

**Appendix 13.2 – Summary of Environmental Impacts**

| Sensitive Receivers / Assessment Points  | Impact Prediction Results (Without Mitigation)   | Key Relevant Standards/Criteria  | Extents of Exceedance (Without Mitigation) | Impact Avoidance Measures / Mitigation Measures  | Residual Impacts (After Implementation of Mitigation Measures) |
|--|--|--|--|--|--|
| <b>Air Quality Impact</b>  |  |  |  |  |  |
| <b>Construction Impact</b>   |  |  |  |  |  |
| Representative existing residential, commercial developments and government uses within 500m from the boundary of the Project Site | <p><u>RSP</u></p> <ul style="list-style-type: none"> <li>10<sup>th</sup> highest 24-hr average conc: 69 – 99 µg/m<sup>3</sup></li> <li>Annual average: 31 – 50 µg/m<sup>3</sup></li> </ul> <p><u>FSP</u></p> <ul style="list-style-type: none"> <li>10<sup>th</sup> highest 24-hr average conc: 52 – 57 µg/m<sup>3</sup></li> <li>Annual average: 22 – 26 µg/m<sup>3</sup></li> </ul> <p><u>TSP</u></p> <ul style="list-style-type: none"> <li>1<sup>st</sup> highest hourly average conc: 186 – 376 µg/m<sup>3</sup></li> </ul> | <p><u>RSP</u></p> <ul style="list-style-type: none"> <li>24-hr average conc.: 100 µg/m<sup>3</sup> (Number of exceedances allowed: 9)</li> <li>Annual average conc.: 50 µg/m<sup>3</sup></li> </ul> <p><u>FSP</u></p> <ul style="list-style-type: none"> <li>24-hr average conc.: 75 µg/m<sup>3</sup> (Number of exceedances allowed: 9)</li> <li>Annual average conc.: 35 µg/m<sup>3</sup></li> </ul> <p><u>TSP</u></p> <ul style="list-style-type: none"> <li>1<sup>st</sup> highest hourly average conc : 500 µg/m<sup>3</sup></li> </ul> | N/A  | <p>The approved non-road mobile machinery (NRMMs) under NRMM Regulation (excluding exempted NRMMs) would be used on site and NRMMs supplied with mains electricity instead of diesel-powered should be adopted as far as possible to minimize the potential emission from NRMMs.</p> <p>Dust suppression measures and good site practices</p> <ul style="list-style-type: none"> <li>Skip hoist for material transport should be totally enclosed by impervious sheeting.</li> <li>All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.</li> <li>All stockpiles of aggregate or spoil should be covered and/or water applied.</li> <li>The height from which</li> </ul> | No adverse residual impacts anticipated                        |

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|--|---|--|--|--|--|
|  |   |  |  | excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. <ul style="list-style-type: none"> <li>• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> <li>• The load of dusty materials carried by a vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle.</li> <li>• Erection of hoarding of not less than 2.4m high from ground level along the site boundary which adjoins a road, street, service lane or other area accessible to the public.</li> </ul> |  |
| <b>Operation Impact</b>  |   |  |  |  |  |
| Existing and planned residential, commercial developments and government uses within 500m from the boundary of | <u>NO<sub>2</sub></u> <ul style="list-style-type: none"> <li>• 19<sup>th</sup> highest 1-hr average conc.: 92 – 145 µg/m<sup>3</sup></li> <li>• Annual average conc.: 13 –</li> </ul> | <u>NO<sub>2</sub></u> <ul style="list-style-type: none"> <li>• 1-hr average conc.: 200 µg/m<sup>3</sup> (Number of exceedances allowed:</li> </ul> | N/A  | No adverse air quality impact is anticipated during the operation phase of the Project, thus mitigation measure is deemed  | No adverse residual impacts anticipated                        |

