

## REFERRAL RESPONSE – TREES & LANDSCAPING

**FILE NO:** DA 531/2011/1

**ADDRESS:** 1 Kiaora Road DOUBLE BAY 2028

**PROPOSAL:** Kiaora Lands Redevelopment comprising demolition of existing buildings and structures, a new 4 storey commercial/retail building fronting New South Head Road and including a new public library, a new 3 level commercial/retail building fronting Kiaora Lane, including a supermarket and public parking (465 spaces) and public domain improvements.

**FROM:** Nick Williams- Tree and Landscape Officer

**TO:** Mr P Kauter

I refer to the following documents received for this report:

- Survey Plan No.100207, drafted by Denny Linker & Co, dated 1<sup>st</sup> of February 2010.
- Statement of Environmental Effects, written by Tpg, dated November 2011.
- Site Analysis Plan No 3109\_DA\_001-D, Drawn by Nettle tribe dated November 2011
- Architectural Plan No's 3109\_DA\_003-D-3109\_DA\_0012-D & 3109\_D\_013-C, drawn by Nettle tribe dated November 2011.
- Streetscape Elevations No's 3109\_DA\_021-C &024-C, drawn by Nettle tribe dated November 2011.
- Stormwater concept Plan No. SKC03, drawn by BG & E, dated 16<sup>th</sup> of November 2011.
- Arborists Report, referenced 473 AIA, written by Tree Wise Men, dated May 2011.
- Landscape Concept Documentation No's LSK 09582-001-003&011E, designed by Context, dated November 2011.

**A site inspection was carried out on the following day: 16<sup>th</sup> of December 2011.**

### ISSUES

- Amendments required to the proposed tree species for Kiaora lane and plaza area on the submitted landscape plan.
- Amendments required to the proposed tree species for Kiaora Road on the submitted landscape plan.
- Proposed removal of Trees 4, 33 and 34 in conflict with Kiaora lands Development Control Plan strategy. Refer to comments.
- Further detail required regarding works within the root zones of Trees 8, 12 and 15- *see Condition C.4.*
- Amended stormwater plan required- *see Condition C.5.*
- Inconsistency between Landscape Concept Plan and Sectional/photomontage drawings for the Kiaora lane plantings regarding the use of planter beds as opposed to tree pits.

## COMMENTS

### **Species selection within the Kiaora Lane and Kiaora plaza area.**

An alternative tree species to *Robinia pseudoacacia* 'Frisia' should be selected as the dominant tree planting along Kiaora lane and as the single specimen shade/feature tree in the Kiaora plaza area. Although the species possesses attractive golden foliage and is a manageable small to medium sized tree it lacks a dominant, classic tree crown and has a tendency to sucker profusely. Widely planted in the 1980's many of the *Robinia pseudoacacia* 'Frisia' plantings from this era are now ageing rapidly and being replaced with more viable long term species. There are far better planting options available for the Kiaora lane and plaza area that are attractive, long lived and proven, reliable street trees. The single specimen *Robinia* proposed to be planted outside of the library/ retail area as a shade and feature tree is unlikely to provide substantial shade within the plaza. Again, superior species options that will provide a higher degree of shade and have greater potential as a feature tree should be selected.

Alternative tree options for the Kiaora lane strip are outlined in Condition C.3 (Amended Landscape Plan) of this referral response. The submitted landscape plan should be amended and one of the species options listed within this condition should be illustrated on the plan. Planting options include; *Caesalpinia ferrea* (Leopard tree), *Koelreuteria paniculata* (Golden Rain Tree) and *Pistacia chinensis* (Chinese pistachio). All of these options are deemed far more reliable in the long term than the nominated *Robinia*. There is an excellent example of a *Caesalpinia ferrea* (leopard tree) in the front garden of 11 Court Road Double Bay. This species has also been widely and successfully planted as a street tree in Brisbane and is a very good long term planting option. Excellent examples of *Koelreuteria paniculata* (Golden Rain Tree) street plantings can be seen in Glenmore Road Paddington, near Oxford Street and in Phelps Street Surry Hills.

Alternative tree options for the proposed *Robinia* shade/feature tree in the Kiaora plaza area include; *Angophora costata* (Smooth Barked Apple), *Jacaranda mimosifolia* (Jacaranda), *Caesalpinia ferrea* (Leopard tree) and *Koelreuteria paniculata* (Golden Rain Tree).

