Independent Arboricultural Services

Arboricultural Impact Assessment

Prepared For: Economic Development Qld

Address: 53 Seventeen Miles Rocks Road, Oxley

Date: 14th August 2020

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1099

Date: 9 December 2020

Queensland Government

MEMBER ISA

Queensland Arboricultural Association Inc
QUALIFIED MEMBER
2020/2021

www.independentarb.com.au

Independent Arboricultural Services - Disclaimer

The material contained in this document has been prepared on an independent basis free of any bias and represents the honest opinion of the consulting arborist.

Tissue or soil samples have not been collected nor submitted for testing unless otherwise stated. Excavation is limited to minor earthworks and we submit this assessment on the basis that all data is based on visual inspection of the tree/s and its/their location, species, health and condition at the time of writing unless otherwise stated. Measurements and tree locations noted in this report are approximate and have not been determined by survey unless information and analysis has been provided by the consultant or such information is otherwise noted. Please request a more detailed arborist report if further information and analysis is required. Depending on site requirements, specific alternate specialist advice including engineering consultancy and certification maybe required in combination with this assessment. This assessment contains arborist advice and associated general information only and does not purport to provide other site-specific specialist advice such as engineering certification unless arrangement to source such advice for inclusion in this assessment has been requested and authorised.

This report containing opinions, advice and recommendations based on information and data gathered from site inspections carried out by personnel from Independent Arboricultural Services as well as information provided by the client and/or its representatives, is to be relied on by the client in that context. It is assumed that all such information provided to Independent Arboricultural Services is correct. All recommended arboricultural works detailed in this assessment including pruning of tree canopy or roots, tree removal, tree transplantation or other associated works including stump grinding or the application of any prescribed treatment shall be carried out in accordance with applicable standards including Australian Standards AS 4373-2007- Pruning of amenity trees and AS 4970-2009- Protection of trees on development sites.

 The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements have been made including payment of additional fees for such services.

The invoice for this report will be issued to the person or entity as per the address advised at the time of confirmation of appointment. Assessment in this report is based on plans provided at the time of confirmation of engagement and report preparation. Additional time required for re-assessment of report detail due to subsequent re-issue of plans after report preparation will be subject to an additional fee which will be charged at our hourly rate. This report shall not be conveyed to any third party including regulatory authority/s until full payment of this invoice is received by Independent Arboricultural Services and a finalised report has been issued unless agreement to do so has been granted.

Factors including the absence of historical records or local knowledge, recognition of the variability of the integrity of a tree as a naturally living organism as well as the impact of conditions within its surrounds to which it maybe subject including the impacts of mechanical force and the occurrence of weather events, do not allow an arborist to guarantee the age of a tree, or the length of time a tree/s may live or such time as it /they may fail. There is no warranty or guarantee, expressed or implied that the problems or deficiencies of the plants or property in question may not arise in the future.

Table of Contents

Document Tracking & Information

Project Name	Review of Proposed Works
Project Arborist	Roger Rankine (AQF Level 8)
Client	EDQ Queensland
Address	53 Seventeen Miles Rocks Road, Oxley
Real Address	
Reference	IAS#6172
Prepared By	Roger Rankine
Checked By	Andrew Rankine
Revision	1
Andrew Rankine Credentials	Diploma Arb. AQF Level 5, ISA Certified Arborist & Municipal Specialist AU-0269AM, QTRA (LIC#2768), TRAQ (Qualified), Arboriculture Australia Registered Professional Arborist, QAA Qualified Member.
Roger Rankine Credentials	Diploma Arb. AQF Level 5, Grad Cert Arb. AQF Level 8, ISA Qualified Arborist (QL-0001A), QTRA (Lic. 4988), TRAQ (Qualified), Arboriculture Australia Registered Professional Arborist, QAA Qualified Member.
Stephen Catchpoole Credentials	Diploma Arb. (AQF Level 5), TRAQ (Qualified), QTRA (Qualified), Doctor of Philosophy in Forestry (PhD), Bachelor of Science, Forestry, Bachelor of Science (Hons Botany), QAA Qualified Member.
Mick Maher Credentials	Diploma Arb. AQF Level 5, TRAQ (Qualified), Cert IV Project Management, Cert III Conservation and Land Management, Cert II Horticulture (Turf Management), QAA Qualified Member.
Garry Rangi Credentials	Diploma Arb. AQF Level 5, TRAQ (Qualified), Dip. Project Management, Dip. Horticulture, Cert III in Civil Construction (Plant Operations, Civil Construction (Pipe Laying), Civil Construction (Road Construction & Maintenance), Arboriculture Australia Registered Arborist, QAA Qualified Member.
Company Information	**Contact Details** Phone: 07 3399 5865 Mobile: 0412 035 396 (Andrew) Mobile: 0408 161 015 (Roger) Mobile: 0400473500 (Stephen) Mobile: 0400606640 (Mick) Mobile: 0418793534 (Garry) Email: office@independentarb.com.au **ABN -** 65 062 099 495

Abbreviations

QSG	Queensland State Government	**RPA**	Root Protection Area
DA	Development Application	**TMP**	Tree Management Plan
VPO	Vegetation Protection Order	**CMP**	Construction Management Plan
ULE	Useful Life Expectancy	**VMP**	Vegetation Management Plan
BLF	Building Location Footprint	**AS**	Australian Standard
BLE	Building Location Envelope	**AS 4373: 2007**	Pruning of amenity trees
TPZ	Tree Protection Zone	**AS 4970: 2009**	Protection of trees on development sites
SRZ	Structural Root Zone	**DBH**	Diameter at Breast Height

All comments and recommendations in this report have been determined in accordance with Australian Standards AS 4373-2007- Pruning of amenity trees and AS 4970-2009 – Protection of trees on development sites. All recommended tree work should be carried out in accordance with these standards.

