

Annex G

Tree Survey Data

CONTENTS

G1	TREE ASSESSMENT	1
G1.1	PURPOSE OF THE ASSESSMENT	1
G1.2	METHODOLOGY	1
G1.3	RESULTS OF TREE SURVEY	5
G1.4	PROPOSED TREATMENT TO THE EXISTING TREES (TREE FELLING PROPOSAL)	9
G1.5	COMPENSATORY PLANTING PROPOSAL	13
G1.6	SUMMARY	15

G1 TREE ASSESSMENT

G1.1 PURPOSE OF THE ASSESSMENT

This *Annex* presents the findings of the individual tree surveys conducted within the Development Site and within the Construction Works Boundary of the Sha Lo Tung Road Improvement. A separate tree survey and assessment report will be submitted for the tree felling application during the detailed design stage.

G1.2 METHODOLOGY

For the purpose of the Tree Surveys within the Development Site and Sha Lo Tung Road, the guidelines from Building Department Practice Note No. 267, AFCD nature Conservation Practice Note 02/2003 "Measurement of Diameter at Breast Height", ETWB Technical Circular No. 3/2006 and Lands Department Practice Note No. 7/2007 have been referred to since there is a mixture of private land and unleased government land. The conservation status of the plant species is referred to the *Forest and Countryside Ordinance* (Cap 96), the International Union for Conservation of Nature and Natural Resources (IUCN) Red List and the China Plant Red Data Book. A plant is considered as a tree if its girth (circumference of the trunk) measures 300 mm (95 mm DBH) or more at a height of 1300 mm above ground level. The tree survey identifies the following attributes of trees:

- Species of plant including the botanical name and common Name;
- Location;
- Height;
- Crown spread;
- Trunk diameter and circumference (measured 1.3 metre from the ground);
- Tree form;
- Health condition;
- Amenity value;
- Survival rate after transplantation;
- Conflict with development;
- Proposed treatment; and
- Brief description and remarks.

The above information on tree attributes of the Development Site and Sha Lo Tung Road is presented in a Tree Survey Schedule (*Appendices G-1 and G-2*), with tree numbers referring to the number marked on the tree survey plan (*Appendices G-3 and G-4*), as well as to the photographic records of individual

trees in *Appendices G-5 and G-6* respectively. The details of the parameters assessed (presented in the Tree Survey Schedule) are presented in *Table G1*.

Table G1 *Parameters Assessed and Presented in the Tree Survey Schedule*

Item	Column in <i>Appendices G1 and G-2</i>	Details
Tree number	A	An identification number given to each individual tree.
Species	B	Botanical Name and Common Name.
Co-ordinates of the trees	C & D	Northing and Easting coordinates of the trees in Hong Kong Grid.
Trunk diameter and Trunk circumference	E & F	In meters, measured with 3 m measuring tape at 1.3 m above ground level and computing the trunk circumference by assuming the cross section of trunk is circular. For details refer to the AFCD Nature Conservation Practice Note No. 02/2003.
Height	G	In metres, estimated from ground level to the crown of the tree.
Crown spread	H	In metres, estimated the distance between the most far away branches at the top of the tree.
Tree form	I	Graded as Good (G), Fair (F) or Poor (P).
Health condition	J	Graded as Good (G), Fair (F) or Poor (P).
Amenity value	K	Graded as High (H), Medium (M) or Low (L).
Survival rate after transplantation	L	Graded as High (H), Medium (M) or Low (L).
Conflict with development	M	Stated as "Yes-Buildings", "Yes-Road" or "No" for the Appendix G-1 and "Partially-Soil Nailing", "Yes-New Road Alignment/Cut Slope" or "No" for Appendix G-2
Proposed Treatment	N	Stated as either Retain, Fell or Transplant.
Brief comments and description	O	Brief description on tree characteristics such as insect and fungi infection on trunk etc to give more detailed information on the tree.

The Leisure and Cultural Services Department (LSCD), Agriculture, Fisheries and Conservation Department (AFCD) and Housing Department have identified some 500 Old and Valuable Trees (OVTs) on unleased Government land within built-up areas or tourist attractive spots in village areas. Built-up areas include both metro and new town areas but excluding country parks. The criteria used to define whether a tree is an OVT or not, are tree of large size, tree precious or rare species, tree of particularly old age, tree of cultural, historical or memorable significance and tree of outstanding form. Further details regarding identified OVTs can be found on the LSCD website at <http://oovt.lcsd.gov.hk/oovt/intro.jsp?lang=en>.

