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Our ref : AECOM/(GE/2013/35)/M45/100(1351)

By Hand

11 August 2017

Environmental Protection Department
Environmental Compliance Division, Regional Office (North)
27th Floor, Southorn Centre
130 Hennessy Road, Wan Chai
Hong Kong

Dear Sir,

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

Feature Nos. 11SW-A/R94 and 11SW-A/FR218
Caine Lane, Mid-Levels
Environmental Monitoring and Audit Monthly Report - July 2017

In according with the condition of Environmental Permit No. EP-520/2016 dated 8 August 2016, I submit herewith 3 hard copies and 1 electronic copy of Environmental Monitoring and Audit Report for the month of July 2017.

Should you have any enquiry about the report, please feel free to contact me at 3689 2883.

Yours faithfully,
For and on behalf of
AECOM Asia Co. Ltd.

Tommy Poon
Engineer's Representative

Encl.

TP/PL/bt

c.c. CGE/LPM3 – Attn: Mr. Ivan Chan
AECOM – Attn: Mr. Addy Chan
AECOM – Attn: Ms. Gigi Lam

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 July 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 July 2017. As reported by Contractor, the major activities in the reporting period were shown as follows:

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	- 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 - 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 - Masonry works for Wing Wall and Planter Wall

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 fourth monthly EM&A Report which summaries audit findings for the project during the reporting period between 1 and 31 July 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	- 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 - 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

Party	Position	Name	Telephone
AECOM Asia Co. Ltd.	IEC	Gigi Lam	3922 9000
AECOM Asia Co. Ltd.	Resident Engineer	Tommy Poon	3689 2883
Contractor - Geotech Engineering Ltd.	Project Manager	Danise Tang	9183 2621
	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. / Notification/ Reference No.	Valid Period		Status	Remarks
	From	To		
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 August 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. No 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 310m^3.

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 displayed to collect the surplus water by a licensed discharged 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 6, 13, 20 and 27 July 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

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	Nil	Nil	Nil
Noise	27/07/2016	The door of the noise enclosure near Feature No. 11SW-A/FR218 was not appropriately closed, it was rectified by the Contractor immediately.	27/07/2016
Water Quality	20/07/2017	The sand bag at the site entrance to Feature No. 11SW-A/R94 was found to be broken, it was replaced by Contractor immediately.	20/07/2017
Waste	06/07/2017	Tarpaulin should be provided for packaged waste material even those are waiting for transfer out.	13/07/2017
Cultural Heritage	Nil	Nil	Nil
Permits/Licenses	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 government authority inspection in this reporting month.

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 - Masonry works for Wing Wall and Planter Wall

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

9.1.1 Four environmental site inspections were carried out in July 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 door of the noise enclosure near Feature No. 11SW-A/FR218 was not appropriately closed, it was rectified by the Contractor immediately.

Water Quality Impact

- The sand bag at the site entrance to Feature No. 11SW-A/R94 was found to be broken, it was replaced by Contractor immediately.

Waste Management

- Tarpaulin should be provided for packaged waste material even those were waiting for transfer out.

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 The adjustment of noise assessment was attached in **Appendix E**. Any further adjustment of the PME would be updated in the monthly report.

Appendix A

Construction Programme

ndslip Preventive and Mitigation Programme, 2012, Package A - **Landslip Preventive and Mitigation Works**

ntract No. : GE/2013/35 Works Order No. : LPM201335/14/AR94

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

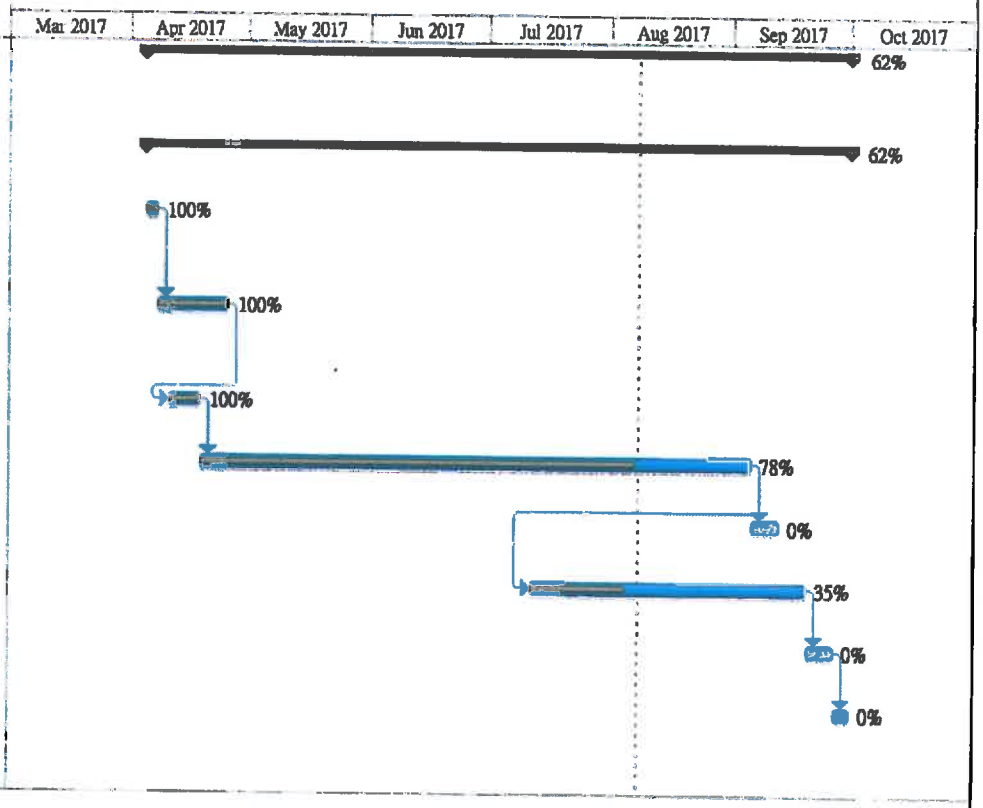
Contractor : Geotech Engineering Limited

Programme Date : 08/08/2017 Revision No. : 13

Commencement Date : 05/04/2017 Anticipated Completion Date : 30/09/2017

'DATED WORKS PROGRAMME

Description	Quantity	Duration	Start	Finish
Feature No.11SW-A/R94 Hong Kong Museum of Medical Science		147 days	2017/4/5	2017/9/30
GEOTECHNICAL WORKS		147 days	2017/4/5	2017/9/30
Erection and modifcation of Base Scaffolding and Temporary Working Platform	1 item	3 days	2017/4/5	2017/4/7
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
Install Test Nails and carry out Pull Out Test	2 nos.	4 days	2017/4/11	2017/4/18
Soil Nailing Works	62 nrs.	116 days	2017/4/19	2017/9/5
Installation of Raking Drains	4 nr.	6 days	2017/9/6	2017/9/12
Construction of Soil Nail Heads	62 nrs.	60 days	2017/1/12	2017/9/19
Reinstatement of existing Masonry Stones	70 nos.	6 days	2017/9/20	2017/9/26
Dismantlef Temporary Working Platform and Base Scaffolding	1 item	4 days	2017/9/27	2017/9/30



nark:
he above duration is based on working days.