### **Species selection within Kiaora Road.**

The proposed re-planting of *Eucalyptus botrioides* along Kiaora Road shown on the submitted landscape concept plan is not advised. Although there is some merit in re-enforcing the existing theme (which is predominantly *Eucalyptus botrioides* and *Eucalyptus robusta*) the species becomes scrappy at maturity and commonly produces and drops deadwood. In a high target, retail shopping area the planting of this species should be avoided altogether. As with Kiaora Lane there are more favourable and reliable options for Kiaora Road. These include the use of *Angophora costata* (Smooth Barked Apple), *Jacaranda mimosifolia* (Jacaranda) or *Flindersia australis* (Crows Ash). Condition C.3 of this referral response also requires amendments are made to the nominated species selected for Kiaora Road.

### **Tree planting within Kiaora Lane to occur in tree pits within the road as opposed to raised planter boxes.**

The use of raised planter boxes for tree planting in Kiaora Lane as shown on the photomontage drawings (3D renderings 3109\_DA\_061-C) should not occur.

The desired outcome for undertaking tree planting along Kiaora lane should be to enable trees to grow to dimensions large enough to maximise shade and softening of the hard landscape context. This will only occur if proposed tree plantings are undertaken within road tree pits as

shown on Landscape drawing LSK 09582-010E. Tree planter boxes are not considered adequate enough in size to support a tree to grow to a natural, mature size. There is also the issue that trees in planter boxes generally require greater maintenance including frequent watering for their lifespan and the removal of rubbish like cigarette butts.

**Proposed removal of trees Tree 4, 33 and 34 listed as trees to be retained within the Kiaora lands Development Control Plan strategy to retain the tree lined character of streets on and surrounding Kiaora lands.**

There is some inconsistency between trees scheduled for removal on the submitted landscape plan and the tree removal/retention schedule and trees listed as those that should be retained within the Double Bay/Kiaora lands Development Control Plan's strategy to *retain the tree lined character of streets on and surrounding Kiaora Lands* (A2.3.2.6). Specifically, Tree 1 within the Double Bay DCP schedule (\*listed as Tree 4 within the submitted arboricultural report), Tree 9 (\*listed as Tree 33 within the supplied arboricultural report) and Tree 10 (\*listed as tree 34 within the supplied arboricultural report) are all listed as trees to be removed on the submitted landscape and tree retention/removal plan.

All of the London Plane trees located in Patterson and Anderson Streets were tested for internal decay in 2003. A number of these trees were recommended for removal either immediately or within the following 10 years. Tree 4 which is listed as a tree to be retained within the Kiaora lands development control plan strategy was recommended for removal within the following 10 years in the 2003 report. This tree is located at the proposed main Patterson Street entrance into the development. There is no argument regarding the contribution all of the London Plane trees make to the overall amenity and character of the precinct. However, this tree's existing location in relation to the proposed Patterson Street vehicle entrance would make it extremely difficult to retain unless significant modifications were made to the development, specifically the re-location of the Patterson Street vehicle entrance. In light of the 2003 recommendation to remove the tree within the next 10 years and the proposed location of the Patterson Street vehicle entrance, regardless of its listing within the Kiaora lands Development Control Plan strategy schedule as a tree to be retained this tree should be removed as per the tree removal/retention plan.

Similarly, tree numbered 34 within the submitted arboricultural assessment report is listed as Tree 10 within the Double Bay Development Control Plan strategy as a tree to be retained. This tree, similar to the London Plane tree in Patterson Road (Tree 4), stands at the entrance to the proposed Kiaora Road loading dock and would be very difficult to retain unless significant modifications to the design of the proposal were made.

On the other hand tree listed as Tree 9 within the Double Bay Development Control Plan strategy (listed as Tree 33 on the submitted tree retention/ removal plan) can be retained and protected in accordance with the recommendations within the supplied arborist's report. In this regard an amendment should be made to the supplied tree retention/removal plan which includes the retention of Tree 33.

