

DEVELOPMENT ASSESSMENT REPORT			
Application No.	DAREV/2019/1		
Address	Strata Scheme, 15 King Street, BALMAIN NSW 2041		
Proposal	Review of Determination of D/2018/563 which was refused		
	seeking consent for removal of tree in southern corner of		
	site.		
Date of Receipt	23 January 2019		
Applicant	Verdun Walsh Strata Management		
Owner	The Owners of Strata Plan No 21630		
Number of Submissions	8 submissions (2 objections and 6 letters of support)		
Reason for determination	Confirm original determination by way of refusal		
at Planning Panel			
Main Issues	Landscape Amenity; Tree Removal		
Recommendation	Refusal		
Attachment A	Building Report & Arboricultural Tree Assessment		
Attachment B	Draft conditions of consent (if not refused)		
ROVE RD SEP T			



	LOCALITY MAP	
Subject Site	Objectors	↑ N
Notified Area	Supporters	

## 1. Executive Summary

This report is an assessment of the application submitted to Council for a review of D/2018/563 (refused on 22 November 2018) in accordance with Section 8.2 of the Environmental Planning and Assessment Act 1979. The application seeks a change of determination to the previous refusal of an application for removal of one tree in the southern corner of the site at 15 King Street Balmain

The application was notified to surrounding properties and eight (8) submissions were received, being 3 objections and 5 letters in support.

The main issues that have arisen from the application include:

- Insufficient information to justify tree removal
- Loss of landscape amenity

The proposal is inconsistent with the requirements of Section C1.14 Tree Management under Leichhardt Development Control Plan 2013.

Given the proposal does not adequately justify the removal of a tree of high landscape amenity value and excellent health and condition, the application is not supported and is recommended for refusal.

## 2. Proposal

The application seeks a review of D/2018/563 for removal of one tree in the southern corner of the site, which was determined by way of refusal on 22 November 2018.

The proposal remains unchanged from the original development and involves the removal of the following tree:

• 1 x *Platanus x acerifolia* (London Plane) located in the southern corner of the site adjacent to external access stairs and driveway off King Street. The tree has an estimated height of 16m and spread of 12m.

In addition to the Arboricultural Tree Assessment prepared by Bradshaw Tree Services, dated 8 October 2018, the current application has been accompanied with a Structural Engineering and Building Report prepared by Hamilton & Co Building Diagnostics Pty Ltd, dated 10 January 2019, identifying existing damage caused by tree root pressure.

The location of the subject tree to be removed is indicated in the aerial photo below.



Figure 1: Location of subject tree at 15 King Street.

## 3. Site Description

The site is approximately 941sqm in area and has a frontage of approximately 23m to King Street. The site is located on the north-eastern side of the street.

The site presently accommodates a four storey residential flat building. The adjoining properties consist of one and two storey dwellings.

The site is located within the distinctive neighbourhood of Birchgrove.

The subject site is not a heritage item or in the vicinity of a heritage item, but is located within the Iron Cove Heritage Conservation Area.

## 4. Background

## 4(a) Site history

The following table outlines the development history of the subject site.

Date	Application No	Application Details	Outcome
22/11/2018	D/2018/563	Removal of tree in southern corner of site.	Refused
19/4/2011	T/2011/101	Removal of 1 x Planatus spp from the common property	Refused

## **Surrounding History**

Not applicable.

## 4(b) Application history

The following table outlines the relevant history of the subject application.

Date	Discussion / Letter/ Additional Information		
9/4/2019	Council sent a letter requesting withdrawal of the application within 14		
	days given tree removal was not supported.		

## 5. Section 8.2 Review

Section 8.2 of the Environmental Planning and Assessment Act, 1979 allows an applicant to request Council to review the determination of an application. The review is to be carried out in accordance with the requirements discussed in the following.

A review of a determination cannot be carried out on a complying development certificate, or a determination in respect of designated development, or a determination made by the council under section 4.33 in respect of an application by the Crown.

The subject application was not complying development, designated development or an application made by the Crown.

A determination cannot be reviewed after the time limit for making of an appeal under Section 8.7 expires, being 6 months from the original determination.

The subject application was determined on 22 November 2018. The request for review was received by Council on 23 January 2019 (and must therefore be determined by 22 May 2019).

The prescribed fee must be paid in connection with a request for a review.

The applicant has paid the applicable fee in connection with the request for a review.

In requesting a review, the applicant may make amendments to the development described in the original application, provided that Council is satisfied that the development, as amended, is substantially the same as the development described in the original application. The proposal remains unchanged from the original application and as such, this test is satisfied.

The review of determination has been notified in accordance with the regulations, if the regulations so require, or a development control plan, if the council has made a development control plan that requires the notification or advertising of requests for the review of its determinations.

The application was advertised for a period of 14 days. The advertising period was between 5 February 2019 to 19 February 2019.

Consideration of any submissions made concerning the request for review within any period prescribed by the regulations or provided by the development control plan.

Refer to discussion under Section 7 of this Report.

As a consequence of a review, Council may confirm or change the determination. After reviewing the determination of the application, it is recommended that the IWLPP confirm the original determination of the application which was by way of refusal.

The review must not be made by the person who determined the original but is to be made by another delegate of the council who is not subordinate to the delegate who made the determination. If the original determination was made by the Council then the review is also to be considered by the Council.

The review of the application is reported to the IWLPP meeting on 7 May 2019 in accordance with the above requirement.

## 6. Reasons for Refusal

The original Development Application was refused on 22 November 2018. The reasons for refusal and discussion on how the proposal addresses these reasons are as follows.

- 1. The proposal does not satisfy the following Clauses of the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 pursuant to Section 4.15(1)(a)(i) of the Environmental Planning and Assessment Act 1979:
  - i) Clause 3(a) Aims of policy

ii) Clause 3(b) - Aims of policy

Comment: It is considered that the proposal will not result in any adverse impacts to biodiversity values but is inconsistent with the aim of the Policy under Clause 3(b) to preserve the amenity of non-rural areas of the State though the preservation of trees. It is noted that a permit under Part 3 of the Policy cannot be issued for the clearing of vegetation that is or forms part of a heritage item or that is within a heritage conservation area. An appropriate application for development consent relating to the subject tree removal has been made.

- 2. The proposal does not satisfy the following Clauses of the Leichhardt Local Environmental Plan 2013 pursuant to Section 4.15(1)(a)(i) of the Environmental Planning and Assessment Act 1979:
  - i) Clause 1.2 Aims of plan
  - ii) Objectives of Zone R1 General Residential

**Comment:** Refer to discussion under Section 7(a)(i) of this Report. As the proposal does not provide adequate justification to support removal of the tree, it fails to be consistent with the aims of Plan under Clauses 1(b), (c), and (t) and the objectives of the zone.

- 3. The proposal does not satisfy the following Parts of the Leichhardt Development Control Plan 2013, pursuant to Section 4.15(1)(a)(iii) of the Environmental Planning and Assessment Act 1979:
  - i) Part C Section 1 C1.0 General Provisions
     ii) Part C Section 1 C1.12 Landscaping

  - iii) Part C Section 1 C1.14 Tree Management
  - iv) Part C Section 1 C2.2.2.6 Birchgrove Distinctive Neighbourhood

Comment: Refer to discussion under Section 7(a)(iii) of this Report. As the proposal does not provide adequate justification to support removal of a tree of excellent health and landscape amenity value, it fails to be consistent with Sections C1.0, C.1.12, C1.14 and C.2.2.2.6 of the Leichhardt Development Control Plan 2013.

4. The proposal will result in adverse built environment impacts pursuant to Section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979.

**Comment:** Refer to discussion under Section 7 of this Report.

5. The proposal is not considered suitable for the site pursuant to Section 4.15(1)(c) of the Environmental Planning and Assessment Act 1979.

**Comment:** Refer to discussion under Section 7 of this Report.

6. The proposal is not considered to be in the public interest pursuant to Section 4.15(1)(e) of the Environmental Planning and Assessment Act 1979.

**Comment:** Refer to discussion under Section 7 of this Report.

#### 7. Section 4.15 Assessment

The following is a summary of the assessment of the application in accordance with Section 4.15 of the Environmental Planning and Assessment Act 1979.

## 7(a) Environmental Planning Instruments

The application has been assessed against the relevant Environmental Planning Instruments listed below:

- State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017
- State Environmental Planning Policy (Coastal Management) 2018
- Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005
- Leichhardt Local Environmental Plan 2013

The following provides further discussion of the relevant issues:

## 7(a)(i) State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

A permit under Part 3 of the Policy cannot be issued for the clearing of vegetation that is or forms part of a heritage item or that is within a heritage conservation area. An appropriate application for development consent relating to the subject tree removal has been made.

