



AGENDA

FOR COUNCIL ASSESSMENT PANEL MEETING TO BE HELD ON

24 APRIL 2019 AT 6:00 PM

IN THE COUNCIL CHAMBER, 12 JAMES STREET, SALISBURY

MEMBERS

Mr D Wallace (Presiding Member)
Mr R Bateup
Ms S Johnston
Mr J Watson

REQUIRED STAFF

General Manager City Development, Mr T Sutcliffe
Manager Development Services, Mr C Zafiropoulos (Assessment
Manager)
Development Officer – Planning, Mr C Carrey

APOLOGIES

An apology has been received from Mr B Brug.

LEAVE OF ABSENCE

ENDORSED MINUTES FROM PREVIOUS MEETING

Copy of the Endorsed Minutes of the Council Assessment Panel Meeting held on 26 March 2019.

DECLARATIONS OF CONFLICTS OF INTEREST

REPORTS

Development Applications

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 Land Division - creation of 62 allotments from 1 allotment, public roads and reserve, removal of 14 regulated trees and 7 significant trees and retention of 3 regulated trees and 1 significant tree at 36-35 Third Avenue, Mawson Lakes for Hughes Project Management

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5.2.1 Policy Issues is Arising from Consideration of Development Applications

5.2.2 Future Meetings & Agenda Items

CLOSE

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**MINUTES OF COUNCIL ASSESSMENT PANEL MEETING HELD IN THE COUNCIL
CHAMBER, 12 JAMES STREET, SALISBURY ON**

26 MARCH 2019

MEMBERS PRESENT

Mr D Wallace (Presiding Member)
Mr R Bateup
Ms S Johnston
Mr J Watson
Mr B Brug

STAFF

General Manager City Development, Mr T Sutcliffe
Manager Development Services, Mr C Zafirooulos (Assessment Manager)
Development Officer – Planning, Ms K Brown
Planning Consultant – Mr M Atkinson

The meeting commenced at 6.00pm

The Presiding Member welcomed the members, staff and the gallery to the meeting.

APOLOGIES

Nil

LEAVE OF ABSENCE

Nil

ENDORSED MINUTES FROM PREVIOUS MEETING

The Minutes of the Council Assessment Panel Meeting held on 26 February 2019, be taken and read as confirmed.

DECLARATIONS OF CONFLICTS OF INTEREST

REPORTS

Development Applications

5.1.1 361/67/2019/3B

Change of use from shop to funeral parlour at 829 Main North Road, Pooraka for Country Road Funerals

REPRESENTORS

Mr Leo de Jonge, spoke to his representation.

APPLICANT

Mr Daniel Rowett (Country Road Funerals), spoke on behalf of the applicant.

Mr J Watson moved and the Council Assessment Panel resolved that:

- A. The proposed development is not considered to be seriously at variance with the Salisbury Development Plan – Consolidated 15 December 2016.
- B. Pursuant to Section 33 of the *Development Act 1993*, Development Plan Consent is **GRANTED** to application number 361/67/2019/3B for Change of use from shop to funeral parlour in accordance with the plans and details submitted with the application and subject to the following conditions:

Development Plan Consent Conditions

- 1. The development shall be carried out in accordance with the details submitted with the application and the following stamped approved plans and documents, except where otherwise varied by the conditions herein:

Drawing No.	Plan Type	Date Received by Council	Prepared By
N/A	Site Plan	15 January 2019	Country Road Funerals
N/A	Statement of Particulars	15 January 2019	Country Road Funerals
N/A	Response to Representations	1 March 2019	Country Road Funerals

Reason: To ensure the proposal is established in accordance with the submitted plans.

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2. Except where otherwise approved, the operating hours for the funeral parlour shall not extend beyond the times specified in the approved documents, namely:

Monday to Friday – 9.00am to 5:00pm.

Reason: To ensure the proposal is established in accordance with the submitted documentation.

3. Except unless otherwise approved, chapel services are precluded.

Reason: To ensure the proposal is established in accordance with the submitted documentation.

4. All waste and other rubbish shall be contained and stored pending removal in covered containers and waste containers screened from public view and must not be located within designated car parks, manoeuvring areas or traffic aisles.

Reason: To maintain the amenity of the locality.

5. No materials, goods or containers shall be stored outside of the building at any time.

Reason: To ensure the car parking and emergency access areas are always available for the purpose they are designed. Further that the site be maintained in a clean and tidy state.

6. That the site plan and floor plan be amended to incorporate a door into the mortuary from the adjacent external staff car parking area.

Reason: To ensure direct access to the mortuary.

Advice Notes

- Except where otherwise varied by this Consent, the conditions imposed herein shall be in addition to conditions that apply to the subject property from previous approvals that remain active.
- This is not a building consent, and a satisfactory application for Provisional Building Rules Consent has to be submitted before Council can issue a Development Approval.
- Any additional advertisements and/or advertising displays except for the rebadging of the existing sign are not included in the consent granted. It will be necessary to make a separate application for any future proposed advertising signage.

5.1.2

361/2098/2018/2T

Removal of a significant tree on Council reserve at Parafield Gardens Oval, Bradman Road, Parafield Gardens for City of Salisbury

REPRESENTORS

Mr N R Aplin, spoke to his representation.

APPLICANT

Mr K Davey, spoke on behalf of the City of Salisbury.

Ms S Johnston moved and the Council Assessment Panel resolved that:

- A. The proposed development is not considered to be seriously at variance with the Salisbury Development Plan – Consolidated 15 December 2016.
- B. Pursuant to Section 33 of the *Development Act 1993*, Development Approval is **GRANTED** to application number 361/2098/2018/2T for Removal of a significant tree on Council reserve in accordance with the plans and details submitted with the application and subject to the following conditions:

Development Plan Consent Conditions

1. The development shall be carried out in accordance with the details submitted with the application and the following stamped approved plans and documents, except where otherwise varied by the conditions herein:

Drawing No.	Document Type	Date Received Stamped	Prepared By
File Number: DA 361/2098/2018/2T	Park Tree Assessment, Parafield Gardens Oval, Bradman Road, Parafield Gardens	21 February 2019	Symatree

Reason: To ensure the proposal is established in accordance with the submitted plans and documents.

2. Semi-mature native tree species (>1m in height) indigenous to the local area shall be planted on a three for one basis to compensate for the removal of the significant tree. The replacement tree planting shall be maintained in good condition at all times and replaced if necessary.

Reason: To comply with requirements of Regulation 117 (2) of the *Development Regulations 2008*.

5.1.3 361/747/2018/LD

Land Division (Torrens Title) - Creation of twenty (20) allotments from one (1) existing allotment, construction of public roads and stormwater contributions payment at 354-358 Martins Road, Parafield Gardens for Parafield Developments Pty Ltd

REPRESENTORS

Mr Michael Naylor spoke to his representation.

Cr Kylie Grenfell spoke to the representation of Mr Michael Pit and Ms Maria Pit.

Ms Luisa Antoniciello, was not present at the meeting.

Ms Jutta Burns, was not present at the meeting.

Mr Michael Meyers, was not present at the meeting.

APPLICANT

Mr Phil Weaver and Mr Rocco Ursida, spoke on behalf of the applicant.

Mr J Watson moved and the Council Assessment Panel resolved that:

- A. The proposed development is not considered to be seriously at variance with the Salisbury Development Plan – consolidated 15 December 2016.
- B. Pursuant to Section 33 of the *Development Act 1993*, Development Plan Consent and Land Division Consent is **GRANTED** to application number 361/747/2018/LD for a Torrens Title Land Division creating twenty (20) allotments from one (1) existing allotment and the construction of public roads and stormwater contributions payment at 354-358 Martins Road, in accordance with the plans and details submitted with the application and subject to the following Reserved Matter, Conditions and Land Division Requirements:

Reserved Matter

The following matter shall be submitted for further assessment and approval by the Manager – Development Services, as delegate of the Council Assessment Panel, as a Reserved Matter under Section 33(3) of the *Development Act 1993*:

1. A limited soil sampling report shall be undertaken which shall be targeted in the former location of green houses and olive orchards on the land. The sampling report shall evidence that the land is suitable for the proposed use.

Note: The report should be prepared in accordance with Planning Advisory Note 20 and the EPAs Implementation of the National Environment Protection (Assessment of Site contamination) Measure 1999. If the site has been used for any activities listed in Appendix 1 of PAN 20 (or any other potentially contaminating activity) or the preliminary site assessment reveals that contamination is suspected or identified, then further site assessment and investigations will be required.

Development Plan Consent Conditions

1. The development shall be carried out in accordance with the details submitted with the application and the following stamped approved plans and documents, except where otherwise varied by the conditions herein:

Drawing No.	Plan Type	Date Received By Council	Prepared By
Ref: 18135 Revision G	Plan of Division	19 February 2019	Zaina Stacey Development Consultants

Reason: To ensure the proposal is established in accordance with the submitted plans.

2. A Soil Erosion and Drainage Management Plan and Construction Environment Management Plan shall be submitted to Council for Approval. The Soil Erosion and Drainage Management Plan and Construction Environment Management Plan shall be prepared in accordance with the document entitled “*Handbook for Pollution Avoidance on Commercial and Residential Building Sites*”, prepared by the Environment Protection Authority. No works shall commence until prior written approval has been issued by Council’s Principal Development Engineer.

Reason: To preserve the amenity of the locality during construction work.

3. All recommendations contained under the Soil Erosion and Drainage Management Plan and Construction Environment Management Plan, Approved under Development Plan Consent Condition 2, shall be met at all times.

Reason: To ensure the Soil Erosion and Drainage Management Plan is implemented at all times.

4. The generation of airborne dust caused as a result of construction works shall be minimised at all times. Where generation of airborne dust is likely to cause nuisance beyond the site boundaries, dust control measures shall be implemented immediately.

Reason: To preserve the amenity of the locality during construction work.

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5. Stormwater systems shall be designed and constructed to cater for minor storm flows (Residential ARI =5yrs). The design of the stormwater system shall ensure that no stormwater is discharged onto any adjoining land. Surface stormwater is to be managed in a manner that ensures no ponding of water against buildings and structures, no creation of any insanitary condition, and no runoff into neighbouring property for the major storm event ARI = 100 years.

Reason: To ensure flood protection of the buildings.

6. The Defects Liability Period for the civil works will be 12 months from the date of issue of the Acceptance of Practical Completion and Asset Transfer.

Land Division Consent Requirements

1. A final plan showing all driveway locations be provided to Council for approval, prior to construction.
2. Detailed designs and specifications for all civil engineering works, including roads, culverts, footpaths, stormwater drainage, lighting, signage, line marking and pram ramps are to be submitted to Council for Approval by Council's Principal Development Engineer. No works shall commence until written approval has been issued by the Principal Development Engineer.
3. All civil and construction works shall be carried out in accordance with all detailed designs and specifications approved by Council under Land Division Consent Condition 1.
4. Existing bores and wells previously used for irrigation and water supply are to be identified, abandoned, plugged and backfilled in accordance with the *Natural Resources Management Act 2004*, the Department of Environment, Water and Natural Resources (DEWNR) and relevant region NRM board to prevent contamination, degradation and wastage of groundwater.
5. A Proof Roll is to be undertaken at each stage of road construction (ie. Subgrade, prior to kerb and prior to sealing) with both Council and Superintendent Representatives in attendance, to ensure compliance with the approved plans and specifications. Council is to be given a minimum of 24 hours' notice of required attendance.
6. A geotechnical Inspection and Testing Plan (ITP) is to be forwarded to Council prior to construction. The fully completed ITP is to be provided to Council prior to Practical Completion. Field Density testing is to be undertaken on all pavement layers and common service backfill in accordance with AS 3798-2007 and AS 1289-2003.
7. CCTV footage of the underground drainage system is to be supplied prior to Practical Completion to confirm that works have been completed in accordance with the specification.

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8. Public roads centrally located within the Clive Road and Gepps Avenue road reserves shall be constructed as follows:
 - a) In respect to Clive Road, as per the Approved Land Division Plan, prepared by Zaina Stacey, revision G dated 19th February 2019;
 - b) In respect to Gepps Avenue, have a 7.2m wide road carriage, flaring out to 12.0m as it relates to the widened portion of Gepps Avenue (ie. 18.20m section).

The road shall be sealed in hot mix to a standard Approved by Council under Land Division Consent Condition 1. Statutory line marking and signage shall be installed in accordance with the *Road Traffic Act 1961* and Australian Standard 1742 Manual of Uniform Traffic Control Devices, noting that car parking within the Clive Road turning bay and widened portion of Gepps Avenue shall be prohibited.

9. To ensure the minimum thickness of hot mix has been achieved during road pavement construction, Council require certification from a registered surveyor that the road formation levels have been checked prior to and after road surfacing (5 points every 50m). Council may at its discretion request core samples to verify asphalt thickness and compaction.
10. The terminating boundaries of Clive Road (bordering 344-352 Martins Road and proposed allotment 354) and Gepps Avenue (bordering 344-352 Martins Road) shall:
 - a) Be fenced with transparent style fencing (ie. post and rail or tubular) in a manner that precludes access into the neighbouring site at 344-352 Martins Road and proposed allotment 354 but preserves overland flow as per Land Division Requirement 10(b) and 11; and
 - b) Be fitted with the largest and longest D4-5 Hazard Board adjacent the fencing at the terminating ends of the road and shall face toward the road.
11. The stormwater system shall be designed and constructed as follows:
 - a) Underground piped stormwater system to cater for minor storm flows (ARI = 5 years); and
 - b) Overland flowpath designated to cater for the 100 year ARI major storm event.
12. All surface runoff in the 100 year ARI major storm event shall be safely conveyed through the new road network, providing an overland flow path within the road reserves to accommodate peak flow.
13. Allotment fill may be required to ensure that the floor levels of proposed residential development will be 300mm above top of kerb for the proposed road frontage and graded a minimum 0.5% towards the road. This may require that the general level of each residential allotment be raised in layers of 150mm of compacted fill. Any filling in excess of 300mm is to be constructed with Level 1 Supervision.

14. The excavation and filling of land must be undertaken in accordance with the specifications of Council. Those specifications shall comply with “AS 3798-2007: *Guidelines on earthworks for commercial and residential developments*”. Geotechnical documentation shall be provided to Council, prior to Section 51 clearance, demonstrating that all filling complies with the requirements of AS 2870-1011: Residential Slabs and Footings.
15. Existing footings and verge areas shall be reinstated to Council specification after excavation trenching and underground services have been installed.
16. Electricity supply servicing the development shall be installed underground in accordance with SA Power Networks Technical Standards for underground residential distribution of electricity.
17. All Communication Carrier’s services (including NBN Broadband) shall be installed underground.
18. Street and public area lighting shall comply in all respects with the Lighting Code AS1158. The style and type of lighting shall be Approved by Council, prior to the commencement of any works. All public lighting must incorporate the use of unmetered LED Luminaires that are certified to be compliant with TS 1158.6 and must be listed on the AEMO load table. The standard public lighting tariff shall be Energy Only and electrical designs shall comply with AS 3000. Lighting design is to comply with AS/NZS 1158.
19. A 1.5m wide footpath, associated pram ramps and landing shall be constructed in accordance with G6 Council Standard, adjacent the full length of Clive Road and Gepps Avenue (as an extension of the existing footpath). The final footpath location and materials shall be Approved by Council, prior to commencement of footpath construction.
20. A stormwater contribution is payable in lieu of onsite stormwater detention. The contribution is payable at the rate of \$32,500/hectare (\$53,012.00).
21. A Landscaping Plan shall be submitted to Council for Approval, prior to commencement of site works. The Landscaping Plan shall achieve the following:
 - a) Incorporate advanced growth street trees (at least 1.2m at planting) at a rate of at least 1 tree per allotment frontage (on both sides of all public roads), of a species agreed to by Council’s Team Leader – Landscape Design;
 - b) Removal of all weed and pest species on the site and preparation of the topsoil within all road reserves, such that weed and pest species do not thrive.
22. All landscaping works identified on the Landscaping Plan, Approved by Council under Land Division Consent Condition 20, shall be completed in full or bonded.
23. Except where contained within the boundaries of proposed allotment 354, all buildings, structures, irrigation pipes, building materials, rubbish and deleterious materials shall be removed from the site.

