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Tree Preservation

Scope

This Circular sets out the policy on tree preservation from feasibility, planning, design, construction to post-construction stages of a development, the procedures for control of tree felling, transplanting and pruning in Government projects, and departmental responsibilities in handling proposals on tree preservation and removal. For the purpose of this Circular, Government projects hereinafter mean public works projects, entrustment works and works that are undertaken by private parties but will be handed back to the Government for maintenance. This Circular also covers the reporting of unauthorised tree removal or damage of trees, on both private and unleased Government land.

Effective Date

2. Insofar as the procedures for control of felling, transplanting and pruning of trees in Government projects at planning and inception stage, and if applicable, prior to approval of technical feasibility statement are concerned, paragraphs 10 to 43 of this Circular should take immediate effect. Nevertheless, projects for which tenders are invited or proposals on tree preservation and removal are submitted within 6 months from this Circular's issue date, paragraphs 15 to 39 of ETWB TC(W) No. 3/2006 may apply.

3. Insofar as the reporting of unauthorised tree removal or damage of trees is concerned, paragraphs 44 to 47 of this Circular should take immediate effect.

Effect on Existing Circulars

4. This Circular supersedes ETWB TC(W) No. 3/2006. However, ETWB TC(W) No. 3/2006 may still apply to projects with tenders to be invited within 6 months from this Circular's issue date.

5. This Circular should be read in conjunction with the following Circulars:

	Number	Subject
1.	ETWB TC(W) No. 34/2003	Community Involvement in Greening Works
2.	ETWB TC(W) No. 2/2004	Maintenance of Vegetation and Hard Landscape Features
3.	ETWB TC(W) No. 11/2004	Cyber Manual for Greening
4.	ETWB TC(W) No. 29/2004	Registration of Old and Valuable Trees, and Guidelines for their Preservation

Background

6. The Government has put in place a comprehensive range of legislative and administrative measures for tree preservation on both private and unleased Government land.

7. Existing legislation offers protection to trees on Government land against unauthorised felling and other illegal activities. Ordinances with provisions for protection of vegetation include the Forests and Countryside Ordinance (Cap. 96), Country Parks Ordinance (Cap. 208), Public Health and Municipal Services Ordinance (Cap. 132) and the Antiquities and Monuments Ordinance (Cap. 53). Ordinances with provisions for enforcement against illegal activities related to vegetation include the Crimes Ordinance (Cap. 200), Theft Ordinance (Cap. 210) and Summary Offences Ordinance (Cap. 228). Legislation relating to environmental protection includes the Environmental Impact Assessment Ordinance (Cap. 499).

8. In addition, the Government has implemented a range of administrative measures to protect trees in Government and private development projects. For Government projects involving development, a set of sample contract provisions for incorporation in public works contracts has been promulgated since June 2004 to further strengthen tree protection during construction. Besides, a Register of Old and Valuable Trees (OVTs) has been established to provide priority protection to such trees on Government land (ETWB TC(W) No. 29/2004 refers). Furthermore, a tree preservation clause is imposed, as appropriate, on the land allocated to Government departments in order to protect existing trees therein. For private developments, the Government seeks to impose new requirements for tree preservation via the planning system (through the requirement of submission of a Landscape Master Plan, Landscape Proposal and/or Tree Preservation Proposal) and/or by means of including the tree preservation clause and/or Landscape Master Plan clause in the lease to protect trees in private sites.

Definition

9. For the purpose of this Circular, a plant is considered as a “tree” if its trunk diameter measures 95 mm or more at a height of 1.3 m above the ground level.¹

Policy

10. The Government ensures that trees are properly preserved and no trees are unnecessarily felled or pruned. The project department should ensure that trees worthy of and suitable for preservation are identified in the planning or feasibility stage and properly preserved through careful and proper planning, design, implementation of protective measures, site monitoring, and post-construction maintenance. Due consideration should be given to preserving the existing trees that are healthy and structurally sound, and removal (i.e. transplanting or felling) should be considered only if preservation is impractical. Factors such as site conditions and species characteristics, project requirement, cost-effectiveness and merit of a compensatory planting proposal should be duly considered. Detailed requirements on compensatory planting are given in **Appendix A**.

¹ Guidance on measurement of tree trunk diameter is given in the Agriculture, Fisheries and Conservation Department’s Nature Conservation Practice Note No. 2, which can be viewed from the Cyber Manual for Greening (<http://devb.host.ccgo.hksarg/>) or AFCD’s web page (http://www.afcd.gov.hk/english/conservation/con_tech/con_tech.html).

Tree Preservation for Government Projects

11. The need to preserve and protect trees, in particular trees with high conservation and amenity value, **must** be borne in mind in all stages of a government project from feasibility to post-construction maintenance.

