

Implementation Schedule of Recommended Mitigation Measures

24. IMPLEMENTATION SCHEDULE OF RECOMMENDED MITIGATION MEASURES

24.1 Construction Phase

Noise impacts on the nearby sensitive receivers were identified during various construction stages. Appropriate mitigation measures such as good site practices, the use of quiet plant, temporary noise barriers, reducing the operation of construction plant and avoidance of simultaneous noisy activities have been recommended to reduce the construction noise impacts.

To reduce the dust nuisance associated with the works, the requirements stated in *Air Pollution (Construction Dust) Regulation* should be followed and incorporated into the contract specification for implementation.

A practicable environmental implementation schedule of the Project during the construction phase has been proposed and is shown by *Table 24.1a*. All the requirements stated in the implementation schedule should be included in the Contract of Works (Particular Specifications) for the Contractor to undertake in order to avoid adverse environmental impacts. The effectiveness of the recommended measures will be monitored through the EM&A exercise during the construction period. The engineer as well as the contractor is responsible to act accordingly once the defined action and limit levels have been reached where appropriate.

24.2 Operational Phase

Adverse noise impacts from road traffic were predicted at identified sensitive receivers. Direct technical remedies in the form of roadside barriers have been recommended in order to reduce the noise impacts from traffic. Given that the use of direct measures were exhausted, together with the potential site constraints of the Projects and other engineering factors, the need to use indirect measures was considered at affected noise sensitive receivers.

A practicable environmental implementation schedule of the Project during the operational phase has been proposed and is shown by *Table 24.2a*. All the requirements stated in the implementation schedule should be considered in order to avoid adverse environmental impacts.

Implementation Schedule of Recommended Mitigation Measures

Table 24.1a Implementation Schedule for Construction Phase Environmental Mitigation Measures

No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
Construction Noise							
1	Good Site Practice	<p>Noise emissions from construction sites shall be minimised through adoption of good site practices. The following package of measures shall be followed during each phase of construction:</p> <ul style="list-style-type: none"> • only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction phase; • machines and plant that may be in intermittent use shall be shut down between work periods or throttled down to a minimum practicable level; • plant known to emit noise strongly in one direction shall, where practicable, be orientated to direct noise away from nearby NSRs; • silencers or mufflers on construction equipment shall be utilised and shall be maintained in accordance with the manufacturer's recommendations throughout the construction period; • mobile plant shall be sited as far away from NSRs as practicable; • the site shall be planned, set up and worked with due consideration to the noise sensitivity of surrounding 	Contractor	Kam Tin EAR construction sites	Throughout construction period	NCO, ProPECC PN2/93, EIAO & EIAOTM (Annex 5)	Section 15.2.4.1

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
		<p>dwellings and full use shall be made of material stockpiles and other structures, where practicable, to screen noise from on-site construction activities; and</p> <ul style="list-style-type: none"> avoidance of simultaneous construction on all worksites near NSRs. 					
2	Specific Noise Control Measures	<p>The following package of noise control measures shall be implemented at the times and locations specified in order to minimise noise emissions as far as possible:</p> <p>Where available, the Contractor shall obtain and use on all work sites particular models of plant that are quieter than standard types given in the <i>Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)</i>.</p> <ul style="list-style-type: none"> Quiet plant is defined as Power Mechanical Equipment (PME) whose actual Sound Power Level (SWL) is less than the value specified in GW-TM for the same piece of equipment. Examples of SWLs for specific silenced PME can be found in the <i>British Standard Noise Control on Construction and Open Sites, BS5228: Part 1: 1997</i>. The Contractor shall give full and due consideration to the adoption of quieter working methods than those described in this report. The Contractor shall only use lorries on all worksites. 	Contractor	Kam Tin EAR Construction Sites	During road construction stage (excavation, placement of road base, kerbing / concreting for concrete carriageway, levelling of new road and road paving), drainage works (excavation, preparation of formation, laying of pipes, construction of manhole,	NCO, ProPECC PN2/93, EIAO & EIAOTM (Annex 5) and <i>Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)</i> .	Section 15.2.4.2
2A	Use of Quieter Construction Plant and Working Method						