Roger Rankine - Consulting Arborist

Map

Figure 1: Subject Trees Subject Site

(Nearmap 2020)

Introduction

This report is based on a visual inspection carried out from the ground on the 11th August 2020. No soil or tissue sampling has been conducted. Tree assessment and Qualitative Visual Tree Analysis has been carried out in accordance with TRAQ ISA guidelines. Data and information provided to the client by others has been incorporated into this report as appropriate. This report will address the Section 16 of the DA requirements which is as follows,

Entry Road Footpath - Design & Arborist Assessment

16. Noting that an existing path is located adjacent to the entry road trees (Bumpy Ash), provide arborist assessment of the construction type and methodology required to replace the existing path with a new footpath in approximately the same location, which will provide a footpath on the eastern side of the entry road whilst maintaining the health of the existing trees.

    Should a standard footpath design and construction methodology pose risks to the Bumpy Ash trees, provide an alternative design prepared by an appropriately qualified specialist, for preliminary concept review by EDQ, to be confirmed post approval by compliance assessment of the detailed design.

    The method of path construction will be required to satisfy the following principles
    - Safe and equitable trafficability
    - Durable and low maintenance outcome
    - Be appropriate to the proximity of the path to the trees and the arrangement and sensitivity of the tree roots
    - Supported by a risk matrix to assess the options available
    - Load spreading capacity to prevent localised compaction and tree root damage (if required)
    - Providing adequate permeability to support tree health (if required)

All Arboricultural recommendations contained in this report have been determined in accordance with Australian Standards AS 4373-2007 - Pruning of amenity trees and AS 4970 – Protection of trees on development sites.

For the purposes of this report reference to a Consulting or Project Arborist is held to mean an Arboricultural specialist who holds minimum Arboricultural qualifications of Dip Arb/AQF 5, appropriate professional insurances and has appropriate experience in the protection of trees on construction sites. Where tree work is specified, all recommended tree work is to be carried out in accordance with the above-mentioned standards by an appropriately trained and AQF qualified arborist practitioner/s with an up-to-date record of training and membership of a recognised Australian Arboricultural association, e.g. Qld Arboricultural Association (QAA), Arboriculture Australia (AA), or a recognised international Arboricultural association. No climbing spikes are to be used if pruning is to be carried out on live trees except in the instance of an emergency.

Qualifications of the report authors include Diploma of Arboriculture/AQF Level 5 and ISA Certified Arborist accreditation. Report authors hold current insurances and memberships including qualified memberships of Queensland Arboricultural Association (QAA), and Arboriculture Australia (AA) as well as current accreditation and membership of International Society of Arboriculture (ISA).

Independent Arboricultural Services is a qualified registrant on the QAA Register of Consulting Arborists.

Arborist Comment

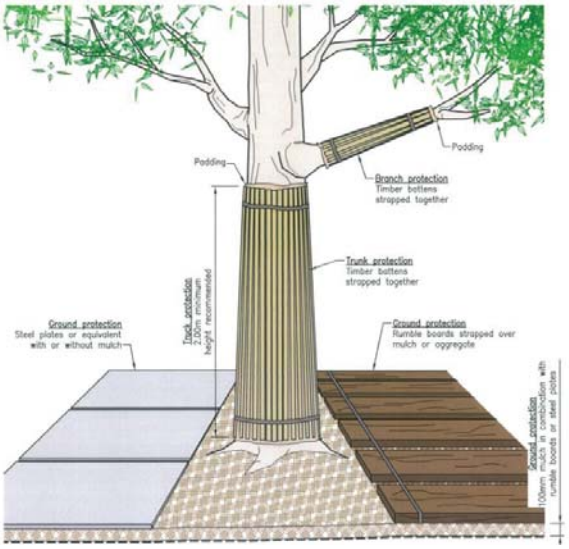
A review of the proposed roadway and pathway works adjoining entry road trees was undertaken by Mr. Roger Rankine (AQF Level 8) on the 11th August 2020.

In summary,

- Four (4) *Flindersia schottiana* (Bumpy Ash) and one (1) *Delonix regia* (Poinciana) is present along the entry way to the *Subject Site.* Further details of the *Subject Tree* can be found in the Tree Detail Table.
- It is proposed to remove the existing infrastructure (gutter, curb, and bitumen path) and reinstate with new infrastructure.
- The proposed road and pathway infrastructure is to be place further away from the trees.
- It will be important that a Project arborist (minimum AQF Level 5) is engaged and supervised the removal of the existing infrastructure:
    - A better bucker is to be used working away from the trees to remove the bitumen pathway, curb, and road within the Tree Protection Zone.
    - Hand removal of bitumen will be required where is has previously been placed up to the collar of the trees.
- Builders black plastic is to be utilised for placement of concrete within the Tree Protection Zone of retained trees.
- No laydown is to occur within the Tree Protection Zone of retained trees.
- Any changes to the design plans are to be done in consultation with the Project Arborist.
- Based on the proposed designs, it is recommended to retain and protect the five (5) nominated trees.

Protection of retained Trees during construction works

An exclusion zone is to be established along the perimeters of retained trees and cordoned off with a physical barrier of wire mesh fence, 1.8m in height, which is securely anchored. The role of these fences is to prevent any damage to the complete tree including root system (SRZ & TPZ), stem and branch structure as well as the crown or canopy. Where impractical and on approval of a minimum AQF5 Project Arborist, 1.2m in height, plastic mesh fencing secured with star pickets and caps with straining wire can be utilised. All TPZ fencing will require appropriate signage to signify the relevant protection zones. This will require audit and sign off prior to operational works onsite.



Tree Protection Fencing to be utilised. Where works will be undertaken close to and within Tree Protection Zones specific tree protection measures to be utilised a directed by the project Arborist.

Project Hold Points

Engage an AQF5 minimum Project Arborist during the project life;

- Once tree protection fencing and signage has been established and finalised. Project Arborist (minimum AQF Level 5) to audit and sign off.
- Supervision of emoval of existing path and roadway within the TPZ of retained tree.
- Any works within the TPZ of retained trees is required.
- If tree roots are encountered over 50mm in diameter outside of TPZ's of retained trees.
- Changes to the plans occur.
- On completion of the project to conduct a final audit and summary.

