
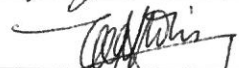


**Gammon Construction Limited****Shatin to Central Link (Hung Hom – Admiralty Section)****Kai Tak Barging Facility under FEP-01/436/2012/F****Monthly EM&A Report for June 2021**

[July 2021]

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Version: 0

Date: 13 July 2021

**Disclaimer**

This Environmental Monitoring and Audit Report is prepared for Gammon Construction Limited and is given for its sole benefit in relation to and pursuant to Kai Tak Barging Facility under FEP-01/436/2012/F and may not be disclosed to, quoted to or relied upon by any person other than Gammon Construction Limited without our prior written consent. No person (other than Gammon Construction Limited into whose possession a copy of this report comes may rely on this plan without our express written consent and Gammon Construction Limited may not rely on it for any purpose other than as described above.

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## EXECUTIVE SUMMARY

Shatin to Central Link (Hung Hom – Admiralty Section) – Kai Tak Barging Facility (hereafter called “the Project”) covers part of the usage of the Kai Tak Barging Facility.

The Project comprises the follow works:

- Barging Facility usage.

The EM&A programme commenced on 1 January 2021.

This is the sixth monthly EM&A Report presenting the EM&A works carried out during the period between 1 and 30 June 2021. As informed by the Contractor, major activities in the reporting period were:

Locations	Site Activities
Barging Facility of Kai Tak West	• Barging Point Operation (Spoil Disposal).
Barging Facility of Central Tunnel	• Handling of C&D material.
Barging Facility of Sports Park	• Loading and unloading of C&D materials.

### Complaint, Notification of Summons and Successful Prosecution

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

### Reporting Changes

No report changes in the reporting period.

### Future Key Issues

Key issues to be considered in the next three months included:

<b>Locations</b>	<b>Site Activities</b>
Barging Facility of Kai Tak West	<ul style="list-style-type: none"><li>• Barging point operation (Spoil Disposal).</li></ul>
Barging Facility of Central Tunnel	<ul style="list-style-type: none"><li>• Handling and Disposal of C&amp;D material.</li></ul>
Barging Facility of Sports Park	<ul style="list-style-type: none"><li>• Loading and unloading of C&amp;D materials.</li></ul>

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

## 1 INTRODUCTION

Purpose of the Kai Tak Barging Facility under EP-436/2012/F was handed over to Highway Department from MTR on 22 December 2020. Gammon Construction Limited was commissioned by the Highway Department as the Civil Contractor to operate the Shatin to Central Link (Hung Hom – Admiralty Section) – Kai Tak Barging Facility and coordinate with the other Contractors, Bouygues Travaux Publics and Hip Hing Construction Limited. AECOM Asia Company Limited (AECOM) was appointed by Gammon Construction Limited as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the Project.

### 1.1 Purpose of the Report

1.1.1 This is the sixth monthly EM&A Report which summaries audit findings for the Project during the reporting period between 1 and 30 June 2021.

### 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: Environmental Monitoring Requirement
- Section 4: Implementation Status of Environmental Mitigation Measures
- Section 5: Monitoring Results
- Section 6: Environmental Site Inspection and Audit
- Section 7: Environmental Non-conformance
- Section 8: Future Key Issues
- Section 9: Conclusions and Recommendations

## 2 PROJECT INFORMATION

### 2.1 Background

- 2.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH); and (ii) The North-South Corridor which is an extension of the East Rail Line (EAL) at Hung Hom across the harbour to Admiralty Station (ADM).
- 2.1.2 The Environmental Impact Assessment (EIA) Reports for SCL – Hung Hom to Admiralty Section [SCL (HUH-ADM)] (Register No.: AEIAR-166/2012) was approved on 17 February 2012 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an Environmental Permit (EP) was granted on 22 March 2012, which covers SCL (HUH-ADM) EP No.: EP-436/2012), for the construction and operation. Variation of EP (VEP) was subsequently applied and the latest EP (EP No. EP-436/2012/F) was issued by the Director of Environmental Protection (DEP) on 23 January 2019. Further Environmental Permit (FEP-01/436/2012/F) was issued by the Director of Environmental Protection (DEP) on 6 April 2020 to cover the usage of the Kai Tak Barging Facility.
- 2.1.3 The usage of the Kai Tak Barging Facility had been divided into three different sectors and managed by different contractors, which are Gammon Construction Limited, Bouygues Travaux Publics and Hip Hing Construction Limited.
- 2.1.4 The site layout plan of the Project is shown in **Figure 1.1**.

### 2.2 Site Description

- 2.2.1 The major construction activities under this Project include:
- (a) Barging Facility operation for Soil Disposal.

## 2.3 Construction Programme and Activities

2.3.1 The major construction activities undertaken in the reporting month are summarized in **Table 2.1**.

**Table 2.1 Construction Activities in the reporting month**

<b>Locations</b>	<b>Site Activities</b>
Barging Facility of Kai Tak West	<ul style="list-style-type: none"><li>• Barging Point Operation (Spoil Disposal).</li></ul>
Barging Facility of Central Tunnel	<ul style="list-style-type: none"><li>• Handling of C&amp;D material.</li></ul>
Barging Facility of Sports Park	<ul style="list-style-type: none"><li>• Loading and unloading of C&amp;D materials.</li></ul>

2.3.2 The construction programme is presented in other EM&A monthly report under related Environmental Permits.



## 2.4 Project Organization

2.4.1 The project organization structure is shown in **Appendix A**. The key personnel contact names and numbers for the Project are summarized in **Table 2.2**.

**Table 2.2 Contact Information of Key Personnel**

Party	Role	Position	Name	Telephone	Fax
Arup-Mott MacDonald Joint Venture	Residential Engineer (ER)	Engineer's Representative	Mr. Patrick Lo	3619 5928	2268 3954
ERM	Independent Environmental Checker (IEC)	Independent Environmental Checker	Ms. Mandy To	2271 3313	2723 5660
Gammon	Contractor	Contracts Manager	Mr. Alan Yan	2516 8823	2516 6260
		Environmental Manager	Ms Michelle Tang	9267 8866	2516 6260
AECOM	Contractor's Environmental Team (ET)	ET Leader	Mr. Y T Tang	3922 9393	2317 7609

## 2.5 Status of Environmental Licences, Notification and Permits

2.5.1 Relevant environmental licenses, permits and/or notifications on environmental protection for this Project and valid in the reporting month are summarized in **Table 2.3**.

