0.0	Average 0.0	7.9	7.8	Average 7.9
DO (mg/l)	10.91	10.90	Average 10.91	12.77	12.76	Average 12.77	12.15	12.14	Average 12.15	12.02	12.01	Average 12.02	10.70	10.71	Average 10.71	12.63	12.63	Average 12.63	9.13	9.12	Average 9.13
DO Saturation (%)	130	130	Average 130	152	152	Average 152	148	148	Average 148	144	144	Average 144	128	128	Average 128	148	148	Average 148	109	109	Average 109

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		21/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **26/4/2010** Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1055			1100			1140			1050			1110			1120			1130		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	Muddy			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.2			< 1			< 1			< 1		
pH value	8.13			7.94			7.47			7.97			7.60			7.27			6.79		
Temperature (oC)	22.6			22.3			23.8			22.8			21.7			22.9			24.2		
Salinity (ppt)	2.9			0.9			10.4			16.7			0.0			0.0			10.8		
Turbidity (NTU)	**23.8**	**23.7**	Average 23.8	**0.0**	**0.0**	Average **0.0**	6.6	6.5	Average 6.6	5.6	5.4	Average 5.5	0.0	0.0	Average 0.0	0.0	0.0	Average 0.0	11.7	11.9	Average 11.8
DO (mg/l)	9.21	9.22	Average 9.22	10.71	10.73	Average 10.72	9.19	9.18	Average 9.19	10.02	10.01	Average 10.02	8.12	8.11	Average 8.12	9.64	9.65	Average 9.65	9.61	9.60	Average 9.61
DO Saturation (%)	107	107	Average 107	124	124	Average 124	108	108	Average 108	116	116	Average 116	93	93	Average 93	113	113	Average 113	115	115	Average 115

	Name	**Signature**	**Date**
Prepared By:	**Jimmy ‹ the reformatio**		26/4/2010

remark or observation: M1-Disturbance of riverbed sediment due to the reformation of earth bund and haul access.

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: 27/4/2010 Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1050												1100								
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.2			< 1			< 1			< 1		
pH value	7.86												8.19								
Temperature (oC)	21.6												21.0								
Salinity (ppt)	4.6												0.3								
Turbidity (NTU)	**7.7**	**7.6**	Average **7.7**			Average #DIV/0!			Average #DIV/0!			Average #DIV/0!	0.0	0.0	Average 0.0			Average #DIV/0!			Average #DIV/0!
DO (mg/l)	8.48	8.47	Average 8.48			Average #DIV/0!			Average #DIV/0!			Average #DIV/0!	9.69	9.68	Average 9.69			Average #DIV/0!			Average #DIV/0!
DO Saturation (%)	96	96	Average 96			Average #DIV/0!			Average #DIV/0!			Average #DIV/0!	109	109	Average 109			Average #DIV/0!			Average #DIV/0!

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		27/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **28/4/2010** Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1240			1255			1250			1230			1155			1205			1215		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	normal			normal			normal			normal			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.2			< 1			< 1			< 1		
pH value	8.04			8.32			7.81			7.78			7.96			8.31			7.07		
Temperature (oC)	24.0			23.6			24.5			24.4			23.5			23.8			24.6		
Salinity (ppt)	4.7			2.2			20.5			17.6			0.5			0.2			7.5		
Turbidity (NTU)	**5.8**	**5.7**	Average **5.8**	**3.1**	**3.0**	Average **3.1**	**15.6**	**15.7**	Average **15.7**	9.9	9.8	Average 9.9	0.0	0.0	Average 0.0	1.1	1.2	Average 1.2	11.8	11.7	Average 11.8
DO (mg/l)	9.52	9.51	Average 9.52	11.45	11.46	Average 11.46	9.72	9.71	Average 9.72	11.17	11.16	Average 11.17	10.94	10.96	Average 10.95	10.37	10.36	Average 10.37	7.36	7.35	Average 7.36
DO Saturation (%)	115	115	Average 115	136	136	Average 136	116	116	Average 116	134	134	Average 134	118	118	Average 118	123	123	Average 123	89	89	Average 89

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		28/4/2010

remark or observation: _____

Environmental Pioneers & Solutions Limited

Water Quality Monitoring - Summary of On-site measurement results

Date of Sampling: **30/4/2010** Sunny

Monitoring Location	**M1**			**M2**			**M3**			**M4**			**C1**			**C2**			**C3**		
Time (hhmm)	1330			1335			1430			1320			1345			1355			1415		
Tide Mode	mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb			mid-ebb		
River Condition	Muddy			normal			normal			Muddy			normal			normal			normal		
Water Depth (m)	<1			< 1			< 1			1.4			< 1			< 1			< 1		
pH value	7.54			7.11			7.17			7.72			7.33			7.04			6.94		
Temperature (oC)	24.1			23.7			24.2			24.5			23.9			23.3			24.7		
Salinity (ppt)	3.2			1.3			17.8			19.3			0.0			0.0			5.1		
Turbidity (NTU)	**46.1**	**46.3**	Average 46.2	0.0	0.0	Average 0.0	**16.5**	**16.4**	Average **16.5**	19.3	19.1	Average 19.2	4.1	4.0	Average 4.1	1.3	1.2	Average 1.3	7.4	7.3	Average 7.4
DO (mg/l)	9.92	9.93	Average 9.93	10.02	10.01	Average 10.02	8.73	8.71	Average 8.72	9.88	9.87	Average 9.88	9.37	9.37	Average 9.37	9.17	9.16	Average 9.17	7.82	7.81	Average 7.82
DO Saturation (%)	116	116	Average 116	119	118	Average 119	98	98	Average 98	116	116	Average 116	113	113	Average 113	112	112	Average 112	80	80	Average 80

	Name	**Signature**	**Date**
Prepared By:	**Jimmy Cheng**		30/4/2010

remark or observation: Surface runoff and disturbance of sediment by heavy rainfall on 29 April 2010

Appendix F2

Water Quality
Monitoring Lab report

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400015 Date of Issue : 12-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 01-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 01-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	498	504	-1.2	25.7
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		01 Apr. 2010 / 12:00		01 Apr. 2010 / 12:10		01 Apr. 2010 / 12:25			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	2.1	2.2	< 1.0	< 1.0	7.2	7.4		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		01 Apr. 2010 / 13:00		01 Apr. 2010 / 12:50		01 Apr. 2010 / 12:40		01 Apr. 2010 / 13:10	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	8.9	8.7	2.0	2.2	11.6	11.3	6.0	5.8

* : Information provided by client

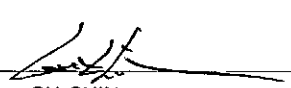
Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory : 

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400023 Date of Issue : 12-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 07-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 08-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	502	497	1.0	25.3
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		07 Apr. 2010 / 15:45		07 Apr. 2010 / 15:55		07 Apr. 2010 / 16:05			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	2.9	2.8	< 1.0	< 1.0	6.3	6.1		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		07 Apr. 2010 / 16:25		07 Apr. 2010 / 16:20		07 Apr. 2010 / 16:15		07 Apr. 2010 / 16:35	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	9.8	10.0	3.0	3.1	12.0	12.2	7.8	7.7

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400031 Date of Issue : 12-04-2010

Client* : Environmental Pioneers & Solutions Limited P.O. Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 09-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 10-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	499	503	-0.8	26.3
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		09 Apr. 2010 / 11:30		09 Apr. 2010 / 11:40		09 Apr. 2010 / 12:00			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	1.4	1.5	< 1.0	< 1.0	6.8	7.2		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		09 Apr. 2010 / 10:50		09 Apr. 2010 / 10:55		09 Apr. 2010 / 11:05		09 Apr. 2010 / 10:40	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	9.8	9.6	1.8	2.2	11.6	11.9	9.4	9.2

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : Location M1 & WE3 and Location M3 & WE4 are the same location.

