

16 IMPLEMENTATION SCHEDULES

16.1 INTRODUCTION

16.1.1 The intention of Clause 3.8.14.3 of the EIA Study Brief (No. ESB-043/1999 - Construction of an International Theme Park in Penny's Bay of North Lantau and its Essential Associated Infrastructure), was that the Implementation Schedules should be 'grouped under individual works packages in separate DPs where applicable'. However, at the current stage of the Project's development, details are not available regarding the likely content of the possible construction works packages. Consequently, it has not been possible to group the mitigation measures under individual works packages.

16.1.2 Nevertheless, separate Implementation Schedules have been produced for the construction and operational phases of each of the following nine Schedule 2 DPs that have been considered within the EIA Study.

16.1.3 The Western section of the Chok Ko Wan Link Road (*Tables 16.1a & 16.1b*);

- Road P2 (*Tables 16.1c & 16.1d*) ;
- The Resort Road (*Tables 16.1e & 16.1f*) ;
- The Penny's Bay Rail Link (see Annex M) ;
- The Penny's Bay Reclamation (*Tables 16.1g & 16.1h*);
- The Yam O Reclamation (*Tables 16.1i & 16.1j*);
- The Water Recreation Centre (*Tables 16.1k & 16.1l*);
- The Eastern Stormwater Drainage Culvert (*Tables 16.1m & 16.1n*) ; and
- The Theme Park and Recreational Developments (*Tables 16.1o & 16.1p*) .

16.1.4 The Implementation Schedules are contained with *Tables 16.1a-p*.

16.1.5 It should be noted that the EM&A Manual and Implementation Schedule for the Penny's Bay Rail Link is contained within *Annex M* of the EIA Report.

16.1.6 The Implementation Schedules have been prepared in accordance with the format contained in Appendix 3 of the Study Brief. Each of the Implementation Schedules have the following column headings:

EIA Ref :

16.1.7 This denotes the section number or reference from the EIA Report Main text.

EM&A Log Ref:

16.1.8 This denotes the sequential number of each of the recommended mitigation measures specified in the Implementation Schedule.

Environmental Protection Measures

16.1.8 This denotes the recommended mitigation measures, courses of action or subsequent deliverables that are to be adopted, undertaken or delivered to avoid, minimise or ameliorate predicted environmental impacts.

Location/Duration of Measures/Timing of Completion of Measures

16.1.9 This indicates the spatial area in which the recommended mitigation measures are to be implemented together with details of the programming or timing of their implementation.

Implementation Agent

16.1.10 This denotes where the responsibility lies for the implementation of the recommended mitigation measures.

Implementation Stage

16.1.11 This denotes the stage at which the recommended mitigation measures are to be implemented; either during the Design, Construction, Operation or Decommissioning.

Relevant Legislation & Guidelines

16.1.12 This section defines the controlling legislation or guidelines that are either required to be complied with, or should be complied with as good practice.

Table 16.1a Implementation Schedule for the Chok Ko Wan Link Road - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<i>AIR QUALITY - Construction Phase</i>							
		<ul style="list-style-type: none"> In accordance with the <i>Air Pollution Control (Construction Dust) Regulation</i> the following mitigation measures shall be implemented to limit the dust emissions from the site: 							
3.4.3	A1	<ul style="list-style-type: none"> any excavated dusty materials or stockpile of dusty materials shall be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A2	<ul style="list-style-type: none"> stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforces by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A3	<ul style="list-style-type: none"> dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A4	<ul style="list-style-type: none"> vehicle washing facilities shall be provided at every vehicle exit point 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A5	<ul style="list-style-type: none"> the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

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3.4.3	A6	<ul style="list-style-type: none"> where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4 m high from ground level shall be provided along the entire length except for a site entrance or exit; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A7	<ul style="list-style-type: none"> every main haul road shall be sealed and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A8	<ul style="list-style-type: none"> the portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A9	<ul style="list-style-type: none"> every stock more than 20 bags of cement should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A10	<ul style="list-style-type: none"> cement delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line such that, in the event of the silo approaching an overfilling condition, an audible alarm is triggered and the material filling stops within one minutes; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A11	<ul style="list-style-type: none"> silos used for the storage of cement should not overfilled; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

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3.4.3	A 12	<ul style="list-style-type: none"> loading, unloading, transfer, handling or storage of bulk cement or any cement during or after the de-bagging process should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric or equivalent air pollution control system or equipment; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A 13	<ul style="list-style-type: none"> cement, or any dusty materials collected by fabric filters or other air pollution control system or equipment should be disposed of in totally enclosed containers; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A 14	<ul style="list-style-type: none"> stockpiles of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides; or sprayed with water so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A 15	<ul style="list-style-type: none"> all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A 16	<ul style="list-style-type: none"> vehicle speed within the worksite shall be limited to 10 kph , except for properly formed and maintained access roads ; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A 17	<ul style="list-style-type: none"> every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction sites; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

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3.4.3	A 18	<ul style="list-style-type: none"> the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A 19	<ul style="list-style-type: none"> the working area of excavation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A 20	<ul style="list-style-type: none"> the area within 30 m from any blasting area shall be wetted with water prior to blasting; and 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A 21	<ul style="list-style-type: none"> blasting shall not be carried out when the strong wind signal or tropical cyclone warning signal No.3 or higher is hoisted unless prior permission of the Commissioner of Mines is obtained. 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
		<ul style="list-style-type: none"> In addition, according to the EPD's <i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>, the following mitigation measures shall be adopted to prevent fugitive dust emissions: 	At all concrete batching plants, throughout the whole duration of the construction period						
3.4.3	A 22	<ul style="list-style-type: none"> loading, unloading, handling, transfer or storage of any dusty materials shall be carried out in totally enclosed system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A 23	<ul style="list-style-type: none"> all dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>

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3.4.3	A 24	<ul style="list-style-type: none"> vents for all silos and cement/ pulverised fuel ash (PFA) weighing scale shall be fitted with fabric filtering system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A 25	<ul style="list-style-type: none"> the materials which may generate airborne dusty emissions shall be wetted by water spray system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A 26	<ul style="list-style-type: none"> all receiving hoppers shall be enclosed on three sides up to 3m above unloading point; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A 27	<ul style="list-style-type: none"> all conveyor transfer points shall be totally enclosed; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A 28	<ul style="list-style-type: none"> all access and route roads within the premises shall be paved and wetted; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A 29	<ul style="list-style-type: none"> vehicle cleaning facilities shall be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body. 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
		NOISE - Construction Phase							
		In addition to the use of good site practice (as defined in the Section 4.6 EIA Report) the following mitigation measures shall be implemented to minimise noise emissions:							

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4.6	B1	<i>Selecting Quiet Plant</i>							
		Where available, the Contractor shall use models of plant that are quieter than those specified in the EPD 's Technical Memorandum (GW-TM) for undertaking construction works	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			EIAO-TM GW-TM
4.6	B2	<i>Use of Temporary and Movable Noise Barriers</i>							
		Temporary purpose-built noise barriers or screens, constructed of appropriate material with a suitable footing and a small cantilevered upper portion, shall be erected along active work sites boundaries at the following locations in order to minimise noise emissions:							
		At the work sites for the Yam O to Penny's Bay roundabout area.	At the stated locations, and throughout the whole duration of the construction period, whenever construction work may be undertaken in the evening	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			EIAO-TM GW-TM
		At the work sites for the construction of CKWLR (from Yam O Interchange to Penny's Bay Interchange)	At the stated locations, and throughout the whole duration of the construction period, whenever construction work may be undertaken in the evening	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			EIAO-TM GW-TM
		At the work sites for the construction of services infrastructure	At the stated locations, and throughout the whole duration of the construction period, whenever construction work may be undertaken in the evening	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			EIAO-TM GW-TM

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		WATER QUALITY- Construction Phase							
		Land Based Construction Activities							
		<i>Surface Run-off</i>							
5.7.2	C1	Surface run-off from the construction site shall be directed into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C2	Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	At all construction work site prior to the commencement of site formation works and earthworks	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C3	Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed regularly, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C4	If excavation cannot be avoided during rainy seasons, temporarily exposed soil surfaces shall be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

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5.7.2	C5	Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided where necessary. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C6	Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C7	Manholes (including any 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. Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
		<i>Groundwater</i>							
5.7.2	C8	Groundwater pumped out of wells, etc. for the lowering of ground water level in foundation construction shall be discharged into storm drains after being passed through appropriate silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
		<i>Wheel Washing Water</i>							

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5.7.2	C9	All vehicles and plant shall be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them 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 being discharged into the 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.	At every site exit to all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C10	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 <i>Waste Disposal Ordinance</i> .	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i> <i>Waste Disposal Ordinance</i>

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		<i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i>							
5.7.2	C11	All fuel tanks and chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. The Contractors shall prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
		WASTE - Construction Phase							
		The following procedures and measures shall be implemented when handling waste material.							
		<i>Dredged/Excavated Sediment</i>							
6.7.2	D1	Potential impacts associated with the exposure to and disposal of contaminated sediments could be mitigated by adopting the following measures:	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance, EPDTC 1-1-92</i>
		<ul style="list-style-type: none"> minimising exposure to any contaminated material by the wearing of protective gear such as gloves, providing adequate hygiene and washing facilities, and preventing eating during dredging/excavation; 							
		<ul style="list-style-type: none"> any contaminated sediment dredged should not be allowed to stockpile on the site and should be immediately removed from site once dredged; 							
		<ul style="list-style-type: none"> all vessels for marine transportation of dredged sediment should be fitted with tight fitting seals to their bottom openings to prevent leakage of materials; and 							

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		<ul style="list-style-type: none"> loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and barges or hoppers should under no circumstances to be filled to a level which will cause other overflowing of materials or polluted water during loading or transportation. 							
		<i>Measures Taken in the Planning and Design Stages to Reduce the Generation of C&DM</i>							
6.7.2	D2	<p>The following waste management hierarchy shall be followed:</p> <ol style="list-style-type: none"> avoidance and minimisation, that is, not generating waste through changing or improving practices and design; reuse of materials, thus avoiding disposal (generally with only limited reprocessing); recovery and recycling, thus avoiding disposal (although reprocessing may be required); and treatment and disposal, according to relevant law, guidelines and good practice. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D3	Records of quantities of wastes generated, recycled and disposed (locations) shall be properly kept.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

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6.7.2	D4	Any clean excavated soil shall be reused on site as far as possible for landscape works in order to minimise the amount public fill to be disposed off-site. Should there be any surplus public fill generated from the project, the Contractors shall liaise with the Fill Management Committee to identify as far as possible suitable reclamation or site formation projects near the project site to reuse the material.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>Measures To be Taken in the Construction Stage To Reduce the Generation of C&DM</i>							
6.7.2	D5	The Contractor shall recycle as much as possible of the C&D material on-site. Public fill and C&D waste shall be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Concrete and masonry, for example can be crushed and used as fill and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D6	The use of wooden hoardings shall not be allowed. An alternative material, for example, metal (aluminium, alloy etc) shall be used.	To be implemented at all worksites where a site boundary adjoins a road, street or other area accessible to the public. The hoarding shall be erected throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
		<i>Chemical Waste</i>							

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D7	<p>For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste. Containers used for storage of chemical wastes should:</p> <ul style="list-style-type: none"> • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<p><i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, and Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i></p>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D8	<p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> • by clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3-sides; • 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; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and • 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 s the greatest; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and • be arranged so that incompatible materials are adequately separated. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<p><i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, and Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i></p>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D9	<p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> • be via a licensed waste collector; and • be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or • be to a re-user of the waste, under approval from the EPD. <p>The Centre for Environmental Technology operates a Waste Exchange Scheme which can assist in finding receivers or buyers.</p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<p><i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, and Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i></p>
		<i>Management of General Refuse</i>							
6.7.2	D10	General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour pest and litter impacts. The burning of refuse shall not be permitted.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D11	Reusable rather than disposable dishware shall be used if feasible. Separate, labelled bins shall be provided, if feasible, for the collection of aluminium cans.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D12	The Contractor shall participate in a local waste collection scheme, if one is available, to reduce office wastes.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D13	A trip-ticket system should be established and used to monitor the disposal of C&DM and solid wastes at public filling facilities and landfills, and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance Works Bureau Technical Circular No 5/99</i>
6.7.2	D14	A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) shall be established during the construction stage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>Staff Training</i>							
6.7.2	D15	Training shall be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the contract.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>Waste Management Plan</i>							
6.7.2	D16	The construction Contractors shall incorporate the above recommendations into a Waste Management Plan for the construction works. Such a management plan shall incorporate site specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.	To be produced by all construction contractors and submitted to the Engineer for approval at the commencement of the construction period. The Plans shall be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>TERRESTRIAL ECOLOGY - Construction Phase</i>							

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
7.7.1	E1	Compensatory tree plantation (not less than 4.5 ha) on the adjacent hill side to the east of Ngong Shuen Au for the loss of approximately 1.4 ha of the secondary woodland at Ngong Shuen Au. Species used for planting should take reference from the species identified in the Tree Survey and be native to Hong Kong or South China region.	Ngong Shuen Au secondary woodland/ During design and construction stage /At the end of construction period	CED/Contractors /AFCD	✓	✓	✓		
		<i>Construction Practice</i>							
7.7.3	E3	Reinstate temporary work sites/disturbed areas to its original condition immediately after completion of the construction; Prohibit and prevent open fires within the work site boundary during construction and provide temporary fire fighting equipment in all work areas;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E4	Select haul routes, storage and works areas etc. to avoid or minimize disturbance to ecologically significant areas;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E5	Check the work site boundaries regularly to ensure that they are not exceeded and that no damage has been caused to surrounding natural habitats;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E6	Prohibit and prevent open fires within the work site boundary during construction and provide temporary fire fighting equipment in all work areas.	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			-
		MARINE ECOLOGY AND FISHERIES - Construction Phase							
		Not applicable							

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		ARCHAEOLOGY AND CULTURAL HERITAGE - Construction Phase							
11.6	G1	To ensure that construction activities avoided potential impact upon the Pa Tau Kwu and the two identified grave sites near Chok Ko Wan, these areas should be marked on all construction plans as "temporary protection areas". Moreover, to ensure that no direct impact occurs to the grave sites and that there is no soil disturbance at the archaeological sites, the site boundaries of these areas should be physically fenced off with 'buffer zones' of at least 5 m width so that construction workers do not enter onto these sites.	Prior to and during any works with the potential to impact upon the Pa Tau Kwun and the two grave sites near Chok Ko Wan	CED and the Contractors	✓	✓			
11.6	G2	Access to the grave sites may be impacted during construction, therefore, the grave owners should be informed so that special arrangement to visit to sites is possible, when necessary. The Detailed Development Plan should retain any access possibility to the grave sites for future visitors after the completion of the developments.	Prior to and during any works with the potential to impact upon the access to the grave sites	CED and the Contractors	✓	✓			
11.8	G3	In order to minimise the potential for impact to the Wan Tuk archaeological site, the following mitigation measures shall be implemented:							
		<ul style="list-style-type: none"> Plastic sheets shall be used to cover the impact area before construction of the temporary access road. 	Prior to and throughout the construction of the temporary access road	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
		<ul style="list-style-type: none"> After the completion of the Penny's Bay reclamation, all the fill materials and plastic sheets shall be removed. 	On completion of the Penny's Bay reclamation	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<ul style="list-style-type: none"> Any area required to be filled shall be covered by plastic sheets before the filling work. 	Prior to and throughout the filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
		<ul style="list-style-type: none"> detailed design of filling work or ground level adjustment work shall consider diversion of site runoff to prevent waterlogged conditions. 	During the detailed design stage and before the commencement of filling or ground level adjustment work	To be undertaken by the detailed design engineers, implemented by the Contractors and enforced by the Engineer/ENPO	✓				
11.8	G4	In order to minimise the potential for impact to the Chok Ko Wan archaeological site, the following mitigation measures shall be implemented:							
		It is recommended that preservation by record in totality, i.e. full rescue excavation, be implemented prior to the reclamation of this site.	Prior to the reclamation of this site.	To be undertaken by qualified archaeological specialists	✓	✓			
11.8	G5	In order to minimise the potential for impact to the CLS archaeological site, the following mitigation measures shall be implemented:							
		<ul style="list-style-type: none"> Detailed design of the CKWLR shall avoid the potential impact to the original coastal areas at CLS site. 	To be implemented during the detailed design stage	To be implemented by the Detailed Design Engineers	✓				
		<ul style="list-style-type: none"> An opportunity shall be provided for an archaeological field evaluation at the coastal area of existing CLS as part of the Schedule 2 EIA for the CLS decommissioning. 	CLS site prior to the construction of the CKWLR	To be undertaken by archaeological specialists/AMO	✓				
		<ul style="list-style-type: none"> If the preferred alignment developed at the detailed design stage is predicted to result in unavoidable impact to significant archaeological deposit at the coastal areas of the CLS site, the impacted area shall be mitigated by rescue programme 	To be implemented prior to the commencement of the construction works.	To be undertaken by archaeological specialists	✓				

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		· A full rescue programme could be considered, if necessary, to allow preservation by record in totality of this site.	To be considered after the completion of the detailed design and prior to the commencement of the construction works.	To be considered by archaeological specialists	✓				
		HAZARD - Construction Phase							
		Not applicable							
		CONTAMINATED LAND - Construction Phase							
12.7.2	H1	Although not included within the scope of the original Study Brief issued by the EPD for the Theme Park and associated developments, the Cheoy Lee Shipyard shall be appropriately remediated prior to the implementation of Road P2, the Chok Ko Wan Link Road and the Penny's Bay Rail Link. The detailed requirements for the remediation of this site, to the satisfaction of the EPD, shall be assessed as part of the Schedule 2 EIA for the Decommissioning of the Cheoy Lee Shipyard, and an Environmental Permit shall be obtained before the decommissioning works are commenced.	Prior to any remediation works being conducted	CED	✓	✓		✓	<i>EPD's Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards, and Car Repair/Dismantling Workshops</i> <i>Professional Persons</i> <i>Environmental Consultative Committee Practice Note 3/94 - Contaminated Land Assessment and Remediation (ProPECC PN 3/94)</i>
		LANDSCAPE AND VISUAL - Construction Phase							
		The following landscape and visual mitigation measures shall be implemented:							
12.7.20	I1	Minimise slope cutting subject to geotechnical and planting mitigation constraints.	At proposed slope cutting in Ngong Shuen Au and at Pa Tau Kwu throughout the construction phase.	CED	✓	✓			WBTC 25/93 Control of Visual Impact of Slopes
12.7.21	I2	Minimise loss of tree/woodland vegetation by carrying out surveys to determine requirements for retention, transplanting and compensation.	At tree/woodland areas within alignment and works area throughout the duration of construction phase.	CED	✓				WBTC 24/94 Tree Preservation.