Prepared By :

ındslip Preventive and Mitigation Programme, 2012, Package A Landslip Preventive and Mitigation Works

ɔntract No. : GE/2013/35 Works Order Nos. : LPM201335/62/AFR218

ope No. & Location : 11SW-A/FR218 Pathological Institute, Caine Lane, Mid-Levels

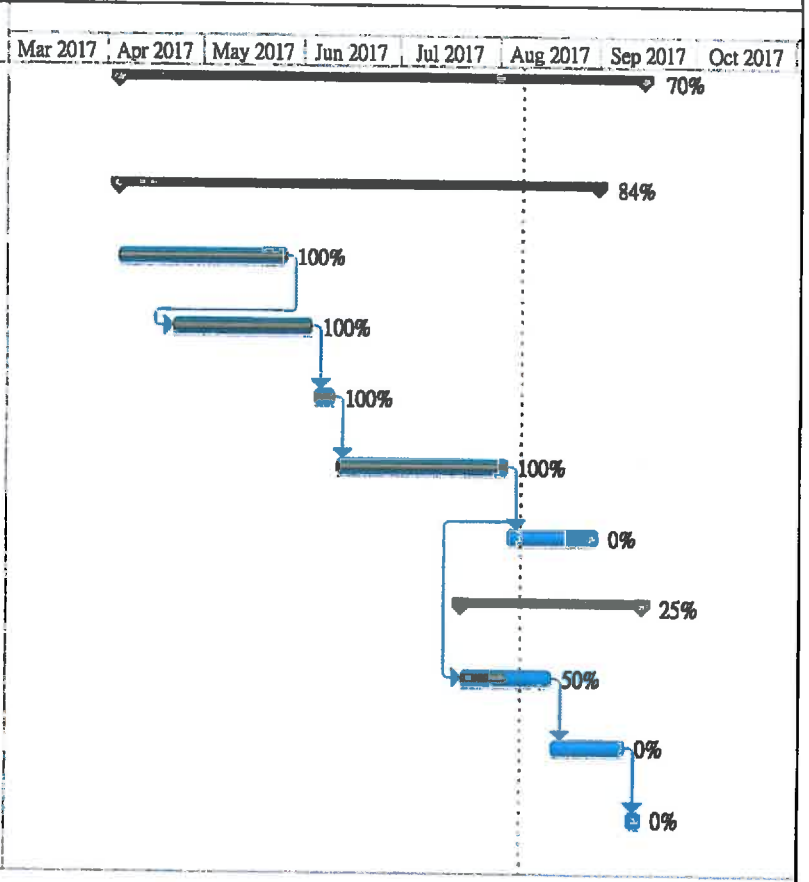
Contractor : Geotech Engineering Limited

Programme Date : 08/08/2017 Revision No. : 13

Commencement Date : 05/04/2017 Anticipated Completion Date : 14/09/2017

PDATED WORKS PROGRAMME

ɔ	Description	Quantity	Duration	Start	Finish
	Feature No.11SW-A/FR218 Pathological Institute, Caine Lane, Mid-Levels		133 days	2017/4/5	2017/9/14
	GEOTECHNICAL WORKS		121 days	2017/4/5	2017/8/31
	Pit Excavation and install shoring system	360 cu.m.	40 days	2017/4/5	2017/5/26
	Backfilling with Mass Concrete	250 cu.m.	34 days	2017/4/22	2017/6/3
	Construction Wall Stem of Wall Thickening	18m (L)	6 days	2017/6/5	2017/6/10
	Construction for Mass Concrete Planter Wall	18m (L)	45 days	2017/6/12	2017/8/3
	Filling of compacted fill	73.5 cu.m.	24 days	2017/8/4	2017/8/31
	MISCELLANEOUS		48 days	2017/7/21	2017/9/14
	Construction of concrete staircase	8.0m	24 days	2017/7/21	2017/8/17
ɔ	Masonry Works for Wing Wall and Planter Wall	80.0 sq.m.	20 days	2017/8/18	2017/9/9
1	Hydroseeding & PlantingWorks	120.0 sq.m. & 960 nrs	4 days	2017/9/11	2017/9/14



mark:
The above duration is based on working days.

Prepared By :

Appendix B

Environmental Mitigation Implementation Schedule

Appendix B Environmental Mitigation Implementation Schedule

Potential 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
Noise	
• 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
Water 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 Committee Practice (ProPECC) Note PN 1/94 "Construction Site Drainage"*
Waste 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
Ecology	
• No adverse ecological impact is expected.	• Not required
Cultural 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 WASTE C & D Materials

Month July year 2017

Disvision: 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 2) 11SW-A/R94

Contractor: Geotech Engineering Limited.

DDF No.[1]	Date of Disposal	Disposal Site[2]	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^3) / Wt. (t) (Where applicable)	Total Vol. (m^3) / 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: 1-Aug-2017

Appendix D

IEC Site Audit Checklist

AECOM

Project:	Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels	**Inspected by**	
Inspection Date:	6 July 2017	**Client:**	CEDD
Time:	15:50 pm	**ER:**	*AECOM*
Inspection Area:	☒Feature No. 11SW-A/R94	**IEC:**	*AECOM*
	☒Feature No. 11SW-A/R218	**ET:**	*N/A*
	☒HKMMS & its Annex Block	**Contractor:**	*Geotech Engineering Ltd.*

PART A: GENERAL INFORMATION

Weather: ☐ Sunny ☐ Fine ☐ Cloudy ☑ Rainy

Temperature: ~29 °C

Humidity: ☑ High ☐ Moderate ☐ Low

Wind: ☐ Strong ☑ Breeze ☐ 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.	☐	☐	☐	☐	☒	Item (A)
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 stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
1.06	Manholes are adequately covered and temporarily sealed.	☐	☒	☐	☐	☐	
1.07	Some procedures and equipment for rainstorm protection are provided.	☐	☐	☐	☒	☐	Item "1"
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
2.02	Use of frequent watering for particularly dusty static construction area.	☐	☒	☐	☐	☐	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	☒	☐	☐	☐	☐	
2.04	Hoarding 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 leaving the site are in good services conditions.	☒	☐	☐	☐	☐	
2.08	Dark smoke emission from plant/equipment should be avoided.	☐	☒	☐	☐	☐	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	☐	☒	☐	☐	☐	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 3: Noise							
3.01	All plants are well maintained and in good operating condition.	☐	☒	☐	☐	☐	
3.02	All the plants should be serviced regularly during the construction program.	☐	☒	☐	☐	☐	
3.03	Use of noise enclosure for static PME.	☐	☒	☐	☐	☐	
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	☐	☒	☐	☐	☐	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	☐	☒	☐	☐	☐	
3.06	Idle equipment should be turned off or throttled down.	☐	☒	☐	☐	☐	
3.07	Where possible, quieter PME should be used.	☐	☐	☐	☐	☒	
Section 4: Waste/Chemical Management							
4.01	Training of site personnel in site cleanliness and proper waste management.	☐	☒	☐	☐	☐	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	☐	☒	☐	☐	☐	
4.03	Regular cleaning and maintenance for drainage systems.	☐	☒	☐	☐	☐	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
4.09	On-site sorting of all C&D materials to inert or non-inert.	☐	☒	☐	☐	☐	
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.	☐	☐	☐	☐	☒	
Section 5: Landscape & Visual							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	☐	☒	☐	☐	☐	
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).	☐	☒	☐	☐	☐	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	☐	☒	☐	☐	☐	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	☐	☒	☐	☐	☐	

	Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
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" Tarpaulin should be provided for packaged waste material even those are waiting for transfer out.