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400099 Date of Issue : 19-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 12-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 13-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	502	495	1.4	24.1
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		12 Apr. 2010 / 12:15		12 Apr. 2010 / 12:25		12 Apr. 2010 / 12:35			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	8.6	9.0		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		12 Apr. 2010 / 11:55		12 Apr. 2010 / 12:00		12 Apr. 2010 / 12:05		12 Apr. 2010 / 11:40	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	8.4	8.2	1.8	2.0	10.1	10.3	8.1	8.4

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400104 Date of Issue : 19-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 14-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 15-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	503	499	0.8	25.7
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		14 Apr. 2010 / 12:55		14 Apr. 2010 / 13:05		14 Apr. 2010 / 13:15			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	1.4	1.8	< 1.0	< 1.0	7.6	7.2		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		14 Apr. 2010 / 12:25		14 Apr. 2010 / 12:35		14 Apr. 2010 / 12:45		14 Apr. 2010 / 12:15	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	23.4	23.2	1.3	1.3	19.5	19.2	10.9	10.8

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400112 Date of Issue : 19-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 15-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 16-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	498	502	-0.8	26.5
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		15 Apr. 2010 / 13:50		--		15 Apr. 2010 / 14:00			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	2.1	2.4	--	--	6.3	6.5		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		15 Apr. 2010 / 13:30		--		15 Apr. 2010 / 13:40		--	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	11.2	11.8	--	--	11.5	12.0	--	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400120 Date of Issue : 19-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 16-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 17-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	503	498	1.0	24.9
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		16 Apr. 2010 / 14:15		16 Apr. 2010 / 14:25		16 Apr. 2010 / 14:35			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	1.1	1.3	< 1.0	< 1.0	6.1	6.4		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		16 Apr. 2010 / 13:45		16 Apr. 2010 / 13:55		16 Apr. 2010 / 14:05		16 Apr. 2010 / 13:35	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	8.9	8.5	1.1	1.1	11.4	11.5	10.1	10.4

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400285 Date of Issue : 24-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 19-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 20-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	501	505	-0.8	26.5
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		19 Apr. 2010 / 15:00		19 Apr. 2010 / 15:10		19 Apr. 2010 / 15:20			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	< 1.0	< 1.0	1.4	1.3	8.0	8.1		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		19 Apr. 2010 / 15:50		19 Apr. 2010 / 15:45		19 Apr. 2010 / 15:35		19 Apr. 2010 / 16:00	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	8.4	8.6	1.3	1.5	24.3	23.9	9.7	9.5

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400293 Date of Issue : 24-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 20-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 21-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	504	499	1.0	24.7
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		20 Apr. 2010 / 15:40		20 Apr. 2010 / 15:50		20 Apr. 2010 / 16:00			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	6.0	6.3		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		20 Apr. 2010 / 16:20		20 Apr. 2010 / 16:15		20 Apr. 2010 / 16:10		20 Apr. 2010 / 16:30	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	8.7	8.9	1.3	1.5	11.1	11.5	11.2	11.4

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400308 Date of Issue : 24-04-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 21-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 22-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	495	501	-1.2	25.1
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		21 Apr. 2010 / 15:15		21 Apr. 2010 / 15:25		21 Apr. 2010 / 15:35			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	8.4	8.0		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		21 Apr. 2010 / 16:05		21 Apr. 2010 / 15:55		21 Apr. 2010 / 15:45		21 Apr. 2010 / 16:15	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	9.6	9.6	1.3	1.4	7.6	8.0	6.7	7.1

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
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TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400463 Date of Issue : 05-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 26-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 27-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	502	498	0.8	25.7
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		26 Apr. 2010 / 11:10		26 Apr. 2010 / 11:20		26 Apr. 2010 / 11:30			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	1.1	1.4	< 1.0	< 1.0	10.2	10.4		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		26 Apr. 2010 / 10:55		26 Apr. 2010 / 11:00		26 Apr. 2010 / 11:40		26 Apr. 2010 / 10:50	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	14.8	14.5	1.0	1.2	8.7	9.0	6.5	6.6

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400471 Date of Issue : 05-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 27-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 28-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	506	499	1.4	25.3
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		27 Apr. 2010 / 11:00		--		--			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	1.6	1.9	--	--	--	--		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		27 Apr. 2010 / 10:50		--		--		--	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	9.3	9.6	--	--	--	--	--	--

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
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TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400489 Date of Issue : 05-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 28-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 29-04-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	498	503	-1.0	26.3
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		28 Apr. 2010 / 11:55		28 Apr. 2010 / 12:05		28 Apr. 2010 / 12:15			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	9.4	9.6		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		28 Apr. 2010 / 12:40		28 Apr. 2010 / 12:55		28 Apr. 2010 / 12:50		28 Apr. 2010 / 12:30	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	6.8	6.4	1.2	1.1	12.1	11.9	12.3	12.0

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG Approved Signatory :

Name : GU CHIN

Checked By : GU CHIN Post : Chemist

GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.
TEL.: 852-2365 9123 FAX NO.: 852-2765 8034

TEST SUMMARY ON ENVIRONMENTAL ANALYSIS OF WATER AND WASTEWATER

Report No. : GCC100400497 Date of Issue : 05-05-2010

Client* : Environmental Pioneers & Solutions Limited Date Received : 08-09-2008

Client Address* : 8/F, Chaiwan Industrial Centre Building, 20 Lee Chung Street, Chaiwan, HK.