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
2B	Use of Temporary Noise Barriers	Purpose designed and built portable noise barriers shall be used to the fullest extent possible around mobile and fixed plant at all sites involving barrier construction and at work sites next to the proposed pedestrian subway and close to the village house of Ng Ka Tsuen. To be fully effective, barriers should be placed as close as possible to the plant and be regularly re-positioned to track the progress of the construction activity and plant. Barriers shall at least break the line of sight between the plant and the noise sensitive receiver and overlap each other to achieve maximum effect. Barriers used around mobile plant shall be designed to achieve at least 5 dB attenuation and 10 dB for static plant.	Contractor	At all sites involving barrier construction and at work sites next to the proposed pedestrian subway and close to the village house of Ng Ka Tsuen	backfilling and reinstatement of pavement), and barrier construction in Kam Tin (excavation for foundation, erection of barrier and concreting)	NCO, ProPECC PN2/93, EIAO & EIAOTM (Annex 5)	Section 15.2.4.3

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
3	Environmental Management Plan for Construction Noise	The Contractor shall re-assess the potential means of eliminating the residual construction noise impacts when more detailed information regarding construction plant team, construction methodology and construction programme is available. The Contractor shall develop specific mitigation measures to be implemented during construction stages in order to ensure that, as far as practicable, there are no unacceptable construction noise impacts to nearby NSRs.	Contractor	Eastern Access Road construction site	barrier construction in Kam Tin (excavation for foundation and erection of barrier and concreting) Throughout construction period	NCO, ProPECC PN2/93, EIAO & EIAOTM (Annex 5)	Sections 15.2.4 and 15.2.5
Air Quality							
4	Air Quality	In addition to compliance with the Air Pollution Control (Construction Dust) Regulations, the following mitigation measures will be implemented to limit the dust emissions: <ul style="list-style-type: none"> the heights from which materials are dropped shall 	Contractor	Eastern Access Road construction site	Throughout construction period	APCO, APC(CD)R, EIAO & EIAOTM (Annex 4 & 12)	Section 16.4.2

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
		<p>be controlled to a minimum practical height to control fugitive dust arising from unloading;</p> <ul style="list-style-type: none"> • materials shall not be loaded to a level higher than the side and tail boards, and should be dampened or covered before transport; and • water sprays shall be applied to maintain the worksite wet. • all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet; • the load carried by the vehicle shall be covered by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; and • the excavation working area shall be sprayed with water after the operation so as to maintain the entire surface wet. 					
Water Quality							
5	Programming of Works	Construction works shall be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas shall be fully restored as soon as possible after earth works have been completed. Exposed slopes or stockpiles shall be covered by tarpaulin or similar fabrics during rain storms.	Contractor	Eastern Access Road construction site	During periods of excavation	WPCO, EIAO, EIAOTM (Annex 6 & 14) and ProPECC PN 1/94 (Appendix A2)	Section 17.2.2.1

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
6	Construction Runoff and Drainage	<p>Exposed soil areas shall be minimised, as far as practicable, to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the construction activities shall be controlled through the use of mitigation measures which include:</p> <ul style="list-style-type: none"> • Use of sediment traps; • Regular maintenance of drainage systems to prevent flooding and overflow; • The boundaries of critical areas of earthworks shall be marked and surrounded by dykes or embankments for flood protection; • Temporary ditches shall be provided to facilitate runoff discharge via silt retention facilities. • Permanent drainage channels shall incorporate sediment basins or traps and baffles to enhance deposition rates. 	Contractor	Eastern Access Road construction site	During periods of excavation	WPCO, EIAO, EIAOTM (Annex 6 & 14) and ProPECC PN 1/94 (Appendix A1)	Section 17.2.2.1
7	Sediment tanks	<p>Sediment tanks shall be used for settling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources including applications where the influent is pumped.</p>	Contractor	Eastern Access Road construction site	Throughout construction period	WPCO, EIAO, EIAOTM (Annex 6 & 14) and ProPECC PN 1/94 (Appendix A2)	Section 17.2.2.1
8	Kerbside Inlet Pits	<p>Kerbside inlet pits shall be adequately covered so as to prevent silt, construction materials or debris being</p>	Contractor	Eastern Access Road construction site	Throughout construction	WPCO, EIAO, EIAOTM (Annex 6 & 14) and ProPECC PN 1/94 (Appendix A2)	Section 17.2.2.1