Feasibility Stage

12. Due consideration should be given to ensure that the purpose of a project can be satisfied while assigning top priority to preserve valuable tree resources, in particular OVTs and potentially registrable OVTs.

13. In accordance with ETWB TC(W) No. 29/2004, OVTs or potentially registrable OVTs should be identified for priority preservation, and the removal of OVTs should only be permitted under very special circumstances² with full justifications.

Planning Stage

14. When a site is identified for development, the project department should carry out a tree survey within and, if appropriate, adjacent to the site to collect detailed information of trees which will be affected, including dead trees. The tree survey should include the following information and assessment:

- (a) species (scientific names and Chinese common names),
- (b) height,
- (c) trunk diameter,
- (d) crown spread,
- (e) amenity value,
- (f) form,
- (g) health and structural conditions,
- (h) suitability for transplanting, and
- (i) conservation status.

² Approval for removal of a tree in the Register of Old and Valuable Trees will not be granted unless under exceptional circumstances. In such case, the Lands Department or the relevant Government department will seek the recommendation from the Greening, Landscape and Tree Management Section of Works Branch of Development Bureau before final approval is given to the project department. Further details are given in ETWB TC(W) No. 29/2004.

15. Information from the tree survey should be utilised for developing site planning and proposals on tree preservation and removal. Proposals to retain or transplant trees should be properly planned and implemented to ensure that sufficient space to accommodate the existing trees and their future growth, and that adequate time for preparation of transplanting are available throughout the planning and construction stages. The proposals should reflect a balancing act taking into consideration the following factors:

- (a) intrinsic tree factors such as health and structure of the trees, conservation status and amenity value and suitability for transplanting;
- (b) environmental factors such as changes in water table and water sources, change in exposure (excessive shading caused by structures or increased exposure);
- (c) cultural factors such as historical and cultural (e.g. fung shui) significance of a tree or tree group to the community;
- (d) functional requirements of the project such as site formation or excavation, availability of space for tree protection zone³ (TPZ) and vertical and horizontal tree growth in the future;
- (e) engineering considerations such as feasibility and transport limitations especially for ex situ transplanting; and
- (f) financial consideration in the interest of the community such as cost-effectiveness of a transplanting operation.

16. It is important to reserve sufficient space for TPZ which should be adequately protected by robust fencing during construction and be free from construction activities and traffic flow.

³ A Tree Protection Zone is the area around a tree corresponding to the dripline. Generally speaking, “dripline” of a tree means the imaginary vertical plumb line that extends downward from the tips of the outermost tree branches and intersects the ground. For details regarding TPZ of OVTs, please refer to ETWB TC(W) No. 29/2004. If the area within a dripline does not cover the root zone of a tree, professional judgement should be exercised to determine location of roots, hence the TPZ.

Design Stage

17. At design stage, the project department should prepare a Tree Preservation and Removal Proposal (TPRP), which consists of a brief description of the project, impact to existing trees on site, proposed recommendations in respect of management of trees on site and their justifications, compensatory planting proposal, a tree survey plan and a tree assessment schedule, in accordance with the guidelines set out at **Appendices A and B** respectively.

18. Recommendations in respect of tree preservation should also be duly reflected in the proposal. For trees that will be retained, demarcation of TPZ should be marked clearly in the overall layout plan. The TPZ should be free from compaction or excavation throughout construction and should be adequately protected by robust fencing at the commencement of site formation and/or construction.

19. For retained trees that involve level changes in their immediate surrounding or cases in which proposed architectural and engineering features such as cantilever canopy and structural footings may affect the trees, cross-sections showing such features should be submitted where appropriate to demonstrate that the TPZs would be properly preserved. It is also necessary to overlay TPZs with other contract drawings to ensure that TPZs would not be affected by construction activities such as excavation, trenching, grade change, material storage or vehicular access.

20. Should works within a TPZ be considered unavoidable, a detailed arboricultural assessment should be performed to assess impacts of the proposed works to the tree(s) that are proposed to be retained. The project department should demonstrate that the anticipated impacts will not cause irreversible and/or irreparable damage to these trees, and any special action required to preserve the tree(s) should be documented in the contract.

21. No trees should be unnecessarily felled or pruned. The following order of priority should be considered for tree preservation:

- (a) retain the trees at their existing locations;
- (b) if (a) is not practicable, transplant the affected trees to other permanent locations within the project site where appropriate, so as to increase the tree's survival rate after transplanting and

minimise the loss of greenery in the local environs;

- (c) if both (a) and (b) are not practicable, transplant the affected trees to a permanent location ex-situ. Location of the receptor site should preferably be in proximity to the project site for retention of amenity effect in the vicinity. To strike a balance between cost and benefit, only trees suitable for transplanting as assessed with reference to paragraph 23 should be considered for transplanting. In the case of tree transplanting, the project department should allow at least 12 months for the transplant operation, in addition to consultation, sourcing of receptor location, identification of long-term maintenance party and obtaining approval. Otherwise, justification should be provided in the tree transplanting proposal; and
- (d) felling of trees will only be considered under the following circumstances:
 - i. If both retaining and transplanting are considered not reasonably practicable; or
 - ii. The tree has unrecoverable health problem, structural problem or poor form; or
 - iii. The tree has low survival rate after transplanting/is not suitable for transplanting; or
 - iv. Other reasonable justifications provided by the project department.