**Stormwater lines and pits located within the root zones of Trees 12, Tree 15 and Tree 61.**

The location of stormwater lines and pits in proximity to Trees 12, 15 and 61 shown on the submitted stormwater concept plan is currently unacceptable. In particular, pits and pipes are proposed to be located at the base of and under trees 12 and 61 and within the structural root zone of Tree 15. The installation of these items in their proposed locations is yet another incursion in these areas that has the potential to result in damage to major structural roots and should be avoided. An amended stormwater concept plan which shows the installation of pipes and pits outside of the structural root zones of trees 12, 15 and 61 (and other trees scheduled to be retained) in accordance with Condition C.4 of this referral response is

required prior to the issue of a construction certificate. If the proposed layout is unable to be altered then details regarding the installation of the stormwater in its proposed current location using a methodology that will minimise root loss or damage (such as a trenchless technique) are to be detailed by the site arborist and submitted to Council for further review.

### **Tree security deposit bond**

All trees to be retained on the site that are located on Council property have been valued using the Thyer tree valuation method. With the potential for these trees to be damaged by site works the total value of the trees has been incorporated into Condition C.1 forming the *Tree damage security deposit bond* and must form part of the final conditions of consent for any development approval.

### **Excavation works within the Structural Root Zones and Tree Protection Zones of Trees 8, 12 and 15.**

The proposed works located within the tree protection zones and structural root zones of trees 8, 12 and 15 are considered major tree root zone incursions and have the potential to cause damage to the structural root zones of these trees. Works include changes to levels, re-alignment of roadways and a new roundabout in Patterson Street. All 3 specimens are significant in size and listed within the Kiaora lands schedule as trees to be retained as part of the strategy to *retain the tree lined character of the street*. There are a number of recommendations discussed within point 4.2.3 of the supplied arborist's report regarding the need for modifications to proposed works to occur within the root zones of trees 8, 12 and 15 to ensure the viable retention of these trees. Recommendations include;

- Amendments to the layout of the roundabout in Patterson Street to minimise incursion into the structural root zone of tree 8.
- Modifications to final levels to minimise root disturbance to Trees 12 and 15.
- The retention of the existing kerb adjacent to Tree 15 to minimise root disturbance.

In light of these recommendations Condition C.4 of this referral response has been created. Detailed drawings designed and/or endorsed by the site arborist that incorporate the recommendations outlined within section 4.2.3(*Recommendations for Tree Management*) of the submitted Tree Wise Men Arborists report (473 AIA) must be submitted to Council for further assessment prior to the issue of a Construction Certificate.

### **Tree Protection fencing within Condition D.1 of this referral response and Tree Protection Zones outlined in the supplied arborists report**

The radial distances outlined within Condition D.1 of this referral response for Tree Protection fencing is generally smaller than the Tree Protection zone measurements outlined in the submitted arborist's report. The arborists report has calculated Tree Protection zones using the *Australian Standard for the protection of trees on development sites*. In some instances Tree Protection zones are in excess of 13 metres in radius. The erection of tree fencing at these distances is deemed impractical in many instances and would make site access to sections of the proposed development unachievable. Radial distances for tree protection fencing within Condition D.1 have been calculated to be slightly larger than the structural root zone of the specific tree. Tree protection zone calculations from the supplied tree report have been incorporated into Condition E.3- *Work within tree root zones*. This condition ensures that works outside of the tree protection fencing but within the awarded tree protection zones are carried out under the supervision of the site arborist and in accordance with the recommendations for tree management within the supplied arborists report.

**RECOMMENDATIONS**

Council’s Tree and Landscape Officer has determined that the development proposal is satisfactory in terms of tree preservation and landscaping, subject to compliance with the following Conditions of Consent.

**CONDITIONS OF CONSENT**

*Please note that the standard conditions of consent are generally modified by the Technical Services Department to suit a particular development application. Please ensure all Technical Services conditions of consent are cut and pasted from this document only, and not inserted as standard conditions using the automatically generated (F3) function*