24. All conditions must be met, including zero defects and full payment of any contributions prior to acceptance of Practical Completion and “handover” of infrastructure. Until the “Acceptance of Practical Completion and Asset Transfer” is issued by Council, all liability and maintenance of infrastructure remains responsibility of the Developer.
25. A bond for 10% of the agreed total value of the land division (ie. the development) or 100% of the agreed value of the outstanding works (whichever is greater) shall be provided to Council, prior to Section 51 Clearance, to be held in trust during the Defects Liability Period and returned upon satisfactory Final Completion of the Land Division.
26. Damage sustained to any new or existing infrastructure during the course of the works shall be rectified to Council satisfaction prior to the completion of development works.
27. As ‘as constructed’ survey, of all infrastructure including but not limited to stormwater pipes, kerbing, road pavement, line-marking, footpaths, signage and street tree plantings, shall be provided to Council in PDF and DWG format, prior to Practical Completion.

State Commission Assessment Panel Requirements

28. The following SA Water requirements shall be met:
 - a) The financial and augmentation requirements of the SA Water Corporation shall be met for the provision of water supply and sewerage services (SA Water 2018/00188);
 - b) The necessary easements shall be granted to the SA Water Corporation free of cost.

NOTE: SA Water Corporation further advise that an investigation will be carried out to determine if the water and/or sewer connection/s to your development will be costed as standard or non-standard.

29. Payment of \$129,770.00 into the Planning and Development Fund (19 allotment/s @ \$6830.00 /allotment). Payment may be made by credit card via the internet at www.edala.sa.gov.au or by phone (7109 7018), by cheque payable to the State Planning Commission marked “Not Negotiable” and sent to GPO Box 1815, Adelaide 5001 or in person, by cheque or credit card, at Level 5, 50 Flinders Street, Adelaide.
30. A final plan complying with the requirements for plans as set out in the Manual of Survey Practice Volume 1 (Plan Presentation and Guidelines) issued by the Registrar General to be lodged with the State Commission Assessment Panel for Land Division Certificate purposes.

Advice Notes

1. The applicant is reminded of its general environmental duty, as required by Section 25 of the *Environment Protection Act 1993*, to take all reasonable and practicable measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm.

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2. EPA information sheets, guidelines documents, codes of practice, technical bulletins etc. can be accessed on the following web site: <http://www.epa.sa.gov.au>
 3. The applicant consult with Council to incorporate measures to have all traffic movements for the duration of construction from Martins Road.

OTHER BUSINESS

5.2.1 Status of Current Appeal Matters and Deferred Items

The information be received.

5.2.1 Policy Issues is Arising from Consideration of Development Applications

5.2.2 Future Meetings & Agenda Items

Next meeting scheduled for Wednesday 24 April 2019

ADOPTION OF MINUTES

Mr R Bateup moved, and the Council Assessment Panel resolved that the Minutes of the Council Assessment Panel Meeting be taken and read as confirmed.

The meeting closed at 7.35 pm.

PRESIDING MEMBER: Mr D Wallace

DATE: 26 March 2019
(refer to email approving minutes registered in Dataworks Document Number 5311008)

ITEM	5.1.1
	COUNCIL ASSESSMENT PANEL
DATE	24 April 2019
APPLICATION NO.	361/698/2018/LD (361/D055/18)
APPLICANT	Hughes Project Management
PROPOSAL	Land Division - creation of 62 allotments from 1 allotment, public roads and reserve, removal of 14 regulated trees and 7 significant trees and retention of 3 regulated trees and 1 significant tree
LOCATION	26-35 Third Avenue, Mawson Lakes, SA 5095
CERTIFICATE OF TITLE	CT-5097/702
AUTHOR	Chris Carrey, Development Officer, City Development

1. DEVELOPMENT APPLICATION DETAILS

Zone/Policy Area	Urban Core Zone
Application Type	On Merit Category 2
Public Notification	Representations received: Two (2) Representations to be heard: Two (2)
Referrals - Statutory	Nil
Referrals – Internal	Urban Policy Development Engineering Traffic Tree Services Parks and Open Space
Development Plan Version	Salisbury Council Development Plan Consolidated 15 December 2016
Assessing Officer	Chris Carrey – Development Officer - Planning
Recommendation	Refuse
Meeting Date	24 April 2019

2. REPORT CONTENTS

Assessment Report

Attachment 1:	Plan of Division
Attachment 2:	Supporting Information and Reports
Attachment 3:	Notice of Category 2 Application and Representations received
Attachment 4:	Applicant's Response to Representations
Attachment 5:	Site Contamination Audit Statement
Attachment 6:	Relevant Development Plan Extracts and Location Maps consolidated 15 December 2016

3. EXECUTIVE SUMMARY

The Applicant seeks Development Plan Consent and Land Division Consent for a Torrens Title Land Division creating sixty-two (62) allotments from one (1) existing allotment. The future allotments are intended for residential purposes. The proposal incorporates a number of additional elements including:

- construction of public roads;
- provision of public reserve;
- removal of fourteen (14) regulated trees and seven (7) significant trees; and
- retention of three (3) regulated trees and one (1) significant tree.

The subject site is located within the Urban Core Zone. The application was assessed ‘on-merit’ and was notified as a Category 2 form of development as the proposal will change the nature and function of an existing road. Two (2) representations were received in opposition to the proposal, both wishing to be heard by Council’s Assessment Panel.

The main issues raised by the representors included the appropriateness of a land division for residential purposes within the context of the locality; traffic and access concerns; compromised security for existing commercial operations; and incompatibility between residential and commercial operations.

Residential development is envisaged in the Transition Area as an interface to adjoining residential areas. However, in this locality, there is no residential interface. The Urban Core Zone is largely an urban mixed use zone, and in this locality a strong emphasis is placed on encouraging employment generating activities. This development is largely a residential suburban development. It does not have any mixed use, density, character or employment elements that are a character of the locality. The proposal introduces a form of development not explicitly envisaged in the Zone for this locality.

The assessment has found that on balance, this proposal falls short in respect of number of key areas:

- The absence of a mixed use outcome primarily envisaged by the Urban Core Zone.
- The division will deliver a relatively homogenous style of suburban housing which is substantially at odds with that part of the Desired Character statement for the Transition Area which seeks a combination of housing types to provide for a diverse community.
- Excluding proposed Allotment 62, the division will deliver a net residential density of 36.23 dwellings per hectare which is almost half the intended density for the Transition Area (minimum 70 dwellings per hectare).
- The exclusive form of residential development will be substantially at odds with the existing character of the locality which comprises large allotments with large floor plate commercial organisations and at grade car parking set within an open and landscaped setting. This is brought about by the spatial extent of the proposal which will result in the removal of established vegetation, including regulated and significant trees, and the use of solid metal fencing around the perimeter of the site and between allotment boundaries.

- Given the proximity of the subject site to Mawson Innovation Policy Area 24 and its location within Technology Park, there is the potential for a suburban form of residential development to compromise the orderly expansion of the Policy Area for its intended purpose.
- Removal of significant tree 6712 (Tree 22) is not supported having regard to its appearance, visual contribution to the locality, proximity to the public realm (Dry Creek Linear Park) and its location to the periphery (rear) of the site. Insufficient evidence has been provided to support its removal.

On this basis, it is recommended the application be refused.

However, it is recognised that if one were to accept that a residential land division of the form and density proposed is appropriate at the subject site, it is acknowledged the division will ‘work’ from a functional and engineering perspective. It is also recognised that through the course of the assessment process, the Applicant has attempted to address the concerns raised by Council staff and the proposal has been amended to its current format. From a functional perspective it is therefore acknowledged that:

- The proposed allotment sizes are capable of accommodating future residential dwellings with appropriate boundary setbacks, site coverage, provision of onsite car parking and private open space.
- It provides for safe and appropriate access and egress to Third Avenue.
- The internal road network will allow for appropriate internal circulation, access to each allotment, waste collection and emergency services access; and future provision of public footpaths and street tree planting.
- Sufficient on-site and on-street car parking can be provided.
- The division provides for a connected area of public open space to be vested as public reserve which has been designed to integrate with Dry Creek Linear Park.
- The division will allow for the appropriate drainage of storm water in a safe, efficient and environmentally sensitive manner.
- SA Water have advised that each of the allotments can be serviced by mains water and sewer.
- Provided future dwellings are designed in accordance with Sound Exposure Category 1 of the *Minsters Specification SA 78B* noise levels inside of the dwellings will comply with the goal noise levels as set out in the *Environment Protection (Noise) Policy 2007*.
- Site contamination has been appropriately addressed and the application has demonstrated the site is suitable for future residential use.

4. BACKGROUND

The subject site is located within an area commonly referred to as ‘Technology Park’.

Technology Park was established in 1982 with an overarching intent to provide facilities for technology businesses with an emphasis on the commercialisation of new technology and employment generation.

An overarching Encumbrance with associated Design Guidelines previously applied to the Technology Park Precinct. The precinct was divided into two (2) distinct policy areas named 'Enterprise Village' and 'Corporate Quarter'. The subject site was located within the 'Corporate Quarter' which is illustrated in Figure 1 below.

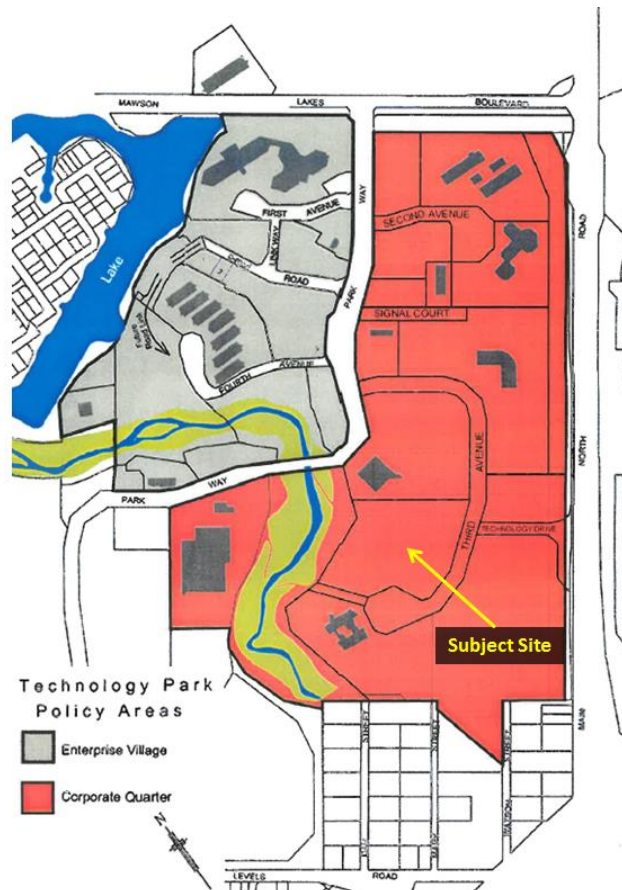


Figure 1
(Source: Technology Park: Design Guidelines)

The Design Guidelines identified that the Corporate Quarter was '*designed to maintain a park like setting with corporate identity for major uses...larger buildings with on grade parking and landscaping will predominate...residential development is unacceptable*'.

The Design Guidelines identified that the Enterprise Zone was '*designed to be a vibrant business precinct with high density development for small to medium building sizes...specified residential uses, such as SOHOs and short term accommodation, are allowed in some locations*'.

The Encumbrance and Design Guidelines, while no longer applicable, assisted in establishing the character and associated built form of the Technology Park precinct that exists today, recognising that some of the allotments in the locality are vacant.

On 7 July 2016, Council's Development Plan was amended. The amendment created the Urban Core Zone which now applies to the subject site. The amendment also established Mawson Innovation Policy Area 24 which was applied to the majority of sites within the former 'Corporate Quarter'. However, the amendment excluded the subject site and three (3) other surrounding allotments at the western end of Third Avenue from the Policy Area to allow increased land development flexibility to these parcels of land including the potential for residential development.

5. SUBJECT SITE

The subject site is an irregular shaped allotment of 28,800m² which is relatively flat with a small amount of fall towards the north (Dry Creek).

The site is currently vacant and contains seventeen (17) regulated trees and eight (8) significant trees. The site contains a number of other established trees.

The site is bounded by Dry Creek Reserve (Linear Park) to the north-west; Council Reserve (walkway) to the west; and two (2) properties to the north-east. One of these properties is occupied by Topcon Precision Agriculture while the other property is vacant. To the west and south west across Third Avenue is the site occupied by SAAB Australia Pty Ltd, while the sites to the south and east are both vacant (these site are owned by Renewal SA and the Urban Renewal Authority respectively).

The site is located towards the western end of Third Avenue, adjacent the existing cul-de-sac head and has frontage to Third Avenue of varying lengths and orientation. The frontage is lined with a number of established Council street trees. There is existing street lighting and a pedestrian footpath located to the south-east on the opposite side of Third Avenue.

There is a public walkway which extends from the cul-de-sac head of Third Avenue, along the western side of the subject site which links to the Dry Creek Linear Park. This provides connection to Park Way.

There are no existing crossovers or formal points of access to the subject site.

There are no easements.

A Land Management Agreement (LMA) is registered to the Certificate of Title. The LMA is to the Minister for Planning, having been issued in March 2018, and relates to the provision of Affordable Housing associated with development of the site.

Site photos are provided below:

Photo 1

Looking west into the site from Technology Drive



Photo 2

Looking south west along Third Avenue with the subject site on the right



Photo 3

Looking north west from Third Avenue with the site on the right and the existing SAAB Australia facility on the left



Photo 4

Looking east along Third Avenue with the subject site on the left. The Lockheed Martin facility is in the distance to the left.



Photo 5

Looking north east into the site from the Third Avenue frontage. The Topcon facility is in the distance.

Tree 6695 is in the centre (to be removed)



Photo 6

Looking south east along the walkway (Council Reserve) which is located to the west of the subject site. The SAAB Australia facility is on the right

Tree 6714 is on the left (to be retained)



Photo 7

Looking north east along the walkway (Council Reserve) which is located to the north west of the subject site. The subject site is on the right and Dry Creek is on the left.



