

**Appendix 12.1 Implementation Schedule of Environmental Protection Measures for the Project**

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
				Des	C	Post-C	O	
<b>3. Air Quality</b>								
S3.9.1	<p>Relevant dust control measures stipulated in the Air Pollution Control (Construction Dust) Regulation, and good site practices will be incorporated as the Contract Specifications for implementation throughout the construction period. These include:</p> <p><b>Excavation Material and Stockpiling Areas</b></p> <ul style="list-style-type: none"> <li>• The works area for site clearance and excavation should be sprayed with water before, during and after the operation so as to maintain the entire surface wet.</li> <li>• Restricting heights from which materials are to be dropped, as far as practicable to reduce the fugitive dust arising from unloading/ loading.</li> <li>• Erection of hoarding along the site boundary, where appropriate.</li> <li>• Any stockpile of dusty materials should be covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and four sides.</li> <li>• All dusty materials should be sprayed with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.</li> <li>• Regular maintenance of construction equipment deployed on-site should be conducted to prevent black smoke emission.</li> <li>• Adopt at least 2.4m and higher hoarding height close to the ASRs with short separation distance (2m – 7m).</li> <li>• Avoid dusty works and stockpiling near the ASRs with short separation distance (2m – 7m).</li> </ul>	Whole Site / Construction Phase	Contractor(s)		✓			<p>Air Pollution Control (Construction Dust) Regulation</p> <p>Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation</p>

<sup>(1)</sup> Unless otherwise stated, the reference refers to the relevant section of the EIA Report.

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	<p><b>Transport and Removal of Materials</b></p> <ul style="list-style-type: none"> <li>• Locate the haul road away from those concerned ASRs;</li> <li>• Minimization of unpaved, exposed earth by immediate covering/ permanent paving as soon as the works have been completed.</li> <li>• The travelling speed of vehicles within the site should be controlled to reduce the traffic induced dust dispersion and re-suspension.</li> <li>• Where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials will not leak from the vehicle.</li> <li>• Immediately before leaving a construction site, all vehicles should be washed to remove any dusty materials from the bodies and wheels. However, all spraying of materials and surfaces should avoid excessive water usage.</li> </ul> <p><b>Construction Works within Work Areas</b></p> <ul style="list-style-type: none"> <li>• Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.</li> <li>• All demolished materials that may generate dust should be covered entirely by impervious sheeting or placed in a covered area with the top and three sides enclosed within a day of demolition.</li> <li>• At construction works areas where demolition takes place, water or dust suppression chemicals should be sprayed prior to, during and immediately after the demolition activities to ensure that the top surface remains wet.</li> <li>• Excavated river bed materials that are placed on trucks for disposal should be properly covered during transportation to minimise the release of any potential odour. Odorous river bed material excavated during construction phase should be removed off-site as soon as practicable within 24 hours to avoid any odour nuisance.</li> <li>• Regular maintenance of construction equipment deployed on-site should be conducted to prevent black smoke emission.</li> </ul>							

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	<p>•Connect construction plant and equipment to mains electricity supply and avoid use of diesel generators and diesel-powered equipment as far as practicable to minimize the emission impact from these machineries on nearby residents.</p> <p><b>Site Cleanliness and Tidiness</b></p> <p>• The requirements stipulated in the Works Branch Development Bureau Technical Circular No. 08/2010 Enhanced Specification for Site Cleanliness and Tidiness should be followed as far as practicable to enhance the cleanliness and tidiness of construction sites.</p> <p><b>Control on NRMMS</b></p> <p>• NRMMS should be approved or exempted with a label issued by EPD. The label should be displayed at a conspicuous position of the machine or vehicle. Non-road vehicles are required to meet the emission standards and smoke requirements as stipulated under the Air Pollution Control (Non-road Mobile Machinery)(Emission) Regulation.</p>							
S3.9.2	<p>No mitigation measures are considered necessary during the operation of the Project. In the event that excavated materials are found to be odorous during regular maintenance, the following measures should be implemented:</p> <ul style="list-style-type: none"> <li>• Temporarily stockpile odorous excavated material as far away from ASRs as possible; and</li> <li>• Temporary stockpiles of odorous excavated material should be properly covered with tarpaulin and should be removed off-site as soon as practically possible within 24 hours to avoid any odour nuisance arising.</li> </ul>	Whole Site / Operation Phase	Project Proponent				✓	-
<b>4. Noise</b>								
S4.8.2	<p><i>Good Site Practices</i></p> <p>Good site practices and noise management can considerably reduce the potential</p>	Whole Site / Construction Phase	Contractor(s)		✓			EIAO-TM

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	<p>noise impact of construction activities on nearby NSRs. The noise benefits of these practices can vary according to specific site conditions and operations. Since the effect of the good construction site practices could not be quantified, the mitigated noise levels calculated in the subsequent sections have not taken account of this effect. The following site practices should be followed during the construction of the Project:</p> <ul style="list-style-type: none"> <li>• Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction phase;</li> <li>• Silencers or mufflers on construction equipment will be utilized where required and will be properly maintained during the construction phase;</li> <li>• Mobile plant, if any, will be sited as far away from NSRs as possible;</li> <li>• Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum;</li> <li>• Plant known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and</li> <li>• Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities.</li> </ul>							
S4.8.3	<p><b><i>Use of Quiet PME</i></b></p> <p>The use of quiet PME is considered to be a practicable means to mitigate the construction noise impact. Quiet PME is defined as a PME having actual SWL lower than the value specified in the GW-TM. The total SWL of all plant items to be used on-site at each works area will be specified so that flexibility is allowed for the Contractor to select plant items to suit the construction needs. The Contractor shall select plant items with total SWL equal to or lower than the total SWL specified in the plant inventory in Appendix 4.5 in order to meet the relevant noise criteria.</p>	Whole Site / Construction Phase	Contractor(s)		✓			EIAO-TM GW-TM
S4.8.4 – 4.8.7	<p><b><i>Adoption of Temporary Noise Barriers or Noise Enclosure</i></b></p> <p>The use of noise barriers will be an effective means to mitigate the noise impact</p>	Whole Site / Construction Phase	Contractor(s)		✓			EIAO-TM EIAO Guidance Note