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|---|---|---|--|--|---|
| the Project Site  | 37 µg/m <sup>3</sup><br><u>RSP</u> <ul style="list-style-type: none"> <li>10<sup>th</sup> highest 24-hr average conc: 69 – 72 µg/m<sup>3</sup></li> <li>Annual average: 31 – 33 µg/m<sup>3</sup></li> </ul> <u>FSP</u> <ul style="list-style-type: none"> <li>10<sup>th</sup> highest 24-hr average conc: 52 – 54 µg/m<sup>3</sup></li> <li>Annual average: 22 – 24 µg/m<sup>3</sup></li> </ul> | 18)<br><ul style="list-style-type: none"> <li>Annual average conc.: 40 µg/m<sup>3</sup></li> </ul> <u>RSP</u> <ul style="list-style-type: none"> <li>24-hr average conc.: 100 µg/m<sup>3</sup> (Number of exceedances allowed: 9)</li> <li>Annual average conc.: 50 µg/m<sup>3</sup></li> </ul> <u>FSP</u> <ul style="list-style-type: none"> <li>24-hr average conc.: 75 µg/m<sup>3</sup> (Number of exceedances allowed: 9)</li> <li>Annual average conc.: 35 µg/m<sup>3</sup></li> </ul> |  | not necessary.   |   |
| <b>Noise Impact</b>   |   |   |  |  |   |
| <b>Construction Impact</b>  |   |   |  |  |   |
| Representative existing noise sensitive developments (e.g. residential) within 300m from the boundary of the Project Site | <ul style="list-style-type: none"> <li>58 – 99 dB(A)</li> </ul>   | <ul style="list-style-type: none"> <li>Annexes 5 and 13 of the EIAO-TM</li> <li>Leq<sub>(30 min)</sub> 75dB(A) at 1m from the façade of residential dwellings</li> <li>Leq<sub>(30 min)</sub> 70dB(A) at 1m from the façade of educational institutions which rely on openable window for ventilation (Leq<sub>(30 min)</sub> 65dB(A) during examinations).</li> </ul>  | <ul style="list-style-type: none"> <li>0 – 24 dB(A)</li> </ul> | <ul style="list-style-type: none"> <li>Quality PME prescribed in EPD's Quality Powered Mechanical Equipment (QPME) database.</li> <li>Temporary movable noise barriers, full enclosure for PME.</li> <li>Good site practices</li> <li>Only well-maintained plant should be operated on site and plant should be serviced regularly.</li> </ul> | <ul style="list-style-type: none"> <li>No adverse residual impacts anticipated</li> </ul> |

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|--|---|--|---|---|---|
|  |   |  |   | <ul style="list-style-type: none"> <li>• Silencers or mufflers on construction plant should be utilized and should be properly maintained.</li> <li>• Mobile plant should be sited as far away from sensitive uses as possible.</li> <li>• Machines and plant that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> <li>• Plant known to emit noise strongly in one direction should, where possible, be orientated so that noise is directed away from the nearby sensitive uses.</li> <li>• Material stockpiles and other structures should be effectively utilized to screen noise from on-site construction activities.</li> </ul> |   |
| <b>Operation Impact</b>  |   |  |   |   |   |
| Representative existing and planned residential developments, educational institutions, clinic, etc. within 300m from the boundary of the Project Site | <ul style="list-style-type: none"> <li>• Predicted overall noise levels: 45 – 82 dB(A)</li> <li>• Predicted noise levels of the Project roads: 0 – 80 dB(A)</li> <li>• Contribution from Project roads: 0 – 34 dB(A)</li> </ul> | <ul style="list-style-type: none"> <li>• Annexes 5 and 13 of the EIAO-TM</li> <li>• L<sub>10(1 hour)</sub> 70dB(A) at 1m from the façade of residential dwellings</li> </ul> | <ul style="list-style-type: none"> <li>• Exceedance of the noise criteria by up to 17 dB(A)</li> <li>• The exceedances are dominantly contributed by the existing roads at</li> </ul> | <ul style="list-style-type: none"> <li>• Low Noise Road Surfacing                             <ul style="list-style-type: none"> <li>- Approx 180m at proposed slip road SR1-1 (LNRS1).</li> <li>- Approx 210m at proposed T4 (westbound) slip road (LNRS2).</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>• No adverse residual impacts anticipated</li> </ul> |