22. Consideration for removal of trees in poor condition should be assessed on a case-by-case basis. Wherever tree felling is recommended, every reasonably practicable opportunity should have been explored to restore the conditions of the tree in question. Compensatory planting should be implemented but such planting itself should not be the only justification for removing the trees affected by the project.

23. For trees that are considered impracticable to be preserved, the rationale behind any proposed transplanting of the trees concerned should be provided. Factors to be taken into account when determining if a tree should be transplanted include:

- (a) conditions of the tree to be transplanted (including form, health and structure which will affect success of the proposed transplanting);
- (b) size, species, and conservation status of the tree to be transplanted;
- (c) availability and suitability of a permanent receptor site, both within and outside the project site;
- (d) adequate time for preparation of transplanting operation;
- (e) identification of a long-term maintenance party for the transplanted tree(s);
- (f) access to the existing location and transportation to the receptor site (including availability of access to accommodate the tree, topography of the proposed route, engineering limitations, etc.); and
- (g) cost-effectiveness.

24. Trees with the following features should not be considered suitable for transplanting under normal circumstances:

- low amenity value;
- irrecoverable form after transplanting (e.g. if substantial crown and root pruning are necessary to facilitate the transplanting);
- low survival rate after transplanting;
- very large size (unless the feasibility to transplant has been considered financially reasonable and technically feasible during the feasibility stage);
- with evidence of over-maturity and onset of senescence;
- with poor health, structure or form (e.g. imbalanced form, leaning, with major cavity/cracks/splits); or
- undesirable species (e.g. *Leucaena leucocephala* which is an invasive exotic tree).

Construction Stage

25. Before the commencement of any construction works on site, preparation works with regard to tree preservation on site and transplanting operation should be undertaken with due care and consideration. These include setting up of TPZ(s), preparation for the target trees (e.g. root ball treatment and preparation, support following root pruning), preparation of the receptor sites (e.g. planting pits), planning on transportation (without excessive pruning and providing adequate protection with proper package/lifting), and post-transplanting treatment.

26. It is essential during construction that all site construction personnel are fully briefed on, and understand the measures being adopted to protect trees selected for retention. Particular emphasis should be placed on excluding the TPZs from construction activities. The goal is to prevent injury to trees during construction instead of remedial action after the damage since in most cases the damage is irreparable. Throughout the construction period, close site supervision by the competent member of the site supervisory staff with arboriculture knowledge (refer to **Appendix D** for requirements) or the contractor's tree specialist⁴ and the project department's supervisory staff should monitor and ensure proper implementation of the following:

- (a) protection of trees on site (e.g. erection of proper and robust fencing to protect the TPZ at the commencement of construction until the end of all construction related works, erection of signs to indicate prohibited activities within the TPZ, proper material storage away from the TPZ and vehicular/pedestrian access to avoid compaction of soil around trees, no soil dumping or digging/trenching within the TPZ, prevention of level changes, prohibition of root cutting, etc.);
- (b) monitoring of the health and conditions of preserved trees and those that will be and/or have been transplanted; and
- (c) on-site supervision of tree pruning works if necessary (in particular proper pruning should be ensured).

⁴ For requirements of a tree specialist, please refer to the List of Approved Suppliers of Materials and Specialist Contractors for Public Works, Landscaping, Class I - General Landscape Works.

27. During the period when the project department is in possession of the development site, any trees retained or transplanted within the site which failed to survive should be replaced and compensated as required in **Appendix A** upon completion of works and subject to agreement of the approving authority.

Post-Construction Stage

28. During the post construction period before hand-over to the maintenance department, which is identified upon mutual agreement, and/or before the end of the establishment period, the project department should continue the tree preservation programme for the retained trees and/or trees transplanted, such as monitoring and maintenance, and ensure that all necessary protective measures are in place. Remedial and/or mitigation measures such as tree surgery works, aeration of compacted soils and mulching, etc. should be performed as necessary. In any event, the project department should continue to maintain the vegetation until it is properly handed over to a maintenance party.