(Site audits/summary reports will be conducted at each hold point interval by the Project Arborist)

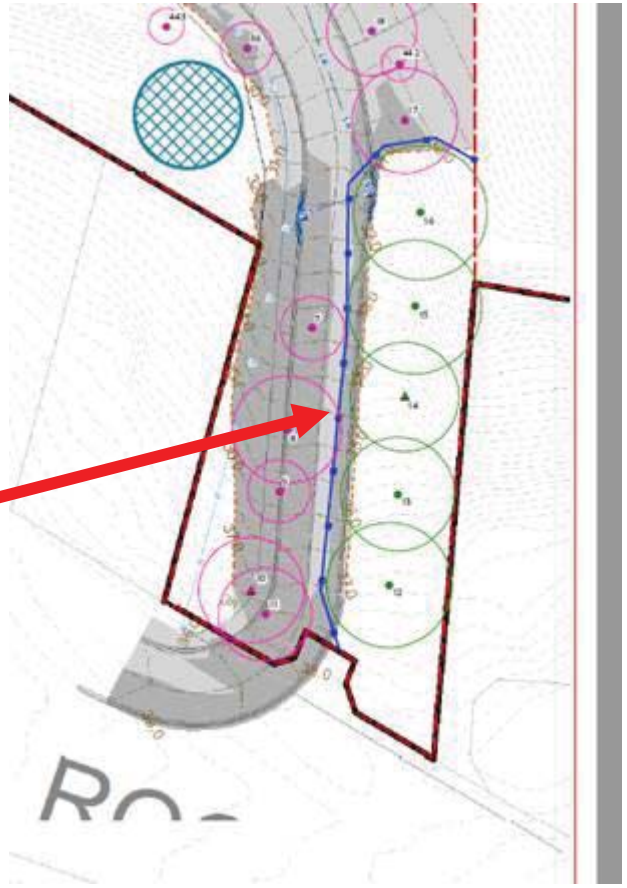
Project Arborist Requirements	
1.	Pre-Start Inspection and Audit of Tree Protection Fencing Before Works Commence
2.	Any required Tree Works to be undertaken by a minimum AQF Level 3 Arborist under the Supervision of the Project Arborist (Min AQF Level 5). Tree Services Company to be a member of Queensland Arboricultural Association or Arboriculture Australia.
3.	All works within the Tree Protection Zones of the retained vegetation to be supervised by the Project Arborist (Min AQF Level 5). Audit Reports to be completed and submitted by the Project Arborist. Any below ground incursion to be water excavated under low pressure, under the supervision of the Project Arborist.
4.	All works to be excluded from the Structural Root Zone (SRZ) and supervised if located within Tree Protection Zone.
5.	The Project Arborist to be consulted if changes to plans are made that affect any retained vegetation.
6.	At the Completion of works, Project Arborist to undertake a site assessment and an audit report compile of any further remedial actions required.

Tree Protection Plan

Removal of deadwood to be undertaken by a minimum AQF Level 3 Arborist under the supervision of the Project Arborist.

For the demolition of the existing carpark, it is to be via batter bucket working away from the tree. Where large structural roots are present or removal of bitumen close to the stem of the trees, hand digging to be undertaken.

Black plastic is to be utilised to sleeve concrete and prevent leaching of chemicals into the surrounding soil.



The new civil works are on the perimeter of the TPZ. If design plans are changed the Project Arborist to be consulted.

Project Arborist Requirements
Pre-Start Inspection and Audit of Tree Protection Fencing Before Works Commence
Tree Pruning (if required) to be undertaken by a minimum AQF Level 3 Arborist under the Supervision of the Project Arborist (Min AQF Level 5). Tree Services Company to be a member of Queensland Arboricultural Association or Arboriculture Australia.
All works within the Tree Protection Zones of the retained vegetation to be supervised by the Project Arborist (Min AQF Level 5). Audit Reports to be completed and submitted by the Project Arborist. Any below ground incursion to be water excavated under low pressure, under the supervision of the Project Arborist.
All works to be excluded from the Structural Root Zone (SRZ) and supervised if located within Tree Protection Zone.
The Project Arborist to be consulted if changes to plans are made that affect any retained vegetation.
At the Completion of works, Project Arborist to undertake a site assessment and an audit report compile of any further remedial actions required.

Tree Protection Fencing is to be erected before works commence in accordance with AS4970-2009 Protection of Trees on Development Sites.

Tree Locations

Please note: Tree locations are an approximate only

Tree Detail

Tree Number	Botanical Name	Common Name	DBH cm	TPZ (m)	Height m	Spread (m)	Health	Form	Recommendation
1	Bumpy ash	Flindersia schottiana	65	7.8	14	10	Fair	Typical	Retain and Protect – refer tree protection notes
2	Bumpy ash	Flindersia schottiana	64.12	7.7	14	12	Fair	Typical	Retain and Protect – refer tree protection notes
3	Bumpy ash	Flindersia schottiana	55	6.6	16	11	Fair	Typical	Retain and Protect – refer tree protection notes
4	Bumpy ash	Flindersia schottiana	59	7.1	14	11	Fair	Typical	Retain and Protect – refer tree protection notes
5	Royal Poinciana	Delonix regia	51.22	6.2	7	14	Fair	Typical	Retain and Protect – refer tree protection notes

Table Legend:			
Health	**Form**	**Aged Class**	**Further Detail**
G: Good	G: Good	J – Juvenile	DBH - Diameter at Breast Height measured at 1.4m above ground level
F: Fair	F: Fair	FTLM – Full to Late Maturity	DBH is the circumference divided by π
P: Poor	P: Poor	M – Mature	TPZ - Tree Protection Zone displaced as metres radius
D: Dead	T: Typical	S – Senescent	Note: TPZ - minimum area is 2.0m / maximum area is 15m

Tree Protection Measures and Guidelines

Note 1: TPZ perimeter fencing should be grouped where perimeters overlap and appropriate

Note 2: Signage is to be installed in accordance with Australian Standard AS 4970-2009 – Protection of trees on development sites as illustrated below.