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|--|---|--|--|--|---|
|  |   | <ul style="list-style-type: none"> <li>65 dB(A) at 1 m from the external façades of schools, places of public worship, courts of law, places where unaided voice communication is required</li> <li>55 dB(A) at 1 m from the external façades of hospital and clinics.</li> </ul>  | some Representative NSRs, while at some other Representative NSRs, the exceedances are dominantly contributed by Project Roads | <ul style="list-style-type: none"> <li>Proposed Noise Barriers and Enclosures               <ul style="list-style-type: none"> <li>- Approx 60m of 2m High Vertical Noise Barrier (N1).</li> <li>- Approx 130m of 5m High Vertical Noise Barrier (N2).</li> <li>- Approx 100m of 5.5m High with 1.5m Cantilever (at 45 degrees) Barrier (N3).</li> <li>- Approx 50m of 2.7m High with 3.7m Cantilever (at 20 degrees) Barrier (N4).</li> <li>- Approx 170m Semi-enclosure (SE1).</li> <li>- Approx 390m Full-enclosure (FE1).</li> </ul> </li> </ul> |   |
| <b>Water Quality Impact</b>  |   |  |  |  |   |
| <b>Construction Impact</b>   |   |  |  |  |   |
| Representative WSRs within 500m from the boundary of the Project Site, including Shing Mun Main River Channel, Lion Rock Country Park, natural streams running from Hillside to Shing Mun River catchment and concrete channel near Sha Tin Tau Village and Shui Chuen O Estate. | <p>The potential sources of water quality impact associated with the construction works include:</p> <ul style="list-style-type: none"> <li>Construction works at Shing Mun Main River Channel;</li> <li>Wastewater from general construction activities;</li> <li>Construction site run-off;</li> <li>Construction works in close proximity to inland water;</li> <li>Sewage from construction workforce;</li> <li>Accidental spillage of</li> </ul> | <ul style="list-style-type: none"> <li>Annexes 6 and 14 of the EIAO-TM</li> <li>Water Quality Objectives for the Tolo Harbour and Channel Water Control Zone (WCZ)</li> <li>Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS)</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul>  | <ul style="list-style-type: none"> <li>Mitigation measures and good site practices in ProPECCPN 1/94 "Construction Site Drainage"</li> <li>Guidelines in DSD Technical Circular No. 14/200 "Temporary Flow Diversions and Temporary Works Affecting Capacity in Stormwater System"</li> <li>Practices in ETWB TC (Works) No. 5/2005 "Protection of natural</li> </ul>  | <ul style="list-style-type: none"> <li>No adverse residual impacts anticipated</li> </ul> |

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|--|--|--|---|---|---|
|  | chemicals; and <ul style="list-style-type: none"> <li>• Diversion of Sha Tin Tau Nullah.</li> </ul>  | <ul style="list-style-type: none"> <li>• Practical Note for Professional Persons (ProPECC) PN 1/94</li> <li>• Environmental, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 5/2005</li> <li>• Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 9 (Environment)</li> </ul>                                   |   | <i>streams / rivers from adverse impacts arising from construction works"</i> <ul style="list-style-type: none"> <li>• Waste Disposal Regulation</li> <li>• Provision of interim treatment facilities, such as chemical toilets, for construction workforce</li> </ul>                              |   |
| <b>Operation Impact</b>  |  |  |   |   |   |
| Representative WSRs within 500m from the boundary of the Project Site, including Shing Mun Main River Channel, Lion Rock Country Park, natural streams running from Hillside to Shing Mun River catchment and concrete channel near Sha Tin Tau Village and Shui Chuen O Estate. | Potential water quality impacts associated with the operation phase include: <ul style="list-style-type: none"> <li>• Non-point source surface run-off from new impervious areas; and</li> <li>• Hydrodynamic and water quality impact on Shing Mun River</li> </ul> | <ul style="list-style-type: none"> <li>• Annexes 6 and 14 of the EIAO-TM</li> <li>• Water Quality Objectives for the Victoria Harbour (Phase Two) WCZ</li> <li>• Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS)</li> <li>• ProPECC PN 5/93</li> </ul> | <ul style="list-style-type: none"> <li>• N/A</li> </ul> | <ul style="list-style-type: none"> <li>• Adequate design in silt trap for the new road drainage which take into account the guidelines in ProPECC PN 5/93.</li> <li>• Best Storm Water Management Practices and Storm Water Pollution Control Plan to reduce non-point source pollution.</li> </ul> | <ul style="list-style-type: none"> <li>• No adverse residual impacts anticipated</li> </ul> |
| <b>Waste Management Implications</b>   |  |  |   |   |   |
| <b>Construction Impact</b>   |  |  |   |   |   |
| C&D materials, excavated   | <ul style="list-style-type: none"> <li>• Around 23,850 m<sup>3</sup> of non-inert</li> </ul>   | <ul style="list-style-type: none"> <li>• Annexes 7 and 15 of the</li> </ul>  | <ul style="list-style-type: none"> <li>• N/A</li> </ul> | <ul style="list-style-type: none"> <li>• Implementation of good</li> </ul>  | <ul style="list-style-type: none"> <li>• No adverse residual</li> </ul>                     |