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

AECOM

Project:	Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels	**Inspected by**	
Inspection Date:	13 July 2017	**Client:**	CEDD
Time:	15:50 pm	**ER:**	*AECOM*
Inspection Area:	☒Feature No. 11SW-A/R94	**IEC:**	*AECOM*
	☒Feature No. 11SW-A/R218	**ET:**	*N/A*
	☒HKMMS & its Annex Block	**Contractor:**	*Geotech Engineering Ltd.*

PART A: GENERAL INFORMATION

Weather:	☐ Sunny	☐ Fine	☑ Cloudy	☐ Rainy
Temperature:	~ 32 °C			
Humidity:	☐ High	☑ Moderate	☐ Low	
Wind:	☐ Strong	☐ Breeze	☑ 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.	☐	☐	☐	☐	☒	Item (A)
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 stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
1.06	Manholes are adequately covered and temporarily sealed.	☐	☒	☐	☐	☐	
1.07	Some procedures and equipment for rainstorm protection are provided.	☐	☒	☐	☐	☐	Item "1"
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
2.02	Use of frequent watering for particularly dusty static construction area.	☐	☒	☐	☐	☐	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	☒	☐	☐	☐	☐	
2.04	Hoarding 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 leaving the site are in good services conditions.	☒	☐	☐	☐	☐	
2.08	Dark smoke emission from plant/equipment should be avoided.	☐	☒	☐	☐	☐	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	☐	☒	☐	☐	☐	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 3: Noise							
3.01	All plants are well maintained and in good operating condition.	☐	☒	☐	☐	☐	
3.02	All the plants should be serviced regularly during the construction program.	☐	☒	☐	☐	☐	
3.03	Use of noise enclosure for static PME.	☐	☒	☐	☐	☐	
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	☐	☒	☐	☐	☐	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	☐	☒	☐	☐	☐	
3.06	Idle equipment should be turned off or throttled down.	☐	☒	☐	☐	☐	
3.07	Where possible, quieter PME should be used.	☐	☐	☐	☐	☒	
Section 4: Waste/Chemical Management							
4.01	Training of site personnel in site cleanliness and proper waste management.	☐	☒	☐	☐	☐	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	☐	☒	☐	☐	☐	
4.03	Regular cleaning and maintenance for drainage systems.	☐	☒	☐	☐	☐	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
4.09	On-site sorting of all C&D materials to inert or non-inert.	☐	☒	☐	☐	☐	
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.	☐	☐	☐	☐	☒	
Section 5: Landscape & Visual							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	☐	☒	☐	☐	☐	
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).	☐	☒	☐	☐	☐	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	☐	☒	☐	☐	☐	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	☐	☒	☐	☐	☐	

	Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
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" Tarpaulin has been used to cover packed waste materials. [closed]

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

AECOM

Project:	Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels	**Inspected by**	
Inspection Date:	20 July 2017	**Client:**	CEDD
Time:	16:00 pm	**ER:**	*AECOM*
Inspection Area:	☒Feature No. 11SW-A/R94	**IEC:**	*AECOM*
	☒Feature No. 11SW-A/R218	**ET:**	*N/A*
	☒HKMMS & its Annex Block	**Contractor:**	*Geotech Engineering Ltd.*

PART A: GENERAL INFORMATION

Weather:	☐ Sunny	☑ Fine	☐ Cloudy	☐ Rainy
Temperature:	~ 30 °C			
Humidity:	☐ High	☑ Moderate	☐ Low	
Wind:	☐ Strong	☐ Breeze	☑ 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.	☐	☐	☐	☐	☒	Item (A)
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 stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
1.06	Manholes are adequately covered and temporarily sealed.	☐	☒	☐	☐	☐	
1.07	Some procedures and equipment for rainstorm protection are provided.	☐	☐	☐	☒	☐	Item "1"
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
2.02	Use of frequent watering for particularly dusty static construction area.	☐	☒	☐	☐	☐	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	☒	☐	☐	☐	☐	
2.04	Hoarding 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 leaving the site are in good services conditions.	☒	☐	☐	☐	☐	
2.08	Dark smoke emission from plant/equipment should be avoided.	☐	☒	☐	☐	☐	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	☐	☒	☐	☐	☐	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 3: Noise							
3.01	All plants are well maintained and in good operating condition.	☐	☒	☐	☐	☐	
3.02	All the plants should be serviced regularly during the construction program.	☐	☒	☐	☐	☐	
3.03	Use of noise enclosure for static PME.	☐	☒	☐	☐	☐	
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	☐	☒	☐	☐	☐	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	☐	☒	☐	☐	☐	
3.06	Idle equipment should be turned off or throttled down.	☐	☒	☐	☐	☐	
3.07	Where possible, quieter PME should be used.	☐	☐	☐	☐	☒	
Section 4: Waste/Chemical Management							
4.01	Training of site personnel in site cleanliness and proper waste management.	☐	☒	☐	☐	☐	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	☐	☒	☐	☐	☐	
4.03	Regular cleaning and maintenance for drainage systems.	☐	☒	☐	☐	☐	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
4.09	On-site sorting of all C&D materials to inert or non-inert.	☐	☒	☐	☐	☐	
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.	☐	☐	☐	☐	☒	
Section 5: Landscape & Visual							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	☐	☒	☐	☐	☐	
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).	☐	☒	☐	☐	☐	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	☐	☒	☐	☐	☐	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	☐	☒	☐	☐	☐	

	Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
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 sand bag at the site entrance to Feature No. 11SW-A/R94 was found to be broken, it was replaced by the Contractor immediately. [closed]

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

AECOM

Project:	Landslip Prevention and Mitigation Works at Feature Nos. 11SW-A/R94 and 11SW-A/FR218, HKMMS, Caine Lane, Mid-Levels	**Inspected by**	
Inspection Date:	27 July 2017	**Client:**	CEDD
Time:	16:00 pm	**ER:**	*AECOM*
Inspection Area:	☒Feature No. 11SW-A/R94	**IEC:**	*AECOM*
	☒Feature No. 11SW-A/R218	**ET:**	*N/A*
	☒HKMMS & its Annex Block	**Contractor:**	*Geotech Engineering Ltd.*

PART A: GENERAL INFORMATION

Weather:	☐ Sunny	☑ Fine	☐ Cloudy	☐ Rainy
Temperature:	~ 30 °C			
Humidity:	☐ High	☑ Moderate	☐ Low	
Wind:	☐ Strong	☐ Breeze	☑ 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.	☐	☐	☐	☐	☒	Item (A)
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 stockpiles of construction materials on site should be covered with tarpaulin or similar fabric as necessary during rainstorms.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
2.02	Use of frequent watering for particularly dusty static construction area.	☐	☒	☐	☐	☐	
2.03	Dusty materials transported on trucks with tarpaulin covering to and from the site.	☒	☐	☐	☐	☐	
2.04	Hoarding 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 leaving the site are in good services conditions.	☒	☐	☐	☐	☐	
2.08	Dark smoke emission from plant/equipment should be avoided.	☐	☒	☐	☐	☐	
2.09	De-bagging, batching and mixing processes are carried out in sheltered areas during the use of bagged cement.	☐	☒	☐	☐	☐	

		Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
Section 3: Noise							
3.01	All plants are well maintained and in good operating condition.	☐	☒	☐	☐	☐	
3.02	All the plants should be serviced regularly during the construction program.	☐	☒	☐	☐	☐	
3.03	Use of noise enclosure for static PME.	☐	☐	☐	☒	☐	Item "1"
3.04	Use movable noise barrier only for feature no. 11SW-A/R94.	☐	☒	☐	☐	☐	
3.05	Use of noise insulating fabric for certain PME (e.g. handheld electric saw and use in designated area with noise barrier).	☐	☒	☐	☐	☐	
3.06	Idle equipment should be turned off or throttled down.	☐	☒	☐	☐	☐	
3.07	Where possible, quieter PME should be used.	☐	☐	☐	☐	☒	
Section 4: Waste/Chemical Management							
4.01	Training of site personnel in site cleanliness and proper waste management.	☐	☒	☐	☐	☐	
4.02	Provision of sufficient waste disposal point and regular collection of waste.	☐	☒	☐	☐	☐	
4.03	Regular cleaning and maintenance for drainage systems.	☐	☒	☐	☐	☐	
4.04	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
4.06	Waste should be handled and stores well to ensure secure containment, thus minimizing the potential of pollution.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
4.09	On-site sorting of all C&D materials to inert or non-inert.	☐	☒	☐	☐	☐	
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.	☐	☐	☐	☐	☒	
Section 5: Landscape & Visual							
5.01	Temporary hoarding would be erected along the boundary of the works site to provide some screening effect to the surrounding sensitive receivers.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
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.	☐	☒	☐	☐	☐	
6.03	Operate drilling process manually under full-time supervision of experienced works supervisor at Feature No. 11SW-A/R94.	☐	☒	☐	☐	☐	
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).	☐	☒	☐	☐	☐	
6.05	Adopt manual pit by pit excavation at Feature No. 11SW-A/FR218.	☐	☒	☐	☐	☐	
6.06	Adopt non-excavation type of hoardings at Feature No. 11SW-A/FR218 between the slope and main building.	☐	☒	☐	☐	☐	

	Not Obs.	Yes	No	Follow up	N/A	Photo/ Remarks
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 door of the noise enclosure near Feature No. 11SW-A/FR218 was not appropriately closed, it was rectified by the Contractor immediately. [closed]

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

Appendix E

Adjustment of PME

Proposed Construction Plant Inventory
Unmitigated Scenario
Feature No. 11SW-A/R94

1 Site clearance, UU detection and Preparation

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60%	2	0	103
						Total	103

2 Initial survey and erection of hoarding

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	80	1	0	107
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60	2	0	103
Welding set	EIA Ref. 1	1	78	80	1	0	77
Water Pump (electric)	CNP281	3	88	10	10	0	83
						Total	108

3 Ground investigation works

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	80	1	0	107
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60	2	0	103
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	60	2	0	106
Water Pump (electric)	CNP281	3	88	10	10	0	83
						Total	110

4 Take off existing masonry stone facing

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	100	0	0	108
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	60	2	0	106
Water Pump (electric)	CNP281	3	88	10	10	0	83
						Total	110

5 Installation of soil nails and raking drains

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	CNP101	1	108	100	0	0	108	-
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104	-
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104	-
Drill rig, rotary type (diesel)	OCNP	1	110	100	0	0	110	-
Concrete lorry mixer	CNP044	1	109	80	1	0	-	108
Grout mixer	OCNP	1	90	100	0	0	90	-
Grout pump	OCNP	1	105	80	1	0	-	104
Water Pump (electric)	CNP281	3	88	10	10	0	83	83
						Total	113	109
						Maximum	113	

6 Construction of soil nail head

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	CNP101	1	108	100	0	0	108	-
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104	-
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104	-
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	60	2	0	106	-
Concrete lorry mixer	CNP044	1	109	80	1	0	-	108
Grout mixer	OCNP	1	90	100	0	0	90	-
Grout pump	OCNP	1	105	80	1	0	-	104
Saw, circular, wood	CNP201	1	108	80	1	0	107	
Water Pump (electric)	CNP281	3	88	10	10	0	83	83
						Total	113	109
						Maximum	113	

7 Reinstatement of existing masonry stone facing

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	100	0	0	108
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	60	2	0	106
Water Pump (electric)	CNP281	3	88	10	10	0	83
						Total	110

8 Site clearance and dismantle of hoarding

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	100	0	0	108
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104
Welding set	EIA Ref. 1	1	78	100	0	0	78
Water Pump (electric)	CNP281	3	88	10	10	0	83
						Total	111

Notes:

[1] CNP - Table 3, Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM)
OCNP - Other PME documented by the Noise Control Authority
(http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
EIA Ref. 1 - Approved Sheung Shui to Lok Ma Chau Spur Line Environmental Impact Assessment Report (Register No.: AEIAR-052/2002)

[2] PME in different groups will not be in use concurrently. The group with higher SWL has been adopted in the assessment for the worst case scenario.

Proposed Construction Plant Inventory
Unmitigated Scenario
Feature No. 11SW-A/FR218

1 Site clearance, UU detection and Preparation

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60	2	0	103
						Total	103

2 Initial survey and erection of hoarding

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	80	1	0	107
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60	2	0	103
Welding set	EIA Ref. 1	1	78	80	1	0	77
Water Pump (electric)	CNP281	2	88	10	10	0	81
						Total	108

3 Excavation works (Bay 1 & Bay 3)
3.1 PME will be in use in Bay 1 & Bay 3

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Welding set	EIA Ref. 1	1	78	10	10	0	68
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	10	10	0	98
Winch (electric)	CNP262	2	95	50	3	0	95
Water Pump (electric)	CNP281	2	88	10	10	0	81
						Total	100

3.2 PME will operate at "area for bulky PME for works at Bay 1 to Bay 3" [3]

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2]	
							Group 1	Group 2
Generator	CNP101	1	108	100	0	0	-	108
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	10	10	0	-	95
Saw, circular, wood	CNP201	1	108	10	10	0	-	98
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	10	10	0	95	-
Water Pump (electric)	CNP281	2	88	10	10	0	81	81
						Total	95	109
						Maximum	109	

4 Installation of dowel bars and concrete works

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2]	
							Group 1	Group 2
Generator	CNP101	1	108	80	1	0	107	-
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	10	10	0	98	-
Concrete lorry mixer	CNP044	1	109	30	5	0	-	104
Saw, circular, wood	CNP201	1	108	10	10	0	98	-
Poker	CNP170	1	113	10	10	0	-	103
Concrete pump	CNP047	1	109	10	10	0	-	99
Water Pump (electric)	CNP281	2	88	10	10	0	81	81
						Total	108	107
						Maximum	108	

5 Pit by pit excavation works (Bay 2)

5.1 PME will be in use in Bay 2

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Welding set	EIA Ref. 1	1	78	10	10	0	68
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	10	10	0	98
Winch (electric)	CNP262	2	95	50	3	0	95
Water Pump (electric)	CNP281	2	88	10	10	0	81
						Total	100

5.2 PME will operate at "area for bulky PME for works at Bay 1 to Bay 3" [3]

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	CNP101	1	108	100	0	0	-	108
Saw, circular, wood	CNP201	1	108	60	2	0	-	106
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	50	3	0	-	102
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104	-
Water Pump (electric)	CNP281	2	88	10	10	0	81	81
						Total	104	111
						Maximum	111	

6 Installation of dowel bars and concrete works

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	CNP101	1	108	80	1	0	107	-
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	15	8	0	100	-
Concrete lorry mixer	CNP044	1	109	10	10	0	-	99
Saw, circular, wood	CNP201	1	108	50	3	0	105	-
Poker	CNP170	1	113	10	10	0	-	103
Concrete pump	CNP047	1	109	10	10	0	-	99
Water Pump (electric)	CNP281	2	88	10	10	0	81	81
						Total	110	106
						Maximum	110	

