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 August 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 31 August 2017. As informed by the Contractor, the major activities in the reporting period were:

Location	Site Activities
11SW-A/R94	 Drilling of soil nail holes by coring machine Fixing and installation of soil nail bars Grouting of soil nails holes Reinstate the masonry stone facing Construction of soil nail heads
11SW-A/FR218	Backfilling of top soil Construction of stairway

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	 Drilling of soil nail holes by coring machine Fixing and installation of soil nail bars Grouting of soil nails holes Reinstate the masonry stone facing Construction of soil nail heads 			
11SW-A/FR218	Backfilling of top soil Construction of stairway			

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 fifth monthly EM&A Report which summaries audit findings for the project during the reporting period between 1 and 31 August 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	 Drilling of soil nail holes by coring machine Fixing and installation of soil nail bars Grouting of soil nails holes Reinstate the masonry stone facing Construction of soil nail heads
11SW-A/FR218	Backfilling of top soil Construction of stairway

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>	Telephone
AECOM Asia Co. Ltd.	IEC	Gigi Lam	3922 9000
AECOM Asia Co. Ltd.	Resident Engineer	Tommy Poon	3689 2883
Contractor - Geotech	Project Manager	Danise Tang	9183 2621
Engineering Ltd.	Site Agent	Francis Bao	6680 7070

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. /	Valid	Period					
Notification/ Reference No.	From To		Status	Remarks			
Environmental Permit							
EP-520/2016	8-8-2016	-	Valid	-			
	Billing Account for Construction Waste Disposal						
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

EP Condition	Submission	Submission Due Date
Condition 3.2	Monthly Monitoring Report	15 September 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. 6.35t inert C&D material was 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 310m³.

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, four joint site inspections with the IEC, RE's representatives and the Contractor were carried out on 3, 10, 17 and 25 August 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 was summarized in **Table 5.1**.

Table 5.1 Observations and Recommendations of Site Audit

<u>Parameters</u>	Recommendations		Follow-up
Air Quality	Nil	Nil	Nil
Noise	03/08/2017	The door of the noise enclosure near Feature No. 11SW-A/FR218 was not appropriately closed, it was rectified by the Contractor immediately. Advised the Contractor to remind workers to observe good site practice and keep the door always closed.	03/08/2017&10/08/2017
Water Quality	03/08/2017	A portion of sandbag at the slope toe and at the storage area were not properly placed. Advised the Contractor to add sandbags to prevent surface runoff during rainy season.	10/08/2017
	17/08/2017	Sandbags along the site boundary of Feature No. 11SW-A/FR218, facing Sliver Jubilee Mansion, were found to be broken.	25/08/2017
	17/08/2017	A short section of drain near the staircase of Feature No. 11SW- 17/08/2017 A/FR218 was not properly covered, the Contractor was reminded to properly cover it.	
	25/08/2017	A sandbag along the site boundary of Feature No.: 11SW-A/FR218, facing the staircase, was found to be broken.	01/09/2017
Waste	17/08/2017	Tarpaulin should be provided for packaged waste material.	01/09/2017
Cultural Heritage	Nil	Nil	Nil
Permits/Licenses	Nil_	il 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 one site inspection carried out by Environmental Protection Department (EPD) on 17/08/2017. No comment was received in the reporting period.

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	 Drilling of soil nail holes by coring machine Fixing and installation of soil nail bars Grouting of soil nails holes Reinstate the masonry stone facing Construction of soil nail heads
11SW-A/FR218	Backfilling of top soil Construction of stairway

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

- 9.1.1 Four environmental site inspections were carried out in August 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

 The Contractor to remind workers to observe good site practice and keep the door of noise enclosure always closed.

Water Quality Impact

- The Contractor should provide sufficient sandbags to prevent surface runoff during rainy season.
- The damaged sandbags along the site boundary of both features should be replaced.
- The whole section of surface drainage should be properly covered.

Waste Management

•The packaged C&D waste material should be properly covered by tarpaulin.

Cultural Heritage

•No specific observation was identified in this reporting month.

Permits/licenses

•No specific observation was identified in this reporting month.