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|---|--|---|---|---|--|
| sediments, chemical wastes and general refuse | <p>C&amp;D materials and 299,614 m<sup>3</sup> of inert C&amp;D materials will be generated from demolition of the existing carriageways, site clearance/set-up/plant mobilization, underground utilities protection and diversion works, piling works, pile cap/pier/abutment construction, falsework/deck construction, and drainage and pavement construction.</p> <ul style="list-style-type: none"> <li>• Around 800 m<sup>3</sup> of excavated marine-based sediment will be generated from construction of piled foundation for the viaduct section across the Shing Mun River Channel.</li> <li>• Small quantity of chemical wastes in the order of a few cubic meters per month</li> <li>• Around 163 kg per day of general refuse will be generated from construction works and on-site staff and workers</li> </ul> | <p>EIAO-TM</p> <ul style="list-style-type: none"> <li>• Waste Disposal Ordinance (Cap. 354)</li> <li>• Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)</li> <li>• Land (Miscellaneous Provisions) Ordinance (Cap. 28)</li> <li>• Public Health and Municipal Services Ordinance – Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK)</li> <li>• Dumping at Sea Ordinance (Cap. 466)</li> </ul> |   | <p>site practices, waste reduction measures and proper storage, collection and transport of waste.</p> <ul style="list-style-type: none"> <li>• The excavated sediment will be treated and reused on site.</li> </ul> | impact anticipated   |
| <b>Operation Impact</b>                       |  |   |   |   |  |
| N/A   | <ul style="list-style-type: none"> <li>• It is expected that no waste will be generated during the operation phase of the Project.</li> </ul>  | <ul style="list-style-type: none"> <li>• N/A</li> </ul>   | <ul style="list-style-type: none"> <li>• N/A</li> </ul> | <ul style="list-style-type: none"> <li>• No mitigation measures to be provided as the Project would not cause adverse impacts.</li> </ul>   | <ul style="list-style-type: none"> <li>• No adverse residual impact anticipated</li> </ul> |
| <b>Land Contamination</b>                     |  |   |   |   |  |

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|--|--|--|---|---|--|
| Onsite construction workers and future occupants   | <ul style="list-style-type: none"> <li>Adverse land contamination impact arising from the Project is not anticipated</li> </ul>  | <ul style="list-style-type: none"> <li>Annex 19 of the EIAO-TM</li> <li>Guidance Note for Contaminated Land Assessment and Remediation (EPD, 2007)</li> <li>Practice Guide for Investigation and Remediation of Contaminated Land (EPD, 2011)</li> <li>Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (EPD, 2007)</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>As adverse land contamination impact arising from the Project is not anticipated, no mitigation measures were considered necessary.</li> </ul>   | <ul style="list-style-type: none"> <li>No adverse residual impact anticipated</li> </ul> |
| <b>Ecological Impact (Terrestrial)</b>   |  |  |   |   |  |
| <p>Natural/Semi-natural habitats including woodland, mixed woodland, plantation and the associated wildlife (including species of conservation importance)</p> <p>Ardeid night roost site between HKHM and Man Lai Court</p> | <ul style="list-style-type: none"> <li>Permanent loss of approximately 2.8 ha natural/semi-natural habitat</li> <li>Very small area of woodland (13 m<sup>2</sup>) and mixed woodland (153 m<sup>2</sup>) within LRCP would be permanently affected</li> <li>Potential direct injury/mortality to wildlife and bird collision</li> <li>Disturbance impact on bird flight path (including ardeids)</li> </ul> | <ul style="list-style-type: none"> <li>Annexes 8 and 16 of the EIAO-TM</li> <li>EIAO Guidance Notes No. 7/2010 and No. 10/2010</li> </ul>  | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Avoidance of direct impact to ardeid night roost site between HKHM and Man Lai Court</li> <li>Avoidance of direct impact to recognized sites of conservation importance as far as possible</li> <li>Minimization of direct impact to LRCP by proposing the flexible</li> </ul> | <ul style="list-style-type: none"> <li>No adverse residual impact anticipated</li> </ul> |



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|---|---|--|---|--|--|
|   | <ul style="list-style-type: none"> <li>Indirect disturbance impact (e.g. dust, noise, glare, site runoff, groundwater infiltration) on ardeid night roost, natural/semi-natural habitats and associated wildlife in the vicinity</li> </ul> |  |   | <ul style="list-style-type: none"> <li>barrier at the fringe of LRCP closest to Sha Tin Road as far as possible</li> <li>Carefully design the construction works to preserve the directly impacted flora species of conservation importance in-situ as far as possible. If direct impact is unavoidable, transplant the flora species of conservation importance, where possible, according to Plant Preservation and Transplantation Proposal</li> <li>Implementation of good site practices (e.g. provision of screening, direct lighting away from the night roosting site and LRCP, etc.)</li> <li>Restriction hours of construction works approximately 100 m from the nearest ardeid night roost site</li> </ul> |  |
| Operation Phase                               |   |  |   |  |  |
| Natural/Semi-natural habitats including mixed | <ul style="list-style-type: none"> <li>Potential direct mortality to wildlife (e.g. road kill) and bird</li> </ul>  | <ul style="list-style-type: none"> <li>Same as construction phase</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Implementation of good site practices and</li> </ul>  | <ul style="list-style-type: none"> <li>No adverse residual impact anticipated</li> </ul> |