7 Back filling of top soil

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	100	0	0	108
Power rammer (petrol)	CNP169	1	108	30	5	0	103
Water Pump (electric)	CNP281	2	88	10	10	0	81
						Total	109

8 Construction of concrete staircase

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	CNP101	1	108	100	0	0	-	108
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	-	104
Breaker, hand-held, mass > 10kg and < 20kg	CNP024	1	108	15	8	0	-	100
Concrete lorry mixer	CNP044	1	109	10	10	0	99	-
Saw, circular, wood	CNP201	1	108	80	1	0	107	-
Water Pump (electric)	CNP281	2	88	10	10	0	81	81
						Total	108	110
						Maximum	110	

9 Landscape works

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	100	0	0	108
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104
Water Pump (electric)	CNP281	2	88	10	10	0	81
						Total	109

10 Site clearance and dismantle of hoarding

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	CNP101	1	108	100	0	0	108
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	0	104
Welding set	EIA Ref. 1	1	78	100	0	0	78
Water Pump (electric)	CNP281	2	88	10	10	0	81
						Total	111

Notes:

[1] CNP - Table 3, Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM)
OCNP - Other PME documented by the Noise Control Authority
(http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLc.pdf)
EIA Ref. 1 - Approved Sheung Shui to Lok Ma Chau Spur Line Environmental Impact Assessment Report (Register No.: AEIAR-052/2002)

[2] PME in different groups will not be in use concurrently. The group with higher SWL has been adopted in the assessment for the worst case scenario.

[3] Due to the gradient and limited area of Bay 1 to Bay 3, bulky PME such as generators and trucks will be placed and operate at the "area for bulky PME for works at Bay 1 to Bay 3" as shown in **Figure 3.2.**

Proposed Construction Plant Inventory
Mitigated Scenario
Feature No. 11SW-A/R94

1 Site clearance, UU detection and Preparation

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60%	2	5	98
						Total	98

2 Initial survey and erection of hoarding

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	QPME EPD-02677	1	91	80	1	10	80
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60	2	5	93
Welding set	EIA Ref. 1	1	73	80	1	0	77
Water Pump (electric)	CNP281	3	83	10	10	5	78
						Total	98

3 Ground investigation works

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	QPME EPD-02677	1	91	80	1	10	80
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60	2	5	98
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	60	2	5	93
Water Pump (electric)	CNP281	3	83	10	10	5	78
						Total	99

4 Take off existing masonry stone facing

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	QPME EPD-02677	1	91	100	0	10	81
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	60	2	5	93
Water Pump (electric)	CNP281	3	83	10	10	5	78
						Total	93

5 Installation of soil nails and raking drains

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	QPME EPD-02677	1	91	100	0	10	81	-
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99	-
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99	-
Drill rig, rotary type (diesel)	OCNP	1	110	100	0	10	100	-
Concrete lorry mixer	CNP044	1	109	80	1	5	-	103
Grout mixer	OCNP	1	90	100	0	0	90	-
Grout pump	OCNP	1	105	80	1	5	-	99
Water Pump (electric)	CNP281	3	83	10	10	5	78	78
						Total	104	104
						Maximum	104	

6 Construction of soil nail head

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	QPME EPD-02677	1	91	100	0	10	81	-
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99	-
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99	-
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	60	2	5	93	-
Concrete lorry mixer	CNP044	1	109	80	1	5	-	103
Grout mixer	OCNP	1	90	100	0	0	90	-
Grout pump	OCNP	1	105	80	1	5	-	99
Saw, circular, wood	EIA Ref. 2	1	103	80	1	5	97	-
Water Pump (electric)	CNP281	3	83	10	10	5	78	78
						Total	104	104
						Maximum	104	

7 Reinstatement of existing masonry stone facing

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	QPME EPD-02677	1	91	100	0	10	81
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	60	2	5	93
Water Pump (electric)	CNP231	3	85	10	10	5	78
						Total	**93**

8 Site clearance and dismantle of hoarding

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	QPME EPD-02677	1	91	100	0	10	81
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99
Welding set	EIA Ref. 1	1	78	100	0	0	78
Water Pump (electric)	CNP281	3	88	10	10	5	78
						Total	**102**

Notes:

[1] CNP – Table 3, Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM)
OCNP – Other PME documented by the Noise Control Authority
(http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
EIA Ref. 1 – Approved Sheung Shui to Lok Ma Chau Spur Line Environmental Impact Assessment Report (Register No.: AEIAR-052/2002)

[2] PME in different groups will not be in use concurrently. The group with higher SWL has been adopted in the assessment for the worst case scenario.

Proposed Construction Plant Inventory
Mitigated Scenario
Feature No. 11SW-A/FR218

1 Site clearance, UU detection and Preparation

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60	2	5	98
						Total	98

2 Initial survey and erection of hoarding

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	OPME EPD-02677	1	91	80	1	10	90
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	60	2	5	98
Welding set	EIA Ref. 1	1	78	80	1	5	72
Water Pump (electric)	CNP281	2	88	10	10	5	76
						Total	98

3 Excavation works (Bay 1 & Bay 3)
3.1 PME will be in use in Bay 1 & Bay 3

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Welding set	EIA Ref. 1	1	78	10	10	5	65
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	10	10	5	85
Winch (electric)	CNP262	2	95	50	3	5	90
Water Pump (electric)	CNP281	2	88	10	10	5	76
						Total	91

3.2 PME will operate at "area for bulky PME for works at Bay 1 to Bay 3" [3]

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	OPME EPD-02677	1	91	100	0	10	-	81
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	10	10	5	-	90
Saw, circular, wood	EIA Ref. 2	1	103	10	10	5	-	88
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	10	10	5	90	-
Water Pump (electric)	CNP281	2	88	10	10	5	76	76
						Total	90	93
						Maximum	93	

4 Installation of dowel bars and concrete works

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	OPME EPD-02677	1	91	80	1	10	80	-
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	10	10	5	85	-
Concrete lorry mixer	CNP044	1	109	30	5	5	-	99
Saw, circular, wood	EIA Ref. 2	1	103	10	10	5	88	-
Poker	CNP170	1	113	10	10	5	-	98
Concrete pump	CNP047	1	109	10	10	5	-	94
Water Pump (electric)	CNP281	2	88	10	10	5	76	76
						Total	90	102
						Maximum	102	

5 Pit by pit excavation works (Bay 2)

5.1 PME will be in use in Bay 2

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Welding set	EIA Ref. 1	1	78	10	10	5	63
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	10	10	5	85
Winch (electric)	CNP262	2	95	50	3	5	90
Water Pump (electric)	CNP281	2	88	10	10	5	76
						Total	91

5.2 PME will operate at "area for bulky PME for works at Bay 1 to Bay 3" [3]

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	QPME EPD-02677	1	91	100	0	10	-	81
Saw, circular, wood	EIA Ref. 2	1	103	60	2	5	-	96
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	50	3	5	-	97
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99	-
Water Pump (electric)	CNP281	2	88	10	10	5	76	76
						Total	99	99
						Maximum	99	

6 Installation of dowel bars and concrete works

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	QPME EPD-02677	1	91	80	1	10	80	-
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	15	8	5	87	-
Concrete lorry mixer	CNP044	1	109	10	10	5	-	94
Saw, circular, wood	EIA Ref. 2	1	103	50	3	5	95	-
Poker	CNP170	1	113	10	10	5	-	98
Concrete pump	CNP047	1	109	10	10	5	-	94
Water Pump (electric)	CNP281	2	88	10	10	5	76	76
						Total	96	101
						Maximum	101	