## 7(a)(ii) State Environmental Planning Policy (Coastal Management) 2018

The subject site is not located within the coastal zone and as such, these provisions are not applicable.

## 7(a)(iii) Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

The subject site is not within the Foreshores and Waterways Area.

## 7(a)(iv) Leichhardt Local Environment Plan 2013 (LLEP 2013)

The application was assessed against the following relevant clauses of the Leichhardt Local Environmental Plan 2013:

- Clause 1.2 Aims of the Plan
- Clause 2.3 Zone objectives and Land Use Table
- Clause 5.10 Heritage Conservation

The following provides further discussion of the relevant issues:

### Clause 1.2 Aims of Plan

As the proposal does not provide adequate justification to support the removal of the tree, it fails to be consistent with following aims of the LLEP 2013:

- (b) to minimise land use conflict and the negative impact of urban development on the natural, social, economic, physical and historical environment,
- (c) to identify, protect, conserve and enhance the environmental and cultural heritage of Leichhardt.
- (t) to ensure that development responds to, conserves, protects and enhances the natural environment, including terrestrial, aquatic and riparian habitats, bushland, biodiversity, wildlife habitat corridors and ecologically sensitive land

## Clause 2.3 – Zone objectives and Land Use Table

As the proposal does not provide adequate justification to support the removal of the tree, it fails to be consistent with following objectives of the R1 General Residential zone:

- To provide housing that is compatible with the character, style, orientation and pattern of surrounding buildings, streetscapes, works and landscaped areas.
- To provide landscaped areas for the use and enjoyment of existing and future residents.

## Clause 5.10 Heritage Conservation

The subject site is located within the Iron Cove conservation area.

The statement of significance for the Iron Cove conservation area states:

 One of a number of conservation areas which collectively illustrate the nature of Sydney's early suburbs and Leichhardt's suburban growth particularly between 1871 and 1891, with pockets of infill up to the end of the 1930s (ie prior to World War II). The earliest developments here predate Leichhardt's main suburban growth with marine villas and cottages from the 1840s to modest-scale housing from 1870s through to the 1930s, and industry. It is significant for its surviving development from these periods.

- One of a number of conservation areas that collectively illustrate the nature of Sydney's early suburbs and Leichhardt's suburban growth particularly between 1871 and 1891, with pockets of infill up to the end of the 1930s (ie prior to World War II). This area is important for illustrating development particularly from 1870s–1910s, and this forms the major element of its identity, with later pockets of infill prior to World War II (ie pre-1939).
- Through the route of its main access roads, demonstrates the subdivision sections, closely related to the landform, drawn up by Surveyor Langley for the sale of Gilchrist's Balmain grant after 1852.
- Illustrates through its irregular small street layout, and varied allotment width and length (within a limited range), the many different groups of speculators and subdividers involved in the development of the area.
- Through the materials of its outer masonry walls, demonstrates the rapid advances in brick making in the Sydney area over the period 1870s–1910s.
- Through its now rare weatherboard buildings it continues to demonstrate the nature of that major construction material in the fabric of early Sydney suburbs.

While the subject tree makes a positive contribution to the streetscape, it does not form part of the heritage significance of the conservation area. Therefore, it is considered that tree removal will not result in any adverse heritage impacts.

## 7(b) Draft Environmental Planning Instruments

## **Draft State Environmental Planning Policy (Environment) 2018**

The NSW government has been working towards developing a new State Environmental Planning Policy (SEPP) for the protection and management of our natural environment. The Explanation of Intended Effect (EIE) for the Environment SEPP was on exhibition from 31 October 2017 until 31 January 2018. The EIE outlines changes to occur, implementation details, and the intended outcome. It considers the existing SEPPs proposed to be repealed and explains why certain provisions will be transferred directly to the new SEPP, amended and transferred, or repealed due to overlaps with other areas of the NSW planning system.

This consolidated SEPP proposes to simplify the planning rules for a number of water catchments, waterways, urban bushland and Willandra Lakes World Heritage Property. Changes proposed include consolidating seven existing SEPPs including Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005. The proposed development would be consistent with the intended requirements within the Draft Environment SEPP.

## 7(c) Development Control Plans

The application has been assessed against the relevant Development Control Plans listed below:

Leichhardt Development Control Plan 2013

The application has been assessed and the following provides a summary of the relevant provisions of Leichhardt Development Control Plan (LDCP) 2013.

Part	Compliance
Part A: Introductions	
Section 3 – Notification of Applications	Yes
Part B: Connections	

B1.1 Connections – Objectives	Yes
Part C	
C1.0 General Provisions	No – See discussion
C1.4 Heritage Conservation Areas and Heritage Items	Yes
C1.12 Landscaping	No – See discussion
C1.14 Tree Management	No – See discussion
Part C: Place – Section 2 Urban Character	
Suburb Profile	
C2.2.2.6 Birchgrove Distinctive Neighbourhood, Birchgrove	No – See discussion

The following provides discussion of the relevant issues:

## C1.0 – General Provisions

The proposal is not consistent with the general provisions given it results in a loss of landscape amenity and canopy cover. Refer to further discussion below.

## C1.12 – Landscaping

The objectives of C1.12 Residential Development are:

- O1 Development includes on-site landscaped open space that:
  - a. enhances the visual setting of buildings;
  - b. contributes to the distinct landscape character within the neighbourhoods and preserves, retains and encourages vegetation and wildlife that is indigenous to the municipality and Sydney;
  - c. preserves or retains natural features such as rock outcrops that contribute to the landscape of the area;
  - d. conserves water resources by reducing the need for irrigation:
  - e. maximises vegetation to regulate and increase rainwater infiltration, thereby increasing nutrient recycling and reducing surface runoff;
  - f. is compatible with the heritage significance of the place;
  - g. contributes to the amenity of the residents and visitors;
  - h. where involving new plantings, benefit the building's energy efficiency;
  - i. protects and retains existing trees on the subject and surrounding sites, including the street verge; and
  - is designed to encourage the retention and enhancement of green corridors.

Removal of the tree is not supported as it is considered to result in the loss of landscape amenity and canopy cover that will detract from the visual appeal of the neighbourhood.

### C1.14 – Tree Management

The proposed tree removal is not consistent with the *Tree Management Controls* under C1.14.7 which provides the criteria under which the removal of a prescribed tree is to be assessed:

- a. the tree is located where the prevailing environmental conditions are unsuitable;
- b. the tree is in a state of irreversible decline or is dead;
- c. the tree poses a threat to human life or property;
- d. the tree is causing significant damage to public infrastructure which cannot be remediated by any other reasonable and practical means;
- e. the replacement of damaged or failed sewer pipes or storm water lines cannot reasonably be undertaken with the retention of the tree;
- f. the tree is not deemed to be a tree of landscape significance; and

g. replacement planting can better achieve the objectives of this section of the Development Control Plan within a reasonable time.

A site inspection was undertaken on 15 March 2019 by Council Officers independent of the original Development Application.

The following observations were recorded and Arboricultural advice was provided below.

- The following documents have been reviewed:
  - Arboricultural Tree Assessment prepared by Bradshaw Tree Services, 8<sup>th</sup> October 2018
  - o Expert Report prepared by Hamilton & Co, 10<sup>th</sup> January 2019.
  - o Notice of Determination D/2018/563, Refusal, 22 November 2019.
- Arboricultural assessment finds that the subject *Platanus x acerifolia* (London Plane) tree has excellent health and condition.
- The applicant's arborist finds that the tree is causing property damage that will
  continue to be projected into the future as the tree matures. He has recommended
  whole tree removal.
- Property damage of concern includes;
  - uplifting of the concrete driveway at the front entrance which may constitute a trip hazard and a safety issue and identified as Damage category 3 or 4 in accordance with Table 2C, AS 2870 Residential Slabs and Footings
  - surface cracking of concrete within close proximity to the tree, creating areas of surface water ponding
  - damage to the concrete staircase and skirting tiles resulting in compromised structural fabric of the staircase
  - development of cracking to the external southern brickwork wall below the stairway
  - o damage to underground plumbing/sewerage services, and
  - o damage to neighbouring 13 King Street pathways.

It is acknowledged that there is some damage to the driveway entrance, structures and infrastructure that may be caused in part by the tree's roots. However, whilst there is no question that the tree roots are contributing, it appears likely that the concrete surfaces and plumbing infrastructure are quite old and would require maintenance/repairs, over time, regardless of the trees proximity.

