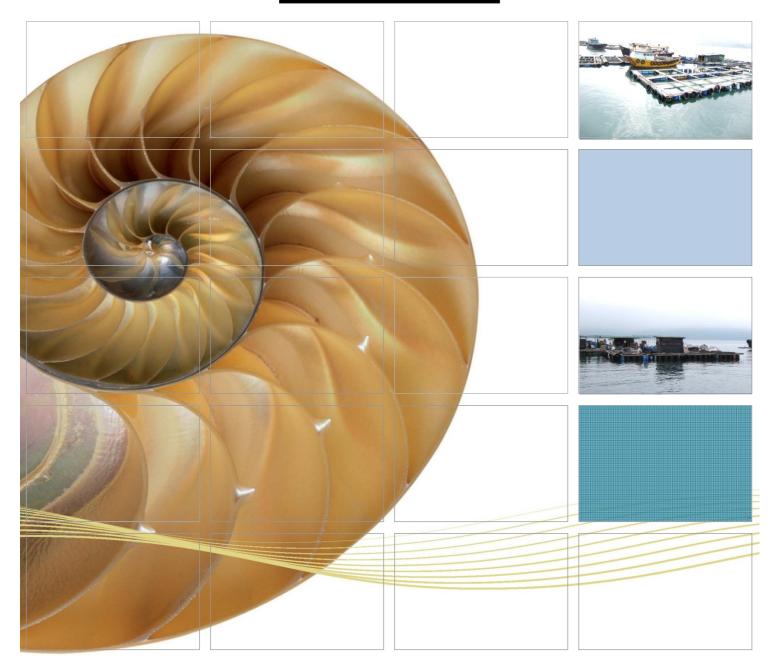
EM&A REPORT



Asia Submarine-cable Express (ASE) – Tseung Kwan O

Eleventh Weekly Site Inspection Report

19 December 2012

Environmental Resources Management 16/F DCH Commercial Centre 25 Westlands Road Quarry Bay, Hong Kong Telephone 2271 3000 Facsimile 2723 5660

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Asia Submarine-cable Express (ASE) – Tseung Kwan O

11th Weekly Site Inspection Report

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Environmental Resources Management

16/F DCH Commercial Centre 25 Westlands Road Quarry Bay Hong Kong

Telephone: (852) 2271 3000 Facsimile: (852) 2723 5660 E-mail: post.hk@erm.com http://www.erm.com

Client:		GMS No:					
NTT Co	m Asia Ltd	0171870					
status of	ort presents the inspection findings and the implementation the EM&A recommendations on environmental protection ition control mitigation measures and monitoring.	Date: 19 December 2012 Approved by: Terence Fong Project Director					
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Revision	Description	Ву	Checked	Approved	Date		
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Asia Submarine-cable Express (ASE) – Tseung Kwan O Environmental Certification Sheet EP-433/2011

Reference Document/Plan

Document/Plan-to be-Certified/ Verified:

Eleventh Site Inspection Report

Date of Report:

19 December 2012

Date prepared by ET:

ERM-Hong Kong Ltd

Date received by IEC:

Ecosystem Ltd

Reference EM&A Manual/ EP Requirement

EM&A Manual Requirement:

Section 5.1

Content:

Site Inspections

"...A weekly site inspection will be carried out at the proposed BMH in TKO Industrial Estate until the completion of construction works at the landing point. The areas of inspection will not be limited to the site area and should also include the environmental conditions outside the site which are likely to be affected, directly or indirectly, by the site activities..."

EP Condition:

Condition No. 2.4

Content:

Site Audit

"To monitor the environmental impacts and timely implementation of the recommended mitigation measures, the Permit Holder shall:

- (i) implement the EM&A programme of the Project in accordance with the procedures and requirements set out in the approved EM&A"
- (ii) submit to the Direct... (a)...; (b) weekly impact monitoring and site audit report within three days after the relevant monitoring data are collected or become available; and (c)..."