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	<p>arising from the construction works in the works area, particularly for low-rise NSRs. Temporary Noise Barriers of appropriate height with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers. The length of the barrier should be at least five times greater than its height. It is anticipated that the major noise source of all PMEs, including movable and large PMEs, will be located at a level lower than the top of the proposed temporary noise barriers. All temporary noise barriers are expected to provide at least a 5 dB(A) noise reduction for mobile plant such as excavator, poker and roller; fixed barriers are capable to produce higher noise reduction of 10 dB(A) for stationary plant, such as air blower and winch. With reference to A Practical Guide for the Reduction of Noise from Construction Works, the noise barrier material should have a superficial surface density of at least 14 kg/m<sup>2</sup>, without openings or gap.</p> <p>The use of noise enclosure is to cover stationary PMEs, such as generator which will be completely screened. The construction material of the noise enclosure should have a minimum surface density of 14 kg/m<sup>2</sup> and without openings or gaps. This can achieve at least a 15 dB(A) noise reduction according to the <i>EIAO Guidance Note No.9/2010</i>.</p>							No. 9/2010
<b>5. Water Quality</b>								
S5.8.1 – S5.8.4	<p><b>Construction Phase</b></p> <p>Potential impacts on water quality as a result of construction activities of the Project, including temporary flow diversion, excavation works within the existing watercourse, sewage generation from workforce, construction runoff and drainage, unplanned accidental spillage and uncontrolled release of pollutants have been assessed in Section 5.7 of the EIA report. The following section describes the mitigation measures proposed to alleviate water quality impacts during construction of the Project.</p>	Whole Site / Construction Phase	Contractor(s)		✓			Water Pollution Control Ordinance (WPCO) EIAO-TM ProPECC PN 1/94

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	<p>The contractor should comply with the <i>Water Pollution Control Ordinance (WPCO)</i> and its subsidiary regulations. The contractor should carry out works in such a manner as to minimise adverse impacts on the water quality during execution of the works. In particular, the contractor should arrange his method of working to minimise the effects on the water quality within and outside the site and on the transport routes.</p> <p>Best Management Practices should be implemented in controlling water pollution during the construction phase. The contractor should follow the practices, and be responsible for the design, construction, operation and maintenance of all the mitigation measures below and as specified in <i>ProPECC PN 1/94 – Construction Site Drainage</i>. In particular, the contractor should submit and implement an <i>Water Pollution Control Plan (as part of the Environmental Management Plan</i>, thereafter called “the Plan”) which should incorporate details of the mitigation measures recommended below to reduce water quality impacts arising from construction works. There is also need to apply to the EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. All discharges during the construction phase of the Project should comply with the <i>Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-ICW) issued under the WPCO</i>.</p> <p>For construction works in the vicinity of natural rivers and streams, the contractor should follow the recommendations given in <i>ETWB TCW (Works) No. 5/2005-Protection of Natural Streams/Rivers from Adverse Impact Arising from Construction Works</i>, including but not limited to:</p> <ul style="list-style-type: none"> <li>• The use of less or smaller construction plants may be specified in areas close to the water courses to reduce the disturbance to the surface water.</li> <li>• Temporary storage of materials (e.g. equipment, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses when carrying out of the construction works.</li> <li>• Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.</li> </ul>							

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	<ul style="list-style-type: none"> <li>Construction debris and spoil should be covered up and / or disposed of as soon as possible to avoid being washed into the nearby water receivers.</li> <li>Adequate lateral support may need to be erected in order to prevent soil or mud from slipping into the watercourses.</li> </ul>							
S5.8.5	<p><b>Temporary Flow Diversion and Excavation Works of the Existing Watercourse</b></p> <p>The following good practices should apply at all times during excavation works:</p> <ul style="list-style-type: none"> <li>Excavation within the existing watercourse TKL04 and TKL05 should be carried out in dry conditions. The dry excavation condition could be created with temporary flow diversions as described in detail in S5.7 of the EIA report.</li> <li>The excavated material, especially river bed material, should be temporary stored in the stockpile areas for dewatering by natural ventilation. Runoff from these stockpile areas should be collected for treatment by sedimentation with the addition of coagulant. The treated water should be reused on site for water spraying or wheel washing.</li> <li>The dried/dewatered excavated material should be reused on-site as backfilling material, as far as practicable.</li> </ul>	Whole Site / Construction Phase	Contractor(s)		✓			WPCO EIAO-TM
S5.8.6	<p><b>Sewage Generated from the Construction Workforce</b></p> <p>Domestic sewage/wastewater generated by workforce on-site should be collected in a suitable storage facility such as portable chemical toilets. An adequate number of portable toilets should be provided during the construction phase. These toilets should be maintained in a state that will not deter the workers from using them. The collected sewage/wastewater should be discharged into the foul sewer or transferred to the Government sewage treatment works by a licensed collector.</p>	Whole Site / Construction Phase	Contractor(s)		✓			WPCO EIAO-TM Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-ICW)
S5.8.7 –	<b>Widening of Drainage Channels</b>				✓			WPCO

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S5.8.12	<p>Due to the characteristics of narrow width and small water flow of the existing channel, the excavation should be carried out in dry condition (even in wet season) by diverting the stream flow from upstream by a temporary drainage channel with a temporary sheetpiles, earth bund or barrier; so that the works area will remain dry for later excavation and widening works.</p> <p>The temporary drainage channel would be removed when the construction works are completed or the temporary diversion is no longer required. Although flooding of the proposed contaminant section seldom occurs in dry season, the excavation would be considered to suspend when flood water enters the containment and causes leakage of runoffs to stream water.</p> <p>After dewatering of the streams, the sediments should be allowed to dry before excavation (yet still maintain a moist state to avoid dust nuisance). This will facilitate excavation of the sediments and also minimize the risk of drained water flowing back into watercourses or diversion channels as the sediment is handled. Where time or weather constraints require handling of wet sediment, care should be taken in the removal of sediment and the storage area should be bunded to prevent silty runoff entering watercourses. Given its small quantity, all excavated sediment should be reused on-site as backfilling material.</p> <p>To further minimize the leakage and loss of sediments during excavation, tightly sealed closed grab excavators should be employed in river sections where material to be handled is wet. Where material is dry and in non-river sections, conventional excavations can be used.</p> <p>Excavated sediment will likely be temporarily stored on-site for reuse as backfilling material. This should be stored in a bunded area and covered at any time to avoid inadvertent release of silts and suspended solids to nearby water bodies.</p> <p>Regular monitoring of suspended solids, pH and turbidity should be conducted during excavation works. Any exceedance of water quality in the nearby water bodies caused by inadvertent release of site runoff should be rectified in accordance</p>						EIAO-TM Practice Note 3/2021	