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
12.7.22	I3	Retain stockpile and reuse quality top soil.	At all areas of top soil removal along alignment throughout the construction phase	CED		✓			
12.7.35	I4	Design viaducts to minimise visual intrusion	At viaduct sections of alignment throughout the construction phase	CED	✓				
		<i>EM&A REQUIREMENTS - Construction Phase</i>							
		<i>Air Quality</i>							
3.7	J1	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase dust monitoring shall be undertaken at the following location in accordance with the recommendations detailed in Section 5 of the EM&A Manual . • ASR1-Penny's Bay Gas Turbine Plant	At specified dust monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT		✓			Air Pollution Control (Construction Dust) Regulations
		<i>Construction Noise</i>							
4.9	J2	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual. • NSR1-Sea Crest Villa (Peng Chau) • NSR2-Crestmont Villa (Discovery Bay) • NSR3-Luk Keng Tsuen	At specified noise monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT		✓			Noise Control Ordinance (NCO)

Table 16.1b -Implementation Schedule for the Chok Ko Wan Link Road - Operational Phase

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<i>AIR QUALITY - Operational Phase</i>							
		Not applicable							
		<i>NOISE - Operational Phase</i>							
		Not applicable							
		<i>WATER QUALITY- Operational Phase</i>							
5.9.4	A1	The following mitigation measures shall be implemented to prevent adverse operational impacts to water quality from the road links.							
		<ul style="list-style-type: none"> all road run-off shall be collected and discharged via a stormwater drainage system; 	To be incorporated into the detailed design and fully implemented prior to the use of the road links	Detailed Design Consultants	✓	✓			<i>Water Pollution Control Ordinance</i>
		<ul style="list-style-type: none"> oil and grit interceptors shall be used to remove any oil or grease and sediment before being diverted to the public stormwater system . It is envisaged that, as a guideline, and depending upon their capacity, interceptors shall be installed at intervals of between 500-1,000 m along new roads, and also at PTIs, car parks and utility yards ; 	To be incorporated into the detailed design and fully implemented prior to the use of the road links	Detailed Design Consultants	✓	✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<ul style="list-style-type: none"> the contents of oil and grit interceptors shall be transferred to an appropriate disposal facility on a regular basis, the frequency of which will depend upon the amount of rainfall (ie more frequent removal during the wet season); 	To be undertaken throughout the operational lifetime of the roads	HKITP			✓		<i>Water Pollution Control Ordinance</i>
		<ul style="list-style-type: none"> silt traps or sedimentation tanks shall be installed to remove suspended solids, which may contain heavy metals and PAHs, from run-off water and, in the same way as oil and grit interceptors, they should be regularly cleaned and maintained in good working condition. 	To be incorporated into the detailed design and undertaken throughout the operational lifetime of the roads	Detailed Design Consultants / HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>
		WASTE - Operational Phase							
		Not applicable							
		TERRESTRIAL ECOLOGY - Operational Phase							
		Not applicable							
		MARINE ECOLOGY AND FISHERIES - Operational Phase							
		Not applicable							
		ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase							
11.8	B1	There shall be adequate drainage provision to prevent waterlogging to the Wan Tuk archaeological site	Wan Tuk archaeological site	To be developed by the Design Engineers and implemented by the contractors.	✓	✓			
		Access to the grave sites near Chok Ko Wan should be considered	Two grave sites near Chok Ko Wan	To be developed by the Design Engineers and implemented by the contractors.	✓	✓			

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		HAZARD - Operational Phase							
		Not applicable							
		CONTAMINATED LAND - Construction Phase							
		Not applicable							
		LANDSCAPE AND VISUAL - Operational Phase							
		The following landscape and visual mitigation measures shall be implemented:							
12.7.34	C1	<ul style="list-style-type: none"> Roadside planting to be designed and implemented to screen, create biodiversity and visual interest. 	Along road alignment and for duration of operational phase.	CED / CCSD	✓	✓	✓		
12.7.23	C2	Road slope design considerations shall include: a) use of wire mesh rather than shotcrete to allow exposed rockface b) bench and lift design with associated planting c) coloured shotcrete where there is no alternative to its use	At slope cutting location along alignment for duration of operation phase.	CED	✓	✓			
12.7.26	C3	Control highway lighting to avoid light overspill.	Along all road alignment for duration of operational phase.	CED/HyD	✓	✓	✓		
		EM&A REQUIREMENTS - Operational Phase							
		Not applicable							

* Des = Design, C = Construction, O = Operation, Dec = Decommissioning

Table 16.1c - Implementation Schedule for the Road P2 - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	Dec	
		<i>AIR QUALITY - Construction Phase</i>							
		In accordance with the <i>Air Pollution Control (Construction Dust) Regulation</i> the following mitigation measures shall be implemented to limit the dust emissions from the site:							
3.4.3	A1	<ul style="list-style-type: none"> any excavated dusty materials or stockpile of dusty materials shall be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A2	<ul style="list-style-type: none"> stockpile of dusty materials should not extend beyond the pedestrian barriers, fencing or traffic cones; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforces by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A3	<ul style="list-style-type: none"> dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A4	<ul style="list-style-type: none"> vehicle washing facilities shall be provided at every vehicle exit point 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A5	the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	Dec	
3.4.3	A6	<ul style="list-style-type: none"> where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4 m high from ground level shall be provided along the entire length except for a site entrance or exit; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A7	<ul style="list-style-type: none"> every main haul road shall be sealed and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A8	<ul style="list-style-type: none"> the portion of road leading only to a construction site that is within 30m of a designated vehicle entrance or exit should be kept clear of dusty materials; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A9	<ul style="list-style-type: none"> every stock more than 20 bags of cement should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A10	<ul style="list-style-type: none"> cement delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line such that, in the event of the silo approaching an overfilling condition, an audible alarm is triggered and the material filling stops within one minutes; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A11	<ul style="list-style-type: none"> silos used for the storage of cement should not overfilled; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	Dec	
3.4.3	A12	<ul style="list-style-type: none"> loading, unloading, transfer, handling or storage of bulk cement or any cement during or after the de-bagging process should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric or equivalent air pollution control system or equipment; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A13	<ul style="list-style-type: none"> cement, or any dusty materials collected by fabric filters or other air pollution control system or equipment should be disposed of in totally enclosed containers; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A14	<ul style="list-style-type: none"> stockpiles of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides; or sprayed with water so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A15	<ul style="list-style-type: none"> all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A16	<ul style="list-style-type: none"> vehicle speed within the worksite shall be limited to 10 kph , except for properly formed and maintained access roads ; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A17	<ul style="list-style-type: none"> every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction sites; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	Dec	
3.4.3	A18	<ul style="list-style-type: none"> the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A19	<ul style="list-style-type: none"> the working area of excavation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A20	In addition, according to the EPD's <i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i> , the following mitigation measures shall be adopted to prevent fugitive dust emissions:	At all concrete batching plants, throughout the whole duration of the construction period						
3.4.3	A21	<ul style="list-style-type: none"> loading, unloading, handling, transfer or storage of any dusty materials shall be carried out in totally enclosed system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A22	<ul style="list-style-type: none"> all dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A23	<ul style="list-style-type: none"> vents for all silos and cement/ pulverized fuel ash (PFA) weighing scale shall be fitted with fabric filtering system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>

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3.4.3	A24	<ul style="list-style-type: none"> the materials which may generate airborne dusty emissions shall be wetted by water spray system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A25	<ul style="list-style-type: none"> all receiving hoppers shall be enclosed on three sides up to 3m above unloading point; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A26	<ul style="list-style-type: none"> all conveyor transfer points shall be totally enclosed; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A27	<ul style="list-style-type: none"> all access and route roads within the premises shall be paved and wetted; and 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A28	<ul style="list-style-type: none"> vehicle cleaning facilities shall be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body. 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
		<i>NOISE - Construction Phase</i>							
		In addition to the use of good site practice (as defined in the EIA Report) the following mitigation measures shall be implemented to minimise noise emissions:							
4.6	B1	<p><i>Selecting Quiet Plant for Evening Time Works</i></p> <p>Where available, the Contractor shall use models of plant that are quieter than those specified in the EPD's Technical Memorandum (GW-TM) for undertaking construction works in the evening.</p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>GW-TM</i>

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		<i>Use of Temporary and Movable Noise Barriers for Evening Time Works</i>							
4.6	B2	Temporary purpose-built noise barriers or screens, constructed of appropriate material with a suitable footing and a small cantilevered upper portion, shall be erected along the active work sites boundaries at the following locations in order to minimise noise emissions:	At all of the stated locations, and throughout the whole duration of the construction period, whenever construction work may be undertaken in the evening	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>GW-TM</i>
		<ul style="list-style-type: none"> At the work site for the construction of Road P2 (from Northern Development to Theme Park West); At the work site for the construction of the Access Road; and At the work site for the construction of the services infrastructure. 							
		<i>WATER QUALITY- Construction Phase</i>							
		<i>Surface Run-off</i>							
5.7.2	C1	Surface run-off from the construction site shall be directed into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C2	Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	At all construction work site prior to the commencement of site formation works and earthworks	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

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5.7.2	C3	Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed regularly, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C4	If excavation cannot be avoided during rainy seasons, temporarily exposed soil surfaces shall be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C5	Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided where necessary. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

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5.7.2	C6	Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C7	Manholes (including any 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. Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
		<i>Groundwater</i>							
5.7.2	C8	Groundwater pumped out of wells, etc. for the lowering of ground water level in foundation construction shall be discharged into storm drains after being passed through appropriate silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
		<i>Wheel Washing Water</i>							

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5.7.2	C9	All vehicles and plant shall be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them 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 being discharged into the 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.	At every site exit to all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
		<i>Wastewater from Site Facilities</i>							
5.7.2	C10	Sewage from toilets, kitchens and similar facilities shall be discharged into a foul sewer or chemical toilets shall be provided. Should the use of chemical toilets be necessary then these shall be provided by a licensed contractor, who will be responsible for appropriate disposal and maintenance of these facilities. Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

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5.7.2	C11	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 <i>Waste Disposal Ordinance</i> .	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i> <i>Waste Disposal Ordinance</i>
		<i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i>							
5.7.2	C12	All fuel tanks and chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. The Contractors shall prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
		WASTE - Construction Phase							
		The following procedures and measures shall be implemented when handling waste material.							

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		<i>Measures Taken in the Planning and Design Stages to Reduce the Generation of C&DM</i>							
6.7.2	D1	The following waste management hierarchy shall be followed: 1. avoidance and minimisation, that is, not generating waste through changing or improving practices and design; 2. reuse of materials, thus avoiding disposal (generally with only limited reprocessing); 3. recovery and recycling, thus avoiding disposal (although reprocessing may be required); and 4. treatment and disposal, according to relevant law, guidelines and good practice.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D2	Records of quantities of wastes generated, recycled and disposed (locations) shall be properly kept.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D3	Any clean excavated soil shall be reused on site as far as possible for landscape works in order to minimise the amount public fill to be disposed off-site. Should there be any surplus public fill generated from the project, the Contractors shall liaise with the Fill Management Committee to identify as far as possible suitable reclamation or site formation projects near the project site to reuse the material.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

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6.7.2	D4	The design of the foundation works will minimise the amount of excavated material to be generated. Should piling be required, H-piling will be used as far as practical.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D5	The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage of construction materials, such as ready mixed concrete.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>Measures To be Taken in the Construction Stage To Reduce the Generation of C&DM</i>							
6.7.2	D6	The Contractor shall recycle as much as possible of the C&D material on-site. Public fill and C&D waste shall be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Concrete and masonry, for example can be crushed and used as fill and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D7	In order to minimise the impacts of the demolition works these wastes must be cleared as quickly as possible after demolition. The demolition and clearance works shall therefore be undertaken simultaneously.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

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6.7.2	D8	The use of wooden hoardings shall not be allowed. An alternative material, for example, metal (aluminium, alloy etc) shall be used.	To be implemented at all worksites where a site boundary adjoins a road, street or other area accessible to the public. The hoarding shall be erected throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
		<i>Chemical Waste</i>							
6.7.2	D9	For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste. Containers used for storage of chemical wastes should: <ul style="list-style-type: none"> • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance, Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>

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		<p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> • by clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • 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; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and • be arranged so that incompatible materials are adequately separated. 							
		<p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> • be via a licensed waste collector; and • be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or • be to a re-user of the waste, under approval from the EPD. <p>The Centre for Environmental Technology operates a Waste Exchange Scheme which can assist in finding receivers or buyers.</p>							

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		<i>Management of General Refuse</i>							
6.7.2	D10	General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour pest and litter impacts. The burning of refuse shall not be permitted.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D11	Reusable rather than disposable dishware shall be used if feasible. Separate, labelled bins shall be provided, if feasible, for the collection of aluminium cans.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D12	The Contractor shall participate in a local waste collection scheme, if one is available, to reduce office wastes.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>Management of Waste Disposal</i>							
6.7.2	D13	A trip-ticket system should be established and used to monitor the disposal of C&DM and solid wastes at public filling facilities and landfills, and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i> <i>Works Bureau Technical Circular No 5/99</i>
6.7.2	D14	A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) shall be established during the construction stage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>Staff Training</i>							

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6.7.2	D15	Training shall be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the contract.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>Waste Management Plan</i>							
6.7.2	D16	The construction Contractors shall incorporate the above recommendations into a Waste Management Plan for the construction works. Such a management plan shall incorporate site specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.	To be produced by all construction contractors and submitted to the Engineer for approval at the commencement of the construction period. The Plans shall be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>TERRESTRIAL ECOLOGY - Construction Phase</i>							
7.7.1	E4	Adjust development/construction area to avoid/minimize direct impact on the rare plant <i>Schoenus falcatus</i> at Chok Ko Wan Tsui. If avoidance of these habitats and plant species is not possible, transplanting of affected individuals should be undertaken to similar environment as the original habitat, rocky shore with freshwater seepage or near a small stream, before the works start.	Chok Ko Wan Tsui/ During design and construction stage /At the end of construction period	CED/Contractors		✓			

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7.7.1	E5	A detailed vegetation survey of these affected areas should be undertaken at the Detailed Design stage to identify the individuals of the concerned species, as a basis for details of design refinement and transplanting requirements .	Chok Ko Wan Tsui /Detailed design stage/At the end of detailed design stage	CED		✓			
		<i>White-bellied Sea Eagle</i>							
7.7.2	E6	Prohibit construction workers access to the nesting site of White-bellied Sea Eagles at Pa Tau Kwu secondary woodland through warning and regular audit by Site Engineer, and fence off the public land access from the development areas.	At all construction work sites close to Pa Tau Kwu secondary woodland/ Throughout the whole construction period Detailed design stage/At the end of detailed design stage	CED/Contractors	✓				
7.7.3	E9	Use quietened construction plant and equipment for Penny's Bay Stage II reclamation.	At all construction work sites close to Pa Tau Kwu secondary woodland/Throughout the whole construction period /At the end of construction period	CED/Contractors		✓			
		<i>Construction Practice</i>							

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7.7.3	E9	Erect fences where practical along the boundary of construction sites before the commencement of works to prevent tipping, vehicle movements, and encroachment of personnel into adjacent areas, particularly where the rare/restricted /protected species, such as rare Rice Fish <i>Oryzias latipes</i> in Mong Tung Hang stream, White-bellied Sea Eagles <i>Haliaeetus leucogaster</i> at Pa Tau Kwu woodland, Pitcher Plant <i>Nepenthes mirabilis</i> , <i>Fimbristylis acuminata</i> and <i>Fimbristylis complanata</i> behind Cheoy Lee shipyard, are located;	At all construction work sites particularly the areas close to freshwater wetland behind Cheoy Lee shipyard, Pa Tau Kwu secondary woodland and Mong Tung Hang stream /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E10	Reinstate temporary work sites/disturbed areas immediately after completion of the construction;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E11	Select haul routes, storage and works areas etc. to avoid or minimize disturbance to ecologically significant areas;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E12	Check the work site boundaries regularly to ensure that they are not exceeded and that no damage has been caused to surrounding natural habitats;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			

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7.7.3	E13	Prohibit and prevent open fires within the work site boundary during construction and provide temporary fire fighting equipment in all work areas.	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			-
		MARINE ECOLOGY AND FISHERIES - Construction Phase							
		<i>Not applicable</i>							
		ARCHAEOLOGY AND CULTURAL HERITAGE - Construction Phase							
11.8	F1	In order to minimise the potential for impact to the CLS archaeological site, the following mitigation measures shall be implemented:							
		<ul style="list-style-type: none"> Detailed design of Road P2 shall avoid the potential impact to the original coastal areas at CLS site. 	To be implemented during the detailed design stage	To be implemented by the Detailed Design Engineers	✓				
		<ul style="list-style-type: none"> An opportunity shall be provided for an archaeological field evaluation at the coastal area of existing CLS as part of the Schedule 2 EIA for the CLS decommissioning. 	During the EIA for CLS decommissioning	AMO/qualified archaeologist	✓				
		<ul style="list-style-type: none"> If the preferred alignment developed at the detailed design stage is predicted to result in unavoidable impact to significant archaeological deposit at the coastal areas of the CLS site, the impacted area shall be mitigated by rescue programme. 	To be implemented prior to the commencement of the construction works.	To be undertaken by archaeological specialists	✓				
		<ul style="list-style-type: none"> A full rescue programme could be considered, if necessary, to allow preservation by record in totality of this site. 	To be considered after the completion of the detailed design and prior to the commencement of the construction works.	To be considered by archaeological specialists	✓				

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		HAZARD - Construction Phase							
		Not applicable							
		CONTAMINATED LAND - Construction Phase							
12.7.2	G1	Although not included within the scope of the original Study Brief issued by the EPD for the Theme Park and associated developments, the Cheoy Lee Shipyard shall be appropriately remediated prior to the implementation of Road P2, the Chok Ko Wan Link Road and the Penny's Bay Rail Link. The detailed requirements for the remediation of this site, to the satisfaction of the EPD, shall be assessed as part of the Schedule 2 EIA for the Decommissioning of the Cheoy Lee Shipyard, and an Environmental Permit shall be obtained before the decommissioning works are commenced.	Prior to any remediation works being conducted	CED	✓	✓		✓	<i>EPD's Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards, and Car Repair/Dismantling Workshops</i> <i>Professional Persons Environmental Consultative Committee Practice Note 3/94 - Contaminated Land Assessment and Remediation (ProPECC PN 3/94)</i>
		LANDSCAPE AND VISUAL - Construction Phase							
12.7.20	H1	Minimise slope cutting subject to geotechnical and planting mitigation constraints.	At proposed slope cutting in Ngong Shuen Au and at Pa Tau Kwu throughout the construction phase.	CED	✓	✓			WBTC 25/93 Control of Visual Impact of Slopes
	H2	Minimise loss of tree/woodland vegetation, by carrying out surveys to determine requirements for retention, transplanting and compensation	At tree/woodland areas within alignment and works area throughout the duration of construction phase.	CED	✓				WBTC 24/94 Tree Preservation

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	Dec	
12.7.22	H3	Retain, stockpile and reuse quality top soil	At all areas of top soil removal along alignment throughout the construction phase.	CED		✓			
12.7.32	H4	Design viaducts to minimise visual intrusion	At viaduct sections of alignment throughout the construction phase	CED	✓	✓			
		<i>EM&A REQUIREMENTS - Construction Phase</i>							
		<i>Air Quality</i>							
3.7	I1	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase dust monitoring shall be undertaken at the following location in accordance with the recommendations detailed in Section 5 of the EM&A Manual. • ASR1-Penny's Bay Gas Turbine Plant	At specified dust monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT		✓			Air Pollution Control (Construction Dust) Regulations
		<i>Construction Noise</i>							
4.9	I2	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual. • NSR1-Sea Crest Villa (Peng Chau) • NSR2-Crestmont Villa (Discovery Bay) • NSR3-Luk Keng Tsuen •	At specified noise monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT		✓			Noise Control Ordinance (NCO)

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	Dec	
		<i>TERRESTRIAL ECOLOGY</i>							
		White-bellied Sea Eagle							
7.9	I3	Subject to the EPD's agreement, construction phase monitoring of the White-bellied Sea Eagle shall be undertaken in accordance with the recommendations of Section 9 of the EM&A Manual	Throughout the duration of the construction works.	To be undertaken by an avian specialist with at least 3 years experience		✓			

Table 16.1d Implementation Schedule for the Road P2 - Operational Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<i>AIR QUALITY - Operational Phase</i>							
		Not applicable							
		<i>NOISE - Operational Phase</i>							
		Not applicable							
		<i>WATER QUALITY- Operational Phase</i>							
		The following mitigation measures shall be implemented to prevent adverse operational impacts to water quality from the road links.							
5.9.4	A1	<ul style="list-style-type: none"> all road run-off shall be collected and discharged via a stormwater drainage system; 	To be incorporated into the detailed design and fully implemented prior to the use of the road links	Detailed Design Consultants	✓	✓			<i>Water Pollution Control Ordinance</i>
5.9.4	A2	<ul style="list-style-type: none"> oil and grit interceptors shall be used to remove any oil or grease and sediment before being diverted to the public stormwater system. It is envisaged that, as a guideline, and depending upon their capacity, interceptors shall be installed at intervals of between 500-1,000 m along new roads, and also at PTIs, car parks and utility yards; 	To be incorporated into the detailed design and fully implemented prior to the use of the road links	Detailed Design Consultants	✓	✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.9.4	A3	<ul style="list-style-type: none"> the contents of oil and grit interceptors shall be transferred to an appropriate disposal facility on a regular basis, the frequency of which will depend upon the amount of rainfall (ie more frequent removal during the wet season); 	To be undertaken throughout the operational lifetime of the roads	HKITP			✓		<i>Water Pollution Control Ordinance</i>
5.9.4	A4	<ul style="list-style-type: none"> silt traps or sedimentation tanks shall be installed to remove suspended solids, which may contain heavy metals and PAHs, from run-off water and, in the same way as oil and grit interceptors, they should be regularly cleaned and maintained in good working condition. <p>WASTE - Operational Phase</p> <p>Not applicable</p> <p>TERRESTRIAL ECOLOGY - Operational Phase</p> <p>Not applicable</p> <p>MARINE ECOLOGY AND FISHERIES - Operational Phase</p> <p>Not applicable</p> <p>ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase</p> <p>Not applicable</p> <p>HAZARD - Operational Phase</p>	To be incorporated into the detailed design and undertaken throughout the operational lifetime of the roads	Detailed Design Consultants / HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		Not applicable							
		CONTAMINATED LAND - <i>Construction Phase</i> Not applicable							
		<i>LANDSCAPE AND VISUAL - Operational Phase</i>							
12.7.34 & 12.7.30	B1	Roadside planting to be designed and implemented to screen, create biodiversity and visual interest. Initial planting of larger trees and use of ornamental species to be considered.	Along road alignment and for duration of operational phase.	CED LCSD	✓	✓		✓	
12.7.23 & 12.7.31	B2	Road slope design considerations to be made include a) use of wire mesh rather than shotcrete to allow exposed rockface b) bench and lift design with associated planting c) coloured shotcrete where there is no alternative to its use d) use of naturalistic contouring for regrading	At slope cutting location along alignment for duration of operation phase.	CED	✓	✓			
12.7.26	B3	Control highway lighting to avoid light overspill	Along all road alignment for duration of operation phase.	CED/HyD HyD	✓	✓		✓	
		<i>EM&A REQUIREMENTS - Operational Phase</i> <i>Not applicable</i>							
* Des = Design, C = Construction, O = Operation, Dec = Decommissioning									