ET Certification

I hereby certify that the above referenced document/plan complies with the above referenced condition of EP-433/2011.

Terence Fong, Environmental

/ CLOE

Date:

19 December 2012

Team Leader:

IEC Verification

I hereby verify that the above referenced document/plan complies with the above referenced condition of EP-433/2011.

Vincent Lai, Independent Environmental Checker:

Date:

19 December 2012

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EXECUTIVE SUMMARY

NTT Com Asia (NTTCA) proposes to install a telecommunication cable (Asia Submarine-cable Express (ASE) cable) of approximately 7,200 km in length, connecting Japan and Singapore with branches to the Philippines, Hong Kong SAR (HKSAR) and Malaysia. A Project Profile (PP-452/2011) which includes an assessment of the potential environmental impacts associated with the installation of the submarine telecommunications cable system was prepared and submitted to the Environmental Protection Department (EPD) under section 5.(1)(b) and 5.(11) of the Environmental Impact Assessment Ordinance (EIAO) for the application for Permission to apply directly for Environmental Permit (EP). The Environmental Protection Department, subsequently issued an Environmental Permit (EP-433/2011).

This is the **Eleventh Weekly Site Inspection Report** that presents the findings of the site inspection and other EM&A activities undertaken during the period from **10 December 2012** to **16 December 2012**.

Environmental Site Inspection

A weekly joint environmental site inspection was carried out by the representatives of the Environmental Team (ET). Environmental performance complied with the environmental requirements and all necessary mitigation measures were properly implemented.

Environmental Complaints, Non-compliance & Summons

No non-compliance with PP recommendations, EP conditions and other requirements associated with the construction of the Project was recorded in the reporting period.

No environmental complaint was received in this reporting period.

No environmental summons was received in this reporting period.

Upcoming Works for the Next Reporting Period

Works to be undertaken in the coming reporting period would include beach manhole construction, backfilling and reinstatement works. Potential environmental impacts arising from these construction activities are mainly associated with dust, construction noise and waste management.

Impact water quality monitoring will be conducted should hand jetting works be involved.

1 INTRODUCTION

ERM-Hong Kong, Limited (ERM) was appointed by NTT Com Asia (NTTCA) as the Environmental Team to conduct regular site inspections and audit the implementation of all environmental monitoring and mitigation measures recommended in the Project Profile (PP) (Register No. PP – 452/2011) for the Proposed Asia Submarine-cable Express (ASE) – Tseung Kwan O (the Project).

1.1 Purpose of the Report

This is the **Eleventh Weekly Site Inspection Report** (the Report), which summarises the inspection findings for the period from **10 December 2012** to **16 December 2012** and the implementation status of the EM&A recommendations on environmental protection and pollution control mitigation measures and monitoring.

1.2 STRUCTURE OF THE REPORT

The structure of the Report is as follows:

Section 1: **Introduction**

Details the scope and structure of the Report.

Section 2: **Project Information**

Summarises background and scope of the Project, site description, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

Section 3: **Environmental Monitoring**

Summarises the monitoring programmes as recommended in the PP and the monitoring undertaken during the reporting period.

Section 4: Site Inspection Results

Summarises the findings of the weekly site inspection undertaken within the reporting period.

Section 5: Environmental Non-conformance

Summarises any exceedances of environmental performance standard, environmental complaints and environmental summons received within the reporting period.

Section 6: Upcoming Works for the next Reporting Period

Summarises the impact forecast and monitoring schedule for the next reporting week.

