Preliminary Arborist's Report

Site Address: 4B South St Windale NSW 2306

Contact: Nick Metcalf, Site Image Landscape Architects

Date: 20 October 2014

Prepared by Ian Hills - Assoc. Dip Hort., Cert III Arboriculture,
Diploma Arboriculture
P: 0412 607 658
F: (02) 4393 6590
E: info@accuratetreeassessment.com.au

Table of contents

Table of images

1. Summary

Accurate Tree Assessment has been commissioned by Nick Metcalf of Site Image Landscape Architects to provide a preliminary arborist report for the Masters Windale Project.

Trees have been identified in groups according to their location as requested in the project brief see appendix 9.1

The trees subject to this report were marked using with coloured paint during the site visit on 11 October 2014.

Conclusions

Tree retention will be limited to areas outside of the boundary of the subject property.

There is scope to provide additional landscaping including tree planting in the investigation areas and using bush regeneration techniques to achieve Lake Macquarie City Council's aim of buffering the visual impact of the development.

Although no detail has been given it would seem likely that the landscaping within the development site will provide some compensatory planting.

Provision of landscaping outside of the development site will require negotiation between the developer and surrounding land owners.

Tree to be retained will require protection from adverse impacts of development.

Recommendations

Retain trees in the investigation areas 1, 3 and 4.

Provide additional planting within the development site and in suitable locations adjoining the site.

Implement tree protection measures for those trees to be retained in accordance with the provisions of AS4970- 2009, *Protection of Trees on Development Sites.*

2. Disclaimer

This report is to be read and considered in its entirety. The subject trees were inspected from the ground using Visual Tree Assessment methodology, no aerial investigations; underground or internal investigations were undertaken. It is the responsibility of the applicant to implement all recommendations contained in this report.

Photographs used in this report are originals taken at the time of inspection and are not altered in anyway.

Information contained in this report reflects the condition of the trees at the time of the inspection. As trees are living organisms their condition will change over time, there is no guarantee that problems or deficiencies of the subject trees may not arise in the future.

This report is for the use of Site Image Landscape Architects and Lake Macquarie City Council in determining the current development application.

All tree work is to be sanctioned by Lake Macquarie City Council City Council prior to commencement.

3. Brief

Accurate Tree Assessment has been commissioned by Nick Metcalf of Site Image Landscape Architects to provide a preliminary arborist report for the Masters Windale Project.

Trees have been identified in groups according to their location as requested in the project brief see appendix 9.1

The trees subject to this report were marked using with coloured paint during the site visit on 11 October 2014.

The overgrown nature of the property and lack of access in some areas restricts the level of detailed data that can be gathered and so recommendations are general and focus on identifying areas where tree retention is feasible.

4. Method

An inspection of the subject site was conducted from the ground on 11 October 2014. An assessment of the trees was made using the walkover tree assessment method proposed by Mike Ellison of Quantified Tree Risk Assessment.

Tree retention values have been calculated using the Significance of a Tree, Assessment Rating System (STARS) developed by the Institute of Australian Consulting Arborists (IACA). (ref appendix 9.3)

4.1. Documents Provided

An aerial photographic map with an overlay of the site plan, has been provided by Nick Metcalf of Site Image Landscape Architects (ref appendix 9.1).

Figure 1 Hollow bearing tree at the Southern end of Pacific Hwy frontage

5. Site Conditions

The development site is located on commercially zoned land of approximately 12 hectares bounded by South St to the south and West, the Pacific Highway to the East and Lake Rd to the North in the Lake Macquarie City Local Government Area.

The Northern end of the property houses local sports-fields, while the Southern end of the property where the greater part of the development is proposed is occupied by moderately dense bushland.

6. Investigation Areas

Lake Macquarie City Council has requested that the vegetation in specific areas of the development site be assessed with a view to retaining vegetation around the boundary of the subject property to provide a visual buffer to surrounding properties.

Details of landscaping within the development site are not clear but it is likely that tree planting will form part of the proposal.