Aside from the assessment of tree form, health condition and amenity value, all of the criteria listed above are objective measurements (physical characteristic of the tree). The assessment of tree form, health and amenity

value require specific horticultural assessment and the criteria are listed in the following sections.

G1.2.1 *Assessment of Tree Form*

With consideration to the degree of balance, branching and the standard form of the species, the value of the tree form is summarized in *Table G2*.

Table G2 *Assessment Criteria for Tree Form*

Parameter	Category	Criteria
Tree form	Good	Trees with well balanced form, upright, evenly branching, well-formed head and generally in accordance with the standard form for its species.
	Fair	Trees with general balanced form and compensated by loss of branches or leaning trunks
	Poor	Trees with very unbalanced form, leaning, contorted, bending trunk, suffering from loss of major branches with general damage and growing close to adjacent trees.

G1.2.2 *Assessment of Health*

With consideration to the overall condition of the tree foliage, branches and trunk, health conditions of a tree are categorized according to the definitions presented in *Table G3*.

Table G3 *Assessment Criteria for Health*

Parameter	Category	Criteria
Health	Good	Tree with a low incidence of the less serious features (ie damage and infection) and a high chance of a fast recovery from such feature.
	Fair	Tree with a higher incidence of the less serious features (ie damage and infection) and a medium chance of recovery.
	Poor	Trees with more serious health features (ie damage and infection) and with low chance of recovery, even with remedial measures or, is dead.

G1.2.3 *Assessment of Amenity Value*

Amenity value is determined with reference to the size and maturity of the trees, tree form, health condition, scarcity, rarity, ecology and wildlife value, function, and unique characteristics of the individual tree. The definitions of amenity value of a tree are presented in *Table G4*.

Table G4 *Assessment Criteria for Amenity Value*

Parameter	Category	Criteria
Amenity value	High	Rare or protected species, fung shui significance or high visual impact with good health condition and form.
	Medium	Rare or protected species, fung shui significance or high visual impact with poor health condition and form. Common species with average health, medium condition and acceptable form.
	Low	Little or non-functional common species with poor health condition and poor form.

G1.2.4 *Survival Rate after Transplantation*

With consideration of overall condition of tree size, age, health condition, site condition (whether the substratum is soil or rock), branching condition and growth rate, survival rates after transplantation are categorized according to the definitions presented in *Table G5*.

Table G5 *Assessment Criteria for Survival Rate after Transplantation*

Parameter	Category	Criteria
Survival rate after transplantation	High	Tree in healthy condition, with optimal site condition for rootball formation and high chance of a fast recovery from transplantation.
	Medium	Tree with a higher incidence of the less serious features (ie damage and infection), high chance of complete rootball formation and a medium chance of recovery.
	Low	Trees with more serious health features (ie damage and infection), low chance of complete rootball formation, old in age and with low chance of recovery, even with remedial measures.

G1.2.5 *Conflict with the Development*

The location of the trees within the boundary of the Construction Works may be in conflict with the proposed construction works. This is highlighted for each identified tree in *Appendices G-3*.

G1.2.6 *Recommendation for Tree Treatment (Proposed Treatment)*

In general, the following definitions are followed with regard to the recommendations for the treatment of each tree:

G1.2.7 *Retain*

Trees outside the construction works boundary or of overall good condition are recommended to be retained and will be protected during construction. The feasibility of retaining a tree has been considered with regard to the following:

- In overall good condition including medium amenity value, in good tree form or native species, etc;
- Potential damage to the trees as a result of the work;
- Special contribution to maintain the existing ground; and
- Conflict between tree roots and slope stabilization method.

G1.2.8 *Transplant*

Trees with high amenity value are recommended to be transplanted if they cannot be retained. Trees approved to be transplanted will be relocated to a suitable location before the commencement of the construction work according to approval conditions of Government Departments.

In situations where it is not practical or feasible to retain the tree, then trees are considered for transplantation. The assessment of transplanting trees is based on the following information:

- Rarity of the species or protected by Hong Kong laws;
- Distinctiveness – trees with high amenity value and high local importance eg fung shui;
- Condition of tree – tree with balanced form, good health and high amenity value;
- Maturity – younger trees have higher survival rate than mature ones;
- Species characteristics – different tree species have different rates of survival after transplantation;
- Rootball feasibility – tree growing on loose rocky subbase/slope or adjacent to important utility will not be considered; and
- Access – heavy machinery may be required to lift up the tree. Steep slope and rocky terrain may make the operation impossible.