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	with EM&A programme for this Project.							
S5.8.13 – S5.8.15	<p><b>Construction Runoff and Drainage</b></p> <p>Good construction site practices outlined in <i>ProPECC PN 1/94</i> “Construction Site Drainage” should be followed as far as practicable in order to minimise surface runoff and the chance of erosion, and also to retain and reduce any suspended solids in surface runoff prior to discharge. These practices include the following:</p> <ul style="list-style-type: none"> <li>• Prior to discharge of site runoff into the nearby water bodies, site runoff should be treated via sand/silt removal facilities such as sand/silt traps or sedimentation facilities on-site to remove sand/silt particles and to meet the discharge standards of the <i>TM-ICW</i> under the <i>WPCO</i>. The design of sand/silt removal facilities should be based on the guidelines provided in <i>ProPECC PN 1/94</i>. All drainage facilities and erosion and sediment control structures should be inspected regularly and maintained to confirm proper and efficient operation at all times during construction phase and particularly before and after rainstorms. Deposited silt and grit should be removed regularly.</li> <li>• Appropriate surface drainage should be designed and provided, where necessary. In particular, surface runoff should be collected along the river banks and be diverted to sedimentation tank/pond before discharge into the river.</li> <li>• The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in <i>Appendix A2</i> of <i>ProPECC PN 1/94</i> and should be followed.</li> <li>• Oil interceptors should be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the stormwater drainage system after accidental spillages.</li> <li>• Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. The design of permanent drainage pipes should follow the guidelines provided in <i>ProPECC PN 5/93</i> Drainage plan subject to comment by the Environmental Protection Department.</li> </ul>	Whole Site / Construction Phase	Contractor(s)		✓			<p>WPCO</p> <p>EIAO-TM</p> <p>TM-ICW</p> <p>ProPECC PN 1/94</p> <p>ProPECC PN 5/93</p>

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	<ul style="list-style-type: none"> <li>The temporary diverted drainage should be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.</li> <li>Construction materials stored on-site should be covered with tarpaulin sheets to prevent from being washed away. Other measures such as containment bunds, sand bags and temporary drainage should also be considered, especially during wet season or heavy rainstorm events. Such runoff could be minimized through reduction of flat exposed open area, and through diversion and collection via temporary drainage system on the periphery of the Project site.</li> </ul> <p>Site runoff during concrete curing period should be carefully contained and diverted to treatment facilities on-site to prevent it from entering existing watercourses directly. Adjustment of pH should be carried out by adding a suitable neutralising reagent to the wastewater collected.</p> <p>Any exceedance of pH level against acceptable range in WQO in the nearby watercourse should be closely monitored during the construction phase. Such situation should be rectified in accordance with the EM&amp;A programme for this Project. Adoption of lesser or smaller construction plants would be proposed to reduce disturbance to the channel bed and to the nearby sensitive receivers; and the use of concrete or the like should be avoided or minimized.</p>							
S5.8.16	<p><b><i>Accidental Spillage / Uncontrolled Discharge from General Construction Activities</i></b></p> <p>The following good site measures should be implemented to prevent uncontrolled discharge or spillage from the general construction activities:</p> <ul style="list-style-type: none"> <li>Site office, workshop and depot should be located on hard standing grounds with provision of temporary drainage channel and sedimentation tanks with oil interceptor if required. The oil interceptor should be inspected regularly to prevent blockage and oil overflow during storm events.</li> <li>Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering the existing Ping Yuen River and Shenzhen River</li> </ul>	Whole Site / Construction Phase	Contractor(s)		✓			WPCO WDO

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	<p>downstream of the Project site. Stockpiles of cement and other construction materials should be kept covered when not being used.</p> <ul style="list-style-type: none"> <li>• Good site practices described in <i>ProPECC PN 1/94</i>, such as avoidance of excavation works in rainy / wet season should be complied.</li> </ul>							
S5.8.17	<p><b><i>Storage and Handling of Oil, Other Petroleum Products and Chemicals</i></b></p> <p>The following mitigation measures should be implemented for the storage and handling of oil, other petroleum products and chemicals:</p> <ul style="list-style-type: none"> <li>• Waste streams classifiable as chemical wastes should be properly stored, collected and treated for compliance with <i>Waste Disposal Ordinance or Waste Disposal (Chemical Waste) (General) Regulation</i> requirements.</li> <li>• All fuel tanks and chemical storage areas should be provided with locks and be sited on paved areas.</li> <li>• The storage areas should 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 storage areas should be located away from water bodies as far as possible.</li> <li>• Waste oil should be collected and stored for recycling or disposal, in accordance with the <i>Waste Disposal Ordinance</i>.</li> <li>• Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should, as far as possible, be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor.</li> </ul>	Whole Site / Construction Phase	Contractor(s)		✓			Waste Disposal Ordinance (WDO) Waste Disposal (Chemical Waste) (General) Regulation
S5.8.18	<p><b><i>Handling of Spillage / Leakage</i></b></p> <p>In the event that accidental spillage or leakage of hazardous substances / chemical wastes occur, the response procedures as listed below should be followed. It should be noted that the procedures below are not exhaustive and the contractor should propose other response procedures in the emergency contingency plan based on the particular types and quantities of chemicals or hazardous substances used, handled and stored on-site.</p> <ul style="list-style-type: none"> <li>• Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal in accordance with</li> </ul>	Whole Site / Construction Phase	Contractor(s)		✓			WDO

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	<p>the <i>Waste Disposal Ordinance</i>.</p> <ul style="list-style-type: none"> <li>Instruct untrained personnel to keep at a safe distance well away from the spillage area.</li> <li>If the spillage / leakage involves highly toxic, volatile or hazardous waste, initiate emergency evacuation and call the emergency service.</li> <li>Only trained persons equipped with suitable protective clothing and equipment should be allowed to enter and clean up the waste spillage / leakage area.</li> <li>Where the spillage/ leakage is contained in the enclosed storage area, the waste can be transferred back into suitable containers by suitable handheld equipment, such as hand operated pumps, scoops or shovels. If the spillage / leakage quantity is small, it can be covered and mixed with suitable absorbing materials such as tissue paper, dry soft sand or vermiculite. The resultant slurry should be treated as chemical waste and transferred to suitable containers for disposal.</li> <li>For spillage / leakage in other areas, immediate action is required to contain the spillage / leakage. Suitable liquid absorbing materials such as tissue paper, dry soft sand or vermiculite should be used to cover the spill. The resultant slurry should be treated as chemical waste and transferred to suitable containers for disposal.</li> <li>Areas that have been contaminated by chemical waste spillage / leakage should be cleaned. While water is a soluble solvent for aqueous chemical wastes and water soluble organic waste, kerosene or turpentine should be used for organic chemical wastes that are not soluble in water. The waste from the cleanup operation should be treated and disposed of as chemical waste.</li> <li>In incidents where the spillage / leakage may result in significant contamination of an area or risk of pollution, the EPD should be informed immediately.</li> </ul>							
S5.8.19 – S5.8.22	<p><b>Operation Phase</b></p> <p><u>Maintenance Works</u></p> <p>Maintenance may be necessary for the proposed drainage channel at regular intervals to remove excessive silts, vegetation, debris and obstruction.</p>	Whole Site / Operation Phase	Project Proponent				✓	-