Trees within the plan area of the proposed development have not been considered as it is evident that the site will be cleared completely to accommodate the buildings and parking.

The trees within the bushland reserve to the South of the site have not been considered as no development is proposed in that area.

6.1 Area 1 - Boundaries abutting Pacific Highway

The area along the pacific Highway frontage contains an easement for the high voltage energy network; this extends the entire length of the project area and has been almost completely cleared of trees and vegetation.

At the Southern end of the easement a number of Angophoras and Eucalypts have been retained directly under the network, these trees have been regularly pruned to provide the required clearances and although they provide some amenity to the area, continual pruning by the Energy Authority is likely to lead to the death of the trees.

Two trees in this group appear in an advanced state of decline and are recommended for removal, they are marked with red paint. Another three trees close to the easement are suitable for retention and have been marked with green paint. One hollow bearing Eucalypt, marked with yellow paint will require further investigation to determine if there is any habitation by fauna.

The available space for planting in this location is restricted by the narrowness of the road reserve and additional pressure is added by the proposal to construct a cycle-way and car-parking against the property boundary. Any landscape treatment will be restricted to the use of low growing species and grasses.

North of the proposed secondary entry to the site the road reserve widens and the vegetation community improves to become a near natural woodland landscape comprising *Eucalyptus* and *Angophora* in the canopy with an understorey of *Glochidion* and native grasses.

Figure 2 Vegetation North of the proposed main Pacific Hwy entrance

The quality of the vegetation in this area forms a good basis for a bush regeneration project which will require little work to achieve a useful screen planting from the highway.

The area approaching the main entry to the site and extending North to Lake Rd has already been subject to remediation planting and drainage works. Retention and extension of this landscaping will assist in providing screening to the Pacific Highway frontage of the proposed development.

The use of non-indemic native species creates a pleasant streetscape between the highway and the easement. Between the easement and the property boundary it is expected that retention of all trees is achievable.

Figure 3 Landscaping near the junction of Lake Rd

6.2 Area 2 - Western boundary abutting playing fields

West of the proposed main entrance from Pacific Highway is a group of approximately 50 Prickly Leaved Paperbark (*Melaleuca nodosa*) which form a dense copse with an area of approximately 400sq/m at the Northern end of the group is a semi-mature Red Bloodwood (*Corymbia gummifera*).

Although the vegetation appears in good health and suitable for retention, there is a conflict with the design of the proposed service road and entry round-about, making it implausible to retain this area of vegetation.

The opportunity exists to replicate this element of the landscape with new planting within the round-about and the entry landscaping.

Figure 4 Vegetation in Area 2

6.3 Area 3 - Buffer area north of car-park abutting playing fields

This area divides the proposed main car-park area from the playing fields and is currently vegetated with a thick canopy of *Eucalyptus*, *Angophora* and *Melaleuca*. The retention of vegetation within the boundary will conflict with the proposed car-parking which extends to the boundary.

Outside of the boundary it appears feasible to retain approximately 38 trees which have been marked using green paint while there two trees marked in red appear unsuitable for retention due to their poor health and condition.

There is adequate space to provide buffer planting on the sports-field site without impacting upon the field, this would however need to be negotiated between the property owners as the required land is outside the development property boundary.

Planting that uses the local Eucalyptus, Angophora and Melaleuca species with an understory of native grasses and shrubs is suggested to gain a natural looking landscape.

Figure 5 Vegetation in Area 3 near South St

Figure 6 Vegetation in Area 3 near playing field

6.4 Area 4 - Western boundary abutting South Street

At the proposed site entry from South St there is a recent planting of 80-100 *Eucalyptus* and *Melaleuca* this will be bisected by the road necessitating the removal of approximately 60 small trees.

To the South, 24 Eucalyptus and Angophora growing between the proposed roadway and the boundary have been identified as suitable for retention with one hollow bearing tree requiring further investigation of its environmental value, and one dead tree recommended for removal.

