



EARTHSCAPE HORTICULTURAL SERVICES

Arboricultural, Horticultural and Landscape Consultants

ABN 36 082 126 027

14th August 2018

Ann Deng
McGregor Coxall
PO Box 1083
MANLY NSW 2655

Dear Ann,

Addendum 5 to Arboricultural Impact Assessment Report Art Gallery of NSW Expansion Project – Sydney Modern [SSD 14_6471].

I refer to the above matter and your request to review the revised drawings for the abovementioned development and assess the potential impact of the proposed works on T1118 (Port Jackson Fig). I also refer to the previous Arboricultural Impact Assessment Report prepared by Earthscape for the abovementioned Project [version 9 dated 3rd November 2017].

It is understood that the NSW Department of Environment and Planning (DEP) have commissioned an independent arborists report (prepared by Birds Tree Consultancy [BTC]) to assess the potential impact of the proposed works on a number of trees within the site, including T1118. The BTC report concludes that the potential encroachment to the Tree Protection Zone (TPZ) of T1118 is 45%, which exceeds acceptable limits under AS 4970:2009. The encroachment is said to comprise of 20% from the proposed bicycle parking area to the north-west of the tree (alongside Art Gallery Road), and 25% from the proposed bulk excavation for the building, basement and associated contiguous pile retaining wall to the south-east of the tree. The calculated encroachment from the bulk earthworks assumes up to one metre over-excavation beyond the pile wall (closer to the tree) to facilitate construction.

It should be noted that the BTC Report also calculates the TPZ of T1118 as 13.56 metres radius, based on a measured trunk diameter of 1130mm. The report prepared by Earthscape calculates the TPZ as 12.7 metres radius, based on a trunk diameter of 1061 mm. The discrepancy could be due to increased girth in the trunk since the original assessment (undertaken by Earthscape in May 2016) or may be due to different points of measurement of the trunk. However, it is my view that the TPZ is overstated in the BTC Report.

The original assessment of the potential encroachments to the TPZ undertaken by Earthscape assumed that the basement/lower levels of the building would be constructed on the line of the building footprint. Based on this assumption, the encroachment to the TPZ was estimated at 8%, which is considered within acceptable limits under AS 4970:2009. No over-excavation was assumed as this is generally not required for a contiguous pile type wall. However, the Bulk Earthworks drawing prepared by ARUP [Dwg No. DA_2005 Rev A dated 26/03/2018] (as reviewed by BTC) indicates that the pile wall will be offset from the basement by approximately 1.7 metres (on both the eastern and south-eastern sides of the tree) to permit an 'inspection space' between the pile wall and building wall. Together with the slight rotation and change in position of the building footprint since the original assessment, this would increase the encroachment to the TPZ (as calculated by Earthscape) from 8% to 17%, which exceeds acceptable limits under AS 4970:2009.

The Entry Level Plan prepared by Architectus [DA_1001 Rev M dated 06/08/2018] indicates proposed bicycle parking to the north-west of T1118 in what is assumed to be concrete pavement, whereas the SSDA landscape drawings indicated a widened pedestrian path constructed using decomposed granite. The original pathway was offset further from the tree and resulted in an encroachment to the TPZ of approximately 9%, whereas the new bicycle parking will result in an encroachment of approximately 12%.

The BTC Report indicates that the bicycle parking will result in an encroachment to the TPZ of 20%. This calculation is based on the assumption that part of the TPZ will need to be filled and have a fill batter extending into the TPZ to support the path given the existing topography, which currently slopes away from the path toward the tree. The majority of the area occupied by the proposed pavement is a fairly shallow grade. However, the new pavement will now extend beyond the top of the embankment (about 1 metre) and therefore it is agreed that some filling would be required, which would constitute an encroachment to the TPZ.

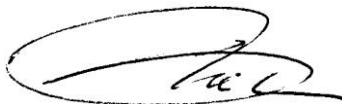
Based on my calculations, the cumulative encroachment to the TPZ of T1118 would be approximately 29%. Whilst I believe that the extent of encroachment as calculated by BTC (45%) is overstated, I would agree that the encroachment now exceeds acceptable limits under AS 4970:2009 and that this extent of encroachment may result in any adverse impact on the subject tree.

Following preliminary review of the abovementioned drawings by Earthscape, revised drawings have now been prepared by ARUP and McGregor Coxall (Dwg No. LD_DA_00-17 [D] dated 13/08/2018) in an effort to reduce the extent of encroachment (see attached drawing). This has resulted in reduction in the width of the pile wall and the inspection space, reducing the encroachment on the south side of T1118 to just under 14% (based on the Earthscape calculation of the TPZ). The bicycle parking has now been relocated outside the TPZ and the existing asphalt path alongside Art Gallery Road will now be maintained intact at existing levels. As such, there will be no additional encroachment on the north-west side of the tree. Assuming that the calculation of the TPZ by BTC was used (13.56 metres radius), the estimated encroachment from the bulk excavation for the building and pile wall would be approximately 17%.