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	<p>Before proceeding with any maintenance works, except for emergency works, the maintenance engineer should check to ascertain if any of the proposed works should be located in or near an environmentally sensitive and/or ecologically important areas. In case of doubt, advice from EPD and AFCD or other relevant departments should be sought.</p> <p>If the proposed works should be located inside or near one of the environmentally sensitive and/or ecologically important areas, careful consideration should be given to the proposed method of implementation so as to minimise any adverse environmental impact. Depending on the extent of the maintenance works, EPD and AFCD should be notified and/or consulted as appropriate on the proposed method and mitigation measures for executing the works. Their comments on necessary mitigation measures should be considered and incorporated.</p> <p>The following precautionary measures should be included in planning for the maintenance works for the proposed channels:</p> <p>(a) Maintenance of the channels should be restricted to annual silt removal when the accumulated silt should adversely affect the hydraulic capacity of the channel, except during emergency situations where flooding risk is imminent. Desilting should be carried out by hand or light machinery during the dry season (October to March) when water flow is low.</p> <p>(b) Vegetation removal should be limited to manual cutting to be carried out during dry season and only when growth of vegetation is very likely to impede channel flow.</p> <p>(c) Phasing of the works should be considered to better control and reduce any impacts caused. Where possible, works should be carried out along half width of the drainage channel in short sections. A free passage along the drainage channel is necessary to avoid forming stagnant water in any phase of the works.</p>							

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	<p>(d) Containment structures (such as sand bags barrier) should be provided for the desilting works area to facilitate a dry or at least confined working area within the drainage channel.</p> <p>(e) Where no maintenance access is available for the channel, temporary access to the works site should be carefully planned and located to reduce disturbance caused to the drainage channel, adjacent vegetation and nearby sensitive receivers by construction plants.</p> <p>(f) The locations for the disposal of the removed materials should be identified and agreement sought with the relevant departments before commencement of the maintenance works. Temporary stockpile of waste materials should be located away from the channel and properly covered. These waste materials should be disposed of in a timely and appropriate manner.</p>							
S5.11 of EIA and S5.2 of EM&A Manual	<p>Baseline monitoring should be undertaken for three times per week for a period of four weeks before commencement of the construction works to establish baseline water quality conditions of the area. Impact monitoring should be undertaken for three times per week during the construction period to obtain updated water quality data of the area for comparison with the baseline water quality data and hence determine any water quality impacts from the construction activities.</p> <p>Monitoring should be undertaken at stations located upstream and downstream of the Project Site. The upstream station should serve as control station at which the water quality is unlikely to be affected by the Project's activities while the downstream station will serve as impact station. Data will be compared between the upstream and downstream station to determine any adverse water quality impacts as a result of the construction works of the Project. Locations of the monitoring station are recommended in the EM&amp;A Manual.</p> <p>The following parameters will be monitored under the water quality monitoring programme:</p> <ul style="list-style-type: none"> <li>• Dissolved Oxygen (mg/L) (in situ measurement);</li> <li>• Temperature (in situ measurement);</li> </ul>	Upstream and downstream of the Work Area / Before, During and After Construction	ET and IEC	✓	✓	✓		EIAO-TM

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	<ul style="list-style-type: none"> <li>pH (in situ measurement);</li> <li>Turbidity (NTU) (in situ measurement);</li> <li>Suspended Solids (mg/L) (laboratory analysis);</li> <li>Salinity (in situ measurement); and</li> <li>Water depth(in situ measurement).</li> </ul>							
S5.11	Weekly site inspections and monthly audits will be conducted to ensure that the recommended mitigation measures are properly implemented during the construction stage.	Whole Site / Construction Phase	ET and IEC		✓			EIAO-TM
<b>6. Waste Management</b>								
S6.6	<p><b>Construction Phase</b></p> <p><u>General</u></p> <p>The HKSAR Government's construction and demolition waste management policy follows the same hierarchy as for other wastes i.e. in order of desirability: avoidance, minimisation, recycling, treatment and safe disposal of waste. As the Project will generate more than 50,000 m<sup>3</sup> of C&amp;D materials, a Construction and Demolition Material Management Plan (C&amp;DMMP) should be prepared and submit to the Public Fill Committee of CEDD for approval prior to commencement of the detailed design in accordance with Appendix 4.12 of Chapter 4 of the Project Administration Handbook for Civil Engineering Works (PAH) .".</p> <p>Training of construction staff should be undertaken by the contractor about the concept of site cleanliness and appropriate waste management procedures. The contractor should develop and provide toolbox talk for on-site sorting of C&amp;D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&amp;D materials. Requirements for staff training should be included in the Contractor's Environmental Management Plan (EMP).</p> <p>Good planning and site management practice should be employed to eliminate over ordering or mixing of construction materials to reduce wastage. Proper storage and</p>	Whole Site / Detailed Design and Construction Phase	Detailed Design Engineer / Contractor(s)	✓	✓			WDO DEVB TC(W) No 6/2010

