

**Contract No. GE/2013/35**  
**Landslip Prevention and Mitigation Programme, 2012, Package A**  
**Landslip Prevention and Mitigation Works**

**Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and**  
**11SW-A/FR218, Caine Lane, Mid-Levels**

**Monthly EM&A Report for September 2017**

**AECOM Asia Co. Ltd.**

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## EXECUTIVE SUMMARY

The Project comprises two features which respectively located at the south of the Hong Kong Museum of Medical Sciences (HKMMS) and the northwest of HKMMS, Caine Lane, Mid-levels.

The Consultants, which was engaged by the Geotechnical Engineering Office (GEO) of CEDD, carried out the design and construction supervision of the Project. The Architectural Service Department (ArchSD) is the maintenance department.

The EM&A programme commenced on 5 April 2017.

This report document the findings of EM&A works conducted in the period between 1 and 30 September 2017. As informed by the Contractor, the major activities in the reporting period were:

Location	Site Activities
11SW-A/R94	<ul style="list-style-type: none"> <li>- Drilling of soil nail holes by coring machine</li> <li>- Fixing and installation of soil nail bars</li> <li>- Grouting of soil nails holes</li> <li>- Reinstate the masonry stone facing</li> <li>- Construction of soil nail heads</li> </ul>
11SW-A/FR218	<ul style="list-style-type: none"> <li>- Backfilling of top soil</li> <li>- Construction of stairway</li> </ul>

### Complaint, Notification of Summons and Successful Prosecution

No environmental complaint, notification of summons and successful prosecution were received in the reporting month.

### Reporting Changes

There was no reporting change in the reporting month.

### Site Inspection by External Parties

No any site inspection by external parties in this Reporting Month.

### Future Key Issues

Key issues to be considered in the forthcoming month included:-

Location	Site Activities
11SW-A/R94	<ul style="list-style-type: none"> <li>- Drilling of soil nail holes by coring machine</li> <li>- Fixing and installation of soil nail bars</li> <li>- Grouting of soil nails holes</li> <li>- Reinstate the masonry stone facing</li> <li>- Construction of soil nail heads</li> </ul>
11SW-A/FR218	<ul style="list-style-type: none"> <li>- Backfilling of top soil</li> </ul>

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

## **1 INTRODUCTION**

### **1.1 Purpose of the Report**

1.1.1 This is the sixth monthly EM&A Report which summaries audit findings for the project during the reporting period between 1 and 30 September 2017.

### **1.2 Report Structure**

1.2.1 This monthly EM&A Report is organized as follows:

Section 1: Introduction

Section 2: Project Information

Section 3: Implementation Status of Environmental Mitigation Measures

Section 4: Monitoring Results

Section 5: Environmental Site Inspection and Audit

Section 6: Environmental Non-conformance

Section 7: Government Authority Inspection

Section 8: Future Key Issues

Section 9: Conclusions and Recommendations

Section 10: Adjustment

## **2 PROJECT INFORMATION**

### **2.1 Background**

2.1.1 The Project comprises Feature Nos. 11SW-A/R94 and 11SW-AFR218 which respectively located at the south of the Hong Kong Museum of Medical Sciences (HKMMS) and the northwest of HKMMS, Caine Lane, Mid-levels. They are located within a "Government, Institution or Community" (G/IC) zone on the Sai Ying Pun & Sheung Wan Outline Zoning Plan (OZP) No. S/H3/29. The location of the Project is shown in Project Profile plan.

2.1.2 The Project Profile (PP) for the above features (Register No.: PP-541/2016) was submitted on 20 June 2016 under the Environmental Impact Assessment Ordinance (EIAO). Following the submitted PP, the Director of Environmental Protection (DEP)'s letter of permission to apply directly for environmental permit on 26 July 2016 (Ref.: DIR-250/2016). Environmental Permit (EP) (EP No. EP-520/2016) was granted on 8 August 2016, which covers Feature Nos. 11SW-A/R94 and 11SW-AFR218.

### **2.2 Site Description**

2.2.1 The main scope of works for the two features comprises the following as shown:

#### **Feature no. 11SW-A/R94**

- Temporary removal of the existing masonry stone facing
- Drilling of soil nail holes by coring machine
- Fixing and installation of soil nail bars
- Grouting of soil nails holes
- Construction of soil nail heads
- Reinstatement of the existing masonry stone facing

#### **Feature no. 11SW-A/FR218**

- Pit by pit excavation
- Laying of blinding at the bottom of the excavated pits
- Installation of dowel bars at the back of the existing masonry wall
- Backfilling of the excavated pits by concrete
- Backfilling of top soil
- Landscape works (planter wall, shrubs and hydroseeding)

## 2.3 Construction Programme and Activities

2.3.1 The major construction activities undertaken in the reporting month were summarised below:

Location	Site Activities
11SW-A/R94	<ul style="list-style-type: none"> <li>- Drilling of soil nail holes by coring machine</li> <li>- Fixing and installation of soil nail bars</li> <li>- Grouting of soil nails holes</li> <li>- Construction of soil nail heads</li> </ul>
11SW-A/FR218	<ul style="list-style-type: none"> <li>- Backfilling of top soil</li> <li>- Construction of stairway</li> </ul>

2.3.2 The construction programme was presented in **Appendix A**.

## 2.4 Project Personnel

2.4.1 The key personnel contact names and numbers for the Project were summarized in **Table 2.1**.

**Table 2.1 Contact Information of Key Personnel**

<u>Party</u>	<u>Position</u>	<u>Name</u>	<u>Telephone</u>
AECOM Asia Co. Ltd.	IEC	Gigi Lam	3922 9000
AECOM Asia Co. Ltd.	Resident Engineer	Tommy Poon	3689 2883
	Assistant Resident Engineer	Patrice Lai	3689 2884
Contractor - Geotech Engineering Ltd.	Project Manager	Danise Tang	9183 2621
	Site Agent	Benny Li	6343 1976

**2.5 Status of Environmental Licenses, Notification and Permits**

2.5.1 Relevant valid environmental licenses, permits and/or notifications on environmental protection for this Project in the reporting month were summarized in **Table 2.2**.

