Appendix 1-3

Project EIA Study Brief Checklist

Appendix 1-3 EIA Study Brief Checklist:

Study Brief Ref. #	Summary	EIA Section/ Chapter *
2	**Objectives of the EIA Study**	
2.1 (i)	Describe the Project and associated works together with the requirements for carrying out the Project.	1
2.1 (ii)	Identify and describe the elements of the community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including both the natural and man-made environment.	1 and 2.2
2.1 (iii)	Identify and quantify all environmental sensitive receivers, emission sources and determine the significance of impacts on sensitive receivers and potential affected uses.	1.10, and various chapters
2.1 (iv)	Identify and systematically evaluate any potential losses or damage to flora, fauna and wildlife habitats.	1.10 and 8.7
2.1 (v)	Identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts.	10, Appendix 10-1
2.1 (vi)	Identify and quantify any potential landscape and visual impacts and to propose measures to mitigate these impacts.	11, 11.9
2.1 (vii)	Propose the provision of infrastructure or mitigation measures so as to minimize pollution, environmental disturbance and nuisance during construction and operation of the Project	14.1
2.1 (viii)	Identify, predict and evaluate the residual (i.e. after practicable mitigation) environmental impacts 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.	3.9, 3.10, 4.6 to 4.9, 5.5, 5.6, 6.4, 6.5, 7.3, 7.4, 7.6, 8.8 to 8.10, 9.5 to 9.7, 10.5, 11.10 to 11.12
2.1 (ix)	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 reducing them to acceptable levels.	14.1, 3.9, 3.10, 4.6 to 4.9, 5.5, 5.6, 6.4, 6.5, 7.3, 7.4, 7.6, 8.8 to 8.10, 9.5 to 9.7, 10.5, 11.10 to 11.12
2.1 (x)	Investigate the extent of 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.	14.1, 3.9, 3.10, 4.6 to 4.9, 5.5, 5.6, 6.4, 6.5, 7.3, 7.4, 7.6, 8.8 to 8.10, 9.5 to 9.7, 10.5, 11.10 to 11.12
2.1 (xi)	Identify, within the study area, any individual project(s) that fall under Schedule 2 and/or Schedule 3 of the EIA Ordinance; to ascertain whether the findings of this EIA study have adequately addressed the environmental impacts of those projects; and where necessary, to identify the outstanding issues that need to be addressed in any further detailed EIA study.	1.9, 3.9, 3.10, 4.6 to 4.9, 5.5, 5.6, 6.4, 6.5, 7.3, 7.4, 7.6, 8.8 to 8.10, 9.5 to 9.7, 10.5, 11.10 to 11.12
2.1 (xii)	Design and specify the environmental monitoring and audit requirements, if required, to ensure the implementation and the effectiveness of the environmental protection and pollution control measures adopted.	13, EM&A Manual

Study Brief Ref. #	Summary	EIA Section/ Chapter *
3	**Detailed Requirements of the EIA Study**	
	Consideration of Alternatives	
3.3	Purposes and Objectives for the Project The Applicant shall provide information on the purposes and objectives of the Project, and describe the scenarios with and without the Project.	1.7, 1.10, 2.2 to 2.5,
3.4	Consideration of Alternative Layout Options The Applicant shall consider alternative layout options for the Project, provide justification regarding how the proposed layout 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 layout options shall be made with a view to recommending the preferred option to avoid and minimize adverse environmental effects to the maximum practicable extent and to enhance the landscape and visual quality of the area. In particular, consideration shall be given to avoid or minimize the disturbance to the adjacent recognized sites of conservation importance especially WCA during the construction and operation of the Project. Alternative layouts and measures which can enhance the landscape and visual qualities will be considered in the EIA Study.	2.3, 2.4, 2.5
3.5	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 avoid prolonged adverse environmental impacts to the maximum practicable extent. A comparison of the environmental benefits and dis-benefits of applying different construction methods and sequence of works shall be made. Consideration should be given to the proper scheduling of construction programme to avoid the peak period of migratory birds, if adverse impacts during the construction phase are anticipated.	2.6
3.6	Selection of Preferred Scenario Taking into consideration of the findings in sections 3.4 and 3.5 above, the Applicant shall recommend/justify the adoption of the preferred scenario to avoid and minimize adverse environmental effects arising from the Project, and adequately describe the part that environmental factors played in arriving at the final selection.	2.3, 2.4, 2.5, 2.6
	Technical Requirements	
3.8	The EIA study shall take into consideration and compare clearly and objectively the environmental impacts of different development options considered in the study. In formulating the preferred development option, the Applicant shall seek to avoid adverse environmental effects to the maximum practicable extent. It is important to describe adequately in the report the part environmental factors played in the selection of the preferred option(s).	2.3, 2.4, 2.5
3.9.1	**Air Quality Impact**	
3.9.1.1	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 respectively. The assessment shall be based on the best available information at the time of the assessment.	3.1