Control Procedures for Tree Preservation

Control of Tree Preservation and Removal in Government Projects

29. The Lands Department (LandsD) is the authority for approving TPRPs (refer to **Appendices A and B** for requirements). TPRPs should be submitted to LandsD for approval⁵. For Government projects to be implemented on Government land, if LandsD considers necessary to seek professional advice from other departments, reference should be made to the following table which delineates the departmental responsibilities for providing expert advice to LandsD. Departments which have set up internal tree works vetting mechanisms and have received blanket approvals from LandsD should process their own TPRPs. In setting up internal tree works vetting mechanisms and seeking blanket approvals of LandsD to process TPRPs either arising from development projects or from arboricultural maintenance, the advice of the Greening, Landscape and Tree Management Section (GLTMS) of the Development Bureau (DEVB) should be sought to ensure the vetting mechanisms would be operated under adequate tree expertise and impartiality when vetting TPRPs from within the departments⁶.

⁵ For TPRPs involving OVTs, the procedures set out in ETWB TC(W) No. 29/2004 shall apply.

⁶ The officers responsible for vetting the TPRPs should not be involved in preparing those particular proposals.

Land Category	Responsible Department
<ul style="list-style-type: none"> • Unleased and unallocated Government land (UUGL), except within 5m[#] of kerb on Hong Kong Island and Kowloon, 30m[#] of kerb in the New Territories (NT)[^] and where trees are maintained by respective Government departments[^], • Government land under temporary land allocation (TLA)*, and • Land allocated to the Agriculture, Fisheries and Conservation Department (AFCD), Country Parks and Special Areas under the Country Parks Ordinance (Cap. 208) and Sites of Special Scientific Interest. 	AFCD
<ul style="list-style-type: none"> • Land within the boundary of expressways, and • Land on Systematic Identification of Maintenance Responsibility of Slopes (SIMAR slopes) maintained by the Highways Department (HyD). 	HyD
<ul style="list-style-type: none"> • Permanently allocated Government land, except land allocated to respective Government departments[^], • Roadside areas on UUGL (within 5 m[#] of kerb on HK Island and Kowloon, 30 m[#] of kerb in the NT)[^], except areas where trees are maintained by respective Government departments[^], • Leased land to be resumed for public projects, UUGL and TLA* to be permanently allocated to Government departments, except land to be allocated to respective Government departments[^], and • Land where trees are maintained by LCSD. 	LCSD

Land Category	Responsible Department
<ul style="list-style-type: none"> • Unleased and unallocated Government land (UUGL) where trees are maintained by respective Government departments^Δ, • Government land permanently allocated to respective Government departments^Δ, and • Leased land to be resumed for public projects, UUGL and TLA to be permanently allocated to respective Government departments^Δ. 	Respective Government department ^Δ

Distance here refers to horizontal distance.

^ For trees located on UUGL but are maintained by Government departments (e.g. on SIMAR slopes), in addition to seeking expert advice from AFCD or LCSD, LandsD should seek comments from the responsible maintenance department(s).

Δ Refers to Government departments which have established internal tree works vetting mechanism and received blanket approval from LandsD to process TPRPs.

* Subject to the condition that the area under TLA (including Simplified Temporary Land Allocation) will revert to UUGL upon expiry of allocation, AFCD will provide comments; otherwise, LCSD should be responsible for providing expert advice to LandsD.

30. For TPRPs processed by LandsD, the project department will be informed of LandsD’s decision within 10 weeks upon receipt of the proposal or within 4 weeks upon receipt of expert advice on the proposals.

31. The Housing Department (HD) has been given blanket approval to process TPRPs in connection with the relevant leases, Vesting Order, Possession License, Short Term Tenancies (STTs), land allocations (temporary or permanent) and other approvals/permissions given by the relevant District Lands Officers of LandsD, which are issued to facilitate the construction and maintenance of the HD’s housing developments. In the event that those sites held under leases, STTs or other documents include land to be delivered to other departments at later days, HD should directly approach and consult those departments.

Dispute

32. Where the project department disagrees to the decision of LandsD on the TPRP, either party may escalate the dispute to the higher levels of both parties for a resolution. Where a removal proposal of an OVT is in dispute, the project department should seek recommendation from the GLTMS of DEVB before the proposal is escalated to the higher levels of both parties for resolution. Relevant reference and supporting documents for the appeal should be provided for reference.

Leased land

33. LandsD is responsible for vetting tree removal applications of private projects with lease control on tree preservation. The Lands Administration Office Practice Note no. 7/2007 applies.

Control of Tree Pruning for Government Projects

34. If extensive crown, limb or root pruning⁷ is required for trees to be retained or transplanted, the justification, extent and supervision requirements of pruning works should be approved by an officer of the project department at professional grade or equivalent with arboricultural expertise, or the landscape consultants with written support statement from a tree specialist for consultant-managed projects.

