COUNCIL MEETING

ADDITIONAL ATTACHMENTS

7.00 PM, TUESDAY 29 APRIL 2025

Waverley Council
PO Box 9
Bondi Junction NSW 1355
DX 12006 Bondi Junction
Tel: 9083 8000
Email: info@waverley.nsw.gov.au

REPORT
CM/L.1/25.04

Subject: **Petitions - Fig Tree at 28-30 Edward Street, Bondi**

TRIM No: A25/0081

Manager: Ben Kusto, Executive Manager, Open Space and Recreation Operations

Director: Sharon Cassidy, Director, Assets and Operations

PLEASE NOTE:

At its meeting on 29 April 2025, Council resolved not to treat the following attachments to the report on the Fig tree at 28-30 Edward Street, Bondi as confidential. Council also resolved that the table in the tree valuation attachment be redacted.

1. Attachments

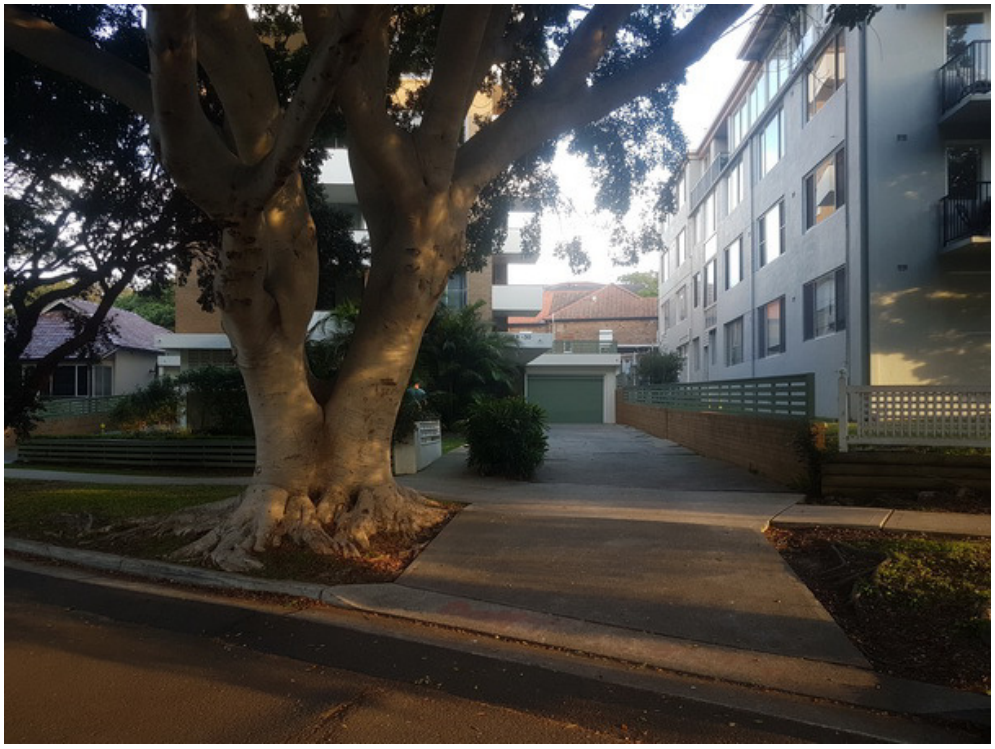
1. EPIC Engineering Assessment Report - 8 Oct 2018 ⇩
2. Tree Valuation - Table redacted per Council resolution ⇩
3. Tree Removal - Resident Notice ⇩ .

EPIC ENGINEERS
CIVIL & STRUCTURAL ENGINEERING CONSULTANTS
ABN: 99 040 437 154
PO Box 1012,
Revesby NSW 2212

8 October 2018

Tree Report

28-30 Edward St, Bondi



For:

ceostrata

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Introduction

A visual inspection of the aforementioned property was undertaken on 28/5/18, to ascertain any existing or future structural faults arising from the root system of a large tree located in very close proximity to the front boundary of the existing property.

The inspection and this report have been completed in response to a request by the executive committee and CEO Strata. The inspection included both the driveway and right side boundary fence/ retaining wall of the property.

The report includes photos of defective areas found and these have been noted within this report.

The right and left orientation within the document refers to someone facing the property from the street. The front of the property refers to the Edward street side.