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3.9.1.2	The study area for air quality impact assessment shall generally be defined by a distance of 500 m from the boundary of the project site as shown in Figure 1. The assessment shall take into account the existing, committed and planned sensitive receivers within the impact assessment area defined in the first sentence of this section. Subject to the agreement of the Director, the assessment area could be extended to include major emission sources that may have bearing on the environmental acceptability of the Project.	3.1
3.9.1.3	The applicant shall assess the air pollutant concentrations with reference to the Guidelines for Local-Scale Air Quality Assessment Using Models given in Appendices 1 to 3 or other methodology as agreed by the Director.	3.7
3.9.1.4	The air quality impact assessment shall include the following:	-
3.9.1.4 (i)	Background and Analysis of Activities	
3.9.1.4 (i)(a)	Provide background information relating to air quality issues relevant to the Project, including the existing odour sources leading to the prevailing odour strength that has the potential to adversely affect the proposed developments, description of the types of activities of the Project that may affect air quality during both constructional and operational stages.	3.4, 3.6
3.9.1.4 (i)(b)	Give 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. That is, the Applicant should consider alternative construction methods/phasing programmes and alternative modes of operation to minimize the odour, constructional and operational air quality impact respectively.	2.3-2.6, 3.7, 3.9
3.9.1.4 (i)(c)	Present the background air quality levels in the assessment area for the purpose of evaluating the cumulative constructional and operational air quality impacts.	3.4
3.9.1.4 (ii)	Identification of ASRs and Examination of Emission/ Dispersion Characteristics	
3.9.1.4 (ii)(a)	Identify and describe representative existing and planned/ committed air sensitive receivers (ASRs) that would likely be affected by the Project, including those earmarked on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans. The Applicant shall select the assessment points of the identified ASRs such that they represent d impact point of these ASRs. A map showing the location and description including the name of the 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. For phased development, the Applicant should review the development programme, and where appropriate, to include occupiers of early phases as constructional impact ASRs if they may be affected by works of later phases.	3.5
3.9.1.4 (ii)(b)	Provide a list of air pollutant emission sources, including any nearby emission sources which are likely to have impact on the Project based on the analysis of the constructional and operational activities of the Project in 3.9.1.4 i above. Examples of constructional stage emission sources include stock piling, blasting, concrete batching and vehicular movements on unpaved haul roads on site etc. Examples of operational stage emission sources include exhaust emissions from vehicles and odour emissions from drainage channel and sewage treatment works, etc. Confirmation of the validity of the assumptions and the magnitude of the activities (e.g. volume of construction materials handled etc.) shall be obtained from the relevant government department/ authorities and documented.	3.6, 3.7

Study Brief Ref. #	Summary	EIA Section/ Chapter *
3.9.1.4 (ii)(c)	The Applicant shall identify chimneys and obtain 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 might be invalidated.	3.6
3.9.1.4 (ii)(d)	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 impacts as affecting the existing, committed and planned air sensitive receivers within the assessment area (section 3.9.1.2 of this study brief) shall be assessed, based on the best information available at the time of assessment.	3.6
3.9.1.4 (iii)	Constructional Phase Air Quality Impact	
3.9.1.4 (iii)(a)	The Applicant shall follow the requirements of the Air Pollution Control (Construction Dust) Regulation to ensure constructional dust impacts are controlled within the relevant standards as stipulated in section 1 of Annex 4 of the TM. An audit and monitoring program during constructional stage shall be devised to verify the effectiveness of the control measures and to ensure that the construction dust levels be brought under proper control.	3.9.1, 3.9, 3.11
3.9.1.4 (iii)(b)	If the Applicant anticipates a significant construction dust impact that will likely cause exceedance of the recommended limits in the TM at the ASRs despite incorporation of the dust control measures stated in 3.9.1.4 iii a above, a quantitative assessment shall be carried out to evaluate the constructional dust impact at the identified ASRs. The Applicant shall follow the methodology set out in subsection 3.9.1.4 v (b) to (d) below when carrying out the quantitative assessment.	3.6-3.10
3.9.1.4 (iv)	Operational Phase Air Quality Impact 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 impact evaluation following the methodology in 3.9.1.4 v (a) to (e) below shall be carried out.	3.6, 3.7, 3.12
3.9.1.4 (v)	Quantitative Assessment Methodology	
3.9.1.4 (v)(a)	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 comprehensive 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. The Fleet Average Emission Factors used in the assessment shall be agreed with the Director. 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. All the traffic flow data and assumptions that used in the assessment shall be clearly and properly documented in the EIA report.	3.6, 3.7

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3.9.1.4 (v)(b)	The Applicant shall conduct the quantitative assessment with reference to relevant sections of the modelling guidelines stated in 3.9.1.3 above or another methodology as agreed with the Director. The specific methodology must be documented in such level of details (preferably with tables and diagrams) to allow the readers of the assessment report to grasp how the model is set up to simulate the situation at hand without referring to the model input files. Detailed calculations of the pollutant emission rates and a map showing all the road links 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 submission. In case of doubt, prior agreement between the Applicant and the Director on the specific modelling details shall be sought.	3.6, 3.7
3.9.1.4 (v)(c)	The Applicant shall identify the key/representative air pollutant parameters (types of pollutants and the averaging time concentrations) to be evaluated and provide explanation for choosing these parameters for the assessment of the impact of the Project.	3.6, 3.7
3.9.1.4 (v)(d)	The Applicant shall calculate the cumulative air pollutant concentrations at the identified ASRs 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 and pollution contours, to be evaluated against the relevant air quality standards and examination of the land use implications of these impacts. Plans of suitable scale should be used for presentation of pollution contour to allow proper determination of buffer distance requirements.	3.6, 3.7, 3.8, 3.9, 3.10
3.9.1.4 (v)(e)	If there is any direct technical noise remedy recommended in the Study, its air quality implications 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 barriers, and affected ASRs, on the contour maps for easy reference.	3.6.1, 14.1
3.9.1.4 (vi)	Mitigating 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 resultant impacts after incorporation of the proposed mitigating measures will comply with the criteria stipulated in section 1 of Annex 4 in the TM.	3.9.1, 3.10, 3.12
3.9.1.4 (vii)	Submission of model files All input and output file(s) of the model run(s) shall be submitted to the Director in electronic format.	3.6-3.10
3.9.2	**Noise Impacts**	
3.9.2.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing noise impact as stated in Annexes 5 and 13 of the TM respectively.	4.1, 4.3
3.9.2.2	The noise impact assessment shall include the following:	

