

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

Note: Chapters 1 to 2 of the EIA report present the background information of the Project, objectives and scope for various environmental aspects, and description on alternative options and construction description. Chapters 3 to 11 of the EIA report present the EIA findings and mitigation measures are described below with cross-reference to the EIA report. Chapters 12 to 14 describe the environmental monitoring requirements, summary of environmental outcomes and conclusion.

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
<i>Construction Air Quality Impact</i>							
S3.4.4	A1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • APCO • To control the dust impact to meet HKAQO and EIAO-TM criteria
S3.4.4	A2	<p>The following dust suppression measures/practices should be incorporated to control the dust nuisance throughout the construction phase:</p> <ul style="list-style-type: none"> • Spray water regularly as required at the surrounding pier area, access and working barges. • Cover or shelter any stockpile of dusty materials on working barges. • Cover any dusty load by impervious sheeting on the construction barges during delivery and before they leave the site. 	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • APCO • To control the dust impact to meet HKAQO and EIAO-TM criteria
S3.4.4	A3	Powered Mechanical Equipment (PME) used in the construction site should be registered under Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation with the NRMM label displayed at a conspicuous position of the registered item.	Minimise the air pollution impact from the PME on the nearby sensitive receivers	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S3.4.4	A4	Routing of barges should be as far away from the identified ASRs as practicable.	Minimise the air pollution impact from the barges on the nearby sensitive receivers	Contractor	All construction sites	Construction stage	-
S3.4.4	A5	The number of boat trips should be minimised as far as practicable by appropriate planning.	Maximise the utilisation of each trip traveling to and from the nearest pier in other district and the Project site	Contractor	All construction sites	Construction stage	-
<i>Operational Air Quality Phase</i>							
S3.5.4	A6	No significant air quality impact is anticipated during the operational phase, mitigation measures are therefore not required.	-	-	-	-	-

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
Construction Noise							
S4.4.3	N1	<p>The following good site practice and noise management techniques should be practised during each phase of construction:</p> <ul style="list-style-type: none"> • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme. • Machines and plant (such as crane and generator) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. • Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby Noise Sensitive Receivers (NSRs). • Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works. • Mobile plant should be sited as far away from NSRs as possible and practicable. • Material stockpiles, site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 	Minimise noise impact from construction site activities	Contractor	All construction sites	Construction stage	• EIAO-TM
S4.4.3	N2	Use of quality powered mechanical equipment.	Minimise the noise levels of construction plants	Contractor	All construction sites	Construction stage	• EIAO-TM
S4.4.3	N3	Use of temporary noise barriers to screen noise from relatively static powered mechanical equipment.	Minimise the construction noise levels through screening	Contractor	All construction sites	Construction stage	• EIAO-TM

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S4.4.3	N4	Alternative use of plant items within one worksite, wherever practicable.	Operate sequentially within the same work site to reduce the construction noise	Contractor	All construction sites	Construction stage	• EIAO-TM
<i>Operational Noise</i>							
S4.5	N5	No noise impact is anticipated during the operational phase, mitigation measures are therefore not required.	-	-	-	-	-

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
<i>Water Quality (Construction Phase)</i>							
S5.6	W1	Water Quality Monitoring	Ensure the water quality of the marine park during construction	Environmental Team	Selected locations in EM&A Manual	Construction stage	<ul style="list-style-type: none"> EIAO-TM WPCO
S5.4.4	W2	<p><u>Working in Marine Park</u></p> <p>For any works in the marine park, the following good site practices and mitigation measures shall be followed:</p> <ul style="list-style-type: none"> Observe and obey the guidelines stipulated under the Marine Parks Ordinance (Cap. 476) and the Marine Parks and Marine Reserves Regulation (Cap. 476A); The power-driven vessel shall not exceed a speed of 10 knots at any time inside the marine park; Restrict anchor or moor except under and in accordance with a permit or at mooring sites provided by the Authority; Obstruct the pollution of the water body or discharge of waste; and Restrict the collection of any marine life and resources in or from the marine park. 	Minimise water quality and ecological impact during working in marine park	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Marine Parks Ordinance Marine Parks and Marine Reserves Regulation
S5.4.4	W3	<p><u>Marine-based Site Investigation Works</u></p> <p>A number of good practices and mitigation measures are recommended for site investigation works are given as below:</p>	Minimise water quality impact from site investigation works	Contractor	All SI sites	Construction stage	<ul style="list-style-type: none"> WPCO