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		washed into the drainage system.			period	6 & 14) & ProPECC PN 1/94(Appendix A2)	
9	Wheel Washers	Sand and silt in the wash water from the wheel washing facilities shall be settled out and removed before discharging into storm drains. The section of haul road between the wheel washing bay and the entry/exit point of the site shall be paved with backfall to prevent wash water or other site runoff from entering public road drains.	Contractor	Exit(s) to Eastern Access Road construction site	Throughout construction period	WPCO, EIAO and TM (Annex 6 & 14)	Section 17.2.2.1
10	Oil interceptors	Oil interceptors shall be provided in the downstream drainage system of any oil/fuel storage areas or plant maintenance workshops established for the EAR works to prevent any oils or grease from entering the storm water drainage system. These facilities shall be emptied regularly and provided with a bypass to prevent flushing during periods of heavy rain.	Contractor	Eastern Access Road construction site	Throughout construction period	WPCO, EIAO and TM (Annex 6 & 14)	Section 17.2.2
11	General Construction Activities	Debris and rubbish on site shall be collected, handled and disposed of properly to prevent it from entering the water column and causing water quality impacts. All fuel tanks and storage areas shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching	Contractor	Eastern Access Road construction site	Throughout construction period	WPCO, EIAO & EIAOTM (Annex 6 & 14)	Section 17.2.2

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
12	Sewage Effluent	the receiving water bodies. If direct connection to existing sewerage is not undertaken, construction sewerage will need to be handled by portable chemical toilets and sewage holding tanks. Appropriate types and adequate numbers of portable toilets shall be provided by a licensed contractor who will be responsible for appropriate disposal and maintenance activities.	Contractor	Eastern Access Road construction site	Throughout construction period	WPCO, EIAO & EIAOTM (Annex 6 & 14)	Section 17.2.2
Landscape and Visual							
13	Landscape mitigation measures	The following mitigation measures shall be implemented to mitigate the landscape impacts associated with the construction phase: <ul style="list-style-type: none"> • storage and re-use of topsoil in areas impacted by the road works; • transplantation of existing trees impacted by the road works to compensatory planting sites or off site to amenity areas identified by Government Departments; • all disturbed areas, including temporary works areas, site accesses and site cabins, to be made good to the satisfaction of the relevant Government departments; 	Contractor	Eastern Access Road construction site	Throughout construction period	EIAO & EIAOTM (Annex 18)	18.3.3.1

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
14	Visual mitigation measures	<p>The following mitigation measures shall be implemented to mitigate the visual impacts associated with the construction phase:</p> <ul style="list-style-type: none"> provision of site hoardings to screen works areas during the construction period; consideration should be given to the design and surface treatment, particularly adjacent to pedestrian environments; control of lighting during night construction activity; 	Contractor	Eastern Access Road construction site	Throughout construction period	EIAO & EIAOTM (Annex 18)	Section 18.3.3.2
Waste Management							
15	Waste - General	The Contractor shall develop and submit a site specific Waste Management Plan for the construction phase to EPD. The Plan shall be verified by the Independent Environmental Consultant (IEC) and shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall take into account the recommendations of the EIA report.	Contractor	Eastern Access Road construction site	Prior to the commencement of construction works	EIAO & EIAOTM (Annex 15)	Section 19.3.1.1
16	Storage, Collection and Transport of Waste	The following site specific mitigation measures shall be implemented at the all Worksites to minimise potential waste impacts:	Contractor	Eastern Access Road	Throughout the	EIAO &	Section