Photo 8

Looking south east into the subject site from the Dry Creek walkway.

Tree 6712 is in the centre (to be removed)



6. LOCALITY

The subject site is located within the Urban Core Zone of Council's Development Plan, Consolidated 15th December 2016 and is bounded by the Open Space Zone to the north-west.

While the site is not located within a specific Policy Area or Precinct, Mawson Innovation Policy Area 24 is located immediately to the north-east abutting the subject site. The Zone and Policy Area configurations are identified in Figure 2 below.

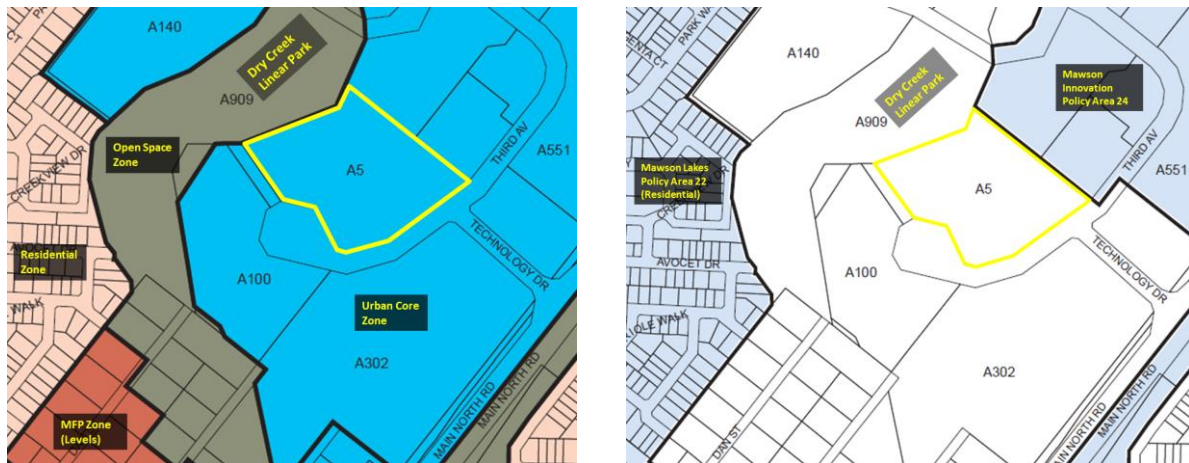


Figure 2

(Source: Council’s Development Plan – Overlay Maps Sal/47)

The subject site is also located within the ‘Transition Area’ as set out within Concept Plan Map Sal/8 of the Development Plan – see Figure 3 below:

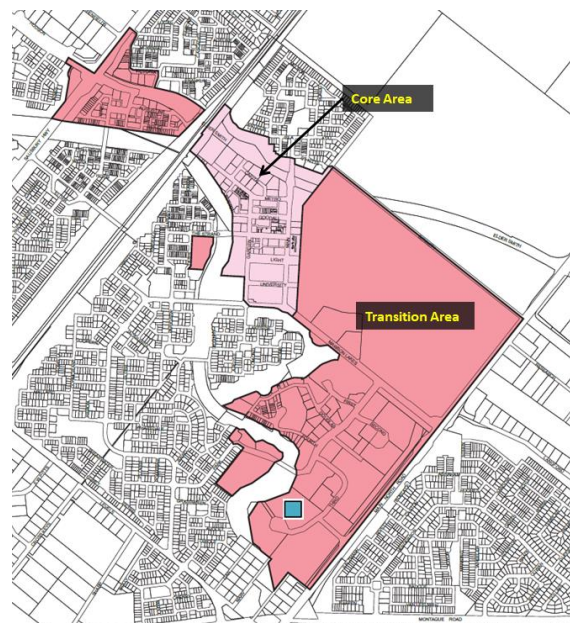


Figure 3

(Source: Council’s Development Plan – Concept Plan Map Sal/8)


The locality is shown on the following page in the Locality Plan. The locality consists of commercial land uses and vacant allotments set within an open park like setting. The locality is well served with established trees both on private land and within Dry Creek Linear Park and road reserves.

The locality is largely defined by Dry Creek Linear Park to the north-west and Main North Road to the south-east which act as significant visual barriers to those residential areas beyond the locality.

Parafield Airport is located outside of the locality, approximately 1500m to the north-east.

Aerial View







Legend (Source: NearMap)	
	Subject site

Locality Plan – Cadastre



Item 5.1.1

Legend (Source: Geocortex)	
	Subject site
	Locality
	Properties notified during Category 2 public notification
	Representations Received during Category 2 public notification

The developed sites within the locality consist of technological/commercial industries which are indicated in Figure 4 below. These businesses are SAAB Australia Pty Ltd, Lockheed Martin, Topcon Precision Agriculture, the former Optus building and Speedcast. They generally consist of large, one to three storey buildings with associated at grade car parking, landscaping and signage with the exception of the Speedcast site which comprises a number of large satellite dishes.

While the entire locality is located within the Urban Core Zone, the land to the north-east of the subject site is located within Mawson Innovation Policy Area 24. This Policy Area primarily seeks to provide facilities for high technology businesses and support an innovative and progressive education and business community.

Within the locality, the established urban character is comprised of large commercial buildings within a landscaped setting, which is consistent with the primary objectives for the Mawson Innovation Policy Area 24.

Outside of the locality, further technological/commercial industries are located to the north-east (BAE Systems, Ellex Medical, Codan and Tindo Solar) and to the north and north-west (Rapier Electronics, SEW Eurodrive and Sarstedt).

A residential townhouse development is also located outside of the locality on the north-western side of Park Way. This is an adaptable mixed use development and includes provision of office/shop space facing Park Way at ground floor with residential above.



Figure 4
(Source: NearMap)

Third Avenue comprises an 8m wide carriageway (approximate) with an unmarked single lane in each direction with a 50km/h speed limit in force. The Traffic and Parking Report provided by the Applicant (CIRQA) notes a daily traffic volume of around 1060 vehicles per day (vpd) to the north of Technology Drive and 475 vpd to the south of Technology Drive. There is a car park located within the centre of the cul-de-sac head at the end of Third Avenue which provides for around 15 car parking spaces. It is understood the parking is available to the public, however it appears to be largely used by SAAB Australia at the current time.

Technology Drive is a local road which comprises a 6m wide single traffic lane (approximate) which allows for one way access from Main North Road to Third Avenue. A 50km/h speed limit applies. The Traffic and Parking Report provided by the Applicant (CIRQA) notes a daily traffic volume of around 840 vpd.

Given the one-way nature of Technology Drive, exit from the locality is available via Park Way only.

Pedestrian access within the locality is facilitated via a sealed footpath on the southern side of Third Avenue and on the northern side of Technology Drive. These footpaths provide connection to Park Way and Main North Road. A sealed footpath also exists along the

western and northern edge of the subject site which provides a link between Third Avenue and Park Way via the Dry Creek Linear Park.

Public transport is available via bus stops along Main North Road and Park Way. The nearest bus stop on Main North Road is located around 200m from the subject site close to the junction with Technology Drive (northbound); while the nearest stop on Park Way is around 160m from the subject site (in a straight line) adjacent 19-23 Park Way. These services include connection to Adelaide (City); Mawson Lakes; and Ingle Farm (among others) – (see page 3 of the CIRQA Traffic and Parking Report for a breakdown of service provision).

7. DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Applicant seeks Development Plan Consent and Land Division Consent for a Torrens Title Land Division creating sixty-two (62) allotments from one (1) existing allotment. The future allotments are intended for residential purposes¹. Allotments 1 to 61 range in size from 180m² to 475m² and are intended to accommodate a single dwelling. In general, two (2) primary lot types are proposed:

- Terrace lots – 6m wide by 30m deep (180 m²) which are expected to support a two storey dwelling, built boundary to boundary.
- Conventional lots –10m wide by 30m deep (300m²) which are expected to support both single storey and two storey dwellings.

There are some variations to these lot types, with the notable exceptions being Lot 6 (475m²); Lot 24 (537m²) and Lot 40 (438m²).

In addition, Lot 62 (2013m²) is to be retained as a ‘super lot’ for a future land division application. No further details have been provided regarding future development of this allotment.

¹ It should be noted that when the land division was first submitted to Council, the proposal was for the creation of 77 new allotments. Following discussions with Council staff regarding the proposed layout, access, retention of regulated/significant trees and amenity impacts (among other matters) – the proposal was amended to the current proposal for 62 allotments.

The proposed plan of division is illustrated below within Figure 5.



Figure 5
(Source: Alexander Symonds)

The proposal incorporates a number of elements as follows.

Access/egress and construction of public roads

The site is to be serviced by a new internal public road network with the primary point of access and egress to Third Avenue located between proposed allotments 1 and 62.

A second point of egress is to be provided onto Third Avenue, between allotments 40 and 62 which will accommodate left turn exiting traffic only.

The access points will form new priority controlled T-intersections with Third Avenue.

There is to be no direct access to Third Avenue from any of the allotments.

Internally, the new allotments are to be serviced by a combination of 14m and 8m wide public roads and laneways. Pedestrian connection will be provided via footpath provision (within 14m wide roadways) or shared with vehicular movements within the laneways.

Five (5) visitor car parks are to be created adjacent Lot 17; six (6) visitor car parks are to be created adjacent Lot 23 and on-street (parallel) parking is to be accommodated between (future) driveways to individual allotments.

The road layout has been designed to accommodate the turning movements of a 10m long rigid vehicle to accommodate refuse collection and emergency service access.

Provision of public reserve

The Applicant proposes to provide 2806m² (9.7% of the total site area) of open space as public Reserve to be located to the north west of the subject site. The Reserve is intended to integrate with the existing Dry Creek Linear Park.

Removal of fourteen (14) regulated trees and seven (7) significant trees

The Applicant proposes to remove fourteen (14) regulated trees and seven (7) significant trees to accommodate the development. All trees are located on the subject site.

Retention of three (3) regulated trees and one (1) significant tree

The Applicant proposes to retain three (3) regulated trees and one (1) significant tree on the subject site. These trees are all to be retained within the proposed Reserve area.

Construction of boundary fencing

The Applicant proposes to erect solid colorbond fencing to the rear of allotments 24-40 (north-west boundary); the length of Third Avenue (excluding Allotment 62 and the points of access/egress); and to the rear of Allotments 6-16 (South west boundary). The fencing is not expected to exceed 2.1m height and therefore does not require development approval in its own right; however final fencing details will be provided to Council during the detailed design phase.

The plan of division is contained in Attachment 1 with supporting information and reports contained in Attachment 2.

8. CLASSIFICATION

The site is located in the Urban Core Zone of the Salisbury Council Development Plan (consolidated 15 December 2016). Development of the kind proposed is neither listed as being a Complying or Non-Complying form of development in the Urban Core Zone and consequently should be assessed 'on-merit' against the relevant provisions of the Development Plan.

9. PUBLIC NOTIFICATION

The proposed land division includes the construction of public roads which will connect with Third Avenue at two (2) separate locations (one (1) for access/egress and one (1) for egress only). It is considered the increase in traffic volumes associated with the development will result in increased traffic volumes which will change the nature of Third Avenue from a local road to a local collector road². In addition, the proposal will introduce residential vehicle movements to a stretch of road which presently experiences predominantly commercial /industrial related movements only. Therefore, it is considered that the development will change the nature and function of Third Avenue. As such, the proposed land division was notified as a Category 2 development, pursuant to Schedule 9, Part 2, 21 of the *Development Regulations 2008*.

The Category 2 notification took place between 7 February 2019 and 20 February 2019. The Council received two (2) representations during the notification period. Both representations are in opposition to the proposal and both have requested to be heard by Council's Assessment Panel. The representors are listed in the table below.

Representations received			
Representations received		Support / Oppose	Wish to be Heard
1	R Musolino (for Domfern Pty Ltd) 14 Park Way MAWSON LAKES SA 5095	Oppose	✓
2	SAAB Australia Pty Ltd 21 Third Avenue MAWSON LAKES SA 5095	Oppose	✓

A copy of the Category 2 public notice³ and the submissions received are contained in Attachment 3. The applicant's response is contained in Attachment 4.

The content of the representations and the applicant's response are summarised in the table below.

² Council's Traffic Section was consulted in this regard and they were of the view that given the isolated nature of the development from minor services it is reasonable to expect 10 trips per day per dwelling. The increase in traffic volumes associated with future residential development will result in traffic volumes approaching 1900 vehicles per day and change the nature of Third Avenue from a local road to a local collector road (this also assumes around 20 dwellings being constructed on Lot 62).

³ It should be noted that the description of development during the public notification process was incorrectly described as "Land Division – creation of 62 allotments from one (1) allotment, public roads and reserve, removal of 14 regulated and 7 regulated trees and retention of 3 regulated trees and 1 significant tree" (my underlining). This was considered to be a minor typographical error, and on that basis the application was not re-notified. It was considered that no persons were disadvantaged by this error, and the documents placed on public display accurately reflected the number and types of trees proposed to be removed.

Summary of Representations	
Representation	Applicant's Response
The land division will support residential development which is not appropriate within an established Technology precinct.	<ul style="list-style-type: none"> - The proposal is entirely consistent with the objectives and desired character for the Urban Core Zone. - The Urban Core Zone, and 'Transition Area' applicable to the subject site, expressly envisages housing at medium and high density, along with employment generating activities.
Residential activity will result in commercial operators leaving the area which will reduce local employment opportunities.	<ul style="list-style-type: none"> - No response provided.
Residential presence will result in increased security concerns for existing commercial activities and compromise their operations (e.g. trespassing).	<ul style="list-style-type: none"> - There are no legitimate security concerns associated with the proposal. - Surrounding commercial operators are already exposed to an existing public reserve and Residential Zone to the west.
The subject site is isolated from public transport options and future residential development will result in increased traffic congestion. This will have a negative impact on the amenity of the area and negatively impact on the function of Third Avenue.	<ul style="list-style-type: none"> - The proposed development provides 62 on street car parking spaces (within the roads of the land division). - Future dwellings will also be required to provide on-site spaces. - There will be no on street parking problem created by this division. - Traffic volumes generated by the future development will be within the density expectations for the Urban Core Zone and the proposal will generate a lower volume of traffic than the maximum density expectations for the Transition Area (150 dwellings per hectare).
Future residents may be affected by noise from surrounding commercial activities and may make complaints against existing businesses.	<ul style="list-style-type: none"> - The application has been supported with advice from Sonus Acoustic Engineers. The acoustic report concludes that the sound exposure, arising from existing commercial activity, at the location of any proposed dwelling, will achieve the relevant provisions of the <i>Environment Protection (Noise) Policy 2007</i> ("the Noise Policy") during the day. - All future dwellings are to be constructed in accordance with Sound Exposure Category 1 of the <i>Minsters Specification SA 78B</i> which will ensure the provisions of the Noise Policy are achieved.
There may be overlooking from existing two storey commercial properties into residential properties.	<ul style="list-style-type: none"> - No response provided

<p>The land division will result in the removal of a number of regulated and significant trees which is at odds with Council Development Plan Policy</p>	<p>- The design of the land division retains four (4) significant trees and three (3) regulated trees. This complies with the provisions of Council’s Development Plan regarding the retention of significant and regulated trees in a residential land division.</p> <p>Note: this response assumes retention of trees outside of the subject site.</p>
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Note - Council received an additional ‘invalid’ response which raised the following concerns:

- Residential development is not appropriate within the Technology Park precinct which is advertised as a technology and defence hub by the State Government;
- Residential activity will compromise security for existing and future commercial operators; and
- Future residential activity will lead to increased traffic volumes and lead to traffic congestion which will prevent safe, convenient and uncongested access to commercial operations.