- An alternative to tree removal has not been considered by the expert arborist or building assessor. Tree roots have not been exposed and considered for pruning or removal when repairs/reinstatement of the driveway is being undertaken. Also the concrete, paved stairs and small garden edge could be restored without the need to remove the tree.
- The conflict between roots and pipes does not justify the removal of the Plane Tree.
  When a pipe cracks it is inevitable that fine roots will penetrate the pipe and will then
  proliferate causing the crack to worsen and the pipe to become blocked. Removing a
  single tree will rarely solve the problem. Roots from other trees will also penetrate
  pipes once they are cracked.

Repairs to aged infrastructure can be undertaken without requiring the removal of a large, health tree. Investigation of the root system, by careful removal of cracked concrete, under arborist supervision, when repairs are being undertaken will identify roots suitable for pruning or removal to allow reinstatement of the new driveway.

Advisory Note: Any future tree removal applications should include root mapping and exploration giving consideration to site remediation without removing the tree.

The above tree is considered to have high landscape value and does not meet the criteria for removal of a prescribed tree in accordance with Section C1.14.7 of Council's Tree Management Controls.

In this regard, whilst it is acknowledged that some structural damage may be partly attributable to the tree, it is considered that inadequate justification has been provided to support the proposed tree removal given:

- Contrary to Control C14 of Section C1.14.7, the Report prepared by Hamilton & Co Building Diagnostics does not examine feasible alternatives for the remediation of the impacts without the removal of the tree.
- Control C19 of Section C1.14.10 requires the results and an explanation of any diagnostic testing undertaken in support of an application.

In light of the above and based on the information submitted, tree removal is not supported in this instance as removal will be inconsistent with Council's Tree Management Controls as prescribed in Section C1.14 of LDCP 2013.

### C2.2.2.6 Birchgrove Distinctive Neighbourhood, Balmain

The *Desired Future Character* controls do not specifically relate to trees on private property. However, the existing character statement states that "most trees in the area are mature exotic trees located on private land" and as such, it is considered that the removal of the subject tree would be inconsistent with the character of the neighbourhood.

Therefore, as noted previously, removal of the tree is not supported as it is considered to result in the loss of landscape amenity and canopy cover that will detract from the visual appeal of the neighbourhood.

## 7(d) Environmental Planning and Assessment Regulation 2000

The application has been assessed against the relevant clauses of the Environmental Planning and Assessment Regulation 2000. The application fully complies with the Environmental Planning and Assessment Regulation 2000.

# 7(e) The likely environmental both natural and built environment, social and economic impacts in the locality

The assessment of the application demonstrates that the proposal will have an adverse impact on the locality in terms of loss of landscape amenity.

## 7(f) The suitability of the site for the development

The site is zoned R1 General Residential. It is considered that the proposal will have an adverse impact on landscape amenity and the streetscape and therefore it is considered that the site is unsuitable to accommodate the proposed development.

## 7(g) Any submissions made in accordance with the Act or the regulations

The application was notified for a period of 14 days. The notification period was from 5 February 2019 to 19 February 2019.

8 submissions (2 objections and 6 letters in support) were received during the advertising period.

The following issues raised in submissions have been discussed in this report:

- Loss of landscape amenity value and canopy cover; and
- Structural damage, I and trip hazard caused by the tree.

## 7(h) The public interest

The public interest is best served by the consistent application of the requirements of the relevant Environmental Planning Instruments, and by Council ensuring that any adverse effects on the surrounding area and the environment are appropriately managed.

The proposal is contrary to the public interest given the broader streetscape and environmental benefits associated with the retention of a mature, healthy canopy tree.

## 8. Referrals

## 8(a) Internal

The application was referred to the following internal sections/officers and issues raised in those referrals have been discussed in section 5 above.

- Landscape: Tree removal not supported due to inadequate justification and loss of landscape amenity.

## 8(a) External

The application was not referred to any external bodies.

## 9. Section 7.11 Contributions

Section 7.11 contributions are not payable for the proposal.

## 10. Conclusion

This application has been assessed under Section 8.2 of the Environmental Planning and Assessment Act, 1979 and is considered to be unsatisfactory. Therefore the application is recommended for refusal for the reasons listed below.

### 11. Recommendation

That the Inner West Local Planning Panel exercising the functions of the Council as the consent authority, pursuant to s4.16 of the Environmental Planning and Assessment Act 1979, confirms the original determination, being the refusal of Development Application No. D/2018/563 for removal of tree in southern corner of the site at 15 King Street Balmain, for the following reasons:

- 1. The proposal does not satisfy the following Clauses of the State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 pursuant to Section 4.15(1)(a)(i) of the Environmental Planning and Assessment Act 1979:
  - i) Clause 3(b) Aims of policy

- 2. The proposal does not satisfy the following Clauses of the Leichhardt Local Environmental Plan 2013 pursuant to Section 4.15(1)(a)(i) of the Environmental Planning and Assessment Act 1979:
  - i) Clause 1.2 Aims of plan
  - ii) Objectives of Zone R1 General Residential
- 3. The proposal does not satisfy the following Parts of the Leichhardt Development Control Plan 2013, pursuant to Section 4.15(1)(a)(iii) of the Environmental Planning and Assessment Act 1979:
  - i) Part C Section 1 C1.0 General Provisions
  - ii) Part C Section 1 C1.12 Landscaping
  - iii) Part C Section 1 C1.14 Tree Management
  - iv) Part C Section 1 C2.2.2.6 Birchgrove Distinctive Neighbourhood
- 4. The proposal will result in adverse built environment impacts pursuant to Section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979.
- 5. The proposal is not considered suitable for the site pursuant to Section 4.15(1)(c) of the Environmental Planning and Assessment Act 1979.
- 6. The proposal is not considered to be in the public interest pursuant to Section 4.15(1)(e) of the Environmental Planning and Assessment Act 1979.

## **Attachment A – Building Report & Arboricultural Tree Assessment**



12 Lyndhurst Street, Gladesville NSW 2111 Email: admin@hamilton-co.com.au Mobile: 0421 068 431

## **EXPERT REPORT**

Prepared on: behalf of

Owners Corporation of Strata Plan 21630

For the: property at

15 King Street, Balmain.

Prepared by:

Mr Stephen Hamilton

Director

Hamilton & Co Building Diagnostics Pty Ltd

Date:

10 January 2019

## **TABLE OF CONTENTS**

1.0	INTRODUCTION	3
2.0	OBSERVATIONS	4
3.0	COMMENTARY5	j
4.0	SIGN OFF	3

### 1.0 INTRODUCTION

- 1.1 This Expert Report has been prepared by Mr Stephen Hamilton from Hamilton & Co Building Diagnostics Pty Ltd, as requested by Verdun Walsh Strata Management on behalf of the Owners Corporation of Strata Plan 21630. A copy of Mr Hamilton's resume is annexed to this report in Appendix B.
- 1.2 I understand that there is a large tree within the subject property at 15 King Street, Balmain that is causing damage to the common area surrounds. The purpose of this report is to assess the nature and extent of the damage to the property and the contribution of the tree towards the damage.
- 1.3 This report should not be copied or distributed to third parties without the prior written consent of the author.
- 1.4 To my knowledge, no conflicts of interest exist in respect of my appointment in this matter.
- 1.5 I have prepared report with impartiality and in accordance with the Expert Witness Code of Conduct, namely, Uniform Civil Procedure Rules 2005 Schedule 7. I acknowledge that I have read the code and agree to be bound by the code. A copy of the aforementioned code is annexed to this report in Appendix C.
- 1.6 This report is preceded by an Arboricultural Tree Assessment Report prepared by Bradshaw Tree Services on behalf of the Owners Corporation which is annexed to this report in Appendix D.
- 1.7 I conducted a site inspection of the property on Thursday 20<sup>th</sup> December, 2018 under fine weather conditions. A representative of the Strata Committee, Mary Coupe was in attendance.
- 1.8 For the purpose of this report, King Street is deemed west.
- 1.9 A satellite view of the site is provided below for clarity.



### 2.0 OBSERVATIONS

An inspection of the subject tree and the surrounding common area revealed the following.