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|--|--|--|---|---|---|
| <p>woodland, plantation and the associated wildlife (including species of conservation importance)</p> <p>Ardeid night roost site between HKHM and Man Lai Court</p> | <p>collision</p> <ul style="list-style-type: none"> <li>Disturbance impact on bird flight path (including ardeids)</li> <li>Disturbance impacts (e.g. dust, noise, glare) on ardeid night roost, natural/semi-natural habitats and the associated wildlife (including species of conservation importance) in the vicinity of Project site</li> </ul>   |  |   | <p>mitigation measures (e.g. planting of peripheral screening plants/vertical green, control of glare / lighting) measures</p> <ul style="list-style-type: none"> <li>Carefully design the noise barrier (e.g. location, use of tinted materials and superimposing dark patterns or strips on the noise barrier)</li> </ul>   |   |
| <b>Landscape and Visual Impacts</b>  |  |  |   |   |   |
| <b>Construction Impact</b>   |  |  |   |   |   |
| Landscape Resources (LRs)  | <ul style="list-style-type: none"> <li>Substantial landscape impact on Tree and Shrub Planting in Village Areas Near Tsang Tai Uk, Sha Tin Tau Village Sitting-Out Area, Landscape Areas in Urban Development Area near Lion Rock Tunnel Road, Agricultural Land Near Sha Tin Tau Village, Plantation on Engineered Slopes and Tree and Shrub Planting in Roadside Areas.</li> <li>Moderate landscape impact on Woodland and Mixed Woodland near Needle Hill and Sha Tin Road, Tree and Shrub Planting in Village Areas near Lai Chi Yuen and Shing Mun</li> </ul> | <ul style="list-style-type: none"> <li>Annexes 10 and 18 of the EIAO-TM</li> <li>Environmental Impact Assessment Ordinance Guidance Note 8/2010</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Preservation of Existing Vegetation</li> <li>Preservation of Old and Valuable Trees (OVTs)</li> <li>Transplanting of Affected Trees</li> <li>Control of Night-time Lighting Glare</li> <li>Erection of Decorative Screen Hoarding</li> <li>Management of Construction Activities and Facilities</li> <li>Reinstatement of Temporarily Disturbed Landscape Areas</li> </ul> | <ul style="list-style-type: none"> <li>Moderate landscape impact on Tree and Shrub Planting in Village Areas Near Tsang Tai Uk, Sha Tin Tau Village Sitting-Out Area, Landscape Areas in Urban Development Area near Lion Rock Tunnel Road, Agricultural Land Near Sha Tin Tau Village, Plantation on Engineered Slopes , Tree and Shrub</li> </ul> |

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|---|--|--|---|---|--|
|   | <p>River Promenade.</p> <ul style="list-style-type: none"> <li>Slight landscape impact on Waterbodies in Shing Mun River Channel and Modified Watercourse in Sha Tin Tau.</li> <li>No discernible change in other LRs identified within the study boundary of the Project</li> </ul>   |  |   | <ul style="list-style-type: none"> <li>Reinstatement of Affected Watercourses</li> </ul>  | <p>Planting in Roadside Areas, Woodland and Mixed Woodland near Needle Hill and Sha Tin Road, Tree and Shrub Planting in Village Areas near Lai Chi Yuen and Shing Mun River Promenade.</p> <ul style="list-style-type: none"> <li>Slight landscape impact on Waterbodies in Shing Mun River Channel and Modified Watercourse in Sha Tin Tau.</li> </ul> |
| Landscape Character Areas (LCAs)        | <ul style="list-style-type: none"> <li>Substantial landscape impact on Sha Tin Tau Residential Urban LCA.</li> <li>Moderate landscape impact on Sha Tin Upland and Hillside LCA, Tai Wai Miscellaneous Urban Fringe LCA and Tai Wai Residential Urban Fringe LCA.</li> <li>Slight landscape impact on Sha Tin Miscellaneous Urban Fringe LCA, Tai Wai Residential Urban LCA, Tai Wai Urban Peripheral Village LCA, Tai Wai Transportation</li> </ul> | <ul style="list-style-type: none"> <li>Annexes 10 and 18 of the EIAO-TM</li> <li>Environmental Impact Assessment Ordinance Guidance Note 8/2010</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Preservation of Existing Vegetation</li> <li>Preservation of Old and Valuable Trees (OVTs)</li> <li>Transplanting of Affected Trees</li> <li>Control of Night-time Lighting Glare</li> <li>Erection of Decorative Screen Hoarding</li> </ul> | <ul style="list-style-type: none"> <li>Moderate landscape impact on Sha Tin Tau Residential Urban LCA, Sha Tin Upland and Hillside LCA, Tai Wai Miscellaneous Urban Fringe LCA and Tai Wai Residential Urban Fringe LCA.</li> <li>Slight landscape impact on Sha Tin Miscellaneous Urban Fringe LCA, Tai Wai Residential Urban</li> </ul>                |