Section 7: Conclusions

2 PROJECT INFORMATION

2.1 BACKGROUND

NTT Com Asia (NTTCA) proposes to install a telecommunication cable (Asia Submarine-cable Express (ASE) cable) of approximately 7,200 km in length, connecting Japan and Singapore with branches to the Philippines, Hong Kong SAR (HKSAR) and Malaysia. NTTCA is responsible for securing the approval to land the ASE cable in Tseung Kwan O, Hong Kong SAR (HKSAR). The proposed landing site will be at a new Beach Manhole (BMH) and ultimately connect with a Data Centre in Tseung Kwan O (TKO) Industrial Estate which is scheduled for completion in 2012. From Tseung Kwan O, the cable will extend eastward approaching the Tathong Channel. Near to Cape Collinson, the cable is approximately parallel to the Tathong Channel until north of Waglan Island where the cable travels eastward to the boundary of HKSAR waters where it enters the South China Sea. The total length of cable in Hong Kong SAR waters is approximately 33.5 km. A map of the proposed cable route is presented in *Annex A*.

A Project Profile (PP-452/2011) which includes an assessment of the potential environmental impacts associated with the installation of the submarine telecommunications cable system was prepared and submitted to the Environmental Protection Department (EPD) under section 5.(1)(b) and 5.(11) of the Environmental Impact Assessment Ordinance (EIAO) for the application for Permission to apply directly for Environmental Permit (EP). The Environmental Protection Department, subsequently issued an Environmental Permit (EP-433/2011).

Under the requirements of Condition 2.4 of the EP, an EM&A programme as set out in the revised Environmental Monitoring and Audit Manual (EM&A Manual) is required to be implemented. The EM&A programme includes water quality monitoring, marine mammal observation, coral monitoring and weekly site inspection.

2.2 WORKS PROGRAMME AND WORKS LOCATIONS

The location of the cable installation works within the boundary of Hong Kong SAR waters is shown in *Annex A*, while the location of the landing point (ie new Beach Manhole (BMH) in TKO Industrial Estate) is shown in *Annex B*. The preliminary construction programme of the Project is given in *Figure 2.1*.

Figure 2.1 Preliminary Construction Programme

·						We	ek					
	1	2	3	4	5	6	7	8	9	10	11	12
Submarine Cable Installation												
Zone A												
Zone B												
Zone C												
Outside Zone C to HK Boundary												
Post-installation Works												
Diver Jetting												
Landing Point Construction												
Preparation Work												
Seawall Duct Work												
Land Duct Laying												
Beach Manhole Construction												
Reinstatement												

2.3 CONSTRUCTION ACTIVITIES

Submarine Cable Installation

Starting from 8 October 2012, the submarine-cable laying works in Zone A, Zone B and Zone C have been largely finished and the installation barge reached the boundary of Hong Kong marine waters on 24 October 2012. During the reporting period, the post-installation cable protection works were performed in Zone A and Zone B on 10 December 2012 and 15 December 2012 respectively.

Landing Point Construction

The construction works of the landing point commenced on 4 October 2012 and are temporarily scheduled to be completed in late December of 2012. A summary of the major construction activities undertaken at the landing point during the reporting period is shown in *Table 2.1*.

Table 2.1 Summary of Landing Point Construction Activities Undertaken during Reporting Period

Construction Activities Undertaken

- Completion of the new manholes' concrete casting, and
- Site reinstatement of the land duct.

2.4 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in *Table 2.2*.

Table 2.2 Summary of Current Environmental Licensing, Notification and Permit Status

Permit/ Licences/	Reference	Validity Period	Remarks	
Notification		-		
Environmental Permit	EP-433/2011	Throughout the construction and operation of the Project	Permit granted on 20 December 2011	
Construction Noise Permit	GW-RE0774-12	18 Sep 2012 – 31 Jan 2013	Permits granted on using of registered powered mechanical equipment for 07:00-23:00 hrs on general holidays (including Sundays) and 19:00-23:00 hrs on any day not being a general holiday for Sub-marine cable laying works of the Project	

3 ENVIRONMENTAL MONITORING

3.1 CABLE INSTALLATION WATER QUALITY MONITORING

Baseline water quality monitoring was completed by the end of September 2012. Baseline Water Quality Monitoring Reports for Zone A, Zone B and Zone C were submitted on 19 September 2012, 25 September 2012 and 1 October 2012, respectively.