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	<p>site practices will minimise the damage or contamination of construction materials.</p> <p>Where waste generation is unavoidable, the potential for recycling or reuse should be rigorously explored. If waste cannot be recycled, disposal routes described in the EMP should be followed. A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be implemented. In order to monitor the disposal of C&amp;D material and solid wastes at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be included. One may make reference to <i>DEVB TC(W) No. 6/2010</i> for details.</p> <p>Regular cleaning and maintenance of the waste storage area should be provided.</p>							
S6.6	<p><u>On-site Sorting, Reuse and Recycling</u></p> <p>All waste materials should be segregated into categories covering:</p> <ul style="list-style-type: none"> <li>• Inert C&amp;D materials suitable for reuse on-site;</li> <li>• Inert C&amp;D materials suitable for public filling facilities;</li> <li>• Recyclable non-inert C&amp;D materials for recycling;</li> <li>• Non-recyclable non-inert C&amp;D materials for landfill;</li> <li>• Chemical waste; and</li> <li>• General refuse for landfill.</li> </ul> <p>Proper segregation and disposal of construction waste should be implemented. Separate containers should be provided for inert and non-inert C&amp;D materials. Sorting is important to recover materials for reuse and recycling. Specific area should be allocated for on-site sorting of C&amp;D materials and to provide a temporary storage area for those sorted materials. If area is limited, all C&amp;D materials should at least be sorted on-site into inert and non-inert components. Non-inert materials such as bamboo, timber, vegetation, packaging waste and other organic materials should be reused and recycled wherever possible and disposed to designated landfill only as a last resort. Inert materials (public fill) such as concrete, stone, clay, brick, soil, asphalt and the like should be separated and reused in this or other projects (subject to approval by the relevant parties in accordance with the <i>DEVB TC(W) No.</i></p>	Whole Site / Construction Phase	Contractor(s)		✓			<p>WDO</p> <p>DEVB TC(W) No. 6/2010</p> <p>WBTC No. 12/2002</p> <p>ETWB TCW No. 24/2004</p>



EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	<p>6/2010) before disposed of at a public filling facility operated by CEDD. Steel and other metals should be recovered from demolition waste stream and recycled</p> <p>The reuse of inert materials such as soil, rock and broken concrete should be maximised. Waste should be separated into fine, soft and hard materials. To facilitate the blue-green design scheme, hard material can be reused and placed in the riverbed to form riprap. This minimises the use of imported material and maximises use of the C&amp;D material produced. Except for excavated clay, most of C&amp;D material can easily be reused. Suitable soft materials should be used for landscaping and grading of embankments. Fine material should be separated out and used as topsoil.</p> <p>The feasibility of using recycled aggregates in lieu of virgin materials should be rigorously considered during the detailed design and construction stages as stipulated in <i>WBTC No. 12/2002</i> and <i>ETWB TCW No. 24/2004</i>. In general, recycled aggregates are suitable for use as fill materials in earthworks, road sub-base formation, and drainage works. Recycled aggregates can also be used in concrete (up to Grade 35) for mass concrete walls and other minor structures such as planter boxes, toe wall planters and pavement, etc. In addition, some recycled rock material can be reused in the gabions, as rock fill or as stream bed material.</p>							
S6.6	<p><u>Concrete Waste (Inert C&amp;D materials)</u></p> <p>Dry concrete waste (considered as inert C&amp;D materials) should be sorted out from the other wastes and recycled for reuse or sorted out for disposal at designated public filling facilities.</p>	Whole Site / Construction Phase	Contractor(s)		✓			WDO WBTC No. 19/2001
S6.6	<p><u>Wooden Waste (Non-inert C&amp;D materials)</u></p> <p>All wooden materials (considered as non-inert C&amp;D materials) used on-site should be kept separate from other wastes to avoid damage and to facilitate reuse. Timber which cannot be reused should be sorted out from other waste and stored separately from all inert waste before being disposed of to landfill.</p> <p>Reusable steel or concrete panel shutters, fencing and hoarding and signboard should</p>	Whole Site / Construction Phase	Contractor(s)		✓			WDO WBTC No. 19/2001

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	<p>be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to <i>WBTC No. 19/2001 - Metallic Site Hoardings and Signboards</i> to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.</p> <p>Only waste material need be taken to a landfill. It should be separated from recyclable wood and steel materials. As for all waste types these materials should be reused on-site or other approved sites before disposal is considered as an option. Disposal to landfill should only be considered as a final option. Contractors are responsible for storage of re-useable materials on-site.</p>							
S6.6	<p><u>Site Clearance / Demolition Materials/ Excavated Materials</u></p> <p>Control measures for temporary stockpiles on-site should be taken in order to minimize the noise, generation of dust, pollution of water and visual impact. These measures include:</p> <ul style="list-style-type: none"> <li>• Surface of stockpiled soil should be regularly wetted with water especially during dry season;</li> <li>• Disturbance of stockpiled soil should be minimized;</li> <li>• Stockpiled soil should be properly covered with tarpaulin especially when heavy rain storms are predicted;</li> <li>• Stockpiling areas should be enclosed where space is available;</li> <li>• Stockpiling location should be away from the water bodies; and</li> <li>• An independent surface water drainage system equipped with silt traps should be installed at the stockpiling area.</li> </ul> <p>The identification of final disposal sites for C&amp;D materials generated by the construction works will be considered during the detailed design stage of the Project when the volume and types of C&amp;D materials can be more accurately estimated. The Public Fill Committee of CEDD should be consulted on designated outlets (e.g.</p>						<p>WDO</p> <p>DEVB TC(W) No 6/2010</p> <p>ETWB TC(W) No. 19/2005</p>	

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	<p>public filling area) for inert C&amp;D materials, whilst EPD should be consulted on landfills for non-inert C&amp;D materials. Disposal of construction waste to landfill must not have more than 50% (by weight) inert material. The construction waste delivered for landfill disposal should contain no free water and the liquid content should not exceed 70% by weight.</p> <p>In order to avoid dust or odour impacts, any vehicle leaving a works area carrying inert or non-inert C&amp;D materials should have their load covered up before leaving the construction site.</p> <p>C&amp;D materials should be disposed of at designated public filling facilities or landfills. Disposal of these materials for use at other construction projects is subject to the approval of the Engineer and/or other relevant reception authorities. Furthermore, unauthorized disposal of C&amp;D materials in particular on private agricultural land is prohibited and may be subject to relevant enforcement and regulating actions. The disposal of inert and non-inert C&amp;D materials will be controlled through trip-ticket system in accordance with <i>DEVB TC(W) No. 6/2010</i>.</p>							
S6.6	<p><u>Chemical Waste</u></p> <p>Where the construction processes produce chemical waste, the contractor must register with EPD as a chemical waste producer. Wastes classified as chemical wastes are listed in the <i>Waste Disposal (Chemical Waste) (General) Regulation</i>. These wastes are subject to stringent disposal routes. EPD requires information on the particulars of the waste generation processes including the types of waste produced, their location, quantities and generation rates. A nominated contact person must be registered with EPD. An updated list of licensed chemical waste collector can be obtained from EPD.</p> <p>Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the <i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</i> published by EPD, and should be collected by a licensed chemical waste collector.</p>	Whole Site / Construction Phase	Contractor(s)		✓			<p>Waste Disposal (Chemical Waste) (General) Regulation</p> <p>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</p> <p>DEVB TC(W) No.6/2010</p>