G1.2.9 *Fell*

Trees in conflict with the proposed development will be felled. The guidance and criteria for the proposed felling of trees are:

- No irreplaceable rare tree species involved;
- Felling of trees would not cause a serious environmental impact;
- The location of the tree is in conflict with the major development;
- A genuine development or traffic need to fell exists, which cannot be reasonably overcome;
- Compensatory planting/replanting to Government satisfaction in all tree felling cases;
- The tree is not unusually large or a fine example of its type; and
- The tree is in poor condition.

G1.3 *RESULTS OF TREE SURVEY*

G1.3.1 *Development Site*

The tree surveys within the Tree Survey Boundary including the whole Development Site were carried out during January, February and August 2006, February 2007, June and July 2009. A detailed description of each tree is given in the Tree Survey Schedule in *Appendix G-1* and the locations of each

individual tree within the site boundary are shown in Tree Survey Plan (Appendix G-3), whilst photographic records of individual trees are shown in Appendix G-5.

A total of 499 trees were recorded during the tree survey, in which 188 trees recorded within the boundary of the Development Site. It should be noted that the total number of trees included a section of Sha Lo Tung Road (approximately 350 m) located within the Development Site. The tree species were dominated by native fast growing tree species *Schima superba* accompanied by a few native tree species such as *Schefflera heptaphylla*, *Castanopsis fissa* and *Ilex ficoidea* (Appendix G-1). The relative abundance of each tree species is summarized in Table G6.

Table G6 *The Relative Abundance of Recorded Tree Species during Tree Survey*

Species	Origin	Status in Hong Kong	Total Number of Individuals within the Tree Survey Boundary
<i>Schima superba</i>	Native	Common	256
<i>Schefflera heptaphylla</i>	Native	Very common	61
<i>Ilex ficoidea</i>	Native	Common	28
<i>Castanopsis fissa</i>	Native	Common	21
<i>Ficus hispida</i>	Native	Very common	12
<i>Acronychia pedunculata</i>	Native	Very common	11
<i>Machilus chinensis</i>	Native	Common	10
<i>Symplocos cochinchinensis var. laurina</i>	Native	Common	9
<i>Glochidion hirsutum</i>	Native	Common	8
<i>Phyllanthus emblica</i>	Native	Very common	5
<i>Glochidion lanceolarium</i>	Native	Common	5
<i>Sterculia lanceolata</i>	Native	Very common	5
<i>Alangium chinense</i>	Native	Common	3
<i>Rhus succedanea</i>	Native	Very common	4
<i>Syzygium championii</i>	Native	Very common	4
<i>Aporosa dioica</i>	Native	Very common	3
<i>Acacia confusa</i>	Exotic	Very common	2
<i>Carica papaya</i>	Exotic	Common	2
<i>Choerospondias axillaris</i>	Native	Common	2
<i>Cinnamomum camphora</i>	Native	Very common	2
<i>Ficus variegata</i>	Native	Very common	2
<i>Glochidion wrightii</i>	Native	Common	2
<i>Litsea glutinosa</i>	Native	Very common	2
<i>Ormosia pachycarpa</i>	Native	Restricted	2
<i>Ormosia semicastrata</i>	Native	Common	2
<i>Viburnum odoratissimum</i>	Native	Common	2
<i>Bridelia tomentosa</i>	Native	Very common	1
<i>Celtis sinensis</i>	Native	Common	1
<i>Cryptocarya chinensis</i>	Native	Common	1
<i>Ficus virens</i>	Native	Very common	1
<i>Garcinia oblongifolia</i>	Native	Common	1
<i>Glochidion puberum</i>	Native	Common	1

Species	Origin	Status in Hong Kong	Total Number of Individuals within the Tree Survey Boundary
<i>Liquidambar formosana</i>	Native	Very common	1
<i>Melaleuca quinquenervia</i>	Exotic	Very common	1
<i>Musa x paradisiaca</i>	Exotic	Common	1
<i>Zanthoxylum myriacanthum</i>	Native	Common	1
Dead Tree			24
		Total	499

