

Environmental Impact Assessment Ordinance (Cap. 499), Section 5 (7)**Environmental Impact Assessment Study Brief No. ESB-274/2014****Project Title: Kai Tak Multi-purpose Sports Complex
(hereinafter known as the "Project")****Name of Applicant: Architectural Services Department, HKSAR Government
(hereafter known as the "Applicant")****1. BACKGROUND**

- 1.1 An application (No. ESB-274/2014) for an Environmental Impact Assessment (EIA) study brief under section 5(1)(a) of the Environmental Impact Assessment Ordinance (EIAO) was submitted by the Applicant on 3 June 2014 with a project profile (No. PP-509/2014) (the Project Profile).
- 1.2 In 2007, the Civil Engineering and Development Department of the HKSAR Government commenced the "Kai Tak Development (KTD) Engineering Study" aiming to formulate a comprehensive plan for the development and implementation of the KTD, which has included an Environmental Impact Assessment (EIA) for KTD under Schedule 3 of the EIAO. The KTD EIA report approved under the EIAO on 4 March 2009 had broadly assessed the environmental impacts of the Project as one of the key components of the KTD, and had recommended some environmental issues of the Project to be further addressed in details in a separate EIA study.
- 1.3 The Project site covers an area in the former Kai Tak Airport of about 28.2 hectares. The Project comprises a 50,000-seat Main Stadium, a 5,000-seat Public Sports Ground, Indoor Sports Arena, and other ancillary/supporting facilities such as car parking spaces, hotel, office area for sports-related organizations and commercial area. The Project will mainly cater for a wide range of major sports events as well as other non-sports events such as concerts, exhibitions, carnivals, etc. The Project Location Plan and the Indicative Master Layout Plan are shown in Figures 1 & 2 of this EIA study brief.
- 1.4 The Project is a designated project by virtue of Item O.6 "*An open air concert venue with a capacity to accommodate more than 10,000 persons*" and O.7 "*An outdoor sporting facility with a capacity to accommodate more than 10,000 persons*" in Part I of Schedule 2 of the EIAO.
- 1.5 Pursuant to section 5(7)(a) of the EIAO, the Director of Environmental Protection (the Director) issues this EIA study brief to the Applicant to carry out an EIA study.
- 1.6 The purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from the construction and operation of the Project and associated works that will take place concurrently. This information will contribute to decisions by the Director on:
 - (i) the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project and associated works, and their staged implementation;
 - (ii) the conditions and requirements for the detailed design, construction and operation of

the Project to mitigate against adverse environmental consequences; and

- (iii) the acceptability of residual impacts after the proposed mitigation measures are implemented.

2. OBJECTIVES OF THE EIA STUDY

2.1 The objectives of the EIA study are as follows:

- (i) to describe the Project and associated works together with the requirements and environmental benefits for carrying out the Project;
- (ii) to identify and describe elements of community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including natural and man-made environment and the associated environmental constraints;
- (iii) to provide information on the consideration of alternative options of the Project including alternative siting, scale/size, extent, layout, configuration/orientation, design, transport linkage, people dispersion routes/methods after major sports/non-sports events and construction methods with a view to avoiding and minimizing potential environmental impacts to environmentally sensitive areas and sensitive uses; to compare the environmental benefits and dis-benefits of different options; to provide reasons for selecting the preferred option(s) and to describe the part environmental factors played in the selection of preferred option(s);
- (iv) to identify and quantify emission sources, including air and gaseous emission, noise emission, sewage and wastewater emission, waste generation and contaminated material generation and determine the significance of impacts on sensitive receivers and potential affected uses;
- (v) to identify and quantify any potential losses or damage to flora, fauna and natural habitats;
- (vi) to identify and systematically evaluate any potential landscape and visual impacts and to propose measures to mitigate these impacts;
- (vii) to identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;
- (viii) to propose the provision of infrastructure or mitigation measures so as to minimize pollution, environmental disturbance and nuisance during construction and operation of the Project;
- (ix) to investigate the feasibility, practicability, effectiveness and implications of the proposed mitigation measures;
- (x) to identify, predict and evaluate the residual environmental impacts (i.e. after practicable mitigation) and the cumulative effects expected to arise during the construction and operation phases of the Project in relation to the sensitive receivers and potential affected uses;

- (xi) to identify, assess and specify methods, measures and standards to be included in the detailed design, construction and operation of the Project which are necessary to mitigate these environmental impacts and cumulative effects and reduce them to acceptable levels;
- (xii) to investigate the extent of the secondary environmental impacts that may arise from the proposed mitigation measures and to identify constraints associated with the mitigation measures recommended in the EIA study, as well as the provision of any necessary modification; and
- (xiii) to design and specify environmental monitoring and audit requirements to ensure the effective implementation of the recommended environmental protection and pollution control measures.

3. DETAILED REQUIREMENTS OF THE EIA STUDY

3.1 The Purpose

The purpose of this EIA study brief is to scope the key issues of the EIA study and to specify the environmental issues that are required to be reviewed and assessed in the EIA study. The Applicant has to demonstrate in the EIA report whether the criteria in the relevant sections of the Technical Memorandum on the Environmental Impact Assessment Process of the Environmental Impact Assessment Ordinance (hereinafter referred to as “the TM”) are complied with.

3.2 The Scope

3.2.1 The scope of this EIA study shall cover the Project and associated works mentioned in sub-section 1.3 above. The EIA study shall base on the best available information of the project scale & scope, project implementation programme & methodologies, road alignments within the study area and traffic data to assess the relevant environmental impact of the Project. The EIA study shall cover the combined impacts of the whole Project (including the main stadium, public sports ground, indoor sports arena and other ancillary/supporting facilities) and the cumulative impacts of the existing, committed and planned developments in the vicinity of the Project in accordance with the requirements laid down in section 3.4 of the TM. The environmental impacts of on-site and off-site works and facilities associated with the Project shall be addressed. The EIA study shall address the likely key issues described below, together with any other key issues identified during the course of the EIA study:

- (i) potential air quality impact on sensitive receivers during construction and operation of the Project, including dust emissions during construction, odour, vehicular (including traffic generated from the Project) and other air emissions during operation;
- (ii) potential hazard to life impact during the construction and operation of the Project due to the potentially hazardous facilities, including in particular the Ma Tau Kok Gas Works and all associated facilities;
- (iii) potential noise impact on sensitive receivers during construction and operation of the Project, including noise generated by construction activities, noise arising from sports as well as non-sports events of the Project (e.g. noise from the public address system

- and noise from human activities, etc.), traffic noise (including traffic generated from the Project) and fixed plant noise during operation;
- (iv) potential water quality impact on relevant water system(s) including the Victoria Harbour (Phase One and Phase Two) Water Control Zone and relevant water sensitive receivers during construction and operation of the Project;
 - (v) potential sewerage and sewage treatment implication arising from the Project;
 - (vi) potential waste management implication arising from the construction and operation of the Project, including handling and disposal of construction and demolition materials, chemical waste, food waste and general refuse;
 - (vii) potential land contamination impact arising from the Project;
 - (viii) potential ecological impact, including habitat loss and fragmentation during construction and operation of the Project;
 - (ix) potential landscape and visual impacts due to the construction and operation of the Project; and
 - (x) potential cultural heritage impact during construction and operation of the Project; and
 - (xi) potential cumulative environmental impacts of the Project, through interaction or in combination with other existing, committed and planned projects such as Central Kowloon Route, Shatin Central Link, Trunk Road T2, Roads D2 & D3, Metro Park and Station Square in KTD, etc. in the vicinity of the Project, and that those impacts may have a bearing on the environmental acceptability of the Project.

3.3 Need of the Project and Consideration of Alternatives

3.3.1 Need of the Project

The Applicant shall provide information on the need of the Project, including the purpose, objectives and environmental benefits of the Project, and describe the scenarios with and without the Project.

3.3.2 Consideration of Alternative Development Options

The Applicant shall consider alternative development options including alternative siting, scale/size, extent, layout, configuration/orientation, design, transport linkage and people dispersion routes/methods after major sports/non-sports events for the Project, provide justifications regarding how the proposed development option is arrived at, including the descriptions of the environmental factors considered in the option selection. A comparison of the environmental benefits and dis-benefits of alternative development options shall be made with a view to recommending the preferred option to avoid and minimize adverse environmental effects to the maximum practicable extent.

3.3.3 Consideration of Alternative Construction Methods and Sequences of Works

Taking into consideration the combined effect with respect to the severity and duration of the construction impacts to the affected sensitive receivers, the EIA study shall explore

alternative construction methods and sequences of works for the Project, with a view to avoiding or minimizing prolonged adverse environmental impacts. A comparison of the environmental benefits and dis-benefits of applying different construction methods and sequence of works shall be made.

3.3.4 Selection of Preferred Scenario

Taking into consideration of the findings in sub-sections 3.3.2 and 3.3.3 above, the Applicant shall recommend/justify the adoption of the preferred scenario that will maximum the environmental benefits and avoid or minimize adverse environmental effects arising from the Project, and adequately describe the part that environmental factors played in arriving at the final selection.

3.4 **Technical Requirements**

3.4.1 The Applicant shall conduct the EIA study to address the environmental aspects of the activities as described in section 3.2 above. The Applicant shall make reference to all relevant findings of the previously approved EIA reports in relation to the Project including, but not limited to, Kai Tak Development, Kai Tak Development – Roads D3A & D4A, Kai Tak Airport North Apron Decommissioning, Dredging Works for Proposed Cruise Terminal at Kai Tak, Trunk Road T2, Central Kowloon Route, Shatin to Central Link – Tai Wai to Hung Hom Section in conducting the EIA study of the Project. The assessment shall be based on the best and latest information available during the course of the EIA study. The Applicant shall include in the EIA report details of the construction and operational programme and methodologies for the Project. The Applicant shall clearly state in the EIA report the time frame, staged implementation programme and works programme of the Project and other concurrent projects such as Central Kowloon Route, Shatin Central Link, Trunk Road T2, Roads D2 & D3, Metro Park and Station Square in KTD, etc., and assess the cumulative environmental impacts from the Project and interacting projects as identified in the EIA study. Particular attention shall be given to the acceptability of the overall environmental condition at different stages of the Project implementation.

3.4.2 The EIA study shall follow the technical requirements specified below and in the Appendices of this EIA study brief.

3.4.3 **Air Quality Impact**

3.4.3.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing air quality impact as stated in section 1 of Annex 4 and Annex 12 of the TM.

3.4.3.2 The study area for the air quality impact assessment shall be defined by a distance of 500 metres from the boundary of the Project site, with consideration to be extended to include major existing, planned and committed air pollutant emission sources that may have a bearing on the environmental acceptability of the Project. A map to show the study area of 500m from the boundary of the Project site is to be attached to the EIA report. The assessment shall include the existing, committed and planned sensitive receivers within the study area as well as areas where air quality may be potentially affected by the Project. The sensitive receivers shall include those future air sensitive receivers within the Project site such as the main stadium, public sports ground, indoor sports arena, hotel, office area, commercial area and other uses with similar air sensitive nature. The assessment shall also take into account the impacts of emission sources from nearby concurrent projects. The assessment shall be based on the best available information at the time of the assessment.

3.4.3.3 The air quality impact assessment shall follow the detailed technical requirements given in Appendix A. The Applicant shall assess the air pollutant concentrations with reference to the relevant sections of the guidelines in Appendices A-1 attached to this EIA study brief, or other methodology as agreed by the Director. The Applicant shall also note that the PATH model may be used for estimating the future background concentrations by taking into account the major air pollutant emission sources in Hong Kong and nearby regions.

3.4.4 **Hazard to Life**

3.4.4.1 The Applicant shall review the relevant hazard to life assessment findings of the previously approved EIA reports including the EIA report for Kai Tak Development, and the findings of any other hazard to life assessments in relation to the Project to identify and determine whether an updated hazard to life assessment is necessary taking into account changes of environment & information (in particular the Ma Tau Kok Gas Works), and the latest Project details. If an updated hazard to life assessment is required to be carried out, the technical assessment requirements stipulated in sub-sections 3.4.4.2 to 3.4.4.4 below shall be followed.

3.4.4.2 In carrying out an updated hazard to life assessment, the Applicant shall follow the criteria for evaluating hazard to life as stated in section 2 of Annex 4 of the TM.

3.4.4.3 The updated assessment shall at least include the hazards due to the Ma Tau Kok Gas Works.

3.4.4.4 The updated hazard to life assessment shall follow the detailed technical requirements given in Appendix B.

3.4.5 **Noise Impact**

3.4.5.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing noise impact as stated in Annexes 5 and 13 of the TM.

3.4.5.2 The study area for the noise impact assessment shall generally include areas within 300 metres from the boundary of the Project site. Subject to the agreement of the Director, the study area can be reduced accordingly if the first layer of noise sensitive receivers (NSRs), closer than 300 metres from the outer Project limit, provides acoustic shielding to those receivers at distances further away from the Project. The study area shall be expanded to include NSRs at distances over 300 metres from the Project and associated works if those NSRs are also affected by the construction and operation of the Project.

3.4.5.3 The noise impact assessment shall follow the detailed technical requirements given in Appendix C.

3.4.6 **Water Quality Impact**

3.4.6.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing water quality impact as stated in Annexes 6 and 14 of the TM.

3.4.6.2 The study area for the water quality impact assessment shall include areas within 500 metres from the boundary of the Project site and shall cover Victoria Harbour (Phase One and Phase Two) Water Control Zone as designated under Water Pollution Control Ordinance.