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3.9.2.2 (i)	Determination of Assessment Area The study area for the noise impact assessment shall generally be defined by a distance of 300m from the boundary of the project site; with consideration be given to extend the area to include major emission sources that may have a bearing on the environmental acceptability of the Project. The assessment area could be reduced accordingly if the first layer of noise sensitive receivers, closer than 300m from the boundary of the Project (including the access road) as shown in Figure 1, provides acoustic shielding to those receivers at further distance behind. The area shall be expanded to include NSRs at larger distance, which would be affected by the construction and operation of the Project.	4.1
3.9.2.2 (ii)	Provision of Background Information and Existing Noise Levels The Applicant shall provide all background information relevant to the Project, e.g. relevant previous or current studies. Unless required for determining the planning standards, such as those for planning of fixed noise sources, no existing noise levels are particularly required.	4.3, 4.4, 4.6
3.9.2.2 (iii)	Identification of Noise Sensitive Receivers	
3.9.2.2 (iii)(a)	The Applicant shall refer to Annex 13 of the TM when identifying the NSRs. The NSRs shall include all existing NSRs and all planned/committed noise sensitive developments and uses earmarked on the relevant Outline Zoning 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 all existing NSRs shall be appended to the EIA report.	4.5
3.9.2.2 (iii)(b)	The Applicant shall select assessment points to represent all identified NSRs for carrying out quantitative noise assessment described below. A map showing the location and description such as name of building, use, and floors 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 site layouts for operational noise assessment purpose. However, such assumptions together with any constraints identified, such as setback of building, building orientation, extended podium, shall be agreed with the relevant responsible parties including Planning Department and Lands Department in accordance with section 6.3 of Annex 13 of the TM.	4.5
3.9.2.2 (iv)	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. Confirmation of the validity of the inventory shall be documented in the EIA report.	4.4, 4.6, 4.7
3.9.2.2 (v)	Construction Noise Assessment	
3.9.2.2 (v)(a)	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.	4.7.1, 4.8, 4.9
3.9.2.2 (v)(b)	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 paragraph 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.	4.3, 4.7-4.9

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3.9.2.2 (v)(c)	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 task) to minimise the impact. If the mitigated noise levels still exceed the relevant criteria, the duration of the noise exceedance shall be given.	4.7-4.9
3.9.2.2 (v)(d)	In case the Applicant would like to evaluate whether construction works in restricted hours as defined under the Noise Control Ordinance (NCO) are feasible or not in the context of programming construction works, reference should be made to the relevant technical memoranda issued under the NCO. Regardless of the results of the construction noise impact assessment for restricted hours, the Noise Control Authority will process the 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 the EIA report.	4.3
3.9.2.2 (vi)	Operational Noise Assessment	
3.9.2.2 (vi)(a)	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.	4.6-4.7
3.9.2.2 (vi)(a1)	Calculation of Noise Levels 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 the expected operation years of the Project. 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 input data sets of traffic noise prediction model adopted in the EIA study. 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.	4.6, 4.7
3.9.2.2 (vi)(a2)	Presentation of Noise Levels The Applicant shall present the prevailing and future noise levels in L10 (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 and other noise sensitive elements that will be exposed to noise levels exceeding the criteria set in Table 1A of Annex 5 in the Technical Memorandum.	4.6, 4.7

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3.9.2.2 (vi)(a3)	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 noise mitigation measures in all situations where the predicted traffic noise level exceeds the criteria set in Table 1A of Annex 5 in the TM. Specific reasons for not adopting certain noise mitigation measures 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. The total number of dwellings and other noise sensitive element that will be benefited by the provision of noise mitigation measures should be provided. In order to clearly present the extents/ locations of the recommended noise mitigation measures, plans prepared from 1:1,000 or 1:2,000 survey maps showing the mitigation measures (e.g. barriers) shall be included in the EIA report. The total number of dwellings and other noise sensitive elements that will still be exposed to noise above the criteria with the implementation of all recommended noise mitigation measures shall be quantified.	4.6, 4.7
3.9.2.2 (vi)(b)	Fixed Noise Sources	
3.9.2.2 (vi)(b1)	The Applicant shall identify any fixed noise sources including but not limited to the sewage treatment plant, pumping stations, pump houses and electricity stations 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.	4.4, 4.6, 4.7
3.9.2.2 (vi)(b2)	Presentation of Noise Levels The Applicant shall present the existing and future noise levels in Leq (30min) 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.	4.4, 4.6, 4.7, 4.8
3.9.2.2 (vi)(b3)	Proposals for Noise Mitigation Measures The Applicant shall propose direct technical remedies within the project limits in 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.	4.4, 4.6, 4.7, 4.8
3.9.2.2 (vii)	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.	4.7.4, 4.8.3
3.9.2.2 (viii)	Evaluation of Constraints on Planned Noise Sensitive Developments/Land Uses For planned noise sensitive uses which will still be affected even with all practicable direct technical remedies in place, the Applicant shall propose, evaluate and confirm the practicality 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 study to assess the development potential of concerned sites which shall be made known to the relevant parties.	4.5, 4.7, 4.9
3.9.3	**Water Quality Impact**	
3.9.3.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing water pollution as stated in Annexes 6 and 14 of the TM respectively.	5.1