- > The tree is located on the south western corner of the site directly adjacent to the southern suspended reinforced concrete walkway and staircase;
- > The tree is large with an extensive canopy that extends over the subject property and the neighbouring property at 13 King Street, Balmain;
- > There is pronounced uplift and surface cracking to the existing concrete driveway at the front entrance to the property;
- > There is pronounced surface cracking to the existing concrete driveway adjacent to the front entrance is line with the southernmost undercroft garage;
- > There is pronounced uplift and surface cracking to a section of the existing concrete driveway adjacent to the southern Colorbond boundary fence;
- > There is pronounced surface cracking to the existing concrete driveway in front of Unit 14 garage;
- There is pronounced cracking and debonding of the floor and skirting tiling to the bottom three risers and treads to the reinforced concrete staircase that provides access to the walkway;
- > There is significant cracking and damage to the base of the reinforced concrete staircase;
- > There is noticeable uplift of the reinforced concrete staircase which has resulted in the distortion of the staircase causing it to lean adversely towards the external southern brickwork façade;
- There is pronounced cracking to the external southern brickwork wall below walkway level adjacent to the top of the staircase;
- > The low height garden retaining walls directly adjacent to the tree are suffering lateral displacement and have failed;
- The low height eastern garden retaining in close proximity to the tree is suffering cracking and uplift;
- Trenches in close proximity to the tree have been previously cut into the concrete driveway to accommodate replacement pipework;
- > There is evidence of recent concrete works adjacent to the eastern laundry.

### 3.0 COMMENTARY

### 3.1 Arboricultural assessment

The species, age and extent of the existing tree at the subject property has been evaluated and documented in the Arboricultural Tree Assessment prepared by Mr Tristan Bradshaw from Bradshaw Tree Services dated 8<sup>th</sup> October 2018.

Mr Bradshaw has drawn the conclusion that the tree is causing damage to the surrounding property and the damage will continue to be projected into the future as the tree matures. Mr Bradshaw has recommended the removal of the tree.

### 3.2 Inner West Council Rejection

Inner West Council issued a Notice of Determination of a Development Application (No D/2018/563) dated 20th November 2018 to Verdun Walsh Strata Management. The Development Application was refused

Inner West Council issued earlier correspondence dated 9<sup>th</sup> November 2018 to Verdun Walsh Strata Management requesting the Owners Corporation to withdraw the application to remove the tree. The contents of this letter are discussed further in Section 3.3

In the same correspondence, it is stated that Council records indicate that a previous application by the Owners Corporation to remove the tree was refused by Council dated 19<sup>th</sup> April 2011. At the time of determination, Council's officer stated that the damage was considered minor and could not be directly attributable to the tree. Assuming the accuracy of the Council's officer's assessment in 2011 and the current levels of damage that I have identified, I believe that it is reasonable to suggest that the damage to the property has manifested over the preceding seven years.

### 3.3 Structural assessment

There is in my opinion compelling evidence to suggest that the tree is causing structural damage to the common area of the subject property.

### 3.3.1 Concrete driveway

There is pronounced uplift to the concrete driveway at the front entrance in close proximity of the tree as indicated by the change in level between adjoining concrete panels. The uplift to the driveway is concentrated in the vicinity of the tree which in my view is not uncommon where large tree roots extending out from the trunk exert pressure on the surrounding structures.

There is also evidence of surface cracking and subsidence to the concrete driveway which is concentrated in the vicinity of the tree.

Inner West Council in their correspondence dated 9th November 2018 stated that there is no correlation between the current poor condition of the concrete driveway and subject tree. Factors such as the age and life expectancy of the driveway, sub-soil movement and hydrostatic pressure are factors in the current condition of the driveway.

I note that cracking and subsidence to concrete driveways is not uncommon, particularly as the concrete ages and shrinkage cracks increase with the infiltration of water. Inner West Council has opined that sub-soil movement could be a contributing factor to the damage to the concrete driveway based on alleged mould under the staircase and dampness to the soil around the tree. The soil around the tree is for landscaping purposes and not indicative of the base and sub-base layers that would normally be placed and compacted beneath a concrete driveway. With this considered, the notion that sub-soil movement is a contributing factor to the damage to the concrete driveway is in my opinion unfounded and has not basis.

The observed surface cracking is concentrated in the vicinity of the tree and the sections of concrete driveway away from the influence of the tree appear to be less affected by cracking and subsidence. The contribution of the tree to the surface cracking is in my view difficult to establish however given the extent of the uplift to the concrete, the tree in my opinion has contributed to the cracking, or part of, to the concrete driveway.

Inner West Council has opined that hydrostatic pressure could be a contributing factor to the damage to the concrete driveway. Hydrostatic pressure is a complex Geotechnical issue and its measurement requires a thorough analysis of groundwater across the catchment. I understand that there is no history of inundation of water affecting the subject property, particularly the undercroft garages. If there was a hydrostatic pressure affecting the site, then the ill effects in my view would have emerged many years ago. On that basis, the notion that hydrostatic pressure is a contributing factor to the damage to the concrete driveway, particularly uplift is in my opinion unfounded and has not merit.

The uplift to the concrete driveway in my opinion has been caused by tree root pressure.

Table C2 in AS2870 "Residential slabs and footings" – 2011 outlines Damage Categories for differing levels of damage to concrete floors which is shown below.

TABLE C2 CLASSIFICATION OF DAMAGE WITH REFERENCE TO CONCRETE FLOORS			
Description of typical damage	Approx. crack width limit in floor	Change in offset from a 3 m straightedge centred over defect (see Note 1)	Damage category
Hairline cracks, insignificant movement of slab from level	<0.3 mm	<8 mm	0 Negligible
Fine but noticeable cracks. Slab reasonably level	<1.0 mm	<10 mm	1 Very slight
Distinct cracks. Slab noticeably curved or changed in level	<2.0 mm	<15 mm	2 Slight
Wide cracks. Obvious curvature or change in level	2 mm to 4 mm	15 mm to 25 mm	3 Moderate
Gaps in slab. Disturbing curvature or change in level	4 mm to 10 mm	>25 mm	4 Severe

Based on the extent of uplift to the concrete driveway, I am of the view that the uplift would fall into the bracket of Damage Category 3 or 4 in accordance with Table C2 and constitute structural damage.

The current levels of uplift has created unevenness to the concrete driveway which in my view constitutes a trip hazard and a safety issue for the residents and visitors.

In addition, the uplift to the concrete driveway has also in my opinion altered the surface drainage patterns. At the time of original construction, good building practice would dictate that the concrete driveway is graded to the existing stormwater drainage pits and I have no reason to doubt this was undertaken and surface water collected and conveyed efficiently prior to any uplift of the driveway. In this instance, the uplift of the concrete driveway has created areas of ponding. This ponding water issue is particularly evident to the section of driveway adjacent to the base of the concrete staircase and in periods of rainfall, surface water will tend to adversely pond on the driveway and be directed towards the building envelope.

### 3.3.2 Reinforced concrete walkway and staircase

There is significant damage to the concrete staircase. The damage is not limited to the cracking and debonding of the floor and skirting tiles towards the base of the staircase, but rather, the structural fabric of the staircase has been compromised with sections of the concrete cracked and displaced.

The damage to the staircase in my opinion has been caused by tree root pressure.

Of greater concern is the fact that the concrete staircase, due to uplift from root pressure, is noticeably distorted and leaning towards the external southern brickwork wall. As noted by Bradshaw Tree Services, the tree will continue to mature over time and I believe that further structural deterioration of the staircase is inevitable.

Another issue is the development of cracking to the external southern brickwork wall below the walkway adjacent to the staircase. The cracking whilst no significant at this stage suggests that the external southern brickwork wall is starting to be undermined by root pressure and I am of the view that the damage will escalate over time.

I also note that the concrete staircase provides an important method of ingress and egress into the complex. The current levels of distortion of the staircase and tile defects in my view presents a safety issue for the residents and visitors using the staircase at present.

### 3.3.3 Low height garden walls

The low height garden walls surrounding the tree have been structurally compromised to the point of failure as a consequence of root damage. I note that the type and construction of the walls has no bearing on their current poor condition.

### 3.3.4 Underground services

I understand that recent plumbing works adjacent to the eastern laundry have been carried out as a consequence of damage to the sewer line due to root infestation. I note that tree roots are notorious for damage to underground services such as sewer lines. Given the complex root system of the tree, ongoing damage to underground services in the vicinity of the tree is highly likely to continue into the future.

## 3.3.5 Effect of tree on neighbouring properties

I understand that the neighbouring property at 13 King Street has lodged complaints with the Owners Corporation regarding the overhang of the tree's canopy. I also understand that the neighbouring property recently replaced their pathway due to root damage and has put the Owners Corporation on notice regarding future damage caused to the property by the tree.

#### 4.0 **SIGN OFF**

The offending tree at the subject property is in my opinion causing structural damage to the building and surrounds. The damage I my view will continue to worsen as the tree grows to the point where parts of the building will be structurally compromised and significant amounts of money will be required to restify the damage. to rectify the damage.

In the event where significant remediation to the building is required due to root damage, any works that are carried out will in my opinion be jeopardized whilst the tree remains in place.

