

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

### Sixth Weekly Site Inspection Report

14 November 2012

#### Environmental Resources Management

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

**Environmental Resources  
Management**

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## 6<sup>th</sup> Weekly Site Inspection Report

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Client:  NTT Com Asia Ltd		GMS No:  0171870			
Summary:  This report presents the inspection findings and the implementation status of the EM&A recommendations on environmental protection and pollution control mitigation measures and monitoring.		Date: 14 November 2012			
		Approved by:   Terence Fong Project Director			
0	6 <sup>th</sup> Weekly Site Inspection Report	GYANG	GYANG	TFONG	14 Nov 12
Revision	Description	By	Checked	Approved	Date
<p>This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.</p> <p>This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.</p> <p>We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.</p> <p>This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.</p>		<p>Distribution</p> <p><input checked="" type="checkbox"/> Internal</p> <p><input checked="" type="checkbox"/> Public</p> <p><input type="checkbox"/> Confidential</p>   			

**Asia Submarine-cable Express (ASE) - Tseung Kwan O**  
**Environmental Certification Sheet**  
**EP-433/2011**

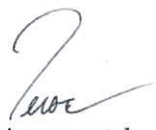
**Reference Document/Plan**

Document/ <del>Plan</del> to be Certified/ Verified:	Sixth Site Inspection Report
Date of Report:	14 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
<i>Content: Site Inspections</i>	
"...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
<i>Content: Site Audit</i>	
"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/ <del>plan</del> complies with the above referenced condition of EP-433/2011.	
	
Terence Fong, Environmental Team Leader:	Date: 14 November 2012

**IEC Verification**

I hereby verify that the above referenced document/ <del>plan</del> complies with the above referenced condition of EP-433/2011.	
	
Dr Vincent Lai, Independent Environmental Checker:	Date: 14 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 **Sixth Weekly Site Inspection Report** that presents the findings of the site inspection and other EM&A activities undertaken during the period from **5 November 2012 to 11 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 would include beach manhole construction and land duct laying works. Potential environmental impacts arising from these construction activities are mainly associated with dust, construction noise and waste management.

# 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 **Sixth Weekly Site Inspection Report** (the Report), which summarises the inspection findings for the period from **5 November 2012** to **11 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**

**2.1****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**

	Week											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Submarine Cable Installation</b>												
Zone A												
Zone B												
Zone C												
Outside Zone C to HK Boundary												
Post-installation Works												
Diver Jetting												
<b>Landing Point Construction</b>												
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 11 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. After the reinstatement of seawall armour rock, which was finished in last reporting period, the beach manhole construction works were on hold and only the land duct laying was carried out in this reporting week.

### 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 2.1*.

**Table 2.1 Summary of Current Environmental Licensing, Notification and Permit Status**

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-433/2011	Throughout the construction and operation of the Project	Permit granted on 20 December 2011

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
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 5 November 2012 to 11 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). Results of the site inspection in the reporting period are provided in *Section 4*.

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 9 November 2012 by the representatives of the Contractor and the ET. As mentioned in Section 2.3, the manhole construction works were on hold in the reporting week and no construction works were observed to be carried out during the site inspection (*Annex D Photo No. 1*).

However, stockpiles of the excavated materials from the new beach manhole were found to be placed on site for a long time without any covers (*Annex D Photo No. 2*). 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.

### 6.1 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
<i>Submarine Cable Installation</i>
<ul style="list-style-type: none"> <li>Cable laying works will continue from HKSAR boundary to China waters (out of the scope of the current EM&amp;A)</li> </ul>
<i>Landing Point Construction</i>
<ul style="list-style-type: none"> <li>Land duct laying works</li> <li>Beach manhole construction</li> </ul>

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 would be resumed should hand jetting works involved in the post-installation works be carried out in Zone A and Zone B.. The results (if any) will be summarised in the *Third Weekly Water Quality Impact Monitoring Report* after the relevant monitoring data become available.

Next weekly site inspection is temporarily scheduled on 15 November 2012.

This **Sixth Weekly Site Inspection Report** presents the findings of the site inspection and other EM&A activities undertaken during the period from **5 November to 11 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 9 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.