**Table 2.2 Status of Environmental Licenses, Notifications and Permits**

Permit / License No. / Notification/ Reference No.	Valid Period		Status	Remarks
	From	To		
<b><i>Environmental Permit</i></b>				
EP-520/2016	8-8-2016	-	Valid	-
<b><i>Billing Account for Construction Waste Disposal</i></b>				
701982721	30-4-2014	End of Project	Account Active	-



### 3 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 3.1.1 The Contractor had implemented environmental mitigation measures and requirements as stated in the PP and the EP. The implementation status of the environmental mitigation measures during the reporting period was summarized in **Appendix B**. Status of required submissions under the EP during the reporting period was summarised in **Table 3.1**.

**Table 3.1 Status of Required Submission under Environmental Permit**

<u>EP Condition</u>	<u>Submission</u>	<u>Submission Due Date</u>
Condition 3.2	Monthly Monitoring Report	15 October 2017

## **4 MONITORING RESULTS**

### **4.1 Waste Management**

- 4.1.1 The C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 4.1.2 As advised by the Contractor, some of the inert C&D material had reused on site and both features had limited works which affected by inclement weather in this report month. 39.0t inert C&D material and 3.63t non-inert C&D waste were generated in the reporting month. No paper/cardboard packaging material, metal or plastic was collected by recycling contractor in the reporting month.
- 4.1.3 The record of disposal was summarized in **Appendix C**.
- 4.1.4 The Contractor was advised to properly maintain on site sorting for the C&D materials and wastes collection and recording system and maximize reuse / recycle of the C&D materials and wastes. The Contractor was reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 4.1.5 The total estimated quantities of C&D materials and wastes generated from both features were revised as 310m<sup>3</sup>.

### **4.2 Noise Management**

- 4.2.1 Noise mitigation measures, which mentioned in PP, had strictly implemented.
- 4.2.2 Noise monitoring was conducted in every week at 6 Noise Sensitive Receiver which mentioned in the PP. The results of the noise level had fully complied with the standard as in the PP.

### **4.3 Cultural Heritage Management**

- 4.3.1 Ground settlement markers, tilting monitoring markers and vibration monitoring points were installed around the construction site.
- 4.3.2 Reading of the ground settlement, tilting monitoring and vibration monitoring were obtained at a daily interval. The reading of the above monitoring had fully complied with the standard in the PP.

### **4.4 Wastewater Management**

- 4.4.1 All wastewater generated from construction activities was collected and pumped to the storage tanks for reuse on site. The surplus water was temporarily stored in the water tanks, when necessary, the suction truck would be deployed to collect the surplus water by a licensed discharge sub-contractor.

**5 ENVIRONMENTAL SITE INSPECTION AND AUDIT**

- 5.1.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. The summary of the mitigation measures implementation schedule was provided in **Appendix B**.
- 5.1.2 In this reporting month, five joint site inspections with the IEC, RE's representatives and the Contractor were carried out on 1, 7, 14, 22 and 28 September 2017. The IEC site audit checklists were provided in **Appendix D**. No non-compliance was recorded during the site inspections. Details of observations recorded during the site inspections were summarized in **Table 5.1**.

**Table 5.1 Observations and Recommendations of Site Audit**

<u>Parameters</u>	<u>Date</u>	<u>Observations and Recommendations</u>	<u>Follow-up</u>
<b>Air Quality</b>	Nil	Nil	Nil
<b>Noise</b>	Nil	Nil	Nil
<b>Water Quality</b>	14/09/2017	It was observed that there were minor surface runoff from Feature No. 11SW-A/R94 and No. 11SW-A/R218 as well as accumulation of mud and trash at drain and catchpit. Requested the contractor to stop all runoff from the works area, remove mud/trash as soon as possible.	22/09/2017
	22/09/2017	New observations on Feature No. 11SW-A/R94 were found. The Contractor agreed to increase the height for a sandbag to prevent potential surface runoff.	28/09/2017
<b>Waste</b>	22/09/2017	Dispose of waste material timely and properly.	-
<b>Cultural Heritage</b>	07/09/2017	Damage of three tiles at the roof of the Annex Block located near Feature No. 11SW-A/R94 was observed during the current audit. It is noted that tarpaulin cover part of the roof area of the annex Block located near to the works area. While there is no visible risk to structural integrity to Annex Block, it is advised that precautionary measures should be provided to avoid any potential damage to the building.	14/09/2017
	14/09/2017	Further to observations for the damage of three tiles at the roof of the Annex Block located near Feature No. 11SW-A/R94 on 07/09/2017. It is noted that there were cracks on two walls inside the Annex Block and damage of about 10 tiles (including three observed in the last audit) at the Annex Block. The Contractor was requested to check against the baseline condition of the wall and tiles, investigate the reason of damage, and propose precautionary and mitigation measures to avoid any potential damage to the building.	22 & 28/09/2017
<b>Permits/Licenses</b>	Nil	Nil	Nil

**6 ENVIRONMENTAL NON-CONFORMANCE**

**6.1 Summary of Environmental Non-Compliance**

6.1.1 No environmental non-compliance was recorded in the reporting month.

**6.2 Summary of Environmental Complaints**

6.2.1 No environmental complaint was recorded in the reporting month.

**6.3 Summary of Environmental Summon and Successful Prosecutions**

6.3.1 No environmental related prosecution or notification of summons was received in the reporting month.

**7 GOVERNMENT AUTHORITY INSPECTION**

- 7.1.1 There was no any inspection from Environmental Protection Department (EPD) or other government authorities in this report period.

