



Construction Impact Assessment and Management Plan



7 Rock Bath Road, Palm Beach

Prepared for: Dylan Ferrell Design

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Dated: December, 2018



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1. Summary

1.1 This report has been requested as part a Development Application (DA) to Pittwater Council for the works detailed. This will primarily involve the reconfiguration of the front garden, pool and parking facilities and require the removal of a number of tree ferns.

1.2 The purpose of this report is to identify all existing trees, assess both health and condition, determine landscape significance and life expectancy. A determination for preservation, removal or transplantation will be made based on sustainability and suitability within the setting. For the purpose of this report Botanics has assessed the likely impact that the proposed development will have on the subject trees. This report will then provide recommendations in relation to the management of these in accordance with Australian Standard (AS) 4970 *for the Protection of Trees on Development Sites*. Pruning and removal works will be based on AS4373 *for the Pruning of Amenity Trees* where applicable.

1.3 The existing residence sits on the southern side of Rock Bath Road, Palm Beach and is elevated up to the south. These contours have been retained with the construction of the garage on the lowest level, with an elevated walkway leading to the main entertaining area, holding the existing swimming pool. The residence is a double storey block from this level with north facing ocean views over Palm Beach.

2. Background

2.1 The site will have been cleared of all native vegetation as part of the original subdivision, as well as subsequently following the construction of the existing swimming pool and surrounds. This garage and pool no longer meet the domestic living requirements of the current owners and the proposed design has been developed to address this.

3. Aims

3.1 The aims of this report are to;

- Review Council Policies for applicable conditions regarding the site and documented trees;
- Conduct a visual assessment of the documented trees and their growing environment;
- Provide a detailed list of Tree Preservation Recommendations aimed at preserving those trees documented for preservation.

3.2 There is no warranty or guarantee, expressed or implied that health, pests, disease, deficiencies, decay or any structural failures may occur at any time following documentation. Information contained in this report covers only the documented trees and reflects their health and condition at the time of inspection.



4. Methodology

4.1 A Visual Tree Assessment (VTA) was performed from ground level and consideration was given to the overall health of each tree, percentage of canopy, epicormic growth, deadwood and form for this species. The tree heights and canopy spreads have been estimated and where relevant the orientation of the canopy spread noted. The trunk diameters of each tree has been estimated at breast height of 1.4meters (DBH) and measured with a diameter tape where required to calculate Tree Protection Zones. The site was inspected by consulting arborist George Palmer in December, 2018.

5. Observations

5.1 As noted, the site is located on the southern side of Rock Bath Road, Palm Beach with the site topography rising further south. This elevated platform allows visual access to the north and over Palm Beach and the ocean. Existing trees, including well established Melaleucas (Trees 10 and 17) have been reduced to maintain this visual access via reduction pruning (lopping). This has affected their natural habit and reduced their amenity contributions and arboricultural significance.

5.2 Additional trees that have been "lopped" include two (2) Camphor laurels (Trees 15 and 16) that look to have been cut down to ground level and allowed to regrow. This has resulted in the development of multiple leaders with inclusions. These trees have been recommended for removal for this, as well as a range of additional reasons and irrespective of the proposed development.

5.3 There is a stand of well established *Cyathea cooperi*, or Australian tree ferns (Trees 4, 5, 6, 7 and 8) located between the rear of the carport and the swimming pool. These appear to be in both good health and condition, clearly benefiting from high soil moisture levels and an impermeable, underground bedrock.

6. Tree Data

6.1 As noted, the site will have been cleared as part of the original subdivision and following the construction of the existing swimming pool and residence. None of the sixteen (16) documented trees are part of the remnant Spotted Gum Forest plant community <https://www.environment.nsw.gov.au/determinations/PittwaterSpottedGumForestEndComListing.htm>. and all, including the *Cyathea*'s will have been planted here. A detail of tree species, size and significance has been detailed in the attached **Tree Table**.

6.2 Tree 1 is a small but well established *Magnolia figo*, or Port Wine Magnolia located adjacent to the site's western boundary. The tree is less than 5m in height and has been documented for removal due to poor form and horticultural context.