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
		<ul style="list-style-type: none"> Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers. 		construction site	construction phase	EIAOTM (Annex 15)	19.3.1.2
		<ul style="list-style-type: none"> If they are required, obtain the necessary waste disposal permits from the appropriate authorities. 	Contractor	Eastern Access Road construction site	Throughout the construction phase	<i>Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354), the Crown Land Ordinance (Cap 28), Dumping At Sea Ordinance (Cap 466) and Works Branch Technical Circular No.</i>	Section 19.3.1.2
		<ul style="list-style-type: none"> Develop procedures such as a ticketing system to facilitate tracking of loads, particularly for chemical waste, and to ensure that illegal disposal of wastes does not occur; Maintain records of the quantities of wastes generated, recycled and disposed. 	Contractor	Eastern Access Road construction site	Throughout the construction phase	EIAO & EIAOTM (Annex 15)	Section 19.3.1.2
			Contractor	Eastern Access Road construction site	Throughout the construction phase	EIAO & EIAOTM (Annex 15)	Section 19.3.1.2

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
					phase	15)	
		<ul style="list-style-type: none"> • Segregate and sort the waste into 3 categories: <ul style="list-style-type: none"> * public fill (eg concrete and rubble) for re-use on-site or at public filling areas; * recyclable waste (eg steel and papers); * waste which cannot be re-used and/or recycled for landfill disposal. The sorting process shall be carefully monitored to avoid mixing of the 3 categories. Different types of materials/wastes shall be stockpiled and stored in different containers or skips to enhance re-use or recycling of the materials and proper disposal. 	Contractor	Eastern Access Road construction site	Throughout the construction phase	EIAO & EIAOTM (Annex 15)	Section 19.3.1.2
17	Chemical Wastes	Chemical wastes shall be stored, handled, transported and disposed of in accordance with the current legislation.	Contractor	Eastern Access Road construction site	Throughout the construction phase	<i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</i>	Section 19.3.1.5
18	General Refuse	General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes.	Contractor	Eastern Access Road construction site	Throughout the construction phase	Waste Disposal Ordinance and subsidiary legislation	Section 19.3.1.6
Contaminated Land							
19		A stand alone CAP has been prepared and is submitted	Contractor	Eastern Access Road -	Before the	EIAO TM Annex	Section

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
		<p>in Annex I of this Report for the approval of the EPD. The Contamination Assessment Plan (CAP) should be implemented and the Contamination Assessment Report (CAR) and Remediation Action Plan (RAP), as required, should be approved before the award of the construction contract of the Eastern Access Road. This is to allow the remediation/mitigation measures recommended in the RAP to be incorporated in the construction contract. During the subsequent stages of the Projects development, if there are separate contracts for the remediation works, such remediation works must be completed prior to the construction of the new road. The required works involve:</p> <ul style="list-style-type: none"> • Review the CAP attached in Annex I of this report; and perform a site visit to identify detailed sampling locations and test parameters; • Submit the amended CAP for EPD's agreement; • Perform site investigation according to the agreed CAP to ascertain the scale and level of land contamination; • Report the findings of the site investigations in a CAR, and, if land contamination is confirmed, prepare a RAP for agreement with EPD; • If applicable, the contaminated site shall be 		construction site	commencement of the construction works	19/3.1.1 & 3.1.2	20.4