The retention of the tree in my opinion is not structurally feasible and I would strongly recommend its removal, an opinion which is shared by Mr Tristan Bradshaw from Bradshaw Tree Services.

Regards For Hamilton & Co Building Diagnostics

Stephen Hamilton (BE Civil) MIEAust DIRECTOR

stephen@hamilton-co.com.au

Enclosed:

Appendix A – Photographs.

Appendix B – Resume of Stephen Hamilton.

Appendix C – Expert Code of Conduct.

Appendix D – Arboricultural tree report prepared by Bradshaw Tree Services.

Appendix E – Correspondence from Inner West Council.

APPENDIX A - PHOTOGRAPHS.



PHOTOGRAPH 1: Showing offending tree and location within subject property.



PHOTOGRAPH 2: Showing further view of offending tree and location within subject property.



PHOTOGRAPH 3: Showing canopy of offending tree extending over subject property.



PHOTOGRAPH 4: Showing canopy of offending tree extending over adjacent property at 13 King Street, Balmain.



PHOTOGRAPH 5: Showing further view of offending tree and location within subject property.



PHOTOGRAPH 6: Showing cracking and uplift to existing concrete driveway at entrance to subject property.



PHOTOGRAPH 7: Showing cracking and uplift to existing concrete driveway adjacent to front entry and southernmost undercroft garage.



PHOTOGRAPH 8: Showing further view of cracking and uplift to existing concrete driveway adjacent to front entrance and southernmost undercroft garage.



PHOTOGRAPH 9: Showing further view of cracking and uplift to existing concrete driveway at front entrance.



PHOTOGRAPH 10: Showing further view of cracking and uplift to existing concrete driveway at entrance.



PHOTOGRAPH 11: Showing cracking and uplift of the concrete driveway adjacent to southern Colorbond boundary fence.



PHOTOGRAPH 12: Showing cracked and debonded floor and skirting tiling to southern concrete staircase and damage to low height garden wall.



PHOTOGRAPH 13: Showing cracking and displacement to base of concrete staircase.



PHOTOGRAPH 14: Showing lateral displacement to low height garden wall adjacent tree.



PHOTOGRAPH 15: Showing cracking to concrete driveway adjacent to Unit 14 garage door.



PHOTOGRAPH 16: Showing cracking and uplift to concrete driveway in close proximity to tree.



PHOTOGRAPH 17: Showing cracking and lateral displacement to low height garden wall in close proximity to tree.



PHOTOGRAPH 18: Showing recent repairs to concrete driveway adjacent Unit 14 garage door to facilitate sewer repairs.



PHOTOGRAPH 19: Showing cracking to external southern brickwork wall beneath concrete walkway.



PHOTOGRAPH 20: Showing cracking to external southern brickwork wall beneath concrete walkway.



PHOTOGRAPH 21: Showing neighbouring property at 13 King Street, Balmain where previous pathway repairs have been carried out.

Expert Report 15 King Street, Balmain.

APPENDIX B - RESUME OF MR STEPHEN HAMILTON.

## Stephen Hamilton

Director of Hamilton & Co

stephen@hamilton-co.com.au Mobile: 0421 068 431



### **COMPANY PROFILE**

Stephen is the sole Director of Hamilton and Co Building Diagnostics, a dynamic Sydney based consultancy specialising in Building and Engineering services for the Strata industry. The highly qualified team with over two decades of expertise, offers a wide range of services, working to the highest standards to deliver our clients objectives in a timely and cost-efficient manner.

### **EDUCATION**

Bachelor of Engineering (Civil) 1992 to 1995 - University of New South Wales, Sydney;

Associate Diploma Civil Engineering 1990 to 1991 - TAFE (Ultimo);

Marcellin College Randwick 1983 to 1988.

### PROFESSIONAL EXPERIENCE

2018 to present:

Hamilton & Co Building Diagnostics Pty Ltd.

Position: Director

2011 to 2018:

Landlay Consulting Group Pty Ltd, Leichhardt.

Position: Founding Partner

1997 - 2010

RHM Consultants Pty Ltd (Formally Rickard & Partners), Drummoyne .

Position: Director

### STRATA INDUSTRY

Stephen has been actively involved in the Strata industry for over 20 years offering a wide range of building diagnostic and engineering services. The services include:

- Inspection of thousands of residential lots for the preparation of Building Defect Reports to instigate rectification work by original Builder.
- Preparation of Litigation compliant Expert Building Defect Reports for Supreme, District and NCAT jurisdictions.
- Assessment of buildings for maintenance and upgrade purposes and preparation of Building Condition Reports;
- Preparation of Remedial Building Specifications developing cost effective and sensible solutions;
- Administering of tender process and preparation of Tender Assessment Reports;
   Preparation of Contract Documents for remedial building projects;
- Preparation or Contract Documents for remedial building projects;
   Superintendent duties overseeing remedial building projects and certifying practical completion;
- Capital Works Plans assisting clients to develop strategic maintenance programs, asset planning and life cycle analyses.
- Preparation of Dilapidation Reports.

### **BUILDERS WARRANTY**

Stephen has been a consultant to the Office of Fair Trading undertaking various case analyses and reporting.

Stephen has consulted to Strategic Claims Solutions, who administered the HIH insurance collapse and recovery claims.

Stephen has been a consultant to QBE Insurance assessing various Builders Warranty claims and reporting.

Stephen has consulted to GAB Loss Adjustors.

### LOCAL GOVERNMENT

Stephen has provided consulting services in the engineering and building disciplines to local government including:

- City of Sydney Council;
- City of Canada Bay Council;
- Rockdale Council;
- · Willoughby City Council.

The role included the appraisal of various structures from both an engineering and building perspective and the preparation of Building Assessment Reports.

### **CIVIL ENGINEERING PROJECTS**

### Pavement and Roadworks

Port Botany Container Facility, Port Botany, NSW - Heavy-duty flexible pavement design and supervision for the import and export facility at Friendship Road, Port Botany.

Total project valued at A\$4.5 Million.

Handling Facility, Port Botany, NSW - Remedial works to the rigid external concrete pavements for the container handling facility at Port Botany, NSW.

Total project valued at A\$0.5 Million

Potters Point Track, Kurnell - Design of new 1km roadway.

Total project valued at A\$0.8 Million.

Moreton Bay Container Facility, Fisherman Island, QLD – Heavy-duty flexible pavement design and supervision for 1ha extension to container handling facility.

Total project valued at A\$1.5 Million.

**Graham Park Football Stadium, Gosford, NSW** – Alternative rigid concrete pavement design and supervision. Total project valued at A\$25 million.

Sur Mer Residential Development, Cronulla, NSW – Rigid concrete pavement design and stormwater drainage to street frontages. Total project valued at A\$10 Million.

Revesby, Woolworths - Design of external light and heavy duty pavements.

Hudsons, Warnervale - Design of main intersection.

### Stormwater Drainage Design

Port Botany Container Facility, Port Botany, NSW – Design of stormwater drainage for Lots 2 & 3 for the import and export facility at Port Botany.

Total project valued at A\$4.5 Million.

**Handling Facility, Port Botany, NSW** – Stormwater drainage design for rigid pavement upgrade. Total project valued at A\$0.3 Million.

Moreton Bay Container Facility, Fisherman Island, QLD – Design of stormwater drainage for 2ha extension to container handling facility

Total project valued at A\$3.0 Million.

### **Bathurst Street, Singleton**

Stormwater drainage upgrade works to Bathurst Street catchment.

### Hydraulic Impact Assessments

Orchard Road, Beecroft, NSW - Catchment study to assess the 1% AEP storm event on the proposed residential development.

Somerset Street, Epping NSW - Catchment study to assess the 1% AEP storm event on the proposed residential development.

Singleton Council - Catchment study, evaluation and re-design of existing stormwater drainage infrastructure.

### STRUCTURAL ENGINEERING PROJECTS

### Domestic

Design of domestic structures. Works included structural adequacy inspections, design of ground and first floor additions, design of retaining wall structures and design of reinforced concrete elements including footings, suspended reinforced concrete slabs and beams and slabs on ground.

Design of domestic and commercial swimming pools for Crystal Pools.

Inspection, diagnosing and reporting of pool related defects and assisting with rectification process.

### Residential/Commercial/Industrial

Russell Lea Infants School - Design of new library building.

**76 Elizabeth Bay Road, Elizabeth Bay** – Design and supervision of underpinning works to the basement of a three storey residential development.

Port Botany Container Facility, Sydney - Design of Portal framed buildings for import and export handling facility.