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3.9.3.2	The assessment area for the water quality impact assessment shall include all areas within 500m from the project boundary. This assessment area could be extended to include other areas such as stream courses and the associated water systems, existing and planned drainage system in the vicinity being impacted by the Project if found justifiable.	5.1
3.9.3.3	The Applicant shall identify and analyze physical, chemical and biological disruptions of inland water, existing and new drainage system(s) during the construction and operation of the Project.	5.4
3.9.3.4	The Applicant shall address water quality impacts due to the construction and operation of the Project. Essentially the assessment shall address the following:	
3.9.3.4 (i)	Collect and review of background information on the affected existing and planned water system(s), their respective catchments and sensitive receivers which might be affected by the Project.	5.3
3.9.3.4 (ii)	Characterize water quality of the water system(s), their respective catchment and sensitive receivers which might be affected by the Project based on existing best available information or through appropriate site survey and tests.	5.3, 5.4
3.9.3.4 (iii)	Identify and analyze physical, chemical and biological disruptions of inland water, existing and planned drainage system arising from the proposed developments and associated works.	5.4
3.9.3.4 (iv)	Identify and analyze relevant existing and planned future activities, beneficial uses and sensitive receivers related to the affected water system(s).	5.3, 5.4
3.9.3.4 (v)	Identify pertinent water quality objectives and establishment of other appropriate water quality criteria or standards for the water system(s) and all the sensitive receivers as mentioned in sub-section (i), (ii) and (iii) above, including ecological sensitive receivers for the assessments covered in Section 3.9.6.	5.2
3.9.3.4 (vi)	Identify any alternation of water courses, natural streams, manmade fishponds, wetlands, change of drainage system, change of flow regimes.	5.4, 5.5
3.9.3.4 (vii)	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 3.9.4.	6.4
3.9.3.4 (viii)	Subject to the assessment findings and recommendations from the Sewerage and Sewage Treatment Implications under Section 3.9.4, the Applicants shall identify and quantify the water quality impacts due to such findings and recommendations. The water quality concerns could include, but not limited to, possible sewage overflow or emergency bypass due to capacity constraints of the sewerage system, emergencies arising from the Project.	5.5.2, 6.4
3.9.3.4 (ix)	Identify and quantify existing and likely future water pollution sources including point discharges and non-point sources to surface water runoff. An emission inventory on the quantities and characteristics of these existing and likely future pollution sources in the assessment area shall also be provided. Field investigation and laboratory test, as appropriate, shall be conducted to fill relevant information gaps.	5.4, 5.5
3.9.3.4 (x)	Predict and quantify the impacts on the identified water systems and sensitive receivers. All effluent generated shall require appropriate collection, treatment and disposal to ensure that there is no net increase in pollution load to Deep Bay.	5.5, 6.4, 5.5.2
3.9.3.4 (xi)	Possible impacts include change in hydrology, flow regime, water quality and the effects on the aquatic organisms due to such changes. The prediction shall also take into account and include likely different construction stages or sequences, different operational stage.	5.5

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3.9.3.4 (xii)	Assess the cumulative impacts due to other related concurrent and planned projects, activities or pollution sources along the identified water system(s) and sensitive receivers that may have a bearing on the environmental acceptability of the Project.	5.5
3.9.3.4 (xiii)	Develop effective infrastructure upgrading or provision, water pollution prevention and mitigation measures to be implemented during the construction and operational stages so as to reduce the water quality impacts to within standards. No net increase of pollution load to Deep Bay should be ensured. Requirement to be incorporated in the project contract document shall also be proposed.	5.6, 6.4, 5.5.2
3.9.3.4 (xiv)	Analyze the provision and adequacy of the existing and planned future facilities to reduce pollution arising from the storm water drainage system and surface water runoff during construction and operation of the Project; establish a storm water pollution control plan to minimize the potential water quality impact. The plan shall incorporate details such as locations, sizes and types of measures/installations and the best management practices.	5.4, 5.5, 5.6
3.9.3.4 (xv)	Evaluate and quantify residual impacts on the affected water system(s) and the sensitive receivers with regard to the appropriate water quality criteria, standards or guidelines.	5.8, 6.4
3.9.4	**Sewerage and Sewage Treatment Implications**	
3.9.4.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing impacts on the downstream public sewerage, sewage treatment and disposal facilities as stated in section 6.5 in Annex 14 of the TM.	6.4
3.9.4.2	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 proposed residential development, the Applicant shall also investigate and determine the need and feasibility of providing interim sewage treatment facilities.	6.4
3.9.4.3	The Applicant shall study and assess the need and impacts of discharging sewage to the existing/ planning sewerage systems in North West New Territories. The assessment shall include the following:	6.4
3.9.4.3 (i)	Investigate and review the adequacy of the existing/planned sewerage and treatment facilities for absorbing part or all of the sewage discharge from the Project within the scope of EIA study as defined in section 3.2 above. The Applicant shall confirm in the EIA report that whether the existing/planning sewerage systems and sewage treatment works in North West New Territories will provide adequate capacity for the Project. The appropriate treatment level of interim discharge, if required, shall be assessed.	6.4
3.9.4.3 (ii)	The assessment should take into account any additional sewage flows and flow projections from other existing/planned developments to be connected to the existing/planning sewerage systems and sewage treatment works in North West New Territories. The water quality impacts arising from the interim and ultimate effluent discharge, if any, shall be assessed in accordance with section 3.5.3 above.	6.3, 6.4