**Table 2.3 Status of Environmental Licenses, Notifications and Permits**

Permit / License No. / Notification/ Reference No.	Valid Period		Status	Remarks
	From	To		
<b>Further Environmental Permit</b>				
FEP-01/436/2012/F	6 Apr 2020	End of Project	Valid	FEP for Shatin to Central Link (Hung Hom – Admiralty Section) - Kai Tak Barging Facility
<b>Wastewater Discharge License</b>				
-	-	-	-	-
<b>Construction Noise Permit</b>				
GW-RE0378-21	21 May 2021	10 Nov 2021	Valid	Kai Tak Sports Park Temporary Barging Point (Contract No. HAB/KTSP/01)
GW-RE0061-21	30 Jan 2021	27 Jul 2021	Valid	Barging Point Operation at Kai Tak Barging Facility – Kai Tak West (Contract No. HY/2014/07)
GW-RE0423-21	10 May 2021	8 Nov 2021	Valid	Barging Point Operation at Kai Tak Barging Facility – Central Tunnel (Contract No. HY/2018/08)
<b>Chemical Waste Producer Registration</b>				
5213-286-G2347-58	1 Feb 2021	End of Project	Valid	Chemical Waste Producer – Kai Tak Barging Facility (Kai Tak West)
5111-236-B2557-02	25 Sep 2019	End of Project	Valid	Chemical Waste Producer – Central Kowloon Route – Central Tunnel
5213-286-H3906-02	12 Feb 2019	End of Project	Valid	Chemical Waste Producer – Kai Tak Sports Park
<b>Marine Dumping Permit</b>				
-	-	-	-	-
<b>Billing Account for Construction Waste Disposal</b>				
7033182	12 Feb 2019	End of Project	Account Active	Construction Waste Disposal Account (Main) for Kai Tak Sports Park
7033555	11 May 2021	11 Aug 2021	Account Active	Construction Waste Disposal Account (Vessel) for Kai Tak Sports Park
7034790	6 Aug 2019	End of Project	Account Active	Construction Waste Disposal Account (Main) for Central Kowloon Route – Central Tunnel
7029909	22 Jan 2018	End of Project	Account Active	Construction Waste Disposal Account (Main) for Central Kowloon Route – Kai Tak West
7031949	27 May 2021	26 Aug 2021	Account Active	Construction Waste Disposal Account (Vessel) for Central Kowloon Route – Kai Tak West
<b>Notification Under Air Pollution Control (Construction Dust) Regulation</b>				
-	-	-	-	-

### 3 ENVIRONMENTAL MONITORING REQUIREMENTS

#### 3.1 Landscape and Visual

- 3.1.1 As per the EM&A Manuals, no impact for landscape and visual mitigation measures at Kai Tak Barging Facility. Therefore, no bi-weekly site inspection should be undertaken once every two weeks during the construction period.

### 4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 4.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and EM&A Manuals. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix C**. Status of required submissions under the EP during the reporting period is summarised in **Table 4.1**.

**Table 4.1 Status of Required Submission under Environmental Permit**

EP Condition	Submission	Submission Date
Condition 3.2 of FEP-01/436/2012/F	Monthly EM&A Report for May 2021	11 June 2021

### 5 MONITORING RESULTS

#### 5.1 Waste Management

- 5.1.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.

*For Central Kowloon Route – Kai Tak West (Contract: HY/2014/07)*

- 5.1.2 No inert C&D material, general refuse was generated in the reporting month. No plastics, metals and paper/cardboard packaging were collected by recycle contractor in the reporting month. No chemical waste was collected by licensed contractor in the reporting period. No Type 1, Type 2 and Type 3 Marine sediment were disposed at Confined Marine Disposal Facility to the East of Sha Chau. The waste flow table under FEP-01/436/2012/F is annexed in **Annex D1**.

*For Kai Tak Sports Park (Agreement No. CE 30/2018 (EP))*

- 5.1.3 No inert C&D material, general refuse was generated in the reporting month. No plastics, metals and paper/cardboard packaging were collected by recycle contractor in the reporting month. No chemical waste was collected by licensed contractor in the reporting period. No Type 1, Type 2 and Type 3 Marine sediment were disposed at Confined Marine Disposal Facility to the East of Sha Chau. The waste flow table under FEP-01/436/2012/F is annexed in **Annex D2**.

*For Central Kowloon Route – Central Tunnel (Contract: HY/2018/08)*

- 5.1.4 No inert C&D material, general refuse was generated in the reporting month. No plastics, metals and paper/cardboard packaging were collected by recycle contractor in the reporting month. No chemical waste was collected by licensed contractor in the reporting period. No Type 1, Type 2 and Type 3 Marine sediment were disposed at Confined Marine Disposal Facility to the East of Sha Chau. The waste flow table under FEP-01/436/2012/F is annexed in **Annex D3**.

- 5.1.5 The Contractor is advised to properly maintain on site C&D materials and wastes collection, sorting and recording system and maximize reuse / recycle of C&D materials and wastes.

The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.

- 5.1.6 The Contractor is reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practise on the Packaging, Labelling and Storage of Chemical Wastes.

## 6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 6.1.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in **Appendix B**.
- 6.1.2 In the reporting month, 5 site inspections were carried out on 2, 9, 16, 23 and 30 June 2021. Joint inspections with the IEC, ER, the Contractor and the ET were conducted on 23 June 2021. No non-compliance was recorded during the site inspection. Details of observations recorded during the site inspections are presented in **Table 6.1**.

**Table 6.1 Observations and Recommendations of Site Audit**

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	26 May 2021	<u>Reminder:</u> • The Contractor (Hip Hing) was reminded to improve the coverage of stockpile at Kai Tak Barging Facility of Sports Park.	This item was rectified on 11 Jun 2021.
	16 Jun 2021	• Rock material was observed to be dry at Kai Tak Barging Facility of CT. The Contractor (Bouygues) should provide adequate watering on rock material for dust suppression.	This item was rectified on 23 Jun 2021.
	30 Jun 2021	• Residual silt was observed at the deck of the barge at Kai Tak Barging Facility of CT. The Contractor (Bouygues) should provide measure for dust suppression.	This item was rectified on 7 Jul 2021.
		• Unloading activity at Kai Tak Barging Facility of Kai Tak West was observed without water spraying. The Contractor (Gammon) should provide water spraying during unloading.	This item was rectified on 6 Jul 2021.
Noise	Nil	Nil	Nil
Water Quality	2 Jun 2021	<u>Reminder:</u> • The Contractor (Bouygues) was reminded to treat the accumulated muddy pool properly at Kai Tak Barging Facility of CT.	This item was rectified on 4 Jun 2021.
	9 Jun 2021	• No wheel washing facility was observed at the site entrance of Kai Tak Barging Facility of CT. The Contractor (Bouygues) should provide adequate wheel washing facility at site entrance.	This item was rectified on 11 Jun 2021.
	16 Jun 2021	• Muddy water was observed spilled out from the wheel washing facility at Kai Tak Barging Facility of CT. The Contractor (Bouygues) should maintain the wheel washing facility properly.	This item was rectified on 21 Jun 2021.
	23 Jun 2021	<u>Reminder:</u> • The Contractor (Bouygues) was reminded to enhance the maintenance for the wheel washing facility at site entrance of Kai Tak Barging Facility of CT.	This item was rectified on 25 Jun 2021.
	30 Jun 2021	<u>Reminder:</u> • The Contractor (Hip Hing) was reminded to improve the bunding near edge of Kai Tak Barging Facility of Sports Park.	This item was rectified on 5 Jul 2021.
Waste/ Chemical Management	16 Jun 2021	• Oil drum was observed stored without drip tray at Kai Tak Barging Facility of Sports Park. The Contractor (Hip Hing) should provide a drip tray oil drum.	This item was rectified on 24 Jun 2021
Permits/ Licenses	Nil	Nil	Nil

- 6.1.3 Most of follow-up actions requested by Contractor's ET and IEC during the site inspection were undertaken as reported by the Contractor and confirmed in the following weekly site inspection conducted during the reporting period.