General Information

The property in question is a large block of units constructed from a concrete framed structure with masonry brick exterior and interior walls.

The driveway is a concrete slabs, and the right side boundary is a brickwork retaining wall supporting a timber fence.

Findings

Located directly infront of the front fence and to the left of the driveway of the property is a large ficus tree which is growing up against the kerb with obvious tree roots affecting the road, kerb, gutter, driveway and surrounds.

The tree was found to have a large root system which spans for over 30m up the driveway. This in turn has caused significant cracking and movement to the driveway and started causing a lean in the right side boundary retaining wall.

The cracking was found throughout the right side driveway and was discovered to be running in two different tangents which leads the reader to believe the roots are also found to be traversing below the slab in numerous directions.

The cracking was noted to run approximately 30 m up the driveway from the origin of the tree trunk and is believed to be working its way around the foundation system of the building. It is inevitable that the tree roots will eventually find there way into the garage area. Given that the cracking in the driveway is all the way up to the garages.

The fact that these tree roots could eventually begin to damage the foundations of the building is considered an unacceptable structural risk for such a large block of units.

Ficus tree root systems are known to have a large zone of upheaval of and are therefore not recommended for planting in the vicinity of structural elements as they do require larger open spaces.

From the front it was evident that there are large roots found at ground level which have lifted the driveway in a number of areas and can be obviously seen from the front garden.

Structural Review

The driveway is excessively cracked causing the driveway to work as numerous small concrete segments instead of one larger sheet as it would have been originally designed. When this occurrs the damage can be two fold.

Not only is the slab fractured into smaller segments but bearing pressure on the soil below can be significantly increased due to wheel loads not being spread as far as they were originally meant to. This inturn causes the soil below to heave and can cause surrounding segmented slabs to lift even more and therefore the unevenness of the driveway continues to grow causing trip hazards and further OH&S issues.

The cracking found on the driveway and retaining wall is due to the tree roots applying vertical lifting to the slab and retaining wall causing both to crack, move and lift in various directions. This cracking will obviously cause a loss in the structural adequacy of the wall minimising it's ability to withstand retaining loads.

A retaining wall of this type which is not supported from the top, withstands loads by distributing them down to the footing. With the cracks already in place the ability for the wall to spread these loads is diminished and the loads need to find an alternative load path. With time the load path will be reduced due to the lack of structural strength left in the wall due to the cracking and eventually it may collapse.

Furthermore the size and location of the rootsystem is now very close if not already at the building footings. The root system may eventually cause upheaval to the footing system. Damage from root systems is diificult to predict until the damage is done and by that time it is too late and the repairs are costly.

Tree root systems are very powerfull and have been known to damage large structures similar to the foundations of this building. The tree roots have the ability to continue to generate loads on a structure which not only grow over time but are there constantly.

Structures are generally not designed to withstand excessive loads for prolonged periods of time and hence as the tree root grows it generates a permanently progressively larger load that eventually overloads the structure.

Generally with elastic materials you will find a slow progress of deflection or movement as the load increases or in this case as the tree root grows. However concrete foundations are not designed to deflect excessively, therefore in most circumstances with tree roots upheaving concrete footings your first sign of the roots presence is large cracks in both the foundation and walls of the property. Similar to what has occurred to the driveway.

Another problem with tree roots growing close to foundation material, especially clayey soils is that the tree roots have the ability to suck the moisture out of the surrounding soil which in times of drought causes the soil to shrink. When the soil shrinks it causes subsidence of any surrounding structures it may be supporting including footings.

This subsidence eventually causes a property to sink which is once again evident with cracking in walls and render, as well as difficulty in opening and closing of doors and windows.

Conclusion

It is obvious that this tree is too close to the existing property and the root system in question is well spread out beneath the driveway and road, and there is evidence of a number of large roots heading for or already at the footings supporting the retaining wall and the foundations of the property.

It is the author's opinion that over time the tree trunk and the roots will cause further structural damage to the road, retaining wall, driveway and eventually the building which will be very costly to repair if nothing is done to stop the growth.

In conclusion it is believed that the safest and cheapest option would be to remove the tree entirely, preventing future root growth and any further damage to the property.

I trust this meets with your requirements, should you have any queries please do not hesitate to contact me on 0422 849 958 at your earliest convenience.