Figure 1: Protective Fencing

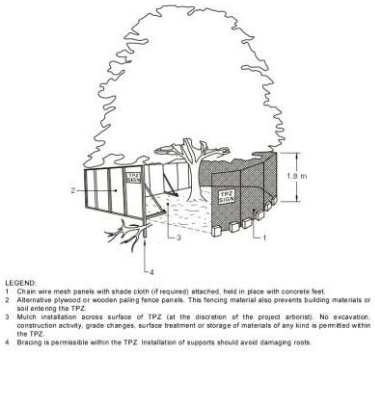


Figure 2: Examples of trunk, branch and ground protection[1]

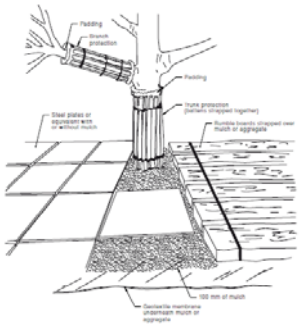


Figure 3: Tree Protection Zone Signage

Figure 4-7: Low Pressure Ground Excavation and Watercutting

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8-9: Example of fauna friendly rigid style temporary fencing (See Appendix 1, Note 1)

Figure 8

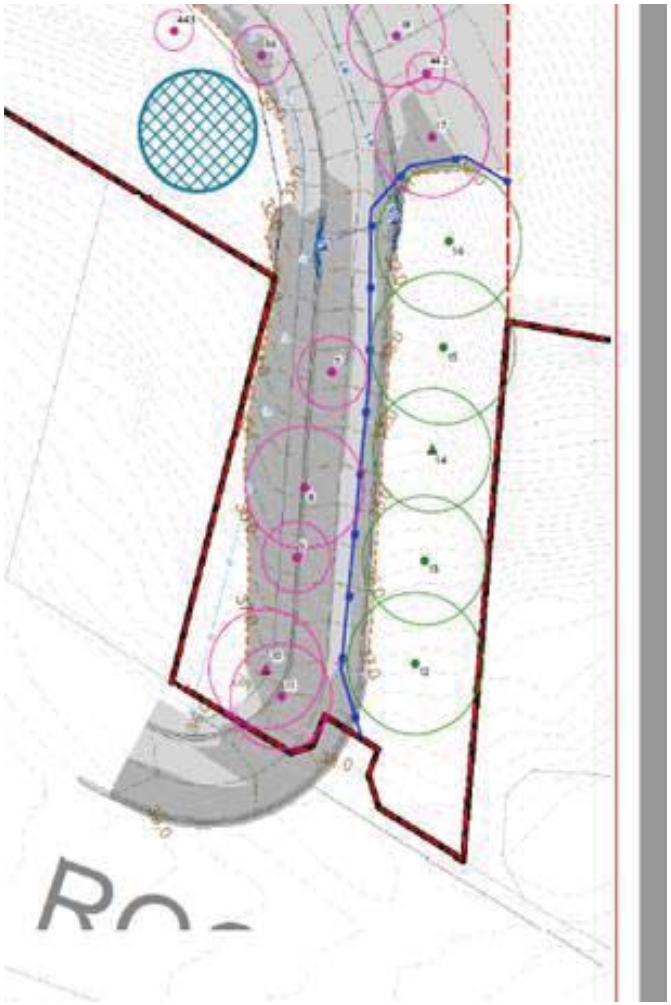
Figure 9

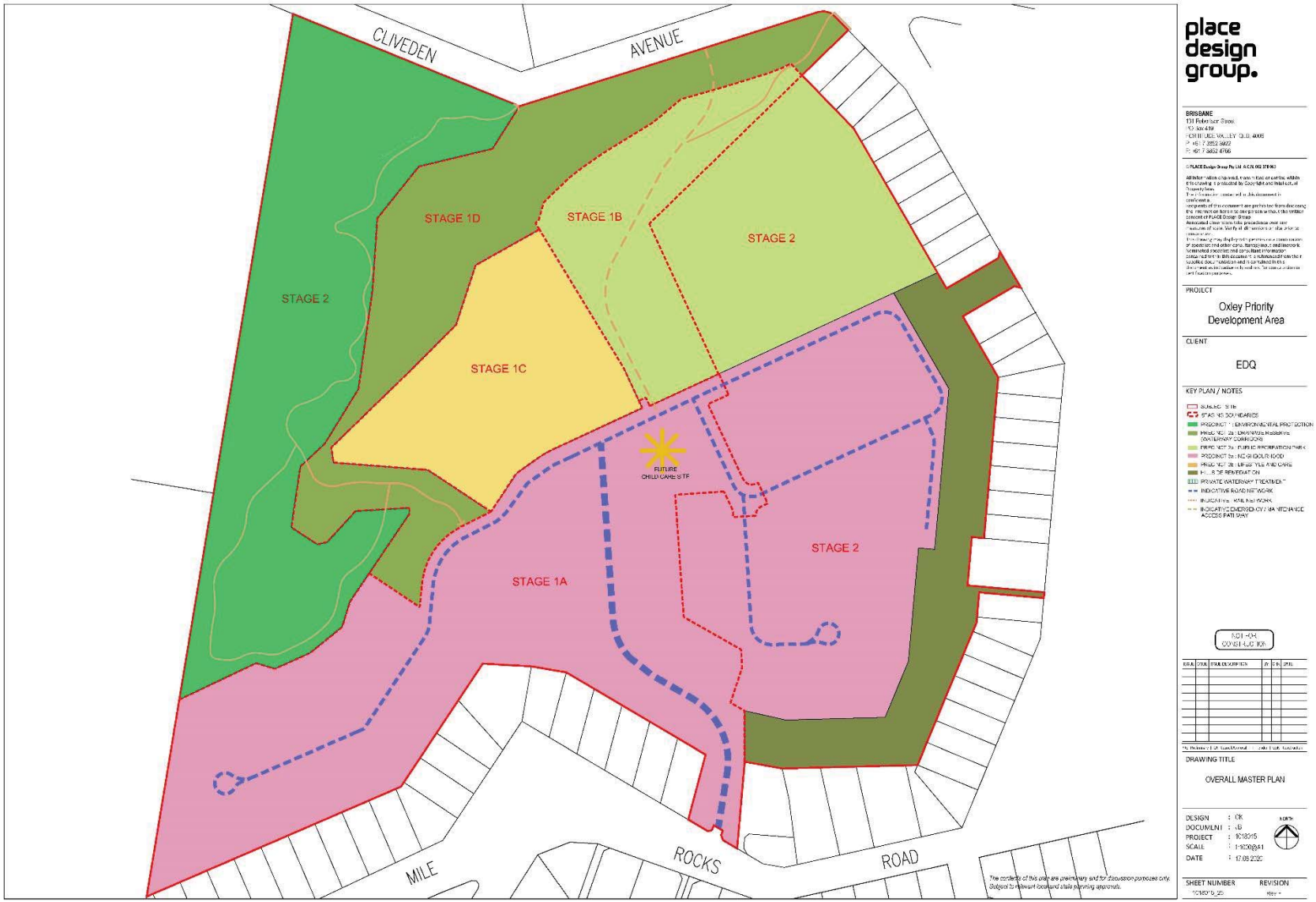
Source: Australian Standards AS4970-2009 Protection of Trees on Development Sites.