**TABLE OF CONTENTS**

- A. General Conditions .....5**
- A.1 Approved Plans and supporting documents .....6
- B. Conditions which must be satisfied prior to the demolition of any building or construction .....6**
- B.4 Arborists Periodic Site Inspection and Log .....6
- C. Conditions which must be satisfied prior to the issue of any construction certificate .....6**
- C.1 Payment of Security, Levies and Fees (S80A(6) & S94 of the Act, Section 608 of the Local Government Act 1993) .....6
- C.2 Excavation to accommodate the construction and re-alignment of driveways ,roads and roundabouts within the structural root zone or tree protection zone of Trees 8,12 and 15 .....7
- C.3 Tree Management Details .....7
- C.4 Amended Landscape Plan .....7
- C.5 Amended Stormwater Drainage Plan.....8
- D. Conditions which must be satisfied prior to the commencement of any development work.....9**
- D.1 Establishment of Tree Protection Fencing .....9
- E. Conditions which must be satisfied during any development work .....11**
- E.1 Tree Preservation .....11
- E.2 Tree Preservation & Approved Landscaping Works .....12
- E.6 Work within tree root zones..... **Error! Bookmark not defined.**
- F. Conditions which must be satisfied prior to any occupation or use of the building (Part 4A of the Act and Part 8 Division 3 of the Regulation) .....13**
- F.1 Amenity Landscaping .....13
- G. Conditions which must be satisfied prior to the issue of any Subdivision Certificate .....13**
- H. Conditions which must be satisfied prior to the issue of a Final Occupation Certificate (s109C(1)(c))13**
- H.1 Landscaping .....14
- I. Conditions which must be satisfied during the ongoing use of the development .....14**
- I.1 Maintenance of Landscaping .....14
- J. Miscellaneous Conditions .....14**
- K. Advisings.....14**
- K.1 Pruning or Removing a Tree Growing on Private Property .....14

**A. General Conditions**

## A.1 Approved Plans and supporting documents

Reference	Description	Author/Drawn	Date(s)
473AIA	Arborist Report	Tree Wise Men	May 2011
LSK 09582-001E	Tree Retention /Removal Plan	Context	November 2011

Standard Condition: A5

## B. Conditions which must be satisfied prior to the demolition of any building or construction

### B.1 Arborists Periodic Site Inspection and Log

To ensure the condition and health of existing trees are maintained, an arboricultural log book for the subject property, is to be prepared by a qualified arborist and retained by the site foreman. Details of the arborist's site inspections are to be recorded in the log during each visit. At each site visit the arborist must check and monitor the condition of existing trees and compliance with approved protection measures or recommend action to improve site conditions. As a minimum the following intervals of site inspections by a qualified arborist must be made.

Stage of arboricultural inspection	Minimum considerations at each stage	Additional visits required determined by arborist notes/comments
Prior to the demolition of any building or construction.	<ul style="list-style-type: none"> <li>Installation of Tree Protection completed in accordance with Tree Wise Men Arborist's report (reference number 473 AIA) and conditions of consent.</li> </ul>	Make additional site visits as deemed necessary for ongoing monitoring/supervisory work.
During development work.	<ul style="list-style-type: none"> <li>Ensure all tree protection requirements such as tree protection fencing and trunk protection and other approved works within tree root zones are complied with.</li> <li>Supervise any approved works including excavation, changes to levels, soft landscaping, changes to road way surfaces, installation of services and pipes and demolition of existing walls or hard surfaces within the tree protection zone awarded measurements outlined in Tree Wise Men Arborist's report (reference number 473 AIA)</li> <li>Monitor condition of trees.</li> </ul>	Visit site at <b>two week</b> intervals to monitor condition of protected trees.
Prior to the issue of a Final Occupation Certificate.	<ul style="list-style-type: none"> <li>Supervise the dismantling of tree protection measures.</li> </ul>	Make additional site visits as deemed necessary for ongoing monitoring of tree vigour.

## C. Conditions which must be satisfied prior to the issue of any construction certificate

### C.1 Payment of Security, Levies and Fees (S80A(6) & S94 of the Act, Section 608 of the Local Government Act 1993)

Description	Amount	Indexed	Council
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			Fee Code
<b>LONG SERVICE LEVY</b> under Building and Construction Industry Long Service Payments Act 1986			
<b>Tree Damage Security Deposit –</b> Making good any damage caused to any public tree as a consequence of the doing of anything to which the consent relates.	\$ 179,341	No	T600
<b>INSPECTION FEES</b> under section 608 of the Local Government Act 1993			
Public Tree Management Inspection Fee	\$166.00	No	T95

Standard Condition: C5

## C.2 Excavation to accommodate the construction and re-alignment of driveways, roads and roundabouts within the Structural root zone or Tree Protection zone of Trees 8, 12 and 15.