Study Brief Ref. #	Summary	EIA Section/ Chapter *
3.9.4.3 (iii)	Based on the above items (i) and (ii), if the existing/planned sewerage layout or capacities cannot cope with the maximum discharges, the Applicant shall propose an optimal and cost-effective upgrading works to improve the existing/planned sewerage and sewage treatment facilities or to provide new sewerage and sewage treatment facilities to receive and transport the sewage arising during the construction and operation of the Project. Any proposed sewerage system and/or on-site sewage treatment facility should be designed to meet the current government standards and requirements. InfoWorks compatible computerized analysis techniques may be used in the preliminary design if necessary.	6.4
3.9.4.3 (iv)	Identify and quantify the water quality and ecological impacts due to the emergency discharge from on-site sewage treatment plant/pumping stations and sewer bursting discharge, and to propose measures to mitigate these impacts.	5.5, 6.4
3.9.4.3 (v)	Identify the appropriate alignment and layouts of the new sewerage to connect to the existing/planned/future sewerage system in North West New Territories; investigate and assess the technical feasibility of connection (e.g. technical feasibility and details for direct connection to public sewer and sewage pumping station).	6.4
3.9.4.3 (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 central pre-treatment facilities for food catering effluent (if recommended), 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).	6.4
3.9.5	**Waste Management Implications**	
3.9.5.1	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, respectively.	7.1
3.9.5.2	The assessment of waste management implications shall cover the following:	
3.9.5.2 (i)	Analysis of Activities and Waste Generation The Applicant shall identify the quantity, quality and timing of the waste arising as a result of the construction and operational activities of this Project, based on the sequence and duration of these activities.	7.3, 7.4, 7.6
3.9.5.2 (ii)	Proposal for Waste Management	
3.9.5.2 (ii)(a)	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 the planning and design stages e.g. by modifying the design approach and in the construction stage for maximizing waste reduction shall be separately considered.	7.3 – 7.5, 7.6
3.9.5.2 (ii)(b)	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 the result of the assessment in (c) below.	7.3 – 7.5, 7.6

Study Brief Ref. #	Summary	EIA Section/ Chapter *
3.9.5.2 (ii)(c)	The impact caused by handling (including stockpiling, labeling, 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 emission; - noise; - wastewater discharge; and - public transport.	7.3 – 7.5, 7.6
3.9.5.2 (iii)	<u>Dredging/ Excavation, Filling and Dumping</u>	
3.9.5.2 (iii)(a)	The Applicant shall identify and quantify as far as practicable of all dredging/excavation, fill extraction, filling, reclamation, sediment/mud transportation and disposal activities and requirements. Potential fill source and dumping ground to be involved shall also be identified. Field investigation, sampling and chemical and biological laboratory tests to characterize the sediment/mud concerned shall be conducted as appropriate. 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.	7.3 – 7.5, 7.6
3.9.5.2 (iii)(b)	The Applicant shall identify and evaluate the best practical dredging/excavation methods to minimize dredging/ excavation and dumping requirements and demand for fill sources based on the criterion that existing sediment/mud shall be left in place and not to be disturbed as far as possible.	7.3 – 7.5, 7.6
3.9.5.2 (iv)	<u>Land Contamination</u> If any contaminated land uses as stated in Section 3.1 and Section 3.2 of Annex 19 in the TM is identified, the Applicant shall carry out the land contamination assessment as detailed from sub-section (a) to (f) below and propose measures to avoid disposal:	7.3 – 7.5
3.9.5.2 (iv)(a)	The Applicant shall follow the guidelines for evaluating and assessing potential land contamination issues as stated in Sections 3.1 and 3.2 of Annex 19 of the TM.	7.3 – 7.5
3.9.5.2 (iv)(b)	The Applicant shall identify the potential land contamination site(s) within the study boundary and, if any, the boundaries of all associated areas (e.g. work areas) of the Project.	7.3 – 7.5
3.9.5.2 (iv)(c)	The Applicant shall provide a clear and detailed account of the present land use (including description of the activities, chemicals and hazardous substances handled, with clear indication of their storage and location, by reference to a site layout plan) and a complete past land uses history in relation to possible land contamination (including accident records and change of land use(s) and the like).	7.3 – 7.5

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3.9.5.2 (iv)(d)	During the course of the EIA study, the Applicant shall submit a Contamination Assessment Plan (CAP) to the Director for endorsement prior to conducting an actual contamination impact assessment of the land or site(s). The CAP shall include proposal with details on representative sampling and analysis required to determine the nature and the extent of the contamination of the land or site(s).	7.3 – 7.5
3.9.5.2 (iv)(e)	Based on the endorsed CAP, the Applicant shall conduct a land contamination impact assessment and submit a Contamination Assessment Report (CAR) to the Director for endorsement. If land contamination is confirmed, a Remedial Action Plan (RAP) to formulate viable remedial measures with supporting documents, such as agreement by the relevant facilities management authorities, shall be submitted to the Director for approval. The Applicant shall then clean up the contaminated land or site(s) according to the approved RAP, and a Remediation Report (RR) to demonstrate adequate clean-up should be prepared and submitted to the Director for endorsement prior to the commencement of any development works within the site. The CAP, CAR and RAP shall be documented in the EIA report.	7.3 – 7.5
3.9.5.2 (iv)(f)	If there is/are potential contaminated site(s) is inaccessible for preparing sampling and analysis during the course of the EIA study, e.g. due to site access problem, the Applicant's CAP shall include :- a review of the available information;- an initial contamination evaluation of this/these site(s) and possible remediation methods;- a confirmation of whether the contamination problem at this/these site(s) would be surmountable;- a sampling and analysis proposal which shall aim at determining the nature and the extent of the contamination of this/these site(s) ; and - a schedule of submission of revised CAP (if necessary), CAR, RAP and RR upon this/these site(s) is/are accessible.	7.3 – 7.5
3.9.6	**Ecological Impact (Terrestrial and Aquatic)**	
3.9.6.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing ecological impact as stated in Annexes 8 and 16 of the TM respectively during the construction and operational phases. The assessment shall include the ecological survey of the "Assessment Area" as defined in section 3.9.6.2 below.	8.1, 8.2, 8.6 & 8.7
3.9.6.2	The "Assessment Area" for the purpose of terrestrial and aquatic ecological impact assessment shall include all areas within 500m distance from the boundary of the Project (including the access road) as shown in Figure 1, and any area likely to be impacted by the Project.	Fig. 8-2, 8.1
3.9.6.3	In the ecological impact assessment, the Applicant shall examine the flora, fauna and other components of the ecological habitats within the "Assessment Area". The aim shall be to protect, maintain or rehabilitate the natural environment. In particular, the Project shall avoid impacts on recognized sites of conservation importance and other ecologically sensitive areas. The assessment shall identify and quantify as far as possible the potential ecological impacts associated with the Project.	8.4
3.9.6.4	The assessment shall include the following major tasks:	
3.9.6.4 (i)	Review and incorporate the findings of relevant studies and collate all the available information regarding the ecological characters of the "Assessment Area".	8.3 & 8.4
3.9.6.4 (ii)	Identify any information gap relating to the assessment of potential ecological impacts to the terrestrial and aquatic environment.	8.3 & 8.4

