

Appendix B Tree Survey Report



Tree Survey for DD219 Hing Keng Shek House

Tree Survey Report

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AMA

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1. Introduction

A Tree Survey was conducted to study the general conditions of the existing trees located at DD219 <u>Hing Keng Shek House</u> (the Site thereafter) on 26/10/2024. The objectives of this tree survey are to record and assess the existing trees and plants that with a DBH of at least 95 mm or greater measured at 1.3 m above ground level within the survey area in accordance to the Government's technical circulars, related publications and professional practices, so as to provide the information for the preservation and protection of these existing trees.

2. General description of the surveyed tree

 $\underline{27}$ trees were included in the tree survey of the Site. The trees within site are commonly planted or widely distributed tree species in urban parks, country side or roadside. The amenity value is mainly Low to Medium, form, health, structure of the surveyed trees is mostly Poor to Average.

A total of <u>14</u> nos. of tree species of 26 living trees were recorded during the survey, while there were 1 standing dead tree with unknown species found. No tree was found to be the registered Old and Valuable Trees, or being Rare or Precious Species. For details, please refer to Tree Survey Schedule.

<u>Table 1 Summary of Status</u>		
SCIENTIFIC NAME	CHINESE NAME	No.
Juniperus chinensis 'Kaizuca'	龍柏	9
Aporosa dioica	銀柴	1
Araucaria columnaris	柱狀南洋杉	1
Dimocarpus longan	龍眼	1
Dypsis lutescens	散尾葵	1
Ficus binnendijkii	阿里垂榕	2
Ficus nervosa	凸葉榕(九丁樹)	1
Ficus tinctoria	斜葉榕	1
Litchi chinensis	荔枝	1
Mangifera indica	芒果	2
Plumeria rubra	雞蛋花	1
Psidium guajava	番石榴	1
Schefflera heptaphylla	鵝掌柴	2
Sterculia lanceolata	假蘋婆	2
Dead tree	死樹	1
	Total	27

Table 1 Summary of status



3. References

Ordinances and Circulars

The Law of Hong Kong Chapter 96 The Law of Hong Kong Chapter 586

ETWB TCW No. 11/2004

ETWB TCW No. 5/2005

AFCD, Nature Conservation Practice Note No. 02 (Rev. Jun 2006) DEVB TC(W) No. 3/2012

DEVB TC(W) No. 6/2015

DEVB TC(W) No. 5/2017 Lands Department Practice Note No. 6/2023

GLTMS, DevB (2023)

Landscape Unit, Highways Department (2020 version)

DEVB TC(W) No. 04/2020 DEVB TC(W) No. 05/2020

Publications

AFCD (2012)

HU, Q. et al (2003)

Jim, C.Y. (1994).

Webb, R. (1991).

Forest and Countryside Ordinance

Protection of Endangered Species of Animals and Plants Ordinance

Cyber Manual for Greening

Protection of Natural Streams / Rivers from Adverse Impacts Resulting from Construction Works

Measurement of Diameter at Breast Height (DBH)

Site Coverage of Greenery for Government Building Projects

Maintenance of Vegetation and Hard Landscape Features

Community Involvement in Planting Works

Processing of Tree Preservation and Removal Proposals for Building Development in Private Projects - Compliance with Tree Preservation Clause under Lease Guidelines for Tree Risk Management and Management Assessment (10th Edition)

Requirements for Handover of Vegetation to Highways Department (2020 version).

Tree Preservation Registration and Preservation of Old and Valuable Trees

Check List of Hong Kong Plants 2012. AFCD, Hong Kong Rare and Precious Plants of Hong Kong. AFCD, Hong Kong

Champion Trees in Urban Hong Kong. Urban Council, Hong Kong

Tree Planting and Maintenance in Hong Kong. Standing Interdepartmental Landscape Technical Group, Hong Kong SAR Government, Hong Kong



