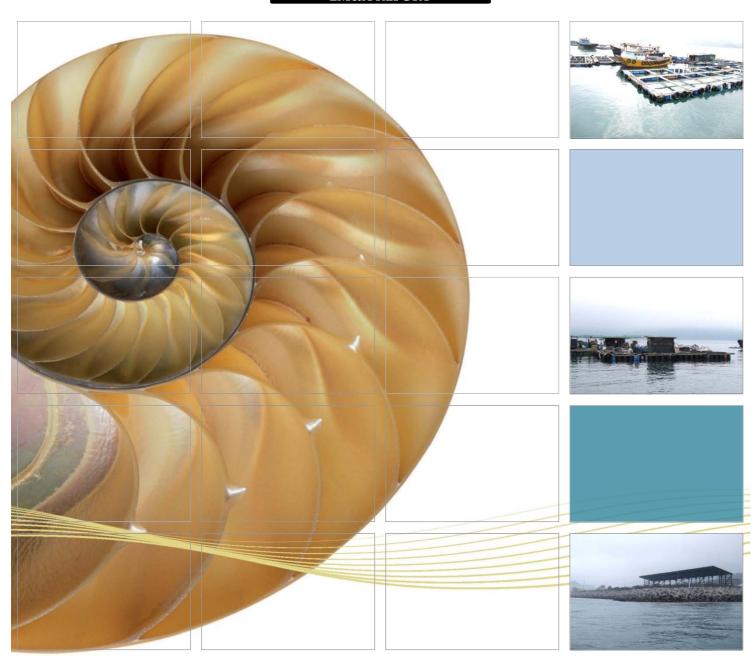
EM&A REPORT





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

Fifth Weekly Site Inspection Report

7 November 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

5th Weekly Site Inspection Report

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Environmental Resources Management

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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 tion control mitigation measures and monitoring.	Date: 7 November 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:

Fifth Site Inspection Report

Date of Report:

7 November 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 $^{\prime\prime}$
- (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

CLAF

Date:

7 November 2012

Team Leader:

IEC Verification

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

Dr Vincent Lai, Independent Environmental Checker:

Date:

7 November 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 **Fifth Weekly Site Inspection Report** that presents the findings of the site inspection and other EM&A activities undertaken during the period from **29 October** to **4 November 2012**.

Environmental Site Inspection

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

Marine Mammal Observation (MMO)

Daily marine mammal exclusion zone 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..

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 include land duct laying works and beach manhole construction. Potential environmental impacts arising from these construction activities are mainly associated with dust, construction noise and waste management.

For the submarine cable installation part, cable laying works will be conducted from HKSAR boundary to China waters, which are out of the scope of the current EM&A.

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 **Fifth Weekly Site Inspection Report** (the Report), which summarises the inspection findings for the period from **29 October 2012** to **4 November 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	eek					
	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

The submarine-cable installation works started on 8 October 2012. By the end of the reporting period (ie 4 November 2012), cable laying works in Zone A, Zone B and Zone C had been finished and the cable installation barge reached the boundary of Hong Kong marine waters on 24 October 2012. The cable protection work will be performed for Zone A and Zone B at the later construction stage.

Landing Point Construction

The construction works of the landing point commenced on 4 October 2012 and are temporarily scheduled to be completed in early December of 2012. A summary of the major construction activities undertaken on 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

- Reinstatement of seawall armour rock at the seaside
- Land Duct Laying
- Manhole construction (excavation of beach manhole)

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 not conducted in the reporting period as no cable laying works in Zone A, Zone B and Zone C were involved from 29 October 2012 to 4 November 2012.

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). the site inspection in the reporting period are provided in <i>Section 4</i> .	Results of

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 2 November 2012 by the representatives of the Contractor and the ET. There was no non-compliance recorded during the site audit. Major findings and recommendations are summarised as follows:

- (i) A copy of EP was displayed conspicuously at the vehicular site entrance in accordance with the requirement of Condition 1.5 of the EP.
- (ii) The silt curtain was decommissioned off the seawall after the construction works at the sea side was completed on 30 October 2012 (*Annex D Photo No. 1*).
- (iii) Rubbish bin has been provided by the Contractor and the construction site was found to be largely clean and tidy with rubbish seldom seen on site (*Annex D Photo No.* 2).
- (iv) During the inspection, idling engines/plants were observed to be turned off to reduce noise pollution and carbon emissions, which in turn help improve air quality (*Annex D Photo No. 3*).
- (v) Stockpiles of the excavated materials from the new beach manhole were observed to be exposed (*Annex D Photo No. 4*). To avoid dust generation, the Contractor was recommended to spray water on the exposed surfaces regularly or to cover those stockpiles with plastic / tarpaulin sheets before they are backfilled or reused.

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

 Cable laying works will continue from HKSAR boundary to China waters (out of the scope of the current EM&A)

Landing Point Construction

- Land duct laying works
- Beach manhole construction

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

6.2 MONITORING SCHEDULE FOR THE NEXT REPORTING PERIOD

Impact water quality monitoring will cease in next week and resume when the cable protection works using hand jetting are conducted in Zone A and Zone B at the later construction stage.