Drawings detailing and incorporating the recommendations outlined within section 4.2.3 (*Recommendations for Tree Management*) of the submitted Tree Wise Men Arborists report (473 AIA) for works within the structural root zones and tree protection zones of trees 8, 12 and 15 must be submitted to Council for further assessment.

Drawings must be shown to be endorsed and /or designed with the assistance of the site arborist and clearly illustrate and include the following:

- Amendments to the layout of the proposed roundabout in Patterson Street to minimize incursion within the Structural Root Zone of Tree 8.
- A works methodology for excavation within the Structural Root Zone and Tree Protection Zone of Trees 8, 12 and 15 that aims to minimize root loss or damage.
- Amendments to final levels that has consideration to the probability of tree roots existing within these areas.
- The use of load bearing materials that are sympathetic to root function and future root growth i.e.; structural soils.
- The retention of existing curbs, such as that existing at the base of Tree 15 and recommended for retention within the supplied arborists report.

## C.3 Tree Management Details

The *Construction Certificate* plans and specifications required by clause 139 of the *Regulation* must, show the following information;

- a) Trees to be numbered in accordance with these conditions,
- b) Shaded green where required to be protected and retained,
- c) Shaded yellow where required to be transplanted,
- d) Shaded blue where required to be pruned,
- e) Shaded red where authorised to be removed and,
- f) References to applicable tree management plan, arborists report, transplant method statement or bush regeneration management plan.

Standard Condition: C30

## C.4 Amended Landscape Plan

An amended Landscape Plan, prepared by a qualified Landscape Architect or Landscape Designer, in accordance with Councils Development Application Guide Annexure 8 and conforming to the conditions of this Development Consent must be

submitted to Council for further assessment. Additionally the amended landscape plan must include the following:

- 1) The proposed use of the species *Robinia pseudoacacia* ‘Frisia’ along Kiaora lane must be replaced with 1 of the following species:
  - *Caesalpinia ferrea* (Leopard Tree);
  - *Koelreuteria paniculata* (Golden Rain Tree);
  - *Pistacia chinensis* (Chinese pistachio).
  
- 2) The proposed use of the species *Robinia pseudoacacia* ‘Frisia’ shade/feature tree outside the library and within the Kiaora plaza area must be replaced with one of the following species:
  - *Jacaranda mimosifolia* (Jacaranda);
  - *Angophora costata* (Smooth Barked Apple);
  - *Koelreuteria paniculata* (Golden Rain Tree);
  - *Caesalpinia ferrea* (Leopard Tree).
  
- 3) The proposed use of the species *Eucalyptus botrioides* along Kiaora Road must be replaced with one of the following species:
  - *Flindersia australis* (Crow’s Ash);
  - *Jacaranda mimosifolia* (Jacaranda);
  - *Angophora costata* (Smooth Barked Apple).

### C.5 Amended Stormwater Drainage Plan

To minimise the potential for damage to existing tree root systems within the subject property and adjacent properties by the installation of sewer pipes, storm water pipes and stormwater drainage pits, an amended Stormwater Drainage Plan, conforming to the conditions of this Development Consent is to be submitted to Council for approval prior to issue of the Construction Certificate. The plan must maintain the following distances between existing trees within and adjoining the subject property and the location of proposed underground services.

Council Ref No:	Species	Location	Radius from centre of trunk (metres)
1	<i>Quercus robur</i> (English Oak)	Western end of Kiaora lane	4 metres
2	<i>Platanus hybrida</i> (London Plane)	Northern side of Patterson street	5 metres
3A	<i>Banksia integrifolia</i> (Coast Banksia)	Adjacent to Tree 2	2 metres
7	<i>Platanus hybrida</i> (London Plane)	Southern side of Patterson street	5 metres
8	<i>Platanus hybrida</i> (London Plane)	Southern side of Patterson Street	5 metres
12	<i>Platanus hybrida</i> (London Plane)	Western side of Anderson Street	4 metres
13	<i>Platanus hybrida</i> (London Plane)	Western side of Anderson Street	5 metres
14	<i>Platanus hybrida</i> (London Plane)	Eastern side of Patterson street	5 metres
15	<i>Platanus hybrida</i> (London Plane)	Eastern side of Anderson street	5 metres