Table 16.1e Implementation Schedule for the Resort Road - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**		Relevant Legislation & Guidelines
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<i>AIR QUALITY - Construction Phase</i>							
In accordance with the <i>Air Pollution Control (Construction Dust) Regulation</i> the following mitigation measures shall be implemented to limit the dust emissions from the site:							
3.4.3	A1	<ul style="list-style-type: none"> any excavated dusty materials or stockpile of dusty materials shall be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓		<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A2	<ul style="list-style-type: none"> dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓		<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A3	<ul style="list-style-type: none"> vehicle washing facilities shall be provided at every vehicle exit point 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓		<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A4	<ul style="list-style-type: none"> where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4 m high from ground level shall be provided along the entire length except for a site entrance or exit; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓		<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**	Relevant Legislation & Guidelines
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3.4.3	A5	<ul style="list-style-type: none"> every main haul road shall be sealed and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A6	<ul style="list-style-type: none"> stockpiles of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides; or sprayed with water so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A7	<ul style="list-style-type: none"> all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A8	<ul style="list-style-type: none"> vehicle speed within the worksite shall be limited to 20 kph, except for properly formed and maintained access roads; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A9	<ul style="list-style-type: none"> every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction sites; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A10	<ul style="list-style-type: none"> the working area of excavation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A11	In addition, according to the EPD's <i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i> , the following mitigation measures shall be adopted to prevent fugitive dust emissions:	At all concrete batching plants, throughout the whole duration of the construction period			

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					D e s	C o	D e c	
3.4.3	A12	• loading, unloading, handling, transfer or storage of any dusty materials shall be carried out in totally enclosed system;	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A13	• all dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the emission limits for TSP;	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A14	• vents for all silos and cement/ pulverized fuel ash (PFA) weighing scale shall be fitted with fabric filtering system;	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A15	• the materials which may generate airborne dusty emissions shall be wetted by water spray system;	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A16	• all receiving hoppers shall be enclosed on three sides up to 3m above unloading point;	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A17	• all conveyor transfer points shall be totally enclosed;	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A18	• all access and route roads within the premises shall be paved and wetted; and	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A19	• vehicle cleaning facilities shall be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
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<i>NOISE - Construction Phase</i>								
In addition to the use of good site practice (as defined in the EIA Report) the following mitigation measures shall be implemented to minimise noise emissions:								
4.6	B1	<i>Selecting Quiet Plant for Evening Time Works</i> Where available, the Contractor shall use models of plant that are quieter than those specified in the EPD's Technical Memorandum (GW-TM) for undertaking construction works in the evening.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			GW-TM
4.6	B2	<i>Use of Temporary and Movable Noise Barriers for Evening Time Works</i> Temporary purpose-built noise barriers or screens, constructed of appropriate material with a suitable footing and a small cantilevered upper portion, shall be erected along the active work sites boundaries at the following locations in order to minimise noise emissions: <ul style="list-style-type: none"> • At the work site for the construction of the services infrastructure. 	At all of the stated locations, and throughout the whole duration of the construction period, whenever construction work may be undertaken in the evening	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			GW-TM
<i>WATER QUALITY- Construction Phase</i>								
<i>Land Based Construction Activities</i>								
<i>Surface Run-off</i>								

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**	Relevant Legislation & Guidelines
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5.7.2	C1	Surface run-off from the construction site shall be directed into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>
5.7.2	C2	Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	At all construction work site prior to the commencement of site formation works and earthworks	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>
5.7.2	C3	Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed regularly, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>
5.7.2	C4	If excavation cannot be avoided during rainy seasons, temporarily exposed soil surfaces shall be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**	Relevant Legislation & Guidelines
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5.7.2	C5	Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided where necessary. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>
5.7.2	C6	Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>
5.7.2	C7	Manholes (including any 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. Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. <i>Groundwater</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**	Relevant Legislation & Guidelines
					De s	
5.7.2	C8	Groundwater pumped out of wells, etc. for the lowering of ground water level in foundation construction shall be discharged into storm drains after being passed through appropriate silt removal facilities. <i>Wheel Washing Water</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>
5.7.2	C9	All vehicles and plant shall be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them 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 being discharged into the 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.	At every site exit to all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**	Relevant Legislation & Guidelines
					De s	
5.7.2	C10	<p><i>Wastewater from Site Facilities</i></p> <p>Sewage from toilets, kitchens and similar facilities shall be discharged into a foul sewer or chemical toilets shall be provided. Should the use of chemical toilets be necessary then these shall be provided by a licensed contractor, who will be responsible for appropriate disposal and maintenance of these facilities. Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.</p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>
5.7.2	C11	<p>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 <i>Waste Disposal Ordinance</i>. <i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i></p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i> <i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**	Relevant Legislation & Guidelines
					De s	
5.7.2	C12	All fuel tanks and chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. The Contractors shall prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Water Pollution Control Ordinance</i>
WASTE - Construction Phase						
6.7.2	D1	The following procedures and measures shall be implemented when handling waste material. <i>Measures Taken in the Planning and Design Stages to Reduce the Generation of C&DM</i> The following waste management hierarchy shall be followed: 1. avoidance and minimisation, that is, not generating waste through changing or improving practices and design; 2. reuse of materials, thus avoiding disposal (generally with only limited reprocessing); 3. recovery and recycling, thus avoiding disposal (although reprocessing may be required); and 4. treatment and disposal, according to relevant law, guidelines and good practice.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					D e s	C o n s	D e c	
6.7.2	D2	Records of quantities of wastes generated, recycled and disposed (locations) shall be properly kept.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D3	Any clean excavated soil shall be reused on site as far as possible for landscape works in order to minimise the amount public fill to be disposed off-site. Should there be any surplus public fill generated from the project, the Contractors shall liaise with the Fill Management Committee to identify as far as possible suitable reclamation or site formation projects near the project site to reuse the material.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D4	The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage of construction materials, such as ready mixed concrete.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
<i>Measures To be Taken in the Construction Stage To Reduce the Generation of C&DM</i>								
6.7.2	D5	The Contractor shall recycle as much as possible of the C&D material on-site. Public fill and C&D waste shall be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Concrete and masonry, for example can be crushed and used as fill and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					De s	C O	De c	
6.7.2	D6	In order to minimise the impacts of the demolition works these wastes must be cleared as quickly as possible after demolition. The demolition and clearance works shall therefore be undertaken simultaneously.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D7	The use of wooden hoardings shall not be allowed. An alternative material, for example, metal (aluminium, alloy etc) shall be used.	To be implemented at all worksites where a site boundary adjoins a road, street or other area accessible to the public. The hoarding shall be erected throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			
6.7.2	D8	<p><i>Chemical Waste</i></p> <p>For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste. Containers used for storage of chemical wastes should:</p> <ul style="list-style-type: none"> · be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					D e s	C O	D e c	
		<p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> • by clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • 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; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and be arranged so that incompatible materials are adequately separated. <p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> • be via a licensed waste collector; and • be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a re-user of the waste, under approval from the EPD. <p>The Centre for Environmental Technology operates a Waste Exchange Scheme which can assist in finding receivers or buyers.</p> <p><i>Management of General Refuse</i></p>						

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					De s	C O	De c	
6.7.2	D9	General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour pest and litter impacts. The burning of refuse shall not be permitted.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D10	Reusable rather than disposable dishware shall be used if feasible. Separate, labelled bins shall be provided, if feasible, for the collection of aluminium cans.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D11	The Contractor shall participate in a local waste collection scheme, if one is available, to reduce office wastes.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D12	<i>Management of Waste Disposal</i> A trip-ticket system should be established and used to monitor the disposal of C&DM and solid wastes at public filling facilities and landfills, and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i> <i>Works Bureau Technical Circular No 5/99</i>
6.7.2	D13	A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) shall be established during the construction stage. <i>Staff Training</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					D e s	C o	D e c	
6.7.2	D14	Training shall be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the contract. <i>Waste Management Plan</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D15	The construction Contractors shall incorporate the above recommendations into a Waste Management Plan for the construction works. Such a management plan shall incorporate site specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.	To be produced by all construction contractors and submitted to the Engineer for approval at the commencement of the construction period. The Plans shall be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
<i>TERRESTRIAL ECOLOGY - Construction Phase</i>								
<i>Not applicable</i>								
<i>MARINE ECOLOGY AND FISHERIES - Construction Phase</i>								
<i>Not applicable</i>								
<i>ARCHAEOLOGY AND CULTURAL HERITAGE - Construction Phase</i>								
<i>Not applicable</i>								

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					D e s	C O	D e c	
<i>HAZARD - Construction Phase</i>								
<i>Not applicable</i>								
CONTAMINATED LAND - <i>Construction Phase</i>								
<i>Not applicable</i>								
<i>LANDSCAPE AND VISUAL - Construction Phase</i>								
<i>Not applicable</i>								
<i>EM&A REQUIREMENTS - Construction Phase</i>								
3.7	F1	<i>Air Quality</i> Subject to the Environmental Protection Department's (EPD's) agreement, construction phase dust monitoring shall be undertaken at the following location in accordance with the recommendations detailed in Section 5 of the EM&A Manual.	At specified dust monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT	✓			Air Pollution Control (Construction Dust) Regulations
<ul style="list-style-type: none"> ASR1- Penny's Bay Gas Turbine Plant 								

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
4.9	F2	<p><i>Construction Noise</i></p> <p>Subject to the Environmental Protection Department's (EPD's) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual.</p> <ul style="list-style-type: none"> • NSR1-Sea Crest Villa (Peng Chau) • NSR2-Crestmont Villa (Discovery Bay) • NSR-3 Luk Keng Tsuen 	At specified noise monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT	✓				Noise Control Ordinance (NCO)
* Des = Design, C = Construction, O = Operation, Dec = Decommissioning									

Table 16.1f Implementation Schedule for the Resort Road - Operational Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
<i>AIR QUALITY - Operational Phase</i>									
Not applicable									
<i>NOISE - Operational Phase</i>									
Not applicable									
<i>WATER QUALITY- Operational Phase</i>									
The following mitigation measures shall be implemented to prevent adverse operational impacts to water quality from the road link.									
5.9.4	A1	<ul style="list-style-type: none"> all road run-off shall be collected and discharged via a stormwater drainage system; 	To be incorporated into the detailed design and fully implemented prior to the use of the road links	Detailed Design Consultants	✓	✓			<i>Water Pollution Control Ordinance</i>
5.9.4	A2	<ul style="list-style-type: none"> oil and grit interceptors shall be used to remove any oil or grease and sediment before being diverted to the public stormwater system. It is envisaged that, as a guideline, and depending upon their capacity, interceptors shall be installed at intervals of between 500-1,000 m along new roads, and also at PTIs, car parks and utility yards; 	To be incorporated into the detailed design and fully implemented prior to the use of the road links	Detailed Design Consultants	✓	✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.9.4	A3	<ul style="list-style-type: none"> the contents of oil and grit interceptors shall be transferred to an appropriate disposal facility on a regular basis, the frequency of which will depend upon the amount of rainfall (ie more frequent removal during the wet season); 	To be undertaken throughout the operational lifetime of the roads	HKITP			✓		<i>Water Pollution Control Ordinance</i>
5.9.4	A4	<ul style="list-style-type: none"> silt traps or sedimentation tanks shall be installed to remove suspended solids, which may contain heavy metals and PAHs, from run-off water and, in the same way as oil and grit interceptors, they should be regularly cleaned and maintained in good working condition. <p>WASTE - Operational Phase</p> <p>Not applicable</p> <p>TERRESTRIAL ECOLOGY - Operational Phase</p> <p><i>Not applicable</i></p> <p>MARINE ECOLOGY AND FISHERIES - Operational Phase</p> <p><i>Not applicable</i></p> <p>ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase</p> <p><i>Not applicable</i></p>	To be incorporated into the detailed design and undertaken throughout the operational lifetime of the roads	Detailed Design Consultants / HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
<i>HAZARD - Operational Phase</i>									
<i>Not applicable</i>									
<i>CONTAMINATED LAND - Construction Phase</i>									
<i>Not applicable</i>									
<i>LANDSCAPE AND VISUAL - Operational Phase</i>									
12.7.33	B1	<ul style="list-style-type: none"> Planting design to ensure successful establishment, screening and visual interest. 	At all road corridor planting areas for the duration of the operation phase.	CED LCSD	✓	✓		✓	Existing design layout for resorts roads illustrate conceptual landscaping for their corridors.
<i>EM&A REQUIREMENTS - Operational Phase</i>									
<i>Not applicable</i>									
* Des = Design, C = Construction, O = Operation, Dec = Decommissioning									

Table 16.1g Implementation Schedule for the Penny's Bay Reclamation - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C o n	O p e	D e c	
<i>AIR QUALITY - Construction Phase</i>									
In accordance with the <i>Air Pollution Control (Construction Dust) Regulation</i> the following mitigation measures shall be implemented to limit the dust emissions from the site:									
3.4.3	A1	<ul style="list-style-type: none"> if a stockpile of dusty materials is more than 1.2 m high and lies within 50 m from any site boundary that adjoins a road, street, or other area accessible to the public, it shall be properly treated and sealed with latex, vinyl, bitumen or other suitable surface stabilizer; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A2	<ul style="list-style-type: none"> vehicle washing facilities shall be provided at every vehicle exit point 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A3	<ul style="list-style-type: none"> where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4 m high from ground level shall be provided along the entire length except for a site entrance or exit; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A4	<ul style="list-style-type: none"> every main haul road shall be sealed and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
3.4.3	A5	<ul style="list-style-type: none"> stockpiles of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides; or sprayed with water so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A6	<ul style="list-style-type: none"> all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A7	<ul style="list-style-type: none"> vehicle speed within the worksite shall be limited to 10 kph , except for properly formed and maintained access roads ; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A8	<ul style="list-style-type: none"> every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction sites; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A9	<ul style="list-style-type: none"> the working area of excavation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

NOISE - Construction Phase

In addition to the use of good site practice (as defined in the EIA Report) the following mitigation measures shall be implemented to minimise noise emissions:

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
4.6	B1	<i>Selecting Quiet Plant for Evening Time Works</i> Where available, the Contractor shall use models of plant that are quieter than those specified in the EPD's Technical Memorandum (GW-TM) for undertaking construction works in the evening.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			GW-TM
<i>WATER QUALITY- Construction Phase</i>									
<i>Reclamation Formation - Penny's Bay</i>									
5.7.1	C1	If the loss rate of fine sediment to suspension from the different types of plant working on the site is greater than 25.3 kg s ⁻¹ then either the quantities of plant operating or the rates of working should be reduced.		To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
5.7.1	C2	The loss rate for dredging and filling by a trailing suction hopper dredger ('trailer') is assumed to be independent of the size of the dredger. It is assumed that the trailer will deliver their load of sand fill into the reclamation by bottom dumping. The loss rate is calculated based on a maximum fines content of the material delivered to site of 8%, which will be achievable event for high <i>in situ</i> fines content at the borrow area. The loss rate for grab dredging is based on the use of an 8.5 m ³ grab. Should larger grabs be used than the same loss rate may be applied, although the actual loss rate is likely to be lower. However, if the Contractor can demonstrate through the use of field trials that the actual loss rates from the proposed plant and operating methods are lower than those shown in <i>Table 5.7a</i> in the EIA Report, then the loss rate figures in the second column may be revised and the total loss rate re-calculated. The total calculated loss rate should still be less than 25.3 kg s ⁻¹ .		To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C3	Monitoring of dredging rate on a daily basis, and determination of fines content in at least one hopper load every two days.		To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
5.7.1	C4	The seawalls along the face of the reclamation shall be constructed as early as practicable in the construction programme in order to shelter the works area from tidal currents and hence minimise the transport of fine sediment in suspension away from the works area. Priority should be given to the seawall along the western frontage of the reclamation. The filling activities shall be undertaken (ie discharge of sand fill from trailing suction hopper dredgers) behind seawalls or other similar structure to act as a barrier. The seawalls, or other suitable barrier, shall be constructed at least 200 m in advance of the filling point. The following general working methods shall be implemented during dredging and filling works to minimise the loss of fine sediment to suspension.	As early as practicable in the construction programme, with the seawalls or other similar structures used to act as a barrier in Areas Q4 and Q7 being above water level prior to Month 10 of the programme.	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C5	<ul style="list-style-type: none"> for dredging contaminated (Class C) sediments, fully-enclosed (water tight) grabs shall be used to minimise the loss of sediment during the raising of the loaded grabs through the water column; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C6	<ul style="list-style-type: none"> for dredging uncontaminated sediment tightly closing grabs should be used to restrict the loss of fine sediment to suspension; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C7	<ul style="list-style-type: none"> the descent speed of grabs should be controlled to minimise the seabed impact speed; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
5.7.1	C8	<ul style="list-style-type: none"> barges should be loaded carefully to avoid splashing of material; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C9	<ul style="list-style-type: none"> all barges used for the transport of dredged materials should be fitted with tight bottom seals in order to prevent leakage of material during loading and transport; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C10	<ul style="list-style-type: none"> all barges should be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C11	<ul style="list-style-type: none"> the speed of trailer dredger should be controlled within the works area to prevent propeller wash from stirring up the sea bed sediments; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C12	<ul style="list-style-type: none"> when dredging mud at the reclamation site trailer dredgers shall be prohibited from overflowing or using Automatic Lean Mixture Overboard (ALMOB) systems; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C13	<ul style="list-style-type: none"> the use of Lean Mixture Overboard (LMOB) will be permitted during the raising and lower of the suction head, but shall cease once the suction head is in contact with the sea bed; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C o	O p	D e c	
5.7.1	C14	“rainbowing” sand fill from trailer dredgers will not be permitted except when the material is discharged onto areas above water level and are sheltered behind seawalls, or other suitable barriers, which have been constructed at least 200 m in advance of the discharge point ; and	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C15	<ul style="list-style-type: none"> the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the reclamation site and along the route to and from the marine borrow area and disposal site. 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C16	A suitable device shall be fitted to the cutter suction dredger, which discharges the re-handled fill in thin layers. The design of the device should be such that the fill material does not disturb the sea bed and that a density flow is formed close to the sea bed.	Prior to the use of the cutter suction dredger, and throughout the whole duration, of its use	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C17	The re-handling basin shall be located such that it is always positioned behind completed seawalls or other suitable barriers, which have been constructed at least 200 m in advance of the location of the re-handling basin. This measure will ensure that any fine sediment lost to suspension during the operation of the re-handling basin is retained within the filling area, ie behind the seawalls.	Prior to the use of the re-handling basin, and throughout the whole duration, of its use	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C18	In the initial phases of construction, the re-handling basin should be positioned in Penny’s Bay where tidal currents are low.	Prior to and throughout the initial phases of the re-handling basin	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
5.7.1	C19	Prior to the initial operation of the re-handling basin, seawalls of approximately 400 m in length from the Sze Pak headland, or other suitable retaining structures, shall be completed to above the water level to act as a barrier in Area Q4 (see Figure 5.6b of the EIA Report).	Prior to the initial operation of the re-handling basin	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C20	As the construction of the reclamation progresses the location of the re-handling basin will move with the leading face of the reclamation. Seawalls, or other suitable retaining structures, should be constructed above the water level at least 200 m in advance of the location of the re-handling basin.	Prior to the initial operation of the re-handling basin	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C21	In order to prevent cumulative impacts with the concurrent construction of the Route 10 Toll Plaza the seawalls along the eastern side of the Phase II reclamation (see Figure 5.6b of the EIA Report) shall be constructed to above the water surface prior to the commencement of the works for the Route 10 Toll Plaza. <i>Land Based Construction Activities</i> <i>Surface Run-off</i>	During the Phase II reclamation	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
5.7.2	C22	Surface run-off from the construction site shall be directed into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C23	Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	At all construction work site prior to the commencement of site formation works and earthworks	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C24	Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed regularly, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C25	Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided where necessary. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
5.7.2	C26	Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C27	Manholes (including any 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. Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. <i>Groundwater</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C28	Groundwater pumped out of wells, etc. for the lowering of ground water level in foundation construction shall be discharged into storm drains after being passed through appropriate silt removal facilities. <i>Wheel Washing Water</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
5.7.2	C29	All vehicles and plant shall be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them 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 being discharged into the 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. <i>Wastewater from Site Facilities</i>	At every site exit to all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C30	Sewage from toilets, kitchens and similar facilities shall be discharged into a foul sewer or chemical toilets shall be provided. Should the use of chemical toilets be necessary then these shall be provided by a licensed contractor, who will be responsible for appropriate disposal and maintenance of these facilities. Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

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					D e s	C	O	D e c	
5.7.2	C31	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 <i>Waste Disposal Ordinance</i> . <i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i> <i>Waste Disposal Ordinance</i>
5.7.2	C32	All fuel tanks and chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. The Contractors shall prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals. WASTE - Construction Phase The following procedures and measures shall be implemented when handling waste material. <i>Dredged/Excavated Sediment</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

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					De s	C	O	De c	
6.7.2	D1	<ul style="list-style-type: none"> • Potential impacts associated with the exposure to and disposal of contaminated sediments could be mitigated by adopting the following measures: <ul style="list-style-type: none"> · minimising exposure to any contaminated material by the wearing of protective gear such as gloves, providing adequate hygiene and washing facilities, and preventing eating during dredging/excavation; • any contaminated sediment dredged should not be allowed to stockpile on the site and should be immediately removed from site once dredged; • all vessels for marine transportation of dredged sediment should be fitted with tight fitting seals to their bottom openings to prevent leakage of materials; and · loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and barges or hoppers should under no circumstances to be filled to a level which will cause other overflowing of materials or polluted water during loading or transportation. <p><i>Use of Public Fill for Reclamation</i></p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance, EPDTC 1-1-92</i>