Most of the trees are native tree species of secondary woodland in a mature successional stage. None of the surveyed trees were registered as an Old and Valuable Tree (OVT) or potentially registrable as old and valuable trees (Potentially Registrable Trees) or as protected by law or rare or endangered tree species. All the tree species are common or very common in Hong Kong except *Ormosia pachycarpa* which is restricted, listed in the 'Rare and Precious Plants of Hong Kong' and considered as tree species of conservation interest. All of the trees are between 2 and 15 metres in height, of average 8 meters, whilst crown spread was on average 5 meters. Some of the tree species especially *Schima superba*, *Schefflera heptaphylla*, *Ilex ficoidea* and *Castanopsis fissa* have reached maturity and they are of medium to high in amenity value. Most of the trees are generally in healthy condition but overcrowded so that the tree forms are poor to fair. All of the identified trees would have medium to low survival rate after transplantation as most are located in an area of steep slope such that there are technical difficulties to form a complete rootball for transplantation. The understorey was relatively bare with some climbers and shrubs such as *Litsea rotundifolia*, *Psychotria rubra*, *Ficus microcarpa* and *Gnetum luofuense*.

G1.3.2 Road Improvement Works

The tree survey within Sha Lo Tung Road was carried out during March, April and December 2007, January 2008, June and July 2009. A detailed description of each tree is given in the Tree Survey Schedule in *Appendix G-2* and the locations of each individual tree within the site boundary are shown in Tree Survey Plan (*Appendix G-4*), whilst photographic records of individual trees are shown in *Appendix G-6*.

A total of 673 trees were recorded within the boundary of the Sha Lo Tung Road Improvement during the tree survey. The tree species were dominated by native fast growing tree species *Schima superba* accompanied by a few native tree species such as *Schefflera heptaphylla*, *Garcinia oblongifolia* and *Cinnamomum camphora* (*Appendix G-2*). The relative abundance of each tree species is summarized in *Table G7*.

Table G7 **The Relative Abundance of Recorded Tree species within the boundary of Sha Lo Tung Road**

Species	Origin	Status in Hong Kong	Total Number of Individuals
<i>Schima superba</i>	Native	Common	416
<i>Schefflera heptaphylla</i>	Native	Very common	45
<i>Acacia confusa</i>	Exotic	Very common	23
<i>Aquilaria sinensis</i>	Native	Protected	20
<i>Garcinia oblongifolia</i>	Native	Common	20
<i>Cinnamomum camphora</i>	Native	Very common	19
<i>Pinus elliotii</i>	Exotic	Common	15
<i>Endospermum chinense</i>	Native	Restricted	10
<i>Alangium chinense</i>	Native	Common	8
<i>Acronychia pedunculata</i>	Native	Very common	7
<i>Machilus breviflora</i>	Native	Common	8
<i>Aporosa dioica</i>	Native	Very common	6
<i>Lophostemon confertus</i>	Exotic	Common	6
<i>Canthium dicoccum</i>	Native	Common	5
<i>Phyllanthus emblica</i>	Native	Very common	5
<i>Celtis sinensis</i>	Native	Common	5
<i>Ficus variegata</i>	Native	Very common	4
<i>Ficus hispida</i>	Native	Very common	3
<i>Bridelia tomentosa</i>	Native	Very common	3
<i>Leucaena leucocephala</i>	Exotic	Very common	3
<i>Artocarpus styracifolius</i>	Native	Restricted	2
<i>Cassia fistula</i>	Exotic	Common	2
<i>Cerbera manghas</i>	Native	Common	2
<i>Ficus microcarpa</i>	Native	Very common	2
<i>Glochidion macrophylla</i>	Native	Common	2
<i>Glochidion zeylanicum</i>	Native	Common	2
<i>Litsea cubeba</i>	Native	Common	2
<i>Macaranga tanarius</i>	Native	Very common	2
<i>Mallotus paniculatus</i>	Native	Common	2
<i>Melia azedarach</i>	Exotic	Common	2
<i>Syzygium levinei</i>	Native	Common	2
<i>Viburnum odoratissimum</i>	Native	Common	2
<i>Acacia mangium</i>	Exotic	Common	1
<i>Archidendron clypearia</i>	Native	Common	1
<i>Casuarina equisetifolia</i>	Exotic	Very common	1
<i>Dimocarpus longan</i>	Exotic	Common	1
<i>Helicia cochinchinensis</i>	Native	Common	1
<i>Microcos paniculata</i>	Native	Common	1
<i>Mussaenda pubescens</i>	Native	Common	1
<i>Rhus succedanea</i>	Native	Very Common	1
<i>Scolopia chinensis</i>	Native	Common	1
<i>Syzygium hancei</i>	Native	Very common	1
<i>Terminalia catappa</i>	Exotic	Very common	1
Dead Tree	-	-	7
Total			673