Daily impact water quality monitoring was conducted on 10 December 2012 and 15 December 2012 in Zone A and Zone B respectively, when the post-installation works involving hand jetting were undertaken in the two zones. Details of monitoring results are presented in the *Third Weekly Impact Water Quality Monitoring Report*.

3.2 MARINE MAMMAL OBSERVATION (MMO)

Daily marine mammal exclusion zone monitoring is required to be conducted during the cable installation works taking place in daylight hours along the sections outside Zone A to Zone B (ie Zone C and from C to the boundary of HKSAR waters). This monitoring was not carried out in the reporting period as the cable installation works in Zone C and from C to the boundary of HKSAR waters were completed on 24 October 2012.

3.3 CORAL MONITORING

Baseline coral monitoring was completed in September 2012. The Baseline Coral Monitoring Survey Report was submitted on 28 September 2012. Post-project coral monitoring will be conducted within one month after completion of the jetting works, with the Post-project Coral Monitoring Survey Report to be submitted within one month after completion of the marine works. Impact monitoring for coral during cable installation works is not required under the Project.

In the week of 8 October 2012 when the cable installation barge passed the identified coral communities as presented in the *Baseline Coral Monitoring Survey Report*, the nearest distances between the barge and the identified coral communities in Zone A and Zone B were 230m and 270m respectively, indicating the cable alignment of more than 180m away from the identified coral communities as required in the Environmental Permit (EP- 433/2011).

3.4 SITE INSPECTION AND AUDIT

In accordance with the revised EM&A Manual, a weekly site inspection should be undertaken at the landing point (ie new Beach Manhole (BMH) in TKO Industrial Estate) to ensure that the appropriate environmental

protection and pollution control mitigation measures are properly implemented in accordance with the Project Profile (PP-452/2011). Results of the site inspection in the reporting period are provided in *Section 4*.

4 SITE INSPECTION RESULTS

The weekly site inspection is required to be carried out by the representatives of the Contractor and the Environmental Team (ET). A Site Inspection Log is completed by the ET representative to record whether the Contractor is compliant with environmental regulations in terms of noise, water quality and housekeeping etc (*Annex C*).

During the reporting period, the site inspection was conducted on 14 December 2012. Construction of the new beach manhole and land duct was both completed to a large extent (*Annex D Photos No. 1 and No. 2*), with only a small part of backfilling and reinstatement works remaining. There was no non-compliance recorded during the site audit. Major findings and recommendations are summarised as follows:

(i) The EP copy, which is required to be displayed conspicuously at the vehicular site entrance in accordance with Condition 1.5 of the EP, was damaged (*Annex D Photo No. 3*). Project information and environmental requirements became too blurry to read. Although the construction works will be finished soon, the Contractor was nevertheless reminded to replace the damaged copy with a new one for public's information of the on-going Project at all times. Follow-up action actions by the Contractor will be checked in the next week's site inspection.

5 ENVIRONMENTAL NON-CONFORMANCE

5.1 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

No non-compliance of PP/ EM&A/ EP/ legislative requirements was recorded during the reporting period.

5.2 SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during the reporting period.

5.3 SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION

No summons was received during the reporting period.

6 FUTURE KEY ISSUES

6.1 KEY ISSUES FOR THE NEXT REPORTING PERIOD

Works to be taken for the next reporting period are summarised in *Table 6.1*.

Table 6.1 Construction Works to Be Taken For the Next Reporting Week

Work to be taken

Submarine Cable Installation

• Post-installation cable protection works (incl. hand jetting works) is currently halted to later stage.

Landing Point Construction

• Backfilling and reinstatement

Potential environmental impacts arising from the above construction activities are mainly associated with water quality, dust, construction noise and waste management.