6.3 Tree 2 is a well established *Agonis flexuosa*, or Western Australian Peppermint located within the neighbouring residence. The tree has multiple sections of visible surface decay at both its base and through its central canopy. It is located outside the construction impact zone and documented for retention.

6.4 The semi mature *Jacaranda mimosifolia*, or Jacaranda located on the site's rear, western boundary has been documented as Tree 3. This tree has developed with a low canopy that leans to the north east and over the courtyard. This tree is again located outside the construction impact zone and has been documented for preservation.

6.5 Trees 4, 5, 6, 7 and 8 are all *Cyathea cooperi*, or Australian Tree ferns located between the rear of the carport and the northern edge of the swimming pool. These are all well established, semi mature examples of the species.

6.6 Tree 9 is a semi juvenile *Erythrina*, or Coral tree located on the lower verge. This is a poor tree species for a range of reasons and should be removed irrespective of the proposed development.



6.7 Trees 10 and 17 are both *Melaleuca quinquenervia*, or Paperbark trees located within the front garden. These are a native tree species that will have been planted here as part of the early landscape works that will have occurred following this portion of the construction. As noted, both have been reduction pruned, or “lopped” to maintain visual access to Palm Beach and the ocean.

6.8 Tree 11 is a semi mature *Cinnamomum camphora*, or Camphor laurel tree located within the western neighbour's residence. This is poor tree species for a broad range of reasons and should be removed irrespective of the proposed development. The tree is however located within the neighbouring residence and has been documented for retention.

6.9 The neighbouring *Cyathea* has been documented as Tree 12. This is a well established and mature example of the species that can be estimated to be over thirty (30) years of age. This tree is again located outside the construction impact zone and documented for retention.

6.10 Trees 13 and 14 are both *Ulmus parvifolia*, or Chinese Elms located within planters adjacent to the front entrance. These are less than 5m in height and supported on trunks of less than 30cm in diameter and should not be considered as a material constraint to the proposed development.

6.11 Trees 15 and 16 are both *Cinnamomum camphora*, or Camphor laurels that have been cut down to ground level and allowed to regrow. This regrowth has resulted in the formation of multiple leaders from ground level with inclusions. The trees look to have entered a cycle of decline, despite their vigorous nature and are required for removal irrespective of the proposed development.

7. Discussion

7.1 The proposed works will involve the excavation of the front portion of the site to allow for the construction. This will require the removal of those trees located here. This includes the *Cyathea cooperi*, or Tree frees detailed as Trees 4, 5, 6, 7 and 8.

7.2 Additional trees recommend for removal include the Port Wine Magnolia documented as Tree 1. This is less than 5m in height and has a history of poor pruning affecting its amenity contribution. The tree is also out of context in this landscape setting.

8. Recommendations

8.1 It will be recommended that Trees 1, 4, 5, 6, 7, 8, 9, 10, 13 and 14 be removed for the reasons outlined. This should be done in accordance with WorkCover Standards http://www.safework.nsw.gov.au/_data/assets/pdf_file/0009/52866/Amenity-Tree-Industry-Code-of-Practice.pdf. following formal approval from Northern Beaches Council.

8.2 The remaining trees documented as Trees 2, 3, 11, 12 and 17 have been documented for retention and will be preserved throughout the construction process with the implementation of the following Tree Protection Recommendations.

8.3 All Tree Protection Zones as outlined in **Figure 1** will need to be recognised and all works with them done in accordance with AS4970 Standards for the Protection of Trees on Development Sites.

8.4 The impacts of compaction will need to be considered within TPZs outlined. This will require the installation of “rumble boards” between the street and the construction site.

8.5 Any roots requiring removal to allow the proposed works to occur should be cut cleanly at the edge of the construction to limit the spread of decay.



8.6 The remaining Tree Protection Recommendations are generic recommendations that have been based on *AS4970 Standards* and should be implemented where applicable.

8.6.0 Appointment of Site Arborist

A site arborist shall be appointed prior to the commencement of work on site. The Site Arborist shall clearly mark out all trees to be removed and ensure that all trees documented for retention are preserved with the implementation of the following tree protection measures. The Site Arborist shall have a minimum qualification equivalent to a NSW TAFE Certificate Level 5 or above in Arboriculture.