10 ADJUSTMENT

10.1.1 No adjustment in this reporting period.

Appendix A Construction Programme

Commencement Date: 05/04/2017 Anticipated Completion Date: 07/10/2017

nd Mitigation Works	D	Commencemen
nd Mitigation Programme, 2012, Package A Landslip Preventive and	Works Order Nos. : LPM201335/62/AFR218	W-A/FR218 Pathological Institute, Caine Lane, Mid-Levels
Landslip Preventive and Mitiga	Contract No. : <u>GE/2013/35</u>	Slope No. & Location: 11SW-A

UPDATED WORKS PROGRAMME

Contractor: Geotech Engineering Limited
Programme Date: 08/09/2017 Revision No.: 14

Start Finish	rs 2017/4/5 2017/10/7 Mar 2017 May 2017 Jun 2017 Jul 2017 Aug 2017 Sep 2017 Nov 2017 Nov 2017 Sep 2017 Nov 2017 Nov 2017 May 2017 Nov 2017	rs 2017/4/5 2017/9/19	3 2017/4/5 2017/5/26	3 2017/4/22 2017/6/3	2017/6/5 2017/6/10	2017/6/12 2017/8/3	2017/8/4 2017/9/19	2017/721 2017/10/7	2017/7/21 2017/8/17	2017/9/20 2017/9/30	
Quantity Duration	151 days	137 days	360 cu.m. 40 days	250 cu.m. 34 days	18m (L) 6 days	18m (L) 45 days	73.5 cu.m. 40 days	66 days	8.0m 24 days	80.0 sq.m. 10 days	
ID Description	Feature No.11SW-A/FR218 Pathological Institute, Caine Lane, Mid-Levels	GEOTECHNICAL WORKS	Pit Excavation and install shoring system	Backfilling with Mass Concrete	S Construction Wall Stem of Wall Thickening	6 Construction for Mass Concrete Planter Wall	7 Filling of compacted fill	8 MISCELLANEOUS	9 Construction of concrete staircase	10 Masonry Works for Wing Wall and Planter Wall	

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

Prepared By:

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

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

UPDATED WORKS PROGRAMME

Commencement Date: 05/04/2017

__Anticipated Completion Date: 13/11/2017 Programme Date: 08/09/2017 Revision No.: 14

Mar 2017 | Apr 2017 | May 2017 | Jun 2017 | Jul 2017 | Aug 2017 | Sep 2017 | Oct 2017 | Nov 2017 | Dec 2017 62% %0 100% 100% 100% 2017/11/13 2017/11/13 2017/4/18 2017/10/17 2017/10/24 2017/4/7 2017/4/25 2017/11/1 Finish 2017/10/18 2017/4/5 2017/4/5 2017/4/19 2017/4/5 2017/4/11 2017/7/12 2017/4/8 Start 181 days 181 days 150 days 12 days 94 days 3 days 4 days 6 days Duration 62 nrs. l item 70 nos. 62 nrs. 2 nos. 4 nr. Quantity Erection and modification of Base Scaffolding and Install Test Nails and carry out Pull Out Test Take up and store existing Masonry Stones Hong Kong Museum of Medical Science Construction of Soil Nail Heads (approx. 0.5m x 0.5m each no.) Femporary Working Platform Installation of Raking Drains GEOTECHNICAL WORKS Soil Nailing Works Feature No.11SW-A/R94 ID Description 00

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

Prepared By:

0%

2017/11/13

2017/11/9

4 days

1 item

Dismantlef Temporary Working Platform and

2

Base Scaffolding

Reinstatement of existing Masonry Stones

2017/11/8

2017/11/2

6 days

70 nos.

Appendix B

Environmental Mitigation Implementation Schedule

Appendix B Environmental Mitigation Implementation Schedule

	ential Environmental Impacts	Proposed Mitigation Measures
Air	Quality	
•	Fugitive dust emissions from construction activities including site formation, drilling, and wind erosion of the excavated areas	 Dust suppression measures as stipulated in the Air Pollution Control (Construction Dust) Regulation (Cap. 311R) of Air Pollution Control Ordinance (APCO) (Cap. 311) Good site practices
Noi		
•	Construction noise from the use of powered mechanical equipment (PME) for the construction activities	 Use of quieter PME Use of noise enclosure Use of movable noise barrier Use of noise insulating fabric for certain PME Good site practices
Wat	ter Quality	
•	Water pollution from uncontrolled surface runoff and erosion of exposed soil, earthworks and stockpiles during storm events Muddy water from construction activities such as dust suppression sprays, dewatering during excavation and washing of construction equipment	Good site practices as per Professional Persons Environmental Consultative Committe Practice (ProPECC) Note PN 1/94 "Construction Site Drainage"
Was	ste Management	
•	Certain amount of C&D materials from construction works	 Good waste management plan, practices and waste reduction measures Disposal of C&D materials should be managed in accordance with the Development Bureau Technical Circular (Works) DEVB TC(W)) No. 6/2010 "Trip Ticket System for Disposal of Construction & Demolition Materials". Proper storage, collection and transportation to designated destination of waste, including C&D materials, general refuse and chemical wastes On-site sorting of all C&D materials to inert or non-inert
Ecol	logy	
	No adverse ecological impact is expected.	Not required
	ural Heritage	
•	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	 Conduct condition survey at the existing components of the Monument prior to the commencement of the construction work Provide protective measures to the structure of HKMMS subject to results of condition survey Provide tarpaulin curtain to protect the Annex Block during the construction phase 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 Install ground settlement markers, tilting