The study area can be extended to include other areas such as stream courses, existing and new drainage system, and the associated water system(s) in the vicinity if they are found also being affected by the Project during the EIA study and have a bearing on the environmental acceptability of the Project.

3.4.6.3 The water quality impact assessment shall follow the detailed technical requirements given in [Appendix D1](#).

3.4.7 Sewerage and Sewage Treatment Implication

3.4.7.1 The Applicant shall review the relevant sewerage impact assessment findings of the previously approved EIA reports including the EIA report for Kai Tak Development in relation to the Project, to identify and determine whether an updated sewerage impact assessment is necessary taking into account changes of environment & information, and the latest Project details. If an updated sewerage impact assessment is required to be carried out, the technical assessment requirements stipulated in sub-sections 3.4.7.2 to 3.4.7.4 below shall be followed.

3.4.7.2 In carrying out an updated sewerage impact assessment, the Applicant shall follow the criteria and guidelines for evaluating and assessing impacts on the public sewerage, sewage treatment and disposal facilities as stated in section 6.5 in Annex 14 of the TM.

3.4.7.3 The updated assessment shall include the public sewerage systems at To Kwa Wan Preliminary Treatment Works catchment area.

3.4.7.4 The updated assessment of the sewerage and sewage treatment implication arising from the construction and operation of the Project shall follow the detailed technical requirements given in [Appendix D2](#).

3.4.8 Waste Management Implication

3.4.8.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing waste management implications as stated in Annexes 7 and 15 of the TM.

3.4.8.2 The assessment of the waste management implication shall follow the detailed technical requirements given in [Appendix E1](#).

3.4.9 Land Contamination

3.4.9.1 The Applicant shall review the relevant land contamination assessment findings of the previously approved EIA reports including the EIA reports for Kai Tak Airport North Apron Decommissioning and Kai Tak Development, and any subsequent decontamination results in relation to the Project site, to identify and determine whether an updated land contamination assessment is necessary. The consideration shall take into account changes of environment & information including in particular any uses or works after the decommissioning of the former Kai Tak Airport in relation to the land contamination concerns, and the latest Project details. If an updated land contamination assessment is required to be carried out, the technical assessment requirements stipulated in sub-sections 3.4.9.2 to 3.4.9.3 below shall be followed.

3.4.9.2 In carrying out an updated land contamination assessment, the Applicant shall follow the guidelines for evaluating and assessing potential land contamination issue as stated in

sections 3.1 and 3.2 of Annex 19 of the TM.

3.4.9.3 The updated assessment of the potential land contamination issue of the Project shall follow the detailed requirements given in Appendix E2.

3.4.10 **Ecological Impact (Terrestrial)**

3.4.10.1 The Applicant shall review the relevant terrestrial ecological impact assessment findings of the previously approved EIA reports including the EIA report for Kai Tak Development in relation to the Project, to identify and determine whether an updated terrestrial ecological impact assessment is necessary taking into account changes of environment & information, and the latest Project details. If an updated terrestrial ecological impact assessment is required to be carried out, the technical assessment requirements stipulated in sub-sections 3.4.10.2 to 3.4.10.4 below shall be followed.

3.4.10.2 In carrying out an updated terrestrial ecological impact assessment, the Applicant shall follow the criteria and guidelines for evaluating and assessing ecological impact as stated in Annexes 8 and 16 of the TM.

3.4.10.3 The study area for the purpose of the updated terrestrial ecological impact assessment shall include areas within 500 metres distance from the boundary of the Project site and any other areas likely to be impacted by the Project. The assessment shall at least include the species of conservation importance recorded in previous studies, e.g. Kestrel, Intermediate Egret, Black Kite, Little Egret, Great Egret, Cattle Egret, Black-crowned Night Heron, Chinese Pond Heron, Grey Heron, Great Cormorant and Greater Coucal, etc.

3.4.10.4 The updated ecological impact assessment shall follow the detailed technical requirements given in Appendix F.

3.4.11 **Landscape and Visual Impacts**

3.4.11.1 The Applicant shall follow the criteria and guidelines as stated in Annexes 10 and 18 of the TM, the EIAO Guidance Note No. 8/2010 on “Preparation of Landscape and Visual Impact Assessment under the Environmental Impact Assessment Ordinance” and the report of “Landscape Value Mapping of Hong Kong” for evaluating and assessing the landscape and visual and glare impacts.

3.4.11.2 The study area for the landscape impact assessment shall include areas within 500 metres distance from the boundary of the Project site. The study area for the visual impact assessment shall be defined by the visual envelope of the Project. 3.4.11.3 The landscape and visual and glare impact assessments shall follow the detailed technical requirements given in Appendix G.

3.4.12 **Impact on Cultural Heritage**

3.4.12.1 The Applicant shall review the relevant cultural heritage impact assessment findings of the previously approved EIA reports including the EIA reports for Kai Tak Development and Shatin to Central Link – Tai Wai to Hung Hom Section in relation to the Project, to identify and determine whether an updated cultural heritage impact assessment is necessary taking into account changes of environment & information, and the latest Project details. Particular attention shall be given to the unearthed Lung Tsun Stone Bridge Remnants and archaeological features found at To Kwa Wan Station of the Shatin and

Central Link. If an updated cultural heritage impact assessment is required to be carried out, the technical assessment requirements stipulated in sub-sections 3.4.12.2 to 3.4.12.4 below shall be followed.

3.4.12.2 In carrying out an updated cultural heritage impact assessment, the Applicant shall follow the criteria and guidelines for evaluating and assessing the cultural heritage impact as stated in Annexes 10 and 19 of the TM.

3.4.12.3 The updated cultural heritage impact assessment shall include areas within a distance of 200 metres from the site boundary of the Project and associated works. The cultural heritage impact assessment shall include archaeological impact assessment (AIA).

3.4.12.4 The updated cultural heritage impact assessment shall follow the detailed technical requirements given in Appendix H.

3.4.13 **Environmental Monitoring and Audit (EM&A) Requirements**

3.4.13.1 The Applicant shall identify and justify in the EIA study whether there is any need for EM&A activities during the construction and operation phases of the Project and, if affirmative, to define the scope of EM&A requirements for the Project in the EIA study.

3.4.13.2 Subject to the confirmation of the EIA study findings, the Applicant shall comply with the requirements as stipulated in Annex 21 of the TM.

3.4.13.3 The Applicant shall prepare a Project Implementation Schedule (in the form of a checklist as shown in Appendix I) containing the EIA study recommendations and mitigation measures with reference to the implementation programme.

4. **DURATION OF VALIDITY**

4.1 The Applicant shall notify the Director of the commencement of the EIA study. If the EIA study does not commence within 36 months after the date of issue of the EIA study brief, the Applicant shall apply to the Director for a fresh EIA study brief before commencement of the EIA study.

5. **REPORT REQUIREMENTS**

5.1 In preparing the EIA report, the Applicant shall refer to Annex 11 of the TM for the contents of an EIA report. The Applicant shall also refer to Annex 20 of the TM, which stipulates the guidelines for the review of an EIA report.

5.2 The Applicant shall provide the following summary information in the EIA report :

(i) Summary of Environmental Outcomes

The EIA report shall contain a summary of key environmental outcomes arising from the EIA study, including estimated population protected from various environmental impacts, environmentally sensitive areas protected, environmentally friendly options considered and incorporated in the preferred option, environmental designs recommended, key environmental problems avoided, compensation areas included

and the environmental benefits of environmental protection measures recommended.

(ii) Summary of Environmental Impacts

To facilitate effective retrieval of pertinent key information, the EIA report shall contain a summary table of environmental impacts showing the assessment points, results of impact predictions, relevant standards or criteria, extents of exceedances predicted, impact avoidance measures considered, mitigation measures proposed and residual impacts (after mitigation). This summary shall cover each individual impact and shall also form an essential part of the executive summary of the EIA report.

(iii) Documentation of Key Assessment Assumptions, Limitation of Assessment Methodologies and related Prior Agreement(s) with the Director

To facilitate efficient retrieval, the EIA report shall contain a summary including the assessment methodologies and key assessment assumptions adopted in the EIA study, the limitations of these assessment(s) methodologies/assumptions, if any, plus all relevant prior agreement(s) with the Director or other Authorities on individual environmental media assessment components. The proposed use of any alternative assessment tool(s) or assumption(s) have to be justified by the Applicant, with supporting documents based on cogent, scientific and objectively derived reason(s) before seeking the Director's agreement. The supporting documents shall be provided in the EIA report.

- 5.3 The Applicant shall supply the Director with hard and electronic copies of the EIA report and the executive summary in accordance with the requirements given in Appendix J of this EIA study brief. The Applicant shall, upon request, make additional copies of the above documents available to the public, subject to payment by the interested parties of full costs of printing.

6. OTHER PROCEDURAL REQUIREMENTS

- 6.1 If there is any change in the name of Applicant for this EIA study brief during the course of the EIA study, the Applicant must notify the Director immediately.
- 6.2 If there is any key change in the scope of the Project mentioned in sub-section 1.3 of this EIA study brief and in Project Profile (No. PP-509/2014), the Applicant must seek confirmation from the Director in writing on whether or not the scope of issues covered by this EIA study brief can still cover the key changes, and the additional issues, if any, that the EIA study must also address. If the changes to the Project fundamentally alter the key scope of the EIA study brief, the Applicant shall apply to the Director for a fresh EIA study brief.

7. LIST OF FIGURES AND APPENDICES

- 7.1 This EIA study brief includes the following figures and appendices:

Figure 1 – Project Location Plan

Figure 2 - Indicative Master Layout Plan

Appendix A – Requirements for Air Quality Impact Assessment

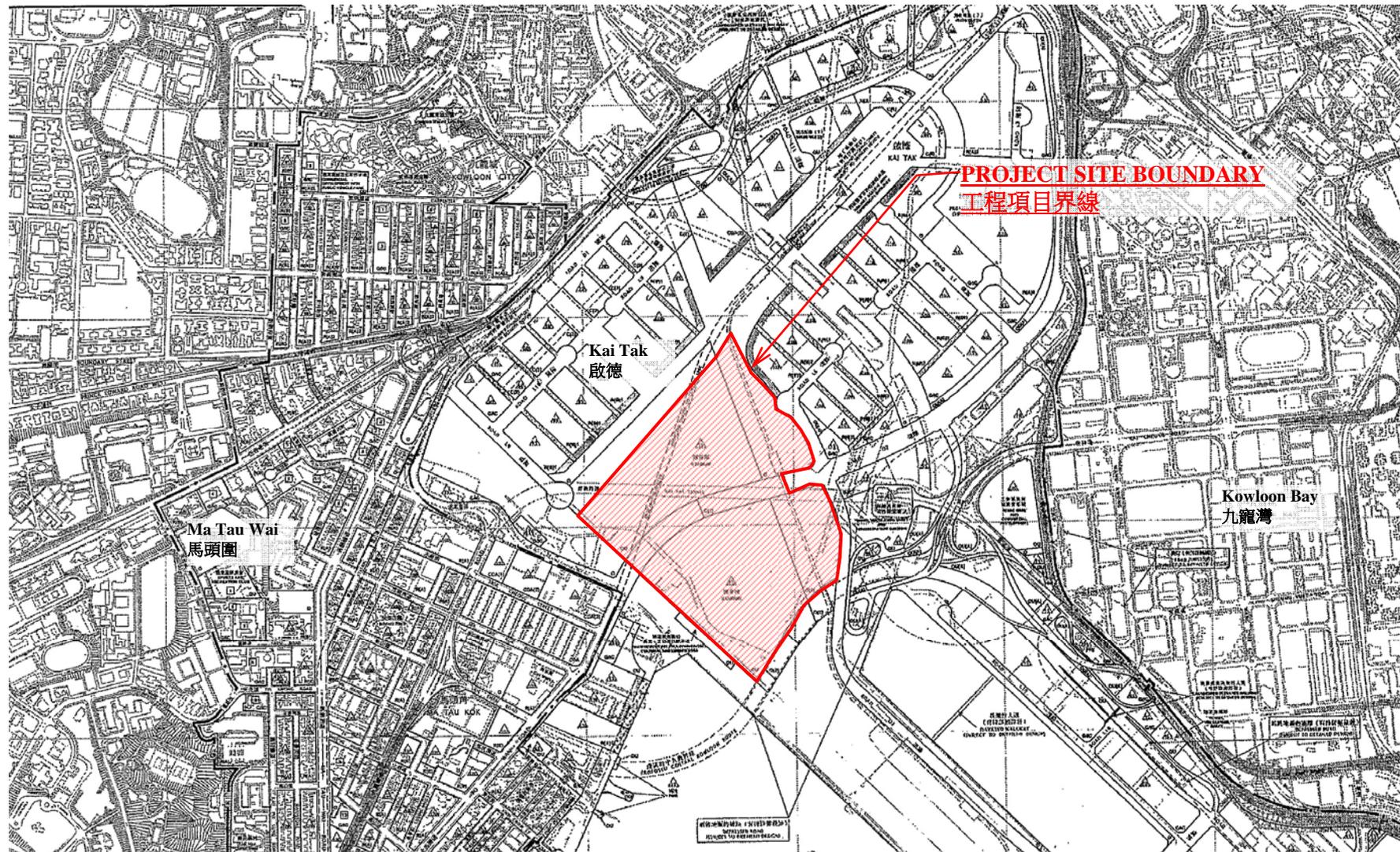
- Appendix B – Requirements for Hazard to Life Assessment
- Appendix C – Requirements for Noise Impact Assessment
- Appendix D1 – Requirements for Water Quality Impact Assessment
- Appendix D2 – Requirements for Assessment of Sewerage and Sewage Treatment Implication
- Appendix E1 – Requirements for Assessment of Waste Management Implication
- Appendix E2 – Requirements for Land Contamination Assessment
- Appendix F – Requirements for Ecological Impact Assessment
- Appendix G – Requirements for Landscape and Visual and Glare Impact Assessment
- Appendix H – Requirements for Cultural Heritage Impact Assessment
- Appendix I – Implementation Schedule
- Appendix J – Requirements for EIA Report Documents