Most of the trees found in the secondary woodland (approximately over 30 years old) located at the west of Sha Lo Tung Road were native, while those found in the plantation located at the east of Sha Lo Tung Road were mainly exotic. Climbers were found smothering some of the trees, especially in the secondary woodland, which resulted in poor tree form and/or health condition of the affected trees. Most of the native tree species especially *Schima superba* and *Cinnamomum camphora* have reached maturity. Some of them showed poor tree form due to overcrowding impeding their growth. The understorey of secondary woodland was densely occupied by some native shrubs species including *Litsea rotundifolia* and *Psychotria rubra*.

None of the surveyed trees were registered as an Old and Valuable Tree (OVT) or potentially registrable as old and valuable trees (Potentially Registrable Trees) or as protected by law in Hong Kong. No rare or endangered tree species were recorded except a tree species of conservation interest, Incense Tree *Aquilaria sinensis*, which is protected in the People's Republic of China (PRC). All of the trees were between 1.5 and 18 metres in height, of average 9 meters, whilst crown spread was on average 5 meters.

The survival rate of surveyed trees after transplantation, in particular the native tree species, is expected to be low due to the steep terrain of the site, which may result in difficulties to form a complete rootball during transplantation.

G1.4 ***PROPOSED TREATMENT TO THE EXISTING TREES (TREE FELLING PROPOSAL)***

G1.4.1 ***Development Site***

Efforts have been made by the Project Team to minimize the number of trees to be disturbed by the development through the consideration of modifications to the Master Layout Plan (details refer to *Section 3*), which are summarised as follows:

- Provision of a minimum additional 20 m wide non-building buffer from the Sha Lo Tung SSSI to preserve the existing trees in the secondary woodland;
- Maximising the utilisation of the existing profile and natural topography so as to minimize the disturbance to existing trees by construction runoff and vegetation removal;
- Location of facilities away from the secondary woodlands within Sha Lo Tung SSSI and stream, so as to minimise the disturbance to existing trees;
- Proposed Master Layout Plan with the least impacts towards the existing trees in the secondary woodland (in particularly the mature individuals); and
- Minimising the footprint of the temporary access road within the Development Site.

Big and mature trees have been avoided by relocating the infrastructure within the Development Site. However, there is the unavoidable need for construction of infrastructure within the Development Site. In view of the conflict with the construction work and the rough terrain of the Development Site, the impacted trees within the Development Site are required to be removed through felling or transplantation to non-impacted areas or, where possible, retained on site (*Appendix G-3*). The recommendations on the existing trees within the Development Site as a result of the tree survey are listed in detail in the Tree Survey Schedule and are summarized in *Table G8*.

Table G8 *Proposed Treatment for the Recorded Tree species within the Tree Survey Boundary (Bolded - Hairy Fruited Ormosia Tree Ormosia pachycarpa is considered as Tree Species of Conservation)*

Species	Proposed Treatment		
	Fell	Retain	Transplant
<i>Acacia confusa</i>		2	
<i>Acronychia pedunculata</i>		11	
<i>Alangium chinense</i>		3	
<i>Aporosa dioica</i>	2	1	
<i>Bridelia tomentosa</i>	1		
<i>Carica papaya</i>		2	
<i>Castanopsis fissa</i>		21	
<i>Celtis sinensis</i>		1	
<i>Choerospondias axillaris</i>		2	
<i>Cinnamomum camphora</i>		2	
<i>Cryptocarya chinensis</i>		1	
<i>Ficus hispida</i>	4	8	
<i>Ficus variegata</i>		2	
<i>Ficus virens</i>		1	
<i>Garcinia oblongifolia</i>		1	
<i>Glochidion hirsutum</i>	1	7	
<i>Glochidion lanceolarium</i>	2	3	
<i>Glochidion puberum</i>	1		
<i>Glochidion wrightii</i>	2		
<i>Ilex ficoidea</i>		28	
<i>Liquidamber formosana</i>	1		
<i>Litsea glutinosa</i>		2	
<i>Machilus chinensis</i>		10	
<i>Melaleuca quinquenervia</i>		1	
<i>Musa x paradisiaca</i>		1	
<i>Ormosia pachycarpa</i>		2	
<i>Ormosia semicastrata</i>		2	
<i>Phyllanthus emblica</i>	2	3	
<i>Rhus succedanea</i>	1	3	
<i>Schefflera heptaphylla</i>	3	58	
<i>Schima superba</i>	14	242	
<i>Sterculia lanceolata</i>		5	
<i>Symplocos cochinchinensis var. laurina</i>	1	8	
<i>Syzygium championii</i>		4	