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## 8 FUTURE KEY ISSUES

### 8.1 Construction Programme for the Forthcoming Month

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

Location	Site Activities
11SW-A/R94	<ul style="list-style-type: none"><li>- Drilling of soil nail holes by coring machine</li><li>- Fixing and installation of soil nail bars</li><li>- Grouting of soil nails holes</li><li>- Reinstate the masonry stone facing</li><li>- Construction of soil nail heads</li></ul>
11SW-A/FR218	<ul style="list-style-type: none"><li>- Backfilling of top soil</li></ul>

## 9 CONCLUSIONS AND RECOMMENDATIONS

### 9.1 Conclusions

- 9.1.1 Five environmental site inspections were carried out in September 2017. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audits.
- 9.1.2 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in this reporting month.

### 9.2 Recommendations

- 9.2.1 According to the environmental site inspections performed in the reporting month, the following recommendations were provided:

#### Air Quality Impact

- No specific observation was identified in this reporting month.

#### Construction Noise Impact

- No specific observation was identified in this reporting month.

#### Water Quality Impact

- It was observed that there were minor surface runoff from Feature Nos. 11SW-A/R94 and 11SW-A/R218 as well as accumulation of mud and trash at drain and catchpit. Requested the contractor to stop all runoff from the works area, remove mud/trash as soon as possible.
- New observations on Feature No. 11SW-A/R94 were found. The Contractor agreed to increase the height for a sandbag to prevent potential surface runoff.

#### Waste Management

- Dispose of waste material timely and properly.

#### Cultural Heritage

- Damage of three tiles at the roof of the Annex Block located near Feature No. 11SW-A/R94 was observed during the current audit. It is noted that tarpaulin cover part of the roof area of the annex Block located near to the works area. While there is no visible risk to structural integrity to Annex Block, it is advised that precautionary measures should be provided to avoid any potential damage to the building.
- Further to observations for the damage of three tiles at the roof of the Annex Block located near Feature No. 11SW-A/R94 on 07/09/2017. It is noted that there were cracks on two walls inside the Annex Block and damage of about 10 tiles (including three observed in the last audit) at the Annex Block. The Contractor was requested to check against the baseline condition of the wall and tiles, investigate the reason of damage, and propose precautionary and mitigation measures to avoid any potential damage to the building.

#### Permits/licenses

- No specific observation was identified in this reporting month.

**10 ADJUSTMENT**

10.1.1 No adjustment in this reporting period.



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# **Appendix A**

## **Construction Programme**

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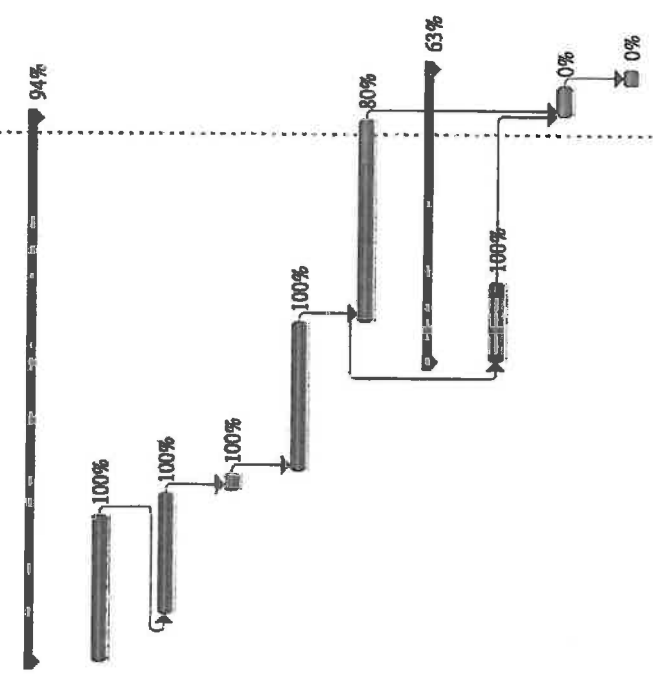
**Landship Preventive and Mitigation Programme, 2012, Package A - Landship Preventive and Mitigation Works**

Contractor : Geotech Engineering Limited  
 Contract No. : GE/2013/35 Works Order Nos. : LPM201335/62/AFR218  
 Programme Date : 09/10/2017 Revision No. : 15

Slope No. & Location : 11SW-A/FR218 Pathological Institute, Caine Lane, Mid-Levels  
 Commencement Date : 05/04/2017 Anticipated Completion Date : 01/11/2017