35. Detailed pruning proposal and method statements submitted by the contractor should be approved by project department or its representative before implementation, and monitored throughout the duration of the contract. The pruning works should be carried out by a specialist contractor on DEVB's "List of Approved Suppliers of Materials and Specialist Contractors for Public Works" under the Category of "Landscaping Class I – General Landscape Works" or other contractors with equivalent arboricultural competencies engaged by non-works departments. The contractor should appoint a competent member of the site supervisory staff with arboriculture knowledge or a tree specialist to supervise the works.

⁷ Please refer to the pruning guidelines promulgated by the Tree Management Office of DEVB and other international references for proper pruning practices.

Routine Arboricultural Maintenance

36. Routine arboricultural maintenance includes, but is not limited to, pruning and removal of common undesirable species, overgrown or over-congested vegetation, damaged/unhealthy/structurally unstable trees and dead trees in order to achieve a desired management objective and woodland management. The General Guidelines on Tree Pruning, Dos and Don'ts in Pruning, Tree Care during Construction, and other relevant information promulgated by the GLTM Section of DEVB should be observed. Full photographic records should be taken before removal of such trees or vegetation. Replanting should be implemented if space and conditions of the site permit, and preferably with native tree species.

37. The control requirements under paragraphs 29 to 35 of this Circular are not applicable to (i) removal of common undesirable species that are characterised by their aggressive and invasive growing habits and ability to prevent natural succession of native species, (ii) tree pruning carried out for routine arboricultural maintenance, and (iii) woodland management which refers to the regular practice of maintaining trees in large groups such as for ecological restoration, slope landscaping, forming visual or noise barrier, etc. Other than the three types of exempted tree works specified above, tree removal works that arises from routine arboricultural maintenance should be subject to approval procedures in paragraph 38 or 39.

38. Departments which have received blanket approval from LandsD to process TPRPs that arise from routine arboricultural maintenance should critically vet the proposals to prevent abuse of the exemption under paragraph 37, and directly approve (or disapprove) the proposals under the terms of reference of respective internal vetting mechanisms (please also refer to footnote no. 6).

39. For departments which have not received blanket approval from LandsD to process TPRPs that arise from routine arboricultural maintenance, approval from LandsD should be obtained before the works is performed. The delineation of departmental responsibilities for providing expert advice to LandsD is the same as that listed in the table under paragraph 29.

Special Circumstances

40. The control requirements to seek LandsD approval under paragraphs 29 to 32 and 36 to 39 of this Circular are not applicable to the removal of hazardous trees which pose imminent risk of failure, or under other fully

justified emergency situations. Where possible, the department in carrying out the above tree works should take full photographic records of the trees concerned before removing them. The photographs should be in colour, imprinted with date, cover the ground conditions surrounding each of the trees, the fallen parts and the exposed roots and/or root crown of the trees if applicable. Replanting should be favourably considered if space and conditions of the site permit, and with native tree species as far as practicable.

Document Preparation

Public Works Subcommittee (PWSC) Paper

41. For public works projects, project departments have incorporated in the PWSC papers information on tree preservation since October 2003, when seeking the Legislative Council's (LegCo's) approval of project funding. The information to be incorporated includes the extent and type of trees affected by the project. A template to facilitate the incorporation of the tree preservation information in the PWSC paper is given in **Appendix C**. For Category B projects under the Public Works Programme, the project department must obtain the necessary approval, or agreement in principle, for the TPRP prior to submitting the PWSC paper for funding approval to upgrade the project to Category A for implementation of the construction works.

Contract Documents

42. The project department should incorporate in construction contracts, as well as relevant maintenance and ground investigation contracts, contractual requirements to protect the trees that require to be preserved within the site. A notification mechanism should also be introduced in the contract to ensure that the contractor will notify the project department before any major arboricultural works such as heavy pruning of branches or roots commences. A set of sample contract provisions for inclusion in the Form of Tender, Special Conditions of Contract, Particular Specification (PS) and Method of Measurement are available in the Cyber Manual for Greening. Where appropriate, the sample PS and Method of Measurement may need to be modified to suit specific project requirements.

43. A PS clause and notes to tenderers for contracts where the PS clause is incorporated are provided at **Appendix D**.

Reporting of Unauthorised Tree Removal or Damage of Trees, and Regulating Actions

Unallocated and unleased Government land and allocated Government Land

44. Any incidents of unauthorised removal or damage of trees within unleased and unallocated Government land or allocated Government land should be referred promptly to AFCD or the allocatee department respectively for investigation and necessary prosecution actions under the relevant legislations. The report should also be copied to LandsD for information.