Next weekly site inspection is temporarily scheduled on 9 November 2012.

7 CONCLUSIONS

This **Fifth Weekly Site Inspection Report** presents the findings of the site inspection and other EM&A activities undertaken during the period from **29 October** to **4 November 2012**, in accordance with the PP (Register No. PP – 452/2011), revised EM&A Manual and the requirements of Environmental Permit (EP- 433/2011).

No impact water quality monitoring was carried out in the reporting week and neither was the daily marine mammal exclusion zone monitoring, as the cable installation works were conducted in China waters in the reporting week.

A weekly joint environmental site inspection was conducted on 2 November 2012 during the reporting period. It confirmed that the environmental mitigation measures recommended in the PP were properly implemented by the Contractor.

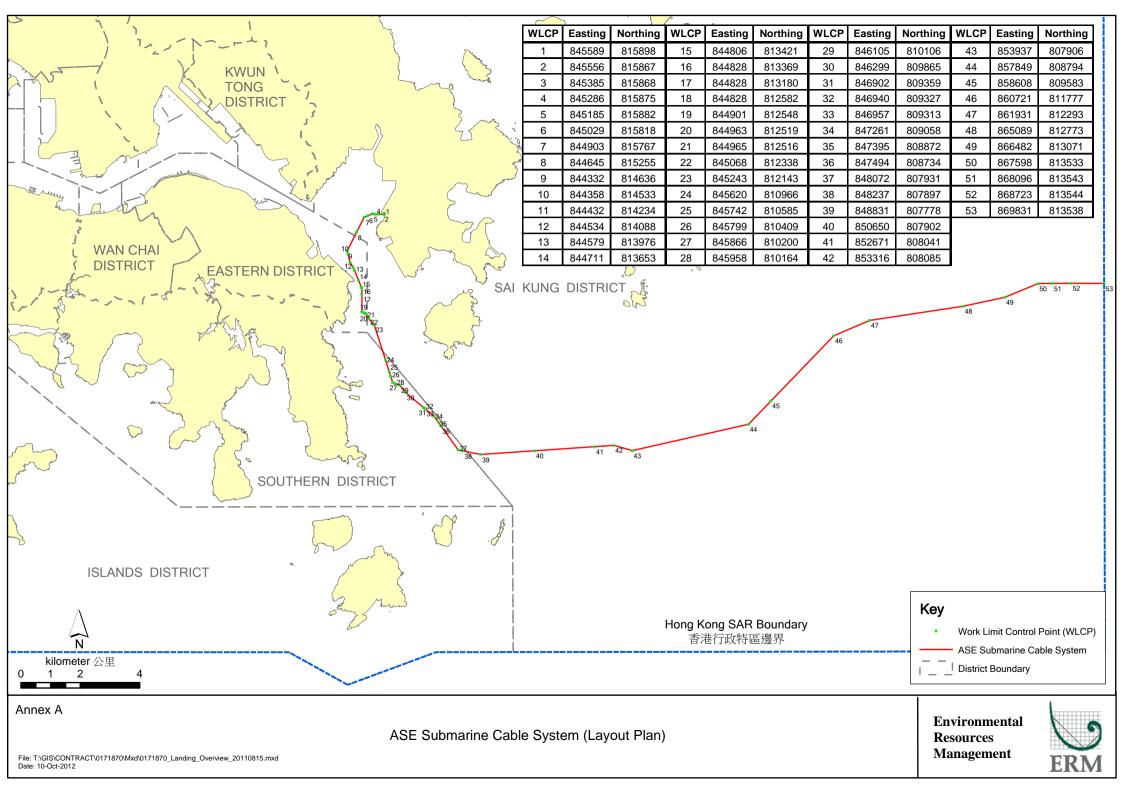
No non-compliance event was recorded during the reporting period.

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.