monitoring markers and vibration monitoring points during the active construction period and obtain readings at a daily interval Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94 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) Reinstate the masonry wall of the Feature No. 11SW-A/R94 after the upgrading works
 Adopt Manual pit by pit excavation Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218

Appendix C

Record of Disposal

Records of Disposal of INERT C & D Materials

Month August year 2017

GEO / CEDD Disvision:

GE/2013/35 Contract No.:

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

(Inert)

Site Location: 1) 115W-A/FR218

Contractor:	Geotech	Geotech Engineering Limited.	nited.								
DDF No.1	Date of	Disposal	Vehicle Reg. Time of	Time of	Proportion of	Time of	Date of DDF &	Receipt No	l ate Refirm of	1/6 (203)	Total 1/21 /22 2
	Disposal	Site ²	No.	Departure	Truckload	Disposal	Receipt		DDF and / or	Wt. (8)	I Otal Vol. (m²) /
							submitted		Receipt	(Where applicable) (Where applicable)	(Where applicable)
							by Contractor				
17630243	17/8/2017	CW-PFBP	9006ZO	11:25	3/4	12:01	19/8/2017	170077075	Z	6.35 t	6.35 t
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Submitted by: Geotech Engineering Limited.

Signature:

Name/Post: Cyrus Li / Safety Officer

Records of Disposal of INERT C & D Materials

Month August year 2017

GEO / CEDD Disvision:

GE/2013/35 Contract No.:

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

(Inert)

Site Location: 1) 11SW-A/R94

Contractor:	Geotech	Geotech Engineering Limited.	nited.								
DDF No.1	Date of	Disposal	Vehicle Reg. Time of	Time of	Proportion of	Time of	Date of DDF &	Receipt No	l ate Return of	L	Total Mai (ma)
	Disposal	Site ²	No.	Departure	Truckload	Disposal	Receipt		DDF and / or		Wf. (f) 10tal Vol. (m²) /
							submitted		Receipt	(Where applicable)	(Where applicable) (Where applicable)
							by Contractor				
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Name/Post: Cyrus Li / Safety Officer

Signature:

Submitted by: Geotech Engineering Limited.

Appendix D IEC Site Audit Checklist

P.1 of 3

Date Time Inspe Area PAR West	ection : ection : T A:	Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels 3 August 2017 15:30 pm Feature No. 11SW-A/R94	C E IE C	spected blient: R: C: T: contractor:	CE AE AE	COM COM A otech Engin	eering Ltd	1.
Humi Wind:		High Moderate Low Strong Breezy Light Cair	n					
PART	ГВ:	SITE AUDIT					-	
			Not Obs.	VOR	No	Follow	N/A	Photo/
Secti	on 1: Wat	er Quality	ODS.			up		Remarks
1.01		d an effluent discharge license.					\boxtimes	Item (A)
1.02	Provisio	n of sedimentation tank.		\boxtimes				
1.03	Channel to sedim	s, sandbags or bunds should be provided to direct surface run-off entation tanks.				\boxtimes		Item "1"
1.04	Open starpaulin	ockpiles of construction materials on site should be covered with or similar fabric as necessary during rainstorms.		\boxtimes	П			
1.05	Good sit	te practices should be adopted to remove rubbish and litter from tion site so as to prevent the rubbish and litter from spreading the a. And, It is would be cleaned the construction sites on a regular		\boxtimes				
1.06	Manhole	s are adequately covered and temporarily sealed.		\boxtimes				
1,07	Some pr	ocedures and equipment for rainstorm protection are provided,		\boxtimes				
1.08	Measure provided	s to prevent leaked oil from entering the drainage system are					\boxtimes	
1.09	Notices : not to dis	should be posted at conspicuous locations to remind the workers scharge any sewage or wastewater into the nearby environment.		\boxtimes				
Section	on 2: Air G)uality						-
2.01	Use of re	egular watering/tarpaulin, with coverage to reduce dust emissions		il control of the last of the		-	-	
2.02	from exp	osed site surfaces, particularly during dry weather. equent watering for particularly dusty static construction area.						
2.03	Dusty ma	aterials transported on trucks with tarpaulin covering to and from						
2.04	the site. Hoarding	are not less than 2.4m tall provided at areas with public access.						
2.05	Public ro	ad around the site entrance should be kept clean and free from						
2.06	dust. Where p	ossible, routing of vehicles and positioning of construction plant						
2.07	Mechanic	e at the maximum possible distance from ASRs. cal covers of all dump trucks entering or leaving the site are in good		\boxtimes			╙.	
2.08	services	conditions. ske emission from plant/equipment should be avoided.					Ш.	
2.09		ng, batching and mixing processes are carried out in sheltered		\boxtimes				
200	areas du	ing the use of bagged cement.		\boxtimes				

