

### Appendix 13.1 Key Assessment Assumptions and Limitation of Assessment Methodologies

Assessment Methodology	Key Assessment Assumptions	Limitations of Assessment Methodologies / Assumptions	Prior Agreements with EPD		Proposed Alternative Assessment Tools/ Assumptions (if applicable)
			EIA Study Brief (ESB-342/2021)	Relevant Documentation	
<b>Air Quality Impact</b>					
<b>Construction Phase</b>					
<p>The air quality impact assessment follows: Annexes 4 and 12 of the EIAO-TM and requirement from the EIA Study Brief.</p> <p>Quantitative assessment was carried out by applying EMFAC-HK, AERMOD, CALINE4 and PATH model in accordance with “Guideline for Local-Scale Air Quality Assessment Using Models” issued by EPD.</p>	<p>Construction dust impact was predicted based on emission factors from US Environmental Protection Agency (USEPA) Compilation of Air Pollution Emission Factors (AP-42), 5th edition and activity information from the engineer design.</p> <p>Based on the conservative assumptions of general construction activities, it is assumed that dust emission would be generated during the daytime between 07:00-19:00, 7 days a week in the assessment. Only wind erosion is assumed for other non-working hours (19:00 to 07:00 of the following day). Heavy construction activities are assumed to be concurrently undertaken at all works sites, and wind erosion are assumed to be occurred at all active open sites and entire stockpile area.</p> <p>Watering once every hour on heavy construction work areas shall be implemented to reduce dust emission by 91.7% in accordance with the “Control of Open Fugitive Dust Sources” (USEPA AP-42).</p>	<p>Adopted background concentration at year 2025 may overestimate air quality in the assessment year, 2028.</p>	<p>Clause 3.4.4.3, and Sections 3 &amp; 5 of Appendix B</p>	<p>Working Paper on Methodology for Air Quality Impact Assessment</p>	<p>N/A</p>
<b>Operational Phase</b>					
<p>The air quality impact assessment follows: Annexes 4 and 12 of the EIAO-</p>	<p>Marine vessel emission from the proposed marine facilities are included in the</p>	<p>Adopted background concentration at year 2025</p>	<p>Clause 3.4.4.3, and Sections 4</p>	<p>Working Paper on</p>	<p>N/A</p>

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<p>TM and requirement from the EIA Study Brief.</p> <p>Quantitative assessment was carried out by applying EMFAC-HK, AERMOD, CALINE4 and PATH model in accordance with “Guideline for Local-Scale Air Quality Assessment Using Models” issued by EPD.</p>	<p>quantitative impact assessment.</p> <p>The key existing air pollution sources within the assessment area during operational phase include (1) vehicular emission from open roads, (2) emission from public transport interchanges / bus termini, (3) emission from idling vehicles at kiosks of HKP Island and (4) marine emission from ferries travelling between SkyPier and Macau / PRD. No industrial chimney was identified within the assessment area.</p> <p>Detailed assessment assumptions have been presented in Section 3.6.</p>	<p>may overestimate air quality in the assessment year, 2028.</p>	<p>&amp; 5 of Appendix B</p>	<p>Methodology for Air Quality Impact Assessment</p>	
<b>Noise Impact</b>					
<b>Construction Phase</b>					
<p>The noise impact assessment for the Project follows Annexes 5 and 13 of the EIAO-TM and the requirement from the EIA Study Brief. In accordance with the EIAO, the methodology outlined in the “Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)” was used for construction noise impact assessment.</p>	<p>The construction noise is predicted based on the Sound Power Levels (SWLs) of powered mechanical equipment (PME) in Table 3 of GW-TM, the QPME system adopted by EPD and “SWL of other commonly used PME” on EPD’s website, etc.. Detailed assessment assumptions have been presented in Section 4.6.</p>	<p>The construction programme is tentative and subject to contractor’s design and site circumstances.</p> <p>The prediction of construction noise impact is based on GW-TM under the NCO. The SWL of PME is mainly based on GW-TM and QPME system. The actual situation may be better than that of prediction.</p>	<p>Clause 3.4.5.3, and Section 2 of Appendix C</p>	<p>Working Paper on Noise Impact Assessment</p>	<p>N/A</p>
	<p>It is assumed that all PME items required for a particular construction activity will be located at the notional source position or</p>	<p>The construction programme is tentative and subject to contractor’s design and site</p>			