7 Back filling of top soil

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	QPME EPD-02677	1	91	100	0	10	81
Power rammer (petrol)	CNP169	1	103	80	1	5	102
Water Pump (electric)	CNP281	2	88	10	10	5	76
						Total	102

8 Construction of concrete staircase

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A) [2] Group 1	Group 2
Generator	QPME EPD-02677	1	91	100	0	10	-	81
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	-	99
Breaker, hand-held, mass > 10kg and < 20kg	EIA Ref. 2	1	100	15	8	0	-	92
Concrete lorry mixer	CNP044	1	109	10	10	5	94	-
Saw, circular, wood	EIA Ref. 2	1	103	80	1	5	97	-
Water Pump (electric)	CNP281	2	88	10	10	5	76	76
						Total	99	100
						Maximum	100	

9 Landscape works

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	QPME EPD-02677	1	91	100	0	10	81
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99
Water Pump (electric)	CNP281	2	88	10	10	5	76
						Total	99

10 Site clearance and dismantle of hoarding

Powered Mechanical Equipment	Ref. [1]	No. of items	SWL/item, dB(A)	On-time %	On-time Correction, dB(A)	Barrier Correction, dB(A)	Total SWL, dB(A)
Generator	QPME EPD-02677	1	91	100	0	10	81
Crane lorry, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99
Dump truck with grab, 5.5 tone < gross vehicle weight ≤ 38 tonne	OCNP	1	105	80	1	5	99
Welding set	EIA Ref. 1	1	78	100	0	0	78
Water Pump (electric)	CNP281	2	88	10	10	5	76
						Total	102

Notes:

[1] CNP – Table 3, Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM)
OCNP – Other PME documented by the Noise Control Authority
(http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
EIA Ref. 1 – Approved Sheung Shui to Lok Ma Chau Spur Line Environmental Impact Assessment Report (Register No.: AEIAR-052/2002)

[2] PME in different groups will not be in use concurrently. The group with higher SWL has been adopted in the assessment for the worst case scenario.

[3] Due to the gradient and limited area of Bay 1 to Bay 3, bulky PME such as generators and trucks will be placed and operate at the "area for bulky PME for works at Bay 1 to Bay 3" as shown in **Figure 3.2.**

Distance of NSRs to the Notional Source Positions

NSR	Description	Land use	Horizontal distance to notional source position, m					
			Feature No. 11SW-A/R94	Feature No. 11SW-A/FR218				
				Overall	Bay 1	Bay 2	Bay 3	Area for bulky PME for works at Bay 1 to
N1	Silver Jubilee Mansion	Residential	58	19	22	22	24	17
N2	Cherry Crest	Residential	53	18	15	22	29	17
N3	No.1, U Lam Terrace	Residential	39	24	25	29	34	29
N4	The Bellevue place	Residential	34	54	57	59	63	60
N5	Briar-Caine Co-Op Building	Residential	23	66	72	70	69	75
N6	Island Christian Academy	Educational Institution	68	58	56	62	69	59

Construction Noise Impact
Unmitigated Scenario
NSR N1
Description Silver Jubilee Mansion

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	103	58	43	63	63								
2	Initial survey and erection of hoarding	108	58	43	68		68							
3	Ground investigation works	110	58	43	70		70							
4	Take off existing masonry stone facing	110	58	43	70			70						
5	Installation of soil nails and raking drains	113	58	43	73				73	73	73			
6	Construction of soil nail head	113	58	43	73							73		
7	Reinstatement of existing masonry stone facing	110	58	43	70								70	
8	Site clearance and dismantle of hoarding	111	58	43	71									71
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	103	19	34	72	72								
2	Initial survey and erection of hoarding	108	19	33	78	78								
3.1	Excavation works (Bay 1)	100	22	35	68		68							
3.1	Excavation works (Bay 3)	100	24	36	67		67							
3.2	Excavation works (Bulky PME area)	109	17	33	79		79							
4	Installation of dowel bars and concrete works	108	19	34	77			77						
5.1	Pit by pit excavation works (Bay 2)	100	22	35	68				68					
5.2	Pit by pit excavation works (Bulky PME area)	111	17	33	81				81					
6	Installation of dowel bars and concrete works	110	19	34	79					79				
7	Back filling of top soil	109	19	34	78						78			
8	Construction of concrete staircase	110	19	34	79							79		
9	Landscape works	109	19	34	78								78	
10	Site clearance and dismantle of hoarding	111	19	34	80									80
				Total SPL, dB(A):		79	80	78	82	80	79	80	79	80
				Exceedance:		4	5	3	7	5	4	5	4	5

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Unmitigated Scenario
NSR N2
Description Cherry Crest

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	103	53	43	63	63								
2	Initial survey and erection of hoarding	108	53	43	68		68							
3	Ground investigation works	110	53	43	70		70							
4	Take off existing masonry stone facing	110	53	43	70			70						
5	Installation of soil nails and raking drains	113	53	43	73				73	73	73			
6	Construction of soil nail head	113	53	43	73							73		
7	Reinstatement of existing masonry stone facing	110	53	43	70								70	
8	Site clearance and dismantle of hoarding	111	53	43	71									71
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	103	18	33	73	73								
2	Initial survey and erection of hoarding	108	18	33	78	78								
3.1	Excavation works (Bay 1)	100	15	32	71		71							
3.1	Excavation works (Bay 3)	100	29	37	66		66							
3.2	Excavation works (Bulky PME area)	109	17	33	79		79							
4	Installation of dowel bars and concrete works	108	18	33	78			78						
5.1	Pit by pit excavation works (Bay 2)	100	22	35	68				68					
5.2	Pit by pit excavation works (Bulky PME area)	111	17	33	81				81					
6	Installation of dowel bars and concrete works	110	18	33	80					80				
7	Back filling of top soil	109	18	33	79						79			
8	Construction of concrete staircase	110	18	33	80							80		
9	Landscape works	109	18	33	79								79	
10	Site clearance and dismantle of hoarding	111	18	33	81									81
				Total SPL, dB(A):		80	80	79	82	81	80	81	80	81
				Exceedance:		5	5	4	7	6	5	6	5	6

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Unmitigated Scenario
NSR N3
Description No.1, U Lam Terrace

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	103	39	43	63	63								
2	Initial survey and erection of hoarding	108	39	43	68		68							
3	Ground investigation works	110	39	43	70		70							
4	Take off existing masonry stone facing	110	39	43	70			70						
5	Installation of soil nails and raking drains	113	39	43	73				73	73	73			
6	Construction of soil nail head	113	39	43	73							73		
7	Reinstatement of existing masonry stone facing	110	39	43	70								70	
8	Site clearance and dismantle of hoarding	111	39	43	71									71
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	103	24	36	70	70								
2	Initial survey and erection of hoarding	108	24	36	75	75								
3.1	Excavation works (Bay 1)	100	25	36	67		67							
3.1	Excavation works (Bay 3)	100	34	39	64		64							
3.2	Excavation works (Bulky PME area)	109	29	37	75		75							
4	Installation of dowel bars and concrete works	108	24	36	75			75						
5.1	Pit by pit excavation works (Bay 2)	100	29	37	66				66					
5.2	Pit by pit excavation works (Bulky PME area)	111	29	37	77				77					
6	Installation of dowel bars and concrete works	110	24	36	77					77				
7	Back filling of top soil	109	24	36	76						76			
8	Construction of concrete staircase	110	24	36	77							77		
9	Landscape works	109	24	36	76								76	
10	Site clearance and dismantle of hoarding	111	24	36	78									78
				Total SPL, dB(A):		77	77	76	79	78	78	78	77	78
				Exceedance:		2	2	1	4	3	3	3	2	3