		Not Obs.	Yes	No	Follow	N/A	Photo/ Remarks
Sect	on 3: Noise						I VOITIGE K.S
3.01	All plants are well maintained and in good operating condition.		\boxtimes				
3,02	All the plants should be serviced regularly during the construction program.		\boxtimes				
3.03	Use of noise enclosure for static PME				\boxtimes		Item "2"
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.		\boxtimes				
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).		\boxtimes				
3.06	Idle equipment should be turned off or throttled down.		\boxtimes				
3.07	Where possible, quieter PME should be used.					\boxtimes	
Secti	on 4: Waste/Chemical Management						
4.01	Training of site personnel in site cleanliness and proper waste management.		\boxtimes				
4.02	Provision of sufficient waste disposal point and regular collection of waste.		\boxtimes				
4.03	Regular cleaning and maintenance for drainage systems.		\boxtimes				
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.		\boxtimes				
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.		\boxtimes				
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.		\boxtimes				
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.						
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.		\boxtimes				
4.09	On-site sorting of all C&D materials to inert or non-inert.		\boxtimes				
4.10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "仁學廢物" note less than 60mm high on a while background.						
	bangraura.						<u> </u>
Section 5.01	on 5: Landscape & Visual Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.		\boxtimes				
Section	on 6: Culture Heritage						
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.		\boxtimes				
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings		\boxtimes				
6.03	at a daily interval. Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.		\boxtimes				
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						
6.05	front of the masonry wall). Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.		\boxtimes				
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218					님 -	
	between the slope and main building.		\boxtimes				

AECOM

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Secti 7.01	on 7: Others Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?		\boxtimes				

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" For Feature No. 11SW-A/R94, it was noted that a portion of sandbag at the slope toe and at the storage area were not properly placed. Advised the Contractor to add sandbags to prevent surface runoff during rainy season.

Item "2" The door of the noise enclosure structure near Feature No. 11SW-A/FR218 was not appropriately closed. Although it was rectified by the Contractor immediately, advised the Contractor to remind workers to observe good site practice and keep the door always closed.

-Client	ER	ENPO/IEC	-ET	Contractor
()	(Mr. Tommy Poon)	(Ms. Olgi Lam		(Mr. Francis Rep.)