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	<p>exact fixed position of the workfronts. The assessment is based on the cumulative SWL of PME likely to be used in each works areas, taking into account the construction period in the vicinity of the receiver location. To predict the construction noise impacts, PME are divided into groups required for individual construction activity. The objective is to identify the worst case scenario representing those items of PME that will be in use concurrently at any given time. The Sound Pressure Level of individual construction activity was calculated, depending on the number of PME and distance from receivers. The noise levels at NSRs were then predicted by the sum of SWLs of all concurrent construction activities with their respective distance correction.</p>	<p>circumstances.</p> <p>The prediction of construction noise impact is based on GW-TM under the NCO. The SWL of PME is mainly based on GW-TM and QPME system. The actual situation may be better than that of prediction.</p>			
<b>Operational Phase</b>					
<p>The operational noise impact assessment for the Project follows Annexes 5 and 13 of the EIAO-TM and the requirement from the EIA Study Brief. In accordance with the EIAO, the methodology of assessment is based on the “Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM)”.</p>	<p>Zero emission vehicles is considered as a mobile plant, and the assessment methodology for calculation of maximum Sound Power Level (SWL) of zero emission vehicles is based on standard acoustic principles, <i>ISO 9613-2</i> and IND-TM.</p>	<p>The calculation of maximum permissible SWL of zero emission vehicles is based on standard acoustic principles, <i>ISO 9613-2</i> and IND-TM. The actual situation may be better than that of prediction.</p>	<p>Clause 3.4.5.3, and Section 3 of Appendix C</p>	<p>Working Paper on Noise Impact Assessment</p>	<p>N/A</p>

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<b>Water Quality</b>					
<b>Construction Phase</b>					
<p>The water quality impact assessment for the Project follows Annexes 6 and 14 of the EIAO-TM and the requirement from the EIA Study Brief. Qualitative assessment based on approach agreed in Working Paper on Water Quality Modelling Plan.</p> <p>Key sources of pollution were identified. Potential impacts and suitable control and mitigation measures were recommended to minimise the potential water quality impacts.</p>	<p>Assessment is conducted based on latest available engineering information on design and construction methodology.</p>	N/A	<p>Clause 3.4.6.2 and Appendix D</p>	<p>Working Paper for Water Quality Modelling Plan</p>	N/A
<b>Operational Phase</b>					
<p>The water quality impact assessment for the Project follows Annexes 6 and 14 of the EIAO-TM and the requirement from the EIA Study Brief. Qualitative and quantitative assessment based on approach agreed in Working Paper on Water Quality Modelling Plan.</p> <p>Key sources of pollution were identified. Potential impacts and suitable control and mitigation measures were recommended for minor sources of water pollution. For more notable sources of potential changes in water quality and flow</p>	<p>Assessment was conducted based on latest available engineering information on design, construction methodology for maintenance dredging, baseline water quality condition, coastline configuration and bathymetry data, ambient environmental conditions within the Assessment Area and concurrent projects within the North Western Water Control Zone.</p>	<p>Uncertainties in flow regime change modelling would likely be around detailed project design, particularly on pile locations and dimension. To address such uncertainty, the potential design with the highest level of cross section blocked would be assessed to ensure conservative assessment.</p> <p>Uncertainties in the assessment of the impacts from suspended sediment</p>	<p>Clause 3.4.6.2 and Appendices D &amp; D-1</p>	<p>Working Paper for Water Quality Modelling Plan</p>	N/A

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regime, computational modelling was conducted to estimate the potential level of changes.		plumes were related to the adoption of typical sediment loss rate from specific kind of dredging plant (closed grab) as well as sediment removal efficiency for cage type silt curtain, which are both well-established and deemed conservative.			
<b>Waste management</b>					
<b>Construction Phase &amp; Operational Phase</b>					
The assessment of waste management implications from handling, storage, collection, transportation and disposal of solid waste materials generated by the Project follows: <ul style="list-style-type: none"> <li>EIAO-TM Annex 7 and Annex 15;</li> <li>WDO (Cap 354) and subsidiary regulations;</li> <li>Land (Miscellaneous Provisions) Ordinance (Cap 28);</li> <li>Public Health and Municipal Services Ordinance (Cap 132) – Public Cleansing and Prevention of Nuisances Regulation;</li> <li>DASO (Cap 466);</li> </ul>	Quantity on waste generation during the construction and operational phases are estimated based on the latest available information from Project Engineer.	-	Clause 3.4.7.2 and Appendix E	Sediment Sampling and Testing Plan	N/A

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<ul style="list-style-type: none"> <li>• PNAP ADV-21;</li> <li>• WBTC No. 12/2000 Fill Management; and</li> <li>• SSTP</li> </ul> <p>Site investigation has been conducted for the estimation of sediment quality and quantity.</p>					
<b>Ecology</b>					
<b>Construction Phase &amp; Operational Phase</b>					
<p>The ecological impact assessment follows Annexes 8 and 16 of the EIAO-TM and the requirement from the EIA Study Brief.</p> <p>Literature review of baseline conditions and baseline surveys are conducted to fill in information gap. Water quality monitoring results were also reviewed for marine ecological impact assessment.</p>	<p>Assessment was conducted based with literature review supplemented with focussed field surveys within the Assessment Area, including terrestrial surveys within/adjacent to Scenic Hill, subtidal (benthic and coral) surveys.</p>	<p>Ecological baseline is established based on literature review as well as terrestrial surveys within/adjacent to Scenic Hill, and marine surveys. Baseline descriptions are considered sufficiently representative to allow subsequent assessments to be made.</p>	<p>Clause 3.4.8.2 and Appendix F</p>	<p>Technical Note for Ecological and Fisheries Survey Proposal</p>	<p>N/A</p>
<b>Fisheries</b>					
<b>Construction Phase &amp; Operational Phase</b>					
<p>The ecological impact assessment follows Annexes 9 and 17 of the EIAO-TM and the requirement from the EIA Study Brief.</p>	<p>Assessment was conducted based with literature review within the Assessment Area.</p>	<p>Fisheries baseline is established based on literature review. Baseline descriptions are considered sufficiently</p>	<p>Clause 3.4.9.3 and Appendix G</p>	<p>Technical Note for Ecological and Fisheries Survey Proposal</p>	<p>N/A</p>