The area is sparsely vegetated, and the landscape disturbed with a dense understory of weed species. Bush regeneration techniques could be employed to return the area to a near native landscape and provide screening to the South St frontage of the site.

Figure 7 *Melaleucas* at the proposed entry from South St

Figure 8 Understory vegetation along South St is mainly weed species

7.0 Conclusions

Tree retention will be limited to areas outside of the boundary of the subject property.

There is scope to provide additional landscaping including tree planting in the investigation areas and using bush regeneration techniques to achieve Lake Macquarie City Council's aim of buffering the visual impact of the development.

Although no detail has been given it would seem likely that the landscaping within the development site will provide some compensatory planting.

Provision of landscaping outside of the development site will require negotiation between the developer and surrounding land owners.

Tree to be retained will require protection from adverse impacts of development.

8.0 Recommendations

Retain trees in the investigation areas 1, 3 and 4.

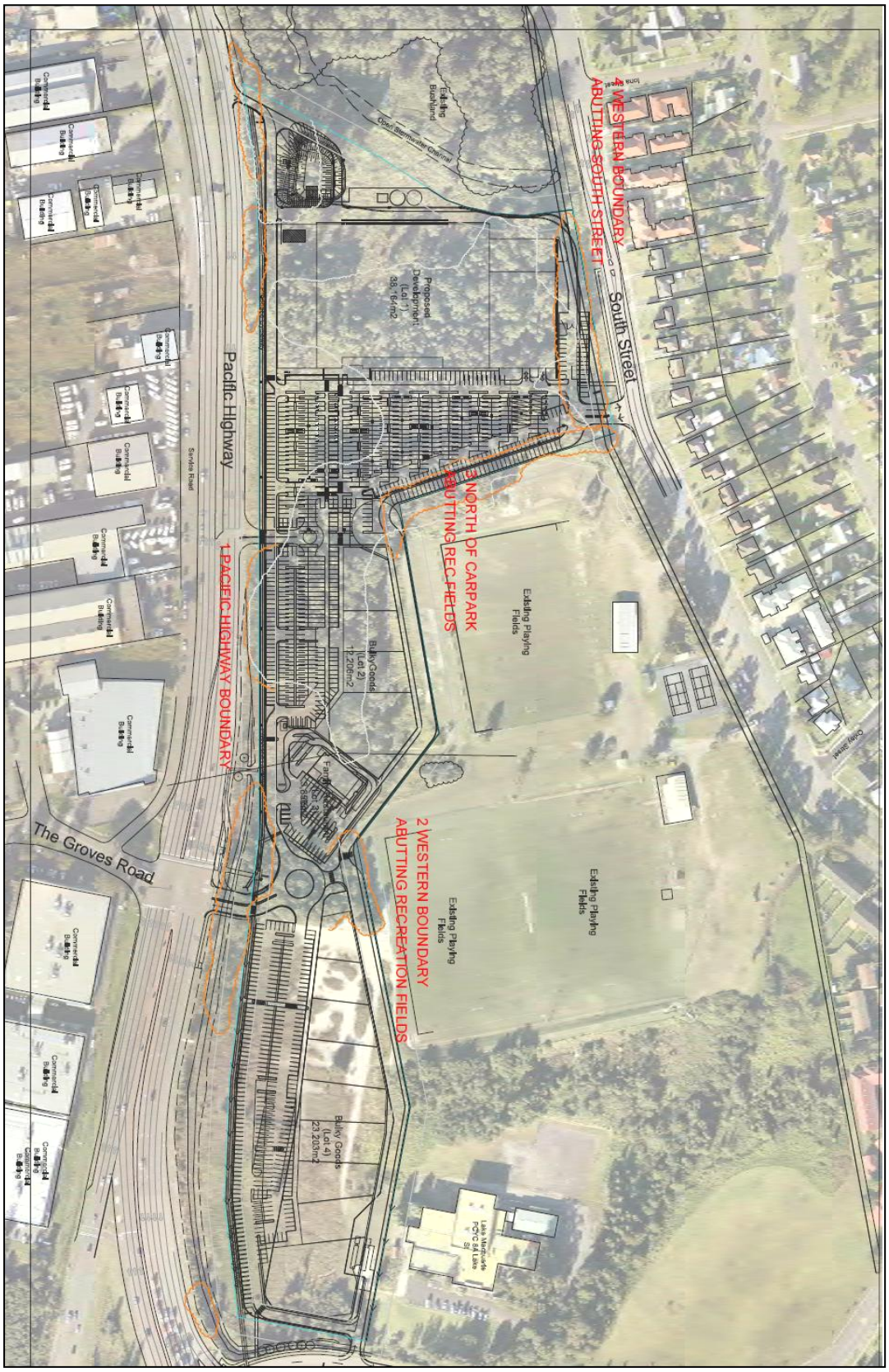
Provide additional planting within the development site and in suitable locations adjoining the site.