8.6.1 Inspection Points

Give 5 working days notice to allow inspections to be undertaken at the following stages;

Inspection Point	Inspection Personnel
Installation of Tree Protection Zones including Tree Protection Fencing, Silt Fencing and Signage	Site Arborist
Modification of the Tree Protection Zone	Site Arborist
Works within the Tree Protection Zone	Site Arborist
Completion of Construction Works	Site Arborist Site Supervisor.

8.6.2 Education

Contractors and site workers shall receive a copy of these specifications prior to the commencement of work. Contractors and site workers undertaking any works within a TPZ shall sign the site log to confirm that they have read and understand these specifications prior to their undertaking.

8.6.3 Tree Protection Zones

Where applicable, all trees to be retained through the construction process shall be protected from mechanical damage and the indirect impacts of the construction process with the installation of Tree Protection Zones. Unless otherwise stated, the following activities must not be carried out within a TPZ;

- modification of existing soil levels
- excavation or trenching
- cultivation of soil
- mechanical removal of vegetation
- movement of natural rock
- storage of materials, plant or equipment
- erection of site sheds
- affixing signage or hoarding to trees
- disposal of chemical waste or construction material
- any activity that may directly or indirectly affect the health of these or surrounding trees.

Note: If access to a TPZ is required as part of the approved development, prior authorisation is required by the Site Arborist.

8.6.4 Tree Protection Fencing



Tree Protection Fencing shall be installed at the perimeter of the TPZ. As a minimum the Tree Protection Fencing shall be 1.8 meters high temporary chain supported by steel stakes. This shall be fastened and supported to prevent sideways movement. The trees woody roots shall not be damaged during the installation of this Tree Protection Fencing. This Tree Protection Fencing shall be erected prior to the commencement of works on site and shall be maintained for the duration of the construction process.

8.6.5 Signage

Tree Protection Signage shall be attached the the TPZ and displayed in a prominent location. These signs shall be repeated in 10m intervals or closer where the fence changes direction. These shall be a minimum of a 72 font size and each sign at-least 600 x 500mm.

8.6.6 Mulching

The area within the TPZ shall be mulched and maintained with 80mm of leaf litter mulch for the duration of the construction process. This mulch shall be spread by hand to limit the impact on underlying roots and shall be installed prior to the commencement of works on site.

8.6.8 Site Management

Materials and waste storage, site sheds and temporary services shall not be located within the TPZ unless specified. Storage points shall be covered when not in use and be no greater than 2m in height.

8.6.8 Works within the TPZ

The TPZ may need to be modified during the works to allow access between the protected tree and the proposed construction. The TPZ shall remain as specified and only those works detailed in the proposed construction undertaken.

8.6.9 Completion of Works within specified TPZ

Upon the completion of works within a TPZ the protective fencing shall be reinstated as specified. Where the construction of new structures does not allow for the reinstallation of fencing the TPZ shall be modified by the Site Arborist.

George Palmer
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Associate Diploma Horticulture- Landscape.