--- END OF EIA STUDY BRIEF ---

July 2014

Environmental Assessment Division

Environmental Protection Department



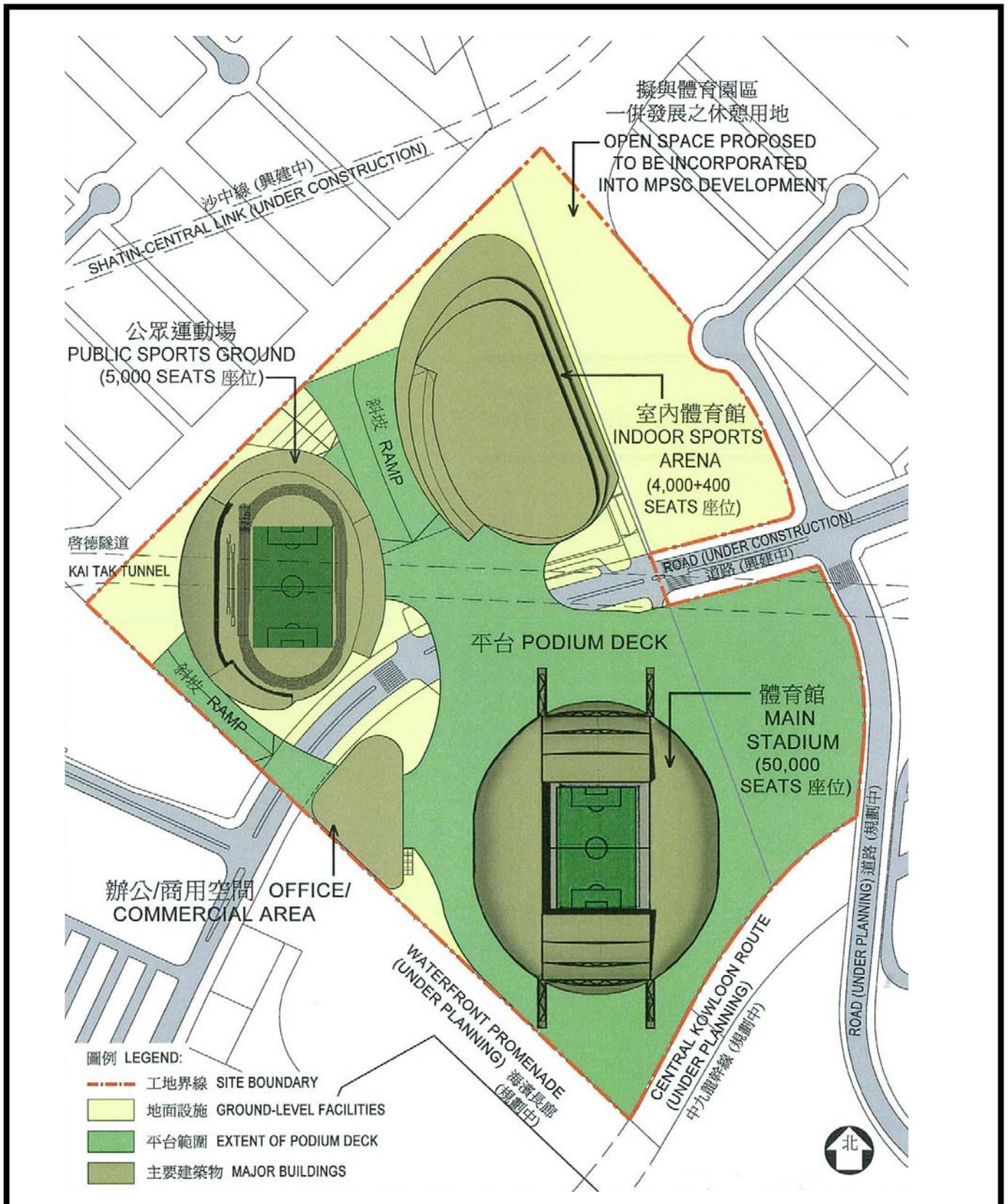
Project Title - Kai Tak Multi-purpose Sports Complex
工程項目名稱 - 啟德體育園區

Project Location Plan
工程項目的位置圖

Figure 1 附圖一

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Project Title - Kai Tak Multi-purpose Sports Complex
工程項目名稱 - 啟德體育園區

Indicative Master Layout Plan
總綱發展示意圖

Figure 2 附圖二

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Appendix A**Requirements for Air Quality Impact Assessment**

The air quality impact assessment shall include the following:

1. Background and Analysis of Activities

- (i) Provision of background information relating to air quality issues relevant to the Project, e.g. description of the types of activities of the Project that may affect air quality during construction and operation stages of the Project.
- (ii) Giving an account, where appropriate, of the consideration/measures that had been taken into consideration in the planning of the Project to abate the air pollution impact. The Applicant shall consider alternative construction methods/phasing programmes, transport linkage and alternative operation modes to minimize the air quality impact during construction and operation stages of the Project.
- (iii) Presentation of background air quality levels in the assessment area for the purpose of evaluating cumulative air quality impacts during construction and operation stages of the Project. If PATH (Pollutants in the Atmosphere and their Transport over Hong Kong) model is used to estimate the background air quality, details for the estimation of the emission sources to be adopted in the model runs should be clearly presented.

2. Identification of Air Sensitive Receivers (ASRs) and Examination of Emission / Dispersion Characteristics

- (i) Identification and description of existing, planned and committed ASRs that would likely be affected by the Project, including those earmarked on the relevant Outline Zoning Plans (OZPs) (e.g. Kai Tak OZP, Ma Tau Kok OZP, Tsz Wan Shan, Diamond Hill and San Po Kong OZP, Wang Tau Hom OZP, etc.), Development Permission Area Plans, Outline Development Plans and Layout Plans and other relevant published land use plans, including plans and drawings published by Lands Department and any land use and development applications approved by the Town Planning Board. The Applicant shall select the assessment points of the identified ASRs that represent the worst impact point of these ASRs. A map clearly showing the location and description such as name of buildings, their uses and height of the selected assessment points shall be given. The separation distances of these ASRs from the nearest emission sources shall also be given.
- (ii) Provision of a list of air pollution emission sources, including any nearby emission sources (e.g. Shatin Central Link, Central Kowloon Route, Trunk Road T2, Road D2, chimneys from the Ma Tau Kok Gas Works, etc.) which are likely to have impact on the Project based on the analysis of the constructional and operational activities in section 1 above. Examples of constructional stage emission sources include stock piling, vehicular movements on unpaved haul roads on site, etc. Examples of operational stage emission sources include chimneys from boilers and/or fuel combustion facilities, exhaust emissions from vehicles (including the traffic generated by the Project), and odour emissions from drainage channels (e.g. Kai Tak Nullah and Kai Tak Approach Channel) & other facilities (e.g., desilting compound, Ma Tau Kok Gas Works), etc. Confirmation regarding the validity of the assumptions adopted and the magnitude of the activities (e.g. volume of construction material handled, etc.) shall

be obtained from the relevant government departments / authorities and documented.

- (iii) Identification of chimneys and obtainment of relevant chimney emission data in the study area by carrying out a survey for assessing the cumulative air quality impact of air pollutants through chimneys. The Applicant shall ensure and confirm that the chimney emission data used in their assessment have been validated and updated by their own survey. If there are any errors subsequently found in their chimney emission data used, the Applicant shall be fully responsible and the submission may be invalidated.
- (iv) The emissions from any concurrent projects identified as relevant during the course of the EIA study shall be taken into account as contributing towards the overall cumulative air quality impact. The impact as affecting the existing, committed and planned ASRs within the assessment area shall be assessed, based on the best information available at the time of assessment.

3. Construction Phase Air Quality Impact

- (i) The Applicant shall follow the requirements stipulated under the Air Pollution Control (Construction Dust) Regulation to ensure that construction dust impacts are controlled within the relevant standards as stipulated in Section 1 of Annex 4 of the TM. In particular, all open storage piles shall be well covered.
- (ii) If the Applicant anticipates that the Project will give rise to significant construction dust impacts likely to exceed recommended limits in the TM at the ASRs despite the incorporation of the dust control measures proposed, a quantitative assessment should be carried out to evaluate the construction dust impact at the identified ASRs. The Applicant shall follow the methodology set out in section 5 below when carrying out the quantitative assessment.
- (iii) A monitoring and audit programme for the construction phase shall be devised to verify the effectiveness of the control measures proposed so as to ensure proper construction dust control. The monitoring and audit shall include the relevant parameters and shall be sufficient to monitor the construction dust impact. The setting-up of CCTV system for continuously monitoring the construction site shall also be considered.

4. Operational Phase Air Quality Impact

- (i) The Applicant shall assess the expected air pollutant impacts at the identified ASRs based on an assumed reasonably worst-case scenario under normal operating conditions. If the assessment indicates likely exceedances of the recommended limits in the TM at the development and the nearby ASRs, a quantitative assessment should be carried out to evaluate the operational phase air quality impacts at the identified ASRs. The Applicant shall follow the methodology set out in section 5 below when carrying out the quantitative assessment.
- (ii) The air pollution impacts of future road traffic shall be calculated based on the highest emission strength from the road within the next 15 years upon commissioning of the proposed development. The Applicant shall demonstrate that the selected year of assessment represents the highest emission scenario given the combination of vehicular emission factors and traffic flow for the selected year. If necessary, the Fleet Average

Emission Factors shall be determined by a motor vehicle emission model such as EMFAC-HK model to be agreed with the Director. The traffic flow data and assumptions, such as the exhaust technology fractions, vehicle age/population distribution, traffic forecast and speed fractions, that are used in the assessment shall be presented in the form of both summary table(s) and graph(s).

- (iii) If vehicle tunnels and/or full enclosures are proposed in the Project, it is the responsibility of the Applicant to ensure that the air quality inside these proposed structures shall comply with EPD's "Practice Note on Control of Air Pollution in Vehicle Tunnels". When assessing air quality impact due to emissions from tunnels/full enclosures, the Applicant shall ensure prior agreement with the relevant ventilation design engineer over the amount and the types/kinds of pollutants emitted from these full enclosures; and such assumptions shall be clearly and properly documented in the EIA report.
- (iv) The Applicant shall assess the potential odour impact arising from the Project/activities in the Project during the operation phase based on assumed reasonably worst-case scenario under normal operating conditions.
- (v) A monitoring and audit programme for the operational phase of the Project shall be devised to verify the effectiveness of the control measures proposed so as to ensure proper control of operational air quality impacts.

5. Quantitative Assessment Methodology

- (i) The Applicant shall conduct the quantitative assessment by applying the general principles enunciated in the modelling guidelines in Appendices A-1 while making allowance for the specific characteristic of the Project. This specific methodology must be documented in such level of details, preferably assisted with tables and diagrams, to allow the readers of the EIA report to grasp how the model has been set up to simulate the situation under study without referring to the model input files. Detailed calculations of air pollutants emission rates for input to the modelling shall be presented in the EIA report. The Applicant must ensure consistency between the text description and the model files at every stage of submissions for review. In case of doubt, prior agreement between the Applicant and the Director on the specific modelling details should be sought.
- (ii) The Applicant shall identify the key/representative air pollution parameters (types of pollutants and averaging time concentrations) to be evaluated and provide explanation for selecting such parameters for assessing the impact of the Project. Ozone Limiting Method (OLM) or Discrete Parcel Method (DPM) or other method to be agreed with the Director shall be used to estimate the conversion ratio of NO_x to NO_2 if NO_2 has been identified as a key air pollutant.
- (iii) The Applicant shall calculate the overall cumulative air quality impact at the ASRs identified under section 2 above and compare these results against the criteria set out in Section 1 of Annex 4 in the TM. The predicted air quality impacts (both unmitigated and mitigated) shall be presented in the form of summary table(s) and pollution contours, to be evaluated against the relevant air quality standards and on any effect they may have on the land use implications. Plans of a suitable scale should be used to present pollution contours to allow buffer distance requirements to be determined properly.

- (iv) If there are any direct technical noise remedies recommended in the study, the air quality implication due to these technical remedies shall be assessed. For instance, if barriers that may affect dispersion of air pollutants are proposed, then the implications of such remedies on air quality impact shall be assessed. The Applicant shall highlight clearly the locations and types of agreed noise mitigating measures (where applicable), be they noise barriers and affected ASRs, on contour maps for easy reference.

6. Mitigation Measures for Non-compliance

The Applicant shall propose remedies and mitigating measures where the predicted air quality impact exceeds the criteria set in Section 1 of Annex 4 in the TM. These measures and any constraints on future land use planning shall be agreed with the relevant government departments/authorities and documented. The Applicant shall demonstrate quantitatively that the residual impacts after incorporation of the proposed mitigating measures will comply with the criteria stipulated in Section 1 of Annex 4 in the TM.

7. Submission of Model Files

Input and output file(s) of model run(s) including those files for generating the pollution contours and emission calculation work sheets shall be submitted to the Director in electronic format together with the submission of the EIA report.

Appendix A-1**Air Quality Modelling Guidelines**

[The information contained in this Appendix is meant to assist the Applicant in performing the air quality assessment. The Applicant must exercise professional judgement in applying this general information.]