Project* : DSD Contract No. DC/2006/11 - Drainage Improvement in Southern Lantau & Construction of Mui Wo Village Sewerage Phase 1

Test Location : G/F, 20 Pak Kung Street, Hung Hom, Kowloon. Date Started : 30-04-2010

W.O. No.* : -- Sample Type* : River Water Date Completed : 03-05-2010

GCE Serial No. : WQM042010 GCE Reg. No. : GCE 081096 Test Unit No. : CH 08258

Analysis Description	Test Method	Units	Quality Control Results				
			Method Blank	QC 500 mg/L	QC Duplicate	RPD%	Spike 25 mg/L
Suspended Solids (SS)	APHA 20ed 2540 D	mg/L	< 1.0	495	501	-1.2	26.1
		Acceptance Criteria	<2.5 mg/L	475 ≤ Control Limit ≤ 514		≤ ±5%	21 ≤ R ≤ 29

TEST RESULTS	Sample ID		C1	C1 Duplicate	C2	C2 Duplicate	C3	C3 Duplicate		
	Sampling Date/Time		30 Apr. 2010 / 13:45		30 Apr. 2010 / 13:55		30 Apr. 2010 / 14:15			
	LOD	Units								
Suspended Solids (SS)	1	mg/L	1.6	1.4	< 1.0	< 1.0	7.0	7.4		

TEST RESULTS	Sample ID		M1	M1 Duplicate	M2	M2 Duplicate	M3	M3 Duplicate	M4	M4 Duplicate
	Sampling Date/Time		30 Apr. 2010 / 13:30		30 Apr. 2010 / 13:35		30 Apr. 2010 / 14:30		30 Apr. 2010 / 13:20	
	LOD	Units								
Suspended Solids (SS)	1	mg/L	16.4	16.2	1.2	1.1	13.3	13.0	14.8	14.3

* : Information provided by client

Note : This laboratory has no responsibility on sampling and all the test results relate only to the sample tested as received.

Remarks : --

----- End -----

Tested By : K.L. FONG

Checked By : GU CHIN

Approved Signatory :

Name : GU CHIN

Post : Chemist

Appendix G
Monitoring Schedule
for Feb 2010

Environmental Pioneers and Solutions Limited

DC/2006/11 - DRAINAGE IMPROVEMENT IN SOUTHERN LANTAU

Master Schedule of EM&A works in February 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	2/1	2/2	2/3	2/4	2/5	2/6
	WQM, EWQM at: 13:49 Noise monitoring	additional WQM at: 14:35	WQM at: 16:05	additional WQM at: 15:55	WQM at: 16:40	additional WQM at: 15:25
2/7	2/8	2/9	2/10	2/11	2/12	2/13
	WQM at: 9:30 (Flood Tide) Noise monitoring	WQM at: 9:57 (Flood Tide)	WQM at: 10:40 (Flood Tide)	Site Closed 1/10	Site Closed	Site Closed 1/0
2/14	2/15	2/16	2/17	2/18	2/19	2/20
	Site Closed	Site Closed	Site Closed	Site Closed	Site Closed	Site Closed
2/21	2/22	2/23	2/24	2/25	2/26	2/27
	WQM at: 16:10 Noise monitoring				WQM at: 10:58	WQM at: 11:40
2/28						

Noise Monitoring Locations: Total 4 Locations as N1, N2, N3 and N4

Water Quality Monitoring (WQM) Locations: Total 7 Locations as M1, M2, M3, M4, C1, C2 and C3

Ecological Water Quality Monitoring (EWQM) Locations: Total 6 Locations as WE1, WE2, WE3, WE4, WE5 and WE6

Appendix H Implementation Status of environmental protection / mitigation measures

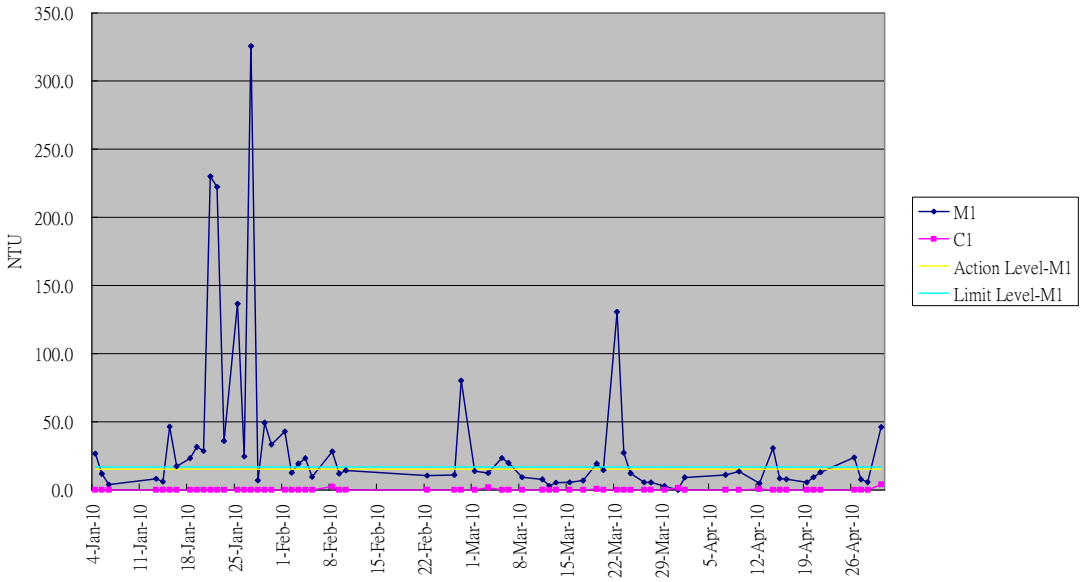
Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
Air Quality	Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved road, with complete coverage.	Improvements required	Taken as advised. File closed
	Use of frequent watering for particular dusty static construction areas and areas close to ASRs.	Implemented	-
	Tarpaulin covering of all dusty vehicle loads transported to and from and between site location;	Implemented	-
	Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.	Improvements required	Outstanding. To be followed
	Routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	Implemented	-
Noise	Use of quiet powered mechanical equipment (PME)	Implemented	-
	Adoption of movable noise barriers and temporary noise barriers	Implemented	
	Application of good site practices mentioned in EM&A manual Clause 3.8.1	Implemented	-
Water Quality	Before commencing any site formation works, all sewer and drainage connections should be sealed to prevent debris, soil, sand etc. from entering public sewers/drains.	Implemented	-
	Temporary ditches should be provided to facilitate run-off discharge into appropriate watercourses, via a silt retention pond. No site run-off should enter the freshwater marshes at Luk Tei Tong.	Implemented	-
	Sand/ silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove sand/ silt particles from runoff to meet the requirements of the Technical Memorandum standard under the Water Pollution Control Ordinance.	Improvements required	Taken as advised. File closed
	Water pumped out from foundation excavations should be discharged into silt removal facilities.	Improvements required	Outstanding. To be followed
	During rainstorms, exposed slope surface should be covered by a tarpaulin or the means.	Implemented	-
	Exposed soil areas should be minimized to reduce potential for increased siltation and contamination of runoff.	Improvements required	Outstanding. To be followed
	Exposed soil surfaces should be protected by paving or fill material as soon as possible to reduce potential of soil erosion.	Implemented	-
	Open stockpiles of construction materials or construction wastes on-site of more than $50m^3$ should be covered with tarpaulin or similar fabric during rainstorms.	Improvements required	Outstanding. To be followed
	Oils and fuels should only be used and stored on designated areas which have pollution prevention facilities.	Improvements required	Taken as advised. File closed
	Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site.	Not available	-
	The excavation and widening works for the drainage improvements to the Pak Ngan Heung River, Tai Tei Tong River, Luk Tei Tong River and Luk Tei Tong By-pass Channel should be carried out in sections (approximately 300 –400 m in length) and in dry condition.	Implemented	-