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					De s	C	O	De c	
6.7.2	D2	The Contractor should enforce strict application of the public fill license and monitor the material placed in the reclamation and barges to control disposal of unauthorised material. The Contractor shall also provide floating booms and collect any floating materials on a daily basis at the public filling area. <i>Measures Taken in the Planning and Design Stages to Reduce the Generation of C&DM</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D3	The following waste management hierarchy shall be followed: 1. avoidance and minimisation, that is, not generating waste through changing or improving practices and design; 2. reuse of materials, thus avoiding disposal (generally with only limited reprocessing); 3. recovery and recycling, thus avoiding disposal (although reprocessing may be required); and 4. treatment and disposal, according to relevant law, guidelines and good practice.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D4	Records of quantities of wastes generated, recycled and disposed (locations) shall be properly kept.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

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					De s	C	O	De c	
6.7.2	D5	Any clean excavated soil shall be reused on site as far as possible for landscape works in order to minimise the amount public fill to be disposed off-site. Should there be any surplus public fill generated from the project, the Contractors shall liaise with the Fill Management Committee to identify as far as possible suitable reclamation or site formation projects near the project site to reuse the material.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D6	The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage of construction materials, such as ready mixed concrete.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
<i>Measures To be Taken in the Construction Stage To Reduce the Generation of C&DM</i>									
6.7.2	D7	The Contractor shall recycle as much as possible of the C&D material on-site. Public fill and C&D waste shall be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Concrete and masonry, for example can be crushed and used as fill and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

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					De s	C	O	De c	
6.7.2	D8	In order to minimise the impacts of the demolition works these wastes must be cleared as quickly as possible after demolition. The demolition and clearance works shall therefore be undertaken simultaneously.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D9	The use of wooden hoardings shall not be allowed. An alternative material, for example, metal (aluminium, alloy etc) shall be used.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
<i>Chemical Waste</i>									
6.7.2	D10	For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste. Containers used for storage of chemical wastes should: <ul style="list-style-type: none"> • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
		<p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> • by clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • 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; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and <p>be arranged so that incompatible materials are adequately separated.</p>							
		<p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> • be via a licensed waste collector; and • be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or • be to a re-user of the waste, under approval from the EPD. <p>The Centre for Environmental Technology operates a Waste Exchange Scheme which can assist in finding receivers or buyers.</p> <p><i>Management of General Refuse</i></p>							

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
6.7.2	D11	General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour pest and litter impacts. The burning of refuse shall not be permitted.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D12	Reusable rather than disposable dishware shall be used if feasible. Separate, labelled bins shall be provided, if feasible, for the collection of aluminium cans.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D13	The Contractor shall participate in a local waste collection scheme, if one is available, to reduce office wastes.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D14	<i>Management of Waste Disposal</i> A trip-ticket system should be established and used to monitor the disposal of C&DM and solid wastes at public filling facilities and landfills, and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i> <i>Works Bureau Technical Circular No 5/99</i>
6.7.2	D15	A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) shall be established during the construction stage. <i>Staff Training</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

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					De s	C	O	De c	
6.7.2	D16	Training shall be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the contract. <i>Dredged Material</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D17	Potential impacts associated with the exposure to and disposal of contaminated sediments shall be mitigated by adopting the following measures: <ul style="list-style-type: none"> • minimising exposure to any contaminated material by the wearing of protective gear such as gloves, providing adequate hygiene and washing facilities, and preventing eating during dredging; • any contaminated sediment dredged should not be allowed to stockpile on the site and should be immediately removed from site once dredged; all vessels for marine transportation of dredged sediment should be fitted with tight fitting seals to their bottom openings to prevent leakage of materials; and <ul style="list-style-type: none"> • loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and barges or hoppers should under no circumstances to be filled to a level which will cause other overflowing of materials or polluted water during loading or transportation. <i>Waste Management Plan</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

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					D e s	C o n	O p e r	D e c	
6.7.2	D18	The construction Contractors shall incorporate the above recommendations into a Waste Management Plan for the construction works. Such a management plan shall incorporate site specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.	To be produced by all construction contractors and submitted to the Engineer for approval at the commencement of the construction period. The Plans shall be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
TERRESTRIAL ECOLOGY - Construction Phase									
7.7.1	E3	Design the Western Drainage Channel of the Phase I Penny's Bay Reclamation to retain the natural coastline and avoid impact on the backshore vegetation so as the associated locally restricted, rare or protected plant species present within the Assessment Area, including the plant <i>Berchemia lineata</i> and <i>Scleria rugosa</i> .	Along the natural coastline to the west of the Penny's Bay/ Detailed design stage/At the end of detailed design stage	CED		✓			
7.7.1	E4	Adjust development/construction area to avoid/minimize direct impact on the rare/restricted plant <i>Schoenus falcatus</i> and <i>Eriocaulon merrilli</i> at Penny's Bay and Chok Ko Wan Tsui. If avoidance of these habitats and plant species is not possible, transplanting of affected individuals should be undertaken to similar environment as the original habitat, rocky shore with freshwater seepage or near a small stream, before the works start.	Chok Ko Wan Tsui/ During design and construction stage /At the end of construction period	CED/Contractors		✓			

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
7.7.1	E5	A detailed vegetation survey of these affected areas should be undertaken at the Detailed Design stage to identify the individuals of the concerned species, as a basis for details of design refinement and transplanting requirements.	Chok Ko Wan Tsui /Detailed design stage/At the end of detailed design stage	CED		✓			
7.7.2	E6	<i>White-bellied Sea Eagle</i> Prohibit construction workers access to the nesting site of White-bellied Sea Eagles at Pa Tau Kwu secondary woodland through warning and regular audit by Site Engineer, and fence off the public land access from the development areas.	At all construction work sites close to Pa Tau Kwu secondary woodland/ Throughout the whole construction period Detailed design stage/At the end of detailed design stage	CED/Contractors		✓			
7.7.2	E7	Use quietened construction plant and equipment for Penny's Bay Stage II reclamation. <i>Construction Practice</i>	At all construction work sites close to Pa Tau Kwu secondary woodland/Throughout the whole construction period /At the end of construction period	CED/Contractors		✓			

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					De s	C	O	De c	
7.7.3	E10	Erect fences where practical along the boundary of construction sites before the commencement of works to prevent tipping, vehicle movements, and encroachment of personnel into adjacent areas, particularly where the rare/restricted /protected species, such as rare Rice Fish <i>Oryzias latipes</i> in Mong Tung Hang stream, White-bellied Sea Eagles <i>Haliaeetus leucogaster</i> at Pa Tau Kwu woodland, Pitcher Plant <i>Nepenthes mirabilis</i> , <i>Fimbristylis acuminata</i> and <i>Fimbristylis complanata</i> behind Cheoy Lee shipyard, are located;	At all construction work sites particularly the areas close to freshwater wetland behind Cheoy Lee shipyard, Pa Tau Kwu secondary woodland and Mong Tung Hang stream /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E12	Select haul routes, storage and works areas etc. to avoid or minimize disturbance to ecologically significant areas;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E13	Check the work site boundaries regularly to ensure that they are not exceeded and that no damage has been caused to surrounding natural habitats;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E14	Prohibit and prevent open fires within the work site boundary during construction and provide temporary fire fighting equipment in all work areas.	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓		-	
MARINE ECOLOGY AND FISHERIES - Construction Phase									

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
8.7.1	F1	<p><i>Marine Ecological Resources: General</i></p> <p>In order to assist in rehabilitating the area after reclamation, a sloping armour rock/concrete design should be adopted for the construction of the seawalls.</p>	To be developed during the detailed design and implemented during the construction phase	To be developed by the Detailed Design Engineers, implemented by the Contractors and enforced by the Engineer/ENPO	✓	✓			
8.7.2	F2	<p><i>Marine Ecological Resources: Marine Mammals</i></p> <p>The following mitigation measures shall be implemented to minimize potential construction impacts to dolphins and porpoises:</p> <ol style="list-style-type: none"> 1. All vessel operators working on the Project construction shall be given a briefing, alerting them to the possible presence of dolphins and porpoises in the area, and the rules for safe vessel operation around cetaceans. If high speed vessels are used, they should be required to slow to 10 knots when passing through a high density dolphin area; 2. A policy of no dumping of rubbish, food, oil, or chemicals should be strictly enforced. This should also be covered in the contractor briefing; 3. Every attempt shall be made to minimize the effects of construction of the Project on the water quality of the area; 	To be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			

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					De s	C	O	De c	
		<p>4. Any construction work that could potentially harm dolphins shall be planned to take place in spring (Mar - May) or summer(Jun-Aug), when dolphin abundance is apparently lowest. In particular, the winter season (Dec - Feb) should be avoided;</p> <p>5. If piling must be done in autumn or winter, then the following steps shall be taken:</p> <ul style="list-style-type: none"> • An exclusion zone of 500 m radius should be scanned around the work area for at least 30 minutes prior to the start of piling. If cetaceans are observed in the exclusion zone, piling should be delayed until they have left the area; and • A bubble curtain shall be used to surround the piling barge and work area, and the bubble curtain shall be in operation during any time in which piling occurs. 							

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					D e s	C o n	O p e r	D e c	
8.11.4 & 8.11.5	F3	As an additional habitat enhancement measure the Project proponent has undertaken to deploy Artificial Reefs (ARs) in Hong Kong waters at a site (or sites) to be decided upon consultation with the Director of Agriculture, Fisheries and Conservation. To be effective in enhancing marine resources, it is recommended that the ARs should have a minimum volume of 400m ³ . The stocking density of the ARs should also be no less than 1,500m ³ km ⁻² . The total area of seabed lost through reclamation works for the Theme Park is 290ha (280 ha at Penny's Bay and 10 ha for Yam O). In order to enhance an equivalent area of this size 4,350m ³ of ARs should be deployed (1,500 m ³ x 2.9 km ⁻²). One potential location for the deployment of the ARs is the area north of the Luk Keng headland.	The exact location and timing for the AR deployment will be submitted to EPD and others for approval.	CED			✓		
ARCHAEOLOGY AND CULTURAL HERITAGE - Construction Phase									
11.6	G1	In order to minimise the potential for impact to the Wan Tuk archaeological site, the following mitigation measures shall be implemented: <ul style="list-style-type: none"> Plastic sheets shall be used to cover the impact area before construction of the temporary access road. 	Prior to and throughout the construction of the temporary access road	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓	✓		

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					De s	C	O	De c	
		<ul style="list-style-type: none"> After the completion of the Penny's Bay reclamation, all the fill materials and plastic sheets shall be removed. 	On completion of the Penny's Bay reclamation	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	✓			
		<ul style="list-style-type: none"> Any area required to be filled shall be covered by plastic sheets before the filling work. Detailed design of filling work or ground level adjustment work shall consider diversion of site runoff to prevent waterlogged conditions. 	<p>Prior to and throughout the filling works</p> <p>During the detailed design stage and before the commencement of filling or ground level adjustment work</p>	<p>To be implemented by the Contractors and enforced by the Engineer/ENPO</p> <p>To be undertaken by the detailed design engineers, implemented by the Contractors and enforced by the Engineer/ENPO</p>	✓	✓			
11.6	G3	An opportunity shall be provided for an archaeological field evaluation at the coastal area of the existing C LS after its resumption, as part of the Schedule 2 EIA for the Shipyard decommissioning. If significant archaeological deposit are found at the Shipyard site, direct impact to the identified archaeological deposits will be unavoidable as the alignment design are the preferred alignments on other considerations. Therefore, if preservation <i>in situ</i> is not possible, rescue excavation programme should be implemented and a full rescue excavation could be considered, if necessary, since the Penny's Bay reclamation will result in limitation for future archaeological investigation.	At the C LS site, under the Schedule 2 EIA for CLS decommissioning.	CED and AMO/qualified archaeologist	✓				

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					D e s	C	O	D e c	
11.6	G4	A total rescue excavation at Chok Ko Wan archaeological site should be implemented prior to the site is partially reclaimed.	Chok Ko Wan archaeological site prior to the Penny's Bay reclamation	CED and AMO/qualified archaeologist	✓				
<p>HAZARD - Construction Phase Not applicable</p> <p>CONTAMINATED LAND - Construction Phase <i>Not applicable</i></p> <p>LANDSCAPE AND VISUAL - Construction Phase</p>									
12.4.8	H1	Connection of existing streams to drainage systems to be undertaken with minimum alteration to stream course. Visually exposed structures associated with the connection to be stonefaced to reflect the rural character of the local area.	At all existing streams, throughout the duration of the construction of the connection of the streams to the new drainage system.	CED/DSD	✓	✓			
12.4.18	H2	Temporary hydroseeding to reclamation if lapse time between completion of the reclamation and subsequent development is one year or more.	At all reclamation, on completion of reclamation until subsequent development.	CED			✓		
<p>EM&A REQUIREMENTS - Construction Phase <i>Air Quality</i></p>									

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					D e s	C	O	D e c	
3.7	I1	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase dust monitoring shall be undertaken at the following location in accordance with the recommendations detailed in Section 5 of the EM&A Manual. <ul style="list-style-type: none"> ASR1- Penny's Bay Gas Turbine Plant <i>Construction Noise</i> 	At specified dust monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT	✓				Air Pollution Control (Construction Dust) Regulations
4.9	I2	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual. <ul style="list-style-type: none"> NSR1-Sea Crest Villa (Peng Chau) NSR2-Crestmont Villa (Discovery Bay) NSR3-Luk Keng Tsuen 	At specified noise monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT	✓				Noise Control Ordinance (NCO)
5.13.1	I3	<i>Water Quality</i> Subject to the Environmental Protection Department's (EPD's) agreement, construction phase water quality monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual.	At specified water quality monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT					Water Pollution Control Ordinance (WPCO)

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					D e s	C	O	D e c	
		<p>Sensitive Receiver Stations</p> <ul style="list-style-type: none"> • SR1: Kau Yi Chau; • SR2: Discovery Bay; • SR3: Sze Pak Wan; • SR4: Ma Wan Fish Culture Zone South; • SR5: Ma Wan Fish Culture Zone North; <p>and</p> <ul style="list-style-type: none"> - SR6 Tung Wan Beach <p>Control Monitoring Stations C1 to C6 as detailed in Section 7 of the EM&A Manual</p> <p>Gradient Stations G1-2</p> <p><i>TERRESTRIAL ECOLOGY</i></p> <p>White-bellied Sea Eagle</p>							
7.9	J4	<p>Subject to the EPD's agreement, construction phase monitoring of the White-bellied Sea Eagle shall be undertaken in accordance with the recommendations of Section 9 of the EM&A Manual</p>	Throughout the duration of the construction works.	To be undertaken by an avian specialist with at least 3 years experience				✓	

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					De s	C	O	De c	
8.12	K5	Marine Ecological Monitoring Subject to the Environmental Protection Department's (EPD's) agreement, construction phase monitoring of the dolphin/porpoise population shall be conducted by a qualified research team in accordance with the recommendations of Section 10 of the EM&A Manual.	Throughout the construction phase	Qualified research team employed by HKITP		✓			

* Des = Design, C = Construction, O = Operation, Dec = Decommissioning

Table 16.1h Implementation Schedule for the Penny's Bay Reclamation - Operational Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<i>AIR QUALITY - Operational Phase</i>							
		Not applicable							
		<i>NOISE - Operational Phase</i>							
		Not applicable							
		<i>WATER QUALITY- Operational Phase</i>							
		Not applicable							
		<i>WASTE - Operational Phase</i>							
		Not applicable							
		<i>TERRESTRIAL ECOLOGY - Operational Phase</i>							
		Not applicable							
		<i>MARINE ECOLOGY AND FISHERIES - Operational Phase</i>							
		Not applicable							
		<i>ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase</i>							

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
11.8		There shall be adequate drainage provision to prevent waterlogging to the Wan Tuk archaeological site	In the vicinity of the Wan Tuk archaeological site	To be developed by the Design Engineers and implemented by the contractors.	✓	✓			
<i>HAZARD - Operational Phase</i>									
Not applicable									
<i>CONTAMINATED LAND - Construction Phase</i>									
Not applicable									
<i>LANDSCAPE AND VISUAL - Operational Phase</i>									
<i>Not applicable</i>									
<i>EM&A REQUIREMENTS - Operational Phase</i>									
7.9	A1	<i>Marine Ecology</i> Ecological monitoring, comprising subtidal dive surveys, shall be undertaken after the reclamation has ceased in order to determine the rate and effectiveness of colonisation of the sloping armour rock/concrete seawalls by soft coral.	The ecological monitoring shall be carried out by suitably qualified specialists at six monthly intervals for a period of 3 years	CED				✓	
* Des = Design, C = Construction, O = Operation, Dec = Decommissioning									

Table 16.1I Implementation Schedule for the Yam O Reclamation - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
<i>AIR QUALITY - Construction Phase</i>									
In accordance with the <i>Air Pollution Control (Construction Dust) Regulation</i> the following mitigation measures shall be implemented to limit the dust emissions from the site:									
3.4.3	A1	<ul style="list-style-type: none"> if a stockpile of dusty materials is more than 1.2 m high and lies within 50 m from any site boundary that adjoins a road, street, or other area accessible to the public, it shall be properly treated and sealed with latex, vinyl, bitumen or other suitable surface stabilizer; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A2	<ul style="list-style-type: none"> vehicle washing facilities shall be provided at every vehicle exit point 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A3	<ul style="list-style-type: none"> where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4 m high from ground level shall be provided along the entire length except for a site entrance or exit; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A4	<ul style="list-style-type: none"> every main haul road shall be sealed and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A5	<ul style="list-style-type: none"> stockpiles of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides; or sprayed with water so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
3.4.3	A6	<ul style="list-style-type: none"> all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A7	<ul style="list-style-type: none"> vehicle speed within the worksite shall be limited to 10 kph , except for properly formed and maintained access roads ; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A8	<ul style="list-style-type: none"> every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction sites; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A9	<ul style="list-style-type: none"> the working area of excavation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

NOISE - Construction Phase

In addition to the use of good site practice (as defined in the EIA Report) the following mitigation measures shall be implemented to minimise noise emissions:

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
4.6	B1	<i>Selecting Quiet Plant for Evening Time Works</i> Where available, the Contractor shall use models of plant that are quieter than those specified in the EPD's Technical Memorandum (GW-TM) for undertaking construction works in the evening.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			GW-TM
4.6	B2	<i>Use of Temporary and Movable Noise Barriers for Evening Time Works</i> Temporary purpose-built noise barriers or screens, constructed of appropriate material with a suitable footing and a small cantilevered upper portion, shall be erected along the active work sites boundaries at the following location in order to minimise noise emissions: • At the Yam O PTI works area;	At all of the stated locations, and throughout the whole duration of the construction period, whenever construction work may be undertaken in the evening	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			GW-TM
WATER QUALITY- Construction Phase									
<i>Yam O Reclamation</i> The following operational constraints shall be implemented during the construction of the reclamation at Yam O.									
5.7.1	C1	• dredging should be undertaken using a single grab dredging with a maximum rate of working of 2,000 m ³ day ⁻¹ ; and	Prior to and throughout the whole duration of the Yam O Reclamation Works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			Water Pollution Control Ordinance
5.7.1	C2	• filling should be undertaken behind seawalls which have been constructed above the water surface.	Prior to and throughout the whole duration of the Yam O Reclamation Works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			Water Pollution Control Ordinance
5.7.1	C3	• Monitoring of dredging rate on a daily basis.	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.7.1	C4	The following general working methods shall be implemented during dredging and filling works to minimise the loss of fine sediment to suspension.							
5.7.1	C5	<ul style="list-style-type: none"> fully-enclosed grabs should be used to minimise the loss of sediment during the raising of the loaded grabs through the water column; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C6	<ul style="list-style-type: none"> the descent speed of grabs should be controlled to minimise the seabed impact speed; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C7	<ul style="list-style-type: none"> barges should be loaded carefully to avoid splashing of material; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C8	all barges used for the transport of dredged materials should be fitted with tight bottom seals in order to prevent leakage of material during loading and transport;	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C9	<ul style="list-style-type: none"> all barges should be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C10	<ul style="list-style-type: none"> the speed of trailer dredger should be controlled within the works area to prevent propeller wash from stirring up the sea bed sediments; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.7.1	C11	<ul style="list-style-type: none"> when dredging at the site trailer dredgers should be prohibited from overflowing or using Automatic Lean Mixture Overboard (ALMOB) systems; 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C12	<ul style="list-style-type: none"> “rainbowing” sand fill from trailer dredgers will not be permitted; and 	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.1	C13	<ul style="list-style-type: none"> the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the reclamation site and along the route to and from the marine borrow area and disposal site. <p>Land Based Construction Activities <i>Surface Run-off</i></p>	At all times, and throughout the whole duration, of the dredging and filling works	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C14	Surface run-off from the construction site shall be directed into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C15	Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	At all construction work site prior to the commencement of site formation works and earthworks	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.7.2	C16	Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed regularly, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C17	Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided where necessary. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C18	Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C19	Manholes (including any 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. Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. <i>Groundwater</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.7.2	C20	Groundwater pumped out of wells, etc. for the lowering of ground water level in foundation construction shall be discharged into storm drains after being passed through appropriate silt removal facilities. <i>Wheel Washing Water</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C21	All vehicles and plant shall be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them 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 being discharged into the 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. <i>Wastewater from Site Facilities</i>	At every site exit to all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C22	Sewage from toilets, kitchens and similar facilities shall be discharged into a foul sewer or chemical toilets shall be provided. Should the use of chemical toilets be necessary then these shall be provided by a licensed contractor, who will be responsible for appropriate disposal and maintenance of these facilities. Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.7.2	C23	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 <i>Waste Disposal Ordinance</i> . <i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i> <i>Waste Disposal Ordinance</i>
5.7.2	C24	All fuel tanks and chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. The Contractors shall prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals. WASTE - Construction Phase The following procedures and measures shall be implemented when handling waste material. <i>Dredged/Excavated Sediment</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D1	<p>Potential impacts associated with the exposure to and disposal of contaminated sediments could be mitigated by adopting the following measures:</p> <ul style="list-style-type: none"> • minimising exposure to any contaminated material by the wearing of protective gear such as gloves, providing adequate hygiene and washing facilities, and preventing eating during dredging/excavation; • any contaminated sediment dredged should not be allowed to stockpile on the site and should be immediately removed from site once dredged; • all vessels for marine transportation of dredged sediment should be fitted with tight fitting seals to their bottom openings to prevent leakage of materials; and • loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and barges or hoppers should under no circumstances to be filled to a level which will cause other overflowing of materials or polluted water during loading or transportation. <p><i>Use of Public Fill for Reclamation</i></p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance, EPDTC 1-1-92</i>
6.7.2	D2	The Contractor should enforce strict application of the public fill license and monitor the material placed in the reclamation and barges to control disposal of unauthorised material. The Contractor shall also provide floating booms and collect any floating materials on a daily basis at the public filling area.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D3	<p><i>Measures Taken in the Planning and Design Stages to Reduce the Generation of C&DM</i></p> <p>The following waste management hierarchy shall be followed:</p> <ol style="list-style-type: none"> 1. avoidance and minimisation, that is, not generating waste through changing or improving practices and design; 2. reuse of materials, thus avoiding disposal (generally with only limited reprocessing); 3. recovery and recycling, thus avoiding disposal (although reprocessing may be required); and 4. treatment and disposal, according to relevant law, guidelines and good practice. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D4	Records of quantities of wastes generated, recycled and disposed (locations) shall be properly kept.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D5	Any clean excavated soil shall be reused on site as far as possible for landscape works in order to minimise the amount public fill to be disposed off-site. Should there be any surplus public fill generated from the project, the Contractors shall liaise with the Fill Management Committee to identify as far as possible suitable reclamation or site formation projects near the project site to reuse the material.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D6	The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage of construction materials, such as ready mixed concrete.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
<i>Measures To be Taken in the Construction Stage To Reduce the Generation of C&DM</i>									
6.7.2	D7	The Contractor shall recycle as much as possible of the C&D material on-site. Public fill and C&D waste shall be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Concrete and masonry, for example can be crushed and used as fill and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D8	In order to minimise the impacts of the demolition works these wastes must be cleared as quickly as possible after demolition. The demolition and clearance works shall therefore be undertaken simultaneously.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D9	The use of wooden hoardings shall not be allowed. An alternative material, for example, metal (aluminium, alloy etc) shall be used.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D10	<p><i>Chemical Waste</i></p> <p>For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste. Containers used for storage of chemical wastes should:</p> <ul style="list-style-type: none"> • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. <p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> • be clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • 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; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and • be arranged so that incompatible materials are adequately separated. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> • be via a licensed waste collector; and • be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or • be to a re-user of the waste, under approval from the EPD. <p>The Centre for Environmental Technology operates a Waste Exchange Scheme which can assist in finding receivers or buyers. The following procedures and measures shall be implemented when handling waste material.</p> <p><i>Management of General Refuse</i></p>							
6.7.2	D11	General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour pest and litter impacts. The burning of refuse shall not be permitted.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D12	Reusable rather than disposable dishware shall be used if feasible. Separate, labelled bins shall be provided, if feasible, for the collection of aluminium cans.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D13	The Contractor shall participate in a local waste collection scheme, if one is available, to reduce office wastes.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D14	<i>Management of Waste Disposal</i> A trip-ticket system should be established and used to monitor the disposal of C&DM and solid wastes at public filling facilities and landfills, and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance Works Bureau Technical Circular No 5/99</i>
6.7.2	D15	A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) shall be established during the construction stage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D16	<i>Staff Training</i> Training shall be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the contract.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D17	<i>Waste Management Plan</i> The construction Contractors shall incorporate the above recommendations into a Waste Management Plan for the construction works. Such a management plan shall incorporate site specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.	To be produced by all construction contractors and submitted to the Engineer for approval at the commencement of the construction period. The Plans shall be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
TERRESTRIAL ECOLOGY - Construction Phase									
<i>Not applicable</i>									

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
<i>MARINE ECOLOGY AND FISHERIES - Construction Phase</i>									
8.7.1	F1	<i>Marine Ecological Resources: General</i> In order to assist in rehabilitating the area after reclamation, a sloping armour rock/concrete design should be adopted for the construction of the seawalls.	To be developed during the detailed design and implemented during the construction phase	To be developed by the Detailed Design Engineers, implemented by the Contractors and enforced by the Engineer/ENPO	✓	✓			
<i>Marine Ecological Resources: Marine Mammals</i>									

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
8.7.2	F2	<p>The following mitigation measures shall be implemented to minimize potential construction impacts to dolphins and porpoises:</p> <p>1) All vessel operators working on the Project construction shall be given a briefing, alerting them to the possible presence of dolphins and porpoises in the area, and the rules for safe vessel operation around cetaceans. If high speed vessels are used, they should be required to slow to 10 knots when passing through a high density dolphin area;</p> <p>2) A policy of no dumping of rubbish, food, oil, or chemicals should be strictly enforced. This should also be covered in the contractor briefing;</p> <p>3) Every attempt shall be made to minimize the effects of construction of the Project on the water quality of the area;</p> <p>4) Any construction work that could potentially harm dolphins shall be planned to take place in spring (Mar - May) or summer (Jun-Aug), when dolphin abundance is apparently lowest. In particular, the winter season (Dec - Feb) should be avoided;</p> <p>5) Piling must be done in autumn or winter, then the following steps shall be taken:</p>	To be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<ul style="list-style-type: none"> An exclusion zone of 500 m radius should be scanned around the work area for at least 30 minutes prior to the start of piling. If cetaceans are observed in the exclusion zone, piling should be delayed until they have left the area; and A bubble curtain shall be used to surround the piling barge and work area, and the bubble curtain shall be in operation during any time in which piling occurs. 							
		6) Construction-phase dolphin/porpoise monitoring shall be conducted by a qualified research team, to evaluate whether there have been any effects on the animals. The resulting data should be compatible with, and should be made available for, long-term studies of small cetacean ecology in Hong Kong.							

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
8.11.4 & 8.11.5	F3	As an additional habitat enhancement measure the Project proponent has undertaken to deploy Artificial Reefs (ARs) in Hong Kong waters at a site (or sites) to be decided upon consultation with the Director of Agriculture, Fisheries and Conservation. To be effective in enhancing marine resources, it is recommended that the ARs should have a minimum volume of 400m ³ . The stocking density of the ARs should also be no less than 1,500m ³ km ⁻² . The total area of seabed lost through reclamation works for the Theme Park is 290ha (280 ha at Penny's Bay and 10 ha for Yam O). In order to enhance an equivalent area of this size 4,350m ³ of ARs should be deployed (1,500 m ³ x 2.9 km ⁻²). One potential location for the deployment of the ARs is the area north of the Luk Keng headland.	The exact location and timing for the AR deployment will be submitted to EPD and others for approval.	CED		✓			
<p>ARCHAEOLOGY AND CULTURAL HERITAGE - Construction Phase</p> <p><i>Not applicable</i></p> <p>HAZARD - Construction Phase</p> <p><i>Not applicable</i></p>									

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		CONTAMINATED LAND - <i>Construction Phase</i> <i>Not applicable</i>							
	G1	LANDSCAPE AND VISUAL - <i>Construction Phase</i> <i>Not applicable</i> <i>EM&A REQUIREMENTS - Construction Phase</i>							
3.7	H1	<i>Air Quality</i> Subject to the Environmental Protection Department's (EPD's) agreement, construction phase dust monitoring shall be undertaken at the following location in accordance with the recommendations detailed in Section 5 of the EM&A Manual. • ASR1-Penny's Bay Gas Turbine Plant <i>Construction Noise</i>	At specified dust monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT	✓			Air Pollution Control (Construction Dust) Regulations	
4.9	H2	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual. • NSR1-Sea Crest Villa (Peng Chau) • NSR2-Crestmont Villa (Discovery Bay) • NSR3-Luk Keng Tsuen	At specified noise monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT	✓			Noise Control Ordinance (NCO)	

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.13.1	H3	<p><i>Water Quality</i></p> <p>Subject to the Environmental Protection Department's (EPD's) agreement, construction phase water quality monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual.</p> <p>Sensitive Receiver Stations</p> <ul style="list-style-type: none"> • SR1: Kau Yi Chau; • SR2: Discovery Bay; • SR3: Sze Pak Wan; • SR4: Ma Wan Fish Culture Zone South; • SR5: Ma Wan Fish Culture Zone North; <p>and</p> <ul style="list-style-type: none"> • SR6: Tung Wan Beach <p>Control Monitoring Stations C1 to C6 as detailed in Section 7 of the EM&A Manual</p> <p>Gradient Stations G1-2</p>	At specified water quality monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT					<i>Water Pollution Control Ordinance (WPCO)</i>

Table 16.1j Implementation Schedule for the Yam O Reclamation - Operational Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementatio n Stage**		Relevant Legislation & Guidelines
					Des C	O De c	
<i>AIR QUALITY - Operational Phase</i>							
			Not applicable				
<i>NOISE - Operational Phase</i>							
			Not applicable				
<i>WATER QUALITY- Operational Phase</i>							
			Not applicable				
<i>WASTE - Operational Phase</i>							
			Not applicable				
<i>TERRESTRIAL ECOLOGY - Operational Phase</i>							
			Not applicable				
<i>MARINE ECOLOGY AND FISHERIES - Operational Phase</i>							
			Not applicable				
<i>ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase</i>							
			Not applicable				

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementatio n Stage**	Relevant Legislation & Guidelines
					Des C O De c	
		<i>HAZARD - Operational Phase</i>				
		Not applicable				
		<i>CONTAMINATED LAND - Construction Phase</i>				
		Not applicable				
		<i>LANDSCAPE AND VISUAL - Operational Phase</i>				
		Not applicable				
		<i>EM&A REQUIREMENTS - Operational Phase</i>				
		Not applicable				
* Des = Design, C = Construction, O = Operation, Dec = Decommissioning						

Table 16.1k Implementation Schedule for the Water Recreation Centre - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
<i>AIR QUALITY - Construction Phase</i>									
		In accordance with the <i>Air Pollution Control (Construction Dust) Regulation</i> the following mitigation measures shall be implemented to limit the dust emissions from the site:							
3.4.3	A1	<ul style="list-style-type: none"> effective dust screens, sheeting or netting shall be provided to enclose the scaffolding from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level of the scaffolding where a scaffolding is erected around the perimeter of a building under construction; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A2	<ul style="list-style-type: none"> skip hoist for material transport shall be totally enclosed by impervious sheeting; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A3	<ul style="list-style-type: none"> any excavated dusty materials or stockpile of dusty materials shall be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A4	<ul style="list-style-type: none"> dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A5	<ul style="list-style-type: none"> vehicle washing facilities shall be provided at every vehicle exit point 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
3.4.3	A6	<ul style="list-style-type: none"> where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4 m high from ground level shall be provided along the entire length except for a site entrance or exit; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A7	<ul style="list-style-type: none"> every main haul road shall be sealed and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A8	<ul style="list-style-type: none"> stockpiles of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides; or sprayed with water so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A9	<ul style="list-style-type: none"> all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A10	<ul style="list-style-type: none"> vehicle speed within the worksite shall be limited to 10 kph , except for properly formed and maintained roads ; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A11	<ul style="list-style-type: none"> every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction sites; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A12	<ul style="list-style-type: none"> the working area of excavation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		In addition, according to the EPD's <i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i> , the following mitigation measures shall be adopted to prevent fugitive dust emissions:	At all concrete batching plants, throughout the whole duration of the construction period						
3.4.3	A13	<ul style="list-style-type: none"> loading, unloading, handling, transfer or storage of any dusty materials shall be carried out in totally enclosed system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A14	<ul style="list-style-type: none"> all dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A15	<ul style="list-style-type: none"> vents for all silos and cement/ pulverized fuel ash (PFA) weighing scale shall be fitted with fabric filtering system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A16	<ul style="list-style-type: none"> the materials which may generate airborne dusty emissions shall be wetted by water spray system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A17	<ul style="list-style-type: none"> all receiving hoppers shall be enclosed on three sides up to 3m above unloading point; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A18	<ul style="list-style-type: none"> all conveyor transfer points shall be totally enclosed; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A19	<ul style="list-style-type: none"> all access and route roads within the premises shall be paved and wetted; and 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓		<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
3.4.3	A20	<ul style="list-style-type: none"> vehicle cleaning facilities shall be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body. <p>NOISE - Construction Phase</p> <p>In addition to the use of good site practice (as defined in the EIA Report) the following mitigation measures shall be implemented to minimise noise emissions:</p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
4.6	B1	<p><i>Selecting Quiet Plant for Evening Time Works</i></p> <p>Where available, the Contractor shall use models of plant that are quieter than those specified in the EPD's Technical Memorandum (GW-TM) for undertaking construction works in the evening.</p> <p>WATER QUALITY- Construction Phase</p> <p>Land Based Construction Activities</p> <p><i>Surface Run-off</i></p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>GW-TM</i>
5.7.2	C1	<p>Surface run-off from the construction site shall be directed into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.</p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.7.2	C2	Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	At all construction work site prior to the commencement of site formation works and earthworks	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>
5.7.2	C3	Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed regularly, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>
5.7.2	C4	If excavation cannot be avoided during rainy seasons, temporarily exposed soil surfaces shall be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>
5.7.2	C5	Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided where necessary. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.7.2	C6	Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>
5.7.2	C7	Manholes (including any 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. Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. <i>Groundwater</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>
5.7.2	C8	Groundwater pumped out of wells, etc. for the lowering of ground water level in foundation construction, shall be discharged into storm drains after being passed through appropriate silt removal facilities. <i>Wheel Washing Water</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>
5.7.2	C9	All vehicles and plant shall be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them 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 being discharged into the 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.	At every site exit to all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.7.2	C10	<p><i>Wastewater from Site Facilities</i></p> <p>Sewage from toilets, kitchens and similar facilities shall be discharged into a foul sewer or chemical toilets shall be provided. Should the use of chemical toilets be necessary then these shall be provided by a licensed contractor, who will be responsible for appropriate disposal and maintenance of these facilities. Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.</p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>
5.7.2	C11	<p>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 <i>Waste Disposal Ordinance</i>.</p> <p><i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i></p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i> <i>Waste Disposal Ordinance</i>
	C12	<p>All fuel tanks and chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. The Contractors shall prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.</p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
WASTE - Construction Phase									
6.7.2	D1	<p>The following procedures and measures shall be implemented when handling waste material.</p> <p><i>Dredged/Excavated Sediment</i></p> <p>Potential impacts associated with the exposure to and disposal of contaminated sediments could be mitigated by adopting the following measures:</p> <ul style="list-style-type: none"> • minimising exposure to any contaminated material by the wearing of protective gear such as gloves, providing adequate hygiene and washing facilities, and preventing eating during dredging/excavation; • any contaminated sediment dredged should not be allowed to stockpile on the site and should be immediately removed from site once dredged; <hr/> <ul style="list-style-type: none"> • all vessels for marine transportation of dredged sediment should be fitted with tight fitting seals to their bottom openings to prevent leakage of materials; and • loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and barges or hoppers should under no circumstances to be filled to a level which will cause other overflowing of materials or polluted water during loading or transportation. <p><i>Measures Taken in the Planning and Design Stages to Reduce the Generation of C&DM</i></p> 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance, EPDTC 1-1-92</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D2	The following waste management hierarchy shall be followed: 1. avoidance and minimisation, that is, not generating waste through changing or improving practices and design; 2. reuse of materials, thus avoiding disposal (generally with only limited reprocessing); 3. recovery and recycling, thus avoiding disposal (although reprocessing may be required); and treatment and disposal, according to relevant law, guidelines and good practice.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D3	Records of quantities of wastes generated, recycled and disposed (locations) shall be properly kept.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D4	Any clean excavated soil shall be reused on site as far as possible for landscape works in order to minimise the amount public fill to be disposed off-site. Should there be any surplus public fill generated from the project, the Contractors shall liaise with the Fill Management Committee to identify as far as possible suitable reclamation or site formation projects near the project site to reuse the material.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D5	The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage of construction materials, such as ready mixed concrete. <i>Measures To be Taken in the Construction Stage To Reduce the Generation of C&DM</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D6	The Contractor shall recycle as much as possible of the C&D material on-site. Public fill and C&D waste shall be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Concrete and masonry, for example can be crushed and used as fill and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D7	In order to minimise the impacts of the demolition works these wastes must be cleared as quickly as possible after demolition. The demolition and clearance works shall therefore be undertaken simultaneously.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D8	The use of wooden hoardings shall not be allowed. An alternative material, for example, metal (aluminium, alloy etc) shall be used.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D9	<i>Chemical Waste</i> For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste. Containers used for storage of chemical wastes should: <ul style="list-style-type: none"> • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **	Relevant Legislation & Guidelines
					Des C O Dec	
6.7.2	D10	<ul style="list-style-type: none"> display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. <p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> by clearly labelled and used solely for the storage of chemical waste; be enclosed on at least 3 sides; 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; have adequate ventilation; be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and be arranged so that incompatible materials are adequately separated. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>
6.7.2	D11	<p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> be via a licensed waste collector; and be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a re-user of the waste, under approval from the EPD. <p>The Centre for Environmental Technology operates a Waste Exchange Scheme which can assist in finding receivers or buyers. The following procedures and measures shall be implemented when handling waste material.</p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓	<i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
6.7.2	D12	<i>Management of General Refuse</i> General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour pest and litter impacts. The burning of refuse shall not be permitted.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D13	Reusable rather than disposable dishware shall be used if feasible. Separate, labelled bins shall be provided, if feasible, for the collection of aluminium cans.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D14	The Contractor shall participate in a local waste collection scheme, if one is available, to reduce office wastes.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D15	<i>Management of Waste Disposal</i> A trip-ticket system should be established and used to monitor the disposal of C&DM and solid wastes at public filling facilities and landfills, and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i> <i>Works Bureau Technical Circular No 5/99</i>
6.7.2	D16	A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) shall be established during the construction stage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>
6.7.2	D17	<i>Staff Training</i> Training shall be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the contract.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓				<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **	Relevant Legislation & Guidelines
					Des C O Dec	
6.7.2	D18	<p><i>Waste Management Plan</i></p> <p>The construction Contractors shall incorporate the above recommendations into a Waste Management Plan for the construction works. Such a management plan shall incorporate site specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.</p>	<p>To be produced by all construction contractors and submitted to the Engineer for approval at the commencement of the construction period. The Plans shall be implemented throughout the full duration of the construction phase</p>	<p>To be implemented by the Contractors and enforced by the Engineer/ENPO</p>	✓	<i>Waste Disposal Ordinance</i>
<p><i>TERRESTRIAL ECOLOGY - Construction Phase</i></p> <p>Not applicable</p>						
<p><i>MARINE ECOLOGY AND FISHERIES - Construction Phase</i></p> <p>Not applicable</p>						
<p><i>ARCHAEOLOGY AND CULTURAL HERITAGE - Construction Phase</i></p> <p>Not applicable</p>						
<p><i>HAZARD - Construction Phase</i></p> <p>Not applicable</p>						
<p><i>CONTAMINATED LAND - Construction Phase</i></p> <p>Not applicable</p>						

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agents	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	
	E1	LANDSCAPE AND VISUAL - Construction Phase							
12.8.9		Consideration should be made to implementation of lining and filling of lake in the shortest time possible to avoid visual impact.	At construction site of the water recreation centre lake for the duration of the lake construction phase.	CED	✓	✓			Air Pollution Control (Construction Dust) Regulations
		EM&A REQUIREMENTS - Construction Phase							
		<i>Air Quality</i>							
3.7	F1	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase dust monitoring shall be undertaken at the following location in accordance with the recommendations detailed in Section 5 of the EM&A Manual.	At specified dust monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT		✓			Noise Control Ordinance (NCO)
		<ul style="list-style-type: none"> ASR1-Penny's Bay Gas Turbine Plant 							
		<i>Construction Noise</i>							
4.9	F2	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual.	At specified noise monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT		✓			
		<ul style="list-style-type: none"> NSR1-Sea Crest Villa (Peng Chau) NSR2-Crestmont Villa (Discovery Bay) NSR3-Luk Keng Tsuen 							
11.8		ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase							
		Not applicable							
* Des = Design, C = Construction, O = Operation, Dec = Decommissioning									