The air quality modelling guidelines shall include the following guidelines as published on the website of the Environmental Protection Department (http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/guide_aqa_model.html):

- i) Guidelines on Choice of Models and Model Parameters;
- ii) Guidelines on Assessing the "Total" Air Quality Impact (Revised);
- iii) Guidelines on the Use of Alternative Computer Models in Air Quality Assessment (Revised);
- iv) Guidelines on the Estimation of PM_{2.5} for Air Quality Assessment in Hong Kong; and
- v) Guidelines on the Estimation of 10-minute Average SO₂ Concentration for Air Quality Assessment in Hong Kong.

Appendix B**Requirements for Hazard to Life Assessment**

1. The Applicant shall carry out hazard to life assessment to evaluate the risk associated to construction and operation of the Project due to operations of hazardous facilities in vicinity of the Project including the Ma Tau Kok Gas Works (MTKGW) and all associated facilities. The hazard to life assessment shall include the following:
 - (i) identify hazardous scenarios associated with the hazardous facilities in vicinity of the Project including the MTKGW and all associated facilities and then determine a set of relevant scenarios to be included in a Quantitative Risk Assessment (QRA);
 - (ii) execute a QRA of the set of hazardous scenarios determined in (i), expressing population risks in both individual and societal terms;
 - (iii) compare individual and societal risks with the criteria for evaluating hazard to life stipulated in Annex 4 of the TM;
 - (iv) identify and assess practicable and cost-effective risk mitigation measures, including feasibility of adopting alternative land uses within the boundary of the Project for risk reduction purpose;

Appendix C**Requirements for Noise Impact Assessment**

The noise impact assessment shall include the following:

1. Provision of Background Information and Existing Noise Levels

The Applicant shall provide background information relevant to the Project, e.g. relevant previous or current studies. Unless required for determining the planning standards, e.g. those for planning of fixed noise sources, no existing noise levels are particularly required.

2. Identification of Noise Sensitive Receivers

- (i) The Applicant shall refer to Annex 13 of the TM when identifying the NSRs. The NSRs shall include existing NSRs and planned/committed noise sensitive developments and uses earmarked on the relevant Outline Zoning Plans (OZPs) (e.g. Kai Tak OZP, Ma Tau Kok OZP, Tsz Wan Shan, Diamond Hill and San Po Kong OZP, Wang Tau Hom OZP, etc.), Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by Lands Department and any land use and development applications approved by the Town Planning Board. Photographs of existing NSRs shall be appended to the EIA report.
- (ii) The Applicant shall select assessment points to represent identified NSRs for carrying out quantitative noise assessment described below. The assessment points shall be agreed with the Director prior to the quantitative noise assessment and may be varied subject to the best and latest information available during the course of the EIA study. A map showing the location and description such as name of building, use, and floor of each and every selected assessment point shall be given. For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant planning parameters to work out representative site layouts for operational noise assessment purpose.

3. Provision of an Emission Inventory of the Noise Sources

The Applicant shall provide an inventory of noise sources including representative construction equipment for construction noise assessment, and traffic flow/fixed plant equipment, as appropriate, for operational noise assessment. The noise sources shall include noise generated by construction activities, noise arising from sports as well as non-sports events of the Project (e.g. noise from the public address system and noise from human activities, etc.), traffic noise (including traffic generated from the Project) and fixed plant noise during operation. Confirmation of the validity of the inventory shall be obtained from the relevant government departments/authorities and documented in the EIA report.

4. Construction Noise Assessment

- (i) The assessment shall cover the cumulative noise impacts due to the construction works of the Project and other concurrent projects identified during the course of the EIA study.
- (ii) The Applicant shall carry out assessment of noise impact from construction (excluding percussive piling) of the Project during daytime, i.e. 7am to 7pm, on weekdays other

than general holidays in accordance with methodology in paragraphs 5.3 and 5.4 of Annex 13 of the TM. The criteria in Table 1B of Annex 5 of TM shall be adopted in the assessment.

- (iii) To minimize the construction noise impact, the construction period shall be as short as possible, and alternative construction methods to replace percussive piling and blasting shall be proposed as far as practicable. Moreover, consideration shall be given to schedule noisy construction activities outside sensitive hours (e.g. before 9am) as far as practicable.
- (iv) If the unmitigated construction noise levels are found exceeding the relevant criteria, the Applicant shall propose practicable direct mitigation measures (including movable barriers, enclosures, quieter alternative methods, re-scheduling and restricting hours of operation of noisy tasks) to minimize the impact. If the mitigated noise levels still exceed the relevant criteria, the duration of the noise exceedance shall be given.
- (v) The Applicant shall, as far as practicable, formulate a reasonable construction programme so that no work will be required in restricted hours as defined under the Noise Control Ordinance (NCO). In case the Applicant needs to evaluate whether construction works in restricted hours as defined under the NCO are feasible or not in the context of programming construction works, reference should be made to relevant technical memoranda issued under the NCO. Regardless of the results of construction noise impact assessment for restricted hours, the Noise Control Authority will process Construction Noise Permit (CNP) application, if necessary, based on the NCO, the relevant technical memoranda issued under the NCO, and the contemporary conditions/situations. This aspect should be explicitly stated in the noise chapter and the conclusions and recommendations chapter in EIA report.

5. Operational Noise Assessment

(i) Road Traffic Noise

The Applicant shall assess any adverse traffic noise impact on the development of the Project. The following assessment requirements shall be followed.

(a) Calculation of Noise Levels

The Applicant shall identify road sections for the purpose of traffic noise impact assessment. In determining whether the traffic noise impact due to the Project is considered significant, detailed information with respect to factors including change of nature of road, change of alignment and change of traffic capacity or traffic composition etc. shall be assessed. The traffic noise impact shall be considered significant if the traffic noise level with the project is greater than that without the project at the design year by 1 dB(A) or more. Figures showing extents of the road sections (both existing and new/altered road sections) shall be provided in the EIA report.

The Applicant shall calculate the expected road traffic noise using methods described in the U.K. Department of Transport's "Calculation of Road Traffic Noise" (1988). Calculations of future road traffic noise shall be based on the peak hour traffic flow in respect of the maximum traffic projection within a 15 years period upon commencement of operation of the proposed project.

The Applicant shall calculate traffic noise levels in respect of each road section and the overall noise levels from combined road sections (both new and existing) at the NSRs.

The EIA shall contain sample calculations as considered necessary and requested by the Director, and drawings of appropriate scale to show the road segments, topographic barriers (if any), and assessment points input into the traffic noise model. The Applicant shall provide the input data sets of traffic noise model prediction model adopted in the EIA study as requested by the Director for the following scenarios:

- (1) scenario without the Project at the design year;
- (2) unmitigated scenario at design year;
- (3) mitigated scenario at design year; and
- (4) prevailing scenario for indirect technical remedies eligibility assessment.

The data shall be in electronic text, file (ASCII format) containing road segments, barriers (if any) and NSRs' information. The data structure of the above file shall be agreed with the Director. CD-ROM(s) containing the above data shall be attached in the EIA report.

(b) Presentation of Noise Levels

The Applicant shall present the prevailing (if indirect technical remedies are justified) and future noise levels in L_{10} (1 hour) at the NSRs at various representative floor levels (in m.P.D.) on tables and plans of suitable scale.

A quantitative assessment at the NSRs shall be carried out and compared against the criteria set out in Table 1A of Annex 5 of the TM. The potential noise impact of the Project shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive elements that will be exposed to noise levels exceeding the criteria set in Table 1A of Annex 5 in the TM.

(c) Proposals for Noise Mitigation Measures

After rounding of the predicted noise levels according to the U.K. Department of Transport's "Calculation of Road Traffic Noise" (1988), the Applicant shall propose in accordance with Section 6 in Annex 13 of EIAO-TM direct technical remedies in all situations where the predicted traffic noise level exceeds the criteria set in Table 1A of Annex 5 in the TM by 1.0 dB(A) or more and at the same time is greater than that without the project at the design year by 1.0 dB(A) or more. The direct mitigation measures listed under section 6.1 of Annex 13 of the TM, including the option of alternative land use arrangement, shall be thoroughly explored and evaluated with a view to reducing the noise level at the NSRs concerned to the level meeting the relevant noise criteria. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed in accordance with section 4.4.2(k) of the TM. Specific reasons for not adopting certain direct technical remedies in the design to

reduce the traffic noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly quantified and laid down. Sections of barriers proposed to protect existing NSRs shall be differentiated clearly from those proposed for the protection of future or planned NSRs as the latter is only required to be constructed before the occupation of the planned NSRs. To facilitate the phased implementation of barriers under this principle, a barrier inventory showing intended NSRs (ie. existing NSRs as distinct from planned NSRs) to be protected by different barrier sections to achieve different extent of noise reduction (to be quantified in terms of how many dB(A)) should be provided.

The total number of dwellings, classrooms and other noise sensitive elements that will be benefited from, and be protected by the provision noise mitigation measures should be provided. In order to clearly present the extents/locations of the recommended noise mitigation measures, plans prepared from 1:1000 or 1:2000 survey maps showing the mitigation measures (e.g., enclosures/barriers, low noise road surfacing, etc.) should be included in the EIA report.

The Applicant shall provide, in the EIA report information of recommended noise mitigation measures (such as barrier types, nominal dimensions at different cross-sections, extents/locations, lengths and mPD levels of barriers) in an appropriate format (including electronic format).

The total number of dwellings, classrooms and other noise sensitive elements that will still be exposed to noise above the criteria with the implementation of all recommended direct technical remedies shall be quantified.

In case where a number of NSRs cannot be protected by the recommended direct mitigation measures, the Applicant shall identify and estimate the total number of existing dwellings, classrooms and other noise sensitive elements which may qualify for indirect technical remedies, the associated costs and any implications for such implementation. For the purpose of determining eligibility of the affected premises for indirect technical remedies, reference shall be made to the following set of three criteria:

- (1) the predicted overall noise level at the NSR from the road sections and other traffic noise in the vicinity must be above a specified noise level (e.g. 70 dB(A) for domestic premises and 65 dB(A) for educational institutions and places of public worship, all in L_{10} (1hour));
- (2) the predicted overall noise level at the NSR is at least 1.0 dB(A) more than the prevailing traffic noise level, i.e. the total traffic noise level existing before the commencement of works to construct the road; and
- (3) the contribution from the road sections to the increase in predicted overall noise level from the new road at the NSR must be at least 1.0dB(A).

(ii) Fixed Noise Sources

If the Project will cause any fixed noise sources, such as the public address system, building services system, ventilation system and industrial noise source(s), the following assessment shall be followed.

(a) Assessment of Fixed Source Noise Levels

The Applicant shall identify any fixed noise sources including but not limited to any permanent and temporary industrial noise source(s), ventilation system(s) of building(s) and/or tunnel(s), vehicle repair workshop(s), godown(s), pumping station(s), pump house(s) and electricity substation(s) that may have a bearing on the environmental acceptability of the Project and those caused by the Project. The Applicant shall calculate expected noise using standard acoustics principles. Calculations for expected noise shall be based on assumed plant inventories and utilization schedule for worst-case scenario. The Applicant shall calculate noise levels taking into account correction of tonality, impulsiveness and intermittency in accordance with Technical Memorandum for Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites issued under NCO. Reference should also be made to EPD's "Noise Control Guidelines for Music, Singing and Instrument Performing Activities".

(b) Presentation of Noise Levels

The Applicant shall present the existing and future noise levels in L_{eq} (30 min) at the NSRs at various representative floor levels (in m P.D.) on tables and plans of suitable scale. A quantitative assessment at the NSRs for the proposed fixed noise source(s) shall be carried out and compared against the criteria set out in Table 1A of Annex 5 of the TM.

(c) Proposals for Noise Mitigation Measures

The Applicant shall propose direct technical remedies within the Project limits in all situations where the predicted noise level exceeds the criteria set out in Table 1A of Annex 5 of the TM to protect the affected NSRs. In particular, the effectiveness of noise reduction for the proposed retractable roof for the main stadium shall be evaluated in details.

6. Assessment of Side Effects and Constraints

The Applicant shall identify, assess and propose means to minimize any side effects and to resolve any potential constraints due to the inclusion of any recommended direct technical remedies.

7. Evaluation of Constraints on Planned Noise Sensitive Developments/Land uses

For planned noise sensitive uses which will still be affected even with practicable direct technical remedies in place, the Applicant shall propose, evaluate and confirm the practicability of additional measures within the planned noise sensitive uses and shall make recommendations on how these noise sensitive uses will be designed for the information of relevant parties. The Applicant shall take into account agreed environmental requirements / constraints identified by the EIA study to assess the development potential of concerned sites which shall be made known to the relevant parties.

