

Appendix 8.8 Preliminary Reinstatement Plan

1 Background

1.1 Description of Temporarily Affected Areas

- 1.1.1 Ecological baseline studies including field surveys have been conducted at areas within 500 m distance from the Project boundary and areas likely to be impacted by the Project and associated works under the Environmental Impact Assessment (EIA) study between February 2020 and April 2021 (as presented in **60607428/R42/Figure 8.2.1 to Figure 8.2.5**). As evaluated in Section 8.8 of the EIA Report, during the construction phase, some areas within the Project boundary would be subject to temporarily direct habitat and vegetation loss due to land take for temporary structures such as construction shaft, temporary storage areas, construction access, temporary works areas (refer to **60607428/R42/Figure 8.7.1 to Figure 8.7.3** for temporarily affected areas).
- 1.1.2 The estimated total area of temporary habitat loss in vegetated areas, covering woodland, mixed woodland, plantation and shrubland habitats, within Project footprint is approximately 1.48 ha. These temporary works areas are largely located at the margins of the permanent works areas. In order to mitigate the impact of temporary habitat loss, reinstatement of the vegetated areas, such as by woodland mix planting at temporarily affected area, upon the completion of construction works are recommended, with reference to *EIAO Guidance Note No.3/2010 – Flexibility and Enforceability of Mitigation Measures Proposed in an Environmental Impact Assessment Report*.
- 1.1.3 This Preliminary Reinstatement Plan aims to recommend the implementation of reinstatement works for the temporarily affected habitats and vegetation within the Project footprint. This Preliminary Reinstatement Plan makes reference to the ecological field survey findings of EIA Report, and shall be reviewed and finalized during the detailed design phase of the Project and be approved by relevant EIAO authorities before commencement of works.

2 Methodology and Implementation

2.1 General

- 2.1.1 All temporary works areas should be reinstated after completion of the construction works. Unnecessary impacts on trees should be minimised by implementation protection measures. Reference should be made to relevant guidelines and technical circulars, such as *Guidelines on Tree Preservation during Development* and *TC(W) No. 4/2020 Tree Preservation*.
- 2.1.2 Reinstatement by woodland mix planting shall be carried out at the temporarily affected vegetated areas, covering woodland, mixed woodland, plantation and shrubland habitats, (refer to **60607428/R42/Figure 8.7.1 to Figure 8.7.3**) to mitigate the impact arising from the temporary habitat loss. Use of native species of woodland mix planting shall be maximized as far as possible in accordance with the *Guiding Principles on Use of Native Plant Species in Public Works Projects* to improve the habitat complexity and quality. A diversity of native species of appropriate size with due considerations to their potential ecological functions (e.g. appropriate food sources / habitats for local wildlife) should be adopted during the woodland mix planting. Hydroseeding shall also be adopted to reinstate the temporarily affected areas to equal or better quality and to the satisfaction of the relevant Government Departments.

2.2 Vegetation Survey, Site Preparation and Soiling

- 2.2.1 Prior to the commencement of site formation works, vegetation surveys should be conducted to establish the latest vegetation composition and site condition of the temporarily affected areas. The findings of vegetation surveys would be referenced to during the formulation of species list of woodland mix planting to facilitate the reinstatement planting works.
- 2.2.2 Reinstatement planting should be carried out as early as possible upon the completion of construction works within the temporarily affected areas. Before reinstatement works, site clearance should be carried out and any C&D materials, rubbish, weeds exotic/ invasive species and large stones should be removed. The soil should be ploughed or scarified to

loosen the soil, facilitate air penetration and improve the soil drainage. Planting holes should be carefully assigned and marked with individual plant numbers before the reinstatement planting to provide adequate growth space for future growth. The planting holes should be 1.5 times greater than the root ball of the plant individuals and the depth should not be too deep that the root level would be below the surrounding ground level after planting. The prepared ground should be protected from being compacted, eroded, silted up or damaged. Mulches shall be applied on soil surface as appropriate to maintain moisture, as nutrients source and protection from sunlight and weed growth. Soiling, cultivation, planting and other similar landscape softworks and establishment works operations shall not be carried out at times when weather or ground conditions may in the opinion of the Engineer adversely affect the permanent works.

2.3 Other Pre-planting Works

- 2.3.1 Planting in spring or autumn is recommended. Ideally planting shall take place in overcast or moist conditions, but not in weather conditions which will result in initial drying out of root systems and/or scorching of leaves. If planting has to be carried out in hot sun or drying winds, plants awaiting planting shall at all times be shaded to prevent drying out.
- 2.3.2 The landscape softworks and establishment works operations should be ceased immediately when in the opinion of the Engineer the weather or ground conditions may adversely affect the permanent works.