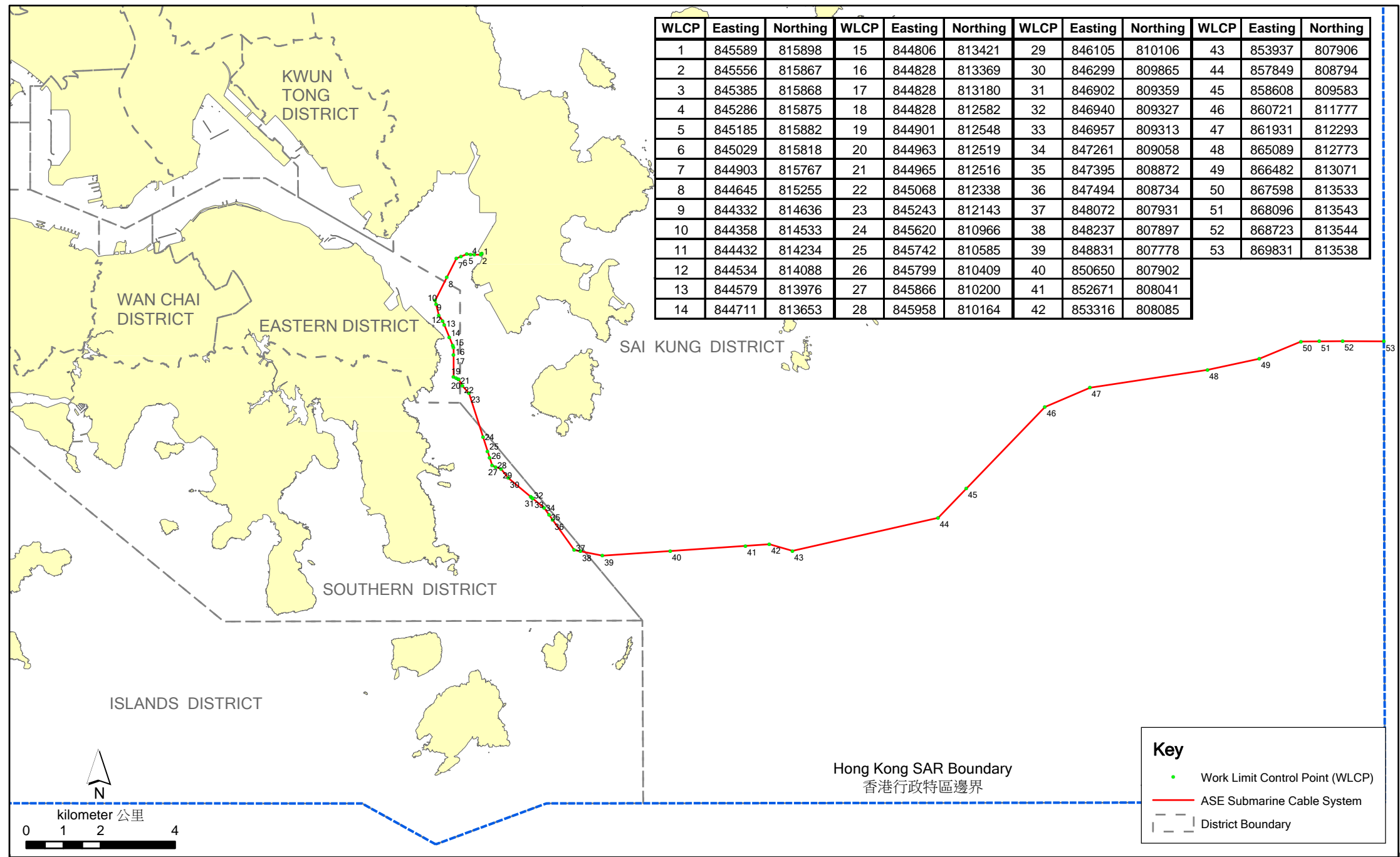
The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.



