

***Appendix 11.1 –
Summary of Environmental Impacts***

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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)
Air Quality Impact					
Construction Impact					
<p>Representative existing residential, commercial developments and government uses within 500m from the boundary of the Project Site</p>	<ul style="list-style-type: none"> No adverse dust impact from construction activities considering the small scale of the project, and works will be undertaken at multiple work fronts at different construction periods. No adverse air quality impact from fuel combustion from use of Powered Mechanical Equipment (PME) in view of Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation. 	<ul style="list-style-type: none"> Annexes 4 and 12 of the EIAO-TM Air Quality Objectives (AQO) 	<ul style="list-style-type: none"> 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"> Skip hoist for material transport should be totally enclosed by impervious sheeting. All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. All stockpiles of aggregate or spoil should be covered and/or water applied. The height from which 	<ul style="list-style-type: none"> 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"> • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. • 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. • 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. 	
Operation Impact					
Existing and planned residential, commercial developments and government uses within 500m from the boundary of	<u>NO₂</u> <ul style="list-style-type: none"> • 19th highest 1-hr average conc.: 134 – 199 µg/m³ • Annual average conc.: 25 – 	<ul style="list-style-type: none"> • AQO <u>NO₂</u> <ul style="list-style-type: none"> • 1-hr average conc.: 200 µg/m³ (Number 	<u>NO₂</u> <ul style="list-style-type: none"> • 19th highest 1-hr average conc.: No exceedance was 	Although unacceptable air quality impact is not anticipated due to the Project during the operation phase, some mitigation measures such as	<ul style="list-style-type: none"> • No adverse residual impacts anticipated

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the Project Site	<p>53 µg/m³</p> <p><u>RSP</u></p> <ul style="list-style-type: none"> 10th highest 24-hr average conc: 81 – 89 µg/m³ Annual average: 36 – 39 µg/m³ <p><u>FSP</u></p> <ul style="list-style-type: none"> 10th highest 24-hr average conc: 61 – 67 µg/m³ Annual average: 25 – 28 µg/m³ 	<p>of exceedances allowed: 18)</p> <ul style="list-style-type: none"> Annual average conc.: 40 µg/m³ <p><u>RSP</u></p> <ul style="list-style-type: none"> 24-hr average conc.: 100 µg/m³ (Number of exceedances allowed: 9) Annual average conc.: 50 µg/m³ <p><u>FSP</u></p> <ul style="list-style-type: none"> 24-hr average conc.: 75 µg/m³ (Number of exceedances allowed: 9) Annual average conc.: 35 µg/m³ 	<p>predicted</p> <ul style="list-style-type: none"> Annual average conc.: Exceedances of AQO up to 13 µg/m³ Decrease in annual average conc. at ASRs with exceedances of AQO due to this Project: up to 0.29834 µg/m³ <p><u>RSP and FSP</u></p> <ul style="list-style-type: none"> No exceedance was predicted 	<p>relocation of fresh air intakes at elevated levels with AQO compliance and provision of air purification filters have been considered due to the high background level of NO₂. For the existing ASRs, planned ASRs under construction and planned ASRs with detailed design, these mitigation measures were considered not feasible in time as the designs have already been completed or in some cases even physical buildings have been completed. For the planned ASRs without detailed design, the future WKCD project owner(s) within the Study Area would be notified of the findings under this air quality impact assessment in EIA of Revised Austin Road Flyover for consideration so that the relevant mitigation measures could be implemented as far as practicable.</p>	

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Noise Impact					
Construction Impact					
Representative existing residential developments within 300m from the boundary of the Project Site	<ul style="list-style-type: none"> 59 – 75 dB(A) 	<ul style="list-style-type: none"> Annexes 5 and 13 of the EIAO-TM Leq_(30 min) 75dB(A) at 1m from the façade of residential dwellings 	<ul style="list-style-type: none"> No exceedance was predicted 	Good site practices <ul style="list-style-type: none"> Only well-maintained plant should be operated on site and plant should be serviced regularly. Silencers or mufflers on construction plant should be utilized and should be properly maintained. Mobile plant should be sited as far away from sensitive uses as possible. Machines and plant that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. 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. Material stockpiles and other structures should be effectively utilized to screen noise from on-site construction activities. 	<ul style="list-style-type: none"> No adverse residual impacts anticipated