| Sensitive Receivers / Assessment Points    | Impact Prediction Results (Without Mitigation)  | Key Relevant Standards/Criteria  | Extents of Exceedance (Without Mitigation)            | Impact Avoidance Measures / Mitigation Measures  | Residual Impacts (After Implementation of Mitigation Measures)   |
|--|---|--|---|--|--|
|  | <p>Corridor LCA and Sha Tin Road Transportation Corridor LCA.</p> <ul style="list-style-type: none"> <li>No discernible change in other LCAs identified within the study boundary of the Project</li> </ul>   |  |   | <ul style="list-style-type: none"> <li>Management of Construction Activities and Facilities</li> <li>Reinstatement of Temporarily Disturbed Landscape Areas</li> <li>Reinstatement of Affected Watercourses</li> </ul>   | <p>LCA, Tai Wai Urban Peripheral Village LCA, Tai Wai Transportation Corridor LCA and Sha Tin Road Transportation Corridor LCA.</p>  |
| <p>Visually Sensitive Receivers (VSRs)</p> | <ul style="list-style-type: none"> <li>Substantial visual impact on where the proposal would cause significant deterioration or improvement in existing visual quality (R-05, R-06, I-07).</li> <li>Moderate visual impact on immediately adjacent VSRs who have full overview of the project that cause a noticeable deterioration or improvement in existing visual quality (R-03, R-04, I-03, I-04, I-06, O-01, O-3, O-04, O-05, T-01, T-02, T-03, T-04, T-05, T-06).</li> <li>Slight visual impact on VSRs further away that cause a barely perceptible deterioration or improvement in existing visual quality (R-01, I-01, I-05, W-01).</li> <li>Insubstantial visual visual impact on long distant VSRs with no discernible change in</li> </ul> | <ul style="list-style-type: none"> <li>Annexes 10 and 18 of the EIAO-TM</li> <li>Environmental Impact Assessment Ordinance Guidance Note 8/2010</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Preservation of Existing Vegetation</li> <li>Transplanting of Affected Trees</li> <li>Control of Night-time Lighting Glare</li> <li>Erection of Decorative Screen Hoarding</li> <li>Management of Construction Activities and Facilities</li> <li>Reinstatement of Temporarily Disturbed Landscape Areas</li> <li>Reinstatement of Affected Watercourses</li> </ul> | <ul style="list-style-type: none"> <li>Moderate residual impact on where the proposal would cause significant deterioration or improvement in existing visual quality and immediately adjacent VSRs who have full overview of the project that cause a noticeable deterioration or improvement in existing visual quality (R-05, R-06, I-07, R-03, R-04, I-03, I-04, I-06, O-01, O-3, O-04, O-05,).</li> <li>Slight visual impact on VSRs further away that cause a barely perceptible deterioration or improvement in existing visual quality (R-01, I-01, I-05, T-01,</li> </ul> |