Wollondilly Community Leisure Centre, Picton – Design of refurbishment works to existing 50m swimming pool. Design of new 25m exercise pool.

Formwork Design & Inspections - for a multitude of developments in the Sydney metropolitan area.

# PROFESSIONAL ASSOCIATIONS

Member of the Institute of Engineers, Australia. Member of Strata Community Australia.

Expert Report 15 King Street, Balmain.

APPENDIX C – EXPERT CODE OF CONDUCT.

#### UNIFORM CIVIL PROCEDURE RULES 2005 - SCHEDULE 7

#### SCHEDULE 7 - Expert witness code of conduct

(Rule 31.23)

(cf SCR Schedule K)

#### 1 Application of code

This code of conduct applies to any expert witness engaged or appointed:

- (a) to provide an expert's report for use as evidence in proceedings or proposed proceedings, or
- (b) to give opinion evidence in proceedings or proposed proceedings.

#### 2 General duty to the court

- (1) An expert witness has an overriding duty to assist the court impartially on matters relevant to the expert witness's area of expertise.
- (2) An expert witness's paramount duty is to the court and not to any party to the proceedings (including the person retaining the expert witness).
- (3) An expert witness is not an advocate for a party.

#### 3 Duty to comply with court's directions

An expert witness must abide by any direction of the court.

#### 4 Duty to work co-operatively with other expert witnesses

An expert witness, when complying with any direction of the court to confer with another expert witness or to prepare a parties' expert's report with another expert witness in relation to any issue:

- (a) must exercise his or her independent, professional judgment in relation to that issue, and
- (b) must endeavour to reach agreement with the other expert witness on that issue, and
- (c) must not act on any instruction or request to withhold or avoid agreement with the other expert witness.

#### 5 Experts' reports

- (1) An expert's report must (in the body of the report or in an annexure to it) include the following:
- (a) the expert's qualifications as an expert on the issue the subject of the report.
- (b) the facts, and assumptions of fact, on which the opinions in the report are based (a letter of instructions may be annexed),
- (c) the expert's reasons for each opinion expressed,

- (d) if applicable, that a particular issue falls outside the expert's field of expertise,
- (e) any literature or other materials utilised in support of the opinions,
- (f) any examinations, tests or other investigations on which the expert has relied, including details of the qualifications of the person who carried them out,
- (g) in the case of a report that is lengthy or complex, a brief summary of the report (to be located at the beginning of the report).
- (2) If an expert witness who prepares an expert's report believes that it may be incomplete or inaccurate without some qualification, the qualification must be stated in the report.
- (3) If an expert witness considers that his or her opinion is not a concluded opinion because of insufficient research or insufficient data or for any other reason, this must be stated when the opinion is expressed.
- (4) If an expert witness changes his or her opinion on a material matter after providing an expert's report to the party engaging him or her (or that party's legal representative), the expert witness must forthwith provide the engaging party (or that party's legal representative) with a supplementary report to that effect containing such of the information referred to in subclause (1) as is appropriate.

#### 6 Experts' conference

- (1) Without limiting clause 3, an expert witness must abide by any direction of the court:
- (a) to confer with any other expert witness, or
- (b) to endeavour to reach agreement on any matters in issue, or
- (c) to prepare a joint report, specifying matters agreed and matters not agreed and reasons for any disagreement, or
- (d) to base any joint report on specified facts or assumptions of fact.
- (2) An expert witness must exercise his or her independent, professional judgment in relation to such a conference and joint report, and must not act on any instruction or request to withhold or avoid agreement.

# APPENDIX D – ARBORIST REPORT PREPARED BY BRADSHAW TREE SERVICES.

Prepared for the owners Strata Plan 21630
Site Address: 15 King Street Balmain
Produced by Tristan Bradshaw of Bradshaw Tree Services Po Box 48 St Ives 2075 ph:0403572113
8th October 2018

Member of Arboriculture Australia No. 14

Member of International Society of Arboriculture No. 157768

Member of Tree Contractors Association No. 13101814

Bachelor of Horticultural Science, University Sydney.

Level 5 Diploma in Arboriculture

Completed Graduate Certificate AQF 8 University Melbourne

Tree Risk Assessment Qualification

#### **Summary**

This report has been commissioned by the owners 15 King Street Balmain and written by Tristan Bradshaw. One tree *Plataunus X hybrida* has been assessed on the 17<sup>th</sup> July 2018, this tree was found to be excellent health and condition however causing structural damage to the building adjacent to the tree.

The damage is considerable and will worsen as the tree continues to grow. It is recommended the tree be removed due to existing damage and excessive projected repair costs caused by the tree.



# Contents

Su	mmar	у	ii
1	Intr	oduction	1
	1.1	The Site	1
	1.2	Method	
2	Boo	ly Observations Results	7
3		cussion	
4		clusion	
5	Rec	ommendations	12
6	Ref	erences	12
7	App	pendix	13
Ei,	aure 1	Site location (Google Maps 2018)	1
		Location of Plane tree	
•	_	Concrete strip showing repaired sewer	
		Concrete strip showing repaired sewer	
Fi	gure 5	Concrete lifting at driveway entry.	9
Fi	gure 6	Damaged brick retaining wall	9
Fi	gure 7	Concrete lifting, entry to laundry	10
Fi	gure 8	Cracking of walkway from brick wall.	10
Fi	gure 9	cracking of lower two stairs.	10
Fi	Figure 10 cracking of main brick wall11		
Fi	Figure 11 Raised walkway separating from the main brick wall11		
Fi	gure 1	2 Beneath raised walkway	11

#### 1 Introduction

This report has been prepared by Tristan Bradshaw for the owner's strata plan 21630 at the property of 15 King Street Balmain. The report request was to inspect one tree at the front of the property. The trees characteristics have been listed in Table 5 page 7. The aim is to determine the health and condition of the tree and any impact. The inspection of the site was undertaken on the 17<sup>th</sup> July 2018.

The report was completed on 8th October 2018.

This property is located within the iron Cove heritage conservation area.

#### 1.1 The Site

The site is composed of a house with landscaped gardens surrounding it.



Figure 1 Site location (Google Maps 2018)

#### 1.2 Method

The inspection of the site was undertaken on the 17th July 2018.

The inspection method used was the Visual Tree Assessment (VTA) method (Mattheck & Breloer 2010. <sup>(1)</sup>). This method involves inspecting the trees from ground level, using binoculars to aid in identification of any externals signs of decay, physical damage, growth related structural defects and the site conditions where the tree is growing. This method will ascertain whether there is need for a more detailed inspection of any part of the tree. No aerial or subterranean inspections were carried out. See appendix A for the complete flow chart.

The Diameter at Breast Height (DBH) was estimated. The height of the measurement was at 140 cm above the ground.

The height of the tree was estimated.

The canopy spread of the tree was estimated.

Health: Based on vigour, call	us development, '	% of deadwood,	, dieback, 1	fruiting leve	ls, internode
lengths					

- (E) Excellent
- (G) Good
- (F) Fair
- (P) Poor
- (D) Dead

Age Class: (Y) Young=Recently Planted

- (S) Semi mature <20% of life expectancy
- (M) Mature 20-80% of life expectancy
- (O) Over Mature >80% of life expectancy

**Condition:** Base on the structural integrity of the tree, cavities, fungal decay, branch failure, branch taper, sap or kino exudate, fruiting bodies, root condition.

- (E) Excellent
- (G) Good
- (F) Fair
- (P) Poor
- (D) Dead

#### Table 1 Methodology for Determining Tree Retention Value (10)

The aim of this process is to determine the relative value of each tree for retention (i.e. its Retention Value) in the context of development. This methodology assists in the decision making process by using a systematic approach. The key objective of process is to ensure the retention of good quality trees That make a positive contribution to these values and ensure that adequate space is provided for their Long term preservation. The Retention Value of a tree is a balance between its sustainability in the setting in which it is located (the 'landscape') and its significance within that setting (landscape significance).

#### Step 1: Determining the Landscape Significance Rating

The 'landscape significance' of a tree is a measure of its contribution to amenity, heritage and ecological values. While these values are fairly subjective and difficult to assess consistently, some measure is necessary to assist in determining the Retention Value of each tree. To ensure in a consistent approach,

The assessment criterion shown in Table 2 should be used. A Tree may be considered 'significant' for one or more reasons. A tree may meet one or more of the criteria in any value category (heritage, ecology or amenity) shown in Table 2 to achieve the specified rating. For example, a tree may be considered 'significant' and given a rating of 1, even if it is only significant based on the amenity criteria.