P.1 of 3

Times 15-30 pm	Proje	ect:	Landslip Prevention ar A/R94 and 11SW-A/FF	nd Mitigation W R218, HKMMS	orks at Feature N Caine Lane, Mid	os. 11SW- -Levels	Ins	pected	hv			
Time: 15-30 pm Feature No. 115W-A/R94 IEC: ACCOM Feature No. 115W-A/R94 IEC: ACCOM IEC									-	DD.		
Area: SFeeture No. 11SW-A/RB4	Time):										
### Section 1: Water Quality PART B: SITE AUDIT Not			⊠Feature No. 11SW-A	VR94								
PART A: GENERAL INFORMATION Veather: Sunny Pine Cloudy Rainy Temperature: 30 90 Moderate Low Wind: Strong Breazy Light Calm PART B: SITE AUDIT Not		-						-				
PART A: GENERAL INFORMATION Weather: Sunny Pine Cloudy Rainy			⊠HKMMS & its Annex	Block							eering I to	,
Weather: Sunny Fine Cloudy Rainy Temperature: 30 C C Humidity: High Moderate Low Wind: Strong Btreezy Juliph Calm PART 6: SITE AUDIT Not Ves No Follow Ni/A Photo/ Upp Ni/										Noon Engin	oornig Lit	! <u>. </u>
Temperature: -30 Not Low Moderate Low Low Wind: Strong Breezy Light Calm PART B: SITE AUDIT Not Yes No Follow Up N/A Remarks	PAR	T A:	GENERAL INFORMA	ATION								
Humidify: High Moderate Low Wind: Strong Breezy Light Calm Not Obs. Yes No Follow Up N/A Photo/ Obs. Policy N/A Photo/ Remarks	Weat	ther:	Sunny	Fine	Cloudy	Rai	ny					
Wind: Strong Brezzy Light Calm Strong Brezzy Light Calm Strong Brezzy Light Calm	Temp	perature.	~ 30] ℃								
PART B: SITE AUDIT Not	Humi	idity:	High V	Moderate	Low							
Section 1: Water Quality 1.01 Obtained an effluent discharge license. 1.02 Provision of sedimentation tank. 1.03 Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks. 1.04 Open stockpless of construction materials on site should be covered with terpaulin or smiler father as necessary during reinstorms. 1.05 Good site practices should be adopted to remove rubbish and litter from construction in semilar father as necessary during reinstorms. 1.06 Good site practices should be adopted to remove rubbish and litter from overstructions also as to prevent the rubbish and litter from spreading the basis. 1.06 Manholes are adequately covered and temporarily sealed. 1.07 Some procedures and equipment for rainstorm protection are provided. 1.08 Measures to prevent leaked oil from entering the drainage system are provided. 1.09 Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment. 1.09 Volices and equipment for particularly during dry weather. 2.01 Use of frequent watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather. 2.02 Use of frequent watering/tarpaulin, with coverage to reduce dust emissions from exposed site surfaces, particularly during dry weather. 2.03 Dusty materials transported on trucks with tarpaulin covering to and from the site. 2.04 Hearding are not less than 2.4m tall provided at areas with public access. 2.05 Public road around the site entrance should be kept clean and free from dust. 2.06 Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs. 2.07 Mechanical covers of all dump trucks entering or lesving the site are in good services conditions.	Wind		Strong	Breezy	Light	Calı	n					
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2.09 De-bagging, batching and mixing processes are carried out in sheltered	2.08	Dark smo	ke emission from plant/e	equipment shor	uld be avoided.							
areas during the use of pagged cament	2.09	De-baggi	ng, batching and mixing	processes ar	re carried out in s	sheltered						



		Not Obs.	Yes	No	Follow	N/A	Photo/ Remarks
	ion 3: Noise				-		
3.01	All plants are well maintained and in good operating condition.		\boxtimes				
3.02	All the plants should be serviced regularly during the construction program.		\boxtimes				
3.03	Use of noise enclosure for static PME.		\boxtimes				Item "2"
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.		\boxtimes				
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).		\boxtimes				
3.06	Idle equipment should be turned off or throttled down.		\boxtimes				
3.07	Where possible, quieter PME should be used.					\boxtimes	
04	4. Mt. 4. 101						
4.01	on 4: Waste/Chemical Management Training of site personnel in site cleanliness and proper waste management.						
4.02	Provision of sufficient waste disposal point and regular collection of waste.		\boxtimes				
4.03	Regular cleaning and maintenance for drainage systems.		\boxtimes				
4.04			\boxtimes				
	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.		\boxtimes				
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.		\boxtimes				
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.		\boxtimes				
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.					\boxtimes	
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.		\boxtimes				
4.09	On-site sorting of all C&D materials to inert or non-inert.		\boxtimes				
4,10	The panels have hold legible red English words and Chinese characters "CHEMMICAL WASTE" "仁學廢物" note less than 60mm high on a while background.						
Section 5.01	on 5: Landscape & Visual Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.						
Section	on 6: Culture Heritage						
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.		\boxtimes				
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.		\boxtimes				
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.		\boxtimes				
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).		\boxtimes				
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.		\boxtimes				
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.		\boxtimes				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section	on 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?		\boxtimes				
					(4		
100.0	orke						

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)

Sandbags have added at the slope toe and the storage area of Feature No. 11SW-A/R94 to prevent surface runoff. Item "1" [closed]