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Literature review of baseline fisheries conditions and result generating from water quality impact assessment		representative to allow subsequent assessment to be made.			
<b>Cultural Heritage</b>					
<b>Construction Phase &amp; Operational Phase</b>					
The cultural heritage impact assessment follows Annexes 10 and 19 of the EIAO-TM and the Requirements for MAI as stated in Appendix H of the EIA Study Brief (ESB-342/2021).	Assessment was conducted based with baseline review and geophysical survey within the Assessment Area.	Sub-bottom Profiling and Marine magnetometer were not conducted as part of the geophysical survey at the Marine Facilities Survey Area (MF site) due to site constraint.	Clause 3.4.10.2 and Appendix H	Technical Note on Marine Archaeological Investigation	N/A
<b>Landscape and Visual</b>					
<b>Construction Phase &amp; Operational Phase</b>					
The assessment of landscape and visual impacts generated by the Project follows: <ul style="list-style-type: none"> <li>EIAO-TM Annexes 10 and 18</li> <li>Environmental Impact Assessment Ordinance Guidance Note No. 8/2010</li> <li>Town Planning Ordinance (Cap 131)</li> <li>Foreshore and Sea-bed (Reclamations) Ordinance (Cap 127)</li> <li>Town Planning (Amendment) Ordinance, 2004</li> <li>Country Parks Ordinance (Cap 208)</li> <li>Protection of Endangered Species of</li> </ul>	Assessment was conducted based on the baseline review and landscape and visual surveys within the Assessment Area, supplemented with the latest available information on the design and construction methodology.	Landscape and Visual baselines are established based on literature review as well as field surveys within the Assessment Area. Baseline descriptions are considered sufficiently representative to allow subsequent assessments to be made.	Clause 3.4.11 and Appendix I	EIAO (Cap 499. S. 16) and the EIAO-TM, particularly Annexes 10 and 18;  Technical Note on Methodology for Proposed Vantage Point for Photomontage	N/A

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<p>Animals and Plants Ordinance (Cap 586)</p> <ul style="list-style-type: none"> <li>• Marine Parks Ordinance (Cap 476) and associated subsidiary legislation</li> <li>• Forests and Countryside Ordinance (Cap 96) and its subsidiary legislations</li> <li>• Hong Kong Planning Standards and Guidelines (HKPSG) Chapters 4, 10 and 11;</li> <li>• DEVB TC(W) No. 5/2020 - Registration and Preservation of Old and Valuable Trees</li> <li>• DEVB TC(W) No. 4/2020 - Tree Preservation</li> <li>• LAO PN 2/2020 and 2/2020A - Tree Preservation and Removal Proposal for Building Development in Private Projects Compliance of Tree Preservation Clause under Lease</li> <li>• DEVB TC(W) No. 6/2015 - Maintenance of Vegetation and Hard Landscape Features</li> <li>• DEVB TC(W) No. 2/2015 – Green Government Buildings</li> <li>• DEVB Greening, Landscape and Tree Management (GLTM) Section of DevB – Management Guidelines for Mature Trees, December 2014</li> </ul>					



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<ul style="list-style-type: none"> <li>• DEVB (GLTM) – Guidelines on Tree Transplanting, September 2014</li> <li>• DEVB (GLTM) TC(W) No. 3/2012 – Site Coverage of Greenery for Government Building Projects</li> <li>• DEVB (GLTM) TC(W) No. 2/2012 – Allocation of Space for Quality Greening on Roads</li> <li>• ETWB TC (W) No. 11/2004 – Cyber Manual for Greening</li> <li>• Government General Regulation 740 – setting out restrictions on the preservation and felling of trees in Hong Kong</li> <li>• Technical Report of “Study on Landscape Value Mapping of Hong Kong” by Planning Department</li> <li>• Urban Design Guidelines for Hong Kong” by Planning Department</li> <li>• Landscape Character Map of Hong Kong (2005 Edition)</li> <li>• The Register of Old and Valuable Trees – Hong Kong, maintained by the Leisure and Cultural Services Department</li> <li>• Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030</li> <li>• Latest Hong Kong International</li> </ul>					

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Airport (HKIA) Approved Plant Species List					