Based in the criterion in this table, each tree should be assigned a landscape significance rating as follows:

- 1. Significant
- 2. Very High
- 3. High
- 4. Moderate
- 5. Low
- 6. Very Low
- 7. Significant

Step 2: Determining Safe Useful Life Expectancy (SULE)

The sustainability of a tree in the landscape is a measure of its remaining lifespan in consideration of its current health, condition and suitability to the locality and site conditions. The assessment of the remaining lifespan of a tree is a fairly objective assessment when carried out by a qualified Consulting Arborist. Once a visual assessment of each tree is completed (using the Visual Tree Assessment criteria), the arborist can make an informed judgement about the quality and remaining lifespan of each tree. The Safe Useful Life Expectancy (SULE) methodology (refer to Table 3) can be used to categorise trees as follows:

- Long (Greater than 40 years)
- Medium (Between 15 and 40 years)
- Short (Between 5 and 15 years)
- Transient (less than 5 years)
- Dead or Hazardous (no remaining SULE)

The SULE of a tree is calculated based on an estimate of the average lifespan of the species in an urban area, less its estimated current age and then further modified where necessary in consideration of its current health, condition (structural integrity) and suitability to the site.

#### Table 2 Step 1 Landscape Significance Rating

RATINGS	HERITAGE VALUE	ECOLOGICAL VALUE	AMENITY VALUE
1. SIGNIFICANT	The subject tree is listed as a Heritage item under the local Environment Plan (LEP) with a local, state or national level of significance or is listed on Council's Significant Tree Register.	The subject tree is scheduled as a Threatened Species as defined under the Threatened Species Conversation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999.	The subject tree has a very large live crown size exceeding 100m2 with normal to dense foliage cover, is located in a visually prominent position in the landscape, exhibits very good form and habit typical of the species.
	The subject tree forms part of the curtilage of a Heritage item (building/structure/artefact as defined under the LEP) and has a known or documented association with that item.	The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species.	The Subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity.
	The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event.	The subject tree is a Remnant Tree, being a tree in existence prior to development of the area.	The tree is visually prominent in view form surrounding areas, being a landmark or visible from a considerable distance.
2. VERY HIGH	The tree has a strong historical association with a heritage item (building/structure/artefact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site.	The tree is a locally-indigenous species representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site.	The subject tree has a very large live crown size exceeding 60n.2, a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area.
3.	The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence.	The tree is a locally indigenous and representative of the original vegetation of the area and the tree is located within a defined vegetation link/widlife corridor or has known wildlife habitat value.	The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g. crown distration/suppression) with a crown density of at least 70% (normal); The subject tree is visible form the street and/or surrounding properties and makes a positive contribution to the visual character and the amenity of the arms.
4. MODERATE	The tree has no known or suspected historical association, but does not detract or diminish the value the value of the item and is sympathetic to the original era of planting.	The subject tree is a non-local native or exotic species that is protected under the provisions of the DCP.	The subject tree has a medium live crown size exceeding 25m <sup>2</sup> ; The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% (thinning to normal).
			The tree is visible from surrounding properties, but is not visually prominent-view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area.
5. LOW	The subject tree detracts from heritage values and diminishes the value of the heritage item.	The subject tree is scheduled as exempt (not protected) under the provisions of this DCP due to its species, nuisance or position relative to buildings or other structures.	The subject tree has a small live crown of less than 25m <sup>2</sup> and can be replaced within the short term (5-10 years) with new tree planting.
S. VERY LOW	The subject tree is causing significant damage to a heritage item.	The subject tree is listed as an Environment Weed Species in the Local Government Area, being invasive, or is a nulsance species.	The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the arc. The tree is a port representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50%.

#### Table 3 Estimating Safe Useful Life Expectancy (SULE) Step 2

1	Estimate the age of the tree			
2	Establish the average life span of the sp	ariae		
	Establish the average life span of the sp	edes		
3	Determine whether the average life spar	n needs to be modified due to local environmental situation		
4	Estimate remaining life expectancy			
	Life Expectancy =	average modified life span of species - age of tree		
5	Consider how health may affect safety (8	k longevity)		
6	Consider how tree structure may affect s	afety		
7	Consider how location will affect safety			
8	Determine safe life expectancy			
	Safe Life Expectancy =	life expectancy modified by health, structure and location		
9	Consider economics of management (cos	st vs benefit of retention)		
10	Consider adverse impacts on better trees			
11	Consider sustaining amenity - making spa	ace for new trees		
12	Determine SULE			
	Safe Useful Life Expectancy =	safe life expectancy modified by economics, effects on better trees and sustaining amenity		

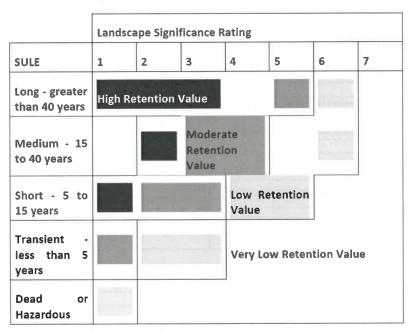
5

Table 4 Determining Tree Retention Values (10)

The Retention Value of a tree is increased or diminished based on its sustainability in the landscape, which is expressed as its SULE. A tree that has a high Landscape Significance Rating, but low remaining SULE, has a diminished value for retention and therefore has an appropriate Retention Value assigned. Conversely a tree with a low Landscape Significance Rating even with a long remaining SULE, is also considered of low Retention Value. This logic is reflected in the matrix shown in Table 1.

Once the landscape Significance Rating and SULE category have been determined, the following matrix can be used to determine a relative value (or priority) for retention:

**TABLE 1 – DETERMINING TREE RETENTION VALUES** 



# 2 Body Observations Results Table 5 Individual tree characteristics

Tree Number	ь
Botanical Name	Platanus x hybrida (Plane Tree)
DBH(mm)	580
DAB(mm)	630
Canopy N	œ
Canopy S	00
Canopy E	∞
Canopy W	∞
Height	20
Health	ш
Age	Z
Condition	ш
SULE	5-15
Landscape significance	Very High
Retention Value	Moderate
Retain or Remove. notes	Removal

#### 3 Discussion

This trees health and condition is excellent. There is good vigour and excellent shoot extension. From the roots to the crown there are no health concerns except mild patches of Anthracnose and possible Sycamore Lace bug (Not visually seen on the tree due to senescing leaves). If present, do not appear to be affecting the tree.

The canopy has been pruned to clear the building and it has now grown above and over the building.

The canopy is not the concern, this tree is causing structural damage to the building and its surroundings. Figure 2 below shows the trees location in proximity to a raised walkway and brick wall of the unit block. The root system from this tree when undertaking secondary growth is unable to lift the brick wall beside it due to the weight from the brick wall. The wall is also part of a garage that is below the ground level of the tree. The wall is acting as a root barrier

The concern is that the wall is approximately 1 metre from the tree, the root system of the tree when undergoing secondary expansion does have the capability to push this wall inwards. This tree is not mature and likely to double in size. The physical expansion of the structural roots is likely to damage the brick wall.



Figure 2 Location of Plane tree

I have been informed that the root system of the tree had caused blockages in the plumbing years prior and this has subsequently been fixed. See figures 3 and 4 below. This was damage that could be repaired at a reasonable cost to the owners of the property while considering the value of the tree.

Other damage includes lifting of the driveway and low single brick walls damaged. See figures 5, 6 and 7.





Figure 4 Concrete strip showing repaired sewer

Figure 3 Concrete strip showing repaired sewer







Figure 5 Concrete lifting at driveway entry.



Figure 7 Concrete lifting, entry to laundry.

The more serious damage being caused by the tree is cracking of the entry stairs to the property. The lower 2 stairs have been lifted and cracked, the whole raised walkway is being lifted and cracking, pulling away from the main brick wall to the units. See figures 9-12 below



Figure 9 cracking of lower two stairs.



Figure 8 Cracking of walkway from brick wall.

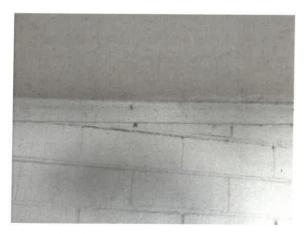


Figure 10 cracking of main brick wall





Figure 12 Beneath raised walkway

Figure 11 Raised walkway separating from the main brick wall.

The main brick wall is cracking due to the movement of the walkway. The damage will continue to worsen over time as the tree grows in size. The larger the canopy the larger its root system and its secondary growth that is causing the damage.

#### 4 Conclusion

The assessed tree has blocked sewer pipes in the past and these have been repaired. The value of the tree and its benefits outweighed the damage costs from the trees root system. However, at this point in time the damage being cause by the tree is outweighing its benefits.