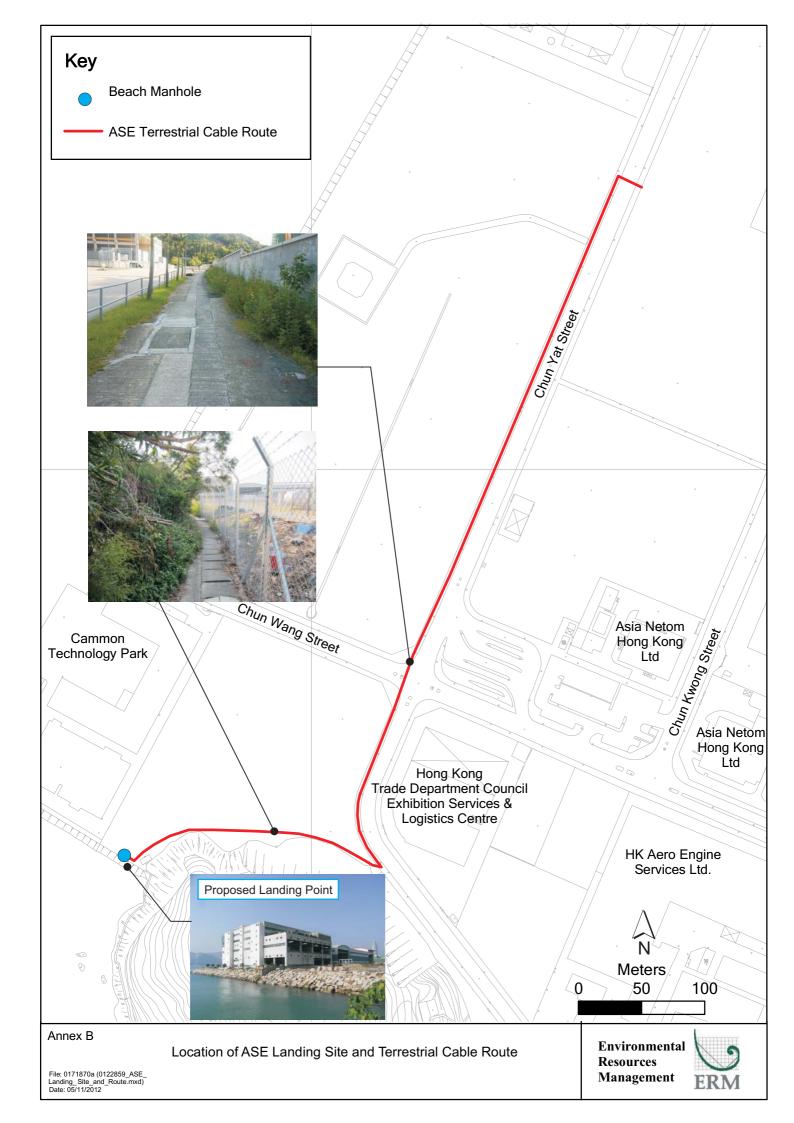
Annex A

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:	Tseung Kwan O Landing Point	Inspected By:
Insp	ection Date: 2-Nov-12 Time: 14:30 - 1	Grace YANG 5:15
Wea	ather	
Con	dition Sunny Fine Overcast Drizzle	Rain Storm Hazy
Tem	perature 26 °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 condition?	
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?	
A6	Do plants known to emit noise strongly in one direction be oriented away from nearby NSRs?	✓ No NSRs nearby.
A7	Major noise source(s) Traffic	Construction activities inside of site
	Construction activities outside of site	Others No significant noise heard during inspection
A8	Any remedial action undertaken?	

Rev1 Page 1 of 4

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

В	Water Quality		N/A or not observed	Yes	No	Photo/Remarks
В1	Is drainage system adequate?		✓			B1 - B10:
	Are there temporary ditches for runoff discl	narge 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?	✓			No site runoff generated
B7	Are there oil interceptors in drainage system	m?	✓			by the time of inspection.
B8	Oil and grease removed regularly?		\checkmark			
В9	Bypass to prevent flushing during per	iods of heavy rain?	\checkmark			
B10	Is drainage system well maintained?		\checkmark			
B11	Is exposed earth stabilized after earthwork	s have been completed?	\checkmark			Not completed yet.
B12	Are exposed slope surfaces covered (by ta	rpaulin or other means)?	✓			
B13	Are open stockpiles of more than 20 m ³ co	vered during rainstorm?	✓			
B14	Are manholes covered and sealed?		✓			
	Rainy Season					
B15	Drainage system adequately designed	d for storm flow?	✓			B15 & B16: Inspection
B16	Sediment control measures inspected rain storms?	I and maintained after	✓			conducted in dry season.
B17	Is debris and rubbish on site collected and	disposed of properly?		✓		
B18	Is wastewater discharge license available f	or inspection?	✓			
B19	Measures to prevent the washing away of	sand/silt to drains?	✓			
B20	Is there any sediment plume observed exist	sting the marine works area?			✓	

Rev1 Page 2 of 4

;	Environmental Complaint
1	Number of Environmental Complaint Received from 29-Oct-12 to 4-Nov-12 . 0
)	General / Housekeeping N/A or Yes No Photo/Remarks not observed
)1	Are potential stagnant pools cleared and mosquito breeding prevented?
	Items for Inspection
	- Sea wall opening point / new beach manhole; - Land duct construction site; and - Storage area for construction materials.
	Notes / Issues Recorded On Site
	1. Stockpiles of the excavated materials from the proposed beach manhole were observed to be exposed. To avoid dust generation, the Contractor was recommended to spray water on the exposed surfaces regularly or to cover those stockpiles with plastic sheeting / tarpaulin before they are backfilled / reused.

Rev1 Page 3 of 4

(Name:

Grace YANG

Corrective Actions
Follow-up actions by the Contractor will be checked in next week's site inspection.
Signatures: ET:

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Annex D

Photographic Records on Site



Photo 1 - The silt curtain was decommissioned off the seawall.



Photo 3 - Idling engines/plants were observed to be turned off.



Photo 2 - The construction site was found to be largely clean and tidy with rubbish seldom seen on site.



Photo 4 - Stockpiles of the excavated materials were observed to be exposed.

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Environmental Resources Management

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