

9 ECOLOGICAL IMPACT ASSESSMENT

9.1 Introduction

The main difference between the Scheme 1 development and Scheme 2 development is the proposed marine structures (piers, jetties and a marina) along the artificial shoreline of Telegraph Bay, the development of two schools and four blocks of residential development within the Kong Shin Wan Village (Figure 2.3) and a HEC's 275 KV Substation for the Cyber Port Development. Since the impact assessment for Scheme 1 did not include these proposed developments, this will be provided in the present report, Volume 2.

The rest of the proposed development in Scheme 2 is very similar to Scheme 1. The impact assessment results given in the Volume 1 of this Report are thus applicable to Scheme 2 for the rest of the development site.

9.2 Description of the Baseline Ecology

An ecological baseline survey was conducted for Scheme 1 in August 1998, which also included the Kong Shin Wan Village. The details given in Volume 1 of this Report are applicable to Scheme 2. In relation to the differences between Scheme 1 and Scheme 2, information related to the Kong Shin Wan Village and the artificial shoreline will be highlighted.

The Artificial Shoreline

The artificial shoreline is a sea wall for the reclamation area between two natural shorelines within the project area. The sea wall was installed approximately 10 years ago and is composed of large granite boulders. Along this shoreline, marine species diversity and abundance of flora and fauna are relatively low compared with the natural shorelines

Kong Shin Wan Village and the surrounding areas

The woodland at the top of the valley was a complex matrix of woodland and shrubland habitats, with a diverse understorey/herb layer. The woodland was mature, with trees as tall as 12m and diameter up to 40cm. The ecological value of the woodland can be considered high due to its age and species richness.

The village is surrounded by *fung shui* wood. The boundary between the *fung shui* wood and the natural woodland on the slopes of Telegraph Bay valley was difficult to determine. Two species of exotic plants *Lagerstroemia indica* and *Michelia alba* protected by the Forests and Countryside Ordinance were identified at Telegraph Bay. Three specimens of *Lagerstroemia indica* were found in the woodland outside the proposed development area and the plant *Michelia alba* was located within the development site. *Michelia alba* a common species is often planted around villages houses. *Artocarpus hypagyreus* a plant

species listed in the China Plant Red Data Book as vulnerable was recorded in the woodland outside the development area.

Orchards were also located near to the village and Telegraph Bay. The dominant species were Longan, Guava, Jackfruit, Sugar-apple and Banana. All these cultivated habitats can be created and none are considered to have high ecological value.

One of the natural streams cited in Volume 1 of this Report flows from Victoria Road, through the valley and into Kong Shin Wan Tsuen. The upper part of the stream within the woodland still retains its natural features while further downstream near the village the stream has been culverted. The stream within the village has been modified and about 100m in the middle of the village the stream has been covered over. The fauna that was found in the streams was pollutant tolerant species consisting mainly of midge larvae (Orthocladinae), Crustacea, Mollusca and Annelida. The stream was brackish with salinity levels recorded at 2 ‰ at the northern part of the stream. The source of saline contamination was traced to an outlet of the Li Shu Fan Building (Medical School, HKU), where the wastewater discharge had a salinity of 16.1 ‰. The diversity of the stream was low and no sensitive fauna was recorded. The stream can be considered to have low ecological value.

Secondary Woodland

The woodland was found to be relatively species rich and typical of local woodland habitat. Although it is mature and quite diverse in species richness it is a relatively common habitat type.

9.3 Assessment of ecological Impacts

The results of ecological impact assessment given in Section 9.3 in Volume 1 of this Report are applicable to Scheme 2. Ecological impact assessments of the additional marine structures, the proposed schools and residential development in the Kong Shin Wan Tsuen village of Scheme 2 and the electric substation are provided in Sections 9.3.1 and 9.3.2 respectively

9.3.1 Additional Marine Structures

The marine structures along the artificial shoreline of Telegraph Bay will be constructed on piles to minimise disturbance to the seabed during construction and to maintain current flow through these structures. It is expected that the ecological impacts due to the marine structures will be minimal.

9.3.2 Schools and Residential Development at Kong Shin Wan Village

The proposed schools and residential development will be within the boundary of the present village area and will not encroach into the *Fung Shui* wood. Apart from the

Michelia alba (magnolia) which is protected under the Forests and Countryside Ordinance, no rare or sensitive fauna or flora species was recorded within the village area. Although protected, the plant *Michelia alba*, an introduced species is commonly found planted around village houses. The species is likely to be cultivated by the local villagers and the conservation status can be considered low. The village has been subjected to human influence and modification. The village area can be considered as having low ecological value. It is expected that the ecological impact due to the development of the site will be minimal.

Two other areas which may be of concern in relation to the schools and residential development in the village area are the stream that flows through the village and the surrounding woodland (the *Fung Shui* wood and the secondary woodland on the slopes of Kong Shin Wan Tsuen). Potential impact anticipated will be disturbance of the woodland during the construction and operation phase. The woodland is considered to have a high ecological value and mitigation measures will be required to ensure that disturbances to the surrounding woodland is minimised.

The exposed section of the stream that flows through the development site may possibly be covered over. The total length of the stream that is currently not covered over is approximately 250m. These sections of the stream within the village are in the form of man-made open nullah. Since the stream within the development site has already been modified by man and coupled with the poor water quality, the impact in relation to changes in habitats is considered to be minimal.

9.3.3 HEC Substation

The proposed substation will be built into an existing hillside at the south end of Telegraph Bay. The site will cover 0.26 ha. The site is in a secondary woodland area. Since the faunal and floral element were not identified to be rare and the size of the woodland to be affected is small. Potential impact anticipated is considered moderate. Compensatory tree planting will be carried out. Replanting and transplanting schemes would be devised during the detail design stage.

9.4 Mitigation Measure

The mitigation measures against the ecological impacts given in Section 9.4 in Volume 1 of this Report are applicable to Scheme 2. Since the development site is located close to the woodland, mitigation measures recommended in section 9.4 in Volume 1 specifically for the protection of woodland should also be applied to this area

9.5 Residual Impacts

The results of ecological impact assessment given in Section 9.5 in Volume 1 of this Report are applicable to Scheme 2. The residual impacts are considered minor.

9.6 Conclusion and Recommendations

The conclusion and recommendations given in Section 9.6 in Volume of this Report is generally applicable to Scheme 2. The area of woodland loss however, will be increased from 1 ha to 1.26 ha owing to the HEC's substation. Overall, with the implementation of the recommended mitigation measures, the residual ecological impacts will be acceptable