A copy of the invalid response was provided to the Applicant for their awareness; however this response was not considered by the assessing officer and should not be considered by the Panel.

With the exception of the matters outlined below, the Assessing Officer’s consideration of the valid representations are addressed within the assessment section of this report.

Other Matters Identified by the Representors

Residential activity will compromise security for surrounding businesses

It is considered this is largely a matter of perception and there are no substantial grounds to support this position.

While approval of the division would result in an increased residential presence and residential movements within the locality – the locality is already accessible to the public via Third Avenue and through footpath connections within Dry Creek Linear Park.

Other than the broader questions of compatibility between residential and industrial/commercial activity, there are no relevant provisions of the Development Plan offended by this perception. It could be conversely argued that increased residential activity will increase passive surveillance opportunities as a result of having ‘more eyes on the street’.

Residential activity will result in commercial operators leaving the area and reduce local employment opportunities

Other than questions of compatibility of land uses which will be discussed in this report – there is no direct evidence to support this position.

Development of this site for residential purposes will remove a large allotment which could potentially be developed for industrial/commercial purposes – thus potentially removing an ‘employment opportunity’.

However, it could be equally argued that future occupants may choose to live within the development site to live close by to existing and future employers which would likely be of benefit to such operators.

There may be overlooking from existing two storey commercial properties into residential properties

If there are such impacts, these would be a pre-existing condition and there would be no expectation that existing operators have to address this matter.

The existing examples of multi-storey development at the SAAB Australia and Topcon Precision Agriculture sites have sufficient separation from the boundaries of the subject site to prevent any significant overlooking concern. Future boundary fencing would also likely address any perception of overlooking that may be raised by future occupants.

If future development is proposed at the vacant allotments adjoining the site to the east or across Third Avenue to the south – overlooking concerns would be addressed as part of that development assessment process.

10. REFERRALS – STATUTORY

The following referrals were received in accordance with Regulation 29 of the *Development Regulations 2008*.

Department	Summarised Comment
<i>State Commission Assessment Panel (SCAP)</i>	<p>The financial and augmentation requirements of the S A Water Corporation shall be met for the provision of water supply and sewerage services. (S A Water 2018/00166).</p> <p>The necessary easements shall be granted to the S A Water Corporation free of cost.</p> <p>Water mains to be extended from Third Avenue and linked through the development. Sewer main to be extended from Third Avenue.</p> <p>A final plan complying with the requirements for plans as set out in the Manual of Survey Practice Volume 1 (Plan Presentation and Guidelines) issued by the Registrar General to be lodged with the State Commission Assessment Panel for Land Division Certificate purposes.</p>
<i>SA Water</i>	SA Water Corporation do not object to the proposal, subject to standard conditions being met, which are included in the SCAP advice above.
<i>DPTI – Transport Services Division</i>	No comment
<i>DPTI – Mark Maintenance</i>	No comment

Section	
DECD – Education and Child Development	No comment
DPTI Public Transport Division	No comment

Note: The subject site is located within Zone C as set out in *Overlay Maps Sal/47 – Development Constraints* of the Development Plan which means that all structures exceeding 15m height above ground level require referral to the Commonwealth Secretary for the Department of Transport and Regional Services. The development does not include any element of building work which exceeds this height and therefore no referral was required.

11. REFERRALS – INTERNAL

Division	Summarised Comment
Development Engineering	<p>Provision of final design/construction plans as a Reserved Matter is acceptable along with details conditions of approval.</p> <p>The storm water methodology, water quality treatment and indicative site levels are broadly accepted.</p> <p>The increased storm water runoff from this site will have an impact on existing downstream storm water drainage facilities. The developer is responsible for site storm water management and should avoid disposal of runoff which may have an adverse impact on downstream drainage facilities. Whilst onsite detention is required, in lieu of providing on-site storm water detention, Council would consider allowing the developer to choose to pay a drainage contribution in accordance with Council's Developer Charges for some portion of the external infrastructure required to detain storm water offsite. The drainage contribution rate is currently \$32,500 per hectare, which equates to a total rate of \$93,600 based on a site area of 2.88ha.</p> <p>However it is noted that the storm water concept plan does not match the current plan of division or take into account comments provided by Council to TMK Engineers on 27 August 2018 – namely:</p> <ul style="list-style-type: none"> - Grades within the reserve either side of the bund are not to exceed 1:5 for maintenance purposes. - If possible, overland flow discharge from both roads to run along the rear of the bund to a single central flood gully and pipe which discharges as low as possible in the watercourse, angled with the creek flow direction and inclusive of non-return valve.

	<p>- It is unclear why the rear of allotment easement referred to in the overview is required. Clarification has been sought but not yet received.</p> <p>The preferred alignment of the bund is along the northern edge of the tree protection zone for trees on the boundary of Council's reserve and the portion of land to become new reserve.</p> <p>Existing trees within the drainage reserve will need to be considered when determining the suitable alignment for infrastructure downstream from JB 1/6. It is expected that a realignment of this infrastructure will be required during the detailed design stage, directing storm water to the north through the new reserve rather than to the drainage reserve to the west of the site.</p> <p>On street parking shown between Lot 62 and Lots 37-40 suggests that parking will occur on both sides of the road. Parking restrictions will be sought during detailed design to facilitate vehicle turn movements and on-street parking spaces will likely reduce as a result.</p> <p>The end of the stub road adjacent Lot 17 may require extension to facilitate the reversing movement from the adjacent parking bays.</p>
Traffic	<p>Proposed road widths and the location of access/egress points are acceptable.</p> <p>The predicted traffic volumes suggested by CIRQA in their email dated 13 December 2018 are accepted.</p> <p>In the interest of road safety appropriate physical controls to be installed to prevent unauthorised vehicle access to the subject site via the 'left out' road section adjacent Lot 40. This should include the installation of a D4-5 Hazard Board and substantial planting/screening along the length of the frontage for Third Avenue.</p> <p>Detailed design of the intersection will need to show how vehicle movements will be restricted to 'left out' only. Angling the access link is preferable to provision of a central median on Third Avenue.</p> <p>There should be no direct access to Third Avenue from any proposed allotment. All access should be via the proposed roadways.</p>
Parks and Open Space	<p>The location and configuration of the proposed Reserve is acceptable.</p>

	<p>As the site is over 1km from the nearest local reserves with a play-space and with the number of proposed dwellings it is considered there is a need to have a functional open space within 400m of this site. The development should be serviced by a reserve developed to a local level service level. This should incorporate irrigated turf, play equipment, shade provision and local footpath connection. These elements cannot be required of the Applicant under the <i>Development Act 1993</i> and would be subject to negotiation.</p> <p>Footpaths to be installed on one side of the local roads – this will minimise future conflict between street trees and public infrastructure.</p> <p>The Building Envelope Plans are appropriately located to avoid conflict between the retained trees and future dwellings.</p> <p>In relation to footpath provision from the development to the Dry Creek Linear Trail, this should be facilitated from the road corridor between lots 16 and 17, which will also provide opportunity to provide an access path across the front of lots 17-23 to access into the footpath network of the development and to the reserve.</p> <p>Detailed site works plans to be provided for further review and comment detailing footpath provision and street tree planting.</p>
<i>Tree Services</i>	<p>Support removal of one (1) street tree to accommodate the ‘left out’ connection to Third Avenue.</p> <p>Detailed site works plans to be provided for further review and comment to ensure no additional impact to Council street trees.</p>
<i>Urban Policy</i>	<p>The subject site is located within the 20-25 ANEF Contour for Parafield Airport.</p> <p>The Mawson Lakes DPA which created the Urban Core Zone that applies to this site was initiated prior to the National Airport Safeguarding Framework Guidelines being adopted by the Federal Government and was based on the then acceptable limit of 25 ANEF.</p> <p>The National Airport Safeguarding Framework Guideline “<i>Measures for Managing Impacts of Aircraft Noise</i>” (2016 update) indicates that no new noise sensitive development should occur in the areas above 20 ANEF. Between 20 and 25 ANEF, consideration can be given to development within existing residential areas that can physically reduce</p>

	<p>noise impacts through construction techniques and adherence to AS 2021, subject to there being no impact on airport operations. AS 2021 indicates that it does not cover the acceptability of outdoor spaces.</p> <p>Earlier Federal ANEF standards allowed housing within the 20-25 ANEF Contour, while the new Federal National Airport Safeguarding Framework Policy seeks to prevent sensitive development occurring through re-zoning in greenfield areas above the 20 ANEF Contour. It allows the consideration of infill development in areas between 20 and 25 ANEF provided it meets AS2021.</p> <p>It should be noted that the 1990 House of Representative Select Committee Investigation on Aircraft Noise found that the ANEF system is the recommended land use planning tool around airports, but also identified that at 20 ANEF 11% of the population will be seriously affected by the airplane noise and 44% of the population moderately affected.</p> <p>It appears the Council Reserve (walkaway) will offer appropriate physical separation between the subject site and existing SAAB Facility to the west.</p> <p>The Lot mix is fairly uniform and could lead to a uniform housing outcome with lack of housing diversity.</p>
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12. ASSESSMENT

Pursuant to Section 35(2) of the *Development Act 1993*, it is recommended that the Panel determine that the proposed development is not seriously at variance with the Salisbury Council Development Plan, consolidated 15th December 2016.

Residential land uses in the form of a 'dwelling' and 'residential flat building' are envisaged forms of development within the Urban Core Zone. The land division is intended to accommodate dwellings of these types. Land division may be an appropriate form of development in the Urban Core Zone subject to location, design, impact and amenity based considerations.

A detailed assessment of the application has taken place against the relevant provisions of the Salisbury Council Development Plan and is described below under headings.

An extract of the relevant Development Plan is contained in Attachment 6. The relevant provisions are also highlighted in the Attachment.

Zoning and Land Use

Before considering the appropriateness of the land division relative to the Urban Core Zone and the locality more generally, it is helpful for the Panel to consider key case law guiding the assessment of an application against the Development Plan.

The Supreme Court has set out the correct approach to this question. In the matter of *Corporation of the Town of Walkerville v Adelaide Clinic Holdings*, the Court said:

The making of a planning judgement will require firstly, an identification of the intended character which has been imprinted by the Development Plan upon the particular locality and secondly, an assessment as to how the features of the proposal may impinge upon that character and the associated amenity. A planning judgement made in the exercise of discretion will then be reached by weighing up the extent of compatibility between the proposal and the Plan (my underlining).

The Supreme Court further stated in the matter of *City of Mitcham v Freckmann*:

Ultimately, the planning authority must make a judgement whether the proposal will be permitted. If it is to grant the application, it must be satisfied that there are sufficient reasons for that decision, reasons which are based on acceptable principles of planning and the relevant provisions of the Plan. That judgement will have regard to the factors mentioned above. Thus, a proposed development might be approved if it is conducive to the objectives and desired character of the zone in which it is to be sited. It will be relatively easy in some cases to decide that the proposal is quite compatible with the amenity of the locality. In other cases, that test will be more difficult. It will be a question of fact and degree, after weighing all relevant considerations, whether the proposed development should be approved.

With this in mind, the following objectives of the Urban Core Zone seek:

Objective 1 A mixed use zone accommodating a mix of employment generating land uses and medium to high density residential development in close proximity to a high frequency public transport corridor.

Objective 2 Development within a mixed use environment that is compatible with surrounding development and which does not unreasonably compromise the amenity of the zone or any adjoining residential zone.

An excerpt of the Desired Character Statement further states (underlined section specifically relating to the Transition Area):

This zone will function primarily as a District Centre that supports housing at medium and high densities and a range of dwelling types which are conveniently located in proximity to high frequency public transport services, recreation, commercial, shop, office and other mixed use activities. Development within this zone will result in significant employment generating activity closely aligned to nearby public transport infrastructure and services.

Medium and high density housing, primarily in the form of row dwellings, residential flat buildings and mixed use buildings, will be developed in the zone.

The Transition Area will provide a buffer between the Core Area and adjacent residential areas / zones with development taking the form of high quality medium density housing and, subject to Airport building height restrictions, the combination of four storey townhouses/terraces/mews and residential flat buildings will provide a range of housing for a diverse community. There will be some provision for mixed use buildings, where it does not negatively impact on the predominant residential character of the area. (my underlining)

Principles of Development Control 1 and 4 state:

PDC 1 The following types of development, or combination thereof, are envisaged in the zone:

- dwelling
- residential flat building

PDC 4 Core Areas, Transition Areas and other identified features should be developed in accordance with the relevant Concept Plan Map Sal/8 – Mawson Lakes Urban Core Zone.

The primary focus of the Urban Core Zone is to deliver a mixed use outcome which provides for employment generating activities and medium to high density residential development in appropriate locations.

The Urban Core Zone contemplates that the Transition Area will be a buffer to the more intense Core Area, primarily focused in managing a transition in built form and land use. In this regard, consideration should be given to the development in the locality and to adjoining residential areas in this locality.

The Transition Area applies to sites both within and outside of Mawson Innovation Policy Area 24. While the subject site is located in an area historically designated solely for commercial purposes, it is now located within a part of the Transition Area outside of Policy Area 24. With the exception of the subject site and three (3) surrounding sites, the majority of land within ‘Technology Park’ falls within Policy Area 24. As a result, these sites at the western end of Third Avenue form an unusual enclave which is physically isolated from surrounding established residential areas by Dry Creek Linear Park, Main North Road and existing commercial organisations within Mawson Innovation Policy Area 24.

With the exception of the SAAB site, the remaining two (2) parcels in this enclave are vacant. While future development of these vacant parcels cannot be pre-empted given the intent of the Zone, it is conceivable that these vacant sites will be developed with a form of commercial development similar to those sites already developed within the locality, further reinforcing the existing character of the locality as a high technology commercial precinct in a landscape setting. In this regard, it is noted that Raytheon, a high technology organisation who operate across the Defence Sector, have recently indicated publicly that they intend to lodge a development application to develop the vacant allotment to the south of the subject site (1-11 Third Avenue) for the purposes of defence vehicle production and this has been documented in both the news media and Council’s recent Economic Report. While one cannot pre-empt the details of such a proposal, it is anticipated that such a proposal would adopt a form and scale which further reinforces the existing character of the locality.

It is relevant to consider the key provisions of Mawson Innovation Policy Area 24. These policies do not apply to the subject site but are considered to be of some relevance, noting they apply to adjacent land to the north-east of the locality and guide how that land can be developed. This is also relevant to the subject site as it will have a bearing on the future interface between the subject site and the Policy Area.

Objectives 1 and 2 of the adjacent Mawson Innovation Policy Area 24 are as follows:

Objective 1 A policy area accommodating a range of advanced technology organisations, in areas such as defence and aerospace, advanced electronics and information communication technology sectors.