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<ul style="list-style-type: none"> • Before commencement of drilling works, all drill rig, circulation tank and equipment shall be thoroughly cleaned off-site; • Throughout the drilling process, seawater shall be used for flushing medium and no lubricant, hydraulic fluid or other additives shall be introduced; • The drilling fluid shall be circulated within the system through the circulation tank, where the recycled fluid with small amount of sediment shall be settled and collected in the tank; • Prior to actual sampling, an outer casing shall be placed on the seabed level to avoid the spillage of sediment and water containing SS; • After the completion of sampling work, casing shall be cleaned by the recycled water and collected back to the circulation tank. The inner and outer casing shall then be extracted slowly to the barge deck and the sediment collected in the tank during the drilling process shall be delivered to the depot of the Contractor; • Final disposal of the drilling fluid should be discharged offsite and outside the Country Park, Marine Park, SSSI and other WSRs with a valid discharge license under the WPCO with the provision of silt removal facilities, or to the depot of the Contractor; and • To ensure all geotechnical and environmental samples will be collected within the casing without any contact with the surrounding waterbodies. 					
S5.4.4	W4	<u>Marine-based Foundation Works</u>	Minimise water quality impact from foundation	Contractor	All construction	Construction stage	• WPCO

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<p><i>Pre-drilling works</i></p> <ul style="list-style-type: none"> • Good site practices and mitigation measures shall be referred to that of marine-based Site Investigation Works (see W2) <p><i>Pile construction works</i></p> <p>A number of good practices are recommended for foundation works are given as below:</p> <ul style="list-style-type: none"> • Silt curtains should be deployed to surround active marine works areas prior to starting marine-based foundation works of water quality impact. The Contractor shall prepare a Silt Curtain Deployment Plan to the approval of EPD prior to the commencement of works to ensure the implementation of the silt curtains would be effective and compatible with the aquatic environment (e.g. considering the tidal effect, wind and current speed, etc.). They should only be removed when all marine-based works are completed. • Pile casing should be used for the construction of foundations; • Excavation should only be conducted inside pile casing. Only one grab should be used for excavation at the same time; • All vessels deployed should have adequate clearance from the seabed at all tide levels to ensure no undue turbidity is generated from propeller wash; • There should only be 1-2 piles to be constructed at the same time; • Drilling fluid in the pile casing should be continuously pumped out to the circulation tanks on the barge to avoid muddy water overflown from the casing to the sea 	works		sites		

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<p>directly. The circulation tanks shall be provided with adequate capacity to avoid if any overflow of drilling fluid;</p> <ul style="list-style-type: none"> The drilling fluid shall be circulated within the system through the circulation tank, where the recycled fluid with small amount of sediment shall be settled and collected in the tank; and Final disposal of the drilling fluid should be discharged offsite and outside the Country Park, Marine Park, SSSI and other WSRs with a valid discharge license under the WPCO with the provision of silt removal facilities, or to the depot of the Contractor. 					
S5.4.4	W5	<p><u>Above-water Construction Works</u></p> <p>A number of mitigation measures are proposed for above-water construction works:</p> <ul style="list-style-type: none"> Prefabrication method should first be considered when designing superstructures. If in-situ concrete casting is required, formworks should be designed to be water-tight and concrete should be poured into the formwork slowly and evenly. Silt curtain will also be deployed to surround the waters where the construction works take place above to control any residual release. 	Minimise water quality impact from above-water construction works	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> WPCO
S5.4.4	W6	<p><u>Site Run-off from General Site Operation</u></p> <p>To reduce the potential water quality impact due to construction site runoff, the following good site practices in accordance to Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94) should be</p>	Minimise water quality impact from construction site runoff, soil erosion and general construction activities	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> WPCO ProPECC PN1/94 EIAO-TM