6.2 MONITORING SCHEDULE FOR THE NEXT REPORTING PERIOD

Impact water quality monitoring would be conducted should any works involving hand jetting be carried out in next reporting week. The results (if any) will be summarised in the *Fourth Weekly Water Quality Impact Monitoring Report* after the relevant monitoring data become available.

Next weekly site inspection is temporarily scheduled on 21 December 2012.

7 CONCLUSIONS

This **Eleventh Weekly Site Inspection Report** presents the findings of the site inspection and other EM&A activities undertaken during the period from **10 December** to **16 December 2012**, in accordance with the PP (Register No. PP – 452/2011), revised EM&A Manual and the requirements of Environmental Permit (EP- 433/2011).

Daily impact water quality monitoring was conducted on 10 December 2012 and 15 December 2012 in Zone A and Zone B respectively, when the post-installation works involving hand jetting were undertaken in the two zones. Details of monitoring results are presented in the *Third Weekly Impact Water Quality Monitoring Report*.

A weekly joint environmental site inspection was conducted on 14 December 2012 during the reporting period. It confirmed that the environmental mitigation measures recommended in the PP were properly implemented by the Contractor.

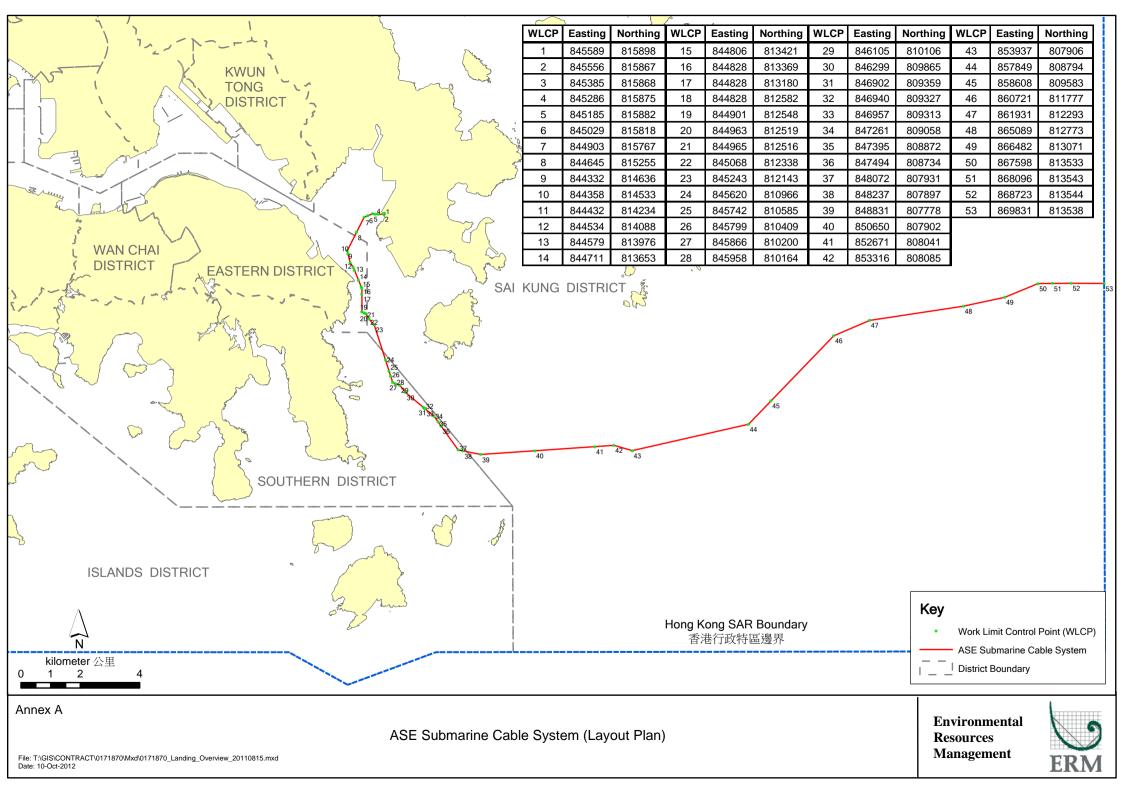
No non-compliance event was recorded during the reporting period.