**UPDATED WORKS PROGRAMME**

ID	Description	Quantity	Duration	Start	Finish
1	Feature No.11SW-A/FR218 Pathological Institute, Caine Lane, Mid-Levels		171 days	2017/4/5	2017/11/1
2	<b>GEOTECHNICAL WORKS</b>				
3	Pit Excavation and install shoring system	360 cu.m.	40 days	2017/4/5	2017/5/26
4	Backfilling with Mass Concrete	250 cu.m.	34 days	2017/4/22	2017/6/3
5	Construction Wall Stem of Wall Thickening	18m (L)	6 days	2017/6/5	2017/6/10
6	Construction for Mass Concrete Planter Wall	18m (L)	45 days	2017/6/12	2017/8/3
7	Filling of compacted fill	73.5 cu.m.	60 days	2017/8/4	2017/10/14
8	<b>MISCELLANEOUS</b>				
9	Construction of concrete staircase	8.0m	24 days	2017/7/21	2017/8/17
10	Masonry Works for Wing Wall and Planter Wall	80.0 sq.m.	10 days	2017/10/16	2017/10/26
11	Hydroseeding & Planting Works	120.0 sq.m. & 960 m <sup>2</sup> s	4 days	2017/10/27	2017/11/1



Remark:  
 1. The above duration is based on working days.  
 Prepared By :

**Landslip Preventive and Mitigation Works**

Landslip Preventive and Mitigation Programme, 2012, Package A -  
 Contract No. : GE/2013/35 Works Order No. : LPM201335/14/AR94

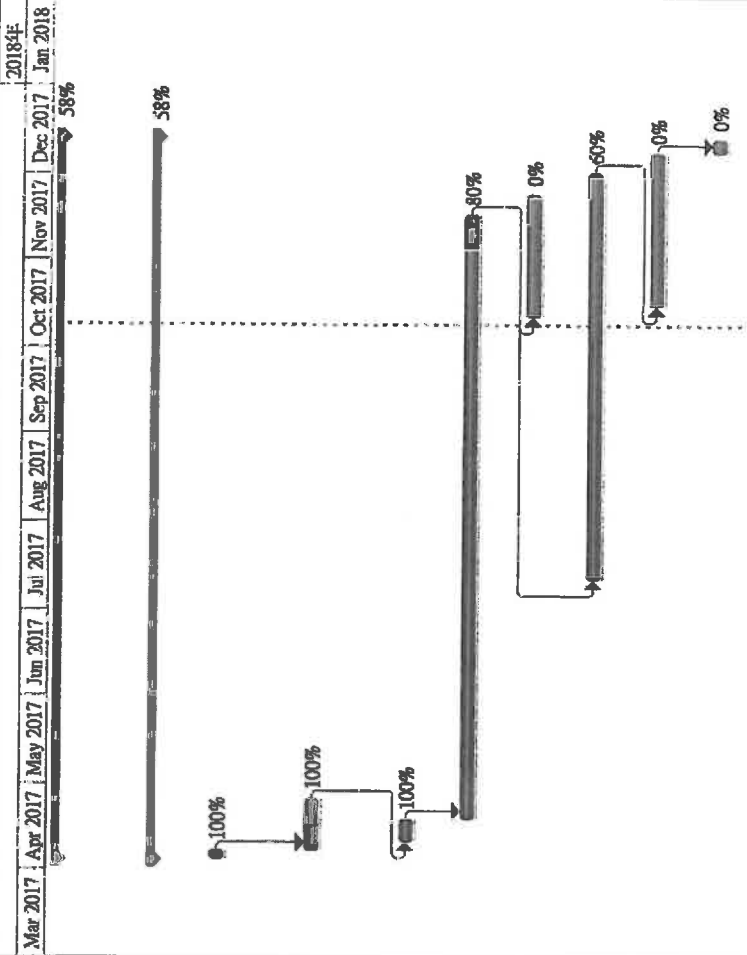
Contractor : Geotech Engineering Limited  
 Programme Date : 09/10/2017 Revision No. : 15

Slope No. & Location : 11SW-A/R94 Hong Kong Museum of Medical Science, No.2 Caine Lane, Mid-Levels

Commencement Date : 05/04/2017 Anticipated Completion Date : 13/12/2017

**UPDATED WORKS PROGRAMME**

ID	Description	Quantity	Duration	Start	Finish
1	Feature No.11SW-A/R94 Hong Kong Museum of Medical Science		207 days	2017/4/5	2017/12/13
2	<b>GEOTECHNICAL WORKS</b>		207 days	2017/4/5	2017/12/13
3	Erection and modification of Base Scaffolding and Temporary Working Platform	1 item	3 days	2017/4/5	2017/4/7
4	Take up and store existing Masonry Stones (approx. 0.5m x 0.5m each no.)	70 nos.	12 days	2017/4/8	2017/4/25
5	Install Test Nails and carry out Pull Out Test	2 nos.	4 days	2017/4/11	2017/4/18
6	Soil Nailing Works	62 nos.	175 days	2017/4/19	2017/11/16
7	Installation of Raking Drains	4 no.	36 days	2017/10/12	2017/11/23
8	Construction of Soil Nail Heads	62 nos.	120 days	2017/7/12	2017/12/1
9	Reinstatement of existing Masonry Stones	70 nos.	46 days	2017/10/16	2017/12/8
10	Dismantle Temporary Working Platform and Base Scaffolding	1 item	4 days	2017/12/9	2017/12/13



Remark:

1. The above duration is based on working days.

Prepared By :

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## **Appendix B**

# **Environmental Mitigation Implementation Schedule**

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**Appendix B Environmental Mitigation Implementation Schedule**