Yours Faithfully,

John Messih
EPIC Engineers
Structural Engineer
MIEAust (No: 2135590) CPEng NPER

ENGINEERS
AUSTRALIA
Chartered Professional Engineer
MEMBER

Photos

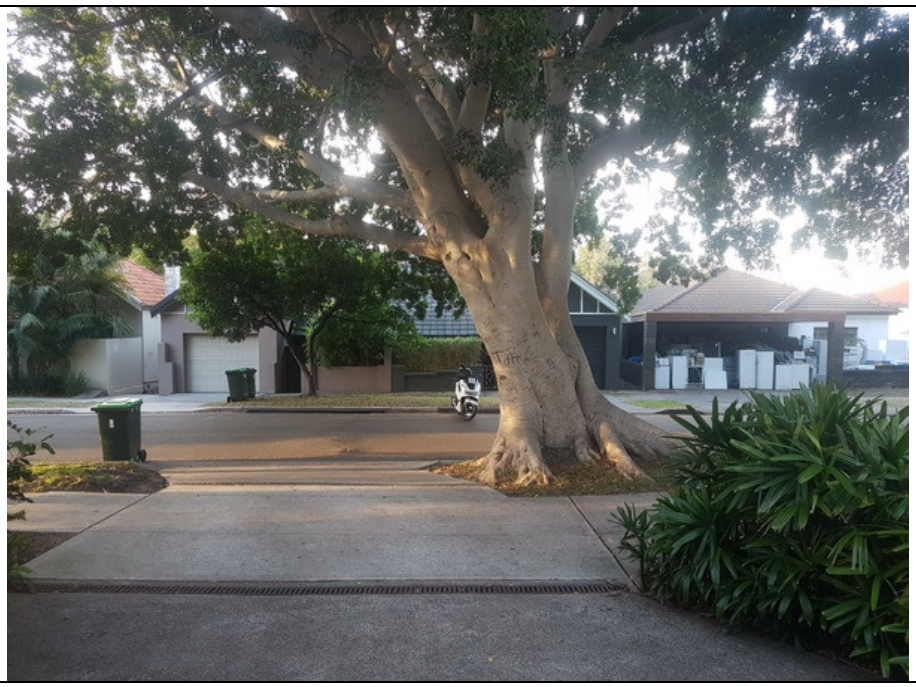
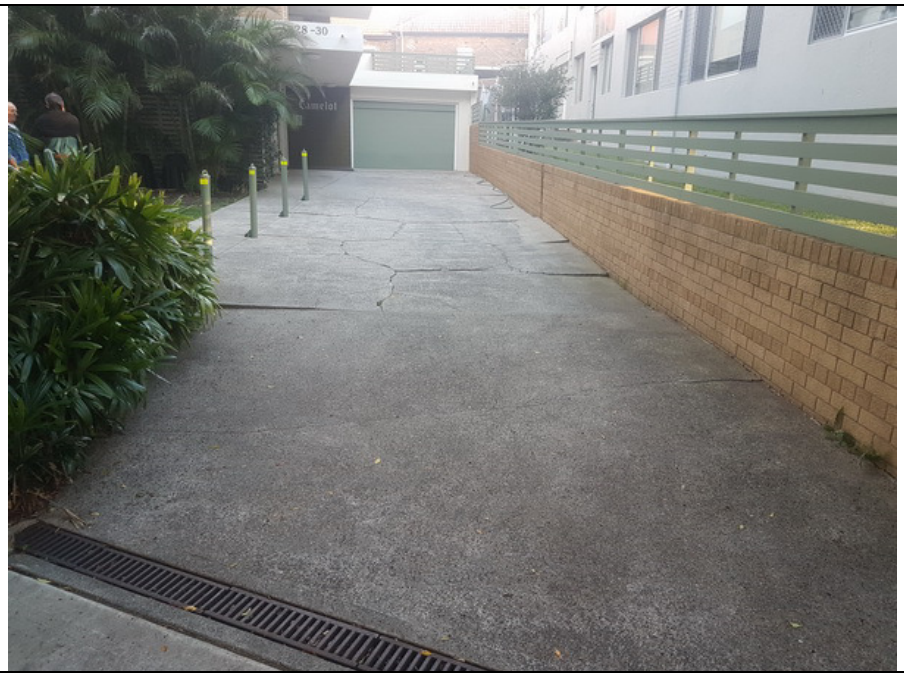
Photo 1 General view of tree from the front driveway. The root system can be seen damaging the road surface.	
Photo 2 View of the cracked driveway	