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<p>implemented to avoid potential adverse water quality impacts:</p> <ul style="list-style-type: none"> • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction. • Schedule construction works to minimise surface construction works during the rainy seasons (April to September). • Inspect and maintain all drainage facilities and erosion and sediment control structures regularly to ensure proper and efficient operation at all times and particularly following rainstorms. • Cover all construction materials at temporary storage area with tarpaulin or similar fabric during rainstorms and implementation of measures to prevent the washing away of construction materials, soil, silt or debris into any drainage system. • Cover manholes (including newly constructed ones), if any, adequately and seal temporarily to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Take precautions at any time of year when rainstorms are likely. The actions to be taken based on the guidelines in Appendix A2 of ProPECC PN 1/94. • Collect, handle and dispose construction solid waste, debris and rubbish on site to avoid water quality impacts. 					<ul style="list-style-type: none"> • TM-DSS

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<ul style="list-style-type: none"> Provide locks for all fuel tanks and storage areas and locate on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the water bodies, marsh and ponds. 					
S5.4.4	W7	<p><u>Accidental Spillage of Chemicals</u></p> <p>To reduce the potential water quality impact due to accidental spillage of chemicals, the following mitigation measures should be implemented to avoid potential adverse water quality impacts:</p> <ul style="list-style-type: none"> Properly store and contain the chemicals used during construction, such as fuel, oil, solvents and lubricants in a designated area with secondary containment to prevent spillage and contamination of the nearby water environment. Preferably carry out any maintenance activities and workshops with chemicals use outside the Project site given the advantage that machineries located on barges can be easily re-located. The Contractor shall register as a chemical waste producer and employ licensed collector for collection of chemical waste from the construction site. Any chemical waste generated shall be managed in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. 	To minimise water quality impact from accidental spillage of chemicals	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> WPCO TM-DSS WDO

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<ul style="list-style-type: none"> The Contractor shall prepare an Emergency Spillage Plan to detail the responses in case of spillage. 					
S5.4.4	W8	<p><u>Sewage from workforce</u></p> <p>To mitigate the water quality impacts of sewage arising from the on-site construction workers, the following measures should be implemented:</p> <ul style="list-style-type: none"> Provide temporary sanitary facilities, e.g. portable chemical toilets and sewage holding tanks with adequate capacity to collect the sewage. Post notices at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment during the construction phase of the Project. 	To minimise water quality impact from sewage from workforce	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> WPCO TM-DSS
Water Quality (Operational Phase)							
S5.5.3	W9	No water quality impact is anticipated during the normal operation of the pier, mitigation measures are therefore not required.	To minimise water quality impact from maintenance dredging	Contractor	The dredged area	Operational stage	<ul style="list-style-type: none"> WPCO

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
<i>Waste Management (Construction Phase)</i>							
S6.3.7	WM1	<p><u>Good Site Practices</u></p> <p>The following good site practices are recommended throughout the construction activities:</p> <ul style="list-style-type: none"> • Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. • Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling. • Provision of sufficient waste disposal points and regular collection for disposal. • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering barges or by transporting wastes in enclosed containers. • Prepare an Environmental Management Plan (EMP), which includes a Waste Management Plan, in accordance with the requirements set out in the ETWB TC(W) 19/2005 Environmental Management on Construction Site, which include the mitigation measures proposed in the EIA and EM&A Manual, and submit to the Engineer for approval. 	Ensure proper waste management system throughout the construction	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • WDO • ETWB TC(W) 19/2005