No complaint and summons/prosecution was received during the reporting period.

The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

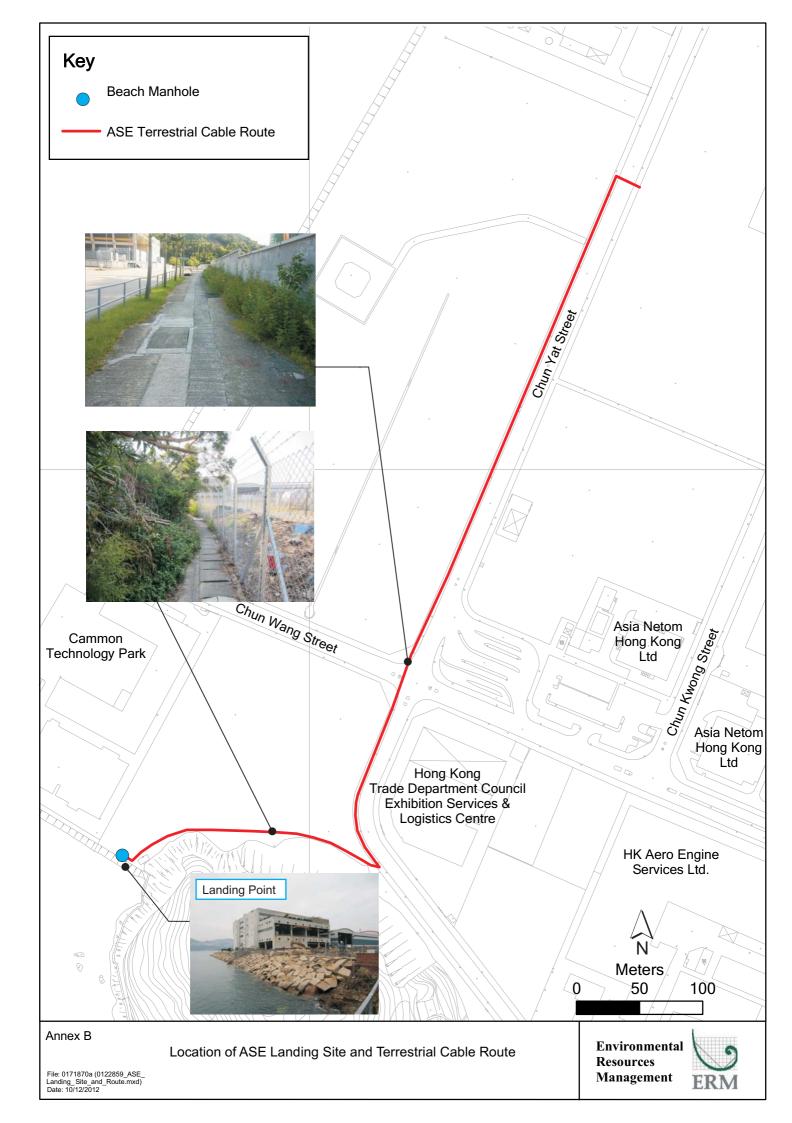
Annex A

Proposed ASE Submarine Cable System (Layout Plan)