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Operation Impact					
Representative existing and planned residential developments within 300m from the boundary of the Project Site	<ul style="list-style-type: none"> Predicted overall noise levels: 68 – 81 dB(A) Predicted noise levels of the Project roads: 33 – 61 dB(A) Contribution from Project roads: 0.0 – 0.1 dB(A) 	<ul style="list-style-type: none"> Annexes 5 and 13 of the EIAO-TM L_{10(1 hour)} 70dB(A) at 1m from the façade of residential dwellings, 	<ul style="list-style-type: none"> Exceedance of the noise criteria by up to 11 dB(A) The exceedances are dominantly contributed by the other existing roads. 	<ul style="list-style-type: none"> No mitigation measures to be provided as the contribution by Project roads is insignificant 	<ul style="list-style-type: none"> No adverse residual impacts anticipated
Water Quality Impact					
Construction Impact					
<ul style="list-style-type: none"> New Yau Ma Tei Typhoon Shelter; Kowloon South Flushing Water Intake; Yau Ma Tei Flushing Water Intake; MTRC Kowloon Station Cooling Water Intake; MTRC Kowloon Station Flushing Water Intake; Proposed Cooling Water Intake for Mega Performance Venue/Exhibition Center & Hotel; The Elements Cooling Water Intake; and 	General construction works for the Project would be land-based only. The potential sources of water quality impact associated with the land-based works include: <ul style="list-style-type: none"> General construction activities; Construction site run-off; Sewage effluent from construction workforce; and Accidental spillage of chemicals 	<ul style="list-style-type: none"> Annexes 6 and 14 of the EIAO-TM Water Quality Objectives for the Victoria Harbour (Phase Two) Water Control Zone (WCZ) Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS) Practical Note for Professional Persons (ProPECC) PN 1/94 WSD's Water Quality Criteria for Flushing 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Mitigation measures and good site practices in ProPECCPN 1/94 "Construction Site Drainage" Waste Disposal Regulation Provision of interim treatment facilities, such as chemical toilets, for construction workforce 	<ul style="list-style-type: none"> No adverse residual impacts anticipated

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<ul style="list-style-type: none"> West Kowloon Cultural District District Cooling System Water Intake 		Water Intakes <ul style="list-style-type: none"> MTRC cooling water intake criteria 			
Operation Impact					
<ul style="list-style-type: none"> New Yau Ma Tei Typhoon Shelter; Kowloon South Flushing Water Intake; Yau Ma Tei Flushing Water Intake; MTRC Kowloon Station Cooling Water Intake; MTRC Kowloon Station Flushing Water Intake; Proposed Cooling Water Intake for Mega Performance Venue/Exhibition Center & Hotel; The Elements Cooling Water Intake; and West Kowloon Cultural District District Cooling System Water Intake 	Potential water quality impacts associated with the operation phase include: <ul style="list-style-type: none"> Non-point source surface run-off from new impervious areas 	<ul style="list-style-type: none"> Annexes 6 and 14 of the EIAO-TM Water Quality Objectives for the Victoria Harbour (Phase Two) WCZ Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS) ProPECC PN 5/93 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Adequate design in silt trap for the new road drainage which take into account the guidelines in ProPECC PN 5/93. Best Storm Water Management Practices and Storm Water Pollution Control Plan to reduce non-point source pollution. 	<ul style="list-style-type: none"> No adverse residual impacts anticipated

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Waste Management Implications					
Construction Impact					
C&D materials, chemical wastes and general refuse	<ul style="list-style-type: none"> • Around 300 m³ of non-inert C&D materials and 14,000 m³ of inert C&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. • Small quantity of chemical wastes in the order of a few hundred litres per month • Around 39 kg per day of general refuse will be generated from construction works and on-site staff and workers 	<ul style="list-style-type: none"> • Annexes 7 and 15 of the EIAO-TM • Waste Disposal Ordinance (Cap. 354) • Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N) • Land (Miscellaneous Provisions) Ordinance (Cap. 28) • Public Health and Municipal Services Ordinance – Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK) 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Implementation of good site practices, waste reduction measures and proper storage, collection and transport of waste 	<ul style="list-style-type: none"> • No adverse residual impact anticipated
Operation Impact					
N/A	<ul style="list-style-type: none"> • It is expected that no waste will be generated during the operation phase of the Project. 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • No mitigation measures to be provided as the Project would not cause adverse impacts. 	<ul style="list-style-type: none"> • No adverse residual impact anticipated