Objective 2 A high quality innovative and progressive education and business community with organisations that range from small businesses and start-up companies to global organisations.

An excerpt of the Desired Character Statement further states:

The policy area will provide facilities for technology businesses with an emphasis on the commercialisation of new technology and achieving sustainable growth in technology employment within Mawson Lakes. It will provide flexibility for technology businesses that want to grow and offer a range of accommodation solutions to suit businesses of any size, including short term serviced offices, long term leased accommodation and fully serviced commercial land with flexible allotment sizes. There will be opportunities for limited residential uses of a higher density within the Technology Park area, particularly along the river front, which will be maintained as a park like setting.

Further, Principles of Development Control 1, 3 and 5 state:

PDC 1 The following forms of development are envisaged in the Policy Area:

- *dwelling located above non-residential land uses*
- *residential flat building*

PDC 3 Mixed use developments should complement the predominant built form and be compatible with the land uses and activities that exist within the locality.

One may consider that the zoning of the subject site would be more appropriate as part of Mawson Innovation Policy Area 24 to reflect and define the character of Technology Park as a whole. However, this is not the policy area framework that applies to this site.

The Desired Character of the Transition Area is premised on a transition to a predominant residential character that does not presently exist in this locality. Residential development in the Transition Area is envisaged as an interface to adjoining residential areas. In this locality, there is no residential interface.

As mentioned earlier, Technology Park was established as a commercial precinct and the existing character reflects that intention. This proposal seeks to introduce a new character for this area. The outcome is that a residential development will be substantially at odds with the existing character.

The allotments in this precinct that are currently vacant may be developed for purposes at odds with this proposal. In the Urban Core Zone Transition Area a residential form of development is one of a number of forms of development (but not the only form of development) that is contemplated in the Zone.

In summary it is considered that residential development is envisaged in this Zone. It is one of a number of potential outcomes that could apply to this site. This Urban Core Zone envisages a broad range of outcomes and while residential use is envisaged within the

Transition Area, consideration must also be afforded to the Urban Core Zone provisions and the unique existing character which applies to this locality.

Further, the division must satisfy all relevant matters of detailed design including the style and form of land division design, diversity of housing outcomes, compatibility with adjacent land uses, retention of regulated/significant trees and overall engineering design.

These matters are addressed further under headings below.

Character and Form

The following provisions of the Urban Core are again reinforced:

Objective 1 A mixed use zone accommodating a mix of employment generating land uses and medium to high density residential development in close proximity to a high frequency public transport corridor.

Objective 2 Development within a mixed use environment that is compatible with surrounding development and which does not unreasonably compromise the amenity of the zone or any adjoining residential zone.

Excerpts of the Desired Character Statement further states:

The Transition Area will provide a buffer between the Core Area and adjacent residential areas / zones with development taking the form of high quality medium density housing and, subject to Airport building height restrictions, the combination of four storey townhouses/terraces/mews and residential flat buildings will provide a range of housing for a diverse community. There will be some provision for mixed use buildings, where it does not negatively impact on the predominant residential character of the area.

Development in the zone will achieve high quality urban design. Buildings will contribute to the provision of a coherent public realm by shaping the street space and, in particular, the physical and functional character of development fronting the key arterial road or public transport corridor.

Objective 3 of the Urban Core Zone states:

Objective 3 Smaller dwellings, including innovative housing designs, located close to local services and public transport stops.

The locality consists of large allotments with large floor plate commercial organisations and at grade car parking set within an open and landscaped setting. The vacant allotments within the locality are of a size and configuration which could support a similar type of commercial development, or could equally be developed for other mixed use or residential development. Commercial development and/or mixed use development is more likely to reinforce the existing park like and landscaped setting of the locality, compared to a traditional form of residential development which is more likely to 'build out' the spatial footprint of the site.

The primary lot types created by the division are 'conventional' lots of around 300m² and 'laneway' lots of around 180m². These allotments are substantially smaller than existing allotments within the locality and will alter the pattern of allotment configuration which currently exists.

The spatial extent of the proposal and the number of proposed allotments will necessitate the removal of established vegetation, including regulated and significant trees which currently form a notable element of the existing landscape, and will insert a form of residential development which does not currently exist within the locality.

Allotments 1-61 are intended to support the construction of single storey and two storey dwellings which are laid out in a conventional suburban format. It is recognised that the future development of Allotment 62 is unclear, however a design for that allotment has not been specified at this stage.

Perhaps with the exception of Allotment 62, the division will facilitate a future built form outcome which is exclusively residential in nature. This is at odds with Objectives 1 and 2 of the Zone in that there is no mixed use element to the proposal. This is a deficiency of the proposal as the subject site is located within an isolated pocket at the end of Third Avenue, isolated from local shops and services, although noting there are public transport links within relatively close proximity as well as residential uses on the other side of Dry Creek and Main North Road.

In addition, the division will lead to the delivery of a homogenous style of suburban housing which is at odds with the following part of the Desired Character statement for the Transition Area which seeks a 'combination of four storey townhouses/terraces/mews and residential flat buildings [which] will provide a range of housing for a diverse community'. Future development may incorporate innovative housing design techniques, however the housing designs are not known at this time and based on the allotment sizes and configuration that are proposed, it is more likely that conventional detached one and two storey homes will be delivered, thus resulting in a homogenous housing estate.

The use of solid colorbond fencing around the south-west, north-east and Third Avenue frontages will also alter the open, park like landscape which currently exists. This will likely be reinforced through the use of solid fencing between proposed allotment boundaries within the site. It is recognised there will be opportunities to make use of a more open style of fencing (or no fencing at all) along the north-west boundary adjacent the Reserve and along the road frontages of the proposed allotments.

While the use of solid fencing is generally accepted as a consequence of residential development (to provide security, private yard space etc.) the visual impact will be exacerbated by the type of widespread suburban division that is proposed. This is contrary to the open character that currently exists and will result in a solid presentation to Third Avenue which is undesirable from a streetscape perspective and is at odds with the desired character for the adjacent Mawson Innovation Policy Area which seeks a more open and landscaped setting. Such fencing is likely to have more of an impact than fencing that would generally be associated with a more mixed use style of development where it would be reasonable to anticipate greater connection between land uses and the public realm more generally.

In conclusion, the proposed form of development is at odds with the mixed use character envisaged in the Urban Core Zone, which is given weight having regard to the locality. The style of land division is expected to result in a uniform housing type which is in conflict with that part of the Desired Character statement for the Transition Area which seeks a range of housing for a diverse community.

Density of Development

PDC 9 of the Urban Core Zone provides:

PDC 9 Residential development (other than residential development in mixed use buildings), should achieve a minimum net residential site density in accordance with the following:

Designated area	Minimum net residential site density
Core Area	150 dwellings per hectare net
Transition Area	70 dwellings per hectare net

Excluding Allotment 62, the division will deliver a net residential density of 36.23 dwellings per hectare⁴. This is at variance with PDC 9 which identifies a minimum net residential density of 70 dwellings per hectare within the Transition Area. The proposed dwelling density is almost half the intended density for the Transition Area.

It is acknowledged that many established parts of the Transition Area do not achieve this envisaged density. However, this site does not have a relationship to an existing residential character and the intent of the minimum density, when read with the desire for a mixed use, diverse style of housing, emphasises that a conventional suburban land division is not appropriate within this locality.

Orderly Development

The *General Section: Interface Between Land Uses* provides:

Objective 3 Protect desired land uses from the encroachment of incompatible development.

PDC 4 of the *General Section: Land Division* module states:

PDC 4 The design of a land division should incorporate:

(d) areas to provide appropriate separation distances between potentially conflicting land uses and/or zones

Objective 3 *General Section: Orderly and Sustainable Development* module provides:

Objectives 3 Development that does not jeopardise the continuance of adjoining authorised land uses.

As highlighted by comments received during public notification and, as will be discussed later in this report within the *Interface Between Land Uses* section, there is the potential for interface impacts - either real or perceived - brought about by the insertion of a residential development into an established technology precinct.

⁴ 61 allotments with total area of 16881m² = average allotment size of 276m².
10000 / 276 = 36.23 dwellings per hectare

There is spatial separation of the site from surrounding sites offered by the existing Council reserve (walkway) to the south-west (this offers a spatial separation from the existing SAAB facility); Dry Creek Linear Park to the north-west; and by the Third Avenue road alignment to the south of the site. However; other than proposed boundary fencing along the north-eastern boundary and physical separation from that boundary to future dwellings as indicated within the Building Envelope Plan (and likely as a consequence of future private open space requirements) no physical separation is offered between the subject site and those allotments to the north-east which are located within Mawson Innovation Policy Area 24 (Topcon Precision Agriculture and a vacant allotment).

This was discussed with the Applicant during the course of the development assessment process. The Applicant is of the view that the boundary fencing treatment is sufficient and, if required, a landscaped buffer could be accommodated along the north-east boundary on those adjoining allotments within the Policy Area should there be future compatibility issues.

However, given the development is to be located immediately adjacent to a Policy Area where the development of high technology business is primarily envisaged, a buffer or area of separation should be incorporated into the proposal in accordance with PDC 4(a). This would ensure that existing and desired land uses within the Policy Area are offered some physical protection, avoids undermining the confidence of high technology operators and protects the amenity of future residential occupants without having to identify additional 'buffer' requirements in the future.

Land Division

The *General Section: Land Division* module provides:

Objective 2 Land division that creates allotments appropriate for the intended use.

PDC 4 The design of a land division should incorporate:

- (c) safe and convenient access from each allotment to an existing or proposed road or thoroughfare*
- (e) suitable land set aside for useable local open space*

In isolation from the concerns raised above, it is acknowledged that the division would create allotments capable of supporting residential use in accordance with Objective 2 and PDC 4(c) and (e) of the *Land Division* module.

The division is supported by a Building Envelope Plan (BEP) which identifies access points to each allotment and boundary setbacks for single and two storey elements. These are considered to be functional and the allotments are capable of accommodating appropriate boundary setbacks, site coverage, onsite car parking and provision of private open space in accordance with applicable provisions of the Urban Core Zone and Development Plan more generally.

Similarly, the division provides for a connected and functional area of open space to be vested as public reserve which has been designed to integrate with Dry Creek Linear Park. Future dwellings on Allotments 16-24 would have the opportunity to interface with the reserve which is appropriate from both a design and crime prevention perspective.

The Applicant has identified that street tree planting and landscaping detail will be provided at the detailed design phase to ensure that the division delivers an appropriate level of internal amenity. This is considered to be an acceptable and practical approach and it is noted the proposed road dimensions would allow for accommodation of street tree planting and landscaping provision.

Interface Between Land Uses

It is important to consider the possible external impacts of the proposed division relative to the surrounding locality, as well as those externalities which may have an impact upon the future residential amenity of occupants of the dwellings. These interface impacts are primarily considered having regard to the following provisions of the Development Plan are considered below under headings:

The *General Section: Interface Between Land Uses* provides:

Objective 1 Development located and designed to minimise adverse impact and conflict between land uses.

PDC 1 Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:

- (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants*
- (b) noise*
- (c) vibration*
- (d) electrical interference*
- (e) light spill*
- (f) glare*
- (g) hours of operation*
- (h) traffic impacts.*

Noise

Other than noise associated with site works and future construction works, there are no unreasonable noise impacts expected to emanate from future residential activities at the subject site.

However, there is the potential for future residential occupants to be affected by noise from existing commercial activities within the locality and noise from the volume and types of vehicular traffic along Main North Road. In addition, there is potential for noise to emanate from the as yet, undeveloped (vacant) properties within the locality. There is also the potential for future residents to constrain the existing and future desired land uses within the locality.

These noise sources were considered by the Applicant who provided an Environmental Noise Assessment Report prepared by Sonus Acoustic Engineers (“the Acoustic Report”).

The Acoustic Report considers the impact of existing commercial activities and notes the most significant existing noise source to be a cooling tower located on the adjoining site to the north-east (occupied by Topcon Precision Agriculture). The noise level associated with the cooling tower was measured to be 55dB(A) at the nearest site boundary and predicted a noise level of 53dB(A) at the nearest future dwelling.

The report also considered other existing commercial noise sources which included mechanical plant at ground and roof level, outdoor staff areas and car parking. The report does not anticipate any additional noise sources which would exceed the noise level of the cooling tower (either existing or in the future).

The report considers appropriate 'daytime' (7am to 10pm) and 'night-time' (10pm to 7am) noise levels as set out in the *Environment Protection (Noise) Policy 2007* ("the Noise Policy") and has regard to the impacts both inside and outside a future dwelling. The goals of the Noise Policy are as follows:

- Daytime (7am to 10pm) – noise levels directly outside a residence of no greater than 57dB(A), or within a habitable room of no greater than 37dB(A)
- Night-time (10pm to 7am) - noise levels directly outside a residence of no greater than 50dB(A), or within a habitable room of no greater than 30dB(A).

The Report concludes that daytime noise levels, outside of a residence will be achieved, however night-time noise levels will not be achieved if the cooling tower was to operate during night time hours.

To address this and to ensure that future dwellings achieve the goals of the Noise Policy, the Report identifies that all future dwellings should include Sound Exposure Category 1 façade treatments in accordance with *Minister's Specification SA 78B Construction requirements for the control of external sound*.

The report also considers that given the distance of the subject site to Main North Road, specific noise attenuation measures are not required. However it acknowledged that the proposed Sound Exposure Category 1 façade treatments will further reduce noise levels from traffic associated with Main North Road.

Therefore, provided future dwellings are constructed in accordance with the *Minister's Specification SA 78B*, it appears that the proposal will comply with PDC 1(b) having regard to commercial operations and road traffic noise.

However, based on the noise measurements, it should be noted that the noise level of the cooling tower (53dB(A)) has the potential to disturb persons outside a dwelling during night-time hours as it will exceed the noise goal of the Noise Policy (50dB(A)).

If the Panel were to approve the proposed land division, it is recommended that the approval should identify that detailed Design Guidelines be provided to Council as a Land Division Requirement. This has been discussed between Council staff and the Applicant during the course of the development assessment process. The Design Guidelines should stipulate that future dwellings include Sound Exposure Category 1 façade treatments in accordance with *Minister's Specification SA 78B Construction requirements for the control of external sound* and comply with the recommendations of the Acoustic Report. The Design Guidelines should be registered as an Encumbrance against each new allotment created by the division.

Notwithstanding this, it should be noted that existing commercial operators within the locality have a perception that the introduction of a residential land division may result in noise complaints against commercial operators, which will have a negative impact on their operations and may result in commercial operators leaving the area (or potential businesses choosing to locate elsewhere). This was reflected in the representations received during the public notification period.

Noise – Overhead Aircraft (ANEF)

In addition, given the site's proximity to Parafield Airport, the impact of noise associated with overhead flying aircraft on future occupants and the long term operational requirements of Parafield Airport must also be considered. In this regard, the following provisions of the *General Section: Building Near Airfields* module are also identified:

Objective 1 Development that ensures the long-term operational, safety, commercial and military aviation requirements of airfields (airports, airstrips and helicopter landing sites) continue to be met.