Appendix D1**Requirements for Water Quality Impact Assessment**

1. The Applicant shall identify and analyse physical, chemical and biological disruptions of the water system(s) arising from the construction and operation of the Project.
2. The Applicant shall predict, and assess any water quality impacts arising from the construction and operation of the Project.
3. The assessment shall include, but not limited to the following:
 - (i) the water quality impacts of the site run-off generated during the construction stage such as the effluents generated from dewatering associated with piling activities, grouting and concrete washing;
 - (ii) the water quality impacts of the stormwater runoff containing oil/grease and suspended solids during the operational stage;
 - (iii) the water quality impacts generated from the Project including those facilities and services that will generate wastewater including but not limited to toilets/bathrooms, hotel, office, laundry, catering services, sports facilities and discharge of toxic substances (e.g. pesticides and fertilizers), etc.
 - (iv) the water quality impacts on water sensitive receivers that shall include but not limited to beaches, seawater intake points, river courses and drainages around the work sites.
4. The Applicant shall address water quality impacts due to the construction phase and operational phase of the Project. Essentially, the assessment shall address the following :
 - (i) Collect and review background information on affected existing and planned water systems, their respective catchments and sensitive receivers which might be affected by the Project;
 - (ii) Characterize water quality of the water systems and sensitive receivers, which might be affected by the Project based on existing best available information or through appropriate site survey and tests;
 - (iii) Identify and analyse relevant existing and planned future activities, beneficial uses and water sensitive receivers related to the affected water system(s). The Applicant should refer to, *inter alia*, those developments and uses earmarked on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans and Layout Plans, and any other relevant published landuse plans;
 - (iv) Identify pertinent water quality objectives and establish other appropriate water quality criteria or standards for the water system(s) and the sensitive receivers identified in (i), (ii) & (iii) above;

- (v) Review the specific construction methods and configurations, and operation of the Project to identify and predict the likely water quality impacts arising from the Project;
- (vi) Identify any alternation of any water courses, natural streams, ponds, change of water holding/flow regimes, change of catchment types or areas and any other hydrological changes in the study area;
- (vii) Identify and quantify existing and likely future water pollution sources, including point discharges and non-point sources to surface water runoff, sewage from workforce and polluted discharge generated from the Project.
- (viii) An emission inventory on the quantities and characteristics of these existing and future pollution sources in the assessment area shall also be provided. Field investigation and laboratory test, shall be conducted as appropriate to fill relevant information gaps;
- (ix) Report on the adequacy of the existing sewerage and sewage treatment facilities for the handling, treatment and disposal of wastewater arising from the Project as required in section 3.4.7;
- (x) Identify and quantify the water quality impacts based on the findings and recommendations from the Sewerage and Sewage Treatment Implications Assessment under section 3.4.7. The water quality concerns shall include, but not limited to, possible sewage overflow or emergency discharge due to capacity constraints of the sewerage system, and emergencies arising from the Project;
- (xi) Predict and quantify the impacts on the water system(s) and their sensitive receivers due to those alternations and changes identified in (v) above and the pollution sources identified in (vii) above. Possible impacts include change in hydrology, flow regime, water quality and the effects on the sensitive receivers due to such changes. The prediction shall take into account and include possible different construction and operation stages of the Project.
- (xii) Assess the cumulative impacts due to other related concurrent and planned projects, activities or pollution sources within the study area that may have a bearing on the environmental acceptability of the Project;
- (xiii) Analyze the provision and adequacy of existing and planned future facilities to reduce pollution arising from the point and non-point sources identified in (vii) above;
- (xiv) Develop effective infrastructure upgrading or provision, contingency plan, water pollution prevention and mitigation measures to be implemented during construction and operation stages, including emergency sewage discharge, so as to reduce the water quality impacts to within standards. Requirements to be incorporated in the project contract document shall also be proposed.
- (xv) Investigate and develop best management practices to reduce storm water and non-point source pollution as appropriate; and

- (xvi) Evaluate and quantify residual impacts on water system(s) and the sensitive receivers with regard to the appropriate water quality objectives, criteria, standards or guidelines.

5. Contaminated Groundwater Pollution

- (i) Proposal for upgrading or providing any effective infrastructure, water pollution prevention and mitigation measures to be implemented during the construction and operation stages so as to handle any contaminated groundwater generated and to reduce the water quality impacts to within standards. Requirements to be incorporated in the project contract document shall also be proposed;
- (ii) Evaluation and quantification of residual impacts on the water systems(s) and the sensitive receivers with regard to appropriate water quality objectives, criteria, standards or guidelines;

Chemical Spillage

- (i) Assessment of the risk to environmental sensitive receivers due to significant accidental chemical spillage. The assessment shall include the followings :
 - a) Identification of chemical spillage (e.g. pesticides, fertilisers) scenarios associated with the operation of the Project, in particular the accidental spillage associated with storage, transfer and trans-shipment of fuel during the operation of the Project and the impact on environmental sensitive receivers;
 - b) Prediction and quantification of the impacts on the sensitive receivers due to chemical spillage scenarios identified in (a). The prediction shall take into account and include different likely operation stages; and
 - c) Derivation of emergency contingency plan for the operation phase of the Project with an aim to avoid and contain the spread and to remove accidental spillage in short notice and to prevent and/or to minimise the quantities of contaminants from reaching the environmental sensitive receivers in a shortest practical time.

Appendix D2**Requirements for Assessment of Sewerage and Sewage Treatment Implication**

1. The Applicant shall investigate and determine the need and the feasibility of having central pre-treatment facilities and/or a separate sewage treatment plant within the study area. Taking into consideration any programme gap between provision of public sewerage and the occupation of the development, the Applicant shall also investigate and determine the need and feasibility of providing interim sewage treatment facilities.
2. The Applicant shall study and assess the need and impacts of discharging sewage to the existing/planning sewerage systems in To Kwa Wan Preliminary Treatment Works catchment area. The assessment shall include the following:
 - (i) review and confirm whether the existing, committed, planned sewerage systems and sewage treatment works in To Kwa Wan Preliminary Treatment Works catchment area will provide adequate capacity for the Project. The Applicant shall quantitatively address the impacts of the Maximum Development Flows on the sewerage system under different development phases. The appropriate treatment level of interim discharge, if required, shall be assessed. The water quality impacts arising from the interim and ultimate effluent discharge, if any, shall be assessed;
 - (ii) employ the latest version of the computer model “InfoWorks” or equivalent computer models to assess impacts of future development under different phases on the existing and planned sewerage network in To Kwa Wan Preliminary Treatment Works catchment area sewershed;
 - (iii) propose and undertake all required measures to mitigate any forecast shortfalls in the sewerage system as a result of the Project under different development phases and demonstrate the proposed measures would be adequate for the Maximum Development Flows under different development phases. Any proposed sewerage system and/or on-site sewage treatment facility should be designed to meet the current government standards and requirements;
 - (iv) identify and quantify the water quality and ecological impacts due to the emergency discharge from on-site sewage treatment plant/pumping stations, if any, and sewer bursting discharge, and to propose measures to mitigate these impacts;
 - (v) identify the appropriate alignment and layouts of the new sewerage to connect to the existing/planned/future sewerage systems in To Kwa Wan Preliminary Treatment Works catchment area and investigate and assess the technical feasibility of connection (eg. technical feasibility and details for connection to public sewer and sewage pumping station); and

- (vi) set out the design, operation and maintenance requirements and identify the party responsible for the construction and maintenance of any proposed sewerage and sewage treatment facilities, such as pumping station(s) and sewage treatment plant, including electrical and mechanical components to eliminate the problem of septicity incurred in long rising main(s) during low flows and to facilitate maintenance. The above shall be agreed by DSD and EPD (Twin rising mains for each pumping station should be provided to make sure that the proposed sewage rising mains are maintainable without shutting down and discharging untreated sewage into the natural stream/drainage channel directly).

Appendix E1**Requirements for Assessment of Waste Management Implication**

The assessment of waste management implication shall cover the following:

1. Analysis of Activities and Waste Generation

- (i) The Applicant shall identify the quantity, quality and timing of the waste arising as a result of the construction and operation activities of the Project based on the sequence and duration of these activities, eg. construction and demolition materials (C&DM) and other wastes which will be generated during construction and operational stages, including those facilities and services that will generate food waste such as hotel and catering services, etc.. The Applicant shall adopt appropriate design, general layout, construction methods and programme to minimize the generation of public fill/inert C&DM and maximize the use of public fill/inert C&DM for other construction works.

2. Proposal for Waste Management

- (i) Prior to considering the disposal options for various types of wastes, opportunities for reducing waste generation, on-site or off-site re-use and recycling shall be fully evaluated. Measures that can be taken in planning and design stages e.g. by modifying the design approach and in the construction stage for maximizing waste reduction shall be separately considered.
- (ii) After considering the opportunities for reducing waste generation and maximizing re-use, the types and quantities of the wastes required to be disposed of as a consequence shall be estimated and the disposal methods/options for each type of wastes shall be described in detail. The disposal methods/options recommended for each type of wastes shall take into account of the result of the assessment in (iv) below.
- (iii) The EIA report shall also state clearly the transportation routings and the frequency of the trucks/vessels involved, any barging point or conveyor system to be used, the stockpiling areas and the disposal outlets for the waste identified. Alternative methods for transportation and/or disposal of different types of waste arising from the Project activities shall be evaluated and recommended with justifications in the EIA. In particular, the possibility of the use of barging point (e.g. share use of the barging point at Kai Tak) for delivering waste for disposal shall be explored to reduce land base traffic as far as practicable and the environmental impact arising from waste disposal along the transportation route(s) shall be addressed.
- (iv) The impact caused by handling (including stockpiling, labelling, packaging and storage), collection, transportation and re-use/disposal of wastes shall be addressed in detail and appropriate mitigation measures shall be proposed. This assessment shall cover the following areas :
 - potential hazard;
 - air and odour emissions;
 - noise;
 - wastewater discharge;
 - ecology; and

- public transport.

3. Excavation/Dredging and Dumping

- (i) The Applicant shall identify and quantify all excavation/dredging, excavated/dredged sediment/mud transportation and disposal activities and requirements. Potential dumping ground to be involved shall also be identified. Appropriate field investigation, sampling and chemical and biological laboratory tests to characterize the sediment/mud concerned shall be conducted. The ranges of parameters to be analyzed; the number, type and methods of sampling; sample preservation; chemical and biological laboratory test methods to be used shall be agreed with the Director (with reference to Section 4.4.2(c) of the TM) prior to the commencement of the tests and document in the EIA report for consideration. The categories of sediment/mud which are to be disposed of in accordance with a permit granted under the Dumping at Sea Ordinance (DASO) shall be identified by both chemical and biological tests and their quantities shall be estimated. If the presence of any serious contamination of sediment/mud which requires special treatment/disposal is confirmed, the Applicant shall identify the most appropriate treatment and/or disposal arrangement and demonstrate its feasibility. The Applicant shall provide supporting document, such as agreement by the relevant facilities management authorities, to demonstrate the viability of any treatment/disposal plan.
- (ii) The Applicant shall identify and evaluate the best practical excavation/dredging methods to minimize dredging/excavation and dumping requirements based on the criterion that existing sediment/mud shall be left in place and not to be disturbed as far as possible.

Appendix E2**Requirements for Land Contamination Assessment**

1. The Applicant shall identify land lots and sites within the entire Project Site Boundary (Figure 1 refers) and all associated areas (e.g. work areas), which, due to their past or present land uses, are potential contaminated sites. A detailed account of the present activities and past land use history in relation to possible land contamination shall be provided.
2. If any potential contaminated land lots/sites are identified, the Applicant shall carry out the land contamination assessment in accordance with sections 3.1 and 3.2 of Annex 19 of the TM accordingly.
3. The list of potential contaminants which are anticipated to be found in these potential contaminated sites shall be provided and the relevant remediation options shall be discussed.
4. To prevent contamination problems arising from the operation of the Project, the Applicant shall:
 - (i) identify the possible sources of contamination and potential contaminants associated with the operation of the Project including, but not limited to, storage, use, transfer, accidental spillage and leakage of feedstocks, reagents, intermediate products and final products of the facilities and production plants;
 - (ii) evaluate the level of contamination identified in item (i) above; and
 - (iii) formulate appropriate operational practices, waste management strategies and precautionary measures for prevention of contamination problems.

Appendix F**Requirements for Ecological Impact Assessment (Terrestrial)**

1. In the ecological impact assessment, the Applicant shall examine the flora, fauna and other components of the ecological habitats within the study area. The aim shall be to protect, maintain or rehabilitate the natural environment. In particular, the Project shall avoid as far as possible impacts on recognized sites of conservation importance (e.g. Sites of Special Scientific Interest, Country Park, conservation areas) and other ecological sensitive areas (e.g. streams, wetlands, and secondary woodlands). The assessment shall identify and quantify as far as possible the potential ecological impacts associated with the Project, both directly by physical disturbance and indirectly by changes of water quality and hydrodynamic regime to the natural environment and the associated wildlife groups and habitats / species arising from the Project including its construction phases as well as the subsequent management and maintenance of the proposals.
2. The assessment shall include the following major tasks:
 - (i) review the findings of relevant studies / surveys and collate the available information regarding the ecological characters of the study area;
 - (ii) evaluate the information collected, identify any information gap relating to the assessment of potential ecological impacts to terrestrial environment, and determine the ecological field surveys and investigations that are needed for a comprehensive assessment as required under the following sections;
 - (iii) carry out any necessary ecological field surveys with a duration of at least 4 months, and investigations to verify the information collected, fill in the information gaps as identified under sub-section (ii) above, if any, and to fulfil the objectives of the EIA study. The field surveys shall include but not be limited to flora, fauna and any other habitats/species of conservation importance;
 - (iv) establish the general ecological profile of the study area based on information collected in the tasks mentioned in sub-section (i) to (iii) above, and describe the characteristics of each habitat found; the data set should be comprehensive and representative, and is up to date and valid for the purpose of this assessment. Major information to be provided shall include :
 - (a) description of the physical environment, including all recognized sites of conservation importance and assessment of whether these sites will be affected by the Project or not;
 - (b) habitat maps of suitable scale (1:1000 to 1:5000) showing the types and locations of habitats and species of conservation interest in the study area;
 - (c) ecological characteristics of each habitat type such as size, vegetation and/or substrate type, species present, dominant species found, species richness and abundance of major taxa groups, inter-dependence of the habitats and species, and presence of any features of ecological importance;
 - (d) representative colour photos of each habitat type and any important ecological features identified; and
 - (e) species found that are rare, endangered and/or listed under local legislation, international conventions for conservation of wildlife / habitats or red data books.