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
		remediated in accordance with the approved CAR/RAP.					
20	Generic Mitigation Measures	<p>Potential exposure to contaminated materials shall be minimised by implementing the following generic mitigation measures:</p> <ul style="list-style-type: none"> The use of bulk earth-moving excavator equipment will minimise the potential interface of contaminated materials with site construction workers; Exposure to any contaminated materials may be minimised by the wearing of appropriate clothing and personal protective equipment such as gloves (when interacting directly with contaminated material), providing adequate hygiene and washing facilities and preventing smoking and eating during such activities; Vehicles containing any contaminated materials should be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates sealed to prevent any discharge during transport or during wet conditions; 	Contractor	Eastern Access Road construction site	Throughout the construction phase	ProPECC PN 3/94 and EIA O TM.	Section 20.6
			Contractor	Eastern Access Road construction site	Throughout the construction phase	ProPECC PN 3/94 and EIA O TM.	Section 20.6
			Contractor	Eastern Access Road construction site	Throughout the construction phase	ProPECC PN 3/94 and EIA O TM.	Section 20.6
		Only licensed waste hauliers should be used to collect and transport any contaminated sediments to an	Contractor	Eastern Access Road construction site	Throughout the construction	ProPECC PN 3/94 and EIA O	Section 20.6

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
		appropriate disposal site and procedures should be developed to ensure that illegal disposal of wastes does not occur;			phase	TM.	
		<ul style="list-style-type: none"> Prior agreement should be sought with the Facilities Management Group of EPD regarding the acceptability of disposal of any contaminated soils to landfill or other suitable disposal locations. Although not officially designated, the only landfill site in Hong Kong that is likely to be able to accept contaminated material is the SENT landfill. The necessary waste disposal permits should be obtained, as required, from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354), as required. Records of the quantities of any wastes generated and disposed of should be maintained. In accordance with good construction practice, silt traps shall be used to reduce the impact to drainage caused by suspended solids (SS) arising from disturbed ground, or any construction materials such as cement and gravel. Groundwater should be disposed of in accordance with the WPCO 	Contractor	Eastern Access Road construction site	Throughout the construction phase	ProPECC PN 3/94 and EIA O TM.	Section 20.6
			Contractor	Eastern Access Road construction site	Throughout the construction phase	ProPECC PN 3/94 and EIA O TM.	Section 20.6
			Contractor	Eastern Access Road construction site	Throughout the construction phase	ProPECC PN 3/94 and EIA O TM.	Section 20.6
			Contractor	Eastern Access Road construction site	Throughout the construction phase	ProPECC PN 3/94 and EIA O TM.	Section 20.6

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
Cultural and Heritage							
21		Following the gazetal of the alignment of the Eastern Access Road, and in advance of the construction works, it is recommended that archaeological field evaluation is undertaken to determine the presence and preservation of buried archaeological deposits. The field evaluation will be undertaken to a Field Evaluation Project Design to be submitted to the Antiquities & Monuments Office for approval. The findings of the field evaluation will determine the need for further mitigation of impacts to archaeological resources.	Proponent	Eastern Access Road - construction site	Before construction	EIAO TM Annex 19	Section 22.5
EM&A Requirements - Construction Phase							
22	Environmental Management Plan (EMP)	The Contractors shall produce a contract specific Environmental Management Plan (EMP) which clearly defines the mechanisms that shall be implemented on-site in order to comply with all environmental legislation, and to achieve the environmental requirements stated in this EIA and their contractual documentation.	Contractor	Measures defined in the EMP shall apply throughout the Eastern Access Road construction site	Throughout the construction phase	All environmental legislation and guidelines	23.5
23	Noise Monitoring	Noise monitoring shall be undertaken at the following locations to ensure the efficacy of the recommended mitigation measures. (Additional monitoring locations may be considered necessary in agreement with the EPD.)					

