

Annex E - Key Findings of Cumulative Environmental Impact Assessment Study on Three Potential Reclamation Sites in Western Waters (CEIA Study)

1. Assessment in the CEIA Study had been done strategically for impact on air quality, water quality, ecology and fisheries in both the construction and operational phases of the three potential reclamation sites in the western waters taking into account other concurrent projects in the vicinity. Potential issues were identified and some strategic mitigation options were also suggested for consideration in future detailed studies including statutory EIAs with updated project information and environmental conditions. The actual mitigation measures shall be determined considering various factors such as technical, cost, and land requirements of the proposed measures in addition to environmental considerations. Approval / agreement from the relevant authorities should be sought.

2. This Annex gives an account on the study limitations, key potential issues identified and the corresponding strategic mitigation options.

Study limitations

3. Due to the limited information regarding the reclamation projects at this very preliminary stage, the assessment under CEIA Study could only be done based on a number of assumptions such as reclamation extent, possible land uses for estimating residing and working population, construction method and programme for a broad brush assessment on the three reclamation proposals. The CEIA Study is not meant to replace the statutory EIA for any of the individual reclamation proposals. Moreover, those existing, committed, planned and proposed projects which may contribute to the cumulative environmental effects, both in the construction and operational phases of the three reclamation sites, should be re-considered based on the best available information in the future statutory EIAs.

4. There is a great degree of uncertainty in project information, such as construction programme of the reclamation projects and other interfacing projects. To handle these uncertainties, very conservative scenarios (e.g. assuming that all phases of marine works of reclamation projects are to be carried out concurrently) were adopted in the impact assessments. Though the results may err on a very conservative side, the assessment effectively serves the purpose of flagging up potential issues for follow-up in the future studies, including the statutory EIAs.

Potential issues in relation to air quality

5. Air quality impact was assessed quantitatively. For Lung Kwu Tan site, it was revealed that the existing residential areas adjacent to Lung Kwu Tan Road was vulnerable to the increased vehicular emissions at Lung Kwu Tan Road associated with the new developments at reclamation area. When improvement works such as

road widening or realignment is proposed for Lung Kwu Tan Road to cope with future traffic flow, adequate clearance should be provided between the said residential areas and the road to protect the residents from the air quality impact. Moreover, land uses sensitive to air quality is not recommended for a small portion of the future reclamation area in the south near the Castle Peak Power Station and the cluster of industrial facilities due to the higher concentration of suspended particulates.

6. Siu Ho Wan and Sunny Bay sites at North Lantau were assessed collectively. Due to vehicular emissions, air-sensitive uses should not be proposed right next to the North Lantau Highway. Moreover, Siu Ho Wan site, particularly its eastern end, might be vulnerable to the cumulative odour nuisance from the sewage treatment and waste handling facilities in the vicinity, and hence additional odour control measures would likely be required at source if the site is to be used for residential or other air sensitive uses.

Potential issues in relation to water quality

7. According to the water quality model formed for the construction phase of the three reclamations, it was expected that, with the adoption of eco-friendly construction method such as non-dredged method for seawall construction and the proper mitigation measures such as double-silt curtain system around active works site and, if necessary, some seawater intake points, the suspended solid (SS) elevation / level at the identified water sensitive receivers would comply with Water Quality Objective (WQO) even in the scenario that the marine works of the three reclamation projects and Tung Chung New Town Extension are carried out concurrently, whereas the marine works of the airport third runway is completed prior to the construction phase of the three reclamations. However, if there is any change in the construction programme so that the marine works for the airport third runway cannot be completed beforehand, the SS elevation at the proposed The Brothers Marine Park (BMP) would become an issue and render additional mitigation effort necessary. The additional mitigation effort required will depend on the actual programme of the marine works of the reclamation projects at the time.

8. In the operational phase, the hydrodynamic modelling indicated that the three reclamations would unlikely have significant effect on the overall flow pattern in the western waters. As revealed in the water quality modelling, the Total Inorganic Nitrogen (TIN) level would be an area of concern since the background TIN level is high even without the proposed reclamations. Nevertheless, there would only be a small increase in the TIN level if the proposed reclamations and the associated assumed development on them proceed. Similarly, the assessment predicted that the dissolved oxygen (DO) level at Ma Wan Fish Culture Zone would be low only in three months of the year under both with and without reclamation scenarios. The decrease in DO level under the with-reclamations scenario would be very small. Having said that, it is always environmentally beneficial to minimize the additional pollution loading to the receiving water bodies with already high background pollution level. Thus, besides the provision of new treatment facilities to handle the

sewage arising from developments on the reclamation sites, green measures or infrastructures to reduce pollutant discharge such as storm water harvest and management measures, effluent reuse and any other possible mitigation options should be explored. The identified potential water quality concerns will be followed up in future studies and assessments when more details of the reclamation proposals are available.

Potential issues in relation to ecology including CWD

9. Impact to CWD was identified as the major issue regarding the ecological impact of the three reclamation proposals.

10. Based on the result of CWD Survey, Sunny Bay site was found unlikely to be a CWD hotspot, having low and probably just occasional dolphin use.

11. As regards Lung Kwu Tan site, it was suggested that CWDs use the waters just outside Lung Kwu Tan bay, at about 700m from the shore and beyond as important foraging and milling habitat. CWDs were not recorded within the Lung Kwu Tan bay of shallow water. Though the CWD habitat would unlikely be affected directly by the reclamation, the potential indirect impacts given rise by, for example, increased marine traffic in the area and the effect on water quality during construction should be given particular attention.

12. As regards Siu Ho Wan site, CWD occurrence was frequently recorded in the deep water areas (i.e. seabed level at -5mCD or lower) within the preliminary reclamation extent. To reduce impacts to the identified CWD habitat, it is noted that the reclamation extent has to be reduced at least by not taking the deep water areas where CWD occurrence was frequently recorded. Also, particular attention should be given to avoid direct impact to the BMP, taking into consideration its latest proposed boundary, and potential indirect impacts including construction phase disturbance.

13. No direct impacts to sites of conservation importance near the potential reclamation sites are expected. Nonetheless, proper lighting strategies should be formulated for Lung Kwu Tan site to avoid the glaze disturbance to the butterfly habitat at Lung Kwu Tan Valley SSSI during night-time.

Potential issues in relation to fisheries

14. The major impact would be the loss of fishing grounds by reclamation. However, the waters to be affected are of low to moderate fisheries production in term of weight and value. It was also revealed that there would be no direct loss of important spawning or nursery grounds, aquaculture sites or artificial reefs from the three potential reclamation proposals. The modelling assessment predicted that the DO levels at Ma Wan Fish Culture Zone would be low only in three months of the year under both with and without reclamation scenarios.