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3.9.6.4 (iii)	Carry out necessary field surveys, the duration of which shall be at least 12 months to cover the bird migratory season and the ardeid breeding season, including bird flight path surveys, and investigations to fill the information gaps identified and fulfil the objectives of the EIA study.	8.4, 8.5
3.9.6.4 (iv)	Describe all recognized sites of conservation importance such as the Wetland Conservation Area, Wetland Buffer Area, Mai Po Inner Deep Bay Ramsar Site, Mai Po Nature Reserve, Mai Po Village SSSI and Mai Po Marshes SSSI in the project site and its vicinity.	8.3, 8.4
3.9.6.4 (v)	Establish the general ecological profile and describe the characteristics of each habitat found in the Assessment Area. Major information to be provided shall include:	8.5, 8.6
3.9.6.4 (v)(a)	Description of the physical environment.	8.3.1
3.9.6.4 (v)(b)	Habitat maps of suitable scale (1:1000 to 1:5000) showing the types and locations of habitats in the "Assessment Area".	Fig 8.2
3.9.6.4 (v)(c)	Ecological characteristics of each habitat type such as size, vegetation type, species present, dominant species found, species diversity, community structure, inter-dependence of the habitats and species, and presence of any features of ecological importance, as well as any ecological linkage between the habitats.	8.5.1, 8.6
3.9.6.4 (v)(d)	Representative colour photographs of each habitat type and any important ecological features identified.	Fig 8.2
3.9.6.4 (v)(e)	Species found that are rare, endangered and/or listed under local legislation or international conventions for conservation of wildlife/habitats or Red Data Books.	8.5.2
3.9.6.4 (vi)	Investigate and describe the existing wildlife uses of various habitats with special attention to:	
3.9.6.4 (vi)(a)	Wetlands including fish ponds, wet agricultural land and marshes;	8.5.2 and Appendices 8-2 – 8-6.
3.9.6.4 (vi)(b)	Roosting, breeding and feeding sites for wetland birds;	8.5.2
3.9.6.4 (vi)(c)	Any other habitats indentified as having special conservation interests by this study.	8.5.1 & 8.5.2
3.9.6.4 (vii)	Using suitable methodology, identify and quantify as far as possible any direct, indirect, on-site, off-site, primary, secondary and cumulative ecological impacts such as destruction of habitats, reduction of species abundance/ diversity, loss of feeding grounds, interference with flight paths of birds, reduction of ecological carrying capacity, loss in ecological linkage and function, habitat fragmentation and other possible disturbances caused by the Project and the activities of the residents.	8.7
3.9.6.4 (viii)	Evaluate the significance and acceptability of the ecological impacts identified using well-defined criteria.	8.7
3.9.6.4 (ix)	Recommend all possible alternatives (such as modifications of layout and design) and practicable mitigation measures to avoid, minimize and/or compensate for the adverse ecological impacts identified. If off-site mitigation measures are considered necessary to mitigate the residual impacts, the guidelines and requirements laid down in the TM shall be followed.	8.8
3.9.6.4 (x)	Evaluate the feasibility and effectiveness of the recommended mitigation measures and define the scope, type, location, implementation arrangement, subsequent management, resources requirement and maintenance of such measures.	8.8
3.9.6.4 (xi)	Determine and quantify as far as possible the residual ecological impacts after implementation of the proposed mitigation measures.	8.9
3.9.6.4 (xii)	Evaluate the severity and acceptability of the residual ecological impacts using well-defined criteria.	8.9
3.9.6.4 (xiii)	Review the need for and recommend any ecological monitoring programme.	13.7

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3.9.6.4 (xiv)	Should any wetlands be recommended to mitigate the ecological impacts identified, and/or enhance the ecological functions, propose a management package for the wetlands with particular attention to :	8.8 to 8.9, 8.11
3.9.6.4 (xiv)(a)	The proposed design and layout of the wetland and the rationales for such design, taking into consideration the ecological linkage with the existing and planned wetland habitats nearby.	8.8 to 8.9, 8.11
3.9.6.4 (xiv)(b)	The habitat maintenance and management plan and specification of resources requirement for its implementation.	8.8 to 8.9, 8.11
3.9.6.4 (xiv)(c)	The management agents and their responsibility.	8.8 to 8.9, 8.11
3.9.6.4 (xiv)(d)	A contingency plan for the management of the proposed mitigation wetland.	8.8 to 8.9, 8.11
3.9.6.4 (xiv)(e)	The ecological monitoring programme recommended in subsection 3.9.6.4(xiii) above, if any.	8.8 to 8.9, 8.11
3.9.7	**Fisheries Impact**	
3.9.7.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing fisheries impact as stated in Annexes 9 and 17 of the TM respectively.	9.2 & Table 9-3.
3.9.7.2	The study area for the purpose of this fisheries impact assessment shall include all areas within a distance of 500m from the boundaries of the development. This study area shall be extended to include other areas with fish ponds and associated water system(s) if they are found also being impacted by the construction or operation of the Project during the course of the EIA study. Special attention should be given to the surrounding pond culture resources and activities as well as any water courses which serve as water sources for fish ponds.	Fig. 9-1.
3.9.7.3	The fisheries impact assessment shall provide the following information:	
3.9.7.3 (i)	Description of the physical environmental background.	9.4.1& 9.4.2
3.9.7.3 (ii)	Description and quantification of existing pond culture activities.	9.4.2
3.9.7.3 (iii)	Description and quantification of existing fisheries resources (e.g. major fisheries products and stocks).	9.4.2
3.9.7.3 (iv)	Identification of parameters (e.g. water quality parameters) and areas that are important to fisheries.	9.4.2
3.9.7.3 (v)	Identification and quantification any direct/indirect impacts to fisheries, such as permanent resumption and temporary occupation of fish ponds, deterioration of water quality of fish ponds and the surrounding streams, hydrological disruptions such as draw-down of water table, blocking of access to the surrounding fish ponds, and disturbance by construction noise and vibration.	9.5
3.9.7.3 (vi)	Evaluation of impacts and proposal of effective mitigation measures with details on justification, description of scope and programme, feasibility as well as staff and financial implications including those related to subsequent management and maintenance requirements of the proposal.	9.7
3.9.7.3 (vii)	Review of the need for monitoring during the construction and operational phase of the Project and, if necessary, propose a monitoring and audit programme.	13.7
3.9.8	**Impact on Cultural Heritage**	
3.9.8.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing impacts on cultural heritage as stated in section 2 of both Annexes 10 and 19 of the TM respectively.	Chapter 10, appendix 10-1