The tree will continue to grow significantly and the damage that is being caused will worsen. I am not a structural engineer, however I would assume the existing damage can be repaired at a reasonable cost, provided it does not worsen.

The projected damage that this tree will cause will be considerable if it was retained will continue to worsen. It is recommended this tree is removed

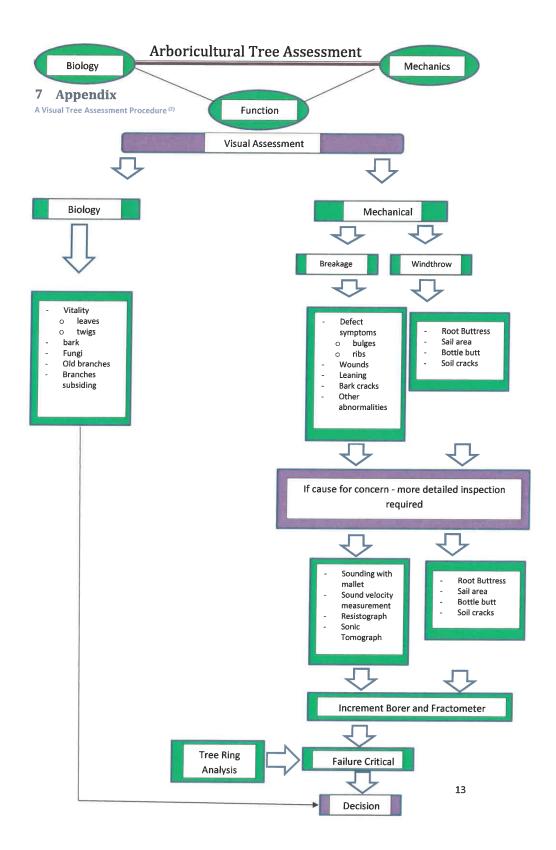
#### 5 Recommendations

- 1. Removal of Platanus X hybrida
- 2. Works to be undertaken by an AQF level 3 arborist or above.
- 3. No poisoning of stump due to possible root grafting from surrounding Platanus trees

#### 6 References

- Mattheck & Breloer 2010. The Body Language of Trees a handbook for failure analysis.
   Research for Amenity Trees series published by The Stationery Office, Norwich, United Kingdom.
- 2. Google maps 2018.

https://www.google.com.au/maps/place/15+King+St,+Balmain+NSW+2041/@-33.8552329,151.1792062,16.48z/data=!4m5!3m4!1s0x6b12afb0ca4f15bd:0xb145c86c1d19 be13!8m2!3d-33.8552108!4d151.1769088. Viewed 8th October 2018.



This assessment was carried out from the ground and covers what was reasonably able to be assessed and available to this assessor at the time of inspection. No subterranean inspections were carried out. The preservation methods recommended where applicable are not a guarantee of the tree survival but are designed to reduce impacts and give the trees the best possible chance of adapting to new surroundings.

#### Limitations on the use of this report:

This report is to be utilised in its entirety only. Any written or verbal submission, report or presentation that includes statements taken from the findings, discussions, conclusions or recommendations made in this report, may only be used where the whole or the original report is referenced in, and directly attached to that submission, report or presentation.

#### Assumptions:

Care has been taken to obtain information from reliable resources. All data has been verified insofar as possible: however, Bradshaw Tree Services can neither guarantee nor be responsible for the accuracy of information provided by others.

#### Unless stated otherwise:

- -Information contained in this report covers only the tree/s that was/were examined and reflects the condition of the tree at the time of the assessment: and
- -The inspection was limited to visual examination of the subject tree without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject tree may not arise in the future.

Yours sincerely

Man Mu

Tristan Bradshaw (BHort Sci (USYD), Dip Arb L 5, Uni Melb L 8 completed, TRAQ

### Attachment B - Recommended conditions of consent

#### CONDITIONS OF CONSENT

Approval is given for the following works to be undertaken to trees on the site:

Tree/location	Approved works
Platanus x acerifolia (London Plane)	Remove.
located at southern corner of property.	

Removal or pruning of any other tree (that would require consent of Council) on the site is not approved.

The approved works shall not be carried out unless this letter, or copy of it, is kept on the site. It shall be shown to any authorised Council Officer upon request.

All tree work shall be undertaken by an experienced Arborist with a minimum qualification of Level 3 under the Australian Qualification Framework (AQF). The work shall be undertaken in accordance with AS4373 – 2007 'Pruning of amenity trees' and in compliance with the Safe Work Australia Code of Practice 'Guide to Managing Risks of Tree Trimming and Removal Work'.

Any works in the vicinity of the Low Voltage Overhead Network (including service lines—pole to house connections) shall be undertaken by an approved Ausgrid contractor for the management of vegetation conflicting with such services. Please contact Ausgrid for further advice in this regard.

- 2. The following replacement tree must be planted:
  - A minimum of 1 x 75 litre size additional tree, which will attain a minimum mature height
    of 6 metres, shall be planted within the front garden area of the property at a minimum of
    1.5m from any boundary or structure. The tree is to conform to AS2303—Tree stock for
    landscape use.

Replacement trees (as specified above) are to be planted within 30 days of the removal. Council is to be notified when the replacement tree has been planted within the timeframe specified above and an inspection arranged with Council's Tree Assessment Officer.

If the replacement trees are found to be faulty, damaged, dying or dead within twelve (12) months of planting then they must be replaced with the same species. If the trees are found dead before they reach a height where they are protected by Council's Tree Management Controls, they must be replaced with the same species.

Council encourages the uses of replacement trees that are endemic to the Sydney Basin to increase biodiversity in the local environment and provide a natural food source for native birds and marsupials. Note: Any replacement tree species must not be a palm tree species or be a plant declared to be a noxious weed under the Noxious Weeds Act 1993 or tree species listed as an exempt species under Section C1.14 (Tree Management) of the Leichhardt Development Control Plan 2013.

#### DURING WORKS

3. No activities, storage or disposal of materials taking place beneath the canopy of any tree protected under Council's Tree Management Controls at any time.

 No trees on public property (footpaths, roads, reserves etc) are to be removed or damaged during works unless specifically approved in this consent or marked on the approved plans for removal.

Prescribed trees protected by Council's Management Controls on the subject property and/or any vegetation on surrounding properties must not be damaged or removed during works unless specific approval has been provided under this consent.

#### ONGOING CONDITIONS OF CONSENT

5. The canopy replenishment trees required by this consent are to be maintained in a healthy and vigorous condition until they attain a height of 6 metres whereby they will be protected by Council's Tree Management Controls. Any of the trees found faulty, damaged, dying or dead shall be replaced with the same species within 2 months.

#### **NOTES**

- This Determination Notice operates or becomes effective from the endorsed date of consent.
- 2. Section 8.2 of the *Environmental Planning and Assessment Act 1979* provides for an applicant to request Council to review its determination. This does not apply to applications made on behalf of the Crown, designated development or a complying development certificate. The request for review must be made within six (6) months of the date of determination or prior to an appeal being heard by the Land and Environment Court. Furthermore, Council has no power to determine a review after the expiration of these periods. A decision on a review may not be further reviewed under Section 8.2.
- 3. If you are unsatisfied with this determination, Section 8.7 of the Environmental Planning and Assessment Act 1979 gives you the right of appeal to the Land and Environment Court within six (6) months of the determination date.
- 4. Failure to comply with the relevant provisions of the Environmental Planning and Assessment Act 1979 and/or the conditions of this consent may result in the serving of penalty notices or legal action.
- Works or activities other than those approved by this Development Consent will require the submission of a new development application or an application to modify the consent under Section 4.55 of the Environmental Planning and Assessment Act 1979.
- This decision does not ensure compliance with the Disability Discrimination Act 1992.
   Applicants should investigate their potential for liability under that Act.
- 7. This development consent does not remove the need to obtain any other statutory consent or approval necessary under any other Act, such as (if necessary):
  - a) Application for any activity under that Act, including any erection of a hoarding.
  - b) An application under the Roads Act 1993 for any footpath / public road occupation. A lease fee is payable for all occupations.

#### Have you made a political donation?

If you (or an associate) have made a political donation or given a gift to a Councillor, political party or candidate at the local government elections during the last two (2) years you may need to include with your application a full disclosure of this matter. For information go to Council's website at https://www.innerwest.nsw.gov.au/about/reports-and-registers/political-donations. If you have made a reportable donation, failure to provide a completed declaration with your application is an offence under the Environmental Planning and Assessment Act, 1979 for which you may be prosecuted.