45. Where incidents of unauthorised removal or damage of trees occur in a Government project, the project department should investigate and take necessary regulating actions should the contractor be found responsible for the incidents. For public works contracts, the contractor's performance on tree protection should be fully reflected in the Report on Contractor's Performance. In this regard, the reporting officer should consider rating Item No. 6.17 "Preservation and protection of trees" in Section 6 of the Report on Contractor's Performance as "Poor" if the contractor is found liable for the damage or unauthorised removal of any tree in the site, unless the Architect/Engineer/Supervising Officer is convinced that the incident is justifiable due to exceptional circumstances (e.g. under emergency situations).

Private land

46. Where suspected unauthorised removal or damage of trees occurs on leased land (i.e. private land), the incident should be reported promptly to the relevant DLO for investigation who would follow upon those cases that are subject to tree preservation clause under lease.

Reporting of Serious Incidents of Unauthorised Tree Removal or Damage of Trees

47. For serious incidents of unauthorised tree removal or damage of trees that have attracted media attention, the following departments should alert and submit a brief incident report to the GLTM Section of DEVB covering the background of the incident, location, number and types of trees affected (if known), course of actions taken and follow-up actions required, where appropriate, within 2 working days after the incident is reported by the media. A sample template of the incident report is given in **Appendix E**.

	Location of the Incident	Responsible Department
1.	Allocated Government land (temporary and permanent)	Allocatee department
2.	Unallocated and unleased Government land	AFCD
3.	Private land including land leased under STT and land under Government Licence, where there is lease requirement to preserve trees	LandsD

Further Enquiries

48. Any further enquiries on this Circular or related issues should be directed to the Assistant Secretary (Tree Management) 2 of the GLTMS of DEVB.

(C S Wai)
Permanent Secretary for Development (Works)

Guidelines on Preparation of Tree Preservation and Removal Proposal

A tree survey should be carried out before the main site layout is designed. The survey should document all trees on the site and a Tree Preservation and Removal Proposal (TPRP) should contain all necessary details and information for assessment of the impact to trees brought upon by the implementation of the proposed development. Fundamental information that should be provided includes:

I. Main Content

- (i) Project background and information
- (ii) Impact to existing trees on site
- (iii) Proposed treatment to existing trees on site and rationale to support the proposal
- (iv) A summary of recommendations on tree preservation from the feasibility to post-construction stages, in particular those in connection with the preservation of OVTs, potentially registrable OVTs and trees of high conservation value
- (v) Compensatory planting proposal prepared in accordance with the following:

a. Basic Principle

Compensatory plantings should be realistic, practicable and sustainable. New plantings should be carefully selected to ensure that they are compatible with the newly developed site. The principle of “right tree for the right place” should be adhered to so that trees are selected to match the site, environmental conditions and design intent. Above and below ground space should be sufficient to cater for establishment and healthy growth of the tree species selected. The selection of tree species for compensatory planting proposal should also take into account resource requirement, sustainability and cost-effectiveness in

subsequent maintenance. Agreement from maintenance departments, for both in situ and ex situ compensatory planting, should be sought and appropriately accounted for from the design phase. Location of the planting site should preferably be in proximity to the project site for retention of amenity effect in the vicinity.

b. Quantity of compensation

1. As far as possible, implementation of compensatory planting should be of a ratio not less than 1:1 in terms of number, i.e. the number of compensatory trees within the site and off-site shall not be lower than that of the number of trees felled, including dead trees and trees of undesirable species. In principle, size of compensatory trees should be appropriate to the location and function. For instance, the size of compensatory trees should be at least of “heavy standard” (either the General Specification for Civil Engineering Works, Building or specification document for Housing Authority refers as appropriate) for landscape or street planting. For slope works, the ratio of 1:1 by number and the heavy standard requirement may not apply due to site constraints; and the planting of whips or seedlings in form of woodland mix would be more appropriate. Also, sufficient space should be provided for the planting of compensatory trees taking into account the adequate space required to cater for the establishment and healthy growth of the trees up to maturity in order to ensure that the greening opportunity within the site is optimised where practicable. **Proposals which deviate from the above requirements should be supported with full justifications.**
2. Should the requirement in the above paragraph be satisfactorily met, and sufficient space for tree planting can be identified, additional planting to achieve the compensatory planting ratio of 1:1 in terms of aggregated DBH, i.e. the total DBH of planted trees to have the same

total DBH of felled trees¹ should be undertaken as far as practicable. In situations where additional planting cannot be achieved, the difficulties should be demonstrated.

c. Quality of compensation

Apart from the above compensatory planting requirements, the project department should also consider the quality aspect of greenery on site such as introducing themed planting, enhancing the ecological and conservation value, increasing overall site coverage of greenery, maximising greening opportunity through vertical greening and roof greening, etc.