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3.9.8.2	The cultural heritage impact assessment (CHIA) shall comprise an Archaeological Impact Assessment (AIA) and a Built Heritage Impact Assessment (BHIA). The Applicant shall refer to Appendix 4 Guidelines for Cultural Heritage Impact Assessment for the detailed requirements.	Chapter 10, appendix 10-1
3.9.8.2 (i)	Archaeological Impact Assessment (AIA) The Applicant shall engage a qualified archaeologist to conduct the AIA in accordance with relevant sections of the Guidelines for CHIA. If existing information is insufficient to ascertain the archaeological potential of the Project area, further field investigation shall be conducted to obtain archaeological data. The archaeologist shall obtain a licence from the Antiquities Authority before undertaking field investigation under the provision of the Antiquities and Monuments Ordinance (Cap. 53).	Chapter 10, appendix 10-1
3.9.8.2 (ii)	Built Heritage Impact Assessment (BHIA) The Applicant shall draw necessary reference to relevant sections of the Guidelines for CHIA to conduct the BHIA to identify known and unknown built heritage items within the assessment area that may be affected by the Project and its associated works and to assess direct and indirect impacts on built heritage items. The impacts include visual impact, impacts on the fung shui/visual corridor of the historic buildings and structures through change of water-table, vibration caused by the Project. Assessment of impacts on cultural heritage shall also take full account of, and allow where appropriate, the Guidelines for Landscape and Visual Impact Assessment of Annex 18 of the TM.	Chapter 10, appendix 10-1
3.9.8.3	The Applicant shall demonstrate that the disturbance, including access, to those sites of cultural heritage are avoided to the maximum practicable extent by modification of the alignment, layout and design of the Project. For those sites of cultural heritage that might still be directly and indirectly affected by the Project, the Applicant shall recommend practicable mitigation measures and monitoring to avoid or keep the adverse impacts on the site of cultural heritage to the minimum. A checklist including the affected sites of cultural heritage, impacts identified, recommended mitigation measures as well as the implementation agent and period shall also be included in the EIA report.	Chapter 10, appendix 10-1
3.9.9	**Landscape and Visual Impact**	
3.9.9.1	The Applicant shall follow the criteria and guidelines for evaluating and assessing landscape and visual impacts as stated in Annexes 10 and 18 of the Technical Memorandum and EIAO Guidance Note No. 8/2002.	11.1-4
3.9.9.2	The assessment area for the landscape impact assessment shall include all areas within a 500m distance from the boundary of the Project (including the access road) as shown in Figure 1. The assessment area for the visual impact assessment shall be defined by visual envelope of the proposed Project and associated works. The defined visual envelope should be shown on plan.	Figure 11-01, 11-9
3.9.9.3	The Applicant shall review relevant outline development plans, outline zoning plans, layout plans, planning briefs and studies which may identify areas of high landscape value and recommended conservation areas, (e.g. “Site of Special Scientific interest” and special zones in rural or suburban areas with intention of protection of rural character and ecological value, as well as the Wetland Conservation Area and Wetland Buffer Areas with Deep Bay Area as defined in TPB Guideline No. 12B) green belt, recreation, open space and other specified use. Any guidelines on urban design concept, landscape framework, building height profiles, designated view corridors that may affect the appreciation of the Project should also be reviewed. The aim is to gain an insight to the future outlook of the area and provide a basis to assess whether the Project can fit into surrounding setting. Any conflict with statutory town plan(s) and any published land use plans should be highlighted and appropriate follow-up action should be recommended.	11.4, 11.5 to 11.8