Tree Management Plan (TMP) - Works progress: Development Phase

Stage	Tasks	Specific Outcomes
Pre-construction Phase		
Prepare and finalise Arboricultural Impact Assessments for submission to Council	Project Arborist to be appointed Review tree details in all approved Arboricultural reports following any new issue of plans	Submit Arboricultural reports including Arboricultural Impact Assessment for final Council Approval
Project Arborist to conduct Prestart Meeting with all representatives involved in construction	Prior to meeting: TPZ temporary protection/fencing installed **Arboricultural Report, TMP & Council approval copies to be included in CMP** and made available to onsite crews	Prestart Certification and approvals in place & available onsite with CMP
Commencement - Construction Phase		
Initial Site Preparation	Project Arborist to supervise all tree work. **Construction crew or others are not to remove any part of a tree.** Arborist prestart site inspection.	Compliance Certification of Arboricultural works for lodgement to Council Arborist certification of TPZ measures.
Prestart Toolbox Meeting	All relevant onsite crews to be briefed by Project Arborist prior to commencement of each work phase. Project Arborist must be notified and onsite at all times when construction works are within or close to TPZ. Note: Onsite attendance of Project Arborist is a condition for issue of Arboricultural Site Audit Statement/s.	Arborist Site Audit Reporting system to be in place. Copies of Arboricultural Report to be retained onsite. Arboricultural Site Audit Statement/s will not be issued retrospectively
Construction Phase		
Site Establishment	Project Arborist to monitor tree health during establishment phase including bulk earthworks, changes in hydrology etc.	Instigate remedial tree care measures if required
Construction work	Site Manager to liaise with and ensure Project Arborist is advised in time to allow them to be present for all work carried out within TPZ area including any work likely to affect identified tree/s. Any deviation/s from approved plans to be approved by Project Arborist. **Project Arborist to provide ongoing Site Audit Certification of all work within TPZ**	Any remedial tree works to be carried out by qualified arborists under supervision of Project Arborist. Project Arborist is responsible for issue of Arborist Site Audit Reports.
Practical Completion	Project Arborist to carryout review of tree health and vigour and advise on TPZ fencing.	On Project Arborist approval, carryout removal of remaining temporary tree protection measures
Post Construction Phase		
Final Arborist inspection	Carryout tree health review and provide recommendations for required tree care.	Issue of final Arborist Site Audit Compliance Statement for inclusion in final DA documentation and sealing.

Plans




CLIVEDEN
AVENUE
STAGE 1D
STAGE 1B
STAGE 2
STAGE 2
STAGE 1C
FUTURE
CHILD CARE SITE
STAGE 1A
STAGE 2
MILE
ROCKS
ROAD
The contents of this plan are preliminary and for discussion purposes only. Subject to relevant local and state planning approvals.
place design group.
BRISBANE
111 Robertson Street
PO Box 419
FORTITUDE VALLEY QLD 4006
P: +61 7 3852 9402
F: +61 7 3852 4766
PROJECT
Oxley Priority Development Area
CLIENT
EDQ
KEY PLAN / NOTES
DRAWING TITLE
OVERALL MASTER PLAN
DESIGN : CK
DOCUMENT : LB
PROJECT : 6018015
SCALE : 1:1000@A1
DATE : 17.05.2020
SHEET NUMBER
REVISION


CLIVEDEN AVENUE
STAGE 1D
DRAINAGE RESERVE (WATERWAY CORRIDOR)
STAGE 2
STAGE 1C
FUTURE RETIREMENT LIVING PRECINCT
STAGE 1B
PUBLIC RECREATION PARK PART 1
FUTURE CHILD CARE SITE
STAGE 2
STAGE 1A
BLACKHEATH ROAD
BLACKHEATH ROAD
SEVENTEEN MILE ROCKS ROAD
Residential Allotment Mix
Stage 1
Courtyard 15 - 17.9m wide Allotments
16
Traditional 18.0m+ wide Allotments
23
TOTAL
39
Stage 1A
Stage 1B
Stage 1C
Stage 1D
Total Stage Area
4.82
1.28
1.6
2.25
Drainage Reserve - Waterway Corridor
0
0
0
2.25
Public Recreation Park
0
1.28
0
0
Retirement Living
0
0
1.6
0
Child Care
0.23
0
0
0
Total Area of Road
1.41
0
0
0
Total Length of Road (15.0m)
385m
0
0
0
Total Length of Road (14.0m)
435m
0
0
0
Total Area of Residential Allotments
3.18
0
0
0
Average Lot Size
815sqm
place design group.
BRISBANE
PROJECT
Oxley Priority Development Area
CLIENT
EDQ
KEY PLAN / NOTES
NOT FOR CONSTRUCTION
DRAWING TITLE
RECONFIGURATION OF A LOT STAGE ONE
DESIGN : CK
DOCUMENT : JS
PROJECT : 1018015
SCALE : 1:1000@A1
DATE : 17.08.2020
NORTH
SHEET NUMBER
REVISION
Rev C