Environmental Aspect	Protection / Mitigation Measures	Implementation status	Follow-up action
	Maintenance desiltng of the re-profiled river channels of the Pak Ngan Heung River, Tai Tei Tong River, Luk Tei tong River and Luk Tei Tong By-pass Channel, temporary barrier walls should be used to provide a dry zone for desiltng work.	Not applicable at this stage	-
Ecology	Existing natural habitats should be retained as far as practicable	Implemented	-
	Boundary of working areas should be identified to prevent loss of vegetation	Implemented	-
	All existing trees / plant should be well protected within the site or transplanted properly	Implemented	-
	Turf removal from the Luk Tei Tong marsh due to the construction of Luk Tei Tong Bypass Channel shall be minimized	Implemented	-
	Turf from the Luk Tei Tong marsh shall be properly removed, stored, maintained and reused for lining the riverbed of the Luk Tei Tong Bypass Channel	Implemented	-
Chemical and Solid Waste	Chemical wastes should be properly stored in a proper store as per statutory requirements (i.e. on a hard standing, within an enclosed and locked area)	Implemented	-
	Chemical waste stores should be provided with fire precaution facilities (i.e. fire extinguisher, no smoking warning etc).	Implemented	-
	Chemical wastes should be properly stored in corrosion resistant containers placed inside the store and labelled with warning signs in English and Chinese.	Implemented	-
	Chemical wastes should be disposed of by licensed chemical waste collector with supporting delivery records.	Implemented	-
	All containers for fuel, diesel and fluid chemical (in use) and oil filled stationery plants located with proper drip pans.	Improvements required	Outstanding. To be followed
	Construction wastes should be managed and disposed to the designated public fill and landfill areas in acceptable manner.	Implemented	-
	All waste disposals managed in a proper manner i.e. trip ticket system implementation.	Implemented	-

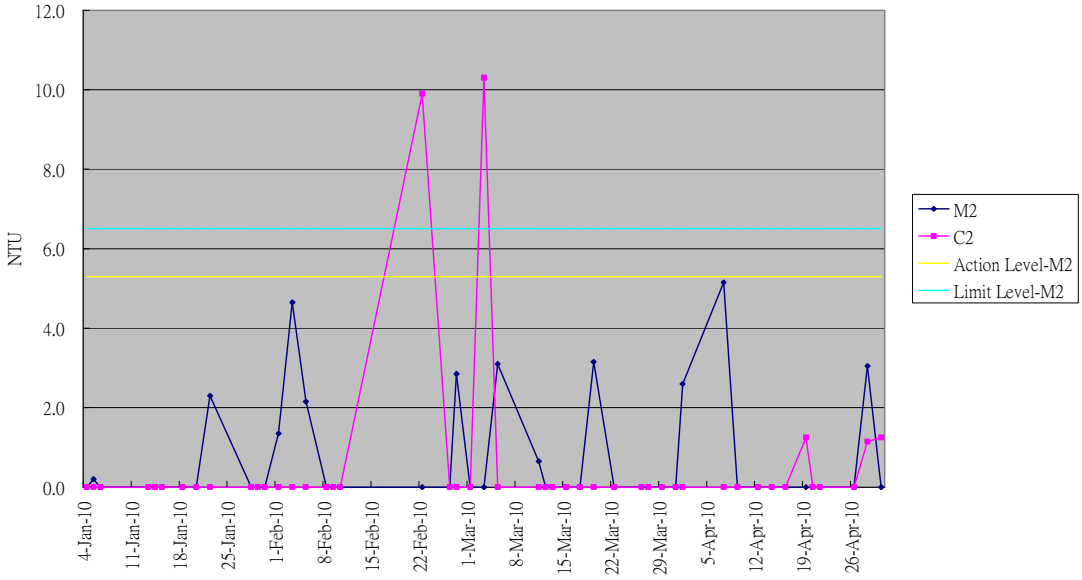
Appendix I

Graphical plot of water quality monitoring results (SS, DO, turbidity)

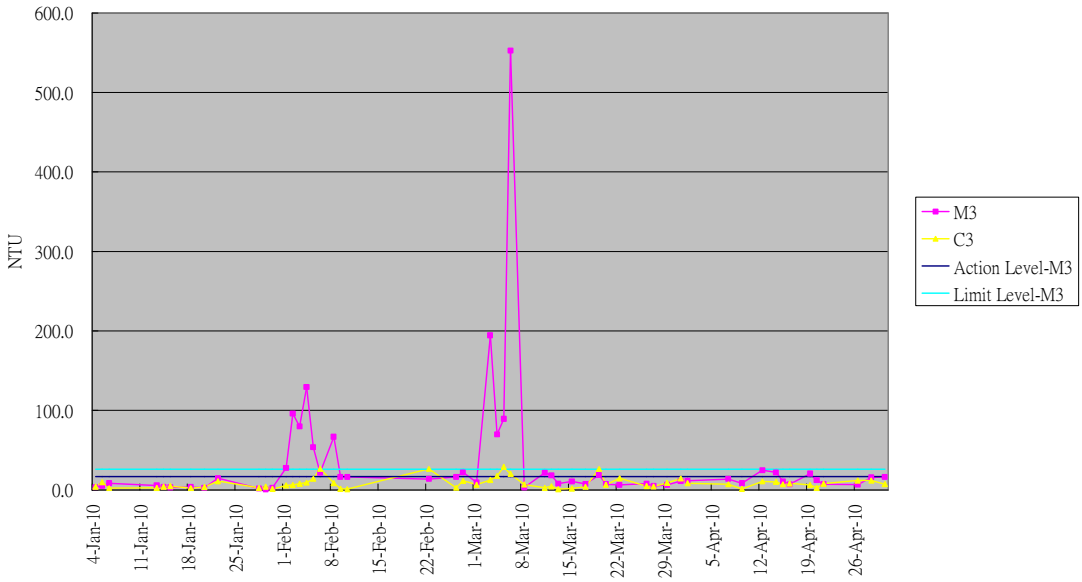
Graphical Plot of Turbidity Trend M1&C1 (Jan - Apr 10)



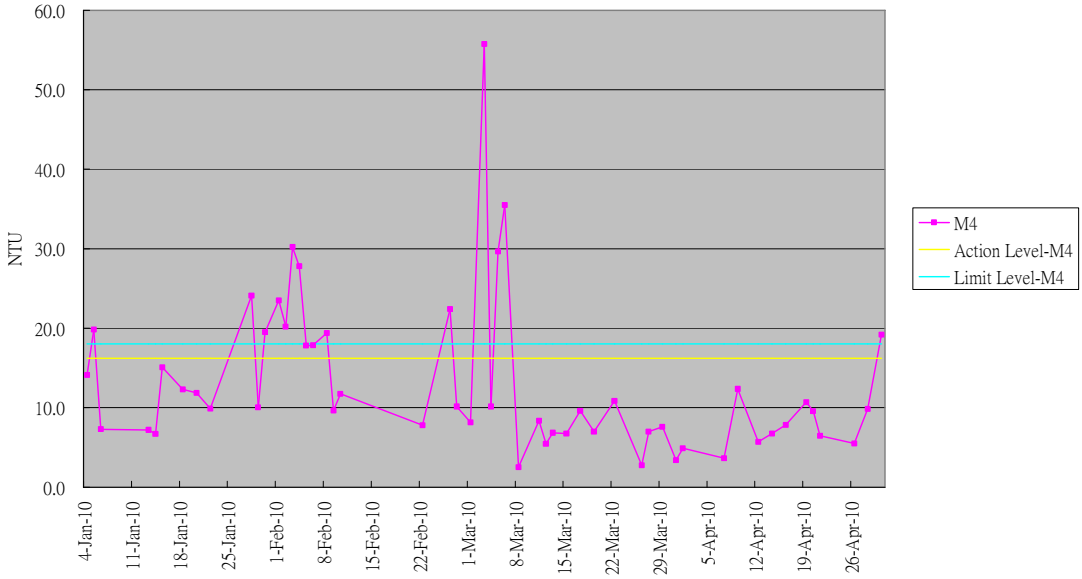
Graphical Plot of Turbidity Trend M2&C2 (Jan - Apr 10)