In my view this species will tolerate an encroachment of 17% of the TPZ, provided that all excavations for the pile wall are undertaken in accordance with Section 10.6 of the abovementioned Arboricultural Impact Assessment Report. It should be noted that ARUP has confirmed that no 'over-excavation' is required for this type of wall construction as assumed by BTC. As such, I confirm that in my view, the proposed revised layout will not result in any adverse impact on T1118.

If you require any further information regarding the above matter, please do not hesitate to contact me on 9456 4787 or 0402 947 296.

Yours sincerely,



Andrew Morton

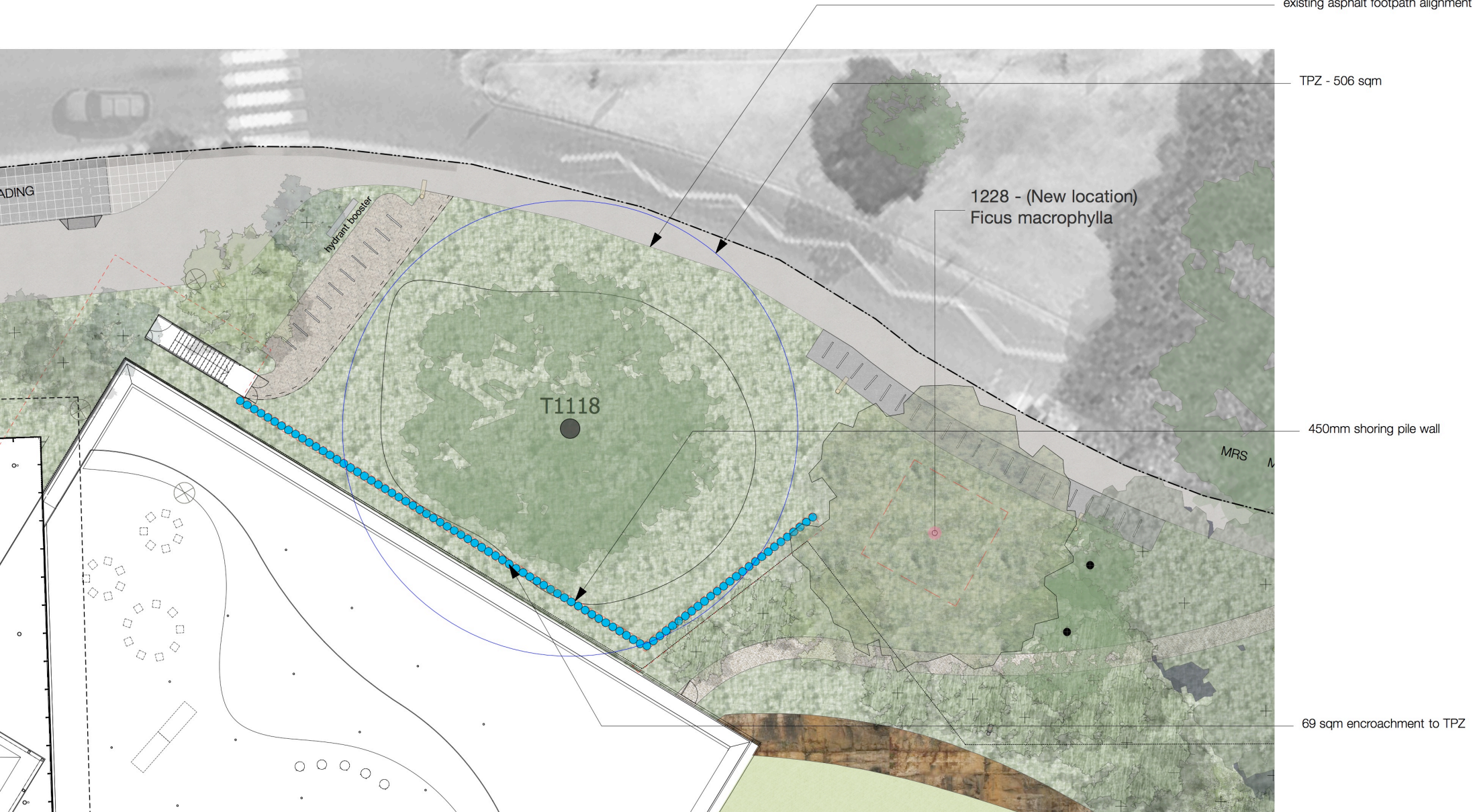
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Client
Art Gallery NSW

Key Consultants
SANAA
Architectus

Project Name
AGNSW Expansion: Sydney Modern Project

Project No.
458SL

Address
Art Gallery Rd, Sydney, NSW, 2000

Key Plan

Scale
1: 100 @ A1

Scale Bar
0 1 2 3 4 5 M

All dimensions are in millimetres unless otherwise noted. Do not scale from this drawing.



Issue Log

B	450mm shoring pile	AD	AM	10/8/18
C	Fix 100mm wall as per AP comment	AD		10/8/18
D	Tree 1228 relocated, bike parking moved	AD		13/8/18

Rev **Revision Description**

By **Checked**

Date

Phase

Sheet Title
T1118

Sheet No.

LD_DA_00-17

Rev
D