- (v) investigate and describe the existing wildlife uses of various habitats with special attention to those wildlife groups and habitats with conservation interest, including but not limited to the following :
 - (a) woodlands and plantations;
 - (b) wetlands including watercourses and associated riparian habitats;
 - (c) linkages of habitats within the assessment area;
 - (d) avifauna including raptors, migratory bird species;
 - (e) mammals;
 - (f) herpetofauna;
 - (g) insects (e.g. butterflies and dragonflies);
 - (h) watercourse associated species (e.g. fish and crustaceans); and
 - (i) any other habitats / species identified as having special conservation interest by this EIA study.

- (vi) describe recognized site of conservation importance in the study area, if any, and assess whether these site will be affected by the Project or not.

- (vii) using suitable methodology, and considering also any works activities from other projects reasonably likely to occur at the time, identify and quantify as far as possible any direct (e.g. loss of habitats due to various elements such as excavation works and other associated works of the Project), indirect (e.g. changes in water qualities, hydrodynamics properties, hydrology, accidental discharge of untreated sewage, noise and other disturbance generated by the construction and operational activities etc), on-site, off-site, primary, secondary and cumulative ecological impacts on the wildlife groups and habitats identified such as destruction of habitats, reduction of species abundance/diversity, loss of feeding and breeding grounds, reduction of ecological carrying capacity and habitat fragmentation, in particular the following :
 - (a) loss of habitats such as woodlands, plantations and wetlands;
 - (b) disturbance to animals and plants;
 - (c) impacts due to habitat fragmentation and isolation;
 - (d) impacts due to increase in human activities and disturbance during the construction and operation stages of the Project such as increase in light intensity; and
 - (e) cumulative impacts due to other planned and committed concurrent development projects at or near the Project area.

- (viii) evaluate ecological impact based on the best and latest information available during the course of the EIA study, using quantitative approach as far as practicable and covering construction and operational phases of the Project as well as the subsequent management and maintenance requirement of the Project;

- (ix) recommend possible alternatives, such as layer, design and alignment of the Project and modification / change of construction methods, and practicable mitigation measures to avoid, minimize and/or compensate for the adverse ecological impacts identified during construction and operation of the Project;

- (x) evaluate feasibility and effectiveness of the recommended mitigation measures and definition of the scope, type, location, implementation arrangement, resources requirement, subsequent management and maintenance of such measures;

- (xi) determine and quantify as far as possible of the residual ecological impacts after implementation of the proposed mitigation measures;
- (xii) evaluate the severity and acceptability of the residual ecological impacts using well-defined criteria in Annex 8 of the TM and determine if off-site mitigation measures are necessary to mitigate the residual impacts and if affirmative, guidelines and requirements laid down in Annex 16 of the TM should be followed; and
- (xiii) review the need for and recommend any ecological monitoring programme required.

Appendix G**Requirements for Landscape and Visual and Glare Impact Assessments**

1. The Applicant shall review relevant outline development plan(s), outline zoning plan(s), layout plan(s) or planning briefs and studies which may identify areas of high landscape value, e.g. areas with sensitive landscape designations and visually sensitive areas/receivers. Any guidelines on landscape strategy, landscape framework, urban design concept, building height profiles, designated view corridors, open space network and landscape link that may affect the appreciation of the Project shall also be reviewed. The aim is to gain an insight to the future outlook of the area affected so as to assess whether the Project can fit into the surrounding setting. Any conflict with statutory town plan(s) shall be highlighted and appropriate follow-up action shall be recommended.
2. The Applicant shall describe, appraise, analyze and evaluate the existing and planned landscape resources and character of the study area. e.g. vegetation, etc. A system shall be derived for judging landscape impact significance as required under the TM. Annotated oblique aerial photographs and plans of suitable scale showing the baseline landscape resources and landscape character areas and mapping of impact assessment shall be extensively used to present the findings of impact assessment. Descriptive text shall provide a concise and reasoned judgment from a landscape and visual point of view. The assessment shall be particularly focused on the sensitivity of the landscape framework and its ability to accommodate change. The Applicant shall identify the degree of compatibility of the Project with the existing and planned landscape settings. The landscape impact assessment shall quantify potential landscape impact as far as possible, so as to illustrate the significance of such impact arising from the Project. Clear mapping of the landscape impact is required. A broad brush tree survey to identify dominant tree species, maturity, rarity and any plant species of conservation interest, etc. should be conducted within the study area to provide baseline information on the landscape resources and landscape character areas and the impacts on existing trees shall be summarized. Cumulative landscape and visual impacts of the Project with other existing, committed and planned developments in the study area shall be assessed.
3. The Applicant shall assess the visual and glare impacts of the proposed Project. Clear illustration including mapping of visual impact is required. The assessment shall adopt a systematic methodology and include the following:
 - (i) identification and plotting of visual envelope of the Project;
 - (ii) identification of the key groups of existing and planned sensitive receivers within the visual envelope and their views at both ground level and elevated vantage points. Among other receivers, sensitive receivers shall include, but not limited to, nearby residents and villagers. Both long distance view and short distance view shall be covered in the assessment;
 - (iii) assessment for evaluating visual impacts, by taking into account the factors affecting the sensitivity of receivers (including value and quality of existing views, availability and amenity alternative views, type and estimated number of receiver population, duration of view and degree of visibility) and the magnitude of change of view (including compatibility of the project with the surrounding landscape and planned setting, duration of impacts under construction and operation phases, scale of development, reversibility of change, viewing distance and potential blockage of view).

The visual impacts of the Project with and without mitigation measures shall also be included so as to demonstrate the effectiveness of the proposed mitigation measures;

- (iv) identification and evaluation of the glare impact of the Project. The glare impact assessment shall adopt a methodology accepted by recognised national/international organisations and shall include the following tasks:
 - (a) identification and description of any glare or uncomfortable eye feeling caused by light interference from direct man-made light sources generated from the Project;
 - (b) derivation of numerical criteria and lighting engineering approach for credible glare impact assessment;
 - (c) carrying out lighting calculation/analysis by persons with appropriate training in lighting engineering; and
 - (d) recommendations for possible alternatives, such as design, orientation, spotting angle, intensity and operation mode and practicable mitigation measures to avoid or minimize the adverse glare impact arising from the Project. In particular, overnight lighting of the Project shall be limited to the best practicable extent and the lighting intensity and angle shall be designed to avoid adverse impact on surrounding residential development. Moreover, consideration shall be given to the external design of the sports complex to minimize light reflection and the use of the proposed retractable roof to mitigation glare impact from the main stadium; and
 - (v) clear evaluations and explanation with supportive arguments of all relevant factors considered in arriving the significance thresholds of visual and glare impacts.
4. The Applicant shall evaluate the merit and demerit of preservation in totality, in parts or total destruction of existing landscape and the establishment of a new landscape character area. Alternative location, site layout, development options, design and construction method that would avoid or reduce the identified landscape and visuals impacts shall first be considered and be evaluated for comparison before adopting other mitigation or compensatory measures to alleviate the impacts. The mitigation measures proposed shall not only be concerned with damage reduction but shall also include consideration of potential enhancement of the existing landscape and visual quality. The Applicant shall recommend mitigation measures to minimize the adverse effects identified above, including provision of a master landscape design.
 5. The mitigation measures shall also include the preservation of vegetation, transplanting of trees of good amenity value, provision of screen planting, re-vegetation of disturbed lands, compensatory planting, re-provisioning of amenity areas and open spaces, design of structure, provision of finishes to structure, colour scheme and texture of material used and any measures to mitigate the disturbance of the existing land use. Parties shall be identified for the on-going management and maintenance of the proposed mitigation works to ensure their effectiveness throughout the operation phase of the Project. A practical programme and funding proposal for the implementation of the recommended measures shall be provided.
 6. Annotated illustration such as coloured perspective drawings, plans and section/elevation diagrams, oblique aerial photographs, photographs taken at vantage points and computer-generated photomontage, particularly from but not limited to the most severely affected vantage points shall be adopted to illustrate the significance of the landscape and visual impacts of the Project in four stages i.e. existing conditions, unmitigated impacts at Operation Day 1, mitigated impacts at Operation Day 1 and residual impacts at Year 10. Options of design schemes should be illustrated with photomontages to show the visual

impact on the surrounding areas. True colour samples may be requested if found necessary and appropriate. Technical details in preparing the illustration, which may need to be submitted for verification of accuracy of the illustration shall be recorded. Computer graphics shall be compatible with Microstation DGN file format.

Appendix H**Requirements for Cultural Heritage Impact Assessment****Archaeological Impact Assessment (AIA)**

1. The Applicant shall engage professional archaeologist(s) to conduct an AIA, taking the results of previous studies and other background of the site into account, to evaluate the archaeological impact imposed by the Project. The assessment area of the AIA shall include areas within a distance of 200 metres from the site boundary of the Project. In case the existing information is inadequate or where the assessment area has not been adequately studied before, the archaeologist(s) shall conduct archaeological field investigations to assemble data. The archaeologist(s) shall obtain licences from the Antiquities Authority prior to the commencement of archaeological field investigations. Based on existing and collected data, the Applicant shall evaluate whether the proposed developments and works associated with the Project are acceptable from archaeological preservation point of view. In case adverse impact on archaeological heritage cannot be avoided, appropriate mitigation measures should be designed and recommended in the EIA report. Details of the AIA shall be submitted to the Antiquities and Monuments Officer and the Director prior to the commencement of the assessment for consideration.
2. The Applicant shall demonstrate that the disturbances to those sites of cultural heritage are avoided to the maximum practicable extent by modification of the design of the Project. For those identified sites of cultural heritage that may still be directly and indirectly affected by the Project, the Applicant shall recommend practicable mitigation measures and monitoring to avoid or minimise the adverse impacts on the sites of cultural heritage. A checklist including the affected sites of cultural heritage, identified impacts, recommended mitigation measures as well as the implementation agent and period shall be given in the EIA report.
3. The Applicant shall draw necessary reference to relevant sections of the “Guidelines for Cultural Heritage Impact Assessment” at Appendix H-1 for detailed requirement.

Appendix H-1**Guidelines for Cultural Heritage Impact Assessment**

(as at January 2012)

Introduction

The purpose of the guidelines is to assist the understanding of the requirements in assessing impact on archaeological and built heritage. The guidelines which will be revised by the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department from time to time, where appropriate, and when required should be followed in the interest of professional practice.

A comprehensive Cultural Heritage Impact Assessment (CHIA) includes a baseline study, an impact assessment study associated with the appropriate mitigation measures proposed and to be implemented by project proponents.

(1) Baseline Study

1.1 A baseline study shall be conducted:

- a. to compile a comprehensive inventory of heritage sites within the proposed project area, which include:
 - (i) all recorded sites of archaeological interest (both terrestrial and marine);
 - (ii) all declared monuments;
 - (iii) all proposed monuments;
 - (iv) all buildings/ structures/ sites graded or proposed to be graded by the Antiquities Advisory Board (AAB);
 - (v) Government historic sites identified by AMO;
 - (vi) buildings/ structures/ sites of high architectural / historical significance and interest which are not included in items (i) to (v) above; and
 - (vii) cultural landscapes include places associated with historic event, activity, or person or exhibiting other cultural or aesthetic values, such as sacred religious sites, battlefields, a setting for buildings or structures of architectural or archaeological importance, historic field patterns, clan graves, old tracks, fung shui woodlands and ponds, and etc.
- b. to identify the direct and indirect impacts on the heritage sites at the planning stage in order to avoid causing any negative effects. The impacts include the direct loss, destruction or disturbance of an element of cultural heritage, impact on its settings or impinging on its character through inappropriate sitting or design, potential damage to the physical fabric of archaeological remains and historic buildings/ structures/ sites through air pollution, change of ground water level, vibration, ecological damage, new recreation or other daily needs to be caused by the new development. The impacts listed are merely to illustrate the range of potential impacts and not intended to be exhaustive.

1.2 The baseline study shall also include a desk-top research and a field evaluation.

1.3. Desk-top Research

1.3.1 Desk-top research should be conducted to analyse, collect and collate the best available information. It shall include (if applicable) but not limited to:

- a. List of declared and proposed monuments protected by the Antiquities and Monuments Ordinance (Chapter 53).
- b. Graded and proposed graded historic buildings/ structures/ sites.
- c. Government historic sites identified by AMO.
- d. Lists and archives kept in the Reference Library of AMO including sites of archaeological interest, declared monuments, proposed monuments and recorded historic buildings/ structures/ sites identified by AMO.
- e. Publications on local historical, architectural, anthropological, archaeological and other cultural studies, such as, Journals of the Royal Asiatic Society (Hong Kong Branch), Journals of the Hong Kong Archaeological Society, AMO Monograph Series and so forth.
- f. Other unpublished papers, records, archival and historical documents through public libraries, archives, and the tertiary institutions, such as the Hong Kong Collection and libraries of the Department of Architecture of the University of Hong Kong and the Chinese University of Hong Kong, Public Records Office, photographic library of the Information Services Department and so forth.
- g. Any other unpublished archaeological investigation and excavation reports kept by AMO.
- h. Relevant information from AMO's website.
- i. Historical documents in the Public Records Office, the Land Registry, District Lands Office, District Office and the Hong Kong Museum of History and so forth.
- j. Cartographic and pictorial documents. Old and recent maps and aerial photos searched in the Map and Aerial Photo Library of the Lands Department.
- k. Existing geological and topographic information (for archaeological desk-top research).
- l. Discussion with local informants.