Species	Proposed Treatment		
	Fell	Retain	Transplant
<i>Viburnum odoratissimum</i>		2	
<i>Zanthoxylum myriacanthum</i>		1	
Dead Tree	2	22	
Total	37	462	

Of the total of 499 trees surveyed, 35 (2 dead trees not included) are recommended to be felled while 462 individuals will be retained. The tree species of conservation interest Hairy Fruited Ormosia Tree *Ormosia pachycarpa* is recommended to be retained. Among the 35 trees to be felled, the loss of 10 trees (2 dead trees excluded) are due to the site formation for the development, including the Nature Interpretation Centre, Multi-Cultural Education Retreat cum Columbarium, and the remaining 25 trees are due to the Sha Lo Tung Road Improvement (approximately 350 m) located within the Development Site.

It should be noted that the assessment has taken into account all of the footprint areas required for the construction site formation, not just the Master Layout Plan. All of the trees recommended to be felled were located on slopes where it was technically not feasible to conduct transplantation for formation of complete rootball and ensure the survival rate of transplanted trees. In addition, trees located on slopes were overcrowded so the formation of a rootball of sufficient size (approximately 10 times the trunk DBH) was not feasible and may disturb the roots of other trees in close proximity. None of the trees proposed to be felled within the Development Site are OVTs or of high amenity value. To compensate for the proposed tree felling, the Project will include a compensatory planting proposal to be implemented as shown in the following section.

G1.4.2 Road Improvement Works

Effort has been made by the Project Team to reduce the number of trees to be impacted (details refer to *Section 3*), which is summarised as follows:

- The new vertical road profile will mainly follow the existing profile so as to reduce the disturbance to the existing trees;
- The road would be widened mainly by cutting the eastern uphill slope to avoid the dense trees identified at the west of the road; and,
- Disturbance to existing trees on soil nailing areas along the road will be avoided.

A balance has been made between the preservation of trees and the concern of road safety of Sha Lo Tung Road, taking into consideration the minimum requirement of road width, the need for a pedestrian path and the adequacy of passing bays along the Road. In view of the conflict with the improvement works along Sha Lo Tung Road and the steep slopes at both sides, approximately 301 trees within the new road alignment and cut slope areas may be affected (*Appendix G-4*). It should be noted that a further 219

identified trees are located within the potential soil nailing areas and their impacts from soil nailing work could be avoided after detailed site investigation.

Of the total of 673 trees surveyed, 301 (of which 2 are dead trees) are recommended to be felled while 368 individuals will be retained and four individuals will be transplanted. Among the 301 trees to be felled, all of them were located on slopes where it was technically not feasible to conduct transplantation for formation of complete rootball and ensure the survival rate of transplanted trees. In addition, trees located on slopes were overcrowded so the formation of a rootball of sufficient size (approximately 10 times the trunk DBH) was not feasible and may disturb the roots of other trees in close proximity. None of the trees proposed to be felled within the Sha Lo Tung Road Improvement area are OVTs or of high amenity value. The plant species of conservation interest Incense Tree *Aquilaria sinensis* is either recommended to be retained (16 individuals) or transplanted (4 individuals) to a non-impacted area. To compensate for the proposed tree felling, the Project will include a compensatory planting proposal to be implemented as shown in the following section.

Table G9 Proposed Treatment for the Recorded Tree species along the Sha Lo Tung Road (Bolded - Incense Tree *Aquilaria sinensis* is considered as Tree Species of Conservation)

Species	Proposed Treatment		
	Fell	Retain	Transplant
<i>Acacia confusa</i>	22	1	
<i>Acacia mangium</i>	1		
<i>Acronychia pedunculata</i>	3	4	
<i>Alangium chinense</i>	5	3	
<i>Aporosa dioica</i>	4	2	
<i>Aquilaria sinensis</i>		16	4
<i>Archidendron clypearia</i>		1	
<i>Artocarpus styracifolius</i>		2	
<i>Bridelia tomentosa</i>	3		
<i>Canthium dicoccum</i>	3	2	
<i>Cassia fistula</i>	1	1	
<i>Casuarina equisetifolia</i>	1		
<i>Celtis sinensis</i>	4	1	
<i>Cerbera manghas</i>		2	
<i>Cinnamomum camphora</i>	9	10	
<i>Dimocarpus longan</i>	1		
<i>Endospermum chinense</i>	4	6	
<i>Ficus hispida</i>	1	2	
<i>Ficus microcarpa</i>	2		
<i>Ficus variegata</i>	3	1	
<i>Garcinia oblongifolia</i>	3	17	
<i>Glochidion macrophylla</i>	2		
<i>Glochidion zeylanicum</i>		2	
<i>Helicia cochinchinensis</i>		1	
<i>Leucaena leucocephala</i>		3	
<i>Litsea cubeba</i>	2		