## 7 ENVIRONMENTAL NON-CONFORMANCE

### 7.1 Summary of Environmental Non-Compliance

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

### 7.2 Summary of Environmental Complaints

- 7.2.1 No environmental related complaint was received in the reporting month. Cumulative statistics on complaint is provided in **Appendix C**.

### 7.3 Summary of Environmental Summon and Successful Prosecutions

- 7.3.1 No environmental related prosecution or notification of summons was received in the reporting month. Cumulative statistics on notification of summons and successful prosecutions is provided in **Appendix C**.

## 8 FUTURE KEY ISSUES

### 8.1 Construction Programme for the Next Three Months

- 8.1.1 The major construction works between July to September 2021 are provided in **Table 8.1**.

**Table 8.1 Construction Activities in the coming three months**

Locations	Site Activities
Barging Facility of Kai Tak West	<ul style="list-style-type: none"> <li>• Barging point operation (Spoil Disposal).</li> </ul>
Barging Facility of Central Tunnel	<ul style="list-style-type: none"> <li>• Handling and Disposal of C&amp;D material.</li> </ul>
Barging Facility of Sports Park	<ul style="list-style-type: none"> <li>• Loading and unloading of C&amp;D materials.</li> </ul>

### 8.2 Key Issues for the Coming Month

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

## 9 CONCLUSIONS AND RECOMMENDATIONS

### 9.1 Conclusions

- 9.1.1 5 nos. of environmental site inspections were carried out in June 2021. Recommendations on remedial actions were given by ET and IEC to the Contractor for the deficiencies identified during the site audit.
- 9.1.2 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in the 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

- The Contractor (Bouygues) should provide adequate watering on rock material for dust suppression;
- The Contractor (Bouygues) should provide measure on residual silt at the deck of barge for dust suppression; and
- The Contractor (Gammon) should provide water spraying during unloading.

#### Water Quality Impact

- The Contractor (Bouygues) was reminded to treat the accumulated muddy pool properly;
- The Contractor (Bouygues) should provide adequate wheel washing facility at site entrance;
- The Contractor (Bouygues) should maintain the wheel washing facility properly; and
- The Contractor (Hip Hing) was reminded to improve the bunding near edge of Kai Tak Barging Facility of Sports Park.

#### Chemical and Waste Management

- The Contractor (Hip Hing) should provide a drip tray oil drum.

#### Permits/licenses

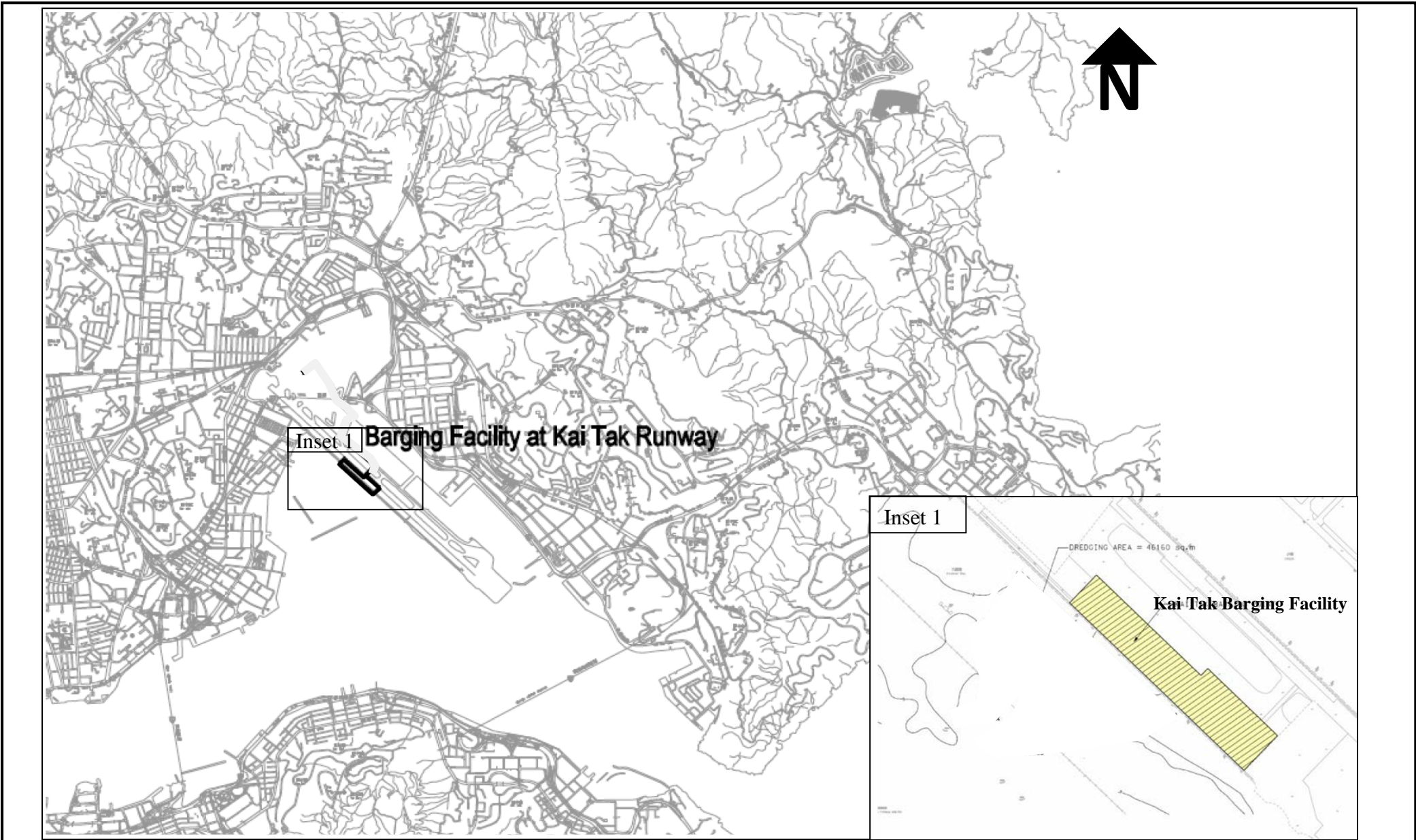
- No specific observation was identified in the reporting month.