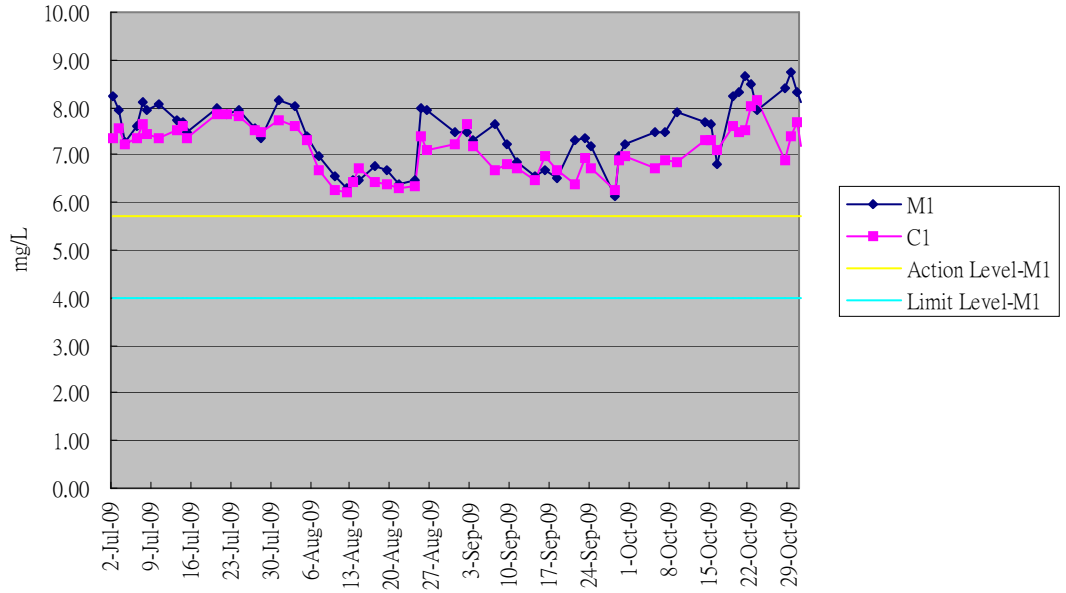
Graphical Plot of Turbidity Trend M3&C3 (Jan - Apr 10)



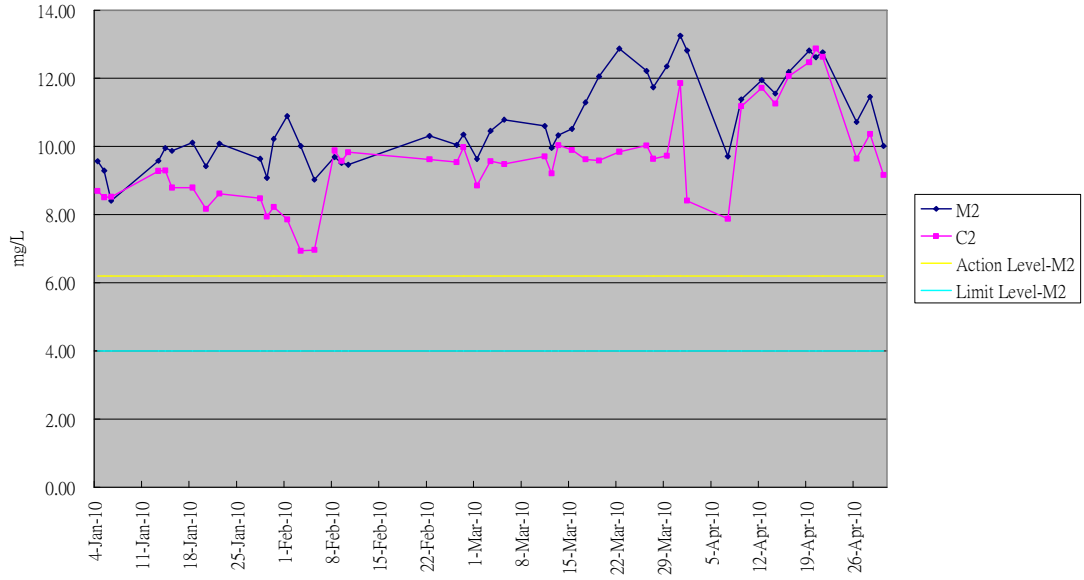
Graphical Plot of Turbidity Trend M4 (Jan - Apr 10)



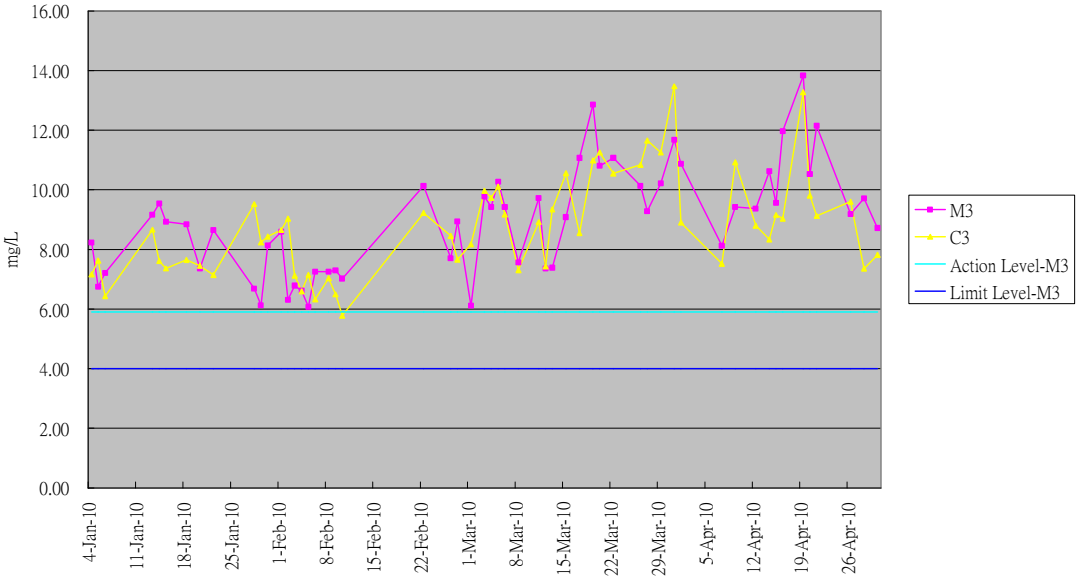
Graphical Plot of Dissolved Oxygen Trend M1&C1 (July - Oct 09)