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	<p>Chemical waste should be stored away from channels or water bodies.</p> <p>Suitable containers should be used for specific types of chemical wastes, containers should be properly labelled (English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations), resistance to corrosion, stored safely and closely secure. Stored volume should not be kept more than 450 litres unless the specification has been approved by the EPD. Storage area should be enclosed by three sides by a wall, partition of fence that is at least 2 m height or height of tallest container with adequate ventilation and space.</p> <p>Hard standing, impermeable surfaces draining via oil interceptors should be provided in works area compounds. Interceptors should be regularly emptied to prevent release of oils and grease into the surface water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Oil and fuel bunkers should be bunded and/or enclosed on three sides to prevent discharge due to accidental spillages or breaches of tanks. Bunding should be of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste, whichever is largest. Waste collected from any grease traps should be collected and disposed of by a licensed contractor.</p> <p>Lubricants, waste oils and other chemical wastes are likely to be generated during the maintenance of vehicles and mechanical equipment. Used lubricants should be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a designated secure place. If possible, such waste should be sent to specialised recycling companies, and the empty oil drums collected by appropriate companies for reuse or refill.</p> <p>The registered chemical waste producer (i.e. the contractor) has to arrange for the chemical waste to be collected by licensed collectors. The licensed collector should regularly take chemical waste to a licensed chemical waste treatment facility (such as the Chemical Waste Treatment Centre in Tsing Yi). A trip ticket system operates to control the movement of chemical wastes.</p>							

EIA & EM&A Ref. (1)	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	No chemicals/chemical waste (i.e. lubricants, oils, solvents and paint products) should be allowed to discharge into water courses, either by direct discharge, or as contaminants carried in surface water runoff from the construction site.							
S6.6	<p><u>General Refuse</u></p> <p>General refuse generated on-site should be stored in enclosed bins or skips and collected separately from other construction and chemical wastes and disposed of at designated landfill. A temporary refuse collection point should be set up by the contractor to facilitate the collection of refuse by licensed contractors. The removal of waste from the site should be arranged on a daily or at least on every second day by the contractor to minimise any potential odour impacts, minimise the presence of pests, vermin and other scavengers and prevent unsightly accumulation of waste.</p> <p>The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the contractor. The contractor should also be responsible for arranging recycling companies to collect these materials.</p>	Whole Site / Construction Phase	Contractor(s)		✓			WDO WBTC No. 19/2001
S6.6	<p><u>Operation Phase</u></p> <p>The screenings, silt materials and debris collected during operation and maintenance should be properly packed and transported to the designated landfill for disposal as soon as possible. All chemical waste (i.e. lubricants, oils, solvents and paint products) should be properly stored, labelled and removed by licensed waste collectors in accordance with Waste Disposal (Chemical Waste) (General) Regulation.</p>	Whole Site / Operational Phase	Project Proponent				✓	-
<b>7. Land Contamination</b>								
S7.11	<p><u>Construction Phase</u></p> <p>A review of Contamination Assessment Plan (CAP) should be conducted to confirm</p>	Whole Site / Construction Phase	Contractor(s)		✓			EIAO-TM

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	<p>whether the proposed site investigation (SI) works are still valid and provide fine adjustments of the sampling locations and number of boreholes for Areas A, B1 and B2 prior to commencement of site investigation (SI) works. Supplementary CAP(s) for the Project Area, to document the re-appraisal, review the proposed sampling location(s) and outline the proposed sampling arrangement as well as testing parameters, should be submitted to EPD for review and agreement.</p> <p>SI works should be carried out according to the supplementary CAP(s) endorsed by EPD. Contamination Assessment Report (CAR) should be prepared to present the findings of the SI works.</p> <p>If contamination is confirmed, the CAR will be accompanied by a Remediation Action Plan (RAP) to provide details of the remedial actions for the identified contamination. The CAR and RAP will be submitted to EPD for agreement.</p> <p>Remediation Report (RR) will be prepared and submitted to EPD for endorsement prior to commencement of any proposed construction works upon completion of remediation works, if necessary.</p>							
<b>8. Ecological</b>								
S8.8	<p><b>Woodland Habitat to be Lost</b></p> <p>Trees in the Proposed Works Limit (esp. the woodland habitat) will be affected as a result of direct habitat loss. All trees should be preserved as far as possible, especially species of high conservation or amenity value. Where trees are to be preserved in-situ, but are likely to be disturbed by works activities, protective fencing/hoarding should be carefully set up around the affected trees.</p> <p>Trees that cannot be retain due to unresolvable conflict with the engineering design should be transplanted to appropriate receptor site. If transplantation is not feasible, compensatory planting for the trees should be carried out in the receptor site as well,</p>	Woodland Habitat at Construction Site	Contractor(s)		✓			EIAO-TM

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	<p>with a minimum ratio of 1:1. Recommendations provided in the Tree Preservation and Removal Proposal TPRP should be fully followed.</p> <p>Planting of trees and other vegetation to reinstate the works area will also be conducted upon completion of the drainage improvement works. Such rehabilitation works should use native plants of the same species that occur in the adjacent woodland habitat and have flowers/fruits attractive to wildlife.</p>							
S8.8	<p><b>Flora Species of Conservation Importance</b></p> <p>The four identified flora species of conservation importance, including <i>Aquilaria sinensis</i>, <i>Cephalanthus tetrandrus</i>, <i>Mucuna championii</i> and <i>Neottopteris nidus</i> should be preserved as far as possible. As a precautionary measure, it is recommended to conduct a vegetation survey within the works area prior to the commencement of drainage improvement works. The survey should be conducted by a qualified ecologist/ botanist. Should any rare/protected plant species be found within the area, the survey will record their conditions, numbers and locations. The survey will also determine the number and locations of the individuals to be affected and evaluate the suitability and/or practicality of transplantation.</p> <p>Where avoidance is not possible due to technical feasibility, transplantation to appropriate receptor site should be considered. A Transplantation Plan should be prepared by a qualified ecologist/ botanist with full details of the findings of the flora survey, locations of the receptor site, transplantation methodology, implementation programme of transplantation, post-transplantation monitoring and maintenance programme. The Plan should be submitted to and approved by AFCD and other relevant departments prior to the site clearance. The approved transplantation works should be supervised by a qualified botanist/ horticulturist/ arborist with relevant experience in transplanting floral species of conservation importance.</p>	<p><i>Aquilaria sinensis</i>, <i>Cephalanthus tetrandrus</i>, <i>Mucuna championii</i> and <i>Neottopteris nidus</i> at construction site</p>	Contractor(s)	✓				EIAO-TM
S8.8	<p><b>Fauna Species of Conservation Importance</b></p> <p>To avoid the potential direct impact on Chinese Bullfrog, prior to commencement of the construction, an update aquatic survey should be conducted with focus to the presence of Chinese Bullfrog. The survey should be conducted by a qualified</p>	<p>Fauna Species of Conservation Importance at Construction</p>	Contractor(s)	✓				EIAO-TM