Appendix I

Tree Assessment Methodology



Appendix I Tree Assessment Methodology

Within the boundary of the site, all existing individual trees with a trunk diameter larger than 95mm (300mm girth) measured 1300mm above ground level are surveyed in accordance with DEVB TC(W) No. 4/2020. The assessment will be conducted by a personnel/personnels fulfilling the requirements of Inspection Officer as stipulated in the latest edition of 'Guidelines on Tree Risk Assessment and Management Arrangement' issued by the GLTMS of DEVB. Each tree was allocated and tagged with a tree number, and its position is plotted on plans. They were then identified in different species. Measurements were taken for its trunk diameter, height and spread, with a photograph taken. This report includes the following information on each tree surveyed:

The following information about each tree surveyed is included in The Tree Assessment Schedule in Appendix I:

The Existing Individual Tree Assessment Schedule presents the following information:

- a) Tree number (numbers allocated to individual trees & OVT number; if any);
- b) Tree species name (Scientific name and Chinese common name);
- c) Height (m);
- d) Trunk diameter at 1.3m above the ground level (mm);
- e) Crown spread (m);
- f) Amenity value (High/ Medium/ Low);
- g) Form (Good/Average/Poor);
- h) Health condition (Good/Average/Poor);
- i) Structural condition (Good/Average/Poor);
- j) Suitability for transplanting (High/ Medium/ Low);
- k) Remarks;
- I) Conservation status;
- m) Additional Remarks (special features and significant defects of the tree).

Each tree was evaluated in terms of Health Condition, Form, Amenity Value, Suitability for transplanting and Recommendation, which was based on the followings:

Amenity Value of a tree should be assessed by its functional values for shade, shelter, screening, reduction of pollution and noise and also its fung shui significance, and classified into the following categories:

High (H) - important trees which should be retained by adjusting the design layout accordingly; **Medium (M)** - trees that are desirable to be retained in order to create a pleasant environment, which includes healthy specimens of lesser importance than "Good" trees;

Low (L) - trees that are dead, dying or potentially hazardous and should be removed.

Form is graded in accordance with the following:

Good (F) - Trees with well-balanced form, upright, evenly branching, well-formed head and generally in accordance with the standard form for its species can be graded Good;

Average (A) - Trees with generally balanced form with natural compensations for loss of branches



or leaning trunks for example can be graded Average;

Poor (P) - Trees with very unbalanced form, leaning, suffering loss of major branches with general damage and growing close to adjacent trees can be graded Poor.

Health condition

Each selected tree was evaluated in accordance with the following criteria and considerations: **Good (G)** – A sound and healthy tree;

Average (A) - Trees which are with few or no visible defects or health problem;

Poor (P) - Rot and / or cavities in the main trunk and / or crown die back, severely infected with disease.

Foliage

- evidence of "poor leaf color and small leaf size [which] may indicate damage of roots" (Ref. R. Webb);
- evidence of insect or fungal infections in leaves:
- evidence of leaf damage owing to typhoons (although it is recognized that trees are usually able to recover from this within one growing season).

Twigs

- evidence of "poor shoot growth and die-back of twigs in the crown are often symptoms of root problems caused by a change in the water table level or soil compaction resulting from site development work" (Ref. R Webb);
- evidence of insect and fungal infections on the twigs and branches;
- evidence of twig damage particularly if the tree had been made unbalanced.

Branches

- dead or crossing branches;
- evidence of "heavy horizontal branches [which] may make the tree unstable" (Ref. R. Webb);
- the presence of broken, damaged or cut branches as a possible site for infections;
- evidence of damaged branches which may make the tree unbalanced or unstable;
- "an edge tree exposed as a result of the removal of adjacent trees often [which] has an unbalanced crown and may be hazardous" (Ref R. Webb).

Trunk

- "tightly forked trunks [which] are a source of weakness in the tree as in high winds the tree can be torn apart" (Ref R. Webb);
- evidence of "cavities or internal rot [which] can be revealed by discolored bark, moisture seeping through the bark or bracket fungi" (Ref R. Webb);
- open cavities and bark damage.

Parasitism / Tangling

- Occurrence of aggressive climbers, parasitic plants;
- Evidence of serious competition between closely located trees tangling.