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Land Contamination					
Onsite construction workers and future occupants	<ul style="list-style-type: none"> Adverse land contamination impact arising from the Project is not anticipated 	<ul style="list-style-type: none"> Annex 19 of the EIAO-TM Guidance Note for Contaminated Land Assessment and Remediation (EPD, 2007) Practice Guide for Investigation and Remediation of Contaminated Land (EPD, 2011) Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (EPD, 2007) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> As adverse land contamination impact arising from the Project is not anticipated, no mitigation measures were considered necessary. 	<ul style="list-style-type: none"> No adverse residual impact anticipated
Landscape and Visual Impacts					
Construction Impact					
Landscape Resources (LRs)	<ul style="list-style-type: none"> Slight landscape impact on roadside planting areas along Museum Drive and West Kowloon Transportation Corridor No discernible change in other LR's identified within the study boundary of the Project 	<ul style="list-style-type: none"> Annexes 10 and 18 of the EIAO-TM 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Preservation of Existing Vegetation 	<ul style="list-style-type: none"> Slight residual impact on roadside planting areas along Museum Drive and West Kowloon Transportation Corridor

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Landscape Character Areas (LCAs)	<ul style="list-style-type: none"> Slight landscape impact on Western Kowloon Transportation Corridor No discernible change in other LCAs identified within the study boundary of the Project 	<ul style="list-style-type: none"> Annexes 10 and 18 of the EIAO-TM 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Preservation of Existing Vegetation 	<ul style="list-style-type: none"> Slight residual impact on West Kowloon Transportation Corridor
Visually Sensitive Receivers (VSRs)	<ul style="list-style-type: none"> Moderate visual impact on immediately adjacent VSRs who have full overview of the project Slight visual impact on VSRs further away Insubstantial visual impact on long distant VSRs 	<ul style="list-style-type: none"> Annexes 10 and 18 of the EIAO-TM 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Preservation of Existing Vegetation Compensatory Tree Planting Control of Night-time Lighting Glare Erection of Decorative Screen Hoarding Management of Construction Activities and Facilities Reinstatement of Temporarily Disturbed Landscape Areas 	<ul style="list-style-type: none"> Moderate residual impact on immediately adjacent VSRs who have full overview of the project Slight residual impact on VSRs further away Insubstantial residual visual impact on long distant VSRs
Operation Impact					
Landscape Resources (LRs)	<ul style="list-style-type: none"> Slight residual impact on roadside planting areas along Museum Drive and West Kowloon Transportation Corridor No discernible change in other LRAs identified within the study boundary of the Project 	<ul style="list-style-type: none"> Annexes 10 and 18 of the EIAO-TM 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Aesthetically pleasing design of Highways Structures Shade-tolerant Shrub Planting at the Project Site after Completion of Engineering Works 	<ul style="list-style-type: none"> Slight residual impact during day 1 of operation and insubstantial residual impact during year 10 of operation on roadside planting areas along Museum Drive and West

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					Kowloon Transportation Corridor
Landscape Character Areas (LCAs)	<ul style="list-style-type: none"> Slight residual impact on Western Kowloon Transportation Corridor No discernible change in other LCAs identified within the study boundary of the Project 	<ul style="list-style-type: none"> Annexes 10 and 18 of the EIAO-TM 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Insubstantial residual impact during day 1 and year 10 of the operation on Western Kowloon Transportation Corridor
Visually Sensitive Receivers (VSRs)	<ul style="list-style-type: none"> Moderate residual impact on immediately adjacent VSRs who have full overview of the project Slight residual impact on VSRs further away Insubstantial residual visual impact on long distant VSRs 	<ul style="list-style-type: none"> Annexes 10 and 18 of the EIAO-TM 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Aesthetically pleasing design of Highways Structures Shade-tolerant Shrub Planting at the Project Site after Completion of Engineering Works 	<ul style="list-style-type: none"> Moderate residual impact during day 1 of operation and slight residual impact during year 10 of operation on immediately adjacent VSRs who have full overview of the project Slight residual impact during day 1 of operation and insubstantial residual impact during year 10 of operation on VSRs further away Insubstantial residual visual impact during day 1 and year 10 of operation on long distant VSRs