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	<p>ecologist as part of the Environmental Team (ET) and cover the stretch of the watercourse 5m upstream and downstream of the works area. Should Chinese Bullfrog be found within the surveyed watercourse sections, a Translocation Plan should be prepared and capture and translocation should be conducted to move the individuals from the Project Site to suitable recipient sites.</p> <p>The Translocation Plan should be prepared by the qualified ecologist as a part of the ET, certified by the IEC and submitted to AFCD within four months upon completion of the update aquatic survey to agree the detailed translocation procedures including the identified receptor site(s). Approval from the Authority (e.g. AFCD and EPD) should be sought prior to conducting the translocation work.</p> <p>The translocation work should be conducted as close to the commencement of the relevant site works as possible, following the approved Translocation Plan. Upon the completion of the translocation work, post-translocation survey should be conducted at the recipient site to monitor the effectiveness of translocation.</p> <p>Furthermore, in order to maintain the ecological connectivity among areas in adjacent to Ping Yuen River, provision of animal corridors at the upgraded channels as an enhancement measure would be provided. Access points of the animal corridors would be provided in certain intervals and located away from traffic road as far as practicable.</p>	Site						
S8.8	<p><b>Ping Che Egretty</b></p> <p>The Ping Che Egretty has been known to be active since and used by breeding Chinese Pond Heron since 2009. In order to mitigate for the potential disturbance toward the active Ping Che Egretty, proposed construction works within 100m radius from the Ping Che Egretty should be scheduled outside the ardeids breeding season, i.e. March to August. As a precautionary measure, monthly egretty count during the breeding season within construction phase should be conduct at Ping Che Egretty by qualified ecologist to monitor for any abnormal changes in nesting ardeids due to indirect impacts from the construction activities.</p>	Ping Che Egretty at Construction Site	Contractor(s)	✓				EIAO-TM



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S8.8	<p><b>Operational Phase</b></p> <p>There will be no major works such as dredging and hydrology and hydraulics would not be affected. Thus, mitigation measures are not required for the operational phase works. However, good site practice should be followed during maintenance work.</p>	Whole Site / Operational Phase	Contractor(s)				✓	EIAO-TM
S8.8	<p><b>Potential Disturbances and Water Pollution</b></p> <p>As no significant ecological impacts arising from the operation of the Project are anticipated, the proposed mitigation measures to minimise disturbances focus on the construction phase. The following construction phase mitigation measures are proposed to reduce predicted disturbance impacts and impact of water pollution to an acceptable level:</p> <ul style="list-style-type: none"> <li>• Tree protection zone should be established practically where necessary to minimise damage to the trees preserved in-situ;</li> <li>• Implementing measures to minimise magnitude of construction runoff and to avoid/ minimise the potential impact of spillage events, if any, and</li> <li>• Appropriate measures including the provision of temporary movable toilets should be adopted. Controlled wastewater discharge to the nearby water bodies will be implemented in accordance with the guidelines stipulated in Environmental Protection Department (EPD)'s Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN1/94) during the construction works to properly control site run-off and drainage and to minimise the potential water quality impact.</li> </ul> <p>Other mitigation measures to minimise disturbance during construction include good site practice and noise management. The site practices listed below will be followed throughout the construction phase:</p> <ul style="list-style-type: none"> <li>• Avoid any damage and disturbance, particularly those caused by filling and illegal dumping to the surrounding habitats, especially wetland habitats and any watercourses;</li> <li>• Excavated materials will be covered and/or properly disposed of as soon as possible to avoid being washed into nearby water bodies;</li> </ul>	Whole Site / Construction Phase	Contractor(s)	✓				EIAO-TM

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	<ul style="list-style-type: none"> <li>Regularly check the site boundaries to ensure that they are not breached and that no damage occurs to surrounding ecologically sensitive habitats (e.g. woodlands and streams);</li> <li>Prohibit and prevent open fires within the site boundary during construction and provide temporary firefighting equipment in the work areas;</li> <li>Reinstate temporary work sites/disturbed areas, immediately after completion of the construction works; and</li> <li>Only well-maintained plant to be operated on-site and plant to be serviced regularly during the construction program.</li> </ul>							
<b>9. Fisheries</b>								
S9.7	Apart from the mitigation measures discussed at the Water Quality section of this Annex, no other mitigation measures are considered necessary.	Whole Site / Construction Phase	Contractor(s)		✓			-
S9.10 of EIA and S9.1 of EM&A Manual	As no direct or indirect impact to fishponds or pond fish culture activities were identified during construction and operation of the Project, no specific monitoring programme for fisheries impact is therefore considered necessary. Regular audits should be undertaken to ensure the effectiveness of the mitigation measures and good site practices recommended during construction phase for further controlling the water quality impacts, as these measures also serve to protect fisheries resources.	Whole Site / Construction Phase	ET and IEC		✓			EIAO-TM
<b>10. Cultural Heritage</b>								
S10.6	As a precautionary measure, the project proponent and his/her contractor are required to inform AMO immediately when any antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (Cap. 53) are discovered during the course of works.	Project Site/Construction	Contractor(s)		✓			Antiquities and Monuments Ordinance
S10.6	Special attention should be paid to avoid potential adverse physical impact arising from the proposed works. Design proposal, method of works and choice of machinery should be targeted to minimize potential adverse impacts to these heritage sites.	GB-06 and GB-07 / Before Construction	Contractor(s)		✓			-