Structural Condition

Good (G) - Trees with no or little sign of structural defect and would have low risk level of potential failure;

Average (A) - Trees with moderate sign of structural defect and would have medium risk level of potential failure; and

Poor (P) - Trees with significant and obvious sign of structural defect and would have high risk level of potential failure.



Suitability for transplanting

In order to be considered successfully transplanted, a tree must maintain good health throughout and after the transplantation process AND must at no time be structurally unstable or present any threat to public safety. The assessment of the suitability after transplanting of a tree is based on the following factors:

- **The size of the tree**: Generally the larger and older a tree is, the more difficult it is to transplant successfully (Trees with a DBH of over 250mm will incur significantly higher costs, trees with a DBH of over 500mm will incur very high costs and trees with a DBH of over 700mm are rarely considered feasible for transplantation).
- **The health of the tree**: If the tree is already in poor health it is highly unlikely to withstand the stress of transplantation. By the same token, a tree that has a balanced form and is in good health has a higher feasibility of successful transplantation.
- **The survival rate of that particular species:** Some species are much more tolerant of the stress of transplantation than others. The assessment of the survival rate of a species after transplantation is based on the observed performance of that species in previous transplantation programmes. Species with insufficient transplantation data are assumed to have a low survival rate.
- **Feasibility of root-ball preparation:** Site topography, the proximity of above and below ground utilities and whether the tree is crowded by other trees are all major factors determining the feasibility of preparing a sufficiently large root-ball for successful transplantation;
- Root Extent: A tree growing in rocky ground, surrounded by hard paving or which is crowded by other trees is likely to have a distorted root system seriously reducing the feasibility of preparing a sufficiently large root-ball for successful transplantation;
- Accessibility: Large machinery is required to lift trees so steep slopes and rocky terrain drastically reduce the feasibility of successful transplantation;
- **Permanent receptor site:** availability and suitability of a permanent receptor site, both within and outside the project site;
- **Conservation status** of the concerned tree.

Remarks

In general, trees with the following features should not be considered suitable for transplanting under normal circumstances:

- a) Low amenity value;
- b) Irrecoverable form after transplanting (e.g. if substantial crown and root pruning are necessary to facilitate the transplanting);
- c) Low survival rate after transplanting;
- d) Very large size (unless the feasibility to transplant has been considered financially reasonable and technically feasible during the feasibility stage);
- e) With evidence of over-maturity and onset of senescence;
- f) With poor health, structure or form (e.g. imbalanced form, leaning, with major cavity/cracks/splits);
- g) Undesirable species (e.g. Leucaena leucocephala which is an invasive exotic tree); or
- h) Trees grown under poor conditions which have limited the formation of proper root ball necessary for transplanting (e.g. on steep slope).
- i) Not cost effective

Conservation Status

State the rarity and protection status of the species under relevant ordinances in Hong Kong. References such as Rare and Precious Plants of Hong Kong, the China Plant Red Data Book, the Protection of Endangered Species of Animals and Plants Ordinance (Cap 586) and the Forests and Countryside Ordinance (Cap. 96) are used. The tree with large size that is potentially registerable as OVT will also be included in the assessment.



Photograph

At least 4 nos.: Whole View, Crown, Trunk, Base and any significant defects.

Additional Remarks

Supplementary note towards the assessment, special features and significant defects of the tree.