Potential Environmental Impacts	Proposed Mitigation Measures
<b>Air Quality</b>	
<ul style="list-style-type: none"> <li>● Fugitive dust emissions from construction activities including site formation, drilling, and wind erosion of the excavated areas</li> </ul>	<ul style="list-style-type: none"> <li>● Dust suppression measures as stipulated in the <i>Air Pollution Control (Construction Dust) Regulation (Cap. 311R) of Air Pollution Control Ordinance (APCO) (Cap. 311)</i></li> <li>● Good site practices</li> </ul>
<b>Noise</b>	
<ul style="list-style-type: none"> <li>● Construction noise from the use of powered mechanical equipment (PME) for the construction activities</li> </ul>	<ul style="list-style-type: none"> <li>● Use of quieter PME</li> <li>● Use of noise enclosure</li> <li>● Use of movable noise barrier</li> <li>● Use of noise insulating fabric for certain PME</li> <li>● Good site practices</li> </ul>
<b>Water Quality</b>	
<ul style="list-style-type: none"> <li>● Water pollution from uncontrolled surface runoff and erosion of exposed soil, earthworks and stockpiles during storm events</li> <li>● Muddy water from construction activities such as dust suppression sprays, dewatering during excavation and washing of construction equipment</li> </ul>	<ul style="list-style-type: none"> <li>● Good site practices as per <i>Professional Persons Environmental Consultative Committee Practice (ProPECC) Note PN 1/94 "Construction Site Drainage"</i></li> </ul>
<b>Waste Management</b>	
<ul style="list-style-type: none"> <li>● Certain amount of C&amp;D materials from construction works</li> </ul>	<ul style="list-style-type: none"> <li>● Good waste management plan, practices and waste reduction measures</li> <li>● Disposal of C&amp;D materials should be managed in accordance with the <i>Development Bureau Technical Circular (Works) DEVB TC(W) No. 6/2010 "Trip Ticket System for Disposal of Construction &amp; Demolition Materials"</i>.</li> <li>● Proper storage, collection and transportation to designated destination of waste, including C&amp;D materials, general refuse and chemical wastes</li> <li>● On-site sorting of all C&amp;D materials to inert or non-inert</li> </ul>
<b>Ecology</b>	
<ul style="list-style-type: none"> <li>● No adverse ecological impact is expected.</li> </ul>	<ul style="list-style-type: none"> <li>● Not required</li> </ul>
<b>Cultural Heritage</b>	
<ul style="list-style-type: none"> <li>● Indirect impact to the historic feature, such as extension of existing cracks on the structures within the Monument or the dislocation of the roof tiles on the Main Building and Annex Block, by ground-borne vibration from the use of PME</li> </ul>	<ul style="list-style-type: none"> <li>● Conduct condition survey at the existing components of the Monument prior to the commencement of the construction work</li> <li>● Provide protective measures to the structure of HKMMS subject to results of condition survey</li> <li>● Provide tarpaulin curtain to protect the Annex Block during the construction phase</li> <li>● Conduct detailed photographic and cartographic recording of Feature No. 11SW-A/FR218 to the satisfaction of AMO before the affected masonry work is temporarily removed for the slope works</li> <li>● Install ground settlement markers, tilting monitoring markers and vibration monitoring points during the active construction period and</li> </ul>

	<p>obtain readings at a daily interval</p> <ul style="list-style-type: none"><li>● Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94</li><li>● Reserve clearance distance between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall)</li><li>● Reinstate the masonry wall of the Feature No. 11SW-A/R94 after the upgrading works</li><li>● Adopt Manual pit by pit excavation</li><li>● Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218</li></ul>
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## **Appendix C**

### **Record of Disposal**

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Records of Disposal of WASTE C & D Materials

Month September year 2017

Division: GEO / CEDD

Contract No.: GE/2013/35

Contract Title: Landslip Prevention and Mitigation Programme, 2012, Package A, Landslip Prevention and Mitigation Works.

(Inert)

Site Location: 1) 11SW-A/FR218

Contractor: Geotech Engineering Limited.

DDF No. <sup>1</sup>	Date of Disposal	Disposal Site <sup>2</sup>	Vehicle Reg. No.	Time of Departure	Proportion of Truckload	Time of Disposal	Date of DDF & Receipt submitted by Contractor	Receipt No.	Late Return of DDF and / or Receipt	Vol. (m <sup>3</sup> ) / Wt. (t) (Where applicable)	Total Vol. (m <sup>3</sup> ) / Wt. (t) (Where applicable)
17630244	6/9/2017	SENT	CZ9006	09:15	3/4	10:16	8/9/2017	11808005	Nil	3.63 t	3.63 t

Signature: 

Submitted by: Geotech Engineering Limited.

Name/Post: Cyrus Li / Safety Officer

Date: 3 OCT 2017



**Records of Disposal of WASTE C & D Materials**

Month September year 2017

Division: **GEO / CEDD**

Contract No.: **GE/2013/35**

Contract Title: **Landslip Prevention and Mitigation Programme, 2012, Package A, Landslip Prevention and Mitigation Works.**

(Inert)

Site Location: **1) 11SW-A/R94**

Contractor: **Geotech Engineering Limited.**

DDF No.1	Date of Disposal	Disposal Site <sup>2</sup>	Vehicle Reg. No.	Time of Departure	Proportion of Truckload	Time of Disposal	Date of DDF & Receipt submitted by Contractor	Receipt No.	Late Return of DDF and / or Receipt	Vol. (m <sup>3</sup> ) / Wt. (t) (Where applicable)	Total Vol. (m <sup>3</sup> ) / Wt. (t) (Where applicable)
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											



Submitted by: **Geotech Engineering Limited.**

Signature:

Name/Post: **Cyrus Li / Safety Officer**

Date: **30 Oct 2017**

Records of Disposal of INERT C & D Materials

Month September year 2017

Division: GEO / CEDD

Contract No.: GE/2013/35

(Inert)

Contract Title: Landslip Prevention and Mitigation Programme, 2012, Package A, Landslip Prevention and Mitigation Works.