Plan of Development Design Requirements Residential Allotments 1 - 39

General:

1. All development is to be undertaken in accordance with the Development Approval and Queensland Development Code (QDC) except as varied below.
2. The maximum height of buildings shall not exceed 2 storeys or 9.5m above ground level (refer to note 6 definition), whichever is lesser.
3. Maximum building location envelopes are subject to future proposed easements, building exclusion zones, protected vegetation and covenants and/or other underground services registered on title.
4. Residential structures cannot be located within the Bushfire Protection Zone.
5. Setbacks for a building or structure, means the shortest distance measured horizontally between the outermost projection of the building or structure to the vertical projection of the boundary of the lot where the building or structure is.
6. Ground level means:
   (a) the level of the natural ground; or
   (b) if the level of the natural ground has changed, the level lawfully changed (the prescribed level).

Streetscape and Articulation:

7. Dwellings must address the primary frontage with clear and well-lit access to the front door(s).
8. Dwellings must address each street and park frontage with 3 or more of:
   - Verandah or balcony
   - Porches
   - Awnings and shade structures
   - Variation of roof and building line;
   - Inclusion of window openings;
   - Variation of building materials
9. External drainpipes must be integrated into the dwelling design where visible from the street.
10. Clotheslines, compressor units, hot water systems and all other ancillary items, excluding solar panels, must not be visible from the street.
11. Lot 1, Lot 7 and Lot 8 must address all street boundaries as their primary frontage.

Built Form:

12. All allotments within the Bushfire Protection Zone must comply with requirements set out in Sections 6.1 and 6.2 of the approved (DEV2020/1033) Bushfire Management Plan from Land and Environmental Consultants for the Oxley Priority Development Area.
13. The area nominated as the Bushfire Protection Zone for Lots 23-30 is indicative only. House designs are subject to private certifier building approval and assessment against the Queensland state planning policy bushfire prone area map and compliance with AS3959 2018.
14. Good design and energy efficiency is fundamental in building a sustainable home that uses as little energy and water as possible and provides a comfortable internal environment for occupants. The following are mandatory built form and inclusions to be incorporated into the design:
   - Eaves at 600mm;
   - Dwellings must be designed for natural cross ventilation with well-considered placement of windows to draw breezes through the house;
   - Installation of Solar and Battery configuration by EDQ nominated preferred supplier, all dwellings to have a three phase power connection which allow for:
     (a) Mandatory requirement for all garages to have a dedicated electrical circuit for future electronic Vehicle charging;
     (b) Heat pump hot water systems;
     (c) Energy efficient air conditioning; and
     (d) A minimum 6kw solar and minimum 13.5kw battery with inverter maximum of 4kW export.
15. Dwellings to be designed to ensure passive street surveillance with habitable rooms overlooking the street. Bedrooms (excluding master bedrooms) and designated home theatre rooms do not generally provide opportunities for passive surveillance supporting CPTED principles requirements.

Setbacks and Site Cover:

16. Setbacks listed in the Plan of Development table are the minimum distance required unless otherwise specified on plan. Where distances are specified on the plan they take precedence over the Plan of Development table.
17. Front verandah and covered areas such as porches to the front façade are permitted to extend into the front setback on the condition that the roofed area is not enclosed. For front setbacks, the roofed area can extend to no closer than 3.0 metres from the front boundary. For secondary frontage on corner lots the roofed area can extend to no closer than 1.5m from the secondary frontage boundary.

Steep Residential Lots:

18. Building designs for down slope, up slope and cross slope allotments must adhere to the good hillside construction practices and principals referred to in the Australian Geoguide LR8 (Construction Practice).
19. On down slope allotments (Lots 27-29, 24-30) cut and fill is only permitted to facilitate the establishment of a suitable garage building pad and any associated entry features (porch, entrance hall, street frontage landscaping and driveway).
The garage pad level must be located within 0.5m of the adjacent verge level.
20. On up slope allotments (Lots 1-4 10, 13-23) cut and fill permitted for the establishment of a suitable garage building pad, rooms adjoining the garage on the same building slab and associated entry features (porch, street frontage landscaping and driveway). The area excavated must only extend as far back as the rear wall of the garage.
21. On cross slope allotments (Lots 9, 11, 12 & 36) cut and fill is only permitted for the establishment of a suitable garage building pad and any associated entry features (porch, entrance hall, street frontage landscaping and driveway). The garage pad level must be located within 0.5m of the adjacent verge level.
22. All other elements of the home must be constructed to ensure no cut and/or fill is required and must respond to the natural topography of the site.
23. Residential structures situated on southern hillside lots (1,10-23) where additional building loads and slope modification works are to occur, must require additional stability analysis approved by a RPEQ Geotechnical engineer (qualified person) prior to works commencing demonstrating that the building loads and slope modification works proposed do not adversely affect slope stability. The residential building plans must detail the earthworks and drainage proposed, building location situated on the block, detail building load (internal/external) as well as any maintenance access loading.

Retaining Walls:

24. Inter allotment retaining walls are permitted, however they must not exceed 1.0m in height. Design of retaining walls must ensure there are no adverse impacts (functional, financial or construction limitations) on adjoining allotments.
25. Retaining walls for landscaping purposes are permitted and must not exceed 1.0m in height.
26. Terraced retaining wall structures are permitted, but must:
   - Have a minimum separation of 1.0m between the face of each wall and
   - Each wall must be a maximum height of 1.0m.
27. If a retaining wall is located within a Bushfire Protection Zone then the retaining wall should be constructed of a fire resistant material.
28. Retaining walls are engineer designed to withstand the lateral earth pressures and surcharges expected and include drains to prevent water pressures developing in the backfill. Construction of retaining walls must adhere to the Australian Geoguide LR6 (Retaining Walls).