Implementation Schedule of Recommended Mitigation Measures

No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
	Kam Tin	<ul style="list-style-type: none"> • NSR 76a - Village house south of Kam Sheung Road and west of EAR. • NSR 89 - Lutheran Kam Sheung Church • NSR 92 - Village house of Ng Ka Tsuen, north of Kam Sheung Road and east of EAR. 	Contractor	Kam Tin	Throughout construction phase	EIAO & EIAOTM (Annex 21)	Section 23.7
24	Air Quality Monitoring	<p>Dust monitoring shall (subject to access restrictions) be undertaken at the following locations to ensure the efficacy of the recommended mitigation measures. (Additional monitoring locations may be considered necessary in agreement with the EPD.)</p> <ul style="list-style-type: none"> • ASR 3 - Lutheran Kam Sheung Church 	Contractor	Kam Tin	Throughout construction phase	EIAO & EIAOTM (Annex 21)	Section 13.8

Implementation Schedule of Recommended Mitigation Measures

Table 24.2a Implementation Schedule for Operational Phase Environmental Mitigation Measures

No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
Noise							
1		<p>Direct Road Traffic Noise Mitigation Measures</p> <ul style="list-style-type: none"> 3 m Barrier (60 m long), NB carriageway of EAR and behind the footpath, immediate south of Kam Tin Road/Kam Tin By-pass roundabout (Approx. Chainage 860-920 m); 2.5 m Absorptive Barrier (80 m long), NB carriageway of EAR and behind the footpath, north-east of the proposed pedestrian subway (Approx. Chainage 1029-1109 m); 3 m Absorptive Barrier (100 m long), NB carriageway of EAR, next to the bus-bay and behind the footpath, south-west of the proposed pedestrian subway, (Approx. Chainage 1109-1209 m); 3 m Absorptive Barrier (20 m long), SB carriageway of EAR and in front of Ng Ka Tsuen, next to bus-bay and behind the footpath, north-east of the proposed pedestrian subway, (Approx. Chainage 1080-1100 m); 3 m Absorptive Barrier (55 m long), SB carriageway of EAR and in front of Ng Ka Tsuen, 1 m from kerbside, south-west of the proposed pedestrian subway, (Approx. Chainage 1100-1155 m); 5.5 m Absorptive Barrier (60 m long), EB of Kam Sheung Road and east of EAR, approx. 2 m from 	Contractor	Eastern Access Road	Before completion of road works	EIAO	Section 15.3.4
			Contractor	Eastern Access Road	Before completion of road works	EIAO	Section 15.3.4
			Contractor	Eastern Access Road	Before completion of road works	EIAO	Section 15.3.4
			Contractor	Eastern Access Road	Before completion of road works	EIAO	Section 15.3.4
			Contractor	Eastern Access Road	Before completion of road works	EIAO	Section 15.3.4
			Contractor	Kam Sheung	Before completion	EIAO	Section

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
		kerbside and next to bus-bay;		Road	of road works		15.3.4
		<ul style="list-style-type: none"> 3 m Absorptive Barrier (30 m long), EB of Kam Sheung Road and west of EAR, approx. 5 m from kerbside; 5 m Absorptive Barrier (55 m long), WB of Kam Sheung Road and west of EAR, behind the footprint of the proposed bus-bay; and 5.5 m Barrier (150 m long), SB carriageway of EAR, south of EAR/Kam Sheung Road junction, next to the bus-bay and behind the footprint (Approx. Chainage 1300-1450 m).	Contractor Contractor Contractor	Kam Sheung Road Kam Sheung Road Eastern Access Road	Before completion of road works Before completion of road works Before completion of road works	EIAO EIAO EIAO	Section 15.3.4 Section 15.3.4 Section 15.3.4
		Indirect Road Traffic Noise Mitigation Measures <ul style="list-style-type: none"> Define the extent of indirect technical remedies required at Kam Kwong Kindergarten, village house of Ng Ka Tsuen (the one close to Kam Sheung Road/EAR junction) and Lutheran Kam Sheung Church. Install indirect technical remedies, in the form of suitable window glazing and air-conditioning units to protect the affected NSRs (Kam Kwong Kindergarten, village house of Ng Ka Tsuen (the one close to Kam Sheung Road/EAR junction) and Lutheran Kam Sheung Church). 	KCRC/Highway Department	Kam Kwong Kindergarten, village house of Ng Ka Tsuen (the one close to Kam Sheung Road/EAR junction) and Lutheran	Before completion of road works	EIAO	Section 15.3.5