Species	Proposed Treatment		
	Fell	Retain	Transplant
<i>Lophostemon confertus</i>	6		
<i>Macaranga tanarius</i>	1	1	
<i>Machilus breviflora</i>	3	5	
<i>Mallotus paniculatus</i>	2		
<i>Melia azedarach</i>	2		
<i>Microcos paniculata</i>	1		
<i>Mussaenda pubescens</i>	1		
<i>Phyllanthus emblica</i>		5	
<i>Pinus elliottii</i>	15		
<i>Rhus succedanea</i>		1	
<i>Schefflera heptaphylla</i>	21	24	
<i>Schima superba</i>	169	247	
<i>Scolopia chinensis</i>	1		
<i>Syzygium hancei</i>	1		
<i>Syzygium levinei</i>	1	1	
<i>Terminalia catappa</i>	1		
<i>Viburnum odoratissimum</i>		2	
Dead Tree	2	5	
Total	301	368	4

G1.5 COMPENSATORY PLANTING PROPOSAL

G1.5.1 Development Site

The Compensatory Planting Proposal has taken into consideration the immediate greening effect of the disturbed area and proper location of the planting of trees.

Some of the affected trees, such as *Ficus variegata*, *Ficus hispida* and *Acronychia pedunculata*, are native tree species and are not commercially available in the market. Those species are therefore recommended to be replaced by commercially available native trees species including *Celtis sinensis*, *Schefflera heptaphylla*, *Liquidambar formosana* and *Schima superba* for the compensatory planting. In view of loss of native tree species, the loss of 35 trees (within the Development Site, including a section of approximately 350 m of Sha Lo Tung Road) will be compensated on-site by planting native heavy standard size tree at a ratio of minimum 3:1, which shall total 105 heavy standard size trees. The exact number of compensatory trees will subject to results of Tree Felling Application.

This provides 29 more trees than the loss of aggregate DBH of felled trees (The aggregate DBH of the felled trees was 7.52 m (dead trees excluded) and if they would have been compensated by heavy standard size trees with 0.1m in DBH, then a total of 76 heavy standard size trees would have been required for compensation planting). The native tree species *Schima superba* was recorded as the dominant tree species within the Development Site and will be the dominant tree species to be felled. It is recommended to maintain the dominant percentage of *Schima superba* in the compensatory planting proposal to 25%. The proposed planting matrix is presented in *Table G.10*.

The arrangement of the on-site compensatory tree planting, ie tree mix and exact location, will be subject to the detailed landscape design. The newly planted trees will be maintained by the Contractor for 24 months after planting and any dead trees found during the maintenance period will be replaced by healthy plants of the same species and same size.

Table G10 *Proposed Native Species to be Used for Compensatory Planting for The Development Site*

Species	% to be Planted	Size	Planting Distance
<i>Castanopsis fissa</i>	9.5	Heavy standard	4.5 m apart
<i>Ficus microcarpa</i>	9.5	Heavy standard	4.5 m apart
<i>Liquidamber formosana</i>	9.5	Heavy standard	4.5 m apart
<i>Schefflera heptaphylla</i>	9.5	Heavy standard	4.5 m apart
<i>Schima superba</i>	33.5	Heavy standard	4.5 m apart
<i>Cinnamomum camphora</i>	9.5	Heavy standard	4.5 m apart
<i>Camellia hongkongensis</i>	9.5	Heavy standard	4.5 m apart
<i>Cinnamomum bumanni</i>	9.5	Heavy standard	4.5 m apart

G1.5.2 *Sha Lo Tung Road Improvement Work*

In view of native plant species to be lost, the loss of 301 trees due to the Sha Lo Tung Road Improvement (excluding the section located within the Development Site) will be mitigated by compensatory planting at a minimum ratio of 3:1, which shall be in total 903 standard or light standard size trees (standard size trees will be planted on sloping terrain as they have better survival rate after planting and establish faster). This provides 239 more trees than the loss of aggregate DBH of felled trees (The aggregate DBH of the felled tree was 66.36 m and if they would have been compensated by heavy standard size tree with 0.1m in DBH, then a total of 664 heavy standard size trees would have been required for compensation planting). The exact number of compensatory trees will subject to the results of Tree Felling Application.