Driveways, Off-Street Carparking and Garages:

29. Driveways must avoid infrastructure / services within the road reserve such as dedicated on-street parking bays, drainage pits and service pillars.
30. Driveways must be constructed at the grade of the adjacent verge area. No grade changes to the verge for the driveway are permitted.
31. Driveways must integrate with and match the level of the footpath and should not be cut through the footpath.
32. Driveways must be completed prior to occupation of the dwelling.
33. Minimum off-street car parking requirements are 2 spaces per dwelling, one of which must be covered and enclosed in the form of a garage or carport.
34. Single, double or tandem garage configurations are permitted in accordance with the setbacks provided.
35. Must have a sectional, tilt or roller door to the garage.
36. Garages are permitted forward of the building wall and must adhere to the following:
   - Must comply with garage setbacks as per the Plan of Development Table;
   - Must have a sectional, tilt or roller door to the garage; and
   - Must not obstruct ground floor windows of the dwelling.
37. Open carports are permitted and must adhere to the following:
   - Be built forward of the 6.0m garage setback;
   - Be complimentary to the dwelling through its design, materials and colours;
   - Must be incorporated into front fence design and may include a gate across the carport entry to a height consistent with the front fence design; and
   - Be open at the front, but when on steep lots include battening or safety railing detail to the sides and rear of the structure where above ground level and be complimentary to the dwelling through its design, materials and colours.

Private Open Space and Privacy:

38. Private uncovered (no roof) outdoor space in the front yard must measure a minimum of 30sqm with a minimum dimension of 3.0m in any dimension, excluding the driveway area.
39. Each dwelling must include a covered outdoor living area that must:
   - Be accessed from an internal living area;
   - Measure a minimum of 10sqm with a minimum dimension of 2.4m.
40. All first floor windows adjacent to a neighbouring lots private open space must be obscured to ensure occupants privacy where sill height is less than 1.7m.
41. Dwelling designs on Lots 24-30 must ensure passive surveillance is provided to park frontage and primary street frontage. This is to be achieved through living spaces at both the front and rear of the home. Verandahs facing the street are encouraged to ensure surveillance of the public street is maintained.

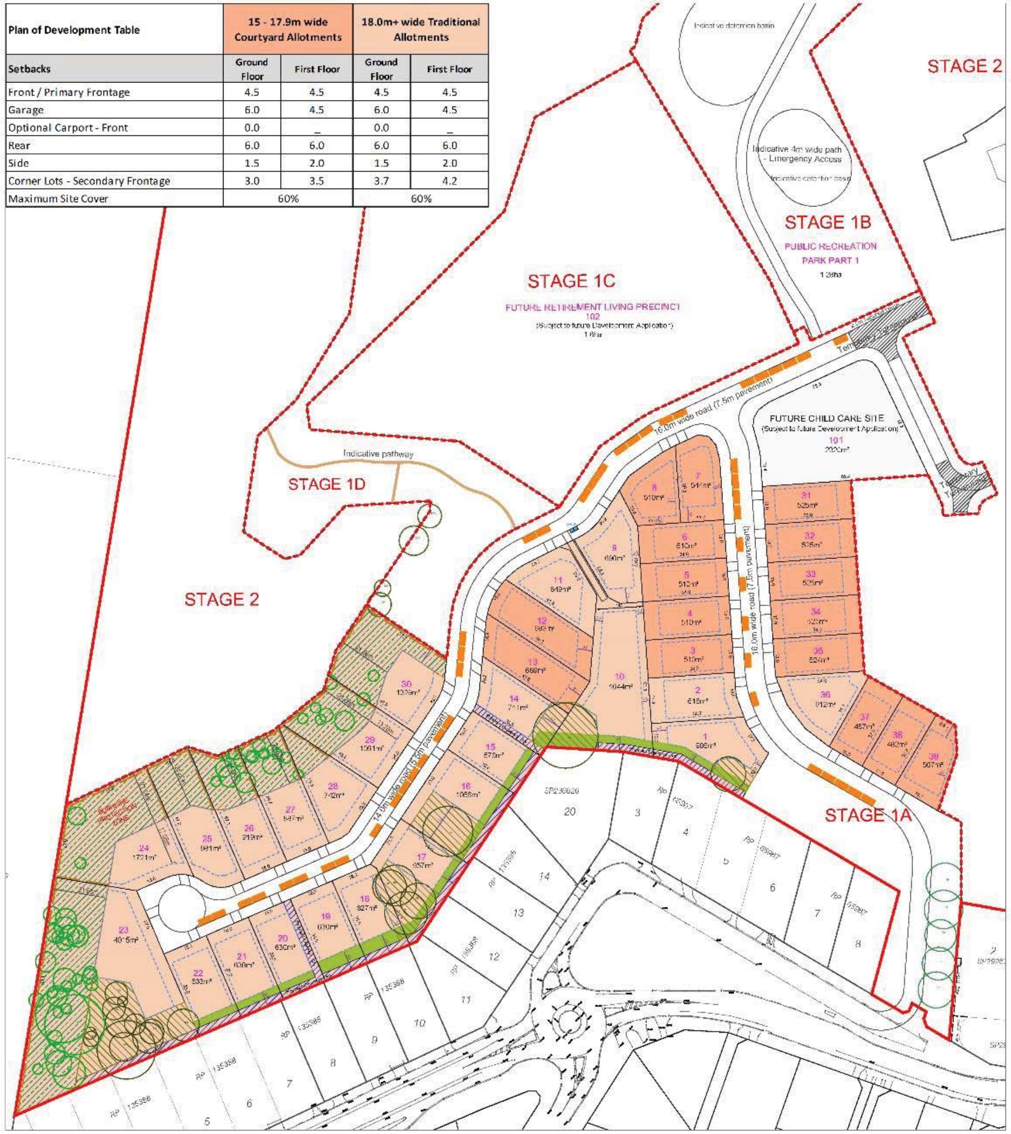
Fencing:

42. Fencing along boundaries of Lots within the area shown as Bushfire Protection Zone are to be 1.5m high, black powder coated aluminium tubular pool style fencing. The fencing is to be constructed to allow safe passage for native fauna.
43. Fencing installed by the developer must not be altered, modified or removed without prior written approval from the statutory authority.
44. Fencing on all park, street and corner frontages must be a maximum of 1.5m high.