31	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road	2 metres
33	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road	4 metres
35	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road	4 metres
56	<i>Celtis sinensis</i> (Chinese Nettle)	Front garden of 2 Anderson street	3 metres
61	<i>Jacaranda mimosifolia</i> (Jacaranda)	Rear garden of 2 Patterson street	4 metres
63	<i>Archontophoenix alexandrae</i> (Alexander palm)	Rear garden of 2 Patterson street	1.5 metres

Where it is unavoidable for underground services to pass within the specified radius of trees to be retained detailed plans showing the proposed routing must be prepared in conjunction with a qualified arborist using a methodology that will minimise root loss or damage (such as a trenchless technique) and submitted to Council for further review.

## C.6 Amended tree removal and tree retention plan

The submitted tree removal and retention plan must be amended to include the retention of Tree 33.

## D. Conditions which must be satisfied prior to the commencement of any development work

### D.1 Establishment of Tree Protection Fencing

To limit the potential for damage to trees to be retained, Tree Protection Fencing is to be established around all trees to be retained on site. The Tree Protection Fences are to comply with the following requirements;

#### a) Tree Protection Fenced areas

Council Ref No:	Species	Location	Radius from Trunk (metres)
1	<i>Quercus robur</i> (English Oak)	Western end of Kiaora lane	4 metres
2	<i>Platanus hybrida</i> (London Plane)	Northern side of Patterson street	5 metres
3A	<i>Banksia integrifolia</i> (Coast Banksia)	Adjacent to Tree 2	2 metres
7	<i>Platanus hybrida</i> (London Plane)	Southern side of Patterson street	5 metres
8	<i>Platanus hybrida</i> (London Plane)	Southern side of Patterson Street	5 metres
12	<i>Platanus hybrida</i> (London Plane)	Western side of Anderson Street	4 metres
13	<i>Platanus hybrida</i> (London Plane)	Western side of Anderson Street	5 metres

14	<i>Platanus hybrida</i> (London Plane)	Eastern side of Patterson street	5 metres
15	<i>Platanus hybrida</i> (London Plane)	Eastern side of Anderson street	5 metres
31	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road	2 metres
33	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road	4 metres
35	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road	4 metres
56	<i>Celtis sinensis</i> (Chinese Nettle)	Front garden of 2 Anderson street	3 metres
61	<i>Jacaranda mimosifolia</i> (Jacaranda)	Rear garden of 2 Patterson street	4 metres
63	<i>Archontophoenix alexandrae</i> (Alexander palm)	Rear garden of 2 Patterson street	1.5 metres

- b) Tree Protection Areas are to be fenced with a 1.8 metre high chainmesh or weldmesh fence to minimise disturbance to existing ground conditions. The area within the fence must be mulched, to a depth of 75mm, irrigated and maintained for the duration of the construction works.



**Figure 1.** A typical example of chainmesh fencing and signage to be installed as fencing for tree protection zones.

- c) Trunk protection, to a maximum height permitted by the first branches, is to be installed around the trunks of the trees listed in the table below;

Council Ref No:	Species	Location
1	<i>Quercus robur</i> (English Oak)	Western end of Kiaora lane
2	<i>Platanus hybrida</i> (London Plane)	Northern side of Patterson street
3A	<i>Banksia integrifolia</i> (Coast Banksia)	Adjacent to Tree 2
7	<i>Platanus hybrida</i> (London Plane)	Southern side of Patterson street
8	<i>Platanus hybrida</i> (London Plane)	Southern side of Patterson Street
12	<i>Platanus hybrida</i> (London Plane)	Western side of Anderson Street
13	<i>Platanus hybrida</i> (London Plane)	Western side of Anderson Street
14	<i>Platanus hybrida</i> (London Plane)	Eastern side of Patterson street
15	<i>Platanus hybrida</i> (London Plane)	Eastern side of Anderson street
33	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road
35	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road

56	<i>Celtis sinensis</i> (Chinese Nettle)	Front garden of 2 Anderson street
61	<i>Jacaranda mimosifolia</i> (Jacaranda)	Rear garden of 2 Patterson street
63	<i>Archontophoenix alexandrae</i> (Alexander palm)	Rear garden of 2 Patterson street

A padding material e.g. Hessian or thick carpet underlay is to be wrapped around the trunk first. Harwood planks, 50x100mm and to the maximum possible length, are to be placed over the padding and around the trunk of the tree at 150mm centres. These planks are to be secured in place by 8 gauge wire at 300mm spacing.