Annex B

Location of ASE Landing Point and Terrestrial Cable Route



Annex C

Completed Site Inspection Log

		_					
Site:		Inspected By: Grace YANG					
ınsp	ection Date: 14-Dec-12 Time: 09:00 -	10:00					
Wea	Weather						
Con	dition Sunny √ Fine Overcast Drizzle	Rain Storm Hazy					
Tem	perature 20 °C Humidity High	Moderate ✓ Low					
Win	d Calm ✓ Light Breeze Strong						
Α	Noise	N/A or Yes No Photo/Remarks not observed					
A1	Are all plant and equipment well maintained and in good operating						
A2	Is idle equipment turned off or throttled down?	✓					
АЗ	Are powered mechanical equipment covered or shielded by acoustic materials?						
A4	Are silenced equipment used where practicable?						
A5	Do mobile plants be sited as far away from NSRs as possible?	✓ No NSRs nearby.					
A6	Do plants known to emit noise strongly in one direction be oriented away from nearby NSRs?	y ✓ No NSRs nearby.					
A7	Major noise source(s) Traffic	✓ Construction activities inside of site					
	Construction activities outside of site	Others					
A8	Any remedial action undertaken?						

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Asia Submarine-cable Express (ASE) - Tseung Kwan O

В	Water Quality	N/A or not observed	Yes	No	Photo/Remarks
B1	Is drainage system adequate?	✓			B1 - B10:
	Are there temporary ditches for runoff discharge into appropriate	·			
B2	Watercourse?	✓			Silt curtain
ВЗ	With silt retention pond?	✓			decommissioned as
B4	Do permanent drainage channels have: sediment basin?	✓			construction works at the
B5	traps and baffles?	✓			seawall side finished.
B6	Are there sediment tanks for settling runoff prior to disposal?	✓			
B7	Are there oil interceptors in drainage system?	✓			
B8	Oil and grease removed regularly?	\checkmark			
В9	Bypass to prevent flushing during periods of heavy rain?	✓			
B10	Is drainage system well maintained?	✓			
B11	Is exposed earth stabilized after earthworks have been completed?		✓		
B12	Are exposed slope surfaces covered (by tarpaulin or other means)?	√			
B13	Are open stockpiles of more than 20 m ³ covered during rainstorm?	✓			
B14	Are manholes covered and sealed?	✓			
	Rainy Season				
B15	Drainage system adequately designed for storm flow?	✓			B15 & B16: Inspection
B16	Sediment control measures inspected and maintained after rain storms?	✓			conducted in dry season.
B17	Is debris and rubbish on site collected and disposed of properly?		\checkmark		
B18	Is wastewater discharge license available for inspection?	\checkmark			
B19	Measures to prevent the washing away of sand/silt to drains?		\checkmark		
B20	Is there any sediment plume observed existing the marine works area?			✓	

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C	Environmental Complaint
C1	Number of Environmental Complaint Received from 10-Dec-12 to 16-Dec-12 . 0
D	General / Housekeeping N/A or Yes No Photo/Remarks not observed
D 1	Are potential stagnant pools cleared and mosquito breeding prevented?
	Items for Inspection
	- New beach manhole, and - Land duct construction site
	Notes / Issues Recorded On Site The EP copy, which is required to be displayed conspicuously at the vehicular site entrance in accordance with Condition 1.5 of the EP, was damaged. Project information and environmental requirements became too blurry to read. The Contractor was reminded to replace the damaged copy with a new one for public's information of the on-going Project at all times. Follow-up action actions by the Contractor will be checked in the next week's site inspection.

Rev1 Page 3 of 4

Correcti	ive Actions	
Follow-up	p actions by the Contractor will be checked	d in next week's site inspection.
Signature ET:	As .	- .
(Name:	Grace YANG	

Rev1 Page 4 of 4

Annex D

Photographic Records on Site



Photo 1 – Construction of the land duct has been finished and the site has been reinstated to its original conditions.



Photo 2 – Construction of the new beach manhole has been largely finished, with only small part of backfilling and reinstatement works remaining.



Photo 3 - The EP copy displayed at the vehicular site entrance was damaged.

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Environmental Resources Management

16/F DCH Commercial Centre 25 Westlands Road Quarry Bay, Hong Kong

T: 2271 3000 F: 2723 5660

www.erm.com