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Unmitigated Scenario
NSR N4
Description The Bellevue Place

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	103	34	39	67	67								
2	Initial survey and erection of hoarding	108	34	39	72		72							
3	Ground investigation works	110	34	39	74		74							
4	Take off existing masonry stone facing	110	34	39	74			74						
5	Installation of soil nails and raking drains	113	34	39	77				77	77	77			
6	Construction of soil nail head	113	34	39	77							77		
7	Reinstatement of existing masonry stone facing	110	34	39	74								74	
8	Site clearance and dismantle of hoarding	111	34	39	75									75
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	103	54	43	63	63								
2	Initial survey and erection of hoarding	108	54	43	68	68								
3.1	Excavation works (Bay 1)	100	57	43	60		60							
3.1	Excavation works (Bay 3)	100	63	44	59		59							
3.2	Excavation works (Bulky PME area)	109	60	44	68		68							
4	Installation of dowel bars and concrete works	108	54	43	68			68						
5.1	Pit by pit excavation works (Bay 2)	100	59	43	60				60					
5.2	Pit by pit excavation works (Bulky PME area)	111	60	44	70				70					
6	Installation of dowel bars and concrete works	110	54	43	70					70				
7	Back filling of top soil	109	54	43	69						69			
8	Construction of concrete staircase	110	54	43	70							70		
9	Landscape works	109	54	43	69								69	
10	Site clearance and dismantle of hoarding	111	54	43	71									71
				Total SPL, dB(A):		71	77	75	78	78	78	78	75	76
				Exceedance:		-	2	0	3	3	3	3	0	1

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Unmitigated Scenario
NSR N5
Description Briar-Caine Co-Op Building

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	103	23	35	71	71								
2	Initial survey and erection of hoarding	108	23	35	76		76							
3	Ground investigation works	110	23	35	78		78							
4	Take off existing masonry stone facing	110	23	35	78			78						
5	Installation of soil nails and raking drains	113	23	35	81				81	81	81			
6	Construction of soil nail head	113	23	35	81							81		
7	Reinstatement of existing masonry stone facing	110	23	35	78								78	
8	Site clearance and dismantle of hoarding	111	23	35	79									79
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	103	66	44	62	62								
2	Initial survey and erection of hoarding	108	66	44	67	67								
3.1	Excavation works (Bay 1)	100	72	45	58		58							
3.1	Excavation works (Bay 3)	100	69	45	58		58							
3.2	Excavation works (Bulky PME area)	109	75	46	66		66							
4	Installation of dowel bars and concrete works	108	66	44	67			67						
5.1	Pit by pit excavation works (Bay 2)	100	70	45	58				58					
5.2	Pit by pit excavation works (Bulky PME area)	111	75	46	68				68					
6	Installation of dowel bars and concrete works	110	66	44	69					69				
7	Back filling of top soil	109	66	44	68						68			
8	Construction of concrete staircase	110	66	44	69							69		
9	Landscape works	109	66	44	68								68	
10	Site clearance and dismantle of hoarding	111	66	44	70									70
				Total SPL, dB(A):		73	81	78	82	82	82	81	79	79
				Exceedance:		-	6	3	7	7	7	6	4	4

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Unmitigated Scenario
NSR N6
Description Island Christian Academy

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	103	68	45	61	61								
2	Initial survey and erection of hoarding	108	68	45	66		66							
3	Ground investigation works	110	68	45	68		68							
4	Take off existing masonry stone facing	110	68	45	68			68						
5	Installation of soil nails and raking drains	113	68	45	71				71	71	71			
6	Construction of soil nail head	113	68	45	71							71		
7	Reinstatement of existing masonry stone facing	110	68	45	68								68	
8	Site clearance and dismantle of hoarding	111	68	45	69									69
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	103	58	43	63	63								
2	Initial survey and erection of hoarding	108	58	43	68	68								
3.1	Excavation works (Bay 1)	100	56	43	60		60							
3.1	Excavation works (Bay 3)	100	69	45	58		58							
3.2	Excavation works (Bulky PME area)	109	59	43	69		69							
4	Installation of dowel bars and concrete works	108	58	43	68			68						
5.1	Pit by pit excavation works (Bay 2)	100	62	44	59				59					
5.2	Pit by pit excavation works (Bulky PME area)	111	59	43	71				71					
6	Installation of dowel bars and concrete works	110	58	43	70					70				
7	Back filling of top soil	109	58	43	69						69			
8	Construction of concrete staircase	110	58	43	70							70		
9	Landscape works	109	58	43	69								69	
10	Site clearance and dismantle of hoarding	111	58	43	71									71
				Total SPL, dB(A):		70	73	71	74	74	73	74	72	73
				Exceedance:		-	3	1	4	4	3	4	2	3

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Mitigated Scenario
NSR N1
Description Silver Jubilee Mansion

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	98	58	43	58	58								
2	Initial survey and erection of hoarding	98	58	43	58		58							
3	Ground investigation works	99	58	43	59		59							
4	Take off existing masonry stone facing	93	58	43	53			53						
5	Installation of soil nails and raking drains	104	58	43	64				64	64	64			
6	Construction of soil nail head	104	58	43	64							64		
7	Reinstatement of existing masonry stone facing	93	58	43	53								53	
8	Site clearance and dismantle of hoarding	102	58	43	62									62
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	98	19	34	67	67								
2	Initial survey and erection of hoarding	98	19	33	68	68								
3.1	Excavation works (Bay 1)	91	22	35	59		59							
3.1	Excavation works (Bay 3)	91	24	36	58		58							
3.2	Excavation works (Bulky PME area)	93	17	33	63		63							
4	Installation of dowel bars and concrete works	102	19	34	71			71						
5.1	Pit by pit excavation works (Bay 2)	91	22	35	59				59					
5.2	Pit by pit excavation works (Bulky PME area)	99	17	33	69				69					
6	Installation of dowel bars and concrete works	101	19	34	70					70				
7	Back filling of top soil	102	19	34	71						71			
8	Construction of concrete staircase	100	19	34	69							69		
9	Landscape works	99	19	34	68								68	
10	Site clearance and dismantle of hoarding	102	19	34	71									71
				Total SPL, dB(A):		71	67	71	71	71	72	70	68	72
				Exceedance:		-	-	-	-	-	-	-	-	-

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Mitigated Scenario
NSR N2
Description Cherry Crest

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	98	53	43	58	58								
2	Initial survey and erection of hoarding	98	53	43	58		59							
3	Ground investigation works	99	53	43	59		59							
4	Take off existing masonry stone facing	93	53	43	53			53						
5	Installation of soil nails and raking drains	104	53	43	64				64	64	64			
6	Construction of soil nail head	104	53	43	64							64		
7	Reinstatement of existing masonry stone facing	93	53	43	53								53	
8	Site clearance and dismantle of hoarding	102	53	43	62									62
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	98	18	33	68	68								
2	Initial survey and erection of hoarding	98	18	33	68	68								
3.1	Excavation works (Bay 1)	91	15	32	62		62							
3.1	Excavation works (Bay 3)	91	29	37	57		57							
3.2	Excavation works (Bulky PME area)	93	17	33	63		63							
4	Installation of dowel bars and concrete works	102	18	33	72			72						
5.1	Pit by pit excavation works (Bay 2)	91	22	35	59				59					
5.2	Pit by pit excavation works (Bulky PME area)	99	17	33	69				69					
6	Installation of dowel bars and concrete works	101	18	33	71					71				
7	Back filling of top soil	102	18	33	72						72			
8	Construction of concrete staircase	100	18	33	70							70		
9	Landscape works	99	18	33	69								69	
10	Site clearance and dismantle of hoarding	102	18	33	72									72
				Total SPL, dB(A):		71	68	72	71	72	73	71	69	72
				Exceedance:		-	-	-	-	-	-	-	-	-