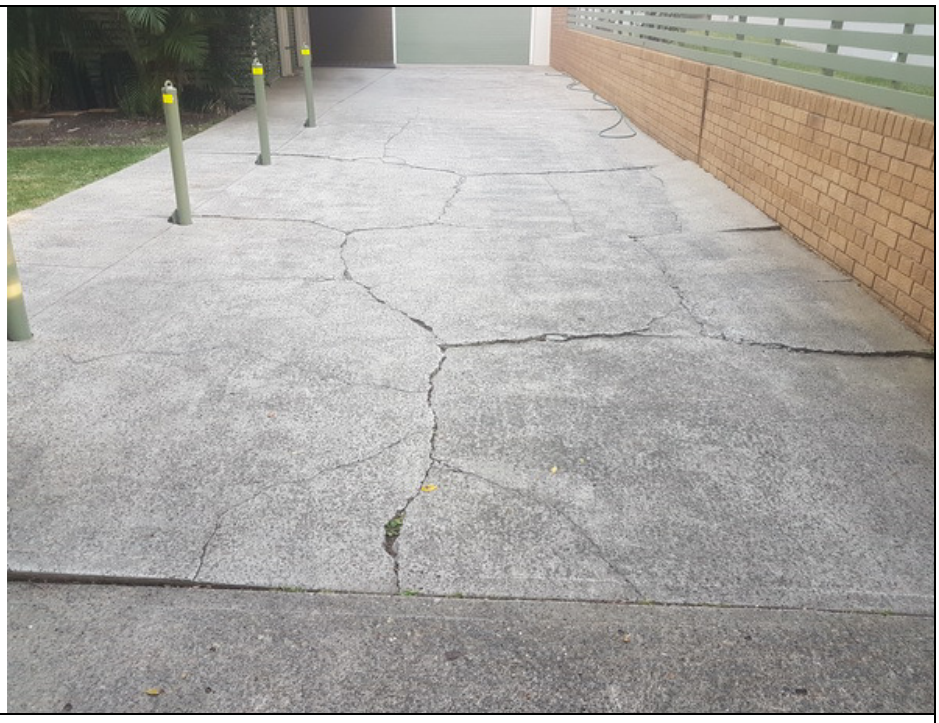
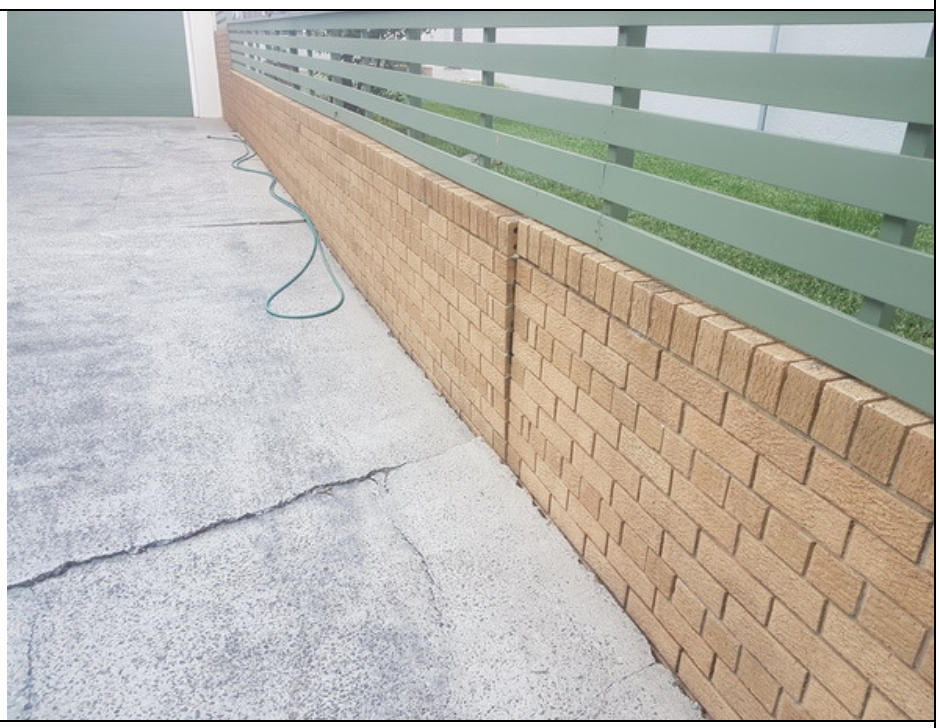
Photo 3 View of cracking in numerous directions reveals the roots are also in various directions.	
Photo 4 The reatining wall can be seen moving laterally.	