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
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	During pre-construction stage of the Project and implemented by the works contractor, a baseline condition survey and baseline vibration impact assessment be conducted by a qualified building surveyor or qualified structural engineer to evaluate on the necessary construction monitoring and structural strengthening measures for AMO's consideration.							
S10.6	During pre-construction stage of the Project implemented by the works contractor, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or qualified structural engineer to define the vibration limit (a vibration limit at 15mm/s could be adopted for the built heritage items) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase to ensure the construction performance meets with the vibration standard.	Heritage structures HB-14, HB-15, HB-16, HB-40, HB-43, HB-44, HB-46, HB-48, HB-49, HB-50, HB-51, HB-53, HB-54, HB-55, HB-56 and HB-72 / Before Construction	Contractor(s)		✓			-
S10.6	As a precautionary measure, it is recommended that during construction stage of the Project adjacent to the built heritage, proper access and space shall be allowed to the shrines so that the local practice of rituals will not be affected.	Heritage structures HB-40, HB-51, HB-53, HB-54, HB-55 and HB-56 / Construction Phase	Contractor(s)		✓			-
<b>11. Landscape and Visual</b>								
S11.12	Temporary structures and construction works should be planned with care to minimise disturbance to vegetation including riparian vegetation along the river as well as existing built structures. The footprint of the Project should be kept to a	Whole Site / Detailed design/ During	Project Proponent/ Contractor(s)	✓	✓			EIAO-TM

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	practical minimum and form, textures and colours selected to be as compatible with the existing surroundings as possible.	Construction						
S11.12	Colours for the structures e.g. fences should be chosen to complement the surrounding area. Lighter colours such as shades of light grey, off-white and light brown may be utilised where technically feasible to reduce the visibility of the structures.	Along the river alignment/ Detailed design/ During Operation	Project Proponent/ Contractor(s)	✓	✓		✓	EIAO-TM
S11.12	Trees/ woodland within the Works Area will be protected and preserved as far as possible in accordance with DEVB TC(W) No. 04/2020. For example, the Project will be designed to avoid tree felling wherever possible.	Along the river alignment/ Detailed design/ During Construction and Post - Construction	Project Proponent/ Contractor(s)	✓	✓	✓		DEVB TC(W) No. 04/2020
S11.12	Should removal of trees be unavoidable due to construction impacts, trees will be transplanted or felled according to Clause 3.97 of the General Specification of Civil Engineering Works – Section 3 Landscape Softworks and Establishment Works, including ensuring transplanted trees are treated with establishment works immediately after transplanting works, for a period of no less than 12 months. At the detailed design stage the tree transplantation plan should be refined to ensure the locations proposed to receive the transplanted tree is suitable. Established trees of value are to be re-located where practically feasible. The transplant planting will be included in a detailed landscape design and planting plan, which is recommended to be implemented as early as practicable in the Project timeline.	Along the river alignment/ Detailed design/ During Construction and Post – Construction	Project Proponent/ Contractor(s)	✓	✓	✓		DEVB TC(W) No. 04/2020
S11.12	Compensatory Tree Planting - Where loss of existing trees is unavoidable, compensatory planting of trees should be provided in accordance with DEVB TC(W) No. 04/2020 to compensate for those trees felled. Implementation of compensatory tree planting will be of a ratio not less than 1:1. Plants will have 12 months to establish. At the detailed design stage the tree compensation and transplantation plan should be	Along the river alignment/ Detailed design/ During Post – Construction	Project Proponent/ Contractor(s)	✓		✓	✓	EIAO-TM DEVB TC(W) No. 04/2020

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	refined to confirm the separation distance of the heavy standard compensatory trees and ensure the outlined areas are sufficient for the planting necessary to compensate for the affected trees. The selection of planting species shall be made with reference to the species identified in the Tree Survey and be predominantly native to Hong Kong or the South China region. The compensatory planting will be subject to detailed landscape design and planting plan, and recommended to be implemented as early as practicable in the Project timeline.							
S11.12	Tall screen/buffer trees shall be planted to screen the proposed channelised water course. This measure may additionally form part of the compensatory planting and will improve compatibility with the surrounding environment.	Along the river alignment / During Detailed design/ Construction/ Post – Construction and Operation	Project Proponent/ Contractor(s)	✓	✓	✓	✓	EIAO-TM DSD Practice Note No. 3/2021 - Guidelines on Design for Revitalisation of River Channel
S11.12	Natural bedding substrate will be used for Channel TKL 04 and 05.	Along the river alignment / During Detailed design/ Construction/ Post – Construction and Operation	Project Proponent/ Contractor(s)	✓	✓	✓	✓	DSD Practice Note No. 3/2021 - Guidelines on Design for Revitalisation of River Channel
S11.12	The river bed will be lined with gabion mattress, which is environmentally compatible with good aesthetic appeal. It is expected that natural vegetation can grow on the gabions of TKL 04 and 05, and help beautify the river environment.	Along the river alignment / During Detailed design/ Construction/ Post – Construction	Project Proponent/ Contractor(s)	✓	✓	✓	✓	DSD Practice Note No. 3/2021 - Guidelines on Design for Revitalisation of River Channel

EIA & EM&A Ref. <sup>(1)</sup>	Environmental Protection Measures	Location / Timing of the Measures	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
				Des	C	Post-C	O	
		and Operation						
S11.12	Stockpiles of materials should be covered or hoarding erected where possible to reduce undesirable views of the construction site, having consideration for safety and security. It is proposed that screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used. Hoarding should be taken down at the end of the construction period.	Along the river alignment / During Construction	Project Proponent/ Contractor(s)		✓		✓	EIAO-TM
S11.12	The guidelines in “Charter on External Lighting” and “Guidelines on Industry Best Practices for External Lightning Installations” promulgated by ENB for glare control will be implemented.	Along the river alignment / During Construction, Post-Construction and Operation	Project Proponent/ Contractor(s)		✓	✓	✓	EIAO-TM
S11.12	Efforts will be made to enhance the site conditions of the meanders to be maintained (to augment their wetland functions and favor wetland associated flora and fauna species. The enhancement would be accomplished from hydrologic and vegetative aspects. That includes: grasscrete paving at maintenance access, granite stone facing on retaining wall and creepers planting on river slopes will be implemented.	Along the river alignment / Detailed design	Project Proponent/ Contractor(s)	✓	✓			EIAO-TM DSD Practice Note No. 3/2021 - Guidelines on Design for Revitalisation of River Channel