Appendix II

Tree Assessment Schedule

Tree Assessment Schedule

TREE NO.	SCIENTIFIC NAME	CHINESE NAME	AREA	EASTING	NORTHING	LEVEL	TRUNK DIA.(MM)	HEIGHT (M)	SPREAD (M)	AMENITY VALUE (High / Medium / Low)	FORM (Good/ Average/ Poor)	HEALTH (Good/ Average/ Poor)	STRUCTURAL CONDITION (Good/ Average/ Poor)	SUITABILITY FOR TRANSPLANTING (High / Medium / Low)	REMARKS	CONSERVATION STATUS (OVT / potentially registerable / Rare or Precious Species / Nil)	ADDITIONAL REMARKS
T1	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843735.58	825009.49	86.10	169	7	3	Medium	Poor	Average	Poor	Low	f,h	Nil	Restricted roots, leaning, trunk hanging on the building
T2	Litchi chinensis	荔枝	Hing Keng Shek House	843740.49	824989.81	85.66	376	10	10	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	Restricted roots, low branching, multiple stems, ferns growing at trunk union, some dead twigs, large size
Т3	Mangifera indica	芒果	Hing Keng Shek House	843737.98	824991.59	85.52	500	12	10	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	Restricted roots, low branching, multiple stems, ferns growing at trunk union, large size
T4	Ficus tinctoria	斜葉榕	Hing Keng Shek House	843735.39	824987.19	87.47	146	4	4	Low	Poor	Poor	Poor	Low	a,f,h	Nil	Restricted roots, leaning, heavy climbers, few foliages, epicormics
T5	Aporosa dioica	銀柴	Hing Keng Shek House	843734.32	824988.46	87.42	188	7	3	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, crooked trunk, imbalanced crown, restricted by other vegetations
Т6	Ficus binnendijkii	阿里垂榕	Hing Keng Shek House	843732.89	824990.75	87.97	595	9	4	Low	Poor	Poor	Poor	Low	a,b,d,f,h	Nil	Restricted roots, imbalanced crown, extensive decays at trunk, fungal fruiting bodies at trunk base, large size
T7	Dypsis lutescens	散尾葵	Hing Keng Shek House	843734.41	824991.12	86.28	201	7	5	Medium	Average	Poor	Average	Low	f,i	Nil	Restricted roots, multiple trunks, suppressed crown
Т8	Schefflera heptaphylla	鵝掌柴	Hing Keng Shek House	843731.52	824994.65	87.92	131	5	4	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots by adjacent trees T10, imbalanced crown
Т9	Ficus nervosa	凸葉榕(九丁樹)	Hing Keng Shek House	843732.31	824994.70	87.94	404	9	5	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	Restricted roots by adjacent trees T10, co-dominant trunks, included bark, epiphytes, large size
T10	Ficus binnendijkii	阿里垂榕	Hing Keng Shek House	843730.45	824994.51	87.84	462	11	10	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	Restricted roots by adjacent trees T9 & T11, imbalanced crown, large size
T11	Araucaria columnaris	柱狀南洋杉	Hing Keng Shek House	843730.76	824996.71	88.09	401	17	4	Medium	Average	Average	Average	Low	b,d,h	Nil	Restricted roots by adjacent trees T10, low live crown ratio, epiphytes, large size
T12	Schefflera heptaphylla	鵝掌柴	Hing Keng Shek House	843730.22	825002.27	88.20	127	6	3	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown
T13	Dead tree	死樹	Hing Keng Shek House	843730.22	825002.30	88.22	153	3	1	-	-	-	-	-	-	Nil	Dead tree
T14	Sterculia lanceolata	假蘋婆	Hing Keng Shek House	843731.13	825002.86	88.39	150	6	3	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown
T15	Sterculia lanceolata	假蘋婆	Hing Keng Shek House	843732.69	825004.84	87.57	102	6	3	Medium	Poor	Average	Poor	Low	f,h	Nil	Restricted roots, imbalanced crown, crossed branches
T16	Psidium guajava	番石榴	Hing Keng Shek House	843732.53	825005.31	87.53	105	5	4	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, crooked trunk, co-dominant leaders
T17	Plumeria rubra	雞蛋花	Hing Keng Shek House	843733.26	825007.19	88.17	140	4	5	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, low branching
T18	Dimocarpus longan	龍眼	Hing Keng Shek House	843744.39	824977.25	83.79	312	7	7	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, on slope, imbalanced crown
T19	Mangifera indica	芒果	Hing Keng Shek House	843742.47	824975.63	84.39	462	8	8	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	Restricted roots, on slope, low branching, multiple stems, large size
T20	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843736.02	825010.35	86.11	181	6	5	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown, heavy epiphytes
T21	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843736.36	825011.30	86.10	134	6	5	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown, heavy epiphytes, ferns
T22	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843736.78	825012.06	86.11	137	6	4	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown, heavy epiphytes, ferns
T23	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843737.10	825012.80	86.10	188	7	5	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown, heavy epiphytes, ferns
T24	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843737.54	825013.52	86.09	137	7	5	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown, heavy epiphytes, ferns
T25	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843737.97	825014.31	86.09	134	7	5	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown, heavy epiphytes, ferns
T26	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843738.26	825014.74	86.09	134	7	4	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown, heavy epiphytes, ferns
T27	Juniperus chinensis 'Kaizuca'	龍柏	Hing Keng Shek House	843738.64	825015.64	86.08	245	7	4	Medium	Poor	Average	Average	Low	f,h	Nil	Restricted roots, imbalanced crown, heavy epiphytes, ferns