Site Location: 1) 11SW-A/FR218

Contractor: Geotech Engineering Limited.

DDF No. <sup>1</sup>	Date of Disposal	Disposal Site <sup>2</sup>	Vehicle Reg. No.	Time of Departure	Proportion of Truckload	Time of Disposal	Date of DDF & Receipt submitted by Contractor	Receipt No.	Late Return of DDF and / or Receipt	Vol. (m <sup>3</sup> ) / Wt. (t) (Where applicable)	Total Vol. (m <sup>3</sup> ) / Wt. (t) (Where applicable)
17630245	7/9/2017	CW-PFBP	CZ9006	10:10	3/4	11:28	9/9/2017	170082360	Nil	8.41 t	8.41 t
17630246	8/9/2017	CW-PFBP	CZ9006	10:25	3/4	11:41	12/9/2017	170082705	Nil	7.73 t	16.14 t
17630247	13/9/2017	CW-PFBP	CZ9006	09:00	3/4	09:39	15/9/2017	170084056	Nil	8.43 t	24.57 t
17630255	15/9/2017	CW-PFBP	CZ9006	08:50	3/4	09:24	19/9/2017	170084801	Nil	8.30 t	32.87 t
17630256	21/9/2017	CW-PFBP	CZ9006	09:10	3/4	09:47	23/9/2017	170086855	Nil	6.13 t	39.00 t

Signature: 

Submitted by: Geotech Engineering Limited. Name/Post: Cyrus Li / Safety Officer

Date: 3 OCT 2017

Records of Disposal of INERT C & D Materials

Month September year 2017

Division: GEO / CEDD

Contract No.: GE/2013/35

Contract Title: Landslip Prevention and Mitigation Programme, 2012, Package A, Landslip Prevention and Mitigation Works.

(Inert)

Site Location: 1) 11SW-A/R94

Contractor: Geotech Engineering Limited.

DDF No.1	Date of Disposal	Disposal Site <sup>2</sup>	Vehicle Reg. No.	Time of Departure	Proportion of Truckload	Time of Disposal	Date of DDF & Receipt submitted by Contractor	Receipt No.	Late Return of DDF and / or Receipt	Vol. (m <sup>3</sup> ) / Wt. (t) (Where applicable)	Total Vol. (m <sup>3</sup> ) / Wt. (t) (Where applicable)
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											
Nil											

Signature: 

Name/Post: Cyrus Li / Safety Officer

Date: 3 OCT 2017

Submitted by: Geotech Engineering Limited.

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**Appendix D**

**IEC Site Audit Checklist**

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**Project:** Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels  
**Inspection Date:** 1 September 2017  
**Time:** 16:00 pm  
**Inspection Area:**  
 Feature No. 11SW-A/R94  
 Feature No. 11SW-A/R218  
 HKMMS & its Annex Block

**Inspected by**  
**Client:** CEDD  
**ER:** AECOM  
**IEC:** AECOM  
**ET:** N/A  
**Contractor:** Geotech Engineering Ltd.

**PART A: GENERAL INFORMATION**

**Weather:**  Sunny  Fine  Cloudy  Rainy  
**Temperature:** ~ 31 °C  
**Humidity:**  High  Moderate  Low  
**Wind:**  Strong  Breezy  Light  Calm

**PART B: SITE AUDIT**

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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**Section 1: Water Quality**

1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Item "1"
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Item "2"
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, it would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Section 2: Air Quality**

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
<b>Section 3: Noise</b>						
3.01	All plants are well maintained and in good operating condition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.02	All the plants should be serviced regularly during the construction program.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.03	Use of noise enclosure for static PME.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.05	Use of noise Insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.06	Idle equipment should be turned off or throttled down.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.07	Where possible, quieter PME should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Section 4: Waste/Chemical Management</b>						
4.01	Training of site personnel in site cleanliness and proper waste management.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.02	Provision of sufficient waste disposal point and regular collection of waste.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.03	Regular cleaning and maintenance for drainage systems.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.05	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.07	Storage area should be provided with covers and, if necessary, water spraying system to prevent materials for wind-blown or being washed away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.09	On-site sorting of all C&D materials to inert or non-inert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "化學廢物" note less than 60mm high on a white background.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Section 5: Landscape &amp; Visual</b>						
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Section 6: Culture Heritage</b>						
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings at a daily interval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.04	Reserve clearance distance, 600mm, between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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**Section 7: Others**

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?      \_\_\_\_\_

**Remarks**

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

**Follow-up Observation(s)**

- Item "1" The broken sandbag has been replaced and protected by a layer of concrete. [closed]
- Item "2" Packaged waste material were well covered by tarpaulin. [closed]

**Client**

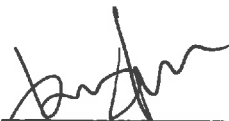
**ER**

**ENPO/IEC**

**ET**

**Contractor**

\_\_\_\_\_  
( )

  
( Mr. Tommy Poon )

  
( Ms. Gigi Lam )

\_\_\_\_\_  
( )

  
( Mr. Francis Bao )

**Project:** Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels  
**Inspection Date:** 7 September 2017  
**Time:** 16:00 pm  
**Inspection Area:**  
 Feature No. 11SW-A/R94  
 Feature No. 11SW-A/R218  
 HKMMS & its Annex Block

**Inspected by**  
**Client:** CEDD  
**ER:** AECOM  
**IEC:** AECOM  
**ET:** N/A  
**Contractor:** Geotech Engineering Ltd.