Landscaping & Tree Retention:

45. Landscaping requirements in the Bushfire Protection Zone must adhere to Landscaping for Bushfire - Garden design and plant selection (CFA 2011) Guideline and Section 6.2 of the approved (DEV2020/1033) Bushfire Management Plan from Land and Environmental Consultants for the Oxley Priority Development Area.
46. Trees shown in the Building Exclusion Zone and Tree Planting Zone are to be retained.

Plan of Development Table	15 - 17.9m wide Courtyard Allotments		18.0m+ wide Traditional Allotments	
Setbacks	Ground Floor	First Floor	Ground Floor	First Floor
Front / Primary Frontage	4.5	4.5	4.5	4.5
Garage	6.0	4.5	6.0	4.5
Optional Carport - Front	0.0	_	0.0	_
Rear	6.0	6.0	6.0	6.0
Side	1.5	2.0	1.5	2.0
Corner Lots - Secondary Frontage	3.0	3.5	3.7	4.2
Maximum Site Cover	60%		60%	



place design group.

BRISBANE
131 Robertson Street
PO Box 415
FORTITUDE VALLEY QLD 4006
P: +61 7 3852 3922
F: +61 7 3852 4766

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PROJECT
Oxley Priority Development Area

CLIENT
EDQ

KEY PLAN / NOTES
- SUBJECT SITE
- STAGING BOUNDARIES
- BUSHFIRE PROTECTION ZONE
- STORMWATER & ACCESS EASEMENT
- BUILDING EXCLUSION ZONE
- INDICATIVE BIN COLLECTION PAD
- MAXIMUM BUILDING LOCATION ENVELOPE
- EXISTING VEGETATION TO BE RETAINED WITHIN BUILDING EXCLUSION ZONE
- NATIVE TREE TO BE RETAINED WITHIN BUSHFIRE PROTECTION ZONE
- EXISTING VEGETATION TO BE RETAINED WITHIN ROAD RESERVE (SUBJECT TO ENGINEERING DESIGN)
- EXISTING VEGETATION TO BE RETAINED WITHIN OPEN SPACE
- INDICATIVE DRIVEWAY LOCATION SUBJECT TO DETAIL DESIGN
- NOMINAL ON-STREET CAR SPACE
- 1.5M HIGH ALUMINIUM TUBULAR "POOL" FENCE, NON-FLAMMABLE MATERIALS IN BUSHFIRE PROTECTION ZONE
- INDICATIVE PATHWAY
- TREE PLANTING ZONE (Minimum 20 trees total to be planted that can reach a maturity height of 20m by the developer and maintained by individual lot owners as per Note 45)

NOT FOR CONSTRUCTION

DRAWING TITLE
PLAN OF DEVELOPMENT STAGE 1A

DESIGN	: CK
DOCUMENT	: JB
PROJECT	: 1018015
SCALE	: 1:1000@A1
DATE	: 17.08.2020

NORTH

SHEET NUMBER	REVISION
1018015_35	Rev C

Photos

Tree 1

Tree 2

Tree 3

Tree 4

Tree 5

Reference Page

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6. Bassuk, Nina, Jason Grabosky, Peter Trowbridge, and James Urban. "Structural Soil." Urban Horticulture Institute. Cornell University, 1996. Web. 26 Apr 2010. <http://www.hort.cornell.edu/uhi/outreach/csc/article.html>.
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Appendix 1


Tree
Protection
Zone
NO ACCESS
Contact:
To reorder this sign, go to www.independentarb.com.au

Company Details

Independent Arboricultural Services

Independent Arboricultural Services, incorporated in May 2007, offers a completely independent arborist consulting and reporting service. Its directors and associated consultants bring extensive arboricultural knowledge gained over many years to this company. All consulting staff hold AQF Level 5 (Diploma of Arboriculture). Specialised advice when required, such as provision of survey mapping or engineering advice and certification is sourced from reputable professional providers according to site requirements as per Australian Standard 4970-2009.

Statement of Goal

To deliver continual improvement through the use of world's best arboricultural practices, supported by ongoing education and exposure to leading industry experts and research throughout the world.

Mission Statement

To provide timely, relevant and actionable consulting advice and practice based on the latest available and best scientific arboricultural knowledge.

Environmental Statement

Independent Arboricultural Services supports long term environmental sustainability sustainable sourced paper and ensuring all inks cartridges are recycled where possible.
Independent Arboricultural Services actively seeks to maintain a positive carbon footprint status and to that end is committed to protecting and preserving the environment, continuing to carry out tree planting, transplanting and replacement planting where practical, having planted in excess of 4000 trees in the first 2 years after its inception in May 2007 alone. Arboricultural recommendations involving the removal of tree/s will include replanting at a minimum ratio of 2 trees for any tree removed where possible. All arboricultural recommendations are made in accordance with world's best arboricultural practice and within the Australian Standards AS 4373-2007 Pruning of amenity trees and AS 4970 – Protection of trees on development sites so as to ensure optimal outcomes for all living trees.
Independent Arboricultural Services acknowledges the benefits of healthy trees with good vigour and vitality and actively promotes better understanding in the general community of the contribution that trees make to reducing greenhouse gasses, the contribution of trees to better water retention and the prevention of soil erosion, the ability of trees to provide protection to infrastructure by diffusing strong winds in weather events and the contribution of trees to general liveability within the urban environment.
It is an acknowledged fact that air temperature beneath a tree canopy can be in excess of 5° Celsius lower than the surrounding ambient air temperature thereby reducing reliance on greenhouse gas producing air conditioners and coal fired power sources.