No trees are assumed to be affected by the soil nailing works; and this will be confirmed after detailed site investigation and review of the requirement of soil nailing. The compensatory planting of 903 trees will be planted on-site, either at the new cut slope along the road or within the Development Site or the Ecological Reserve. The native tree species *Schima superba* was recorded as the dominant tree species within the road improvement work areas and will be the dominant tree species to be felled, it is recommended to maintain the dominant percentage of *Schima superba* in the compensatory planting proposal to 25%.

The proposed planting matrix is presented in *Table G11*. The arrangement of the on-site compensatory tree planting, ie tree mix and exact location, will be subject to the detailed landscape design. It is noted that the terrain is such that heavy standard trees may not be a feasible size to use along the road and hence light standard size trees will be used instead and the exact number of light standard size trees to be used will be determined in the detailed landscape design. The newly planted trees will be maintained by the

Contractor for 24 months after planting and any dead trees found during the maintenance period will be replaced by healthy plants of the same species and same size.

Table G11 *Proposed Native Species to be Used for Compensatory Planting for the Sha Lo Tung Road Improvement*

Species	% to be Planted	Size	Planting Distance
<i>Castanopsis fissa</i>	12.5	Heavy standard	4.5 m apart
<i>Liquidamber formosana</i>	12.5	Heavy standard	4.5 m apart
<i>Schefflera heptaphylla</i>	12.5	Heavy standard	4.5 m apart
<i>Schima superba</i>	25	Heavy standard	4.5 m apart
<i>Cinnamomum camphora</i>	12.5	Heavy standard	4.5 m apart
<i>Camellia hongkongensis</i>	12.5	Heavy standard	4.5 m apart
<i>Cinnamomum bumanni</i>	12.5	Heavy standard	4.5 m apart

G1.6 SUMMARY

G1.6.1 Development Site

A Tree Survey has been conducted to record the abundance, species name, location, trunk diameters and circumference, height, crown spread, tree form, health condition and amenity value of the trees found within the Development Site. A total of 499 individual trees were found (in which 188 trees located within the Development Site), most of which are native secondary woodland plants and dominated by a few native tree species including *Schima superba*, *Schefflera heptaphylla*, *Castanopsis fissa* and *Ilex ficoidea*. Most of the trees have reached maturity but due to overcrowding they were recorded in poor to fair tree form with low to medium amenity value. 35 of them (2 dead trees excluded) were recommended to be felled and 462 of them were proposed to be retained onsite. The tree species of conservation interest Hairy Fruited Ormosia Tree *Ormosia pachycarpa* is recommended to be retained. None of the trees proposed to be felled within the Development Site are OVTs or of high amenity value. The felled trees will be compensated by planting heavy standard size tree at 3:1 ratio. The newly planted trees will be maintained by the Contractor for 24 months after planting.

G1.6.2 Road Improvement Works

A Tree Survey has been conducted to record the abundance, species name, location, trunk diameters and circumference, height, crown spread, tree form, health condition and amenity value of the trees found along the Sha Lo Tung Road. A total of 673 individual trees were found, most of which are native secondary woodland plants and dominated by a few native tree species including *Schima superba*, *Schefflera heptaphylla* and *Cinnamomum camphora*. Most of the trees have reached maturity but due to overcrowding they were recorded in poor to fair tree form with low to medium amenity value.

301 of them may require to be felled, 368 of them were proposed to be retained on site and 4 of them will be transplanted to non-impacted areas. None of

the trees proposed to be felled within the Sha Lo Tung Road Improvement area are OVTs or of high amenity value. The plant species of conservation interest Incense Tree *Aquilaria sinensis* is either recommended to be retained (16 individuals) or transplanted (4 individuals) to a non-impacted area. The felled trees will be compensated by planting heavy standard size tree (light standard size trees will be used on sloping terrain) at a 3: 1 ratio.

The compensatory planting will be conducted on-site, either at the new cut slope along the road or within the Development Site or the Ecological Reserve. The newly planted trees will be maintained by the Contractor for at 24 months after planting.