PDC 6 Development within areas affected by aircraft noise should be consistent with Australian Standard AS2022⁵: - Acoustics - Aircraft Noise Intrusion - Building Siting and Construction.

The eastern portion of the subject site (approximately 50% of the site) is located within the 20-25 Australian Noise Exposure Forecast (ANEF) Contour for Parafield Airport⁶, while the western portion of the site (the remaining 50%) is located outside of the 20 Contour.

Existing aircraft noise levels were considered within the Applicant's Acoustic Report and based on noise measurements taken within the 20-25 ANEF at the site which identified maximum noise levels of 59dB(A) to 67dB(A).

According to Table 2.1 of AS 2021:2015 (see Figure 6 below), in an area less than 20 ANEF the location of a house, home unit or flat is *acceptable* and no treatments measures are required to address aircraft noise.

Within the 20-25 ANEF a residence is *conditionally acceptable* and noise control treatments may be required to ensure appropriate protection from the noise of overhead aircraft.

⁵ This is a typographical error within the Development Plan and should read Australian Standard AS 2021.

⁶ ANEF Masterplan (2017) – endorsed by the Federal Government on 19 January 2018.

AS 2021:2015 12

TABLE 2.1
BUILDING SITE ACCEPTABILITY BASED ON ANEF ZONES
(To be used in conjunction with Table 3.3)

Building type	ANEF zone of site		
	Acceptable	Conditionally acceptable	Unacceptable
House, home unit, flat, caravan park	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF
Hotel, motel, hostel	Less than 25 ANEF	25 to 30 ANEF	Greater than 30 ANEF
School, university	Less than 20 ANEF (Note 1)	20 to 25 ANEF (Note 2)	Greater than 25 ANEF
Hospital, nursing home	Less than 20 ANEF (Note 1)	20 to 25 ANEF	Greater than 25 ANEF
Public building	Less than 20 ANEF (Note 1)	20 to 30 ANEF	Greater than 30 ANEF
Commercial building	Less than 25 ANEF	25 to 35 ANEF	Greater than 35 ANEF
Light industrial	Less than 30 ANEF	30 to 40 ANEF	Greater than 40 ANEF
Other industrial	Acceptable in all ANEF zones		

NOTES:

- 1 The actual location of the 20 ANEF contour is difficult to define accurately, mainly because of variation in aircraft flight paths. Because of this, the procedure of Clause 2.3.2 may be followed for building sites outside but near to the 20 ANEF contour.
- 2 Within 20 ANEF to 25 ANEF, some people may find that the land is not compatible with residential or educational uses. Land use authorities may consider that the incorporation of noise control features in the construction of residences or schools is appropriate (see also Figure A1 of Appendix A).
- 3 There will be cases where a building of a particular type will contain spaces used for activities which would generally be found in a different type of building (e.g. an office in an industrial building). In these cases Table 2.1 should be used to determine site acceptability, but internal design noise levels within the specific spaces should be determined by Table 3.3.
- 4 This Standard does not recommend development in unacceptable areas. However, where the relevant planning authority determines that any development may be necessary within existing built-up areas designated as unacceptable, it is recommended that such development should achieve the required ANR determined according to Clause 3.2. For residences, schools, etc., the effect of aircraft noise on outdoor areas associated with the buildings should be considered.
- 5 In no case should new development take place in greenfield sites deemed unacceptable because such development may impact airport operations.

Figure 6
(Source: Australian Standard AS 2021:2015)

To ensure noise levels comply with the goals of the Noise Policy inside a dwelling, the Acoustic Report concluded that incorporation of the Sound Exposure Category 1 façade treatments (as discussed above) would ensure compliance with the goals of the Noise Policy and this appears to address the requirements of PDC 6.

The Applicant has advised that future occupants will be made aware of the ANEF and required dwelling construction requirements via the contract of sale.

However, the proposed treatments only extend to control of aircraft noise inside of a dwelling. As indicated above, the Noise Policy identifies goals for outside noise levels as 57dB(A) (daytime) and 50dB(A) (night-time). The Acoustic Report noted maximum noise levels from overhead flying aircraft as 59dB(A) to 67dB(A) within the 20-25 ANEF. Therefore, there is the potential for future residents to be affected by aircraft noise when they are outside of the dwelling (while inside the 20-25 ANEF Contour). The Acoustic Report does not consider this further.

It is recognised that occupants within an Urban Core Zone, where a mix of land uses are contemplated, may have different expectations to noise levels when compared to occupants of a purely residential precinct. However, the proposal is not for a mixed use development and, while one cannot pre-empt the expectation of future occupants, there may be an expectation that a suburban development of the type proposed will deliver a 'quieter' level of amenity than may be offered due to the impact of overhead aircraft in outdoor environments.

It is recognised that many established areas of the Council are located within the 20-25 ANEF with no specific noise attenuation measures offered to outdoor areas and this should not be a sole determinant of this proposal.

Consistent with the above recommendation it is recommended that if the Panel were to approve the proposed land division, the approval should identify that detailed Design Guidelines be provided to Council as a Land Division Requirement. The Design Guidelines should stipulate that future dwellings include Sound Exposure Category 1 façade treatments in accordance with *Minister's Specification SA 78B Construction requirements for the control of external sound* and comply with the recommendations of the Acoustic Report. The Design Guidelines should be registered as an Encumbrance against each new allotment.

Traffic Impacts

As will be discussed later in this report, from an engineering perspective the proposal has been reviewed by Council's Engineering and Traffic sections.

This review has confirmed the division has been designed to provide appropriate access; to support internal movement; and to provide sufficient car parking within the subject site. The connection points to Third Avenue have been appropriately located and, subject to detailed final designs, are considered to offer suitable and safe connection to Third Avenue.

The predicted traffic volumes associated with future residential development can be accommodated within the existing road network.

Therefore, it is considered that the proposal complies with PDC 1(h).

Notwithstanding this, it should be noted that existing commercial operators within the locality have a perception that the introduction of residential traffic movements will result in increased traffic congestion and will be incompatible with commercial vehicle movements. This was reflected in the representations received during the public notification period.

Light Spill / Glare

There are no anticipated amenity impacts associated with light spill or glare emanating from the proposed division or future residential activity.

There is the possibility that future occupants may be disturbed by light spillage from surrounding commercial sites and associated 24 hour operation.

At this time, there are no known light spillage concerns. If there were any future development proposals for 24 hour commercial activity on surrounding sites, light spillage would be assessed as part of the development assessment process and appropriate development plan consent conditions could be applied at that time to ensure light spillage is managed.

On this basis, it is considered that the proposal complies with PDC 1(e).

Hours of Operation

The Acoustic Report demonstrates that future dwellings can be designed to mitigate existing and anticipated noise impacts across 24 hour operations within the locality. Based on existing and (similar) future uses, the Acoustic Report also assumes that noise outside of a dwelling will also be within acceptable levels.

At this time, there is no specific 24 hour or 'night-time' operations within the locality which would be of significant detriment to future residential occupants.

On this basis, it is considered the proposal complies with PDC 1(g).

It is also recognised that expectations regarding residential amenity, noise and 24 hour operations within a mixed use Urban Core Zone are generally different to that expected within a solely residential precinct. However, it is again highlighted that this proposal is not for a mixed use development. The residential (suburban) nature of the proposal may engender differing levels of expectation for future occupants and there may be future compatibility issues if surrounding commercial businesses operate across 24 hour periods. Potential compatibility issues may not necessarily relate solely to issues of 'loud' noise and for example, could relate to vehicle movements, outdoor activities, staff talking etc., recognising that these issues could equally apply to the higher density of residential mixed use development envisaged in the Zone.

Airborne Pollutants and Vibration

Other than activities associated with site works and future construction works, there are no anticipated amenity impacts associated with the land division or future residential activity in respect of airborne pollutants or vibration.

It is recognised that existing and future industrial/commercial activities within the locality may have the potential to affect residential amenity as a result of industrial activities; however it is considered that surrounding activities are likely to be confined to 'lighter' industrial operations which are less likely to generate significant amounts of dust, smoke or vibration.

This accords with PDC 1(a) and (c).

Electrical Interference

There are no anticipated electrical interference impacts associated with the land division or future residential activity which accords with PDC 1(d).

Traffic and Access

The *General Section: Land Division* module provides:

PDC 4 The design of a land division should incorporate:

- (a) roads, thoroughfares and open space that result in safe and convenient linkages with the surrounding environment, including public and community transport facilities, and which, where necessary, facilitate the satisfactory future division of land and the inter-communication with neighbouring localities*
- (b) new road and allotment access points providing appropriate separation distances from existing road junctions or level crossings*

PDC 15 Road reserves should be of a width and alignment that can:

- (a) provide for safe and convenient movement and parking of projected volumes of vehicles and other users*
- (b) provide for footpaths, cycle lanes and shared-use paths for the safety and convenience of residents and visitors*
- (c) allow vehicles to enter or reverse from an allotment or site in a single movement allowing for a car parked on the opposite side of the street*
- (d) accommodate street tree planting, landscaping and street furniture*
- (f) provide unobstructed, safe and efficient vehicular access to individual allotments and sites*
- (g) allow for the efficient movement of service and emergency vehicles.*

The land division and the Applicant's supporting Traffic Engineering advice (CIRQA) has been reviewed by Council's Development Engineering and Traffic sections.

From a functional and engineering perspective, the proposal accords with the above provisions of PDCs 4 and 15 and provides for safe and appropriate access and egress to Third Avenue; appropriate internal circulation to accommodate access to each allotment, waste collection and emergency services access; and allows for future provision of public footpaths and street tree planting.

Car Parking

The following provisions are considered to be applicable:

PDC 28 of the Urban Core Zone provides that:

28 Except where incentives apply, vehicle parking should be provided at the following rates:

Form of development	Minimum number of parking spaces
Residential development	0.75 per dwelling

PDC 32 of the *General Section: Transportation and Access* module:

PDC 32 Development should provide off-street vehicle parking and specifically marked disabled car parking places to meet anticipated demand in accordance with Table Sal/2 - Off Street Vehicle Parking Requirements

Table Sal/2 (excerpt):

Form of Development	Number of Required Car Parking Spaces
Detached dwelling Semi Detached Dwelling Row Dwelling	2 spaces per dwelling, one of which is to be covered

18 The design of the land division should provide space sufficient for on-street visitor car parking for the number and size of allotments, taking account of:

- (a) the size of proposed allotments and sites and opportunities for on-site parking*
- (b) the availability and frequency of public and community transport*
- (c) on-street parking demand likely to be generated by nearby uses.*

The Applicant's supporting Traffic and Parking Report (prepared by CIRQA) and the Building Envelope Plan (BEP) identifies car parking provision across the site as follows:

- 51 on street spaces
 - Five (5) dedicated parking bays adjacent Allotment 17; and
 - Six (6) dedicated parking bays adjacent Allotment 23.
- = total of 62 on street spaces

Excluding Allotment 62, the provision of 62 on street spaces significantly exceeds the rate as set out in PDC 28 of the Urban Core Zone which identifies the need for 45.75 spaces based on 61 dwellings at 0.75 spaces per dwelling.

This car parking rate does not appropriately support the conventional pattern of residential division that is proposed. Strictly adopting the rate identified in PDC 28 would result in significant parking issues across the site and likely impact upon the functioning of the road network.

However, the Traffic and Parking Report assumes that future allotments will also allow for on-site car parking and driveway/crossover locations are provided on the Building Envelope Plan (BEP). This is considered to be an appropriate approach and accords with PDC 32 and Table Sal/2.

The driveway dimensions on the BEP are somewhat misleading in that they assume a single width driveway servicing each allotment (3m wide at the allotment boundary). In practical terms, it is likely that future occupiers will demand a double width driveway (6m) - where allotment/garage widths permit. This would erode the availability of on-street parking.

With a suburban type land division of the type proposed, the provision of on-street parking is considered to be essential. To ensure an appropriate outcome and to ensure the proposal accords with PDC 18(a) it is recommended that if the Panel were to approve the proposed division, the approval should identify that detailed Design Guidelines be provided to Council as a Land Division Requirement. The Design Guidelines should stipulate that future allotments be served by a maximum crossover width of 4.5m at the kerb. While this is a non-standard driveway width, it would allow for appropriate access to a double garage (with widening of the driveway on the allotment) while preserving on-street parking availability – providing at least one space in front of each 10m wide allotment. Again, the Design Guidelines should be registered as an Encumbrance against each new allotment.

This approach has been discussed between Council staff and the Applicant during the course of the assessment process.

Regulated and Significant Trees

The development proposes the removal of fourteen (14) regulated trees and seven (7) significant trees and the retention of three (3) regulated trees and one (1) significant tree on the subject site.

In general terms, it is the spatial pattern associated with the proposed type of suburban division which is the main driver for the removal of the affected trees. The number of proposed allotments necessitates the removal of a number of the regulated and significant trees. The widespread nature of the proposed division, at relatively low density leaves little physical space for retention of trees other than within the proposed Reserve area.

The application was supported by two (2) sets of arborist advice prepared by Dean Nicolle and Project Green.

The Project Green study was undertaken in February 2017 on behalf of the previous landowner (Renewal SA) and considered trees across the entire site. The report was made available to the Applicant to support the proposal.

The Dean Nicolle study was undertaken in May 2018 on behalf of the Applicant. This study did not extend across the entire site and instead focused on two distinct areas to the north west and north east.

Each arborist utilised a different numbering system to identify the trees with differing conclusions drawn in relation to certain trees.

Each report also identified a number of additional trees, either outside of the site or trees which are exempted from development controls by virtue of their species type or circumference at 1m above ground level.

The following table offers a summary of those regulated and significant trees on the subject site with reference to each arborist report.

Project Green Tree Number	Tree Type	Opinion	Dean Nicolle Tree Number	Tree Type	Opinion	Proposed – Removal or Retained
6683	Regulated	Worthy of Retention	Not identified	-	-	Removed
6684	Regulated	Worthy of Retention	Not identified	-	-	Removed
6685	Regulated	Worthy of Retention	Not identified	-	-	Removed
6686	Regulated	Not worthy of retention	1	Regulated	Not worthy of retention	Removed
6687	Significant	Not worthy of retention	3	Significant	Not worthy of retention	Removed
6689	Regulated	Worthy of Retention	5	Regulated	Moderately worthy of	Removed

					retention	
6690	Significant	Worthy of Retention	6	Significant	Not worthy of retention	Removed
6691	Regulated	Worthy of Retention	7	Regulated	Moderately worthy of retention	Removed
6692	Regulated	Worthy of Retention	15	Regulated	Highly worthy of retention	Removed
6693	Regulated	Worthy of Retention	14	Regulated	Scarcely worthy of retention	Removed
6694	Regulated	Worthy of Retention	16	Regulated	Not worthy of retention	Removed
6695	Significant	Worthy of Retention	18	Significant	Highly worthy of retention	Removed
6696	Regulated	Not worthy of retention	Not identified	-	-	Removed
6697	Significant	Not worthy of retention	Not identified	-	-	Removed
6698	Regulated	Not worthy of retention	Not identified	-	-	Removed
6699	Regulated	Not worthy of retention	Not identified	-	-	Removed
6700	Significant	Not worthy of retention	Not identified	-	-	Removed
6701	Regulated	Not worthy of retention	Not identified	-	-	Removed
6702	Regulated	Worthy of Retention	8	Not controlled ⁷	Scarcely worthy of retention	Removed
6703	Significant	Not worthy of retention	Not identified	-	-	Removed
6709	Regulated	Worthy of Retention	13	Regulated	Highly worthy of retention	Retained
6711	Regulated	Worthy of Retention	21	Regulated	Moderately worthy of retention	Retained
6712	Significant	Worthy of Retention	22	Significant	Highly worthy of retention	Removed
6714	Significant	Worthy of Retention	24	Significant	Highly worthy of retention	Retained
6717	Regulated	Worthy of Retention	23	Regulated	Highly worthy of retention	Retained

**Note: the plan of division indicates Tree 6682 (25) is also to be retained. This is just outside of the subject site. The arborists differ on its status with Project Green identifying it as regulated (2.22m circumference at 1m above ground level), while Dean Nicolle identifies the tree as not controlled (1.39m at 1m above ground level).*

⁷ Exempted species by virtue of its listing as a Class 51 declared plant in the *Natural Resources Management Act 2004* (*Casuarina glauca* ('swamp she-oak'))

Regulated Trees

Objectives 1 and 2 and PDC 2 of the *General Section: Regulated Trees* provide:

Objective 1 The conservation of regulated trees that provide important aesthetic and/or environmental benefit.