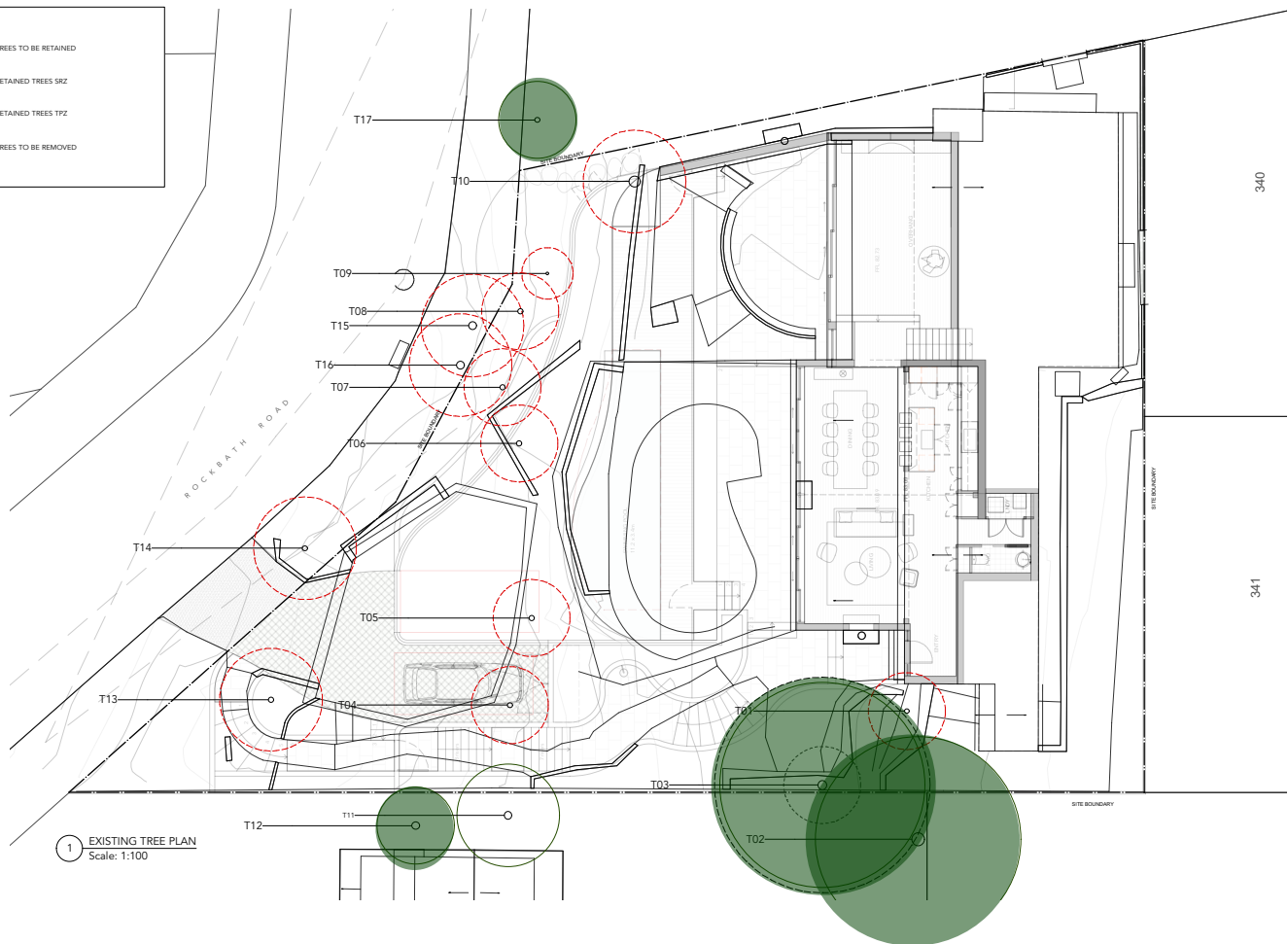
Disclaimer

All care has been taken to assess potential hazards, but trees are inherently dangerous. This assessment was carried out from the ground, and covers what was reasonable to be assessed at the time of inspection. No aerial or underground inspections were carried suability is accepted for damage or injury caused by trees and no responsibility is accept if the recommendations in this report are not adhered to. Limitations on the use of this reportThis report is to be utilised in its entirety only.



LEGEND

- TREES TO BE RETAINED
- RETAINED TREES SRZ
- RETAINED TREES TPZ
- TREES TO BE REMOVED



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PROJECT
HANNING RESIDENCE
7 Rock Bath Rd, Palm Beach NSW 2108

DRAWING TITLE
DEVELOPMENT APPLICATION
EXISTING TREE PLAN

JOB No. 18.025
DRAWING No. DA01
REV 1

DATE 11.12.18
DESIGNED BY LC
DATE 11.12.18
A2

Figure 1 Shows the locations of the documented trees in relation to the proposed development and the TPZ required for ongoing consideration.



Figure 2 Shows the existing pool and the tree ferns required for removal.

Figure 3 Shows the poor basal structure of the *Melaleuca* documented as Tree 10.