1.4 Field Evaluation

1.4.1 General

The potential value of the project area with regard the cultural heritage could be established easily where the area is well-documented. However, it does not mean that the area is devoid of interest if it lacks information. In these instances, site inspections and consultations with appropriate individuals or organisations should be conducted by those with expertise in local heritage to clarify the situation.

1.4.2 Field survey on historic buildings/ structures/ sites

- a. Field scan of all the historic buildings/ structures/ sites within the project area.
- b. Photographic recording of each historic building/ structure/ site including the exterior (the elevations of all faces of the building premises, the roof, close up for the special architectural details) and the interior (special architectural details), if possible, as well as the surroundings, the associated cultural landscape features and the associated intangible cultural heritage (if any) of each historic building/ structure/ site.

- c. Interview with local elders and other informants on local historical, architectural, anthropological and other cultural information related to the historic buildings/ structures/ sites.
- d. Historical and architectural appraisal of the historic buildings/ structures/ sites, their associated cultural landscape and intangible cultural elements.

1.4.3 Archaeological Survey

- a. Appropriate methods for pricing and valuation of the archaeological survey, including by means of a Bill of Quantities or a Schedule of Rates should be adopted when appropriate in preparing specifications and relevant documents for calling tenders to carry out the archaeological survey. The specifications and relevant documents should be sent to AMO for agreement prior to calling tenders to conduct the archaeological survey.
- b. For archaeologists involved in contract archaeological works, they should adhere to recognized standards for professional practice and ethical conduct in undertaking commissioned archaeological works under contracts. They should make themselves fully understand recognized principles and guidelines regarding contract archaeological works, such as those of the Institute for Archaeologists, European Associations of Archaeologists and in Mainland China.
- c. A licence shall be obtained from the Antiquities Authority for conducting archaeological field work. It takes at least two months to process an application.
- d. An archaeological brief/proposal, as an outline framework of the proposed archaeological works, should be prepared. The brief/proposal should clearly state the project and archaeological background, address necessary archaeological works required, elaborate the strategy and methodology adopted, including what particular research question(s) will be resolved, how the archaeological data will be collected and recorded, how the evidence will be analysed and interpreted and how the archaeological finds and results will be organized and made available. Effective field techniques including method and sampling details are required to be demonstrated clearly in the brief/proposal. Monitoring arrangement, reporting, contingency plan for field and post-excavation works and archive deposition (including finds, field and laboratory records, etc.) should also be addressed in the brief/proposal. The brief/proposal should be submitted to AMO for agreement prior to applying for a licence. Prior site visit to the project site before the submission of the brief/proposal is required so as to ascertain the feasibility of the proposed strategy and methodology as well as the availability of the proposed locations for auger survey and test pitting.
- e. The following methods of archaeological survey (but not limited to) should be applied to assess the archaeological potential of the project area:
 - (i) Definition of areas of natural land undisturbed in the recent past.
 - (ii) Field scan of the natural land undisturbed in the recent past in detail with special attention paid to areas of exposed soil which were searched for artifacts.
 - (iii) Conduct systematic auger survey and test pitting. The data collected from

- auger survey and test pitting should be able to establish the horizontal spread of cultural materials deposits.
- (iv) Excavation of test pits to establish the vertical sequence of cultural materials. The hand digging of 1 x 1 m or 1.5 x 1.5 m test pits to determine the presence or absence of deeper archaeological deposits and their cultural history.
 - (v) The quantity and location of auger holes and test pits should be agreed with AMO prior to applying for a licence. Additional auger holes and test pits may be required to ascertain and demarcate the extent of archaeological deposits and remains.
 - (vi) A qualified land surveyor should be engaged to record reduced levels and coordinates as well as set base points and reference lines in the course of the field survey.
 - (vii) All archaeological works should be properly completed and recorded to agreed standards.
- f. Archaeologists should adhere to all the agreed professional and ethical standards for archaeological works, such as the standards and guidelines of the Institute for Archaeologists, English Heritage, European Associations of Archaeologists, Society for American Archaeology and in Mainland China.
- g. A Marine Archaeological Investigation (MAI) following *Guidelines for MAI* may be required for projects involving disturbance of seabed.

1.4.4 If the field evaluation identifies any additional heritage sites within the study area which are of potential historic or archaeological importance/interest and not recorded by AMO, the findings should be reported to AMO as soon as possible.

1.5 The Report of Baseline Study

1.5.1 The study report should unequivocally include all the direct and concrete evidence to show that the process of the above desk-top and field survey has been satisfactorily completed. This should take the form of a detailed inventory of the heritage sites supported by full description of their significance. The description should contain detailed geographical, historical, archaeological, architectural, anthropological, ethnographic and other relevant data supplemented with illustrations below and photographic and cartographic records, if required.

1.5.2 A master layout plan showing all the identified archaeological and built heritage sites within the study area should be provided in the report. All the identified heritage sites should be properly numbered with their locations indicated on the master layout plan.

1.5.3 Historic Buildings/ Structures/ Sites

- a. A map in 1:1000 scale showing the boundary of each historic item.
- b. Photographic records of each historic item.
- b. Detailed recording form of each historic item including its construction year, previous and present uses, architectural characteristics, as well as legends, historic persons and events, cultural landscape features and cultural activities associated with the structure.
- c. A cross-referenced checklist including the reference number of each historic item,

their photo and drawing reference, as well as the page number of the detailed recording form of each identified historic item for easy cross-checking of individual records.

1.5.4 Sites of Archaeological Interest

- a. A map showing the boundary of each site of archaeological interest as supported and delineated by field walking, augering and test-pitting.
- b. Drawing of stratigraphic section of test-pits excavated which shows the cultural sequence of a site.
- c. Reduced levels, coordinates, base points and reference lines should be clearly defined and certified by a qualified land surveyor.
- d. *Guidelines for Archaeological Reports* should be followed (Annex 1).

1.5.5 A full bibliography and the source of information consulted should be provided to assist the evaluation of the quality of the evidence, including the title of the relevant material, its author(s), publisher, publication place and date. To facilitate verification of the accuracy, AMO will reserve the right to examine the full details of the research materials collected under the baseline study.

1.6 Finds and Archives

1.6.1 Archaeological finds and archives should be handled following *Guidelines for Handling of Archaeological Finds and Archives* (Annex 2).

1.7 Safety Issue

1.7.1 During the course of the CHIA Study, all participants shall comply with all Ordinances, Regulations and By-laws which may be relevant or applicable in safety aspect in connection with the carrying out of the CHIA Study, such as site safety, insurance for personal injuries, death and property damage as well as personal safety apparatuses, etc.

1.7.2 A Risk Assessment for the fieldwork shall be carried out with full consideration to all relevant Ordinances, Regulations and By-laws.

1.8 Information Disclosure

1.8.1 For releasing any information on the CHIA Study, the archaeologist/expert involved should strictly comply with the terms and conditions set in the contract/agreement and avoid conflict of interest.

(2) Impact Assessment Study

2.1 Identification of impact on heritage

2.1.1 The impact assessment study must be undertaken to identify the impacts on the heritage sites which will be affected by the proposed development subject to the result of desktop research and field evaluation. The prediction of impacts and an evaluation of their significance must be undertaken by expert(s) in local heritage.

- 2.1.2 During the assessment, both the direct impacts such as loss or damage of important features as well as indirect impacts should be clearly stated, such as adverse visual impact on heritage sites, landscape change to the associated cultural landscape features of the heritage sites, temporary change of access to the heritage sites during the work period, change of ground level or water level which may affect the preservation of the archaeological and built heritage *in-situ* during the implementation stage of the project.
- 2.1.3 The evaluation of cultural heritage impact assessment may be classified into five levels of significance based on type and extent of the effects concluded in the CHIA study:
- a. Beneficial impact: the impact is beneficial if the project will enhance the preservation of the heritage site(s) such as improving the flooding problem of the historic building after the sewerage project of the area;
 - b. Acceptable impact: if the assessment indicates that there will be no significant effects on the heritage site(s);
 - c. Acceptable impact with mitigation measures: if there will be some adverse effects, but these can be eliminated, reduced or offset to a large extent by specific measures, such as conduct a follow-up Conservation Proposal or Conservation Management Plan for the affected heritage site(s) before commencement of work in order to avoid any inappropriate and unnecessary interventions to the building;
 - d. Unacceptable impact: if the adverse effects are considered to be too excessive and are unable to mitigate practically;
 - e. Undetermined impact: if the significant adverse effects are likely, but the extent to which they may occur or may be mitigated cannot be determined from the study. Further detailed study will be required for the specific effects in question.
- 2.1.4 Preservation in totality must be taken as the first priority as it will be a beneficial impact and will enhance the cultural and socio-economical environment if suitable measures to integrate the heritage site into the proposed project are carried out.
- 2.1.5 If, due to site constraints and other factors, only preservation in part is possible, this must be fully justified with alternative proposals or layout designs which confirm the impracticability of total preservation.
- 2.1.6 Total destruction must be taken as the very last resort in all cases and shall only be recommended with a meticulous and careful analysis balancing the interest of preserving local heritage as against that of the community as a whole. Assessment of impacts on heritage sites shall also take full account of, and follow where appropriate, paragraph 4.3.1(c), item 2 of Annex 10, items 2.6 to 2.9 of Annex 19 and other relevant parts of the Technical Memorandum on Environmental Impact Assessment (EIA) Process (Technical Memorandum).

2.2 Mitigation Measures

- 2.2.1 It is always a good practice to recognize the heritage site early in the planning stage and site selection process, and to avoid it, i.e. preserve it *in-situ*, or leaving a buffer zone around the site with full justifications demonstrating the best practice of heritage conservation.

- 2.2.2 Mitigation is not only concerned with minimizing adverse impact on the heritage site but also should give consideration of potential enhancement if possible (such as to improve the access to the heritage site or enhance the landscape and visual quality of the heritage site).
- 2.2.3 Mitigation measures shall not be recommended or taken as *de facto* means to avoid preservation of heritage sites. They must be proved beyond all possibilities to be the only practical course of action. Heritage sites are to be in favour of preservation unless it can be demonstrated that there is a need for a particular development which is of paramount importance and outweighs the significance of a heritage site.
- 2.2.4 If avoidance of the heritage site is not possible, amelioration can be achieved by minimizing the potential impacts and the preservation of the heritage site, such as physically relocating it. Measures like amendments of the sitting, screening and revision of the detailed design of the development are required to lessen its degree of exposure if it causes visual intrusion to the heritage site and affects the character and integrity of the heritage site.
- 2.2.5 A rescue programme, when required, may involve preservation of the historic building or structure together with the relics inside, and its historic environment through relocation, detailed cartographic and photographic survey or preservation of site of archaeological interest “by record”, i.e. through excavation to extract the maximum data as the very last resort.

2.3 The Impact Assessment Report

- 2.3.1 A detailed description and plans should be provided to elaborate on the heritage site(s) to be affected. Besides, please also refer to paragraph 4.3.1(d), items 2.10 to 2.14 of Annex 19 and other relevant parts of the Technical Memorandum and the Guidance Notes, other appropriate presentation methods for mitigation proposals like elevations, landscape plan and photomontage shall be used in the report extensively for illustrating the effectiveness of the measures.
- 2.3.2 To illustrate the landscape and visual impacts on heritage sites, as well as effects of the mitigation measures, choice of appropriate presentation methods is important. These methods include perspective drawings, plans and section/ elevation diagrams, photographs on scaled physical models, photo-retouching and photomontage. These methods shall be used extensively to facilitate communication among the concerned parties.
- 2.3.3 The implementation programme for the agreed mitigation measures should be able to be executed and should be clearly set out in the report together with the funding proposal. These shall form an integral part of the overall redevelopment project programme and financing of the proposed redevelopment project. Competent professionals must be engaged to design and carry out the mitigation measures.
- 2.3.4 For contents of the implementation programme, reference can be made to Annex 20 of the Technical Memorandum and the Guidance Notes. In particular, item 6.7 of Annex 20 requires to define and list out clearly the proposed mitigation measures to be

implemented, by whom, when, where, to what requirements and the various implementation responsibilities. A comprehensive plan and programme for the protection and conservation of the preserved heritage site, if any, during the planning and design stage of the proposed project must be addressed in details.

2.3.5 Supplementary information to facilitate the verification of the findings shall be provided in the report including but not limited to:

- a. layout plan(s) in a proper scale illustrating the location of all heritage sites within the study area, the extent of the work area together with brief description of the proposed works;
- b. all the heritage sites within the study area should be properly numbered, cross-reference to the relevant drawings and plans.
- c. an impact assessment cross-referenced checklist of all the heritage sites within the study area including heritage site reference, distance between the heritage site and work area, summary of the possible impact(s), impact level, summary of the proposed mitigation measure(s), as well as references of the relevant plans, drawings and photos; and
- d. a full implementation programme of the mitigation measures for all affected heritage sites to be implemented with details, such as by whom, when, where, to what requirements and the various implementation responsibilities of individual parties.