Implement tree protection measures for those trees to be retained in accordance with the provisions of AS4970- 2009, *Protection of Trees on Development Sites.*

Ian Hills - Consulting Arborist

9.0 Appendices

9.1 Aerial Map/ Brief



9.2 Sule Classes

1. Long SULE: Trees that appear to be retainable with an acceptable level of risk for more than 40 years.

a. Structurally sound trees located in positions that can accommodate future growth.
b. Storm damaged or defective trees that could be made suitable for retention in the long term remedial tree surgery.
c. Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.

2. *Medium SULE*: Trees that appear to be retainable with an acceptable level of risk for 15 - 40 years.

a. Trees that may only live between 15 – 40 years.
b.Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable trees
c. Trees that may live for more than 40 years but would be removed during the course of normal management for safety or nuisance reasons.
d. Storm damaged or defective trees that can be made suitable for retention in the medium term by remedial work.

3. *Short SULE*: Trees that appear to be retainable with an acceptable level of risk for 5 – 15 years.

a. Trees that may only live between 5 and 15 more years.
b. Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
c. Trees that may live for more than 15 years but would be removed during the course of normal management for safety or nuisance reasons.
d. Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term.

4. *Remove:* Trees with a high level of risk that would need removing within the next 5 years.

a. Dead trees.
b. Dying or suppressed and declining trees through disease or inhospitable conditions.
c. Dangerous trees through instability or recent loss of adjacent trees.
d. Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.
e. Damaged trees that are considered unsafe to retain.
f. Trees that will become dangerous after removal of other trees for the reasons give in (a) to (e).

5. Young or Small Trees: Trees that can be reliably transplanted or replaced

a. Trees which are less than 5 metres (m) in height.
b. Trees which are over 5m height but less than 15 years old.
c. Trees that have been regularly pruned to artificially control growth

9.3 References

Barrell, J. (1993-95) 'Pre-planning Tree Surveys Safe Useful Life Expectancy (SULE) IS THE Natural Progression' Arboricultural Journal Vol. 17, PP 33=-46, Academic Publishers, Great Britain.

Mattheck C, Breloer H (2004) The Body Language of Trees, A Handbook for Failure Analysis, Research for Amenity Trees No 4, The Stationary Shop.

Matheny, N.P., Clark, J.R. (1994), A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas, Second Edition, Hort Science, INC. Pleasanton, CA 94566

Standards Australia. 2009 'Australian Standard 4970-2009 Protection of Trees on Development Sites' Standards Australia GPO Box 476 Sydney NSW 2001, Australia.

Draper, D and Richards, P (2009) 'Dictionary for Managing Trees in Urban Environments. CSIRO Publishing 150 Oxford St Collingwood Vic 3066, Australia.

IACA, 2010, IACA Significancec of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arborists, Australia, www.iaca.com.au

9.4 Qualifications – Ian Hills

Associate Diploma Horticulture - Ryde TAFE 1984

AQF3 Horticulture (Arboriculture) - Ourimbah TAFE 1998

AQF5 Diploma Horticulture (Arboriculture) - Kurri Kurri TAFE 2009 (Dux)