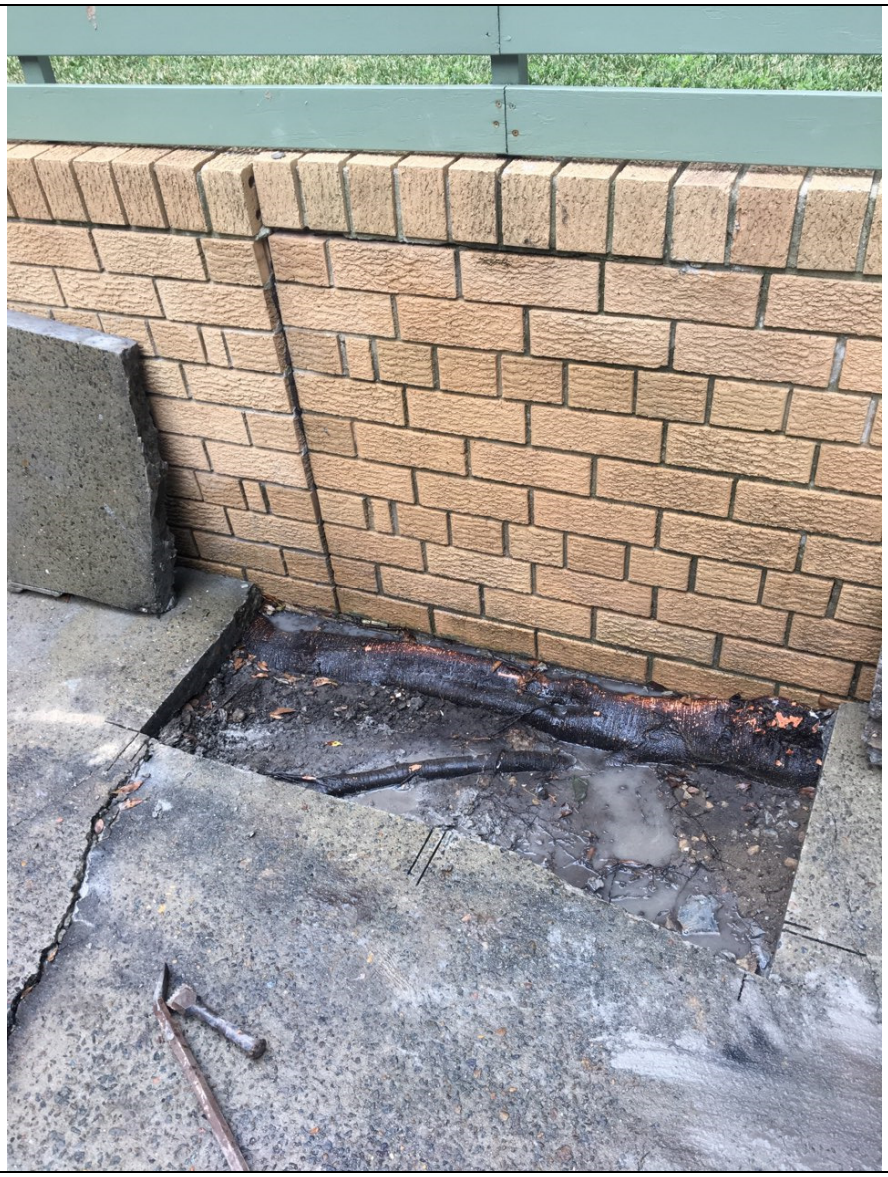
Photo 5 The slab was removed in the location of the moved retaining wall to reveal a 200mm dia root pressed up hard benath the edge of the retaining wall and causing it to move.	