2.4 Mitigation Planting Materials

- 2.4.1 Mitigation planting materials should be proposed based on the findings of the latest vegetation surveys at the affected sites to be conducted before the commencement of construction. Use of native species shall be maximized as far as possible in accordance with the *Guiding Principles on Use of Native Plant Species in Public Works Projects*. The woodland mix planting shall comprise species native to the local area, which are selected based on their suitability, stock availability in the market, and ecological functions for the area.
- 2.4.2 For reinstatement planting on appropriate new or reinstated soil cut and fill slopes, Reference should also be made to Appendix C of *Guiding Principles on Use of Native Plant Species in Public Works Projects* and *GEO Publication No. 1/2011 Technical Guidelines on Landscape Treatment for Slopes*. For soil cut and fill slopes at a gradient of 35 degree or below at the tunnel portals and the affected slopes along the road improvement works, woodland mix planting with tree whips is proposed. Where new trees are to be planted on slopes up to 35 degree, it is recommended that only species with small crown are used. Inventory table of woodland mix planting should be formulated, where appropriate, in consultation with relevant authorities.

3 Maintenance and Monitoring Programme

3.1 Maintenance Programme

- 3.1.1 The reinstatement planting should be subject to a 1-year establishment period for area outside Lion Rock Country Park (LRCP) and 3-year establishment period for area within LRCP upon reinstatement.
- 3.1.2 Throughout the establishment period, weekly watering shall be implemented in the first three months subject to weather condition and the frequency of watering for the remaining establishment period shall be proposed by the qualified ecologist / arborist who supervises the transplantation work / compensatory planting based on the local environment of the recipient site. The frequency should be adjusted depending on the soil moisture.
- 3.1.3 Pruning / weeding and pest control shall also be implemented monthly in the first three months and bi-monthly in the remaining establishment period, or when instructed by the qualified ecologist / arborist. Weeding shall be carried out by hand as far as practicable. Appropriate pest control measure such as removal of diseased plant parts shall be performed if necessary.

- 3.1.4 Use of mulches is recommended to help conserve moisture, maintain moderate soil temperature, and control weeds around plants at the temporarily affected areas, except roadside slopes and areas within Country Park.

3.2 Monitoring Programme

- 3.2.1 The reinstatement planting should be monitored regularly during the 1-year establishment period for area outside LRCP and 3-year establishment period for areas within LRCP. Monitoring of the reinstated area shall be conducted bi-weekly in the first three months and once in each of the following month in the remaining establishment period. During the remainder of the construction phase, monitoring of reinstated area should continue once every 3 months, given that the health conditions of plants during the establishment period remained fair to good. The monitoring shall be carried out by a qualified ecologist / arborist with at least 10 years relevant experience. Monitoring findings, site observations and recommendations shall be reported in the EM&A Reports during construction phase.

3.3 Duration and Implementation Agent

- 3.3.1 Site preparation and reinstatement planting within temporarily affected area shall be undertaken as early as possible upon the completion of construction works within the temporarily affected areas. Both the implementation and maintenance of the reinstatement planting shall be fully funded by the Project Proponent. The reinstatement planting will be subject to 1-year establishment period for area outside LRCP and 3-year establishment period for areas within LRCP. If any planted individual of the woodland mixed planting dies during the establishment period, the Contractor shall replace the loss by planting of the same species. After the establishment period, the maintenance agent will be identified based on the locations, following the *DEVB TCW No. 6/2015 Maintenance of Vegetation and Hard Landscape Features*.

4 Conclusion

- 4.1.1 As evaluated in Section 8.8 of the EIA Report, during the construction phase of the Project, temporarily direct habitat and vegetation loss is expected due to land take for temporary structures such as construction shaft, temporary storage areas, construction access, temporary works areas, etc, affecting approximately 1.48 ha of vegetated areas, covering woodland, mixed woodland, plantation and shrubland habitats, within Project footprint.
- 4.1.2 All temporary works areas should be reinstated after completion of the construction works. Reinstatement by woodland mix planting is recommended at the temporarily affected vegetated areas to minimize the impact arising from the temporary habitat loss. A diversity of native species of appropriate size with due considerations to their potential ecological functions (e.g. appropriate food sources / habitats for local wildlife) should be adopted during the woodland mix planting. Hydroseeding shall also be adopted to reinstate the temporarily affected areas to equal or better quality and to the satisfaction of the relevant Government Departments.
- 4.1.3 The reinstatement planting should be implemented by the Contractor and are subject to a 1-year establishment period for area outside LRCP and 3-year establishment period for area within LRCP. The site preparation and reinstatement planting shall be undertaken at the temporarily affected area as early as the completion of construction works.
- 4.1.4 A Final Reinstatement Plan should be prepared during the detailed design phase of the Project and be submitted to relevant Government authorities (e.g. AFCD and EPD) for approval prior to the commencement of any construction activities.