Table 16.11 Implementation Schedule for the Water Recreation Centre - Operational Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
3.5.3		AIR QUALITY - Operational Phase							
		<i>Not applicable</i>							
4.7		NOISE - Operational Phase							
		Not applicable							
		WATER QUALITY- Operational Phase							
		<i>Artificial Lake</i>							
5.11.2	A1	The lake shall be lined with an impermeable liner. However, as such liners may have a limited life span, beyond which the performance may deteriorates, the liner shall be replaced once the manufacturer's specified lifespan is reached.	To be included within the detailed design and installed as part of the construction works.	Detailed Design Consultants/ Contractors/ HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>
5.11.2	A2	Stormwater run-off from surrounding hillsides shall pass through silt traps prior to entering the artificial lake to prevent siltation. The silt traps shall be designed to have adequate capacity to retain any silt/sediment contained within the stormwater. The silt traps shall be frequently maintained/cleaned to prevent a deterioration in performance.	To be incorporated into the detailed design and fully implemented prior to, and throughout, the full operational lifetime of the Theme Park	Detailed Design Consultants/ HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>
5.11.2	A3	Should the quality of the water in the Tai Lam Chung Reservoir deteriorate below the present levels an alternate supply of water, of a quality at least as good as that within the Tai Lam Chung Reservoir, shall be used to 'top up' the water within the lake.	To be undertaken at a time if/when the quality of the water in the Tai Lam Chung Reservoir deteriorates below its present levels	HKITP			✓		<i>Water Pollution Control Ordinance</i>
5.11.2	A4	If it becomes necessary to add an algicide to the lake to control algal growth, the algicide shall be biodegradable with a short half life of three days or less.. During use of the algicide discharge of the lake water to the marine waters shall be prohibited, until the algicide has decayed. The algicide shall not be used during periods of heavy rainfall when overflow of the lake is possible.	To implemented throughout the full operational lifetime of the Theme Park	HKITP			✓		<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.11.2	A5	Stormwater from any urban/developed areas shall not be allowed to enter the lake as they may contain pollutants. Sewage effluent from the water recreation centre shall be transported to the sewerage mains for conveyance to the Siu Ho Wan STW.	To be incorporated into the detailed design and fully implemented prior to, and throughout, the full operational lifetime of the Theme Park	Detailed Design Consultants/ HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>
5.11.2	A6	Any fuel for motorised water sports vessels shall be stored in bunded areas, of at least 110% capacity of the largest fuel storage container to prevent any accidental spills entering the lake.	To be incorporated into the detailed design and fully implemented prior to, and throughout, the full operational lifetime of the Theme Park	Detailed Design Consultants/ HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>
5.11.2	A7	Servicing of any water sports vessels shall be undertaken at suitable facilities away from the artificial lake. In the event that fuel or other petroleum products enter the lake, a suitable clean-up plan shall be implemented. The clean-up plan being devised by the operators of the water recreation centre and approved by EPD prior to the commencement of operations at the water sports centre.	To be implemented throughout the full operational lifetime of the Theme Park	HKITP			✓		<i>Water Pollution Control Ordinance</i>
WASTE - Operational Phase									
6.7.3	B1	To minimise the potential adverse impacts to aesthetics and odour impacts, the HKITP should maintain floating refuse collection initiatives at both the coast of the Theme Park and within the artificial lake of the Water Recreation Centre.	To be implemented throughout the full operational lifetime of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
TERRESTRIAL ECOLOGY - Operational Phase									
Not applicable									
MARINE ECOLOGY AND FISHERIES - Operational Phase									
Not applicable									

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase									
Not applicable									
HAZARD - Operational Phase									
Not applicable									
CONTAMINATED LAND - Construction Phase									
Not applicable									
LANDSCAPE AND VISUAL - Operational Phase									
12.8.20	C1	Buildings and associated structures of the water recreation centre to be sensitively and attractively designed in keeping with the Theme Park with building height not over 6 m.	At buildings and associated structures at the water recreation centre for the duration of the operation phase.	CED WD	✓	✓		✓	
12.8.20	C2	Planting to be provided to create setting for the lake and provide screening to adjacent areas and internal parking areas species to be selected to promote biodiversity, as well as visual interest.	Around lake area and at buildings and associated structures for duration of operation phase.	CED WD	✓	✓		✓	
12.8.20	C3	Lighting to be controlled to prevent excessive light overspill.	At water recreation centre for duration of operation phase.	CED WD	✓	✓		✓	
EM&A REQUIREMENTS - Operational Phase									
5.13.1	D1	Water Quality Monitoring of the artificial lake shall be undertaken during the first year after the filling of the lake. Monitoring shall be carried out once per week.	To be implemented for one year after the completion of the artificial lake.	HKITP				✓	<i>Water Pollution Control Ordinance</i>
* Des = Design, C = Construction, O = Operation, Dec = Decommissioning									

Table 16.1m Implementation Schedule for the Eastern Stormwater Channel - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
<i>AIR QUALITY - Construction Phase</i>								
In accordance with the <i>Air Pollution Control (Construction Dust) Regulation</i> the following mitigation measures shall be implemented to limit the dust emissions from the site:								
3.4.3	A1	<ul style="list-style-type: none"> vehicle washing facilities shall be provided at every vehicle exit point 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A2	<ul style="list-style-type: none"> where a site boundary adjoins a road, streets or other area accessible to the public, hoarding of not less than 2.4 m high from ground level shall be provided along the entire length except for a site entrance or exit; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A3	<ul style="list-style-type: none"> every main haul road shall be sealed and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A4	<ul style="list-style-type: none"> stockpiles of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides; or sprayed with water so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A5	<ul style="list-style-type: none"> all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A6	<ul style="list-style-type: none"> vehicle speed within the worksite shall be limited to 10 kph except for properly formed and maintained access roads; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
3.4.3	A7	<ul style="list-style-type: none"> every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction sites; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A8	<ul style="list-style-type: none"> the working area of excavation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet . 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
<i>NOISE - Construction Phase</i>								
In addition to the use of good site practice (as defined in the EIA Report) the following mitigation measures shall be implemented to minimise noise emissions:								
4.6	B1	<p><i>Selecting Quiet Plant for Evening Time Works</i></p> <p>Where available, the Contractor shall use models of plant that are quieter than those specified in the EPD's Technical Memorandum (GW-TM) for undertaking construction works in the evening.</p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>GW-TM</i>
<i>WATER QUALITY- Construction Phase</i>								
<i>Land Based Construction Activities</i>								
<i>Surface Run-off</i>								
5.7.2	C1	Surface run-off from the construction site shall be directed into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
5.7.2	C2	Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	At all construction work site prior to the commencement of site formation works and earthworks	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C3	Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed regularly, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C4	If excavation cannot be avoided during rainy seasons, temporarily exposed soil surfaces shall be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C5	Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided where necessary. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C6	Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
5.7.2	C7	Manholes (including any 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. Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. <i>Groundwater</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C8	Groundwater pumped out of wells, etc. for the lowering of ground water level in foundation construction, such as that required for new buildings, shall be discharged into storm drains after being passed through appropriate silt removal facilities. <i>Wheel Washing Water</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C9	All vehicles and plant shall be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them 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 being discharged into the 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. <i>Wastewater</i>	At every site exit to all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C10	Wastewater generated from concreting, cleaning work and other similar activities, shall undergo large object removal by installing bar traps at the drain inlets. <i>Wastewater from Site Facilities</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
5.7.2	C11	Sewage from toilets, kitchens and similar facilities shall be discharged into a foul sewer or chemical toilets shall be provided. Should the use of chemical toilets be necessary then these shall be provided by a licensed contractor, who will be responsible for appropriate disposal and maintenance of these facilities. Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C12	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 <i>Waste Disposal Ordinance</i> .	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i> <i>Waste Disposal Ordinance</i>
<i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i>								
5.7.2	C13	All fuel tanks and chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. The Contractors shall prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Water Pollution Control Ordinance</i>

WASTE - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
		The following procedures and measures shall be implemented when handling waste material.						
		<i>Measures Taken in the Planning and Design Stages to Reduce the Generation of C&DM</i>						
6.7.2	D1	The following waste management hierarchy shall be followed: 1. avoidance and minimisation, that is, not generating waste through changing or improving practices and design; 2. reuse of materials, thus avoiding disposal (generally with only limited reprocessing); 3. recovery and recycling, thus avoiding disposal (although reprocessing may be required); and 4. treatment and disposal, according to relevant law, guidelines and good practice.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D2	Records of quantities of wastes generated, recycled and disposed (locations) shall be properly kept.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D3	Any clean excavated soil shall be reused on site as far as possible for landscape works in order to minimise the amount public fill to be disposed off-site. Should there be any surplus public fill generated from the project, the Contractors shall liaise with the Fill Management Committee to identify as far as possible suitable reclamation or site formation projects near the project site to reuse the material.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
6.7.2	D4	The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage of construction materials, such as ready mixed concrete.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
<i>Measures To be Taken in the Construction Stage To Reduce the Generation of C&DM</i>								
6.7.2	D5	The Contractor shall recycle as much as possible of the C&D material on-site. Public fill and C&D waste shall be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Concrete and masonry, for example can be crushed and used as fill and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D6	In order to minimise the impacts of the demolition works these wastes must be cleared as quickly as possible after demolition. The demolition and clearance works shall therefore be undertaken simultaneously.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D7	The use of wooden hoardings shall not be allowed. An alternative material, for example, metal (aluminium, alloy etc) shall be used.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
		<i>Chemical Waste</i>						
6.7.2	D8	<p>For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste. Containers used for storage of chemical wastes should:</p> <ul style="list-style-type: none"> • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓		<p><i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i></p>
6.7.2	D9	<p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> • be clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • 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; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and • be arranged so that incompatible materials are adequately separated. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓		<p><i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i></p>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
6.7.2	D10	<p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> • be via a licensed waste collector; and • be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or • be to a re-user of the waste, under approval from the EPD. <p>The Centre for Environmental Technology operates a Waste Exchange Scheme which can assist in finding receivers or buyers. The following procedures and measures shall be implemented when handling waste material.</p> <p><i>Management of General Refuse</i></p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<p><i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i></p>
6.7.2	D11	<p>General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour pest and litter impacts. The burning of refuse shall not be permitted.</p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<p><i>Waste Disposal Ordinance</i></p>
6.7.2	D12	<p>Reusable rather than disposable dishware shall be used if feasible. Separate, labelled bins shall be provided, if feasible, for the collection of aluminium cans.</p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<p><i>Waste Disposal Ordinance</i></p>
6.7.2	D13	<p>The Contractor shall participate in a local waste collection scheme, if one is available, to reduce office wastes.</p> <p><i>Management of Waste Disposal</i></p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<p><i>Waste Disposal Ordinance</i></p>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
6.7.2	D14	A trip-ticket system should be established and used to monitor the disposal of C&DM and solid wastes at public filling facilities and landfills, and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i> <i>Works Bureau Technical Circular No 5/99</i>
6.7.2	D15	A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) shall be established during the construction stage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D16	<i>Staff Training</i> Training shall be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the contract. <i>Waste Management Plan</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>
6.7.2	D17	The construction Contractors shall incorporate the above recommendations into a Waste Management Plan for the construction works. Such a management plan shall incorporate site specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.	To be produced by all construction contractors and submitted to the Engineer for approval at the commencement of the construction period. The Plans shall be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			<i>Waste Disposal Ordinance</i>

TERRESTRIAL ECOLOGY - Construction Phase

Not applicabl

MARINE ECOLOGY AND FISHERIES - Construction Phase

Marine Ecological Resources: Marine Mammals

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
8.7.2	E1	The following mitigation measures shall be implemented to minimize potential construction impacts to dolphins and porpoises: 1) A policy of no dumping of rubbish, food, oil, or chemicals should be strictly enforced. This should also be covered in the contractor briefing; 2) Every attempt shall be made to minimize the effects of construction of the Project on the water quality of the area;	To be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO	✓			
11.6		ARCHAEOLOGY AND CULTURAL HERITAGE - Construction Phase <i>Not applicable</i> HAZARD - Construction Phase <i>Not applicable</i> CONTAMINATED LAND - <i>Construction Phase</i> <i>Not applicable</i> LANDSCAPE AND VISUAL - Construction Phase						
12.9.16	F1	Site works area for channel construction shall not extend onto natural slopes of Tai Shan. EM&A REQUIREMENTS - Construction Phase <i>Air Quality</i>	Along western edge of channel alignment for duration of implementation works period.	CED	✓	✓		

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O	
3.7	G1	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase dust monitoring shall be undertaken at the following location in accordance with the recommendations detailed in Section 5 of the EM&A Manual.	At specified dust monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT	✓			Air Pollution Control (Construction Dust) Regulations
<ul style="list-style-type: none"> • ASR1-Penny's Bay Gas Turbine Plant 								
4.9	G2	<p><i>Construction Noise</i></p> Subject to the Environmental Protection Department's (EPD's) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual. <ul style="list-style-type: none"> • NSR1-Sea Crest Villa (Peng Chau) • NSR2-Crestmont Villa (Discovery Bay) • NSR3-Luk Keng Tsuen 	At specified noise monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT	✓			<i>Noise Control Ordinance (NCO)</i>

* Des = Design, C = Construction, O = Operation, Dec = Decommissioning

Table 16.1n Implementation Schedule for the Eastern Stormwater Channel - Operational Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
		<i>AIR QUALITY - Operational Phase</i>							
		<i>Not applicable</i>							
		<i>NOISE - Operational Phase</i>							
		<i>Not applicable</i>							
		<i>WATER QUALITY- Operational Phase</i>							
		<i>Not applicable</i>							
		<i>WASTE - Operational Phase</i>							
		<i>Not applicable</i>							
		<i>TERRESTRIAL ECOLOGY - Operational Phase</i>							
		<i>Not applicable</i>							
		<i>MARINE ECOLOGY AND FISHERIES - Operational Phase</i>							
		<i>Not applicable</i>							
		<i>ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase</i>							
		<i>Not applicable</i>							

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
HAZARD - Operational Phase									
<i>Not applicable</i>									
CONTAMINATED LAND - Construction Phase									
<i>Not applicable</i>									
LANDSCAPE AND VISUAL - Operational Phase									
12.9.17		Channel edge design to review the potential to vegetate it subject to total level and flow characteristics	At constructed channel edges throughout the operation phase	CED DSD	✓	✓		✓	
12.9.17		The surface of associated maintenance road to be constructed using grasscrete or other form of reinforced vegetated surface	At channel maintenance road, throughout operation phase	CED	✓	✓			
12.9.18		Rockcatcher berm adjacent to channel with local species type, however an environmental approach could be considered beside the footpath and cycle track	At channel maintenance road, throughout operation phase	CED LCSD	✓	✓		✓	
* Des = Design, C = Construction, O = Operation, Dec = Decommissioning									

Table 16.1o Implementation Schedule for the Theme Park - Construction Phase

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
<i>AIR QUALITY - Construction Phase</i>									
In accordance with the <i>Air Pollution Control (Construction Dust) Regulation</i> the following mitigation measures shall be implemented to limit the dust emissions from the site:									
3.4.3	A1	<ul style="list-style-type: none"> effective dust screens, sheeting or netting shall be provided to enclose the scaffolding from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level of the scaffolding where a scaffolding is erected around the perimeter of a building under construction; 	At all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A2	<ul style="list-style-type: none"> skip hoist for material transport shall be totally enclosed by impervious sheeting; 	At all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A3	<ul style="list-style-type: none"> vehicle washing facilities shall be provided at every vehicle exit point 	At all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
3.4.3	A4	<ul style="list-style-type: none"> where a site boundary adjoins an operating public road, streets or other area accessible to the public, hoarding of not less than 2.4 m high from ground level shall be provided along the entire length except for a site entrance or exit; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A5	<ul style="list-style-type: none"> every main haul road shall be sealed and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A6	<ul style="list-style-type: none"> stockpiles of dusty materials shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides; or sprayed with water so as to maintain the entire surface wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A7	<ul style="list-style-type: none"> all dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A8	<ul style="list-style-type: none"> vehicle speed within the worksite shall be limited to 10 kph except for properly formed and maintained access roads; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A9	<ul style="list-style-type: none"> every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction sites; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>
3.4.3	A10	<ul style="list-style-type: none"> the working area of excavation shall be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Air Pollution Control (Construction Dust) Regulation</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
		In addition, according to the EPD's <i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i> , the following mitigation measures shall be adopted to prevent fugitive dust emissions:	At all concrete batching plants, throughout the whole duration of the construction period						
3.4.3	A11	<ul style="list-style-type: none"> loading, unloading, handling, transfer or storage of any dusty materials shall be carried out in totally enclosed system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓	<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>	
3.4.3	A12	<ul style="list-style-type: none"> all dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the emission limits for TSP; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓	<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>	
3.4.3	A13	<ul style="list-style-type: none"> vents for all silos and cement/ pulverized fuel ash (PFA) weighing scale shall be fitted with fabric filtering system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓	<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>	
3.4.3	A14	<ul style="list-style-type: none"> the materials which may generate airborne dusty emissions shall be wetted by water spray system; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓	<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>	
3.4.3	A15	<ul style="list-style-type: none"> all receiving hoppers shall be enclosed on three sides up to 3m above unloading point; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO			✓	<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>	

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
3.4.3	A16	<ul style="list-style-type: none"> all conveyor transfer points shall be totally enclosed; 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A17	<ul style="list-style-type: none"> all access and route roads within the premises shall be paved and wetted; and 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
3.4.3	A18	<ul style="list-style-type: none"> vehicle cleaning facilities shall be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body. 	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Best Practicable Means Requirements for Cement Works (Concrete Batching Plant)</i>
<i>NOISE - Construction Phase</i>									
In addition to the use of good site practice (as defined in the EIA Report) the following mitigation measures shall be implemented to minimise noise emissions:									
4.6	B1	<p><i>Selecting Quiet Plant for Evening Time Works</i></p> <p>Where available, the Contractor shall use models of plant that are quieter than those specified in the EPD's Technical Memorandum (GW-TM) for undertaking construction works in the evening.</p>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>GW-TM</i>
<i>WATER QUALITY- Construction Phase</i>									
<i>Surface Run-off</i>									

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
5.7.2	C1	Surface run-off from the Theme Park construction site shall be directed into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers shall be provided on site to properly direct stormwater to such silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C2	Catchpits and perimeter channels shall be constructed in advance of site formation works and earthworks.	At all construction work site prior to the commencement of site formation works and earthworks	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C3	Silt removal facilities, channels and manholes shall be suitably maintained with the deposited silt and grit being removed regularly, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C4	If excavation cannot be avoided during rainy seasons, temporarily exposed soil 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 the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O p e r a t i o n s	D e c	
5.7.2	C5	Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out as soon as practical after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels shall be provided where necessary. Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C6	Open stockpiles of construction materials (e.g. aggregates and sand) on site shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C7	Manholes (including any 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. Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
5.7.2	C8	<i>Groundwater</i> Groundwater pumped out of wells, etc. for the lowering of ground water level in foundation construction, such as that required for new buildings, shall be discharged into storm drains after being passed through appropriate silt removal facilities.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C9	<i>Wheel Washing Water</i> All vehicles and plant shall be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them 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 being discharged into the 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.	At every site exit to all construction work sites, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C10	<i>Wastewater from Building Construction</i> Wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall undergo large object removal by installing bar traps at the drain inlets. <i>Wastewater from Site Facilities</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
5.7.2	C11	Sewage from toilets, kitchens and similar facilities shall be discharged into a foul sewer or chemical toilets shall be provided. Should the use of chemical toilets be necessary then these shall be provided by a licensed contractor, who will be responsible for appropriate disposal and maintenance of these facilities. Upon completion of the foul sewer system, wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, shall be discharged into foul sewers via grease traps.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
5.7.2	C12	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 <i>Waste Disposal Ordinance</i> . <i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i>	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i> <i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
5.7.2	C13	All fuel tanks and chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. The Contractors shall prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.	At all construction work site, throughout the whole duration of the construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Water Pollution Control Ordinance</i>
<p>WASTE - Construction Phase</p> <p>The following procedures and measures shall be implemented when handling waste material.</p>									
<p><i>Measures Taken in the Planning and Design Stages to Reduce the Generation of C&DM</i></p>									
6.7.2	D1	The following waste management hierarchy shall be followed: 1. avoidance and minimisation, that is, not generating waste through changing or improving practices and design; 2. reuse of materials, thus avoiding disposal (generally with only limited reprocessing); 3. recovery and recycling, thus avoiding disposal (although reprocessing may be required); and 4. treatment and disposal, according to relevant law, guidelines and good practice.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O p e r a t i o n s	D e c	
6.7.2	D2	Records of quantities of wastes generated, recycled and disposed (locations) shall be properly kept.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D3	Any clean excavated soil shall be reused on site as far as possible for landscape works in order to minimise the amount public fill to be disposed off-site. Should there be any surplus public fill generated from the project, the Contractors shall liaise with the Fill Management Committee to identify as far as possible suitable reclamation or site formation projects near the project site to reuse the material.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D4	The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage of construction materials, such as ready mixed concrete. <i>Measures To be Taken in the Construction Stage To Reduce the Generation of C&DM</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D5	The Contractor shall recycle as much as possible of the C&D material on-site. Public fill and C&D waste shall be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Concrete and masonry, for example can be crushed and used as fill and steel reinforcing bar can be used by scrap steel mills. Different areas of the work sites should be designated for such segregation and storage.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
6.7.2	D6	In order to minimise the impacts of the demolition works these wastes must be cleared as quickly as possible after demolition. The demolition and clearance works shall therefore be undertaken simultaneously.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D7	The use of wooden hoardings shall not be allowed. An alternative material, for example, metal (aluminium, alloy etc) shall be used.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D8	<p><i>Chemical Waste</i></p> <p>For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste. Containers used for storage of chemical wastes should:</p> <ul style="list-style-type: none"> • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓		<i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i>	