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## FIGURES

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Project Name: Shatin to Central Link (Hung Hom – Admiralty Section)  
Kai Tak Barging Facility

Figure 1.1 - Site Layout Plan

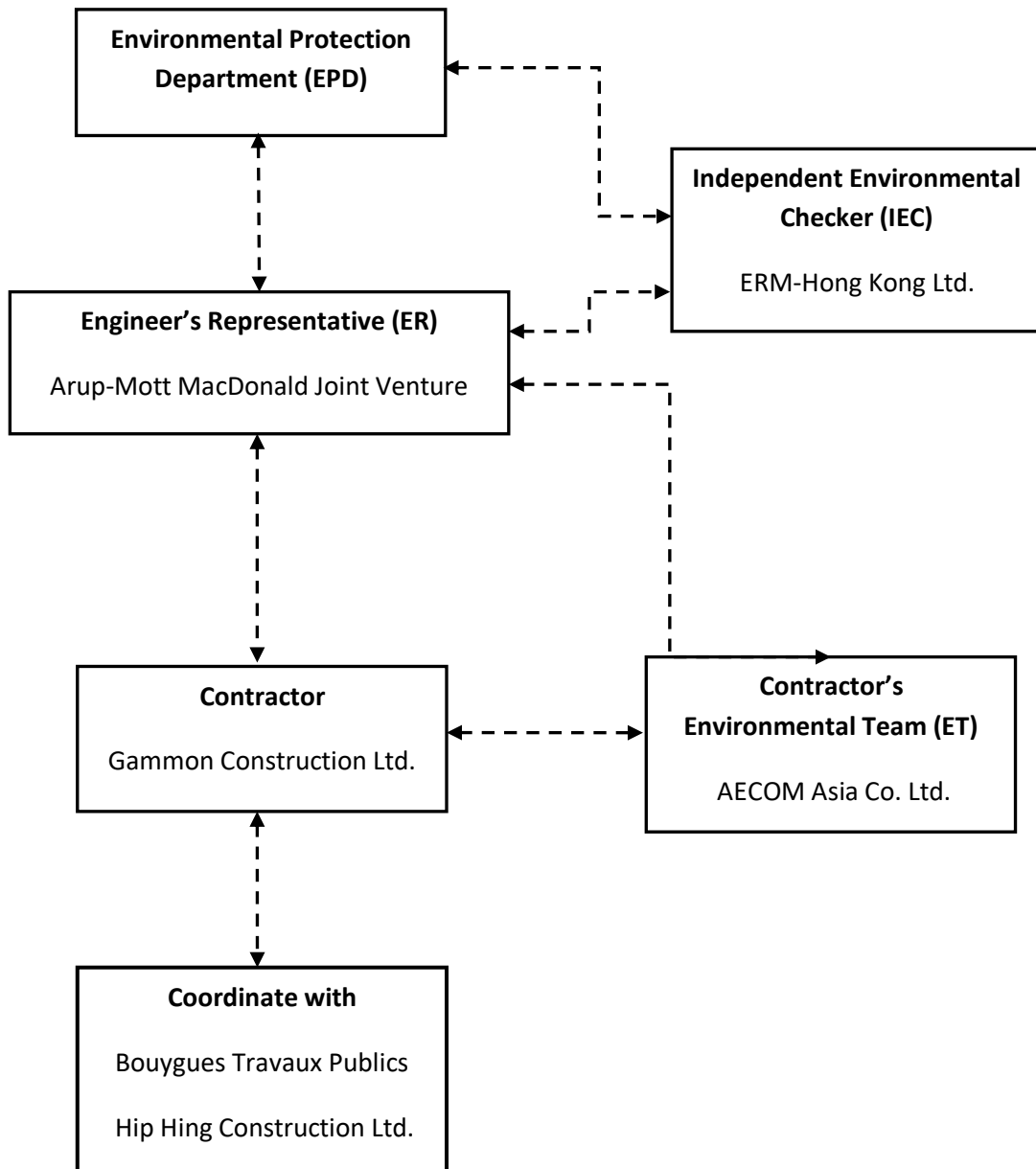
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**Annex A**

**Project Organization Structure**

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### Annex A Project Organization Structure



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**Annex B**

**Implementation Schedule of Environmental Mitigation  
Measures**

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## Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
<b>Ecological Impact</b>						
S5.134	Accidental chemical spillage and construction site run-off to the receiving water bodies, mitigation measures such as removing the pollutants before discharge into storm drain and paving the section of construction road between the wheel washing bay and the public road as suggested in Sections 11.216 and 11.219 to 11.256 of the EIA Report shall be adopted.	To minimize the contamination of wastewater discharge	Contractor	All land based works areas	Construction Phase	N/A
<b>Landscape and Visual Impact</b>						
<b>Construction Phase</b>						
Table 7.9	CM1 - Trees unavoidably affected by the works shall be transplanted as far as possible in accordance with ETWB TC(W) 3/2006 – Tree Preservation.	Transplanting and reuse of affected trees.	MTR	Works Sites	Construction Phase	N/A
Table 7.9	CM2a - Compensatory tree planting shall be provided in accordance with ETWB TC(W) 3/2006 – Tree Preservation to compensate for felled trees and maintained until end of the establishment period.	Compensation for the removal of existing trees due to the Project.	MTR	Works Sites	Construction Phase	N/A
Table 7.9	CM2b - Compensatory shrub planting shall be provided to compensate for the loss of shrub planting in amenity areas.	Compensation for the removal of existing shrub planting due to the Project.	MTR	Works Sites	Construction Phase	N/A
Table 7.9	CM3 - Control of night-time lighting glare	Minimize the night time glare due to the Project during construction phase	MTR	Works Sites	Construction Phase	N/A
Table 7.9	CM4 - Erection of decorative screen hoarding compatible with the surrounding setting.	Minimize the visual impact of the Project during construction phase	MTR	Works Sites	Construction Phase	N/A
Table 7.9	CM5 - Management of facilities on work sites which give control on the height and disposition/arrangement of all facilities on the works site to minimize visual impact to adjacent VSRs	Control of height and deposition/ arrangement of temporary facilities in works areas	MTR	Works Sites	Construction Phase	N/A
Table 7.9	CM6 - All hard and soft landscape areas disturbed temporarily during construction shall be reinstated on like-to-like basis to the satisfaction of the relevant Government Departments.	Reinstatement of temporary works areas.	MTR	Works Sites	Construction Phase	N/A
<b>Construction Dust Impact</b>						
Table 8.5	Barging facilities: (i) Transportation of spoils to the barging point – Pave all road surfaces within the barging facilities and provide watering once along with the haul road for every working hours to reduce dust emission by 91.7%. This dust suppression efficiency is derived based on the average haul road traffic, average evaporation rate and an assumed application intensity of 1.0 L/m <sup>2</sup> once every working hour. Any potential dust impact and watering mitigation would be subject to the actual site condition. For example, a construction activity that produces inherently wet conditions or in cases under rainy weather, the above water application intensity may not be unreservedly applied. While the above watering frequency is to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.0 L/m <sup>2</sup> to achieve the removal efficiency. The dust levels would be monitored and managed under an EM&A programme as specified in the EM&A Manual. (ii) Unloading of spoil materials – Undertake the unloading process within a 3-sided screen with top tipping hall. Provide water spraying and flexible dust curtains at the discharge point for dust suppression. (iii) Vehicles leaving the barging facilities – Pass vehicles through the wheel washing facilities provided at site exits.	To minimize dust impacts	Contractor	All barging points	Construction phase	@  @  V
S8.89	Enclosing the unloading process at barging point by a 3-sided screen with top tipping hall, provision of water spraying and flexible dust curtains to reduce dust emission	To minimize dust impact	Contractor	All barging points	Construction phase	V

Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
S8.90	<p>Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices:</p> <ul style="list-style-type: none"> <li>Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.</li> <li>Use of frequent watering for particularly dusty construction areas and areas close to ASRs.</li> <li>Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.</li> <li>Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</li> <li>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> <li>Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.</li> <li>Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading area of barging point, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods.</li> <li>Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit.</li> <li>Imposition of speed controls for vehicles on site haul roads.</li> <li>Where possible, routing of vehicles and positioning of construction plant shall be at the maximum possible distance from ASRs.</li> <li>Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.</li> <li>Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise</li> </ul>	To minimize dust impacts	Contractor	Works areas	Construction phase	V V V V V V V N/A V N/A N/A N/A
/	<p><b>Dust suppression measures (con't)</b></p> <ul style="list-style-type: none"> <li>De-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement</li> <li>The portion of any road where along the site boundary should be kept clear of dusty materials.</li> <li>Use of frequent watering for any dusty construction process (e.g. breaking works) to reduce dust emissions.</li> </ul>	To minimize dust impacts	Contractor	Works areas	Construction phase	N/A V V
/	<p><b>Emission from Vehicles and Plants</b></p> <ul style="list-style-type: none"> <li>All vehicles shall be shut down in intermittent use.</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD)</li> </ul>	Reduce air pollution emission from construction vehicles and plants	Contractor	Works areas	Construction phase	V V V
<b>Airborne Noise Impact</b>						
<b>Construction Phase</b>						
S9.55	<p>The following good site practices shall be implemented:</p> <ul style="list-style-type: none"> <li>Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program</li> <li>Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program</li> <li>Mobile plant, if any, shall be sited as far from NSRs as possible</li> <li>Machines and plant (such as trucks) that may be in intermittent use shall be shut down between work periods or shall be throttled down to a minimum</li> <li>Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs</li> <li>Material stockpiles and other structures shall be effectively utilized, wherever practicable, in</li> </ul>	To minimize construction noise impact	Contractor	Works areas	Construction phase	V V V V N/A N/A

Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
/	<p>screening noise from on-site construction activities</p> <ul style="list-style-type: none"> <li>Install movable noise barriers, acoustic mat or full enclosure, screen the noisy plants during operation</li> <li>Air compressors or Hand-held breaker shall be fitted with valid noise emission labels during operation</li> </ul>	To minimize construction noise impact	Contractor	Works areas	Construction phase	N/A N/A
<b>Water Quality Impact</b>						
<b>Construction Phase</b>						
S11.216	<p>The following mitigation measures are proposed to minimize the potential water quality impacts from the construction works at or close to the seafront:</p> <ul style="list-style-type: none"> <li>Temporary storage of construction materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction and demolition materials shall be located well away from the seawater front and storm drainage during carrying out of the works.</li> <li>Stockpiling of construction and demolition materials and dusty materials shall be covered and located away from the seawater front and storm drainage.</li> <li>Construction debris and spoil shall be covered up and/or disposed of as soon as possible to avoid being washed into the nearby receiving waters.</li> </ul>	To minimize release of construction wastes from construction works at or close to the seafront	Contractor	Construction works at or close to the seafront	Construction Phase	V V N/A
S11.222 to 11.245	<p>The site practices outlined in ProPECC PN 1/94 “Construction Site Drainage” shall be followed where practicable.</p> <p><u>Surface Run-off</u></p> <ul style="list-style-type: none"> <li>Surface run-off from construction sites shall be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries shall be provided where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.</li> <li>Silt removal facilities, channels and manholes shall be maintained and the deposited silt and grit shall be removed regularly, at the onset of and after each rainstorm to prevent local flooding. Any practical options for the diversion and re-alignment of drainage shall comply with both engineering and environmental requirements in order to provide adequate hydraulic capacity of all drains. Minimum distances of 100 m shall be maintained between the discharge points of construction site runoff and the existing saltwater intakes.</li> <li>Construction works shall be programmed to minimize soil excavation works in rainy seasons (April to September). If excavation in soil cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces shall be covered e.g. by tarpaulin, and temporary access roads shall be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels shall be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.</li> <li>Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels shall be provided where necessary.</li> <li>Measures shall be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they shall be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.</li> <li>Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites shall be covered with tarpaulin or similar fabric during rainstorms.</li> <li>Manholes (including newly constructed ones) shall always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.</li> </ul>	To minimize water quality impacts from construction site runoff and general construction activities	Contractor	Works areas	Construction Phase	@ @ V N/A N/A V N/A

Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
	<ul style="list-style-type: none"> <li>• Good site practices shall be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.</li> </ul> <p><u>Boring and Drilling Water</u></p> <ul style="list-style-type: none"> <li>• Water used in ground boring and drilling for site investigation or rock / soil anchoring shall as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater shall be discharged into storm drains via silt removal facilities.</li> </ul> <p><u>Wheel Washing Water</u></p> <ul style="list-style-type: none"> <li>• All vehicles and plant shall be cleaned before they leave a construction site to minimize the deposition of earth, mud, debris on roads. A wheel washing bay shall be provided at every site exit if practicable and wash-water shall have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road shall be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.</li> </ul> <p><u>Bentonite Slurries</u></p> <ul style="list-style-type: none"> <li>• Bentonite slurries used in diaphragm wall and bore-pile construction shall be reconditioned and used again wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the bentonite slurries shall either be dewatered or mixed with inert fill material for disposal to a public filling area.</li> <li>• If the used bentonite slurry is intended to be disposed of through the public drainage system, it shall be treated to the respective effluent standards applicable to foul sewer, storm drains or the receiving waters as set out in the TM-DSS.</li> </ul> <p><u>Water for Testing &amp; Sterilization of Water Retaining Structures and Water Pipes</u></p> <ul style="list-style-type: none"> <li>• Water used in water testing to check leakage of structures and pipes shall be used for other purposes as far as practicable. Surplus unpolluted water will be discharged into storm drains.</li> <li>• Sterilization is commonly accomplished by chlorination. Specific advice from EPD shall be sought during the design stage of the works with regard to the disposal of the sterilizing water. The sterilizing water shall be used again wherever practicable.</li> </ul> <p><u>Acid Cleaning, Etching and Pickling Wastewater</u></p> <ul style="list-style-type: none"> <li>• Acidic wastewater generated from acid cleaning, etching, pickling and similar activities shall be neutralized to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralized wastewater shall be tankered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters.</li> </ul> <p><u>Wastewater from Site Facilities</u></p> <ul style="list-style-type: none"> <li>• Wastewater collected from any temporary canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewer via grease traps. In case connection to the public foul sewer is not feasible, wastewater generated from kitchens or canteen, if any, shall be collected in a temporary storage tank. A licensed waste collector shall be deployed to clean the temporary storage tank on a regular basis.</li> <li>• Drainage serving an open oil filling point shall be connected to storm drains via petrol interceptors with peak storm bypass.</li> <li>• Vehicle and plant servicing areas, vehicle wash bays and lubrication bays shall as far as possible be located within roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor. Oil leakage or spillage shall be contained and cleaned up immediately. Waste oil shall be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance.</li> </ul>					<p>V</p> <p>N/A</p> <p>@</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>V</p> <p>N/A</p> <p>N/A</p> <p>V</p>
S11.246 & 11.247	<p>Construction work force sewage discharges on site are expected to be discharged to the nearby existing trunk sewer or sewage treatment facilities. If disposal of sewage to public sewerage system is not feasible, appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment. The Contractor shall also be responsible for waste disposal and maintenance practices. Notices shall be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment.</p>	To minimize water quality impacts due to sewage generated from construction workforce	Contractor	Works areas	Construction Phase	N/A



Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
S11.248	In case seepage of uncontaminated groundwater occurs, groundwater shall be pumped out from the works areas and discharged into the storm system via silt removal facilities. Uncontaminated groundwater from dewatering process shall also be discharged into the storm system via silt traps.	To minimize impact from discharge of uncontaminated groundwater	Contractor	Works areas	Construction Phase	V
S11.252	The following good site practices shall be adopted for the proposed barging points: <ul style="list-style-type: none"> <li>• all vessels shall be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash</li> <li>• all hopper barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material</li> <li>• construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site</li> <li>• loading of barges and hoppers shall be controlled to prevent splashing of material into the surrounding water. Barges or hoppers shall not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation</li> </ul>	To minimize water quality impacts generated from the barging points.	Contractor	Barging points	Construction Phase	N/A
S11.253	There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas shall be treated so that it satisfies all the standards listed in the TM-DSS. Minimum distances of 100 m shall be maintained between the discharge points of construction site effluent and the existing seawater intakes. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimize water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring shall be carried out in accordance with the WPCO license which is under the ambit of Regional Office (RO) of EPD.	To minimize water quality impact from effluent discharges from construction sites	Contractor	All construction works areas	Construction Phase	N/A
S11.254	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation shall be observed and complied with for control of chemical wastes.	To minimize water quality impact from accidental spillage of chemical	Contractor	All construction works areas	Construction Phase	V
S11.255	Any service shop and maintenance facilities shall be located on hard standings within a bunded area, and sumps and oil interceptors shall be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage shall only be undertaken within the areas appropriately equipped to control these discharges.	To minimize water quality impact from accidental spillage of chemical	Contractor	All construction works areas	Construction Phase	N/A
S11.256	Disposal of chemical wastes shall be carried out in compliance with the Waste Disposal Ordinance. The “Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes” published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: <ul style="list-style-type: none"> <li>• Suitable containers shall be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>• Chemical waste containers shall be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>• Storage area shall be selected at a safe location on site and adequate space shall be allocated to the storage area.</li> </ul>	To minimize water quality impact from accidental spillage of chemical	Contractor	All construction works areas	Construction Phase	V V V
<b>Waste Management Implications</b>						
<b>Construction Phase</b>						
S12.75	<b>Good Site Practices and Waste Reduction Measures</b> <ul style="list-style-type: none"> <li>• Prepare a Waste Management Plan (WMP) approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites.</li> <li>• Training of site personnel in, site cleanliness, proper waste management and chemical handling procedures;</li> <li>• Provision of sufficient waste disposal points and regular collection of waste;</li> </ul>	To reduce waste management impacts	Contractor	All Work Sites	Construction Phase	V V V

Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
	<ul style="list-style-type: none"> <li>Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and</li> <li>Separation of chemical wastes for special handling and appropriate treatment.</li> </ul>					V N/A V
S12.76	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <ul style="list-style-type: none"> <li>Sorting of demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (i.e. soil, broken concrete, metal etc.);</li> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>Encourage collection of aluminum cans by providing separate labeled bins to enable this waste to be segregated from other general refuse generated by the workforce;</li> <li>Proper storage and site practices to minimize the potential for damage or contamination of construction materials;</li> <li>Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; and</li> <li>Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.</li> </ul>	To achieve waste reduction	Contractor	All Work Sites	Construction Phase	V V N/A N/A N/A V
S12.77	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <p>The Contractor shall prepare and implement a WMP as part of the EMP in accordance with ETWB TCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. Such a management plan shall incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP shall be submitted to the Engineer for approval. The Contractor shall implement the waste management practices in the EMP throughout the construction stage of the Project. The EMP shall be reviewed regularly and updated by the Contractor, preferably in a monthly basis.</p>	To achieve waste reduction	Contractor	All Work Sites	Construction Phase	V
S12.78	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <p>C&amp;D materials would be reused in other local concurrent projects as far as possible. If all reuse outlets are exhausted during the construction phase, the C&amp;D materials would be disposed of at Taishan, China as a last resort.</p>	To achieve waste reduction	Contractor	All Work Sites	Construction Phase	N/A
S12.79	<p><b>Storage, Collection and Transportation of Waste</b></p> <p>Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include:</p> <ul style="list-style-type: none"> <li>Waste, such as soil, shall be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;</li> <li>Maintain and clean storage areas routinely;</li> <li>Stockpiling area shall be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and</li> <li>Different locations shall be designated to stockpile each material to enhance reuse.</li> </ul>	To minimize potential adverse environmental impacts arising from waste storage	Contractor	Work Sites	Construction Phase	N/A @ V N/A
S12.80	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <p>Waste haulier with appropriate permits shall be employed by the Contractor for the collection and transportation of waste from works areas to respective disposal outlets. The following suggestions shall be enforced to minimize the potential adverse impacts:</p> <ul style="list-style-type: none"> <li>Remove waste in timely manner</li> <li>Waste collectors shall only collect wastes prescribed by their permits</li> <li>Impacts during transportation, such as dust and odour, shall be mitigated by the use of covered trucks or in enclosed containers</li> <li>Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28)</li> </ul>	To minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	Work Sites	Construction Phase	V V N/A V V

Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
	<ul style="list-style-type: none"> <li>Waste shall be disposed of at licensed waste disposal facilities</li> <li>Maintain records of quantities of waste generated, recycled and disposed</li> </ul>					V
S12.81	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <ul style="list-style-type: none"> <li>Implementation of trip ticket system with reference to DevB TC(W) No.6/2010 to monitor disposal of waste and to control fly-tipping at PFRFs or landfills. A recording system for the amount of waste generated, recycled and disposed (including disposal sites) shall be proposed.</li> </ul>	To minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	Work Sites	Construction Phase	V
S12.83 – 12.86	<p><b>Sorting of C&amp;D Materials</b></p> <ul style="list-style-type: none"> <li>Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site.</li> <li>Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials.</li> <li>The C&amp;D materials shall at least be segregated into inert and non-inert materials, in which the inert portion could be reused and recycled as far as practicable before delivery to PFRFs as mentioned for beneficial use in other projects. While opportunities for reusing the non-inert portion shall be investigated before disposal of at designated landfills.</li> <li>Possibility of reusing the spoil in the Project will be continuously investigated in the detailed design and construction stages, it includes backfilling to cut and cover construction works for the Hung Hom south and north approach tunnels.</li> </ul>	To minimize potential adverse environmental impacts during the handling, transportation and disposal of C&D materials	Contractor	Work Sites	Construction Phase	V V V N/A
S12.91 – 12.94	<p><b>Sediments (con't)</b></p> <ul style="list-style-type: none"> <li>Stockpiling of contaminated sediments shall be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment shall be covered by tarpaulin and the area shall be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and/or surrounding water bodies. The stockpiling areas shall be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas shall be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, shall be collected and discharged according to the Water Pollution Control Ordinance (WPCO).</li> <li>In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation / material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.</li> <li>The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.</li> <li>In order to minimise the exposure to contaminated materials, workers shall, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site.</li> </ul>	To ensure handling of sediments are in accordance to statutory requirements	Contractor	Work Sites, Sediment disposal sites	Construction Phase	N/A
S12.95	<p><b>Sediments (con't)</b></p> <ul style="list-style-type: none"> <li>A possible arrangement for Type 3 disposal is by geosynthetic containment. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, at the disposal site, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping, thereby meeting the requirements for fully confined mud disposal. The technology is readily available for the manufacture of the geosynthetic containers to the project-specific requirements. Similar disposal methods have been used for projects in Europe, the USA and Japan and the issues of fill retention by the geosynthetic fabrics, possible rupture of the containers and sediment loss due to impact of the container on the seabed have been addressed.</li> </ul>	To ensure handling of sediments are in accordance to statutory requirements	Contractor	Work Sites, Sediment disposal sites	Construction Phase	N/A

Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
S12.97	<p><b>Containers for Storage of Chemical Waste</b> The Contractor shall register with EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Containers used for storage of chemical waste shall:</p> <ul style="list-style-type: none"> <li>• Be compatible with the chemical wastes being stored, maintained in good condition and securely sealed;</li> <li>• Have a capacity of less than 450 litters unless the specifications have been approved by EPD; and</li> <li>• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation.</li> </ul>	To register with EPD as a Chemical waste producer and store chemical waste in appropriate containers	Contractor	Work Sites	Construction Phase	V V V
S12.98	<p><b>Chemical Waste Storage Area</b></p> <ul style="list-style-type: none"> <li>• Be clearly labeled to indicate corresponding chemical characteristics of the chemical waste and used for storage of chemical waste only;</li> <li>• Be enclosed on at least 3 sides;</li> <li>• Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;</li> <li>• Have adequate ventilation;</li> <li>• Be covered to prevent rainfall from entering; and</li> <li>• Be properly arranged so that incompatible materials are adequately separated.</li> </ul>	To prepare appropriate storage areas for chemical waste at works areas	Contractor	Work Sites	Construction Phase	V V V V V
S12.99	<p><b>Chemical Waste</b></p> <ul style="list-style-type: none"> <li>• Lubricants, waste oils and other chemical wastes would be generated during the maintenance of vehicles and mechanical equipments. Used lubricants shall be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a designated secure place.</li> </ul>	To clearly label the chemical waste at works areas	Contractor	Work Sites	Construction Phase	N/A
S12.100	<p><b>Collection and Disposal of Chemical Waste</b> <b>A trip-ticket system shall be operated in accordance with the Waste Disposal (Chemical Waste) (General) Regulation</b> to monitor all movements of chemical waste. The Contractor shall employ a licensed collector to transport and dispose of the chemical wastes, to either the approved CWTC at Tsing Yi, or another licensed facility, in accordance with the <i>Waste Disposal (Chemical Waste) (General) Regulation</i>.</p>	To monitor the generation, reuse and disposal of chemical waste	Contractor	Work Sites	Construction Phase	N/A
S12.101	<p><b>General Refuse</b> General refuse shall be stored in enclosed bins or compaction units separate from C&amp;D materials and chemical waste. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&amp;D materials and chemical wastes. Preferably, an enclosed and covered area shall be provided to reduce the occurrence of wind-blown light material.</p>	To properly store and separate from other C&D materials for subsequent collection and disposal	Contractor	Work Sites	Construction Phase	V
S12.102	<p><b>General Refuse (con't)</b> The recyclable component of general refuse, such as aluminum cans, paper and cleansed plastic containers shall be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste shall be set up by the Contractor. The Contractor shall also be responsible for arranging recycling companies to collect these materials.</p>	To facilitate recycling of recyclable portions of refuse	Contractor	Work Sites	Construction Phase	V
S12.103	<p><b>General Refuse (con't)</b> The Contractor shall carry out an education programme for workers in avoiding, reducing, reusing and recycling of materials generation. Posters and leaflets advising on the use of the bins shall also be provided in the sites as reminders.</p>	To raise workers' awareness on recycling issue	Contractor	Work Sites	Construction Phase	V