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Mitigated Scenario
NSR N3
Description No.1, U Lam Terrace

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	98	39	43	58	58								
2	Initial survey and erection of hoarding	98	39	43	58		58							
3	Ground investigation works	99	39	43	59		59							
4	Take off existing masonry stone facing	93	39	43	53			53						
5	Installation of soil nails and raking drains	104	39	43	64				64	64	64			
6	Construction of soil nail head	104	39	43	64							64		
7	Reinstatement of existing masonry stone facing	93	39	43	53								53	
8	Site clearance and dismantle of hoarding	102	39	43	62									62
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	98	24	36	65	65								
2	Initial survey and erection of hoarding	98	24	36	65	65								
3.1	Excavation works (Bay 1)	91	25	36	58		58							
3.1	Excavation works (Bay 3)	91	34	39	55		55							
3.2	Excavation works (Bulky PME area)	93	29	37	59		59							
4	Installation of dowel bars and concrete works	102	24	36	69			69						
5.1	Pit by pit excavation works (Bay 2)	91	29	37	57				57					
5.2	Pit by pit excavation works (Bulky PME area)	99	29	37	65				65					
6	Installation of dowel bars and concrete works	101	24	36	68					68				
7	Back filling of top soil	102	24	36	69						69			
8	Construction of concrete staircase	100	24	36	67							67		
9	Landscape works	99	24	36	66								66	
10	Site clearance and dismantle of hoarding	102	24	36	69									69
				Total SPL, dB(A):		68	65	69	68	69	70	69	66	70
				Exceedance:		-	-	-	-	-	-	-	-	-

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Mitigated Scenario
NSR N4
Description The Bellevue Place

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	98	34	39	62	62								
2	Initial survey and erection of hoarding	98	34	39	62		62							
3	Ground investigation works	99	34	39	63		63							
4	Take off existing masonry stone facing	93	34	39	57			57						
5	Installation of soil nails and raking drains	104	34	39	68				68	68	68			
6	Construction of soil nail head	104	34	39	68							68		
7	Reinstatement of existing masonry stone facing	93	34	39	57								57	
8	Site clearance and dismantle of hoarding	102	34	39	66									66
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	98	54	43	58	58								
2	Initial survey and erection of hoarding	98	54	43	58	58								
3.1	Excavation works (Bay 1)	91	57	43	51		51							
3.1	Excavation works (Bay 3)	91	63	44	50		50							
3.2	Excavation works (Bulky PME area)	93	60	44	52		52							
4	Installation of dowel bars and concrete works	102	54	43	62			62						
5.1	Pit by pit excavation works (Bay 2)	91	59	43	51				51					
5.2	Pit by pit excavation works (Bulky PME area)	99	60	44	58				58					
6	Installation of dowel bars and concrete works	101	54	43	61					61				
7	Back filling of top soil	102	54	43	62						62			
8	Construction of concrete staircase	100	54	43	60							60		
9	Landscape works	99	54	43	59								59	
10	Site clearance and dismantle of hoarding	102	54	43	62									62
				Total SPL, dB(A):		65	66	63	69	69	69	69	61	68
				Exceedance:		-	-	-	-	-	-	-	-	-

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Mitigated Scenario
NSR N5
Description Briar-Caine Co-Op Building

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	98	23	35	66	66								
2	Initial survey and erection of hoarding	98	23	35	66		66							
3	Ground investigation works	99	23	35	67		67							
4	Take off existing masonry stone facing	93	23	35	61			61						
5	Installation of soil nails and raking drains	104	23	35	72				72	72	72			
6	Construction of soil nail head	104	23	35	72							72		
7	Reinstatement of existing masonry stone facing	93	23	35	61								61	
8	Site clearance and dismantle of hoarding	102	23	35	70									70
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	98	66	44	57	57								
2	Initial survey and erection of hoarding	98	66	44	57	57								
3.1	Excavation works (Bay 1)	91	72	45	49		49							
3.1	Excavation works (Bay 3)	91	69	45	49		49							
3.2	Excavation works (Bulky PME area)	93	75	46	50		50							
4	Installation of dowel bars and concrete works	102	66	44	61			61						
5.1	Pit by pit excavation works (Bay 2)	91	70	45	49				49					
5.2	Pit by pit excavation works (Bulky PME area)	99	75	46	56				56					
6	Installation of dowel bars and concrete works	101	66	44	60					60				
7	Back filling of top soil	102	66	44	61						61			
8	Construction of concrete staircase	100	66	44	59							59		
9	Landscape works	99	66	44	58								58	
10	Site clearance and dismantle of hoarding	102	66	44	61									61
				Total SPL, dB(A):		67	70	64	73	73	73	73	63	71
				Exceedance:		-	-	-	-	-	-	-	-	-

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

Construction Noise Impact
Mmitigated Scenario
NSR N6
Description Island Christian Academy

Act No.	Main Construction Elements	SWL	Distance, m	Distance Correction, dB(A)	SPL	Construction Period (Tentative) 2017								
						Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						4	5	6	7	8	9	10	11	12
Feature No. 11SW-A/R94														
1	Site clearance, UU detection and preparation	98	68	45	56	56								
2	Initial survey and erection of hoarding	98	68	45	56		56							
3	Ground investigation works	99	68	45	57		57							
4	Take off existing masonry stone facing	93	68	45	51			51						
5	Installation of soil nails and raking drains	104	68	45	62				62	62	62			
6	Construction of soil nail head	104	68	45	62							62		
7	Reinstatement of existing masonry stone facing	93	68	45	51								51	
8	Site clearance and dismantle of hoarding	102	68	45	60									60
Feature No. 11SW-A/FR218														
1	Site clearance, UU detection and preparation	98	58	43	58	58								
2	Initial survey and erection of hoarding	98	58	43	58	58								
3.1	Excavation works (Bay 1)	91	56	43	51		51							
3.1	Excavation works (Bay 3)	91	69	45	49		49							
3.2	Excavation works (Bulky PME area)	93	59	43	53		53							
4	Installation of dowel bars and concrete works	102	58	43	62			62						
5.1	Pit by pit excavation works (Bay 2)	91	62	44	50				50					
5.2	Pit by pit excavation works (Bulky PME area)	99	59	43	59				59					
6	Installation of dowel bars and concrete works	101	58	43	61					61				
7	Back filling of top soil	102	58	43	62						62			
8	Construction of concrete staircase	100	58	43	60							60		
9	Landscape works	99	58	43	59								59	
10	Site clearance and dismantle of hoarding	102	58	43	62									62
				Total SPL, dB(A):		62	61	63	64	65	65	64	60	64
				Exceedance:		-	-	-	-	-	-	-	-	-

Note:
Figures in red denote exceedance of the EIAO-TM construction noise criteria.

	Range, dB(A)	Limit	Range in Project Profile
N1	67 - 72	75	64-73
N2	68 - 73	75	65-73
N3	65 - 70	75	67-72
N4	61 - 69	75	62-70
N5	63 - 73	75	64-73
N6	60 - 65	70	60-66