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
6.7.2	D9	<p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> • be clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • 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; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and • be arranged so that incompatible materials are adequately separated. 	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<p><i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i></p>
6.7.2	D10	<p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> • be via a licensed waste collector; and • be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or • be to a re-user of the waste, under approval from the EPD. <p>The Centre for Environmental Technology operates a Waste Exchange Scheme which can assist in finding receivers or buyers. The following procedures and measures shall be implemented when handling waste material.</p>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<p><i>Waste Disposal Ordinance, Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i></p>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
		<i>Management of General Refuse</i>							
6.7.2	D11	General refuse generated on-site shall be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour pest and litter impacts. The burning of refuse shall not be permitted.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D12	Reusable rather than disposable dishware shall be used if feasible. Separate, labelled bins shall be provided, if feasible, for the collection of aluminium cans.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D13	The Contractor shall participate in a local waste collection scheme, if one is available, to reduce office wastes.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
		<i>Management of Waste Disposal</i>							
6.7.2	D14	A trip-ticket system shall be established and used to monitor the disposal of C&DM and solid wastes at public filling facilities and landfills, and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance Works Bureau Technical Circular No 5/99</i>
6.7.2	D15	A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) shall be established during the construction stage. <i>Staff Training</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
6.7.2	D16	Training shall be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the contract. <i>Waste Management Plan</i>	To be implemented at all worksites throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
6.7.2	D17	The construction Contractors shall incorporate the above recommendations into a Waste Management Plan for the construction works. Such a management plan shall incorporate site specific factors, such as the designation of areas for the segregation and temporary storage of reusable and recyclable materials.	To be produced by all construction contractors and submitted to the Engineer for approval at the commencement of the construction period. The Plans shall be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			<i>Waste Disposal Ordinance</i>
<i>TERRESTRIAL ECOLOGY - Construction Phase</i>									
7.7.1	E1	Compensatory tree plantation (not less than 6 ha) on the adjacent hill side to the east of Ngong Shuen Au for the loss of approximately 1.8 ha of the secondary woodland at Ngong Shuen Au. Species used for planting should take reference from the species identified in the Tree Survey and be native to Hong Kong or South China region. The trees should bear fruits preferred by birds and/or which are larval or adult butterfly food plants to maintain the ecological functions of the existing secondary woodland.	Ngong Shuen Au secondary woodland/ During design and construction stage /At the end of construction period	CED/Contractors / AFCD	✓	✓	✓		

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
7.7.1	E2	Adjust development/construction area to avoid/minimize direct impact on the natural coastline in the west ern side of the Penny's Bay and backshore vegetation so as the associated locally restricted, rare or protected plant species present within the Assessment Area, including the plant <i>Berchemia lineata</i> and <i>Scleria rugosa</i> . <i>White-bellied Sea Eagle</i>	Along the natural coastline to the west of the Penny's Bay/ Detailed design stage/At the end of detailed design stage	CED	✓	✓			
7.7.2	E3	Prohibit construction workers access to the nesting site of White-bellied Sea Eagles at Pa Tau Kwu secondary woodland through warning and regular audit by Site Engineer / EATL, and fencing off the public land access from the development areas.	At all construction work sites close to Pa Tau Kwu secondary woodland/ Throughout the construction period	CED /HKITP /Contractors . To be enforced by the Engineer/ENPO			✓		
7.7.2	E4	Use quiet construction plant and equipment for Penny's Bay Stage II reclamation .	At all construction work sites close to Pa Tau Kwu secondary woodland/Throughout the whole construction period /At the end of construction period	CED /Contractors . To be enforced by the Engineer/ENPO			✓		

Construction Practice

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
7.7.3	E5	Erect fences where practical along the boundary of construction sites before the commencement of works to prevent tipping, vehicle movements, and encroachment of personnel into adjacent areas, particularly where the rare/restricted /protected species, such as rare Rice Fish <i>Oryzias latipes</i> in Mong Tung Hang stream, White-bellied Sea Eagles <i>Haliaeetus leucogaster</i> at Pa Tau Kwu woodland, Pitcher Plant <i>Nepenthes mirabilis</i> , <i>Fimbristylis acuminata</i> and <i>Fimbristylis complanata</i> behind Cheoy Lee shipyard, and <i>Berchemia lineata</i> and <i>Scleria rugosa</i> along the west coast of Penny's Bay, are located;	At all construction work sites particularly the areas close to freshwater wetland behind Cheoy Lee shipyard, Pa Tau Kwu secondary woodland and Mong Tung Hang stream /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E6	Reinstate temporary work sites/disturbed areas to its original condition immediately after completion of the construction;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E7	Select haul routes, storage and works areas etc. to avoid or minimize disturbance to ecologically significant areas;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E8	Check the work site boundaries regularly to ensure that they are not exceeded and that no damage has been caused to surrounding natural habitats;	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
7.7.3	E9	Prohibit and prevent open fires within the work site boundary during construction and provide temporary fire fighting equipment in all work areas.	At all construction work sites /Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			-

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
7.7.3	E10	Ensure no access for site workers or delivery of machinery from Pa Tau Kwu Pak Wan and Pa Tau Kwu Nam Wan.	Pa Tau Kwu/ Throughout the whole construction period /At the end of construction period	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			
<i>MARINE ECOLOGY AND FISHERIES - Construction Phase</i>									
8.7.2	F1	<p><i>Marine Ecological Resources: Marine Mammals</i></p> <p>The following mitigation measures shall be implemented to minimize potential construction impacts to dolphins and porpoises:</p> <p>1) A policy of no dumping of rubbish, food, oil, or chemicals shall be strictly enforced. This should also be covered in the contractor briefing;</p> <p>2) Every attempt shall be made to minimize the effects of construction of the Project on the water quality of the area .</p>	To be implemented throughout the full duration of the construction phase	To be implemented by the Contractors and enforced by the Engineer/ENPO		✓			

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O p e r a t i o n	D e c l o s e	
ARCHAEOLOGY AND CULTURAL HERITAGE - Construction Phase									
11.6	G1	To ensure that construction activities avoided impacting upon the Pa Tau Kwu archaeological site or the two identified grave sites near Chok Ko Wan, these areas should be marked on all construction plans as “temporary protection areas”. Moreover, to ensure that no direct impact occurs to the grave sites and that there is no soil disturbance at the archaeological sites, the site boundaries of these areas shall be physically fenced off with ‘buffer zones’ of at least 5 m width so that construction workers’ do not enter onto these sites.	Prior to and during any works with the potential to impact upon the Pa Tau Kwu archaeological site and the two grave sites near Chok Ko Wan	CED and the Contractors	✓	✓			
11.6	G2	Access to the grave sites near Chok Ko Wan may be impacted during construction, therefore, the grave owners shall be informed so that special arrangement to visit to sites is possible for the grave owners, when necessary. The Detailed Development Plan should retain any access possibility to the grave sites for future visitors after the completion of the developments.	Prior to and during any works with the potential to impact upon the access to the grave sites near Chok Ko Wan	CED and the Contractors	✓	✓			
HAZARD - Construction Phase									
<i>Not applicable</i>									
CONTAMINATED LAND - Construction Phase									
<i>Not applicable</i>									

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					D e s	C	O	D e c	
12.5.26	H1	LANDSCAPE AND VISUAL - Construction Phase A advance planting of soil berms and advance construction of soil berms	At permanent berms around Theme Park construction site for the initial stage of the construction phase.	CED/WD LCSD	✓	✓		✓	
12.5.26		Temporary landscape berm	At area east of the central pedestrian walkway for duration of construction phase	CED/WD/LCSD CED/LCSD	✓	✓		✓	
		EM&A REQUIREMENTS - Construction Phase							
		<i>Air Quality</i>							
3.7	I1	Subject to the Environmental Protection Department's (EPD's) agreement, construction phase dust monitoring shall be undertaken at the following location in accordance with the recommendations detailed in Section 5 of the EM&A Manual.	At specified dust monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT		✓			Air Pollution Control (Construction Dust) Regulations
4.9	I2	<ul style="list-style-type: none"> ASR1-Penny's Bay Gas Turbine Plant Subject to the Environmental Protection Department's (EPD's) agreement, construction phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 6 of the EM&A Manual.	At specified noise monitoring locations throughout the duration of the construction works	To be undertaken by the EMT and reviewed/audited by the EAT		✓			Noise Control Ordinance (NCO)
		<ul style="list-style-type: none"> NSR1-Sea Crest Villa (Peng Chau) NSR2-Crestmont Villa (Discovery Bay) NSR3-Luk Keng Tsuen 							

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					De s	C	O	De c	
7.9	I3	<i>Terrestrial Ecology</i> White-bellied Sea Eagle Subject to the EPD's agreement, construction phase monitoring of the White-bellied Sea Eagle shall be undertaken in accordance with the recommendations of Section 9 of the EM&A Manual	Throughout the duration of the construction works.	To be undertaken by an avian specialist with at least 3 years experience			✓		

* Des = Design, C = Construction, O = Operation, Dec = Decommissioning

Table 16.1p Implementation Schedule for the Theme Park - Operational Phase

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
<i>AIR QUALITY - Operational Phase</i>									
3.5.3	A1	Natural gas vehicles or electric vehicles should all be recommended as the internal traffic in the Theme Park	Within the Theme Park, for the full duration of its operating lifetime.	HKITPP				✓	
3.5.3	A2	Building height within the Theme Park should all be restricted at 50m above ground within the first 500m from power station and 100m above ground within 1km from power station. It should be noted that such height restriction has been incorporated into the development of the OZP and ODP for the area.	Within the Theme Park, for the full duration of its operating lifetime.	HKITP	✓			✓	
3.5.3	A3	HKITP agreed that any pyrotechnics that specifically use chromium, lead, mercury, arsenic, manganese, nickel or zinc would not be purchased for the fireworks displays.	Within the Theme Park for the full duration of its operating lifetime.	HKITP				✓	
3.5.3	A4	Odour suppression measures such as enclosing the odour sources and scrubbing system should all be incorporated into the design of the sewerage pumping station	Within the Theme Park, for the full duration of its operating lifetime.	HKITP				✓	
<i>NOISE - Operational Phase</i>									
4.7	B1	<i>Fixed Plant noise from Theme Park operation</i> 5 m to 9 m earth berm encircling the Theme Park. (Figure 2.7b in EIA Report refers)	Encircling the Theme Park / throughout the operation of the Theme Park .	HKITP				✓	ND-TM

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
4.7	B2	A reference noise source level of 75 dB(A) at the Theme Park perimeter	At unshielded position along the top of the 9 m high perimeter earth berm / throughout the operation of the Theme Park .	HKITP			✓		IND-TM
4.7	B3	<i>Sewage pumping station (Utility yard)</i> 9 m earth berm on the north and east sides of the sewage pumping station. (<i>Figure 2.7b</i> in EIA Report refers)	Around the sewage pumping station / throughout the operation of the pumping station.	DSD			✓		IND-TM
4.7	B4	<i>Penny's Bay Gas Turbine Plant (GTP)</i> 9 m earth berm on the south, east and north sides of the GTP. (<i>Figure 2.7b</i> in EIA Report refers)	Around the GTP.	CED					
4.7	B5	<i>Resort Hotels at Theme Park</i> Ventilation not rely on openable windows.	At the resort hotels / throughout the operation of the hotels.	HKITP	✓		✓		IND-TM
4.7	B6	<i>Fireworks Displays</i> A duration of 5 minutes for mid-level shows.	Fireworks launching site / during fireworks display	HKITP			✓		A limit of $L_{Aeq, 15 \text{ min}}$ 55 dB at residential NSRs
4.7	B7	Mid-level displays (Maximum bursting height of 100 m)	Fireworks launching site / during fireworks display	HKITP			✓		A limit of $L_{Aeq, 15 \text{ min}}$ 55 dB at residential NSRs

WATER QUALITY- Operational Phase

Marine Water Quality

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.9.1	C1	All storm water shall flow through a silt trap within the Theme Park and Commercial/Developed areas prior to entering the stormwater system in order to ensure that the pollutants in the stormwater discharges are minimised as far as is practicable.	To be incorporated into the detailed design and fully implemented prior to, and throughout, the full operational lifetime of the Theme Park	Detailed Design Consultants/ HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>
5.9.1	C2	In order to control the potential impacts to water quality from fireworks residue, large pieces of spent fireworks shall be collected as soon after the completion of the display as is practicable. The measure of installing silt traps, described above, will then serve to prevent smaller particles from being discharged to the marine waters.	To be undertaken after all fireworks displays throughout, the full operational lifetime of the Theme Park	HKITP				✓	<i>Water Pollution Control Ordinance</i>
5.9.1	C3	<i>Toxic Substances</i> During routine maintenance the water from the attractions shall be circulated within the rides for a minimum of 12 hours after the last dosing of sodium hypochlorite before it is emptied. If monitoring of the residual chlorine concentration is undertaken, the discharge of the water shall only be allowed once the concentration is below 0.01 mg L-1.	To be implemented throughout the full operational lifetime of the Theme Park	HKITP				✓	<i>Water Pollution Control Ordinance</i>
5.9.1	C4	The discharge of pesticides and herbicides in harmful quantities shall be prevented by implementing the following measures.							<i>Water Pollution Control Ordinance</i>
5.9.1	C5	<ul style="list-style-type: none"> the construction of trenches, backfilled with loose soil or similar porous material, around any areas where pesticides and herbicides will be used 	To be incorporated into the detailed design and fully implemented prior to, and throughout, the full operational lifetime of the Theme Park	Detailed Design Consultants/ HKITP	✓	✓	✓		<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**			Relevant Legislation & Guidelines
					Des	C	O Dec	
5.9.1	C6	<ul style="list-style-type: none"> pesticides and herbicides shall not be used during periods of rainfall; and 	To be implemented throughout the full operational lifetime of the Theme Park	HKITP		✓		<i>Water Pollution Control Ordinance</i>
5.9.1	C7	<ul style="list-style-type: none"> biodegradable pesticides and herbicides with short half-lives of three days or less. 	To be implemented throughout the full operational lifetime of the Theme Park	HKITP		✓		<i>Water Pollution Control Ordinance</i>
5.9.1	C8	In order to determine compliance with the recommended mitigation measures a log book shall be kept which details the application of any pesticides or herbicides, date and time, location of application, quantities applied, pesticide/herbicide used and weather conditions.	Prior to and throughout the use of pesticides and herbicides	HKITP		✓		<i>Water Pollution Control Ordinance</i>
5.9.3	C9	<p><i>Sewerage System</i></p> <p>The sewerage system to transport the sewage effluent from the Theme Park shall be subject to a detailed design to ensure that it is adequate to cater for the predicted flows. As part of this process rising mains shall be duplicated in order to minimise the risk of overflow under peak flows and to provide a means of facilitating routine maintenance.</p>	To be incorporated into the detailed design and fully implemented prior to, and throughout, the full operational lifetime of the Theme Park	Detailed Design Consultants/ CED	✓	✓	✓	<i>Water Pollution Control Ordinance</i>
5.9.3	C10	<p>The following measures shall be implemented to minimise the risk of failure at the two pumping stations serving the Theme Park development, at Yam O and at the north west boundary of the Theme Park.</p> <ul style="list-style-type: none"> dualling of rising mains; dualling of power supply; and provision of duty/stand by pumps. 	To be incorporated into the detailed design and fully implemented prior to the operation of the Theme Park	Detailed Design Consultants	✓	✓		<i>Water Pollution Control Ordinance</i>

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
5.9.3	C11	Secondary power supply and standby pumps shall be provided at each of the on-line lift stations used for the sewers following the boundary of the theme park in order to minimise the risk of failure. Furthermore, the proposed system shall have adequate pipe gradients to ensure that cleansing velocities are achieved and hence siltation prevented.	To be incorporated into the detailed design and fully implemented prior to the operation of the Theme Park	Detailed Design Consultants /CED	✓	✓			<i>Water Pollution Control Ordinance</i>
5.9.3	C12	All electrical and mechanical installations such as pumping stations shall have telemetry systems to ensure that system failure is identified. This will facilitate early response to rectify any system failure.	To be incorporated into the detailed design and fully implemented prior to, and throughout, the full operational lifetime of the Theme Park	Detailed Design Consultants/ CED	✓	✓	✓		<i>Water Pollution Control Ordinance</i>
5.9.3	C13	The following options for pipe construction shall be considered in order to reduce the potential for the failure of the pipes and joints due to differential settlement on the reclaimed land: <ul style="list-style-type: none"> • jointless pipes; • HDPE pipes; and • ductile iron pipes 	To be incorporated into the detailed design and fully implemented prior to the operation of the Theme Park	Detailed Design Consultants	✓	✓			<i>Water Pollution Control Ordinance</i>
5.11.3	C14	By 2011 the Siu Ho Wan STW is likely to require an upgrading to increase its capacity so that it can handle the sewerage from the Theme Park. The upgrading works would be the responsibility of the Drainage Services Department who are the operators of the Siu Ho Wan STW.	By 2011	Drainage Services Department	✓				<i>Water Pollution Control Ordinance</i>

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<i>WASTE - Operational Phase</i>									
6.7.3	E1	<p>Waste Management Plan</p> <p>A Waste Management Plan shall be developed for the Theme Park's operational phase. This plan shall include details of how the following mitigation measures will be implemented together with the arrangements for minimisation, material recovery/recycling, collection, transportation and disposal of various types of waste generated during the operation of the Theme Park.</p> <p>The Waste Management Plan shall be reviewed and updated as necessary, on an annual basis.</p>	To be produced prior to the commencement of operations at the Theme Park, and to be implemented throughout the full operational life-time of the Theme Park	HKITP				✓	<i>Waste Disposal Ordinance</i>
6.7.3	E2	<p>To minimise the potential adverse impacts to aesthetics and odour impacts, the HKITP should maintain floating refuse collection initiatives at both the coast of the Theme Park and within the artificial lake of the Water Recreation Centre.</p> <p><i>Waste Avoidance Measures</i></p>	To be implemented throughout the full operational life-time of the Theme Park	HKITP				✓	<i>Waste Disposal Ordinance</i>
6.7.3	E3	<p>The Theme Park Operator shall implement a waste avoidance programme to minimise the production of waste. The waste avoidance programme may consist of the following components:</p> <ul style="list-style-type: none"> • electronic communications (ie voice mail and email); message boards, routing slips and double-sided copying will be used, as far as practical, to reduce the quantities of paper that otherwise would require disposal at landfill; 	To be developed prior to the commencement of operations at the Theme Park, and to be implemented throughout the full operational life-time of the Theme Park	HKITP				✓	<i>Waste Disposal Ordinance</i>

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		<ul style="list-style-type: none"> worn linens to the maximum extent feasible based upon available markets and third-party recycling facilities be used to make scarves and aprons for cast members; soft drinks to the maximum extent feasible based upon available markets and third-party recycling facilities be served in souvenir cups that are taken home by guests for reuse as opposed to being discarded at the Theme Park as waste, appropriate recycling bins should be set up to recover these cups for reuse or recycling if the visitors choose not to take them home; hamburgers will be wrapped in paper or equally environmentally acceptable material instead of in polystyrene clamshells; unused prepared food will be sent to a food bank, and distributed to the needy, to the maximum extent feasible based upon available markets and third-party recycling facilities; excess water-based paints will be reused as far as practical; plastic drink cup lids will be supplied to guests upon their request when purchasing beverages; fast-food service trays in selected locations will be washed and reused (instead of using disposable cardboard carry-out trays); and souvenir, booklets, dining-ware, etc. which are recyclable should have appropriate instruction and signs printed on the surface; 							

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		<ul style="list-style-type: none"> waste recycling bins for paper, aluminium cans, plastic bottles, etc. should be provided throughout the Theme Park to promote waste separation at source; all products sold in the Theme Park should be packed in minimal amount of packaging materials; pallets made of more durable and reusable materials plastics than wood should be used in transportation of food, drinks, etc; <p>the distribution centre of the Theme Park will utilise reusable shipping containers as far as practical instead of cardboard boxes for internal routing'</p> <ul style="list-style-type: none"> fabric fender instead of tropical hardwood fender should be used at the proposed piers; and the hoarding of the proposed piers should be metal (aluminium, alloy etc) instead of wood. The distribution centre of the Theme Park will utilise reusable plastic shipping containers as far as practical instead of cardboard boxes for internal routing. <p><i>Materials Recovery and Recycling Programme</i> The Theme Park Operator shall implement a Materials Recovery and Recycling Programme which shall include the following aspects:</p>							

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6.7.3	E4	<i>Papers:</i> Recycling bins will be provided at shops and food service locations to collect cardboard containers. Personnel in every office will be provided with individual bins to recycle office paper. Large containers for recycling paper will be placed next to photocopy machines. The collected paper will be transported to RCPs at the back of house for sorting and baling.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
6.7.3	E5	<i>Glass Bottles and Glass Jars:</i> Recycling bins will be placed in the service areas next to the restaurants. The collected glass bottles and jars will be transported to the RCP for processing and recycling.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
6.7.3	E6	<i>Aluminium Cans:</i> Aluminium can recycling bins will be placed at all break areas and pantries. The collected aluminium cans will be transferred to the RCP for baling.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
6.7.3	E7	<i>Plastics:</i> The Theme Park will implement a source separating programme for polyethylene terephthalate (PET), high-density and low-density polyethylene (HDPE & LDPE). The PET and HDPE bottles collected will be transferred to the RCPs for collection by the recyclers. LDPE will also be recycled. Shrink wrap will be recovered and delivered to the RCPs. Once sufficient material is accumulated to fill a truck, the recycler will be called in to collect the material. The recycling programme may extend to cover other types of plastics or to recycle mixed plastic if the technology is available to make the plastic recycling programme more efficient and cost-effective.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>