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
2	Operational EM&A Requirements Noise Monitoring	Noise monitoring should be conducted during the operational phase so as to ensure the noise levels are comparable to the predicted results of the EIA Study. Traffic noise levels shall be measured at representative locations in Kam Tin as agreed with the EPD, within the first year of the road opening. The recommended monitoring locations are detailed below. Additional monitoring locations may be necessary in agreement with the EPD. <i>Kam Tin</i> <ul style="list-style-type: none"> • NSR 91 - Village house south of Ng Ka Tsuen, south-east of subway • NSR 87 - Village house south of Kam Sheung Road and east of EAR 	Highways Department	Kam Sheung Church Kam Tin	During first year of operation	EIAO & EIAOTM (Annex 21)	Section 23.7.2
4	Maintenance of Noise Mitigation Measures	Noise barriers, both reflective and absorptive should be maintained in order to ensure the acoustic performance of the proposed measures.	Highways Department	Kam Tin	Operational Phase	EIAO	Section 15.3.4
Landscape and Visual							
5	Landscape mitigation	The following mitigation measures shall be implemented					

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	measures	to mitigate the landscape impacts associated with the operational phase: <ul style="list-style-type: none"> • dense tree and shrub planting on embankments to screen the route alignment and the noise barriers; • roadside avenue tree and shrub planting; • amenity tree and shrub planting to road junctions and roundabouts; and • compensatory woodland planting to adjacent land. 	Contractor	Eastern Access Road construction site	As soon as possible following the completion of the construction works, or, if feasible without disrupting the works or potentially damaging the trees, during the later stages of the construction works.	EIAO & EIAOTM (Annex 18)	Section 18.3.3.1
6	Visual mitigation measures	The following mitigation measures shall be implemented to mitigate the visual impacts associated with the operational phase: <ul style="list-style-type: none"> • dense tree and shrub planting to roadside areas • amenity roadside tree and shrub planting to screen the road alignment and associated structures 	Contractor	Eastern Access Road construction site	As soon as possible following the completion of the construction works, or, if feasible without disrupting the works or potentially damaging the trees, during the later	EIAO & EIAOTM (Annex 18)	Section 18.3.3.2

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No.	Environmental Issue	Environmental Mitigation Measures	Implementation Agent	Location	Implementation Stages	Relevant Environmental Legislation and Guidelines	EIA Reference
					stages of the construction works.		
	<ul style="list-style-type: none"> • sensitive treatment of noise barriers to include chromatic treatment of absorptive barriers and use of clear polycarbonate panels (non-absorptive) wherever possible; • architectural and chromatic treatment to engineered structures; • sensitively designed noise barriers and bus shelters; • stone cladding to retaining walls and river culverts. 	Design Engineers and Contractor	Eastern Access Road construction site	Develop proposals during the detailed design stage, and implement during the construction phase	EIAO & EIAOTM (Annex 18)	Section 18.3.3.2	
7	Maintenance	<p>In order to ensure that the proposed mitigation measures remain effective in mitigating the predicted landscape and visual impacts, it will be necessary to ensure that appropriate measures are put in place for their maintenance. With regard to the soft landscaping, it is envisaged that after an initial 12 month maintenance period of the planting works by the implementing Contractor, the Highways Department will either assume the long term maintenance responsibility or negotiate a agreement with another department or authority (such as the Regional Services Department). For the hard landscape elements such as planter walls and tree grilles, the Highways Department will assume the long term maintenance responsibility.</p>	Highways Department	Eastern Access Road	Throughout operational stage		Sections 18.4