Item "2" The Contractor has added a lock to ensure the door of the noise enclosure structure near Feature No. 11SW-A/FR218 is securely closed. [closed]

-Client	ER	ENPO/IEC	ET	Contractor
()	(Mr. Tommy Poon)	(Ms. Gigi Lam)	()	(Mr Francis Bao)

P.1 of 3

Proje	ect:	Landslip Prevention	on and Mitigation W -A/FR218, HKMMS.	orks at Feature No Caine Lane, Mid-	os. 11SW- Levels	Îns	pected	hv			
Insp Date	ection :	17 August 2017					ent:		DD.		
Time	a:	16:00 pm				ER		CE	COM		
Insp Area	ection	⊠Feature No. 115	SW-A/R94								
		⊠Feature No. 115			· · · · ·	IEC ET		N/A	COM		
		⊠HKMMS & its A	nnex Block		1.8-41		ntractor		otech Engin	eering I to	
										working Exc	
PAR	T A:	GENERAL INFO	RMATION								
Weat	ther:	Sunny	Fine	Cloudy	Rair	ıy					
	perature:	~ 30	°C								
Humi	•	High	Moderate	Low	_						
Wind	I)(Strong	Breezy	Light	Calr	n					
PART	TB:	SITE AUDIT									
					Г	Not		-	Follow		Photo/
Secti	ion 1: Wal	er Quality			[Obs.	Yes	No ———	up	N/A	Remarks
50011	(O) 7: FF41	er quanty									
1.01	Obtaine	d an effluent dischai	roe license.			_					
4.60										\boxtimes	Item (A)
1.02		п of sedimentation t					\boxtimes				
1.03	Channel to sedim	is, sandbags or bun entation tanks	ids should be provid	led to direct surface	ce run-off				\boxtimes		Item "1"
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Section	on 2: Air G	Quality									
2.01	Use of re	egular watering/tarpa osed site surfaces, p	aulin, with coverage particularly during dr	e to reduce dust erry weather.	missions		\boxtimes				
2.02	Use of fro	equent watering for	particularly dusty sta	atic construction a	rea.		\boxtimes		П		
2.03	Dusty ma	aterials transported	on trucks with tarpa	aulin covering to a	and from	\boxtimes					
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2.08	Dark smo	ke emission from pl	lant/equipment shou	ld be avoided.							
2.09	De-baggi areas dur	ng, batching and ming the use of bagge	nixing processes are ed cement.	e carried out in s	heltered						

		Not Obs.	Yes	No	Follow	N/A	Photo/ Remarks
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Secti	on 4: Waste/Chemical Management						
4.01	Training of site personnel in site cleanliness and proper waste management.		\boxtimes				
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Section 5.01	on 5: Landscape & Visual Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.		\boxtimes				
Section	on 6: Culture Heritage						
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.		\boxtimes				
6.02	Install ground settlement makers, tilting monitor makers and vibration monitoring points during the active construction period and obtain readings		\boxtimes				
6.03	at a daily interval. Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.		\boxtimes				
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		\boxtimes				
6.05	front of the masonry wall). Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.		\boxtimes				
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.		\boxtimes				

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
<i>Secti</i> 7.01	fon 7: Others Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times?		\boxtimes				
Rema	arks (A) Wastewater and runoff is collected and pumped to storage tanks for	or reuse	on the s	site. Su	ction truck	will be arr	ranged to

Follow-up Observation(s)

measures, no effluent discharge license is required.

Sandbags along the site boundary of Feature No. 11SW-A/FR218, facing Silver Jubilee Mansion, were found to be broken. Requested the Contractor to replace those broken sandbags immediately.

collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above

Tarpaulin should be provided for the packaged waste material temporarily placed at Feature No. 11SW-A/R94. Item "2"

A short section of drain near the staircase of 11SW-A/FR218 was covered incompletely, reminded the Contractor to well Item "3" cover it.