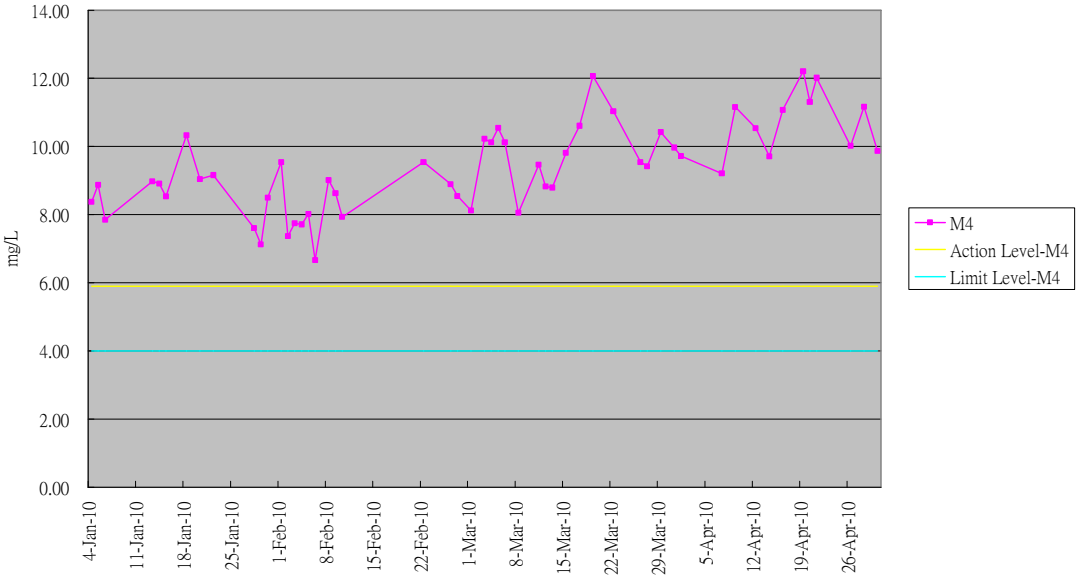
Graphical Plot of Dissolved Oxygen Trend M2&C2 (Jan - Apr 10)



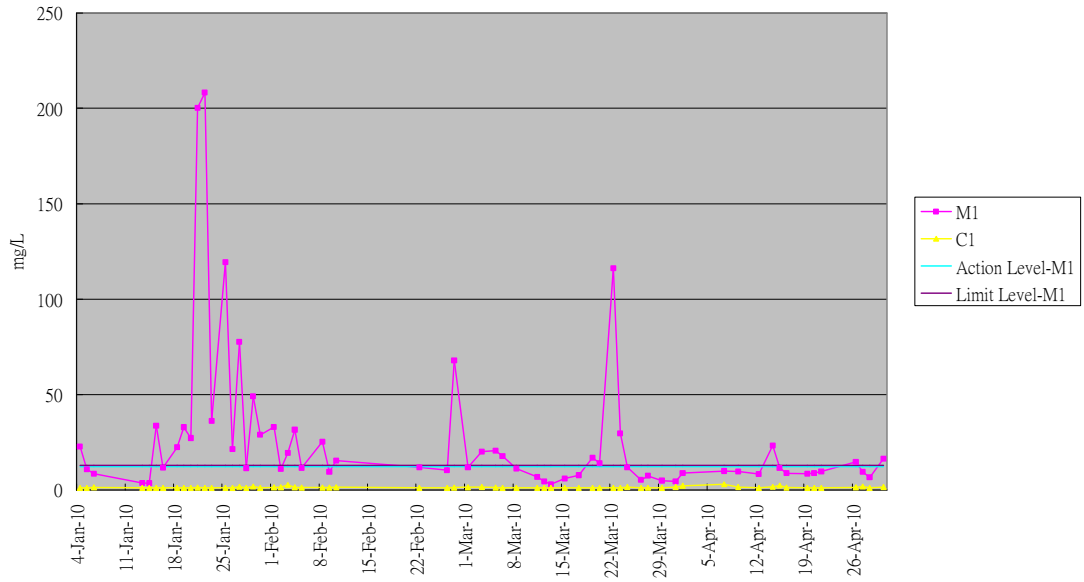
Graphical Plot of Dissolved Oxygen Trend M3&C3 (Jan - Apr 10)



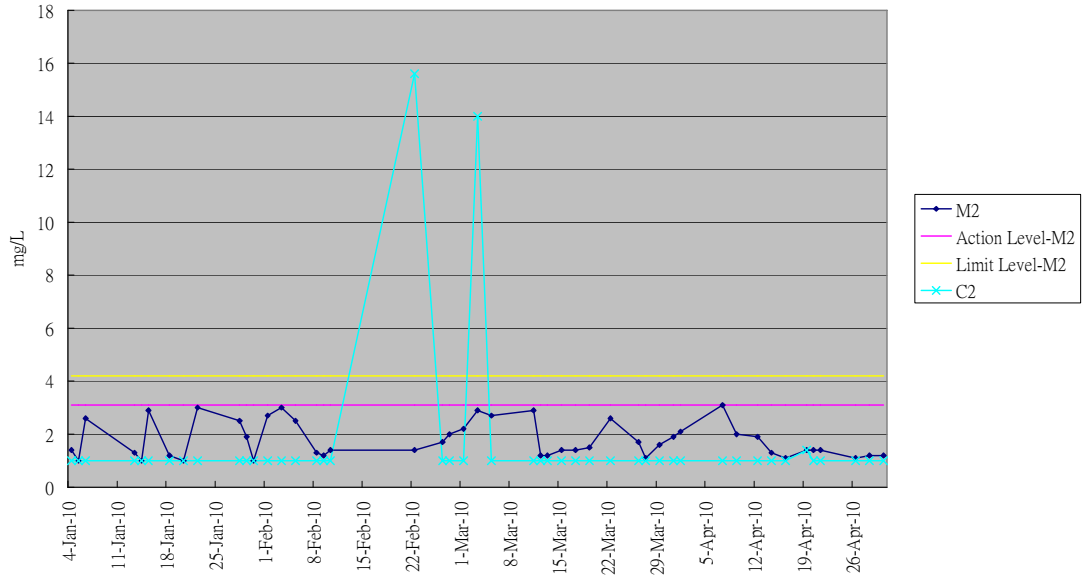
Graphical Plot of Dissolved Oxygen Trend M4 (Jan - Apr 10)