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6.7.3	E8	<i>Kitchen Grease:</i> Should there be a market for kitchen grease in Hong Kong, the Theme Park Operator will consider establishing a kitchen grease recycling programme in Hong Kong.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
6.7.3	E9	<i>Scrap Metal:</i> Scrap metal will be generated and separated at the machine, welding, automotive and sheet metal shops. Scrap metal will also be collected, when feasible, on construction and demolition and rehabilitation projects. Scrap metal will be placed in roll on/off containers. Once the containers is full, the recycler will be called in to remove the loaded container and return an empty one.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
6.7.3	E10	<i>Laser Printer Toner Cartridges:</i> The Theme Park will make arrangements with the toner cartridge suppliers to collect and recycle all the used toner cartridges for laser printers and avoid disposal of the cartridges at the WENT landfill as far as practical.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
6.7.3	E11	<i>Green Waste:</i> As the handling capacity of the existing Sha Ling composting facility is limited (about 15 to 20 tpd) and is unlikely to be able to handle the additional green waste generated from the Theme Park. Should there be a market or facility which could process the green waste arising from the Theme Park, HKITP will consider establishing a recycling programme for green waste.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>

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6.7.3	E12	<i>Scrap Lumber:</i> Broken pallets, wooden scrap and lumber from demolition projects will be collected and recycled as far as practical. Currently, there is a market for scrap lumber and it is anticipated that the scrap lumber generated from the Theme Park could be adsorbed by the local market.	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
6.7.3	E13	<i>Asphalt:</i> The Theme Park will require contractors to reuse and recycle as much as practical of the used asphalt generated from the construction and rehabilitation of asphalt roadways and parking lots. Any surplus used asphalt will be delivered to public filling facilities instead of landfill. <i>Chemical Waste</i>	To be implemented throughout the full operational life-time of the Theme Park	HKITP			✓		<i>Waste Disposal Ordinance</i>
6.7.3	E14	Wherever practicable, processes which generate reduced quantities or no chemical waste, or less dangerous types of chemical waste, shall be used.	To be implemented prior to and throughout the full operational life-time of the Theme Park	Detailed Design Engineers and HKITP	✓		✓		<i>Waste Disposal Ordinance</i> <i>Waste Disposal (Chemical Waste) (General) Regulation</i>
6.7.3	E15	Containers used for storage of chemical wastes shall: <ul style="list-style-type: none"> • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. 	To be implemented prior to and throughout the full operational life-time of the Theme Park	Detailed Design Engineers and HKITP	✓		✓		<i>Waste Disposal Ordinance</i> <i>Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i> <i>Waste Disposal (Chemical Waste) (General) Regulation</i>

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6.7.3	E16	<p>The storage area for chemical wastes should be :</p> <ul style="list-style-type: none"> • by clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • 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; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and • be arranged so that incompatible materials are adequately separated. 	To be implemented prior to and throughout the full operational life-time of the Theme Park	Detailed Design Engineers and HKITP	✓	✓	✓		<p><i>Waste Disposal Ordinance</i> <i>Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i> <i>Waste Disposal (Chemical Waste) (General) Regulation</i></p>
6.7.3	E17	<p>Disposal of chemical waste shall:</p> <ul style="list-style-type: none"> • be via a licensed waste collector; • be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or • be to a re-user of the waste, under approval from the EPD. 	To be implemented prior to and throughout the full operational life-time of the Theme Park	Detailed Design Engineers and HKITP	✓	✓	✓		<p><i>Waste Disposal Ordinance</i> <i>Code of Practice on the Packaging, Handling and Storage of Chemical Wastes</i> <i>Waste Disposal (Chemical Waste) (General) Regulation</i></p>

Sewage Sludge

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6.7.3	E18	The containment, storage and delivery of the sewage sludge should be enclosed. Odour removal facilities should also be installed to minimise the potential air quality impacts to any sensitive receivers.	To be implemented prior to and throughout the full operational life-time of the Theme Park	Detailed Design Engineers and HKITP	✓		✓		<i>Waste Disposal Ordinance</i>
<i>TERRESTRIAL ECOLOGY - Operational Phase</i>									
7.7.2	F1	Locate Theme Park fireworks launching site as far away from the nesting site as possible. However, it was considered impracticable for the Phase II launching site to be located elsewhere due to the constraints on the Theme Park design pertaining to guest safety. The launch site for the Theme Park Phase I is located approximately 2 km from Pa Tau Kwu.	Within Theme Park prior to and during the fireworks and laser show for the full operational period of the Theme Park	HKITP			✓		-
7.7.2	F2	Avoid directing any laser beams towards the Pa Tau Kwu area.	Within Theme Park prior to and during the fireworks and laser show for the full operational period of the Theme Park	HKITP			✓		-
7.7.2	F3	Fence off the public land access from the Theme Park to prevent human disturbance to the White-bellied Sea Eagle.	North side of the Theme Park close to Pa Tau Kwu secondary woodland, during and throughout the operational period of the Theme Park	HKITP					-
<i>MARINE ECOLOGY AND FISHERIES - Operational Phase</i>									
<i>Marine Ecological Resources: Marine Mammals</i>									
8.10.2	G1	The following mitigation measures shall be implemented to minimize potential operational impacts on dolphins and porpoises:							

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		1. All vessel operators working on the Project shall be given a briefing, alerting them to the possible presence of dolphins and porpoises in the area, and the rules for safe vessel operation around cetaceans. If high speed vessels are used, they shall be required to slow to 10 knots when passing through a high density dolphin area.	During and throughout the operational period of the Theme Park	HKITP			✓	
		2. The vessel operators shall be required to use predefined and regular routes, as these will become known to dolphins and porpoises using these waters;	During and throughout the operational period of the Theme Park	HKITP			✓	
		3. The vessel operators shall be required to control and manage all effluent from vessels;	During and throughout the operational period of the Theme Park	HKITP			✓	
		4. Operation-phase dolphin/porpoise monitoring shall be conducted by a qualified research team, to evaluate whether there have been any effects on the animals. The resulting data should be compatible with, and should be made available for, long-term studies of small cetacean ecology in Hong Kong.	During and throughout the operational period of the Theme Park	HKITP			✓	
		ARCHAEOLOGY AND CULTURAL HERITAGE - Operational Phase						
11.6		Access possibility should be retained for future visitors to the grave sites near Chok Ko Wan	During design	Design Engineer	✓	✓	✓	
		HAZARD - Operational Phase						
		Fireworks Storage, Transport & Display						

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10.1.1	H1	The fireworks store will be constructed in accordance with the requirements specified in the Dangerous Goods Regulations, CAP 295 and any additional requirements as specified by the Commissioner of Mines and the Director of Fire Services. Such requirements include for example, separation distance of 101m to spectator areas within the Theme Park, 101m to buildings and high occupancy sites outside the Theme Park and 50m to public roads and low occupancy areas outside the Theme Park.	During design	Design Engineers and HKITP	✓	✓			-
10.1.1	H2	The fireworks display including mid-level shows, low-level shows and stage shows shall be designed and conducted in accordance with the requirements of NFPA 1123 and 1126. This may include for example, separation distance of 107m from the firing site (for mid-level show) to public areas (both Theme Park visitors and off-site public) and separation distance of 214m from the firing site to other dangerous goods stores. Any additional requirements on fireworks display as specified by the Secretary of Home Affairs, Fire Services Department, Commissioner of the Television and Entertainment Licensing Authority will also be adopted. The specific distances above may vary based on maximum shell size as the distances above assume five inch (125 millimetre) shells.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.3.3	H3	The fireworks will be received at the Theme Park only during night time when the park is closed to the public.	During operation	HKITP				✓	-

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10.3.4	H4	A chain link fence will be installed around the firing site as a ballistic barricade to catch and deflect low trajectory shells (typically less than 15 degrees from horizontal and which have potential to burst near spectators under normal burst times) fired from a disrupted mortar such that they cannot travel towards spectators or members of the public.	During design	Design Engineers and HKITP	✓	✓			-
10.3.4	H5	The launch system (for mid-level display) will be designed such that mortars will remain in upright position following the failure of any given mortar or even otherwise.	During design	Design Engineers and HKITP	✓	✓			-
10.5.2	H6	Identify agencies to be contacted and establish mechanisms for reporting incidents of non-recoverable load in the event of load fall into sea while unloading at the jetty.	During operation	HKITP			✓		-
10.5.2	H7	Mobile phones, walkie-talkies should not be carried by persons handling fireworks.	During operation	HKITP			✓		-
10.5.2	H8	Fireworks store should be kept closed during fireworks display.	During operation	HKITP			✓		-
10.5.2	H9	Ensure igniters are not stored with the bulk of fireworks/pyrotechnics.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.5.2	H10	The site for manipulation of fireworks need to be identified. The site shall be located at adequate safety distance from the store and public areas.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.5.2	H11	Procedures to be developed to minimise unnecessary handling/sorting of products for fireworks show inside the store. This should include adequate labelling of both outer packaging and product to aid easy identification.	During operation	HKITP			✓		-

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10.5.2	H12	If vehicles such as fork lift trucks are used for transfer of goods from store to pre-rigging area or display site, it should meet appropriate specifications as identified by the Division of Mines. When feasible, forklifts shall operate in reverse when carrying fireworks.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.5.2	H13	The maximum height of typical 4" and 5" shells could be 150 m and 175 m respectively. The 4" and 5" shells for this display site should be designed specifically to meet performance requirements (ie, maximum burst height of 100m).	During operation	HKITP			✓		-
10.5.2	H14	Disney's vendor supply of 4" and 5" shells must ensure items destined for other Disney locations are not delivered by error to this site unless conforming to requirements of this site.	During operation	HKITP			✓		-
10.5.2	H15	Procedures to be developed if trailers are to be used for mortar installation.	During operation	HKITP			✓		-
10.5.2	H16	Any mechanical system designed for varying mortar orientation should be such that it does not result in mortars orientated towards spectators.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.5.2	H17	Use of permanently installed mortars or other similar or safer alternatives to be considered.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.5.2	H18	Design and position of fence to ensure containment of low trajectory shells towards spectators as well as road (off-site).	During design and operation	Design Engineers and HKITP	✓		✓		-
10.5.2	H19	The weather conditions under which fireworks display need to be moderated should be identified in procedures based on site layout and weather data. The procedures should also identify persons responsible for making such decisions.	During operation	HKITP			✓		-

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10.5.2	H20	Procedures for safe handling and disposal of unfired and misfired items to be developed.	During operation	HKITP			✓	-
10.5.2	H21	Procedures to be established for sweeping site after display.	During operation	HKITP			✓	-
10.5.3	H22	Separation distances as specified in NFPA 1123 and 1126 for 'other fireworks items' (ie, other than aerial shells) used for mid-level, low-level and stage shows will be adopted .	During operation	HKITP			✓	-
10.5.3	H23	Members of the audience will not be invited on stage during the course of discharge of fireworks or pyrotechnics .	During operation	HKITP			✓	-
10.10	H24	An optimisation study will be carried out during design to achieve the required safety distances and also examine the possibility of providing further separation distances from public areas where feasible and practicable.	During design	Design Engineers and HKITP	✓	✓		-
10.10	H25	Quality control measures to ensure that offspec. fireworks items are not received/used at displays/shows.	During operation	HKITP			✓	-
10.3.5	H26	<i>Sodium Hypochlorite Storage, Transport & Use</i> Storage tanks for sodium hypochlorite and hydrochloric acid will be built in separate areas of the Theme Park to avoid any interaction effects between the two chemicals. There will be no piping or other interconnection between the two systems.	During design	Design Engineers and HKITP	✓	✓		-
10.3.5	H27	The tanks, connecting hoses and tanker contents for both hypochlorite and acid will be clearly labelled . This will include appropriate colour coding of the tanks and connecting hoses , danger signs and safety notices . Also, the labels will be such that it is clearly visible to the delivery personnel .	During design and operation	<i>Design Engineers and HKITP</i>	✓		✓	-

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10.3.5	H28	Clear procedural controls for tank filling and unloading will be developed. This will include clear role and responsibility description of the contractor and work site personnel.	During operation	HKITP			✓		-
10.3.5	H29	Work site personnel will be present at the tank area to receive the tanker, check tank/tanker labels, check the transport documents carried by driver, check sample for pH and only then authorise the driver to unload the contents. The work site personnel will be present throughout the unloading operation and until it is completed and the tanker leaves the tank area.	During operation	HKITP			✓		-
10.3.5	H30	The chemical suppliers Safety Management System will be assessed and audited periodically by the Theme Park Operator to ensure that procedures for supply are adequate and are being followed.	During operation	HKITP			✓		-
10.3.5	H31	The pH of hypochlorite solution will be at least 11. Acid pH will be around 3 or less. Operating procedures will include checking of pH of tanker contents by site personnel before it is transferred into the storage tank.	During operation	HKITP			✓		-
10.3.5	H32	Training will be provided to the staff in-charge of unloading operation. Clear competency specifications will be outlined for the personnel.	During operation	HKITP			✓		-
10.3.5	H33	Acid or hypochlorite will be received at the Theme park only during night time when the Park is closed to the public.	During operation	HKITP			✓		-

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10.9.1	H34	Since deliveries will be made during the night, adequate lighting will be provided for proper identification of the labels on the storage tank and the road tanker and also for identification of road signs leading to the appropriate storage area.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.3.5	H35	The hypochlorite and acid tanks will be located in a fenced area with a locked gate. The loading point for both the tanks will also be secured such that tanker driver cannot start unloading without authorisation and presence of site personnel.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.3.5	H36	Vent/overflow line from the hypochlorite and acid tanks will be visible from the off-loading point to the operator/driver.	During design and operation	Design Engineers and HKITP	✓		✓		-
10.6.4	H37	The hose connections will be designed specifically for acid and hypochlorite unloading (such as type and size of coupling and size of hose) such that an acid tanker cannot be connected to the hypochlorite unloading point and similarly, a hypochlorite tanker cannot be connected to the acid unloading point.	During design	Design Engineers and HKITP	✓				-
10.3.5	H38	Chlorine gas detectors will be installed around the hypochlorite and acid tank and near the tank vent with alarm annunciation at the tank area and in the central control centre or other appropriate manned location within the Theme Park. Operator will stop transfer operations immediately upon receiving alarm. <i>Fireworks - Further Mitigation Measures</i>	During design and operation	Design Engineers and HKITP	✓		✓		-
10.10.2	H39	Increase separation distances from the firing site to spectators. Ideally, separation distances should exceed the maximum range for aerial shells	During design	Design Engineers	✓				-

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10.10.2	H40	Optimise fence design (i.e. fence height, fence location with respect to mortars and spectators and physical configuration) to contain shell trajectory at all mortar angles (due to accidental disruption of mortars) that could potentially reach the spectator area.	During design	Design Engineers	✓				
10.10.3	H41	Increase separation distances from the firing site to road.	During design	Design Engineers	✓				
10.10.3	H42	Partial cover above the road section (Resort Road) in the vicinity of the firing area to stop shells from falling on the road.	During design	Design Engineers	✓				
10.10.3	H43	Install road warning signs on Resort Road to warn road users about potential fireworks debris/unfired items landing on road during a fireworks display.	During Operation	HKITP				✓	
10.10.3	H44	Employ a survey team to survey the roads (East Resort and West Resort Roads) during and immediately after the show to identify any “dud” shell (i.e., unfired item) that may have landed on the road.	During Operation	HKITP				✓	
10.10.3	H45	Ensure that road users/others do not stop along the road to watch fireworks display	During Operation	HKITP				✓	
10.10.3	H46	Impose low speed limits (on East and West Resort Roads) to enable road users to take evasive action and thereby avoid running over ‘dud’ shells. This also requires that adequate lighting is provided along the road	During Operation	HKITP				✓	
10.10.3	H47	Close the Resort Road during fireworks display and until a survey team has surveyed the road for ‘dud shells’ (i.e., unfired item) immediately after the display	During Operation	HKITP				✓	
10.10.4	H48	The driver transporting the fireworks should be suitably qualified and trained.	During Operation	HKITP				✓	

EIA* Ref.	EM& A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
10.10.4	H49	Close the Resort road to public during fireworks delivery. .	During Operation	HKITP			✓		
10.10.5	H50	The distance from the road (the road from the landing site to the Resort Road) to the hotel building (at the south west corner of the development) should be increased as far as practicable	During Design	Design Engineers	✓				
10.10.5	H51	The window area towards the road should be minimised as far as practicable and where provided, should use toughened glass.	During Design	Design Engineers	✓				
10.10.5	H52	Structures vulnerable to blast fragmentation such as a wall, trees etc. between the road and the hotel building should be avoided as far as practicable to minimise the potential for missile generation.	During Design	Design Engineers	✓				
10.10.5	H53	Large congregation areas in the hotel development site towards the road should be avoided as far as practicable..	During Design	Design Engineers	✓				
10.10.5	H54	Tolerant uses such as utility areas, with no windows may be located towards the road...	During Design	Design Engineers	✓				
10.10.5	H55	The road adjoining the hotel development (i.e. from landing site to Resort Road) to be designed as 'works' road, i.e. used only for transport of goods to the Theme Park and not a public road. This will reduce the potential for road accidents due to other road vehicles.	During Design	Design Engineers	✓				
10.10.5	H56	Reduce transport load (i.e., from 4 te NEQ to say, 2te). Although this will increase the frequency of delivery (and therefore the frequency of incident), the damage potential will be reduced. <i>Sodium Hypochlorite - Further Mitigation Measures</i>	During Design	Design Engineers	✓				

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					Des	C	O	Dec	
10.10.7	H57	Use of dual tanks and development of procedures to ensure that the road tanker is unloaded only into a near empty tank. This will reduce the potential for chlorine release even if accidental mixing occurs. However, there is still the potential for operator error in unloading into a full tank	During Operation	HKITP			✓		
10.10.7	H58	Install a shutdown valve on the unloading line (on the tank side) with provision for automatic shutdown by chlorine gas detectors	During Design	Design Engineers	✓				
10.10.7	H59	Reduction in number of deliveries. This will require an increase in storage quantity. Storage of hypochlorite for prolonged time periods however, results in decomposition and loss of strength over time and may not be desirable and therefore not considered further.	During Design	Design Engineers	✓				
10.10.7	H60	Optimise usage of sodium hypochlorite such that water quality objectives can be met by minimum dosage.	During Design and Operation	Design Engineers and HKITP	✓		✓		
10.10.7	H61	Optimise location of sodium hypochlorite store and acid store with a view to maximise separation distances to public areas.	During Design	Design Engineers	✓				
<i>CONTAMINATED LAND - Operational Phase</i>									
<i>Not applicable</i>									
<i>LANDSCAPE AND VISUAL - Operational Phase</i>									
12.5.27	II	Temporary landscape berm	At area east of the Central pedestrian walkway for duration of Phase 2 construction period	CED CED/LCSD	✓		✓		✓

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
EM&A REQUIREMENTS - <i>Operational Phase</i>									
3.7	J1	<p>Air Quality</p> <p>Subject to the Environmental Protection Department's (EPD's) agreement, operational phase air quality monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 5 of the EM&A Manual.</p> <ul style="list-style-type: none"> • ASR2-Roof Top of Police Station at the Entrance of Theme Park • ASR3-Roof Top of Resort at Theme Park 	At specified dust monitoring locations throughout the duration of the operational phase	To be undertaken by HKITP's Air Quality Monitoring Team			✓		Air Pollution Control (Construction Dust) Regulations
4.9	J2	<p>Construction Noise</p> <p>Subject to the Environmental Protection Department's (EPD's) agreement, operational phase noise monitoring shall be undertaken at the following locations in accordance with the recommendations detailed in Section 5 of the EM&A Manual.</p> <ul style="list-style-type: none"> • NM1-Sea Crest Villa, Peng Chau • NM2-Crestmont Villa, Discovery Bay <p><i>Terrestrial Ecology</i></p> <p>White-bellied Sea Eagle</p>	At specified noise monitoring locations throughout the duration of the operational phase	To be undertaken by HKITP's Noise Monitoring Team			✓		Noise Control Ordinance (NCO)

EIA* Ref.	EM&A Log Ref	Environmental Protection Measures	Location/Duration of Measures/Timing of Completion of Measures	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
					Des	C	O	Dec	
7.9	J3	Subject to the EPD's agreement, operational phase monitoring of the White-bellied Sea Eagle shall be undertaken in accordance with the recommendations of Section 9 of the EM&A Manual	The operational phase impact monitoring shall be commenced upon the opening of the Theme Park . During the operation of Theme Park Phase I and Phase II, field surveys should be undertaken twice per month during periods of breeding activity for a period of two years. At other times of the year (outside of periods of breeding activity) the field surveys should be undertaken once per month.	To be undertaken by an avian specialist (with at least 3 years experience) employed by HKITP		✓			
5.13.1	J4	<i>Marine Ecology</i> Subject to the Environmental Protection Department's (EPD's) agreement, operational phase monitoring of the dolphin/porpoise population shall be conducted by a qualified research team in accordance with the recommendations of Section 10 of the EM&A Manual .	Throughout the operation of the Theme Park, whenever there is the potential to affect dolphin/porpoise populations	Qualified research team employed by HKITP				✓	

* Des = Design, C = Construction, O = Operation, Dec = Decommissioning