Objective 2 Development in balance with preserving regulated trees that demonstrate one or more of the following attributes:

- (a) significantly contributes to the character or visual amenity of the locality*
- (b) indigenous to the locality*
- (c) a rare or endangered species*
- (d) an important habitat for native fauna.*

PDC 2 A regulated tree should not be removed or damaged other than where it can be demonstrated that one or more of the following apply:

- (a) the tree is diseased and its life expectancy is short*
- (b) the tree represents a material risk to public or private safety*
- (c) the tree is causing damage to a building*
- (d) development that is reasonable and expected would not otherwise be possible*
- (e) the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree.*

The fourteen (14) regulated trees to be removed and three (3) regulated trees to be retained are illustrated in Figure 7 below:



Figure 7 (Source: Alexander Symonds)	
	Regulated tree to be removed
	Regulated tree to be retained

Three (3) of the trees are to be retained within the Reserve (6709, 6711 and 6717). These trees are all assessed to be ‘worthy of retention’ and their retention is supported having regard to the amenity value they will offer to the proposed Reserve area. This accords with Objective 1.

Five (5) of the regulated trees to be removed are identified as being ‘not worthy of retention’ (Trees 6686, 6696, 6698, 6699 and 6701) having regard to their appearance and overall condition and structure.

Having regard to the opinion of the arborists, the appearance and condition of these trees and their location on the subject site – support for their removal is offered in accordance with Objective 2(a) and PDC 2(d).

The arborists have differing opinions on five (5) of the regulated trees (6689, 6691, 6693, 6694 and 6702). The Project Green report identifies these trees as being ‘worthy of retention’, while the Dean Nicolle report identifies them as being either ‘moderately’ or ‘scarcely’ worthy of retention.

ITEM 5.1.1

The remaining four (4) trees (6683, 6684, 6685 and 6692) are all considered by the arborists to either be 'worthy of retention' or 'highly worthy of retention'. These trees are all indicated in Figure 8 below.



Figure 8
(Source: Alexander Symonds)

The Applicant has requested removal of these trees on the grounds that they cannot be reasonably accommodated within the proposed site layout. This is an accepted position for Trees 6684, 6685, 6689, 6691 and 6702 which are all of a reasonably central location and clearly affected by the proposed site layout. Any form of large scale development across this site would likely have an impact on these trees.

The pocket of trees towards the rear of the site formed by Trees 6692, 6693 and 6694 were considered at the time of site inspection. While these are located towards the rear of the site and are visible from Dry Creek Linear Park – it is considered that these offer relatively low amenity value to the public realm and are largely screened by more mature trees to be retained within the proposed Reserve. On this basis, removal of these trees is also accepted in accordance with Objective 2(a) and PDC 2(d).

The removal of Tree 6683 is also supported on the basis that it does not form a notable visual element when viewed from Third Avenue. Based on a site inspection, this tree is visually obscured having regard to existing street tree coverage along the property frontage which are to be retained. It could be argued that this tree could be accommodated within the proposed road reserve area adjacent Lot 1, as its amenity value is relatively low; the need to adopt specific tree protection measures during construction works is likely to be an unreasonable position to adopt. On balance, its removal is supported in accordance with Objective 2(a) and PDC 2(d).

In summary, support is offered for removal of the affected regulated trees and the proposal sufficiently accords with the relevant provisions of the *General Section: Regulated Trees* module.

Significant Trees

The following provisions of the *General Section: Significant Trees* module provide:

Objective 1 The conservation of significant trees, in Metropolitan Adelaide, that provide important aesthetic and environmental benefit.

Objective 2 The conservation of significant trees in balance with achieving appropriate development.

PDC 1 Development should preserve the following attributes where a significant tree demonstrates at least one of the following attributes:

- (a) makes an important contribution to the character or amenity of the local area; or*
- (b) is indigenous to the local area and its species is listed under the National Parks and Wildlife Act 1972 as a rare or endangered native species*
- (c) represents an important habitat for native fauna*
- (d) is part of a wildlife corridor of a remnant area of native vegetation*
- (e) is important to the maintenance of biodiversity in the local environment*
- (f) forms a notable visual element to the landscape of the local area.*

PDC 2 Development should be undertaken so that it has a minimum adverse effect on the health of a significant tree.

PDC 3 Significant trees should be preserved, and tree-damaging activity should not be undertaken, unless:

- (a) in the case of tree removal, where at least one of the following apply:
 - (i) the tree is diseased and its life expectancy is short*
 - (ii) the tree represents an unacceptable risk to public or private safety*
 - (iii) the tree is within 20 metres of a residential, tourist accommodation or habitable building and is a bushfire hazard within a Bushfire Prone Area**
- (b) the tree is shown to be causing or threatening to cause substantial damage to a substantial building or structure of value*
- (c) all other reasonable remedial treatments and measures have been determined to be ineffective*
- (d) it is demonstrated that all reasonable alternative development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.*

(e) in any other case, any of the following circumstances apply:

- (i) the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree
- (ii) the work is required due to unacceptable risk to public or private safety
- (iii) the tree is within 20 metres of a residential, tourist accommodation or habitable building and is a bushfire hazard within a Bushfire Prone Area
- (iv) the tree is shown to be causing or threatening to cause damage to a substantial building or structure of value
- (v) the aesthetic appearance and structural integrity of the tree is maintained
- (vi) it is demonstrated that all reasonable alternative development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.

PDC 4 Development involving ground work activities such as excavation, filling, and sealing of surrounding surfaces (whether such work takes place on the site of a significant tree or otherwise) should only be undertaken where the aesthetic appearance, health and integrity of a significant tree, including its root system, will not be adversely affected.

PDC 5 Land should not be divided or developed where the division or development would be likely to result in a substantial tree-damaging activity occurring to a significant tree.



PDC 4 (j) of the *General Section: Land Division* module also provides:

PDC 4 The design of a land division should incorporate:

- (j) *the preservation of significant trees.*

There are eight (8) significant trees on the subject site. The Applicant proposes to remove seven (7) of these trees and to retain one (1) within the Reserve. This is illustrated in Figure 9 below.



Figure 9 (Source: Alexander Symonds)	
	Significant tree to be removed
	Significant tree to be retained

Tree 6714 is identified as the arborists as being either ‘worthy of retention’ or ‘highly worthy of retention’. Retention of the tree is supported having regard to the amenity value it will offer to the proposed Reserve area which accords with Objective 1.

Four (4) of the trees (6687, 6697, 6700 and 6703) are identified by the arborists as being ‘not worthy of retention’. Having regard to the life expectancy, appearance, structure, condition of these trees and their location on the site relative to the land division layout - removal is supported in accordance with Objective 2, PDC 1(a) and PDC 3(a)(i).

The remaining three (3) significant trees (Tree 6690, 6695 and 6712) are considered in further detail and their location is highlighted in Figure 10.



Figure 10
(Source: Alexander Symonds)

The Applicant has requested removal of Tree 6690 (Tree 6) on the basis that it cannot be reasonably retained due to its location and the proposed layout of the development. The arborists differ in opinion on Tree 6690. Project Green identify this tree as being ‘worthy of retention’ while Dean Nicolle considers the tree is ‘not worthy of retention’.

This tree is located fairly central within the subject and based on a site inspection, is not obviously visible from the public realm given its distance from property boundaries and established tree coverage along the road reserve frontage.

Given its central location, it is likely that any form of large scale development on this site would impact the tree. In accordance with PDC 1(f) and PDC 3(d) its removal is supported.

The Applicant has requested removal of Tree 6695 (Tree 18) on the basis that it cannot be accommodated within the proposed site layout and will be affected by future filling of the site which will be required to accommodate the development.

The arborists draw similar conclusions with Project Green identifying the tree as being ‘worthy of retention’ and Dean Nicolle identifying the tree as being ‘highly worthy of retention’.

Based on a site inspection, this tree is more notable than Tree 6690 discussed above. It is a large specimen with reasonable canopy cover and spread. However, it again occupies a central location within the site and does not form a notable visual element within the landscape due to its distance from property boundaries and surrounding tree cover within the road reserve and other public spaces. Once again, any form of large scale development of this site would likely impact upon this tree. In accordance with PDC 1(f) and PDC 3(d) its removal is supported.

The Applicant has requested removal of Tree 6712 (Tree 22) on the basis that it cannot be accommodated within the proposed site layout and will be affected by future filling of the site which will be required to accommodate the development.

The Project Green report identifies the tree as being ‘worthy of retention’ and Dean Nicolle considers the tree to be ‘highly worthy of retention’. The tree is further identified as being healthy with good structure and low risk rating.

The tree is located towards the north western side of the subject site adjacent the proposed Reserve. Based on a site inspection it is highly visible when viewed from Dry Creek Linear Park and the adjoining Council Reserve (walkway). It is a large specimen with good canopy cover and spread.

Given its location towards the rear of the site, it is considered that the site could be configured in such a manner to allow retention of this tree – for example, within the proposed Reserve. There are no grounds to support its removal and its removal offends Objective 1, PDC 1(a) and (f), and PDC 3 (d) of the *General Section: Significant Trees* module.

In summary, support is offered for removal of all trees with the exception of Tree 6712 (Tree 22) which should be retained.

On balance, it is acknowledged that the proposal complies with PDC 4(j) of the *General Section: Land Division* module in that the design of the land division does incorporate the preservation of significant trees (Tree 6714). However, it fails to accord with PDC 5 of the *General Section: Significant Trees* module in that the division will result in tree damaging activity to a significant tree that is considered to be highly worthy of retention.

Open Space

The following provisions of the *General Section: Land Division* module apply:

PDC 4 The design of a land division should incorporate:

(a) roads, thoroughfares and open space that result in safe and convenient linkages with the surrounding environment, including public and community transport facilities, and which, where necessary, facilitate the satisfactory future division of land and the inter-communication with neighbouring localities

(e) suitable land set aside for useable local open space

Objective 2 of the *General Section: Open Space* module provides:

Objective 2 Pleasant, functional and accessible open spaces providing a range of physical environments.

An area of 2806m² is proposed as Reserve located to the north-west side of the subject site. The Reserve will integrate with the existing Dry Creek Linear Park footpath network and will allow for the retention of three (3) regulated trees and one (1) significant tree. It will also ensure those regulated trees and significant trees just outside of the subject site within Linear Park can be maintained.

From a future dwelling design perspective the Reserve will also have the opportunity to integrate with proposed Lots 16-24 and would offer a reasonable area of open space for all future occupants.

Section 50(1)(c) of the *Development Act 1993* provides that where land division creates more than twenty (20) allotments (and one or more of those allotments is less than one (1) hectare in area, the Council may require that up to 12.5% of the site may be vested to the Council as open space; or that the applicant make the 'open space' contribution (prescribed the *Development Regulations 2008*.

The Reserve of 2806m² represents an area of 9.7% of the site. This is a shortfall of 2.8% (794m²) from the required provision of 12.5% (3600m²).

To address this shortfall an additional open space contribution is required.

In accordance with the method of calculation provided within Section 50(7) of the *Development Act 1993* – the required contribution is \$93,325.12⁸.

Civil works, storm water and local flooding

The Applicant has supported the proposal with engineering advice from TMK Engineers and there have been several discussions between Council's Engineering and Infrastructure sections and TMK regarding design strategies for the site. The strategy has been broadly accepted by Council subject to conditions of approval and provision of detailed civil and site works plans.

Increased storm water runoff from the site does have the potential to impact on existing downstream storm water drainage facilities. Whilst onsite detention is required, in lieu of providing on-site storm water detention, Council's Infrastructure Section would consider allowing the developer to choose to pay a drainage contribution in accordance with Council's Developer Charges for some portion of the external infrastructure required to detain storm water offsite. The drainage contribution rate is currently \$32,500 per hectare, which equates to a total rate of \$93,600 based on a site area of 2.88ha.

8

P = Contribution payable

PC = the rate of contribution prescribed by the regulations for each new allotment or strata lot within the relevant part of the State that do not exceed 1 hectare in area - \$6830 at time of lodgement of DA

OS = the area of land (expressed as a percentage of the relevant area) to be vested in the council or the Crown as open space)

NA = the number of new allotments or strata lots delineated on the plan that do not exceed one hectare in area

P= \$6830 ((12.5-9.7) / 12.5) x NA)

P= \$6830 (2.8 / 12.5) x 61

P= \$6830 (0.224 x 61)

P= \$6830 x 13.664

P = \$93,325.12

Storm water runoff from within the site is proposed to be routed through a conventional underground drainage system comprising side entry pits (SEP), junction boxes (JB) and reinforced concrete pipes (RCP). A rear of allotment of storm water easement is proposed to allow runoff from the proposed underground storm water network to allow discharge into Dry Creek – although this requires additional clarification as part of the detailed design phase.

Storm water pollution and erosion control improvement measures are to be implemented within the development to ensure that pollutants are trapped prior to exiting the site or entering the existing drainage system and to prevent initial contamination of storm water from roadside pollution during construction. Soil erosion and drainage management plans are to be supplied to Council as part of the detailed design phase.

Post development storm water runoff rates generated by the site will undergo water quality treatment prior to discharging into Dry Creek and a Gross Pollutant Trap (GPT) will be sized and installed to treat the 1 year ARI peak flow with a high flow bypass for larger flow events – again, ultimately discharging into Dry Creek.

The minor system will be designed to accommodate the 5 year ARI event with a minimum freeboard of 150mm maintained between the hydraulic grade level in a storm water pit and the gutter invert level.

The major system will be designed so that no inundation of private land occurs as a result of a 100 year ARI storm event and the gap flows are conveyed within the defined overland flow systems including roadways and reserves within the development.