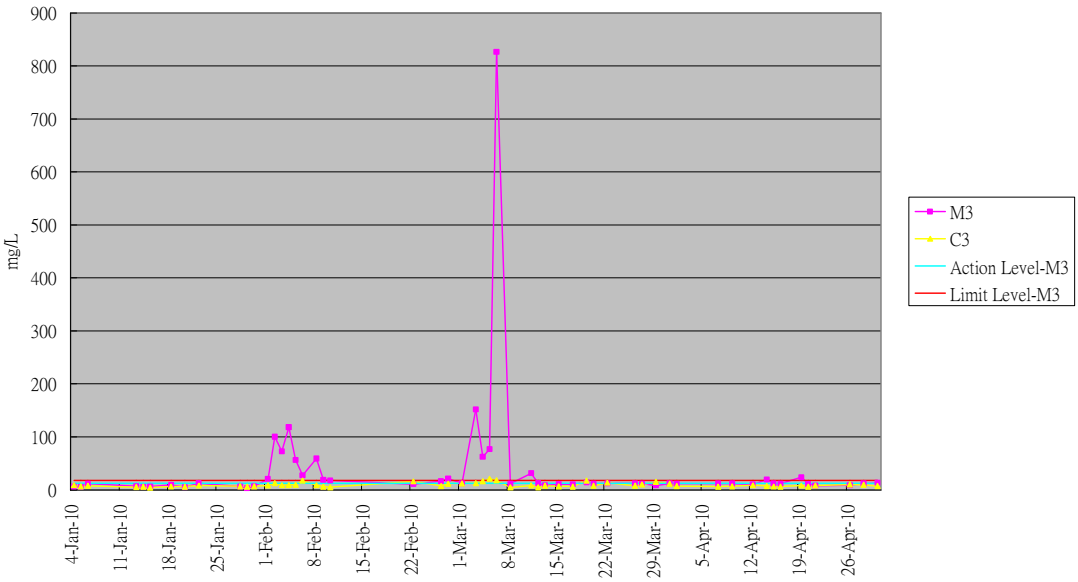
Graphical Plot of Suspended Soild M1&C1 (Jan - Apr 10)



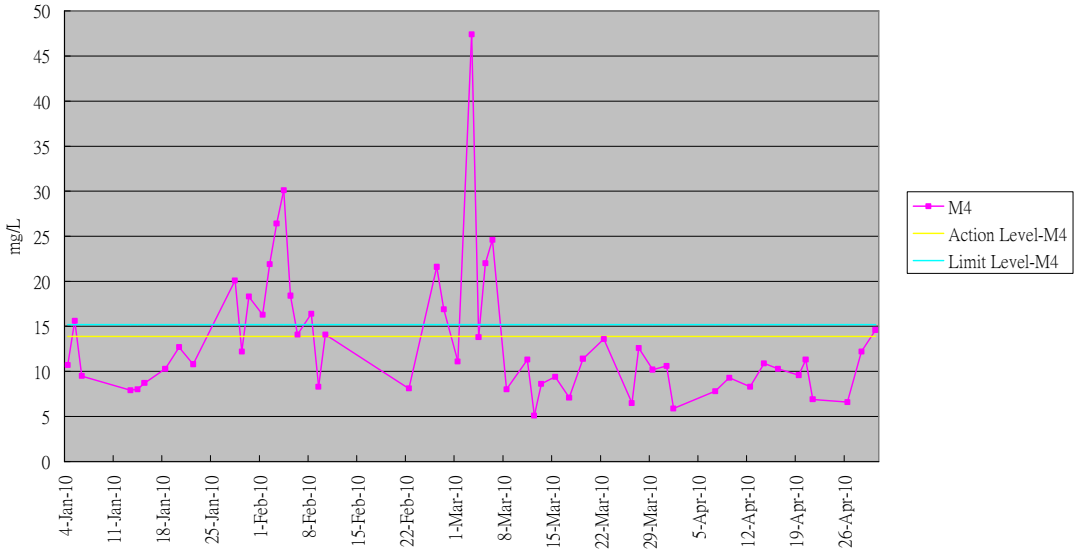
Graphical Plot of Suspended Soild M2&C2 (Jan - Apr 10)



Graphical Plot of Suspended Soild M3&C3 (Jan - Apr 10)

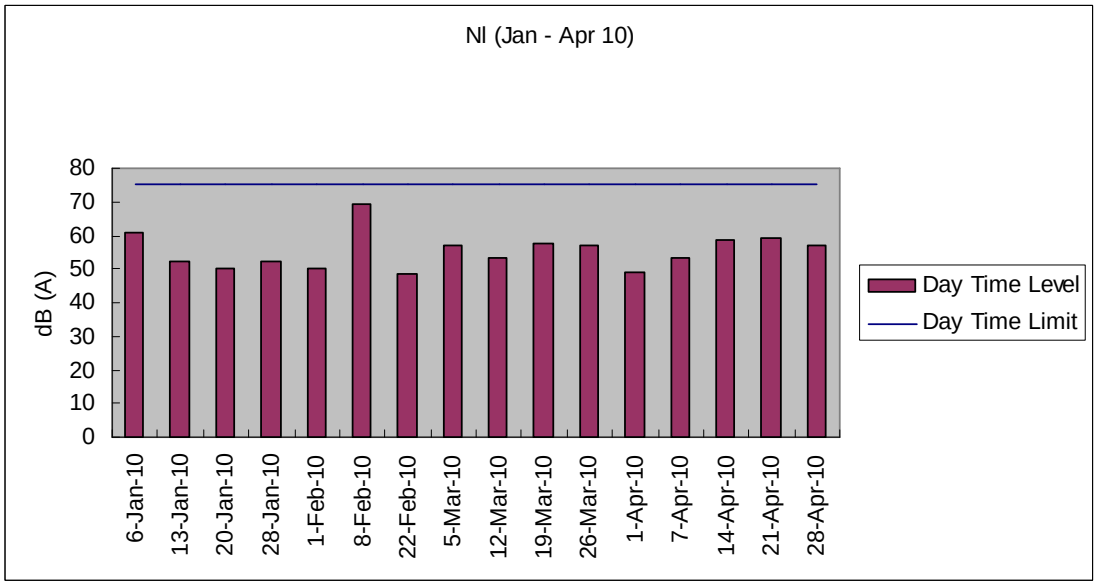


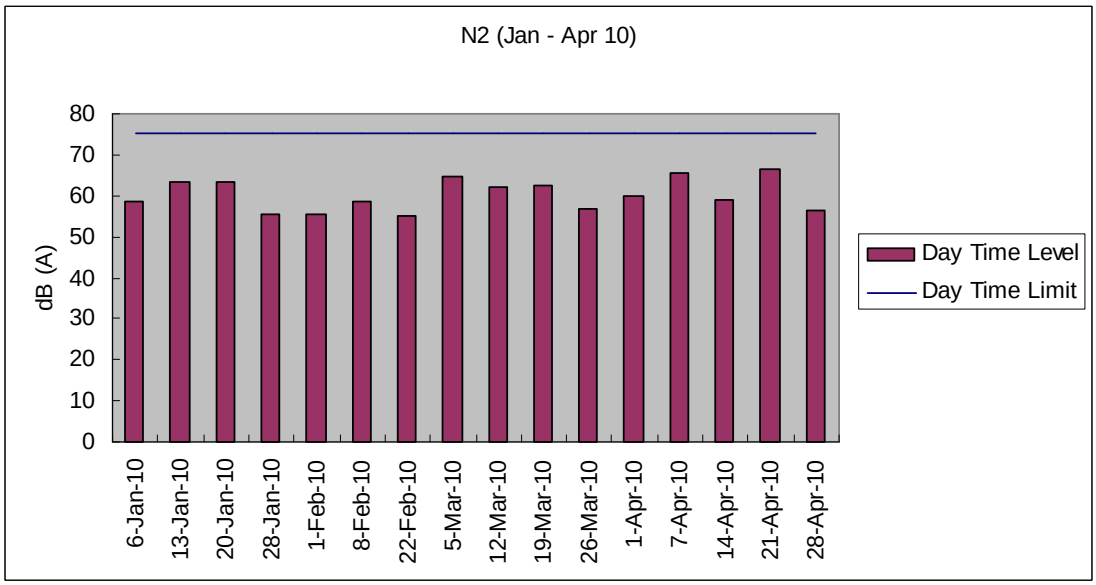
Graphical Plot of Suspended Soild M4 (Jan - Apr 10)