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3.9.9.4	The Applicant shall describe, appraise and analyse the existing landscape resources and character of the assessment area. The sensitivity of the landscape framework and its ability to accommodate change shall be particularly focused on. A system should be derived for judging impact significance. The Applicant shall identify the degree of compatibility of the Project with the existing landscape. The assessment shall quantify the potential landscape impacts as far as possible, so as to illustrate the significance of such impacts arising from the Project. Clear mapping of the baseline landscape resource, existing and planned landscape character areas and landscape impacts are required.	Figures 11.8, 11-2A; 11-2B to 11-6, 11-9
3.9.9.5	The Applicant shall assess the visual impacts of the Project at the construction stage and operation stage. A system should be derived for judging the visual impact significance. Clear illustrations in support of the visual impact assessment are required. The assessment shall include the following:	Figures 11-09 – 11-26, 11-33 to 40
3.9.9.5 (i)	Identification and plotting of visual envelop of the Project.	Figure 11- 9
3.9.9.5 (ii)	Identification of the key groups of visually sensitive receivers (including existing and planned sensitive receivers if any) within the visual envelope and their views at ground level and elevated vantage points.	11.5, 11.8, 11.11, Figures 11-9 to 15;
3.9.9.5 (iii)	Description of the visual compatibility of the Project with the surrounding, and the planned setting and its obstruction and interference with the key views of the study areas as defined in section 3.9.9.2.	11.5, 11.8, 11.11,
3.9.9.5 (iv)	The severity of visual impacts in terms of compatibility of the Project with the surrounding landscape, duration of impacts under construction and operation phases, scale of development, reversibility of change, viewing distance, potential blockage of view and sensitivity of receivers towards the visual impacts.	11.11, 11.12;
3.9.9.5 (v)	Alternative layouts options should be examined with a view to selecting the best option to minimize any adverse visual impact and to enhance the visual quality of the area.	11.2
3.9.9.5 (vi)	Clear evaluation and explanation of all the factors considered in arriving the significance thresholds of visual impact.	11.11, 11.12;
3.9.9.6	Alternative layouts and design that would avoid or reduce the identified landscape and visual impacts and enhance the landscape and visual quality of the area shall be evaluated for comparison before adopting other mitigation or compensatory measures to alleviate the impacts. The Applicant shall recommend mitigation measures to minimize the adverse effects identified above, including provision of a landscape design and mitigation measures to ensure compatibility of the development with the surrounding rural landscape. The mitigation measures shall include but not limited to provision of screen planting and road side berms, revegetation of disturbed land, compensatory planting, provisioning of amenity areas and open spaces, provision of finishes to structures, deposition of buildings, colour scheme and texture of material used and any measures to mitigate the impact on existing and planned sensitive receivers. Parties shall be identified and in-principle agreement with the related authorities should be reached in the EIA stage for the on going management and maintenance of the proposed mitigation works to ensure their effectiveness throughout the operation phase of the Project. The mitigation measures proposed shall not only be concerned with damage reduction but should also include consideration of potential enhancement of existing landscape and visual quality. A practical programme and funding proposal for the implementation of the recommended measures shall be provided.	2; 11.2; Table 11-5A, 11-5B, 11-7A and 11-7B; Figure 11-16 to 11-19

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3.9.9.7	Annotated illustration materials such as coloured perspective drawings, plans and section/elevation diagrams, annotated oblique aerial photographs, photo-retouching and computer-generated photomontage shall be adopted to fully illustrate the landscape and visual impacts of the Project to the satisfaction of the Director. The landscape and visual impacts of the Project with and without mitigation measures from representative viewpoints, particularly from views of the most adversely affected visually sensitive receivers (i.e. worst case scenario), shall be properly illustrated in existing and planned setting at four stages (existing condition, Day 1 with no mitigation measures, Day 1 with mitigation measures and Year 10 with mitigation measures) by computer-generated photomontage so as to demonstrate the effectiveness of the proposed mitigation measures. All computer graphics shall be compatible with Microstation DGN file format. The Applicant shall record the technical details such as system set-up, software, data files and function in preparing the illustration which may need to be submitted for verification of the accuracy of the illustrations.	Figures 11-20 to 26 and Figures 11-27 to 41 Figures 11-16 to 11-19
3.9.10	**Impacts Summary** To facilitate easy retrieval of important information, an impacts summary in the form of a table, or any other form approved by the Director, showing the assessment points, results of impact predictions, relevant standard or criteria, extent of exceedance predicted, if any, mitigation measures proposed and residual impacts, if any, after mitigation measures are implemented, etc., should be given at the end of each chapter on individual impact in the EIA report as well as the Executive Summary.	12
3.9.11	**Summary of Environmental Outcomes** The EIA report shall contain a summary of the key environmental outcomes arising from the EIA study, including the population and environmentally sensitive areas protected, environmentally friendly designs recommended, key environmental problems avoided, compensation areas included and the environmental benefits of environmental protection measures recommended.	12, 14
3.9.12	**Environmental Monitoring and Audit (EM&A) Requirements**	
3.9.12.1	The Applicant shall identify and justify in the EIA study whether there is any need for EM&A and environmental management system (EMS) activities during the construction and operation phases of the Project and, if affirmative, to define the scope of the EM&A requirements for the Project in the EIA study.	13, 14
3.9.12.2	Subject to the confirmation of EIA study findings, the Applicant shall comply with the requirements as stipulated in Annex 21 of the TM. The Applicant shall also propose real-time reporting of monitoring data for the Project through a dedicated internet website.	13, 14
3.9.12.3	The Applicant shall prepare a Project Implementation Schedule (in the form of a checklist as shown in Appendix 3 or as approved by the Director) containing all the EIA study recommendations and mitigation measures with reference to the implementation programme. The Project Implementation Schedule shall include the explicit agreement reached between the Applicant and relevant parties on the responsibility for funding, implementation, management and maintenance of mitigation measures. Alternatively, the Project Implementation Schedule shall include an undertaking from the Applicant to assume the responsibility of all those mitigation measures until an agreement is reached between the Applicant and relevant parties on the funding, implementation, management and maintenance of mitigation measures. To facilitate issue of Environmental Permits (EPs) in future, the implementation schedules shall be grouped under individual works packages in separate DPs where applicable.	13, 14

Study Brief Ref. #	Summary	EIA Section/ Chapter *
3.9.13	**Monitoring and Audit Requirement of the Project** The Applicant should note the monitoring and audit requirement stipulated in paragraph 8.1 of the TM. The Proponent shall propose an environmental monitoring and audit programme in the EIA report to verify the predictions and the effectiveness of mitigation measures including audit on compliance during the operation phase of the Project.	13, 14

Remark: * Only key sections, references in the EIA report are shown.