(vi) Tree protection plan and method statement

- a. A *Tree Protection Plan* should be formulated to eliminate the risk of construction damage to retained trees. The plan should identify both vertical and horizontal tree protection zones and specify robust protective fencing to be used throughout the construction period, and include any additional measures to be adopted to protect retained trees, particularly where construction works are likely to impact on the TPZ.
- b. For transplant and pruning operations, a method statement should be provided. In particular, pruning proposals for trees to be retained or transplanted should include reasons and proposed extent of pruning, such as canopy and root pruning.

II. Tree Survey Plan

The *Tree Survey Plan* should include the following details:

- (i) location of trees together with their crown spread within and, if appropriate, adjacent to the site on a plan showing the spot height of existing levels and above-ground features, together with an identification number provided adjacent to each tree;

¹ The compensation planting in terms of aggregated DBH for felled trees should take into consideration of the space required for the normal growth of the proposed species up to maturity, and avoid planting that would lead to over-congestion in the long run.

- (ii) trees to be retained, transplanted within the site, transplanted off-site or felled presented in different colours;
- (iii) an overlay of site formation plan showing the proposed layout of the development, extent of excavation works, proposed utilities, vehicular access, the formation or finished levels as well as the extent of temporary works and facilities (e.g. site offices, storage areas, etc.) so as to ensure that the TPZs should not be encroached upon or affected by the works;
- (iv) highlight TPZs around all trees proposed for retention. Assessment should be made on the potential impacts of building foundations and other structures on retained trees; and
- (v) where appropriate, a cross-section showing the proposed architectural and engineering features around trees proposed to be retained should be provided to show that sufficient vertical and horizontal space can be reserved for TPZs. On the other hand, for trees proposed to be felled due to changes in level, a cross-section showing the original and finished levels should be provided if the features that may affect retention of trees cannot be shown on a plan.

III. Tree Assessment Schedule

- (i) The *Tree Assessment Schedule* (**Appendix B**) should include the following information for each tree:
 - a. the species (both scientific name and Chinese common name);
 - b. measurements including height, trunk diameter (at 1.3m above the ground level) and crown spread;
 - c. amenity value;
 - d. form;
 - e. health and structural conditions;
 - f. suitability for transplanting;

- g. conservation status (indicates rarity and protection status under relevant ordinances of a species in Hong Kong. References such as Rare and Precious Plants of Hong Kong², the IUCN Red List of Threatened Species³ and the Forests and Countryside Ordinance (Cap. 96) may be used.), and
 - h. recommendations, i.e. retain, transplant or fell.
- (ii) Colour photographs of the tree(s), illustrating the whole tree as far as possible with tree identification numbers marked, and imprinted with date should be included.
- (iii) Where the project involves removal of an OVT or a potentially registrable OVT, a separate schedule using the standard proforma given in **Appendix B** should be produced with details of the OVT(s) or potentially registrable OVT(s) affected by the project.
- (iv) The tree survey plan and assessment schedule should be based on findings of tree surveys conducted within two years prior to submission, provided that there have been no substantial deviations to the number and conditions of the trees in the affected area.

² Agriculture, Fisheries and Conservation Department, *Rare and Precious Plants of Hong Kong* (Hong Kong: AFCD, the Government of the Hong Kong Special Administrative Region, 2003).

³ IUCN Red List of Threatened Species. The latest version can be accessed at www.iucnredlist.org.

Tree Assessment Schedule

Project Title: _____

Date of Tree Survey: _____ Surveyed by: _____

Tree No. ¹	Species ²		Measurements			Amenity value ⁴	Form	Health condition	Structural condition	Suitability for transplanting ⁵		Conservation status ⁷	Recommendation	Department to provide expert advice to LandsD	Additional Remarks ⁸
	Scientific name	Chinese name	height (m)	DBH ³ (mm)	crown spread (m)	(good/fair/poor)			(high/medium/low)	Remarks Remarks ⁶	(retain/transplant/fell)				

¹ Tree(s) in the Register of Old and Valuable Trees should be highlighted with OVT number.

² Guidance on proper use of scientific name of plants is given in the Agriculture, Fisheries and Conservation Department’s Nature Conservation Practice Note No. 3, which can be viewed at AFCD’s web page http://www.afcd.gov.hk/english/conservation/con_tech/files/common/NCPC_No.03_The_use_of_plant_names_rev_2008_2.pdf

³ DBH of a tree refers to its diameter at breast height (i.e. measured at 1.3 m above ground level). Guidance on DBH measurement is given in the Agriculture, Fisheries and Conservation Department’s Nature Conservation Practice Note No. 2, which can be viewed at AFCD’s web page http://www.afcd.gov.hk/english/conservation/con_tech/files/common/NCPN_No.02_measurement_of_DBH_ver.2006.pdf

⁴ 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.

Excellent: important trees which should be retained by adjusting the design layout accordingly.