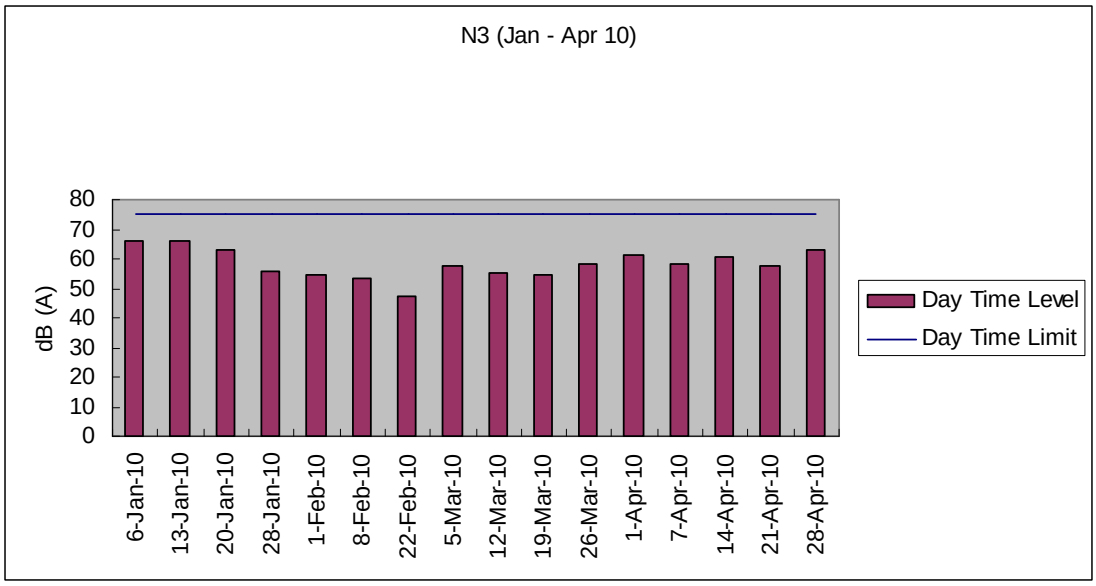


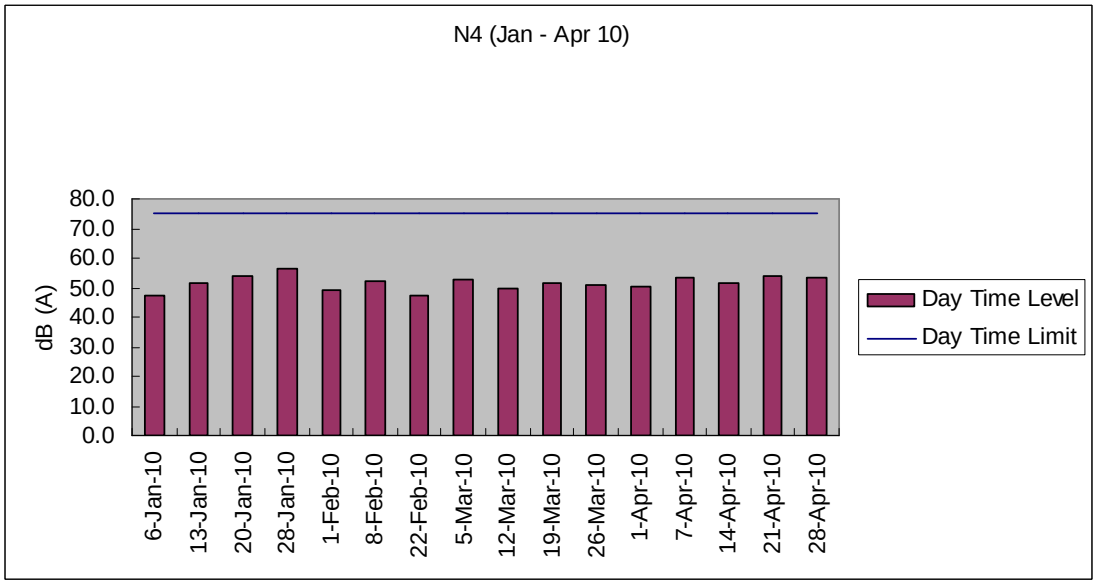
Appendix J

Graphical plot of noise monitoring results


Nl (Jan - Apr 10)
dB (A)
80
70
60
50
40
30
20
10
0
6-Jan-10
13-Jan-10
20-Jan-10
28-Jan-10
1-Feb-10
8-Feb-10
22-Feb-10
5-Mar-10
12-Mar-10
19-Mar-10
26-Mar-10
1-Apr-10
7-Apr-10
14-Apr-10
21-Apr-10
28-Apr-10
Day Time Level
Day Time Limit


N2 (Jan - Apr 10)
dB (A)
80
70
60
50
40
30
20
10
0
6-Jan-10
13-Jan-10
20-Jan-10
28-Jan-10
1-Feb-10
8-Feb-10
22-Feb-10
5-Mar-10
12-Mar-10
19-Mar-10
26-Mar-10
1-Apr-10
7-Apr-10
14-Apr-10
21-Apr-10
28-Apr-10
Day Time Level
Day Time Limit


N3 (Jan - Apr 10)
dB (A)
80
70
60
50
40
30
20
10
0
6-Jan-10
13-Jan-10
20-Jan-10
28-Jan-10
1-Feb-10
8-Feb-10
22-Feb-10
5-Mar-10
12-Mar-10
19-Mar-10
26-Mar-10
1-Apr-10
7-Apr-10
14-Apr-10
21-Apr-10
28-Apr-10
Day Time Level
Day Time Limit


N4 (Jan - Apr 10)
dB (A)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
6-Jan-10
13-Jan-10
20-Jan-10
28-Jan-10
1-Feb-10
8-Feb-10
22-Feb-10
5-Mar-10
12-Mar-10
19-Mar-10
26-Mar-10
1-Apr-10
7-Apr-10
14-Apr-10
21-Apr-10
28-Apr-10
Day Time Level
Day Time Limit