**PART A: GENERAL INFORMATION**

**Weather:**  Sunny  Fine  Cloudy  Rainy  
**Temperature:** ~ 30 °C  
**Humidity:**  High  Moderate  Low  
**Wind:**  Strong  Breezy  Light  Calm

**PART B: SITE AUDIT**

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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**Section 1: Water Quality**

1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, it would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Section 2: Air Quality**

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
<b>Section 3: Noise</b>						
3.01		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>						
4.01		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 5: Landscape &amp; Visual</b>						
5.01		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 6: Culture Heritage</b>						
6.01		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "1"
6.02		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.04		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.05		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.06		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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**Section 7: Others**

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?

Not Obs.  
  Yes  
  No  
  Follow up  
  N/A  
 \_\_\_\_\_ Photo/Remarks

**Remarks**

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

**Observation(s)**

Item "1" Damage of three tiles at the roof of the Annex Block located near Feature No. 11SW-A/R94 was observed during the current audit. It is noted that tarpaulin cover was used to cover part of the roof area of the Annex Block located near to the works area. While there is no visible risk to structural integrity to Annex Block, it is advised that precautionary measures should be provided to avoid any potential damage to the building.

~~Client~~

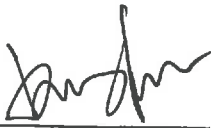
ER


ENPO/IEC

~~ET~~


Contractor

\_\_\_\_\_  
( )

  
( Mr. Tommy Poon )

  
( Ms. Gigi Lam )

\_\_\_\_\_  
( )

  
( Mr. Francis Bao )

**Project:** Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels  
**Inspection Date:** 14 September 2017  
**Time:** 16:00 pm  
**Inspection Area:**  
 Feature No. 11SW-A/R94  
 Feature No. 11SW-A/R218  
 HKMMS & its Annex Block

**Inspected by**  
**Client:** CEDD  
**ER:** AECOM  
**IEC:** AECOM  
**ET:** N/A  
**Contractor:** Geotech Engineering Ltd.

**PART A: GENERAL INFORMATION**

**Weather:**  Sunny  Fine  Cloudy  Rainy  
**Temperature:** ~ 31 °C  
**Humidity:**  High  Moderate  Low  
**Wind:**  Strong  Breezy  Light  Calm

**PART B: SITE AUDIT**

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
----------	-----	----	-----------	-----	---------------

**Section 1: Water Quality**

1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "1"
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, It is would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Section 2: Air Quality**

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks	
<b>Section 3: Noise</b>							
3.01	All plants are well maintained and in good operating condition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	All the plants should be serviced regularly during the construction program.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Use of noise enclosure for static PME.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Idle equipment should be turned off or throttled down.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Where possible, quieter PME should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Training of site personnel in site cleanliness and proper waste management.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Regular cleaning and maintenance for drainage systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "1"
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Storage area should be provided with covers and, if necessary, water spraying system to prevent materials for wind-blown or being washed away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	On-site sorting of all C&D materials to inert or non-inert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "化學廢物" note less than 60mm high on a white background.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 6: Culture Heritage</b>							
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "2"
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings at a daily interval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.04	Reserve clearance distance, 600mm, between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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**Section 7: Others**

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?

Not Obs.  
  Yes  
  No  
  Follow up  
  N/A  
 \_\_\_\_\_ Photo/Remarks

**Remarks**

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

**Observations and Required Follow-up Actions**

Item "1" (related to Tasks 1.03 and 4.03) It was observed that there were minor surface runoff from Feature No. 11SW-A/R94 and No. 11SW-A/FR218 as well as accumulation of mud and trash at drain, ditch and catchpit. Requested the Contractor to stop all runoff from the works areas, remove mud/trash as soon as possible.

Item "2" Further to observations for the damage of three tiles at the roof of the Annex Block located near Feature No. 11SW-A/R94 on 7/9/2017, it is noted that there were cracks on two walls inside the Annex Block and damage of about 10 tiles (including three observed in the last audit) at the Annex Block. The Contractor was requested to check against the baseline condition of the wall and tiles, investigate the reason of damage, and propose precautionary and mitigation measures to avoid any potential damage to the building.

**Client**

**ER**

**ENRQ/IEC**

**-ET-**

**Contractor**

( \_\_\_\_\_ )

( Mr. Tommy Poon )

( Ms. Gigi Lam )

( \_\_\_\_\_ )

( Mr. Francis Bao )

**Project:** Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels  
**Inspection Date:** 22 September 2017  
**Time:** 15:30 pm  
**Inspection Area:**  
 Feature No. 11SW-A/R94  
 Feature No. 11SW-A/R218  
 HKMMS & its Annex Block

**Inspected by**  
**Client:** CEDD  
**ER:** AECOM  
**IEC:** AECOM  
**ET:** N/A  
**Contractor:** Geotech Engineering Ltd.