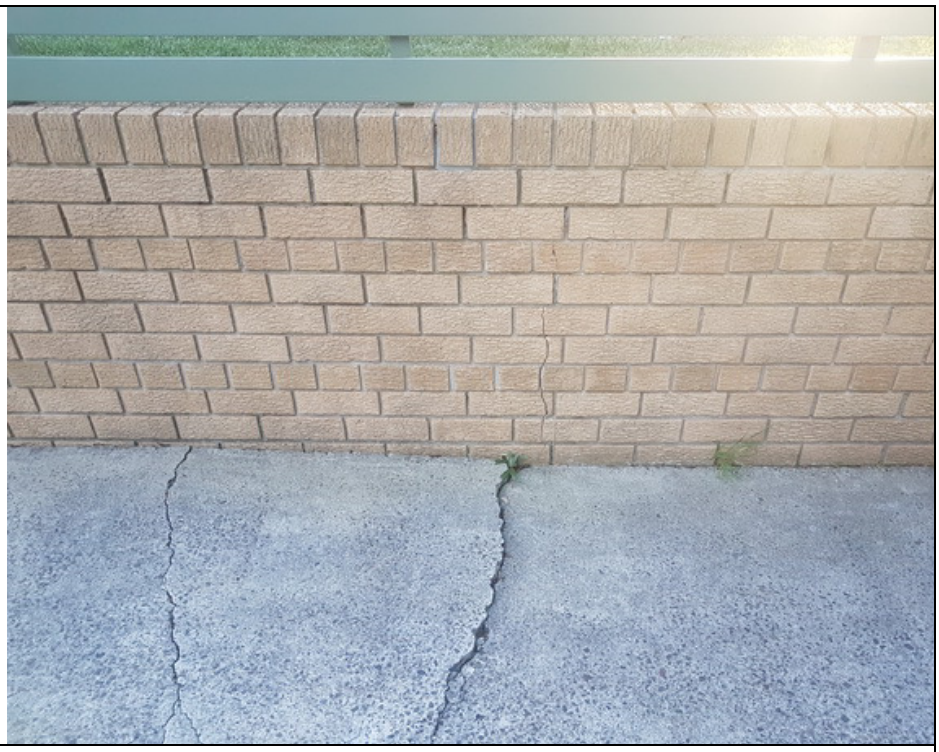
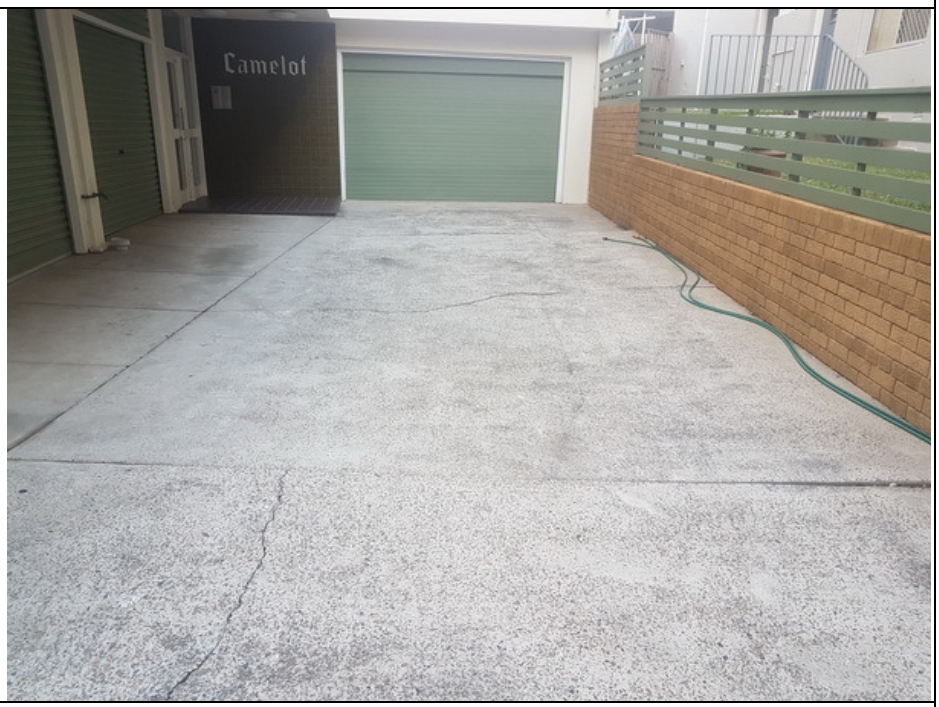
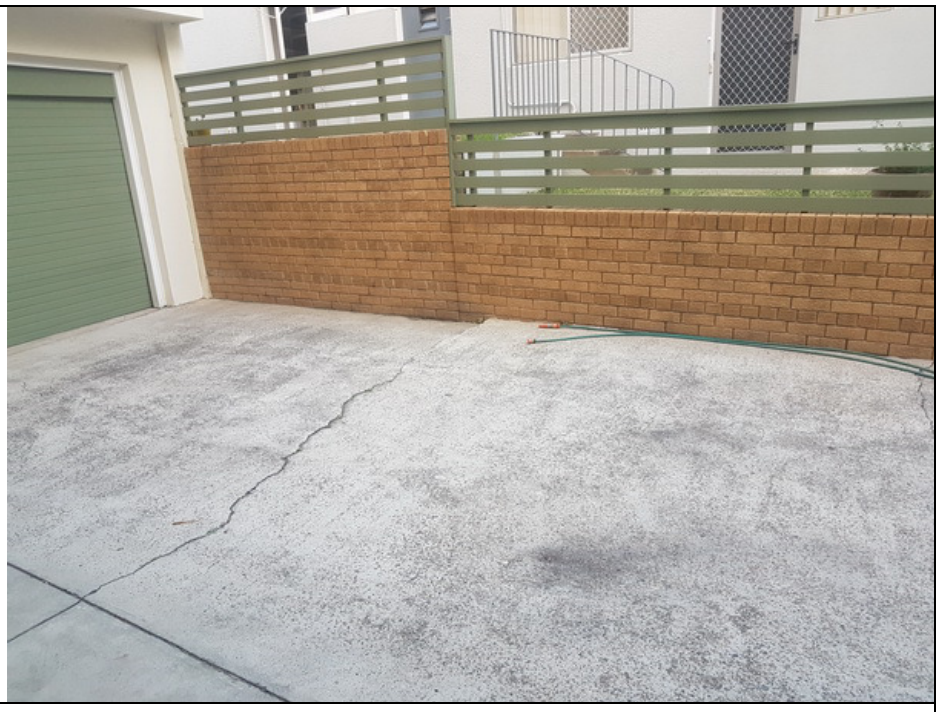
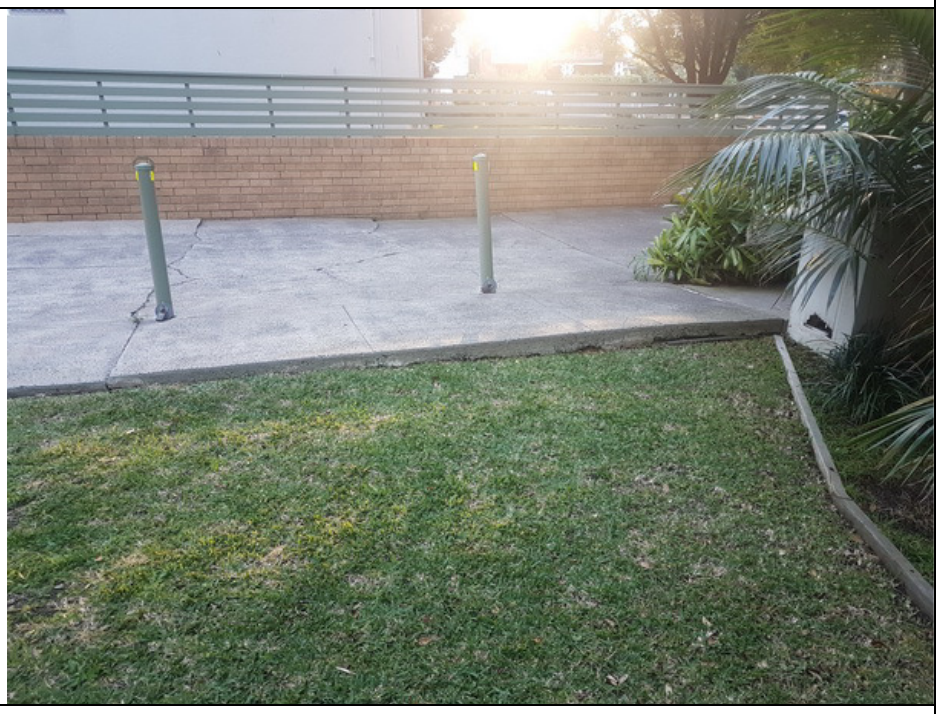
Photo 6 Another area where the slab has lifted shows the reatining wall with veretical cracking.	
Photo 7 View of the cracking up the driveway shows the root system has passed the edge of the building foundations and with time may cause structural damage to the building.	