**Figure 2.** A typical example of trunk protection to be installed

- d) A sign must be erected on each side of the fence indicating the existence of a Tree Protection Zone and providing the contact details of the site Arborist.
- e) Existing soil levels must be maintained within Tree Protection Fenced Zone. Where excavation is undertaken adjacent such an area, the edge of the excavation must be stabilised, until such time as permanent measures are installed (e.g. retaining wall etc) to prevent erosion within the Tree Protection Zone.
- f) Sediment control measures are to be installed around all Tree Protection Fenced areas to protect the existing soil levels.
- g) The storage of materials, stockpiling, siting of works sheds, preparation of mixes, cleaning of tools or equipment is not permitted within Tree Protection Fenced Area.

Site personnel must be made aware of all Tree Protection requirements, measures and any actions that constitute a breach of the Conditions of Development Consent with regard to tree protection on site during their site induction.

**Note:** Water Restrictions take precedence over this condition. Having regard to water restrictions manual hosing may be necessary.

Standard Condition: D8

## **E. Conditions which must be satisfied during any development work**

### **E.1 Tree Preservation**

All persons must comply with Council's *Tree Preservation Order* ("the TPO"), other than where varied by this consent. The order applies to any tree, with a height greater than 5 metres or a diameter spread of branches greater than 3 metres, is subject to Council's *Tree Preservation Order* unless, exempted by specific provisions. Works to be carried out within a 5 metre radius of any tree, subject to the *Tree Preservation Order*, require the prior written consent of Council.

### **General Protection Requirements:**

- a) There must be no excavation or *work* within the required Tree Protection Fenced area(s). The Tree Protection Fenced area(s) must be maintained during all development work *unless otherwise specified*.
- b) Where excavation encounters tree roots with a diameter exceeding 50mm excavation must cease. The *principal contractor* must procure an inspection of the tree roots exposed by a qualified arborist. Excavation must only recommence with the implementation of the recommendations of the qualified arborist or where specific instructions are given by Council's Tree Management Officer in strict accordance with such Council instructions.
- c) Where there is damage to any part of a tree the *principal contractor* must procure an inspection of the tree by a qualified arborist immediately. The *principal contractor* must immediately implement treatment as directed by the qualified arborist or where specific instructions are given by Council's Tree Management Officer in strict accordance with such Council instructions.

**Note:** Trees must be pruned in accordance with *Australian Standard AS 4373 "Pruning of Amenity Trees"* and *WorkCover NSW Code of Practice Amenity Tree Industry*.  
Standard Condition: E8

## **E.2 Tree Preservation & Approved Landscaping Works**

All landscape works must be undertaken in accordance with the approved landscape plan, arborist report and tree management plan as applicable.

## **E.3 Work within tree root zones**

Any works undertaken within the specified radius from the trunks of the following trees (including excavation, changes to levels, soft landscaping, changes to road way surfaces, installation of services and pipes and demolition of existing walls or hard surfaces) must be supervised by the site arborist and carried out in accordance with the recommendations within the submitted tree management plan and tree protection plan. No root with a diameter equal to or in excess of 50mm is to be cut unless approved, in writing, by a qualified Arborist (minimum qualification of Australian Qualification Framework Level 4 or recognised equivalent).

All root pruning must be undertaken in accordance with the *Australian Standard 4373 "Pruning of Amenity Trees"* and carried out by a qualified Arborist (minimum qualification of *Australian Qualification Framework Level 4* or recognised equivalent).

Any exposed surface roots must be covered to prevent drying out and watered. Materials used to minimise surface roots drying out include leaf litter mulch or a geotextile fabric.

Beyond this radius, mechanical excavation is permitted, when root pruning by hand along the perimeter line of such works is completed.