Good: trees that are desirable to be retained in order to create a pleasant environment, which includes healthy specimens of lesser importance than “A” trees.

Poor: trees that are dead, dying or potentially hazardous and should be removed.

⁵ Assessment shall take into account conditions of an individual tree at the time of survey (including health, structure, age and root conditions), site conditions (including topography and accessibility), and intrinsic characters of tree species (survival rate after transplanting).

⁶ Major determining factors for the rating on suitability for transplanting should be included if necessary.

⁷ State the rarity and protection status of the species. Appendix A.III.(i) g. provides more details.

⁸ Any additional information deemed necessary for consideration of the proposed management recommendation.

**Examples for Incorporating the Information
on Tree Felling/Planting Proposals into PWSC Paper**

A. For proposed projects (such as site investigation, design consultancy and feasibility study*)

“The proposed project / site investigation works / design consultancy / feasibility study will not directly involve any tree removal or planting proposals. We¹ will require the consultant to take into consideration the need for tree preservation during the planning and design stages of the project. We will also incorporate tree planting proposals, where possible, in the construction phase in the future.”

B. For proposed projects which do not involve tree felling or planting proposals

“The proposed fitting out works will not involve any tree removal or planting proposals”

C. For proposed projects which involve the felling of common trees with/without planting proposals

“Of the A no. of trees within the project boundary, B no. of trees will be preserved. The proposed project / infrastructure works / site formation works / roads and drainage works / construction works will involve the removal of T no. of trees, including X no. of trees to be felled, Y no. of trees to be transplanted elsewhere and Z no. of trees to be replanted within the project site (subject to finalisation of design²) (Note: $A = B + T$; $T = X + Y + Z$). All trees to be removed are not important trees³. We

¹ “We” should be replaced by reference to the subvented organisation (e.g. “Hospital Authority” and “the school”) for those subvented capital works projects under CWRP Head 708 where the subvented organisation is the works agent.

² Only applicable to Design and Build contracts.

³ An “important tree” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees of 100 years old or above;

(b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;

will incorporate planting proposals as part of the project, including estimated quantities of aa no. of trees, bb no. of shrubs, cc no. of annuals and dd m² of grassed area⁴.”

D. For proposed projects which involve felling of both common trees as well as OVT(s)/Potentially Registrable OVT(s) with/without planting proposals

“Of the *A* no. of trees within the project boundary, *B* no. of trees will be preserved. The proposed *project / infrastructure works / site formation works / roads and drainage works / construction works** will involve removal of *T1* no. of trees, including *X1* no. of trees to be felled, *Y1* no. of trees to be transplanted elsewhere and *Z1* no. of trees to be replanted within the project site (*Note: A=B+T1+T2; T1=X1+Y1+Z1*). Besides, *T2* no. of important trees will be affected during the implementation of the project. A summary of important trees affected is provided at Enclosure. We will incorporate planting proposals as part of the project, including estimated quantities of *aa* no. of trees, *bb* no. of shrubs, *cc* no. of annuals and *dd* m² of grassed area.”

* *Please delete as appropriate.*

(c) trees of precious or rare species;

(d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or

(e) trees with trunk diameter equal to or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m.

A common tree refers to trees not classified as “important tree”.

⁴ If planting proposal is not included, the last sentence of this paragraph can be omitted. However, further explanation will have to be added for any tree removal plan without compensatory planting.

**Sample clauses for contracts that require a competent staff
to supervise tree works on site**

PS clause for contracts

“The Contractor shall assign a competent member of the site supervisory staff to oversee and supervise tree works related to arboricultural operations and preservation of trees within the Site, including, but without limitation to, planting, transplanting, tree surgery work and control of pest and disease affecting trees on the Site. The person assigned shall be working *full-time/part-time on the Site but not necessarily working solely on trees. The assigned person shall have attended relevant training on arboriculture organised by local/overseas training institutes (e.g. Construction Industry Council Training Academy, Vocational Training Council) with cumulative training of at least 30 hours in the past 3 years, and have at least two years practical experience in arboriculture. The Contractor shall submit to the *Architect/Engineer/Supervising Officer for approval within 30 days of the date of the Employer’s letter of acceptance of the Tender particulars of the assigned person (including his name, experience and position) together with a copy of the certificate(s) issued by the training institute(s) confirming “his/her satisfactory completion of the relevant courses” and supporting documents on the required experience.”

** Please delete as appropriate*

Notes to Tenderer

The following notes to tenderers should also be incorporated in contracts where the above PS clause is incorporated:

“Tenderers should note that the Particular Specification Clause ____ requires the Contractor to assign a competent member of the site supervisory staff to oversee and supervise the tree works under the Contract, and that such a person should possess the practical experience as required under the Particular Specification Clause.”