Photo 8 The driveway slab can be seen being lifted some 30m away from the tree on the street.	
Photo 9 The driveway and entry footpath can be seen being compleletly lifted off the ground from the front garden.	

MONETARY TREE VALUATION

Date: 13 November 2024
Reference: Tree id 9958
Location: 28 Edward St Bondi
Species: Ficus microcarpa var. hillii

The costs associated with removal of a public tree include:

A – Removal Costs	Amounting to the fees incurred by Council for physically removing the tree
B – Amenity Value	Calculated in accordance with Council's Amenity Formula.
C – Ecological Services Value	Calculated in accordance with the i-Tree valuation tool
D – Reinstatement Costs	Calculated in accordance with the greening required to replace the loss to the landscape incurred by the removal.

A - REMOVAL COSTS

Costs will be based on the current costs of tree removal. It includes the physical removal of the tree and the stump.

B - AMENITY COSTS

The following formula has been prepared to assist with calculating the monetary amenity value of a tree. When young trees with a 6cm trunk diameter or less will be replaced by another tree, there will be no amenity value charge. The Amenity Value Formula was derived from the formula (by Dr.Peter Yau, 1990) of the Maurer-Hoffman Formula.

The basic monetary value of the tree was taken from the internationally accepted table of values devised by the American Council of Tree and Landscape Appraisers and the International Society of Arboriculture, which in the base year 1988 was $35 per square inch trunk basal area. When converted to a value corresponding to centimeters in trunk diameter at breast height (DBH) the Basic Monetary Value table, updated in 2012 to reflect more current monetary values.

Value (V) = Basic Value ($) x Species (S) x Aesthetics (A) x Locality (L) x Condition (C)

Basic Value DBH ($)	[redacted]
Species Factor (S)	[redacted]
Aesthetics (A)	[redacted]
Locality (L)	[redacted]
Tree Condition = 15 (C)	[redacted]
TOTAL	[redacted]

WAVERLEY COUNCIL

Waverley Council
PO Box 9, Bondi Junction NSW 1355
DX 12006, Bondi Junction
Customer Service Centre
55 Spring Street, Bondi Junction NSW 2022
ABN: 12 502 583 608

10 March 2025

NOTICE OF TREE REMOVAL

Dear Resident,

We write to advise you of the planed removal and replacement of the Ficus *microcarpa* var. *hillii* (Hills Weeping Fig) outside 28 -30 Edward Street, Bondi Beach.

The subject tree has caused significant damage to private properties and surrounding infrastructure, risk mitigation controls have proven to be ineffective against preventing further damage. The works have been scheduled for **25 March 2025,** weather permitting, and will require local traffic diversions and restriction to on street parking.

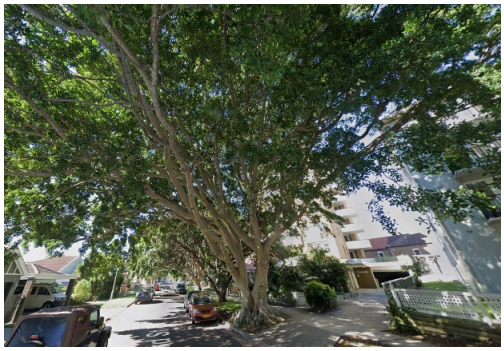
A **NO PARKING** work zone will be set up prior to works commencing and it is appreciated that residents make alternate plans for off street parking throughout the duration of works.

Waverley Council maintains and cares for close to 20,000 trees and plants approximately 500 new and replacement trees each year.

At times, the removal of tree(s) is unavoidable and the decision for removal is only considered after all mitigating options to retain the tree have been exhausted. Where possible, tree(s) that have been removed will be replaced with a similar or more suitable species.

If you have any questions or would like to discuss the detail of the removal, please contact our Tree management team on the contact details below.

Operational Support
Open Spaces and Sportsfield Maintenance
E: treemgt@waverley.nsw.gov.au



Yours sincerely

Tree Management

Contact us
Phone: 9083 8000 Fax: 9387 1820
Email: info@waverley.nsw.gov.au
Web: www.waverley.nsw.gov.au

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