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S6.3.7	WM2	<p><u>Waste Reduction Measures</u></p> <p>Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction:</p> <ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal. • Proper storage and site practices to minimise the potential for damage and contamination of construction materials. • Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. • Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.) • Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling. 	Reduce waste generation	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • WDO • TM-EIAO
S6.3.7	WM3	<p><u>Storage, Collection and Transportation of Waste</u></p> <p>The following recommendation should be implemented to minimise the impacts from storage, collection and transportation of waste:</p> <ul style="list-style-type: none"> • Non-inert C&D materials should be handled and stored well to ensure secure containment of the materials. • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away. 	Minimise impact to the environment due to storage, collection and transport of waste	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • WDO • Land (Miscellaneous Provisions) Ordinance

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<ul style="list-style-type: none"> • Different locations on barges should be designated to stockpile each material to enhance reuse. • Remove waste in timely manner. • Employ the vessels with cover or enclosed containers for waste transportation. • Obtain relevant waste disposal permits from the appropriate authorities. • Disposal of waste should be done at licensed waste disposal facilities. 					
S6.3.7	WM4	<p><u>C&D Materials</u></p> <p>Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public fill reception facilities areas or reclamation sites. The following mitigation measures should be implemented in handling the C&D materials:</p> <ul style="list-style-type: none"> • Carry out on-site sorting. • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate. • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials is properly documented and verified. <p>The recommended C&D materials handling should include:</p> <ul style="list-style-type: none"> • On-site sorting of C&D materials. • Reuse of C&D materials. 	Minimise waste impacts from C&D materials	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • WDO • TM-EIAO • Land (Miscellaneous Provisions) Ordinance • WBTC No. 12/2002 • ETWB TC(W) 19/2005 • DEVB TCW No. 6/2010

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S6.3.7	WM5	<p><u>Specification of Inert C&D Materials to be Disposed of Off-site</u></p> <p>In case there are surplus inert C&D materials generated in the Project and are required to be disposed of at the public fill reception facilities, the inert C&D materials should fulfil the following requirements:</p> <ul style="list-style-type: none"> • Reclaimed asphalt pavement will not be mixed with other materials when delivered to the public fill reception facilities. • Moisture content of inert C&D materials will be lowered to 25% max. when delivered to the public fill reception facilities. • Inert C&D materials delivered to the public fill reception facilities should be a size less than 250mm. • Inert construction waste shall not be in liquid form such that it can be contained and delivered by water-tight containers. Inert C&D materials in liquid form shall be solidified before delivering to the public fill reception facilities. <p>The acceptance criteria of inert C&D materials to public fill reception facilities are subject to the fill management authority of CEDD.</p>	Reduce waste generation	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • WBTC No. 2/93B • WBTC No. 16/96 • WBTC Nos. 4/98 and 4/98A • WBTC No. 12/2000 • WBTC No. 12/2002 • DEVB TCW No. 9/2011
S6.3.7	WM6	<p><u>Use of Standard Formwork and Planning of Construction Materials purchasing</u></p> <ul style="list-style-type: none"> • Standard formwork should also be used as far as practicable to minimise the arising of non-inert C&D materials. 	Reduce waste generation	Contractor	All construction sites	Construction stage	• N/A

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<ul style="list-style-type: none"> Use of more durable formwork (e.g. metal hoarding) or plastic facing should be encouraged in order to enhance the possibility of recycling. Purchasing of construction materials should be carefully planned in order to avoid over ordering and wastage. 					
S6.3.7	WM7	<p><u>General Refuse</u></p> <ul style="list-style-type: none"> General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean. A waste collector should be employed to remove general refuse on a daily basis. Future contractor will be required to collect floating refuse within the Project site regularly. 	Minimise production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> WDO PHMSO ETWB TCW No. 22/2003 & 22/2003A DEVB TCW No. 8/2010
S6.3.7	WM8	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> Reduce the generation quantities or select a chemical type of less impact on environment, health and safety as far as possible. If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producer. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste collector. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate 	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> Waste Disposal (Chemical Waste) (General) Regulation