* *This Guidelines for Cultural Heritage Impact Assessment was first set out in August 2008 based on the Criteria for Cultural Heritage Impact Assessment and revised subsequently in December 2008, July 2010, October 2010, March 2011, April 2011 and January 2012.*

Annex 1 to Appendix H-1**Guidelines for Archaeological Reports****(As at April 2011)****I. General**

1. All reports should be written in a clear, concise and logical style.
2. All the constituent parts (text, figures, photos and specialist reports (if any)) should provide full cross-reference. Readers should be able to find their way around the report without difficulty.
3. The reports should be submitted in A4 size and accompanying drawings of convenient sizes.
4. Draft reports should be submitted to the Antiquities and Monuments Office (AMO) for comments within two months after completion of archaeological work unless otherwise approved by AMO.
5. The draft reports should be revised as required by AMO and relevant parties. The revised reports should be submitted to AMO within three weeks after receiving comments from AMO and relevant parties.
6. At least 5 hard copies of the final reports should be submitted to AMO for record purpose.
7. At least 2 digital copies of the final reports in both Microsoft Word format and Acrobat (.PDF) format without loss of data and change of appearance compared with the corresponding hard copy should be submitted to AMO. The digital copies should be saved in a convenient medium, such as compact discs with clear label on the surface and kept in protective pockets.
8. Errors are the responsibilities of the author(s) and should so far as possible be identified and rectified before submission to AMO.
9. The guidelines which will be revised by the AMO of the Leisure and Cultural Services Department from time to time, where appropriate, and when required should be followed in the interest of professional practice.

II. Suggested Format of Reports

1. Front page:
 - Project/Site name
 - Nature of the report
 - e.g. (Draft/Final)
 - Archaeological Investigation/Survey Report
 - Archaeological Impact Assessment Report
 - Watching Brief Report
 - Rescue Excavation Report
 - Post-excavation Report
 - Organization
 - Date of report
2. Contents list
Page number of each section should be given.
3. Non-technical summary (both in English and Chinese with approximate 150 - 300 words each)
This should outline in plain, non-technical language, the principal reasons for the

archaeological work, its aims and main results, and should include reference to authorship and commissioning body.

4. Introduction

This should set out background leading to the commission of the reports. The location, area, scope and date of conducting the archaeological work must be given. The location of archaeological work should be shown on maps in appropriate scales and with proper legends.

5. Aims of archaeological work

These should reflect the aims set in the project design.

6. Archaeological, historical, geological and topographical background of the site

Supporting aerial photos and maps (both old and present) in appropriate scales, with proper legends and with the site locations clearly marked on should be provided.

7. Methodology

The methods used including any variation to the agreed project design should be set out clearly and explained as appropriate.

8. Results

- The results should outline the findings, known and potential archaeological interests by period and/or type. Their significance and value with reference/inclusion of supporting evidence should be indicated. If more than one interpretation is possible, the alternatives should also be presented, at least in summary.
- The results should be amplified by the use of drawings and photographs.
- Tables summarizing features and artifacts by trench/grid/test pit together with their interpretation should be included.
- The method, sampling details, results and interpretation as well as appropriate supporting data of the analysis for the environmental materials, e.g. ecofacts identified and/or collected during the fieldwork should be included.
- For impact assessment, the likely effect of the proposed development on the known or potential archaeological resource should be outlined.

9. Conclusion

This should include summarization and interpretation of the result.

10. Recommendation

Recommendations on further work and the responsible party as well as a brief planning framework should be outlined.

11. Reference and bibliography

A list of all primary and secondary sources including electronic sources used should be given in full detail, including the title of the relevant material, its author(s), publisher, publication place and date.

12. Archaeological team

The director and members of the archaeological team and the author(s) of the report should be clearly specified.

13. Copyright and dissemination

The copyright of the report should be clearly identified. To facilitate future research studies, please specify that the report can be made available to the public in the Reference Library of the Heritage Discovery Centre.

14. Supporting illustrations

They should be clearly numbered and easily referenced to the text. They should be scanned and saved in TIFF or JPEG formats.

A. Maps

A location plan of the project site should be included. Archaeological work locations, such as auger hole and test pit locations (with relevant coordinates certified by a qualified land surveyor), should be clearly shown on maps in appropriate scales, with proper legends, grid references (in 8 digits) and captions.

B. Drawings of test pits, archaeological features, special finds¹, selected representative samples from general finds

Drawings of all excavated test pits (at least one cross section of each test pit), all excavated archaeological features (both plan and cross section of each archaeological feature), all special finds identified in the excavation and selected representative samples from general finds (at least front view and section of each finds) should be included. All drawings should be clearly numbered and easily referenced to the text. The drawing scales stipulated below should be followed:

Cross section and profile drawings of test pits	1:20
Archaeological feature drawings	1:10
Finds drawings	1:1

If drawings of the above stated scales are not appropriate to be incorporated into the report under certain occasions, reduced copy of the drawings with the same scales are acceptable. Proper captions, legends and indication of reduced size should be given.

C. Photos of project site and the surrounding area, test pits, archaeological features, special finds, selected representative samples from general finds

Photos of project site and the surrounding area, all excavated test pits (at least one cross section of each test pit), all excavated archaeological features (both plan and cross section of each archaeological feature), all special finds identified in the excavation and selected representative samples from general finds (at least front view of each of the finds) should be included. All photos should be at least in 3R size with proper captions and scales. They should be clearly numbered and easily referenced to the text. They should be scanned and saved in TIFF or JPEG formats.

15. Supporting data in appendices

These should consist of essential technical details to support the result. These may include stratigraphic record of test pits and auger holes, records of general and special finds as well as ecofacts discovered with description, quantity and context

¹ Special finds are sometimes known as small finds (小件) in Chinese or registered finds. Drawings and photos of the special/small/registered finds should be included in the archaeological report.

number/stratigraphic sequence, result of laboratory testing, index of field archives.

16. Other professional views/comments

This can reflect any issues/difficulties regarding the archaeological project observed/encountered by the archaeological team.

17. Comment and response

All comments and responses from AMO and relevant parties should be attached in full.

III. Green Measures

1. All reports should be of single line spacing and printed on both sides of the paper.
2. Excessive page margins should be avoided. A top/bottom margin of 2 cm and left/right margin of 2.5 cm are sufficient.
3. Use of blank paper should be avoided as far as possible.
4. Suitable font type of font size 12 should be used generally in balancing legibility and waste reduction objective.

Annex 2 to Appendix H-1**Guidelines for Handling of Archaeological Finds and Archives****(As at 28 November 2011)****I. General Remark**

1. The guidelines which will be revised by the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department from time to time, where appropriate, and when required should be followed in the interest of professional practice.
2. Please use the site code (_____)** for the archaeological project, namely _____. Licensee must use this unique site code for the whole project.

** If an archaeological project covers more than one archaeological site/location, licensee should contact the Central Archaeological Repository (CAR) at 2384 5446 or aciamoar@lcsd.gov.hk to obtain relevant site codes.

3. Licensee should contact the CAR at 2384 5446 or aciamoar@lcsd.gov.hk regarding the handover of archaeological finds and archives when post-excavation research and excavation report have been completed and accepted by the AMO.
4. If a huge quantity of similar general finds was discovered from a single archaeological project, licensee is advised to consult the AMO regarding the collecting strategy as early as possible.
5. For the preparation of archaeological finds and archives for long-term curation by the CAR, the guidelines as set out below should be followed.
6. If the licensee does not handle the finds and archives in accordance with this guidelines, the AMO may inform the project proponent to revise the relevant data. The arrangement of handover may subsequently be deferred.

II. Archaeological Finds**7. Cleaning**

The excavated finds should be properly cleaned with water, except: (i) the finds are identified for scientific analysis; (ii) metal & organic objects (e.g. bone, wood, leather, textile objects and etc.) should not be cleaned with water. Licensee is advised to consult the AMO if in doubt.

8. Marking

- The excavated finds should be cleaned before marking object number.
- “Sandwich” technique¹ should be adopted for marking permanent object number.

¹ Steps for “Sandwich” technique

1. First of all, the find number should be marked in appropriate area and size that does not impact important diagnostic or aesthetic parts of the find.
2. Clean the area to be marked.
3. Apply a thin coat of clear reversible lacquer on the area. Use white lacquer if the object is dark in colour. Let the base coat dry completely.
4. Use a permanent water-based ink to write the find number on top of the base coat. Let ink dry completely.
5. Apply a top coat of clear varnish.
6. Let the clear varnish dry completely before packing.

- Each special find should be marked with site code, context number and SF number, etc.
- Any representative samples selected from the general finds for discussion on the excavation report should be marked with site code, context number, sample number and bagged separately.
- The general finds should be marked with site code and context number.
- For the finds which are too small, organic objects (e.g. bone, wood, leather, textile objects and etc.) or have unstable surface, object number should not be marked on the object directly. These finds should be bagged separately and attached with a label containing information about the site code, context number, find number and description of find.

9. Labeling and bagging

- Two labels should be provided for each bag which contains finds, one is adhered on the surface of the bag while the other is kept inside the bag for easy reference.
- The label inside the bag should be kept separately with a smaller plastic bag so that the label can be kept much longer.
- Information about the site code, context number, test-pit number, object number (or bag number) and description of finds should be written clearly on the label.
- Finds under the same context should be bagged together. If those finds, however, have been categorized according to their typology, materials or characteristics, separate bagging is required.

10. Conservation

- To refit and reconstruct pottery vessels with appropriate adhesive. A heat and waterproof adhesive, e.g. product of H. Marcel Guest Ltd., is recommended.
- Any adhesives which are not reversible or would damage the finds should not be applied on the finds. Archaeologist is advised to consult the AMO if in doubt.

11. Finds register

A standard finds register, for both special finds and general finds, with information about the find's number, name, description, quantity, type, weight, dimensions and field data should be duly filled in. Licensee should contact the CAR at 2384 5446 or aciamoar@lcsd.gov.hk to obtain the standard finds register (in Excel format). Special finds and general finds should be inputted in individual register. Both hard & soft copies (in Excel format) of the duly completed register should be handed over.

12. Sample register of eco-facts

A clear sample register with information about the description of the sample, quantity, type and weight should be prepared for handover.

III. Field Records and Finds Processing Records

13. Field records include field diary, site record for individual test pit/trench/square, context recording sheet, special finds recording sheet, soil sample & eco-facts sample recording sheet, map, survey sheet, photograph/ audio-visual records, etc.

14. Finds processing records include conservation record, measured drawings and photographs, laboratory reports, etc.

15. Measured drawing, both hard & soft copies (in pdf format), and photograph (in jpg format) of each special find should be handed over.
16. All the aforesaid records stated in paragraphs 12 to 14 should be handed over to the CAR when post-excavation research and excavation report have been completed. Please note:
 - all the field records should be submitted together with indexes.
 - the video footage should be submitted together with index describing the content of the video footage.
 - all the slides, colour/ black & white negatives or digital photographs should be submitted together with photo register.

IV. Handover of Finds

17. Packing

- Each special find should be packed and protected with tissue paper, bubble sheet or P.E. foam to avoid shocking when transporting to the repository. No packing material other than the aforesaid items should be used.
- The general finds should be protected with bubble sheet or P.E. foam and packed in heavy duty plastic container.
- The heavy duty plastic container, e.g. product of the Star Industrial Co., Ltd. (No. 1849 or 1852), is recommended.
- For oversized finds, prior advice on packing method should be sought from the AMO.

18. Handover procedure

- The licensee should make an appointment with the CAR for the handover and arrange to transport the finds and archives to the repository.
- Prior to handover, licensee is required to supply with the aforesaid finds register, field records register and associated records to the CAR for checking at least three working days in advance. Exact date of handover will be arranged subsequently.
- Handover forms for finds and archives should be signed by the representatives of the licensee and the AMO.

Appendix I

IMPLEMENTATION SCHEDULE

EIA* Ref.	EM&A Log Ref.	Environmental Protection Measures*	Location/Duration of measures/ Timing of completion of measures	Implementation Agent	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** Des=Design; C=Construction; O=Operation; Dec=Decommissioning

Appendix J**Requirements for EIA Report Documents**

1. The Applicant shall supply the Director with the following number of copies of the EIA report and the executive summary:
 - (i) 50 copies of the EIA report in English and 80 copies of the executive summary (each bilingual in both English and Chinese) as required under section 6(2) of the EIAO to be supplied at the time of application for approval of the EIA report.
 - (ii) When necessary, addendum to the EIA report and the executive summary submitted in item (i) above as required under section 7(1) of the EIAO, to be supplied upon advice by the Director for public inspection.
 - (iii) 20 copies of the EIA report in English and 50 copies of the executive summary (each bilingual in both English and Chinese) with or without Addendum as required under section 7(5) of the EIAO, to be supplied upon advice by the Director for consultation with the Advisory Council on the Environment.
2. In addition, to facilitate public inspection of EIA report via EIAO Internet Website, the Applicant shall provide electronic copies of both the EIA report and executive summary prepared in Hyper Text Markup Language (HTML) (version 4.0 or later) and in Portable Document Format (PDF version 1.3 or later), unless otherwise agreed by the Director. For the HTML version, a content page capable of providing hyperlink to each section and sub-section of the EIA report and executive summary shall be included in the beginning of the document. Hyperlinks to figures, drawings and tables in the EIA report and executive summary shall be provided in the main text from where respective references are made. Graphics in the report shall be in interlaced GIF format unless otherwise agreed by the Director.
3. The electronic copies of the EIA report and the executive summary shall be submitted to the Director at the time of application for approval of the EIA report.
4. When the EIA report and the executive summary are made available for public inspection under section 7(1) of the EIAO, the content of the electronic copies of the EIA report and the executive summary must be the same as the hard copies and the Director shall be provided with the most updated electronic copies.
5. To promote environmentally friendly and efficient dissemination of information, both hardcopies and electronic copies of future EM&A reports recommended by the EIA study shall be required and their format shall be agreed by the Director.