Annex A

## Proposed ASE Submarine Cable System (Layout Plan)

WLCP	Easting	Northing	WLCP	Easting	Northing	WLCP	Easting	Northing	WLCP	Easting	Northing
1	845589	815898	15	844806	813421	29	846105	810106	43	853937	807906
2	845556	815867	16	844828	813369	30	846299	809865	44	857849	808794
3	845385	815868	17	844828	813180	31	846902	809359	45	858608	809583
4	845286	815875	18	844828	812582	32	846940	809327	46	860721	811777
5	845185	815882	19	844901	812548	33	846957	809313	47	861931	812293
6	845029	815818	20	844963	812519	34	847261	809058	48	865089	812773
7	844903	815767	21	844965	812516	35	847395	808872	49	866482	813071
8	844645	815255	22	845068	812338	36	847494	808734	50	867598	813533
9	844332	814636	23	845243	812143	37	848072	807931	51	868096	813543
10	844358	814533	24	845620	810966	38	848237	807897	52	868723	813544
11	844432	814234	25	845742	810585	39	848831	807778	53	869831	813538
12	844534	814088	26	845799	810409	40	850650	807902			
13	844579	813976	27	845866	810200	41	852671	808041			
14	844711	813653	28	845958	810164	42	853316	808085			



**Key**

- Work Limit Control Point (WLCP)
- ASE Submarine Cable System
- District Boundary

Annex A

ASE Submarine Cable System (Layout Plan)

**Environmental  
Resources  
Management**





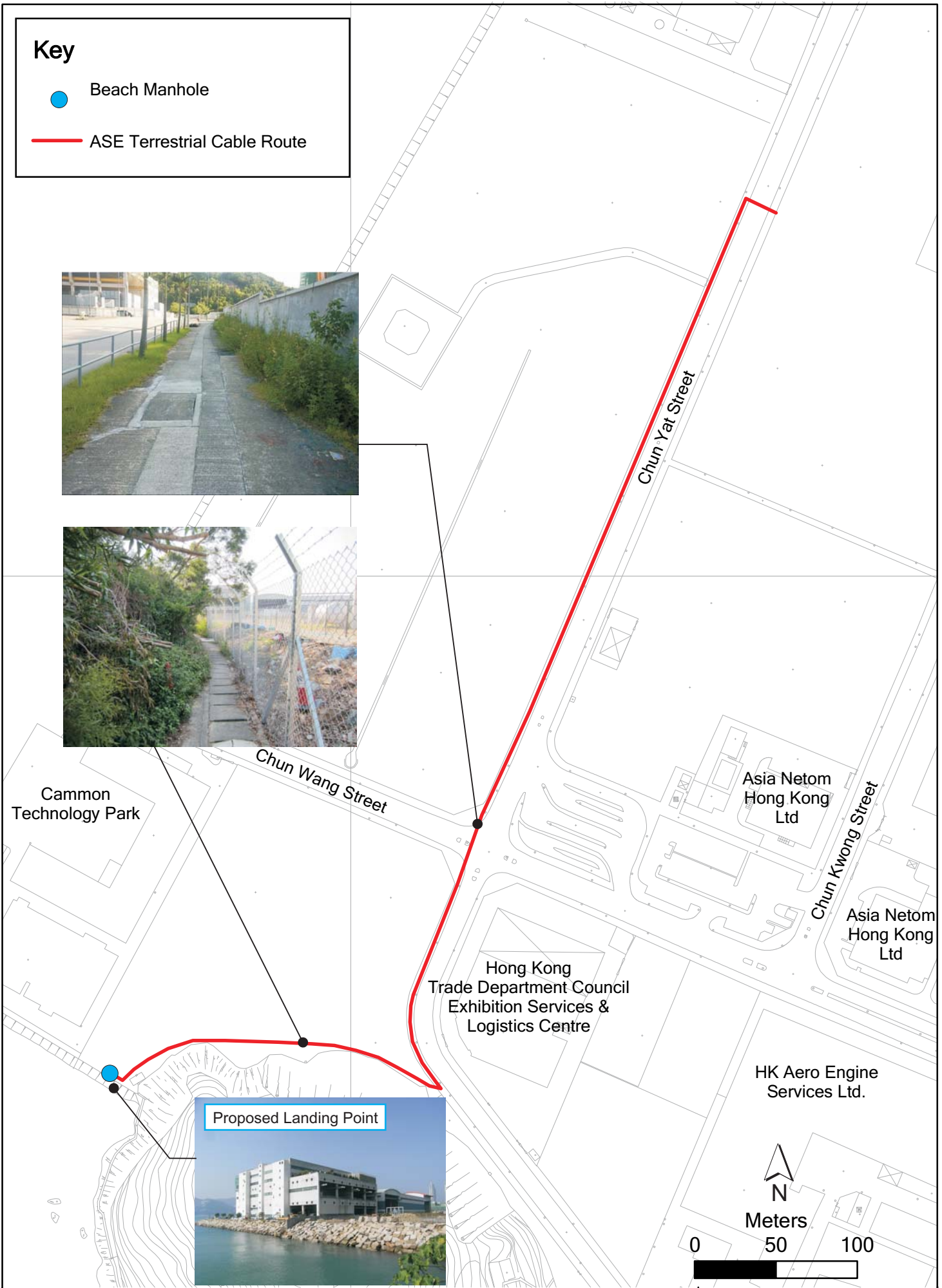
File: T:\GIS\CONTRACT\0171870\Mxd\0171870\_Landing\_Overview\_20110815.mxd  
Date: 10-Oct-2012