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<p>facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>					<ul style="list-style-type: none"> • Code of Practice on the Packaging, Labelling and Storage of Chemical Waste • A Guide to the Chemical Waste Control Scheme (2016) • A Guide to the Registration of Chemical Waste Producers (2016)
S6.3.7	WM9	<p><u>Marine Sediment</u></p> <p>The following good management practices for handling and disposal of marine sediments at dedicated marine disposal sites should be implemented:</p> <ul style="list-style-type: none"> • All construction plant and equipment shall be designed and maintained to minimise the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location. • All vessels shall be sized such that adequate draft is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash. 	Minimise impact caused by transportation and disposal of marine sediment	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • ETWB TCW No. 34/2002

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		<ul style="list-style-type: none"> • Before moving the vessels which are used for transporting marine sediment, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations. • Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action. • The Contractors shall monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The Contractor shall keep and produce logs and other records to demonstrate compliance and that journeys are consistent with designated locations and copies of such records shall be submitted to the Engineers. • The Contractors shall comply with the conditions in the dumping licence. • All bottom dumping vessels (hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material. • The material shall be placed into the disposal pit by bottom dumping. • Contaminated marine mud shall be transported by split barge of not less than 750m³ capacity and capable of rapid opening and discharge at the disposal site. • Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Material adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site. 					

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
<i>Waste Management (Operational Phase)</i>							
S6.4.3	WM10	<u>General Refuse</u> <ul style="list-style-type: none"> • Sufficient number of trash bins and recycling bins have already been provided for the collection of general refuse generated by visitors and pier users along the existing footpath to Lai Chi Wo. No bin will be provided as no general refuse is anticipated by the Project during the operational phase. • Nevertheless, recycling containers are recommended to be provided at suitable locations to encourage recycling of waste such as aluminium cans and plastics. 	Minimise production of the general refuse and avoid odour, pest and litter impacts	Operator	The Project Site	Operational stage	• WDO

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
<i>Land Contamination</i>							
S7.5	LC1	No land contamination is anticipated, mitigation measures are therefore not required.	-	-	-	-	-

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
<i>Ecology (Construction Phase)</i>							
S8.9	E1	Seagrass monitoring	To monitor the health of seagrass bed in the vicinity of the Project	Design Team / Contractor / Ecologist	Seagrass bed in LCW Beach SSSI	Construction phase and operational phase	AFCD and Contractual requirement
S8.6.3	E2	Pre-construction dive survey	To verify the conditions of the small coral colonies on the existing LCW pier before any construction works	Design Team / Contractor / Ecologist	Marine works area	Prior to construction phase	AFCD and Contractual requirement
S8.6.2	E3	Preparation of Emergency Spillage Plan	To prevent or duce risks to sensitive receivers	Contractor	Marine works area / marine habitats	Construction phase	Contractual requirement
S8.6.2	E4	Adoption of piling method	To minimize seabed loss and reduce the water quality impact	Design Team / Contractor	Marine works area	Design phase and construction phase	WQO
S8.6.2	E5	Adoption of silt curtain	To confine the sediment to prevent the release of muddy water	Contractor	Marine works area	Construction phase	WQO
S8.6.2	E6	Treatment of wastewater from the grouting of piles before discharging offsite	To protect the water quality	Contractor	Marine works area	Construction phase	WQO / WPCO
S8.6.2	E7	No dumping policy	To protect marine habitats	Contractor	Marine works area / marine habitats	Construction phase	Contractual requirement

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S8.6.2	E8	Good site practices for water quality	To protect the water quality	Design Team / Contractor	Marine works area	Construction phase	WQO
<i>Ecology (Operational phase)</i>							
S8.6.1	E9	Lighting in the new pier head should be kept to minimal.	To minimize the effect of light on wildlife	Design Team / Contractor	New pier head	Design phase and construction phase	N/A
S8.6.3	E10	Priority using eco-tiles or eco-concrete for the surface of the foundation to promote seamless integration of biodiversity into the pier design	To enhance biodiversity of the site	Design Team / Contractor	Pier structure	Design phase and construction phase	N/A