| Sensitive Receivers / Assessment Points | Impact Prediction Results (Without Mitigation)  | Key Relevant Standards/Criteria  | Extents of Exceedance (Without Mitigation)            | Impact Avoidance Measures / Mitigation Measures  | Residual Impacts (After Implementation of Mitigation Measures)  |
|---|---|--|---|--|---|
|   | the existing visual quality (R-02, I-02, I-08, O-02).   |  |   |  | T-02, T-03, T-04, T-05, T-06, W-01). <ul style="list-style-type: none"> <li>Insubstantial visual impact on long distant VSRs with no discernible change in the existing visual quality (R-02, I-02, I-08, O-02).</li> </ul> |
| <b>Operation Impact</b>                 |   |  |   |  |   |
| Landscape Resources (LRs)               | <ul style="list-style-type: none"> <li>Substantial landscape impact on Tree and Shrub Planting in Village Areas Near Tsang Tai Uk, Landscape Areas in Urban Development Area near Lion Rock Tunnel Road, Agricultural Land Near Sha Tin Tau Village, Plantation on Engineered Slopes and Tree and Shrub Planting in Roadside Areas.</li> <li>Moderate landscape impact on Woodland and Mixed Woodland near Needle Hill and Sha Tin Road, Tree and Shrub Planting in Village Areas near Lai Chi Yuen, Sha Tin Tau Village Sitting-Out Area and Shing Mun River Promenade.</li> <li>Slight landscape impact on Waterbodies in Shing Mun River Channel and Modified</li> </ul> | <ul style="list-style-type: none"> <li>Annexes 10 and 18 of the EIAO-TM</li> <li>Environmental Impact Assessment Ordinance Guidance Note 8/2010</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Compensatory Planting for Loss of Existing Trees</li> <li>Landscape Treatment on Slopes</li> <li>Provision of Screen Planting</li> <li>Maximization of Roadside Planting</li> <li>Re-provision of Affected Open Space</li> <li>Visually pleasing aesthetic treatment on noise barriers and noise enclosures</li> <li>Aesthetically pleasing design for footbridges, pedestrian subways, cycle paths, carriageways and other highway structures</li> </ul> | <ul style="list-style-type: none"> <li>Slight residual impact during day 1 of operation and insubstantial residual impact during year 10 of operation on all affected landscape resources.</li> </ul>                       |

| Sensitive Receivers / Assessment Points | Impact Prediction Results (Without Mitigation)   | Key Relevant Standards/Criteria  | Extents of Exceedance (Without Mitigation)            | Impact Avoidance Measures / Mitigation Measures  | Residual Impacts (After Implementation of Mitigation Measures)  |
|---|--|--|---|--|---|
|   | Watercourse in Sha Tin Tau. <ul style="list-style-type: none"> <li>No discernible change in other LRs identified within the study boundary of the Project</li> </ul>   |  |   |  |   |
| Landscape Character Areas (LCAs)        | <ul style="list-style-type: none"> <li>Substantial landscape impact on Sha Tin Tau Residential Urban LCA.</li> <li>Moderate landscape impact on Sha Tin Upland and Hillside LCA, Tai Wai Miscellaneous Urban Fringe LCA and Tai Wai Residential Urban Fringe LCA.</li> <li>Slight landscape impact on Sha Tin Miscellaneous Urban Fringe LCA, Tai Wai Residential Urban LCA, Tai Wai Urban Peripheral Village LCA, Tai Wai Transportation Corridor LCA and Sha Tin Road Transportation Corridor LCA.</li> <li>No discernible change in other LCAs identified within the study boundary of the Project</li> </ul> | <ul style="list-style-type: none"> <li>Annexes 10 and 18 of the EIAO-TM</li> <li>Environmental Impact Assessment Ordinance Guidance Note 8/2010</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Compensatory Planting for Loss of Existing Trees</li> <li>Landscape Treatment on Slopes</li> <li>Provision of Screen Planting</li> <li>Maximization of Roadside Planting</li> <li>Re-provision of Affected Open Space</li> <li>Visually pleasing aesthetic treatment on noise barriers and noise enclosures</li> <li>Aesthetically pleasing design for footbridges, pedestrian subways, cycle paths, carriageways and other highway structures</li> </ul> | <ul style="list-style-type: none"> <li>Slight residual impact during day 1 of operation and insubstantial residual impact during year 10 of operation on all affected landscape character areas.</li> </ul>               |
| Visually Sensitive Receivers (VSRs)     | <ul style="list-style-type: none"> <li>Substantial visual impact on where the proposal would cause significant deterioration or improvement in existing visual quality (R-05, I-07).</li> <li>Moderate visual impact on immediately adjacent VSRs who have full overview of the</li> </ul>   | <ul style="list-style-type: none"> <li>Annexes 10 and 18 of the EIAO-TM</li> <li>Environmental Impact Assessment Ordinance Guidance Note 8/2010</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Compensatory Planting for Loss of Existing Trees</li> <li>Landscape Treatment on Slopes</li> <li>Provision of Screen Planting</li> </ul>  | <ul style="list-style-type: none"> <li>Slight residual impact during day 1 of operation and insubstantial residual impact during year 10 of operation on most of the affected visually sensitive receivers (R-</li> </ul> |