Annex B

## Location of ASE Landing Point and Terrestrial Cable Route

**Key**

-  Beach Manhole
-  ASE Terrestrial Cable Route



Annex B

**Location of ASE Landing Site and Terrestrial Cable Route**

File: 0171870a (0122859\_ASE\_Landing\_Site\_and\_Route.mxd)  
Date: 05/11/2012

**Environmental Resources Management**



Annex C

# Completed Site Inspection Log

Site: Tseung Kwan O Landing Point

Inspected By: Grace YANG

Inspection Date: 9-Nov-12

Time: 16:15 - 16:45

**Weather**

Condition  Sunny  Fine  Overcast  Drizzle  Rain  Storm  Hazy

Temperature 26 °C Humidity  High  Moderate  Low

Wind  Calm  Light  Breeze  Strong

**A Noise**

		N/A or not observed	Yes	No	Photo/Remarks
A1	Are all plant and equipment well maintained and in good operating condition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A2	Is idle equipment turned off or throttled down?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A3	Are powered mechanical equipment covered or shielded by acoustic materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A4	Are silenced equipment used where practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A5	Do mobile plants be sited as far away from NSRs as possible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A6	Do plants known to emit noise strongly in one direction be oriented away from nearby NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No NSRs nearby.
A7	Major noise source(s) <input type="checkbox"/> Traffic <input type="checkbox"/> Construction activities outside of site	<input type="checkbox"/>	<input type="checkbox"/> Construction activities inside of site		
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Others		No significant noise heard during inspection.
A8	Any remedial action undertaken?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**B Water Quality**

	N/A or not observed	Yes	No	Photo/Remarks
B1 Is drainage system adequate? Are there temporary ditches for runoff discharge into appropriate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>B1 - B10:</b>
B2 Watercourse?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Silt curtain</u>
B3 With silt retention pond?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>decommissioned as</u>
B4 Do permanent drainage channels have: sediment basin?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>construction works at the</u>
B5 traps and baffles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>seawall side finished.</u>
B6 Are there sediment tanks for settling runoff prior to disposal?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>No site runoff generated</u>
B7 Are there oil interceptors in drainage system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>by the time of inspection.</u>
B8 Oil and grease removed regularly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
B9 Bypass to prevent flushing during periods of heavy rain?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
B10 Is drainage system well maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
B11 Is exposed earth stabilized after earthworks have been completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Not completed yet.</u>
B12 Are exposed slope surfaces covered (by tarpaulin or other means)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
B13 Are open stockpiles of more than 20 m <sup>3</sup> covered during rainstorm?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
B14 Are manholes covered and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Rainy Season				
B15 Drainage system adequately designed for storm flow?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>B15 &amp; B16: Inspection</b>
B16 Sediment control measures inspected and maintained after rain storms?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>conducted in dry</u>
				<u>season.</u>
B17 Is debris and rubbish on site collected and disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
B18 Is wastewater discharge license available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
B19 Measures to prevent the washing away of sand/silt to drains?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
B20 Is there any sediment plume observed existing the marine works area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

**C Environmental Complaint**

C1 Number of Environmental Complaint Received from 5-Nov-12 to 11-Nov-12 :  \_\_\_\_\_

**D General / Housekeeping**

	N/A or not observed	Yes	No	Photo/Remarks
D1 Are potential stagnant pools cleared and mosquito breeding prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

**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.



**Corrective Actions**

Follow-up actions by the Contractor will be checked in next week's site inspection.

**Signatures:**

ET:



(Name: Grace YANG )

Annex D

## Photographic Records on Site



*Photo 1 - Overall view of beach manhole construction site during site inspection.*



*Photo 2 - Stockpiles of the excavated materials were observed to be exposed.*

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