Remarks for suitability for transplanting

a) Low amenity value;

b) Irrecoverable form after transplanting (e.g. if substantial crown and root pruning are necessary to facilitate the transplanting);

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a) Very large state (unless the reasoning to transplant has been considered mancany reasonable and technically reasonabl

ADDITIONAL R	EMARKS
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Appendix III

Tree Survey Plan





Appendix IV

Tree Photos



T1_1_WholeView



T1_2_Crown



T1_3_Trunk



T1_4_Root



T2_1_WholeView



T2_2_Crown



T2_3_Trunk



T2_4_Root



T2_5_FernsAtTrunkUnion



T2_6_LowBranching



T2_7_SomeDeadtwigs



T3_1_WholeView



T3_2_Crown



T3_3_Trunk



T3_4_Root



T3_5_FernsAtTrunkUnion



T3_6_MultipleStems



T3_7_DroopingBranches



T4_1_WholeView



T4_2_Crown



T4_3_Trunk



T4_4_Root



T5_1_WholeView



T5_2_Crown



T5_3_Trunk



T5_4_Root



T6_1_WholeView



T6_2_Crown



T6_3_Trunk



T6_4_Root



T6_5_Decays



T6_6_FungalFruitingBodies



T6_7_Epicormics



T7_1_WholeView



T7_2_Crown



T7_3_Trunk



T7_4_Root



T8_1_WholeView



T8_2_Crown



T8_3_Trunk



T8_Root



T9_1_WholeView



T9_2_Crown





T9_4_Root



T9_6_Epiphytes



T9_5_Co-dominantTrunks,IncludedBark



T10_1_WholeView



T10_2_Crown



T10_3_Trunk



T10_4_Root



T11_1_WholeView



T11_2_Crown



T11_3_Trunk



T11_4_Root



T11_5_Epiphytes



T12_1_WholeView



T12_2_Crown



T12_3_Trunk



T12_4_Root



T13_1_WholeView



T13_2_Crown



T13_3_Trunk



T13_4_Root



T14_1_WholeView



T14_2_Crown



T14_3_Trunk



T14_4_Root



T15_1_WholeView



T15_2_Crown



T15_3_Trunk



T15_4_Root



T16_1_WholeView



T16_2_Crown



T16_3_Trunk



T16_4_Root



T16_5_Co-dominantLeaders



T17_1_WholeView



T17_2_Crown



T17_3_Trunk



T17_4_Root



T18_1_WholeView



T18_2_Crown



T18_3_Trunk



T18_4_Root



T19_1_WholeView



T19_2_Crown



T19_3_Trunk



T19_4_Root



T20_1_WholeView



T20_2_Crown



T20_3_Trunk



T20_4_Root



T21_1_WholeView



T21_2_Crown



T21_3_Trunk



T21_4_Root



T22_1_WholeView



T22_2_Crown



T22_3_Trunk



T22_4_Root



T23_1_WholeView



T23_2_Crown



T23_3_Trunk



T23_4_Root



T24_1_WholeView



T24_2_Crown



T24_3_Trunk



T24_4_Root



T25_1_WholeView



T25_2_Crown



T25_3_Trunk



T25_4_Root



T26_1_WholeView



T26_2_Crown



T26_3_Trunk



T26_4_Root



T27_1_WholeView



T27_2_Crown





T27_4_Root