| Sensitive Receivers / Assessment Points | Impact Prediction Results (Without Mitigation)   | Key Relevant Standards/Criteria  | Extents of Exceedance (Without Mitigation)            | Impact Avoidance Measures / Mitigation Measures  | Residual Impacts (After Implementation of Mitigation Measures)  |
|---|--|--|---|--|---|
|   | <p>project that cause a noticeable deterioration or improvement in existing visual quality (R-03, R-04, R-06, I-03, I-04, I-06, O-01, O-3, O-04, O-05).</p> <ul style="list-style-type: none"> <li>Slight visual impact on VSRs further away that cause a barely perceptible deterioration or improvement in existing visual quality (R-01, I-01, I-05, T-01, T-03, T-06, W-01).</li> <li>Insubstantial visual visual impact on long distant VSRs with no discernible change in the existing visual quality (R-02, I-02, I-08, O-02, T-02, T-04, T-05).</li> </ul> |  |   | <ul style="list-style-type: none"> <li>Maximization of Roadside Planting</li> <li>Re-provision of Affected Open Space</li> <li>Visually pleasing aesthetic treatment on noise barriers and noise enclosures</li> <li>Aesthetically pleasing design for footbridges, pedestrian subways, cycle paths, carriageways and other highways structures</li> </ul>                         | <p>01, R-04, R-06, I-01, I-05, I-06, I-07, O-03, O-04, O-05, T-01, T-03, W-01).</p> <ul style="list-style-type: none"> <li>Slight residual impact during day 1 of operation and remain slight residual impact during year 10 of operation on serval affected visually sensitive receivers (R-03, R-05, I-03, I-04, O-01, T-06)</li> </ul> |
| <b>Impact on Cultural Heritage</b>      |  |  |   |  |   |
| <b>Construction Impact</b>              |  |  |   |  |   |
| Cultural heritage resources             | <ul style="list-style-type: none"> <li>Potential direct impacts on Gatehouse of Pok Ngar Villa, Tsang Tai Uk, Li Cottage, Ng Yuen, OLD 26 due to damages through contacting with heavy construction machineries and site negligence</li> <li>Indirect impacts of ground-borne vibration, tilting and settlement on Gatehouse of Pok Ngar Villa, Tsang Tai Uk, Li Cottage, Ng Yuen, Lau</li> </ul>  | <ul style="list-style-type: none"> <li>Annexes 10 and 19 of the EIAO-TM</li> <li>Guidelines for Cultural Heritage Impact Assessment</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul> | <ul style="list-style-type: none"> <li>Conduct pre and post condition survey for Tsang Tai Uk, Gatehouse of Pok Ngar Villa, Li Cottage and Ng Yuen</li> <li>Implement monitoring of vibration, settlement and tilting incorporated with a set of Alert, Alarm and Action system for Tsang Tai Uk, Gatehouse of Pok Ngar Villa, Li Cottage, Lau Ancestral Hall, Ng Yuen,</li> </ul> | <ul style="list-style-type: none"> <li>N/A</li> </ul>   |

| Sensitive Receivers / Assessment Points | Impact Prediction Results (Without Mitigation)   | Key Relevant Standards/Criteria  | Extents of Exceedance (Without Mitigation)              | Impact Avoidance Measures / Mitigation Measures   | Residual Impacts (After Implementation of Mitigation Measures) |
|---|--|--|---|---|--|
|   | Ancestral Hall, High Rock Christian Camp, No. 1, 2 and 3 First Street, Tai Wai, OLD1, OLD9, OLD11 – 21, OLD26 – 28 |  |   | High Rock Christian Camp, No. 1, 2 and 3 First Street, OLD1, OLD9, OLD11 – 21, OLD26 – 28 <ul style="list-style-type: none"> <li>• Verify foundation information of the historic buildings and provide sufficient lateral support and de-watering if necessary</li> <li>• Set up physical barriers for Li Cottage and Ng Yuen, OLD26 and buffer zones with physical barriers for Tsang Tai Uk, Gatehouse of Pok Ngar Villa, OLD26</li> <li>• Provide protective covering of plastic sheets for Tsang Tai Uk, Gatehouse of Pok Ngar Villa, Li Cottage and Ng Yuen</li> </ul> |  |
| <b>Operation Impact</b>                 |  |  |   |   |  |
| Cultural heritage resources             | <ul style="list-style-type: none"> <li>• No impact would be anticipated during the operation phase.</li> </ul>     | <ul style="list-style-type: none"> <li>• Annexes 10 and 19 of the EIAO-TM</li> <li>• Guidelines for Cultural Heritage Impact Assessment</li> </ul> | <ul style="list-style-type: none"> <li>• N/A</li> </ul> | <ul style="list-style-type: none"> <li>• No mitigation measure would be required.</li> </ul>  | <ul style="list-style-type: none"> <li>• N/A</li> </ul>        |