<b>Council Ref No:</b>	<b>Species</b>	<b>Location</b>	<b>Radius from Trunk (metres)</b>
1	<i>Quercus robur</i> (English Oak)	Western end of Kiaora lane	10.8 metres
2	<i>Platanus hybrida</i> (London Plane)	Northern side of Patterson street	13.2 metres
3A	<i>Banksia integrifolia</i> (Coast Banksia)	Adjacent to Tree 2	2 metres
7	<i>Platanus hybrida</i> (London Plane)	Southern side of Patterson street	13.2 metres
8	<i>Platanus hybrida</i> (London Plane)	Southern side of Patterson Street	12 metres
12	<i>Platanus hybrida</i> (London Plane)	Western side of Anderson Street	4.8 metres
13	<i>Platanus hybrida</i> (London Plane)	Western side of Anderson Street	12 metres
14	<i>Platanus hybrida</i> (London Plane)	Eastern side of Patterson street	13.2 metres
15	<i>Platanus hybrida</i> (London Plane)	Eastern side of Anderson street	14.4 metres
33	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road	6 metres
35	<i>Eucalyptus botryoides</i> (Bangalay)	Kiaora Road	7.1 metres
56	<i>Celtis sinensis</i> (Chinese Nettle)	Front garden of 2 Anderson street	5.2 metres
61	<i>Jacaranda mimosifolia</i> (Jacaranda)	Rear garden of 2 Patterson street	7.2 metres
63	<i>Archontophoenix alexandrae</i> (Alexander palm)	Rear garden of 2 Patterson street	1.5 metres

## **F. Conditions which must be satisfied prior to any occupation or use of the building (Part 4A of the Act and Part 8 Division 3 of the Regulation)**

### **F.1 Amenity Landscaping**

The *owner* or *principal contractor* must install all approved amenity landscaping (screen planting, soil stabilisation planting, etc.) prior to any occupation or use of the site.

**Note:** This condition has been imposed to ensure that the environmental impacts of the development are mitigated by approved landscaping prior to any occupation of the development.  
Standard Condition: F6

## **G. Conditions which must be satisfied prior to the issue of any Subdivision Certificate**

Nil

## **H. Conditions which must be satisfied prior to the issue of a Final Occupation Certificate (s109C(1)(c))**

## H.1 Landscaping

All landscape work including all planting must be completed by the *principal contractor* or *owner* in compliance with the approved landscape plan, arborist report, transplant method statement and tree management plan. The *principal contractor* or *owner* must provide to PCA a works-as-executed landscape plan and certification from a qualified landscape architect/designer, horticulturist and/or arborist as applicable to the effect that the works as completed comply with this consent.

**Note:** This condition has been imposed to ensure that all Landscaping work is completed prior to the issue of the *Final Occupation Certificate*.

Standard Condition: H9

## I. Conditions which must be satisfied during the ongoing use of the development

### I.1 Maintenance of Landscaping

All landscaping must be maintained in general accordance with this consent.

**Reason:** This condition has been imposed to ensure that the landscaping design intent is not eroded over time by the removal of landscaping or inappropriate exotic planting.

**Note:** This condition also acknowledges that development consent is not required to plant vegetation and that over time additional vegetation may be planted to replace vegetation or enhance the amenity of the locality. Owners should have regard to the amenity impact of trees upon the site and neighbouring land. Further, drought proof vegetation being native species endemic to the immediate locality is encouraged. Suggested native species endemic to the immediate locality are listed in the Brochure Titled "Local Native Plants for Sydney's Eastern Suburbs" published by Woollahra, Waverley, Randwick and Botany Bay Councils.

Standard Condition: I8

## J. Miscellaneous Conditions

Nil

## K. Advisings

### K.1 Pruning or Removing a Tree Growing on Private Property

Woollahra Municipal Council's *Tree Preservation Order 2006* (TPO) may require that an application be made to Council prior to pruning or removing any tree. The aim is to secure the amenity of trees and preserve the existing landscape within our urban environment.

Before you prune or remove a tree, make sure you read all relevant conditions. You can obtain a copy of the TPO from Council's website [www.woollahra.nsw.gov.au](http://www.woollahra.nsw.gov.au) or you may contact Council on 9391-7000 for further advice.

Standard Condition: K19



Nick Williams  
**Tree Officer**