Annex B – Environmental Mitigation Implementation Schedule

EIA Ref. / EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
/	<p><b>Accidental spillage</b></p> <p>To prevent accidental spillage of chemicals, the following is recommended:</p> <ul style="list-style-type: none"> <li>• Proper storage and handling facilities will be provided.</li> <li>• All the tanks, containers, storage area will be bunded and the locations will be locked as far as possible from the sensitive watercourse and stormwater drains.</li> <li>• The contractor will register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities will be stored with suitable labels and warnings.</li> <li>• Disposal of chemical wastes will be conducted in compliance with the requirements as stated in the Waste disposal (Chemical Waste) (General) Regulation.</li> </ul>	To minimize potential adverse environmental impacts arising from accidental spillage	Contractor	Work Sites	Construction Phase	<p>V</p> <p>V</p> <p>V</p> <p>V</p>

Legend: V = implemented;  
 x = not implemented;  
 @ = partially implemented;  
 N/A = not applicable

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**Annex C**

**Cumulative Statistics on Complaints, Notification of  
Summons and Successful Prosecutions**

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**Annex C****Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions**

	<b>Date received</b>	<b>Subject</b>	<b>Status</b>	<b>Total no. received in this month</b>	<b>Total no. received since project commencement</b>
<b>Environmental complaints</b>	--	--	--	0	0
<b>Notification of summons</b>	--	--	--	0	0
<b>Successful prosecutions</b>	--	--	--	0	0

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**Annex D**

**Monthly Summary Waste Flow Table**

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Annex D1  
Monthly Summary Waste Flow Table (Note 3)

Monthly Summary Waste Flow Table for 2021 - (Central Kowloon Route - Kai Tak West)(Gammon Construction Limited)

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)												Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Contaminated Soil Monthly	Actual Quantities of Land-based Sediment Monthly			Actual Quantities of Marine-based sediment Monthly		
	Generated					Disposed				Reused			Recycled			Disposed	Reused	Reused	Disposed		Disposed			
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in Other Projects	Total Quantity Reused	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	General Refuse (Note 2)	Reused in the Contract	Reused in the Contract	Disposed at Designated Site		Disposed at Designated Site		
	Soil and Rock	Broken Concrete	Asphalt	Building Derbis															Type 1 (Cat. L)	Type 1 (Cat. M <sub>p</sub> )	Type 2 (Cat. M <sub>r</sub> , Cat. H)	Type 1 (Cat. L, Cat. M <sub>p</sub> )	Type 2 (Cat. M <sub>r</sub> , Cat. H, Cat. H <sub>p</sub> )	Type 3 (Cat. H <sub>r</sub> )
Unit	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000Kg)	('000Kg)	('000Kg)	('000L)	('000Kg)	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>SUB-TOTAL</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jul																								
Aug																								
Sep																								
Oct																								
Nov																								
Dec																								
<b>CUMULATIVE TOTAL</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

- Notes:
1. Assume the density of fill is 2 ton/m<sup>3</sup>.
  2. Refuse disposed to NENT landfill.
  3. The data presented in this waste flow table only included the waste generated from Kai Tak Barging Facility under FEP-01/436/2012/F, other data presented under the related Further Environmental Permit (FEP-01/457/2013/C).

Annex D2  
Monthly Summary Waste Flow Table (Note 3)

Monthly Summary Waste Flow Table for 2021 - (Kai Tak Sports Park)(Hip Hing Engineering Co Ltd)

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)												Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Contaminated Soil Monthly	Actual Quantities of Land-based Sediment Monthly			Actual Quantities of Marine-based sediment Monthly		
	Generated					Disposed				Reused			Recycled			Disposed	Reused	Disposed		Disposed				
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in Other Projects	Total Quantity Reused	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	General Refuse (Note 2)	Reused in the Contract	Reused in the Contract	Disposed at Designated Site		Disposed at Designated Site		
	Soil and Rock	Broken Concrete	Asphalt	Building Derbis															Type 1 (Cat. L)	Type 1 (Cat. M <sub>p</sub> )	Type 2 (Cat. M <sub>r</sub> , Cat. H)	Type 1 (Cat. L, Cat. M <sub>p</sub> )	Type 2 (Cat. M <sub>r</sub> , Cat. H <sub>p</sub> )	Type 3 (Cat. H <sub>r</sub> )
Unit	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000Kg)	('000Kg)	('000Kg)	('000L)	('000Kg)	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SUB-TOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jul																								
Aug																								
Sep																								
Oct																								
Nov																								
Dec																								
CUMULATIVE TOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes:

1. Assume the density of fill is 2 ton/m<sup>3</sup>.
2. Refuse disposed to NENT landfill.
3. The data presented in this waste flow table only included the waste generated from Kai Tak Barging Facility under FEP-01/436/2012/F, other data presented under the related Environmental Permit (EP-554/2017).

Annex D3  
Monthly Summary Waste Flow Table (Note 3)

Monthly Summary Waste Flow Table for 2021 - (Central Kowloon Route - Central Tunnel)(Bouygues Travaux Publics)

Month	Actual Quantities of Inert C&D Materials Generated Monthly (Note 1)												Actual Quantities of Non-inert C&D Materials (i.e. C&D Wastes) Generated Monthly					Actual Quantities of Contaminated Soil Monthly	Actual Quantities of Land-based Sediment Monthly			Actual Quantities of Marine-based Sediment Monthly		
	Generated					Disposed				Reused			Recycled			Disposed		Reused	Reused	Disposed		Disposed		
	Fill Material	Artificial Material			Total Quantity Generated	Disposed as Public Fills at TKO137	Disposed as Public Fills at TM38	Disposed as Public Fills at CWPFBP	Total Quantity Disposal	Reused in the Contract	Reused in Other Projects	Total Quantity Reused	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	General Refuse (Note 2)	Reused in the Contract	Reused in the Contract	Disposed at Designated Site		Disposed at Designated Site		
	Soil and Rock	Broken Concrete	Asphalt	Building Derbis															Type 1 (Cat. L)	Type 1 (Cat. M <sub>p</sub> )	Type 2 (Cat. M <sub>r</sub> , Cat. H)	Type 1 (Cat. L, Cat. M <sub>p</sub> )	Type 2 (Cat. M <sub>r</sub> , Cat. H <sub>p</sub> )	Type 3 (Cat. H <sub>r</sub> )
Unit	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000Kg)	('000Kg)	('000Kg)	('000L)	('000Kg)	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	('000m <sup>3</sup> )	
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>SUB-TOTAL</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jul																								
Aug																								
Sep																								
Oct																								
Nov																								
Dec																								
<b>CUMULATIVE TOTAL</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

- Notes:
1. Assume the density of fill is 2 ton/m<sup>3</sup>.
  2. Refuse disposed to NENT landfill.
  3. The data presented in this waste flow table only included the waste generated from Kai Tak Barging Facility under FEP-01/436/2012/F, other data presented under the related Environmental Permit (EP-457/2013/C).