**PART A: GENERAL INFORMATION**

**Weather:**  Sunny  Fine  Cloudy  Rainy  
**Temperature:** ~ 30 °C  
**Humidity:**  High  Moderate  Low  
**Wind:**  Strong  Breezy  Light  Calm

**PART B: SITE AUDIT**

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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**Section 1: Water Quality**

1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "1"
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, it would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Section 2: Air Quality**

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks	
<b>Section 3: Noise</b>							
3.01	All plants are well maintained and in good operating condition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	All the plants should be serviced regularly during the construction program.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Use of noise enclosure for static PME.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Idle equipment should be turned off or throttled down.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Where possible, quieter PME should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Training of site personnel in site cleanliness and proper waste management.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Regular cleaning and maintenance for drainage systems.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Item "1"
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "1"
4.05	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Waste should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Storage area should be provided with covers and, if necessary, water spraying system to prevent materials for wind-blown or being washed away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	On-site sorting of all C&D materials to inert or non-inert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	The panels have hold legible red English words and Chinese characters "CHEMICAL WASTE" "化學廢物" note less than 60mm high on a white background.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 6: Culture Heritage</b>							
6.01	Provide tarpauln curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "2"
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings at a daily interval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.04	Reserve clearance distance, 600mm, between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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**Section 7: Others**

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?

Not Obs.  
  Yes  
  No  
  Follow up  
  N/A

**Remarks**

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

**Follow-up Observation(s)**

Item "1" Observations related to the Feature No. 11SW-A/R94 and 11SW-A/FR218 on last audit has been followed-up by the Contactor.

New observations on Feature No 11SW-A/R94 were found. The Contractor agreed to increase the height for a sandbag to prevent potential surface runoff and dispose of waste material timely and properly.

Item "2" The Contractor reported that baseline photos cannot be found out in this stage. The Contractor agreed to pay attention to the Annex Block during construction.

**Client**

**ER**

**ENPO/IEC**

**ET**

**Contractor**

( )

( Mr. Patrice Lai )

( Ms. Gigi Lam )

( )

( Mr. Benny Li )



**Project:** Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels  
**Inspection Date:** 28 September 2017  
**Time:** 16:00 pm  
**Inspection Area:**  
 Feature No. 11SW-A/R94  
 Feature No. 11SW-A/FR218  
 HKMMS & its Annex Block

**Inspected by**  
**Client:** CEDD  
**ER:** AECOM  
**IEC:** AECOM  
**ET:** N/A  
**Contractor:** Geotech Engineering Ltd.

**PART A: GENERAL INFORMATION**

**Weather:**  Sunny  Fine  Cloudy  Rainy  
**Temperature:** ~ 30 °C  
**Humidity:**  High  Moderate  Low  
**Wind:**  Strong  Breezy  Light  Calm

**PART B: SITE AUDIT**

Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
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**Section 1: Water Quality**

1.01	Obtained an effluent discharge license.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Item (A)
1.02	Provision of sedimentation tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Item "1"
1.04	Open stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading the site area. And, It is would be cleaned the construction sites on a regular basis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Manholes are adequately covered and temporarily sealed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Some procedures and equipment for rainstorm protection are provided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Measures to prevent leaked oil from entering the drainage system are provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.09	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

**Section 2: Air Quality**

2.01	Use of regular watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Use of frequent watering for particularly dusty static construction area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Hoarding are not less than 2.4m tall provided at areas with public access.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Public road around the site entrance should be kept clean and free from dust.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Mechanical covers of all dump trucks entering or leaving the site are in good services conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Dark smoke emission from plant/equipment should be avoided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks	
<b>Section 3: Noise</b>							
3.01	All plants are well maintained and in good operating condition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	All the plants should be serviced regularly during the construction program.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Use of noise enclosure for static PME.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Idle equipment should be turned off or throttled down.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.07	Where possible, quieter PME should be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 4: Waste/Chemical Management</b>							
4.01	Training of site personnel in site cleanliness and proper waste management.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Regular cleaning and maintenance for drainage systems.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Waste should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Storage area should be provided with covers and, if necessary, water spraying system to prevent materials for wind-blown or being washed away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	On-site sorting of all C&D materials to inert or non-inert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "化學廢物" note less than 60mm high on a white background.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Section 5: Landscape &amp; Visual</b>							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Section 6: Culture Heritage</b>							
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Item "2"
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings at a daily interval.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.04	Reserve clearance distance, 600mm, between the proposed soil nails at Feature No. 11SW-A/R94 and the Annex Block (including the columns in front of the masonry wall).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
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**Section 7: Others**

7.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?      \_\_\_\_\_

**Remarks**

Item (A) Wastewater and runoff is collected and pumped to storage tanks for reuse on the site. Suction truck will be arranged to collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above measures, no effluent discharge license is required.

**Follow-up Observation(s)**

Item "1" Observations related to the Feature No. 11SW-A/R94 and 11SW-A/FR218 on last audit has been followed-up by the Contactor.

Item "2" Although no further cracks of walls and tiles observed in these two weeks, the Contractor shall keep attention to the Annex Block during construction.

~~Client~~


ER

ENPO/IEC

~~ET~~

Contractor

( \_\_\_\_\_ )

(  Mr. Patrice Lai )

(  Ms. Gigi Lam )

( \_\_\_\_\_ )

(  Mr. Benny Li )