-Client	ER	ENPO/IEC		Contractor
()	(Mr. Tommy Poon)	(Ms. Gigi Lam)	· · · · · · · · · · · · · · · · · · ·	(Mr. Francis Bao)

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Date: Time Inspe Area: PART Weat	F A: her: dity:	25 August 2017 15:40 pm Section Section			Clie ER: IEC: ET: Con		CEI AEI AEI N/A	COM	eering Ltd	,	
PART	 ГВ:	SITE AUDIT									
						Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section	on 1: Wai	ter Quality									
1.01	Obtaine	d an effluent discl	harge license.							\boxtimes	Item (A)
1.02	Provision of sedimentation tank.						\boxtimes				
1.03	Channels, sandbags or bunds should be provided to direct surface run-off to sedimentation tanks.							ř.	\boxtimes		Item "1"
1.04		Open stockplles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.					П		\boxtimes		Item "2"
1.05						\boxtimes					
1.06	Manholes are adequately covered and temporarily sealed.					\boxtimes					
1.07	Some p	rocedures and eq	uipment for rainstorm	protection are pro	vided.		\boxtimes				*item 3*
1.08	Measure provided	es to prevent lea	aked oil from entering	the drainage sy	stem are					\boxtimes	
1.09	Notices not to di	should be posted scharge any sewa	d at conspicuous locat age or wastewater into	tions to remind the the nearby enviro	e workers onment.		\boxtimes				
Carti-	an De Alle f	Ovallh-									
2.01	on 2: Air 0	-	arpaulin, with coverag	e to reduce dust 4	amieeione		_	_			
2.02	from exp	osed site surface	s, particularly during o	iry weather.			\boxtimes				
2.02		Use of frequent watering for particularly dusty static construction area.				\boxtimes					
	Dusty materials transported on trucks with tarpaulin covering to and from the site.			\boxtimes							
2.04		loarding are not less than 2.4m tall provided at areas with public access.					\boxtimes				
2.05	dust.					\boxtimes					
2.06	should b	Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.					\boxtimes				
2.07	services	conditions.	ump trucks entering or		e in good	\boxtimes					
2.08			n plant/equipment sho				\boxtimes				
2.09	De-bagg areas du	ing, batching and iring the use of ba	d mixing processes a agged cement.	re carried out in	sheltered		\boxtimes				

		Not Obs.	Yes	No	Follow	N/A	Photo/ Remarks	
Section 3: Noise								
3.01	All plants are well maintained and in good operating condition.		\boxtimes					
3.02	All the plants should be serviced regularly during the construction program.		\boxtimes					
3.03	Use of noise enclosure for static PME.		\boxtimes					
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.		\boxtimes					
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	X:	\boxtimes					
3.06	Idle equipment should be turned off or throttled down.		\boxtimes					
3.07	Where possible, quieter PME should be used.					\boxtimes		
	on 4: Waste/Chemical Management							
4.01	Training of site personnel in site cleanliness and proper waste management.		\boxtimes					
4.02	Provision of sufficient waste disposal point and regular collection of waste.		\boxtimes					
4.03	Regular cleaning and maintenance for drainage systems.		\boxtimes				· · · · · · · · · · · · · · · · · · ·	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.		\boxtimes					
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.		\boxtimes					
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.		\boxtimes					
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.					\boxtimes		
4.08	The construction waste generated on-site would be transported to the designated disposal facilities managed by EPD or CEDD.		\boxtimes					
4.09	On-site sorting of all C&D materials to inert or non-inert.		\boxtimes					
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 while background.					\boxtimes		
Section 5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.		\boxtimes					
Section	Section 6: Culture Heritage							
6.01	Provide tarpaulin curtain or similar materials to protect the Annex Block (Feature No. 11SW-A/R94) during the construction phase.		\boxtimes					
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.		\boxtimes					
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.		\boxtimes					
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).		\boxtimes					
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.		\boxtimes					
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.		\boxtimes					

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Secti	on 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?		\boxtimes				
						_	
Rem	arks (A) Wastewater and runoff is collected and pumped to storage tanks for	or reuse	on the s	site. Su	ction truck	will be an	anged to

Follow-up Observation(s)

measures, no effluent discharge license is required.

Item "1" Those broken sandbags observed in the last audit were replaced and protected by a layer of concrete. However, a sandbag along the site boundary of Feature No. 11SW-A/FR218, facing the staircase, was found to be broken. Requested the Contractor to replace it immediately.

collect any surplus water temporarily stored in the storage tanks, where necessary. With the implementation of the above

Observed that some packaged waste material still have not been well covered by tarpaulin. Reminded the Contractor to cover it.

The short section of drain near the staircase of 11SW-A/FR218 was well covered. [closed] Item "3"

-Glient	ER	ENPO/IEC	ET	Contractor
()	(Mr. Tommy Poon)	(Ms. Gigi Lam)	()	(Or Francis Bao)