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location	Implementation Stage	Requirements and / or standards to be achieved
<i>Landscape (Construction Phase)</i>							
S9.9.1	CM1	Minimise construction area	To minimise the footprint of the improved pier so as to minimise the potential landscape and visual impact	Project Architect/ Landscape Architects (Detailed Design Consultant)/ Contractor	The Project Site	Design and planning stage, construction stage	<ul style="list-style-type: none"> • EIAO-TM • DEVB TCW No. 7/2015 • LAO PN No. 7/2007
S9.9.1	CM2	Install site hoarding	To screen the pedestrian level views into the construction area from visually sensitive receivers	Contractor	The Project Site	Construction stage	<ul style="list-style-type: none"> • EIAO-TM
S9.9.1	CM3	Employ practicable construction techniques to streamline construction programme, minimise the duration of plant operations. Consider prefabrication of building elements offsite to minimise on site works and construction period.	To minimise the duration of construction on-site	Contractor	The Project Site	Construction stage	<ul style="list-style-type: none"> • EIAO-TM
S9.9.1	CM4	Adopt water quality control measures, e.g. avoiding directly discharge into the sea.	To protect the nearby seascape resources and avoid marine ecological impact	Contractor	The Project Site	Construction stage	<ul style="list-style-type: none"> • EIAO-TM
S9.9.1	CM5	Provide a suitable colour scheme of construction machines and plants where practicable	To reduce the visual impact in the presence of construction machine	Contractor	The Project Site	Construction stage	<ul style="list-style-type: none"> • EIAO-TM
S9.9.1	CM6	Control construction day and night-time lighting	To minimise the glare impact	Contractor	The Project Site	Construction stage	<ul style="list-style-type: none"> • EIAO-TM

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location	Implementation Stage	Requirements and / or standards to be achieved
<i>Landscape (Operational Phase)</i>							
S9.9.2	OM1	Sensitive design and disposition of the pier structure should be adopted. The proposed hard structures of the pier should be sensitively designed to become compatible with the existing landscape context. The orientation of the proposed hard structures of the pier should aim at minimising visual intrusion to visually sensitive receivers (VSRs) as far as practicable. Additional lights in the new pier will be kept to as minimal for safety purpose. Night-time lighting of the pier shall also be controlled to minimise glare impact to adjacent VSRs during the operation phase. If solar panels are to be installed as renewable energy source, non-reflective solar panels should be installed to avoid glare from direct or reflected sunlight.	To enhance the visual compatibility to the neighbouring environment	Project Architect/ Landscape Architects (Detailed Design Consultant)/ Contractor	The Project Site	Design and planning stage	• EIAO-TM

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location	Implementation Stage	Requirements and / or standards to be achieved
<i>Fisheries</i>							
S10.7.2	F1	Measures to control water quality impact	Control water quality impact, especially on suspended solid level	Design Team / Contractor	Marine works area	Construction phase	WQO

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
<i>Cultural Heritage (Construction Phase)</i>							
S11.8	CH1	No marine archaeological impact is expected from the construction of the Project, mitigation measures are therefore not required.	-	-	-	-	-
<i>Cultural Heritage (Operational Phase)</i>							
S11.9	CH2	As the Project would not generate or induce any additional cultural heritage impact during the operational phase, mitigation measures are considered not necessary.	-	-	-	-	-

**Environmental Mitigation Implementation Schedule
Pier Improvement at Lai Chi Wo**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
<i>EM&A Project</i>							
S12.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control Performance EM&A	Project Proponent	The Project Site	Construction stage	<ul style="list-style-type: none"> • EIAO Guidance Note No.4/2010 • EIAO-TM
S12.2 – S12.7	EM2	1) An Environmental Team needs to be employed as per the EM&A Manual. 2) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	To ensure compliance of relevant environmental legislation, standards and guidelines	Project Proponent	The Project Site	Construction stage	<ul style="list-style-type: none"> • EIAO Guidance Note No.4/2010 • EIAO-TM