A bund is proposed between Dry Creek and the proposed development to assist with flood management and will be set at the flood level plus freeboard. The exact level of the bund is to be determined at the detailed design phase and will require further discussions with Council's Engineering and Infrastructure sections. This will also require consultation with Council's Parks and Open Space Section to ensure there is no damage or impact to Council trees or the regulated/significant trees to be retained and to ensure the proposed Reserve remains as a useable and functional area of open space. Overland flows will be collected by flood gullies and ultimately piped under the bund into Dry Creek.

The proposed land division is supported from an engineering perspective, subject to land division requirements and provision of detailed design details.

The proposed land division, if constructed in accordance with the recommended engineering conditions, is consistent with the relevant storm water provisions contained within the Development Plan.

General Section - Land Division Module PDC 1 states:

1 When land is divided:

- (a) Storm water should be capable of being drained safely and efficiently from each proposed allotment and disposed of from the land in an environmentally sensitive manner*
- (b) a sufficient water supply should be made available for each allotment*

- (c) *provision should be made for the disposal of wastewater, sewage and other effluent from each allotment without risk to health*
- (d) *proposed roads should be graded, or be capable of being graded to connect safely and conveniently with an existing road or thoroughfare.*

The proposed land division is capable of draining storm water in a safe and efficient manner from each of the proposed allotments in an environmentally sensitive manner. SA Water have advised that each of the allotments can be serviced by mains water and sewer.

Site Contamination

PDC 22 of the *General Section: Hazards* module provides:

PDC 22 Development, including land division, should not occur where site contamination has occurred unless the site has been assessed and remediated as necessary to ensure that it is suitable and safe for the proposed use.

The Application was supported by a Site Contamination Audit Report (SCAR) and Site Contamination Audit Statement (SCAS) prepared by Land and Water Consulting (LWC). The SCAR was prepared in accordance with relevant legislation, policies and guidelines within the *Environment Protection Act 1993*, *Environment Protection* policies (water quality, air quality, waste management and waste to resources) and the *National Environment Protection (assessment of Site Contamination) Measure 1999* (NEPM).

The report concluded:

- Based on future residential use of the site as defined in the NEPM, contamination as defined in the *Environment Protection Act 1993* is not considered to exist at the site.
- The site is suitable for the following sensitive uses:
 - o *residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry));*
 - o *residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments;*
 - o *childcare centres, kindergartens, preschools and primary schools;*
 - o *Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths; and / or*
 - o *Commercial / industrial, includes premises such as shops, offices, factories and industrial sites.*
- No remediation is or remains necessary for the specified range of uses.

On this basis, it is considered that site contamination has been appropriately addressed and the site is suitable for future residential use. This accords with PDC 22.

Note: the SCAS is attached as Appendix 3 to this report. The SCAR is a lengthy document of 359 pages and has not been attached to this report. It can be made available on request.

13. CONCLUSION

While residential development is envisaged within the Transition Area, limited weight has been given to this part of the Zone and more weight has been given to the Urban Core Zone objectives because of the unique location and characteristics of the subject site.

If one gives more weight to the Desired Character statement for the Transition Area the conclusion may be that a residential land division is appropriate.

The assessment has found that on balance, this proposal falls short in respect of number of key areas:

- The absence of a mixed use outcome primarily envisaged by the Urban Core Zone, noting that the Transition Area is less explicit in this regard.
- The division will deliver a relatively homogenous style of suburban housing which is substantially at odds with that part of the Desired Character statement for the Transition Area which seeks a combination of housing types to provide for a diverse community.
- Excluding proposed Allotment 62, the division will deliver a net residential density of 36.23 dwellings per hectare which is almost half the intended density for the Transition Area (minimum 70 dwellings per hectare).
- The exclusive form of residential development will be substantially at odds with the existing character of the locality which comprises large allotments with large floor plate commercial organisations and at grade car parking set within an open and landscaped setting. This is brought about by the spatial extent of the proposal which will result in the removal of established vegetation, including regulated and significant trees, and the use of solid metal fencing around the perimeter of the site and between proposed allotment boundaries.
- Given the proximity of the subject site to Mawson Innovation Policy Area 24 and its location within Technology Park, there is the potential for a suburban form of residential development to compromise the orderly expansion of the Policy Area for its intended purpose.
- Removal of significant tree 6712 (Tree 22) is not supported having regard to its appearance, visual contribution to the amenity of the locality and its location close to the rear (north-west) of the site. Insufficient evidence has been provided to support its removal.

On this basis, it is recommended that the application be refused.

However, it is highlighted that if the Panel accept that a residential land division of the type proposed is appropriate at the subject site, it is recognised the division will 'work' from a functional and engineering based perspective. In particular:

- The proposed allotment sizes are capable of accommodating future residential dwellings with appropriate boundary setbacks, site coverage, provision of onsite car parking and private open space.
- The division provides for safe and appropriate access and egress to Third Avenue.

- The internal road network allows for appropriate internal circulation, access to each allotment, waste collection and emergency services access; and future provision of public footpaths and street tree planting.
- The division provides for a connected and functional area of open space to be vested as public reserve which has been designed to integrate with Dry Creek Linear Park.
- The division will allow for the appropriate drainage of storm water in a safe, efficient and environmentally sensitive manner.
- SA Water have advised that each of the allotments can be serviced by mains water and sewer.
- Provided future dwellings are designed in accordance Sound Exposure Category 1 of the *Ministers Specification SA 78B* noise levels inside of the dwellings will comply with the goal noise levels as set out in the *Environment Protection (Noise) Policy 2007*.
- Site contamination has been appropriately addressed and the application has demonstrated the site is suitable for future residential use.

It is recommended that if the Panel approve the proposed land division, the approval should identify that detailed Design Guidelines be provided to Council as a Land Division Requirement. The Design Guidelines should stipulate:

- Future dwellings include Sound Exposure Category 1 façade treatments in accordance with *Minister's Specification SA 78B Construction requirements for the control of external sound* and be constructed in accordance with the recommendations of the Acoustic Report.
- Future allotments be served by a maximum crossover width of 4.5m at the kerb. While this is a non-standard driveway width, it would allow for appropriate access to a double garage (with widening of the driveway on the allotment) while preserving on-street parking availability – providing at least one space in front of each 10m wide allotment.
- The Design Guidelines should be registered as an Encumbrance against to each new allotment created by the division.

Such an approval should also incorporate appropriate conditions of consent and land division requirements, including provision of the relevant open space and storm water contributions to ensure the division occur in an orderly and economical manner.

14. STAFF RECOMMENDATION

That the Development Assessment Panel resolve that:

- A. The proposed development is not considered to be seriously at variance with the Salisbury Council Development Plan – Consolidated 15th December 2016.
- B. That Development Application No 361/698/2018/LD (361/D055/18) for Land Division - creation of 62 allotments from 1 allotment, public roads and reserve, removal of 14 regulated trees and 7 significant trees and retention of 3 regulated trees and 1 significant tree at 26-35 Third Avenue, Mawson Lakes, SA 5095 is not considered to be seriously at variance with the Objectives and Principles of the City of Salisbury Development Plan – Consolidated 20 March 2014, but is **REFUSED** Development Plan Consent and Land Division Consent for the following reasons:
- The absence of a mixed use outcome primarily envisaged by the Urban Core Zone, noting that the Transition Area is less explicit in this regard (*Objective 1 and 2 of the Urban Core Zone*).
 - The division will deliver a relatively homogenous style of suburban housing which is substantially at odds with that part of the Desired Character statement for the Transition Area which seeks a combination of housing types to provide for a diverse community (*Desired Character Statement and PDC 8 of the Urban Core Zone*).
 - Excluding proposed Allotment 62, the division will deliver a net residential density of 36.23 dwellings per hectare which is almost half the intended density for the Transition Area (minimum 70 dwellings per hectare) (*Desired Character Statement of the Urban Core Zone; PDC 9 of the Urban Core Zone*).
 - The exclusive form of residential development will be substantially at odds with the existing character of the locality which comprises large allotments with large floor plate commercial organisations and at grade car parking set within an open and landscaped setting. This is brought about by the spatial extent of the proposal which will result in the removal of established vegetation, including regulated and significant trees, and the use of solid metal fencing around the perimeter of the site and between proposed allotment boundaries.
 - Given the proximity of the subject site to Mawson Innovation Policy Area 24 and its location within Technology Park, there is the potential for a suburban form of residential development to compromise the orderly expansion of the Policy Area for its intended purpose (*PDC 4(d) Land Division and Objective 3 Orderly and Sustainable Development*).
 - Removal of significant tree 6712 (Tree 22) is not supported having regard to its appearance, visual contribution to the amenity of the locality and its location close to the rear (north-west) of the site. Insufficient evidence has been provided to support its removal (*Objective 1, PDC 1(a), (f), PDC 2, PDC 3(d) and PDC 5 Significant Trees*).

General Section

Land Division

Principle of Development Control 4 - The design of a land division should incorporate:

- (d) areas to provide appropriate separation distances between potentially conflicting land uses and/or zones

Orderly and Sustainable Development

Objective 3 - Development that does not jeopardise the continuance of adjoining authorised land uses.

Significant Trees

Objective 1 - The conservation of significant trees, in Metropolitan Adelaide, that provide important aesthetic and environmental benefit.

Principle of Development Control 1 - Development should preserve the following attributes where a significant tree demonstrates at least one of the following attributes:

- (a) makes an important contribution to the character or amenity of the local area;
- (f) forms a notable visual element to the landscape of the local area.

Principle of Development Control 2 - Development should be undertaken so that it has a minimum adverse effect on the health of a significant tree.

Principle of Development Control 3 - Significant trees should be preserved, and tree-damaging activity should not be undertaken, unless:

- (d) it is demonstrated that all reasonable alternative development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.

Principle of Development Control 5 - Land should not be divided or developed where the division or development would be likely to result in a substantial tree-damaging activity occurring to a significant tree.

Urban Core Zone

Objective 1 - A mixed use zone accommodating a mix of employment generating land uses and medium to high density residential development in close proximity to a high frequency public transport corridor.

Objective 2 - Development within a mixed use environment that is compatible with surrounding development and which does not unreasonably compromise the amenity of the zone or any adjoining residential zone.

Desired Character Statement (excerpts):

This zone will function primarily as a District Centre that supports housing at medium and high densities and a range of dwelling types which are conveniently located in proximity to high frequency public transport services, recreation, commercial, shop, office and other mixed use activities. Development within this zone will result in significant employment generating activity closely aligned to nearby public transport infrastructure and services.

Medium and high density housing, primarily in the form of row dwellings, residential flat buildings and mixed use buildings, will be developed in the zone.

The Transition Area will provide a buffer between the Core Area and adjacent residential areas / zones with development taking the form of high quality medium density housing and, subject to Airport building height restrictions, the combination of four storey townhouses/terraces/mews and residential flat buildings will provide a range of housing for a diverse community. There will be some provision for mixed use buildings, where it does not negatively impact on the predominant residential character of the area.

Principle of Development Control 8 - Development should be consistent with the desired character for the zone.

Principle of Development Control 9 - Residential development (other than residential development in mixed use buildings), should achieve a minimum net residential site density in accordance with the following:

Designated area	Minimum net residential site density
Core Area	150 dwellings per hectare net
Transition Area	70 dwellings per hectare net

CO-ORDINATION

Officer:	GMCID	MDS
Date:	10.04.19	09.04.19

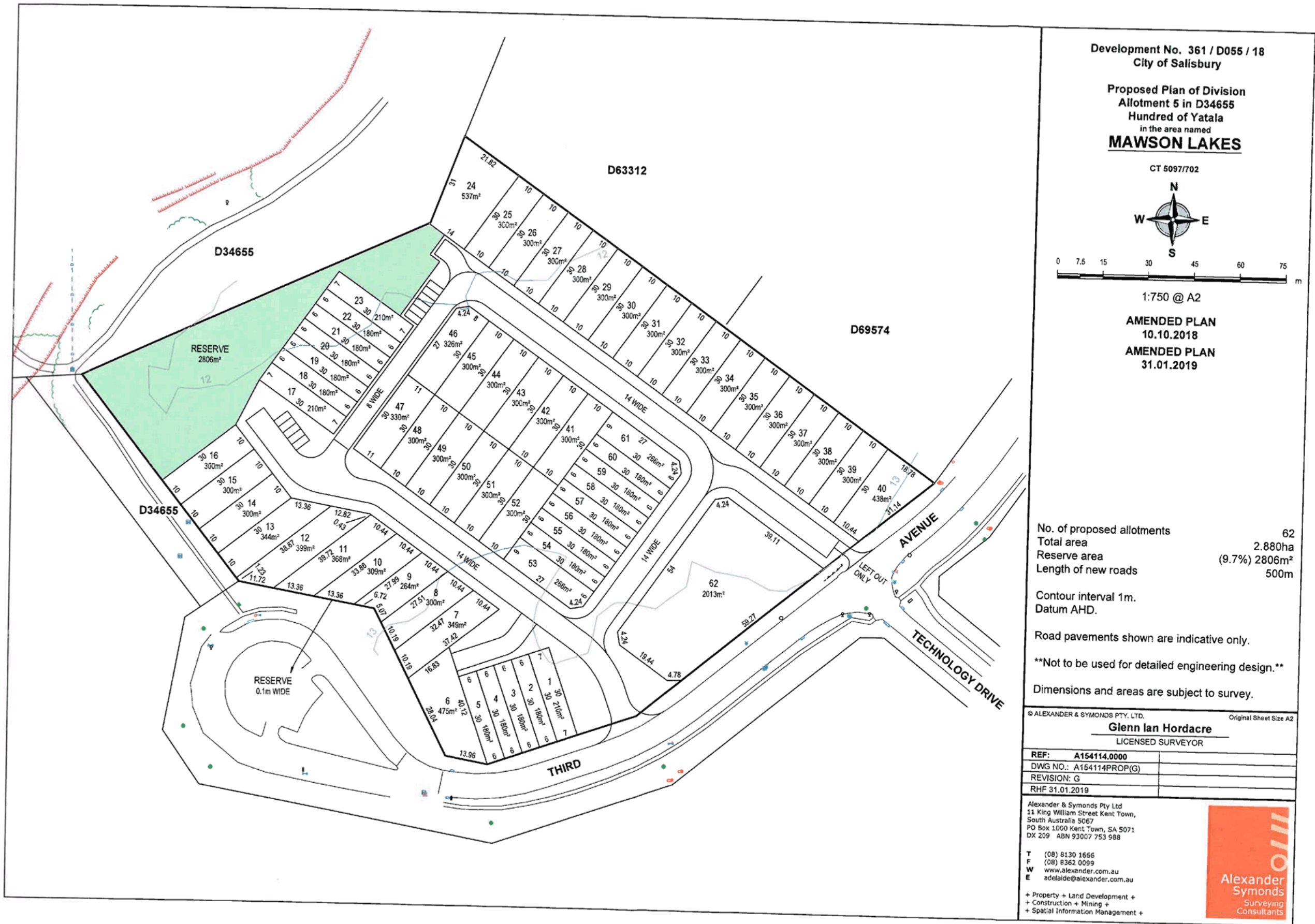
ATTACHMENTS

This document should be read in conjunction with the following attachments:

1. Plan of Division
2. Supporting Information and Reports
3. Notice of Category 2 Application and Representations received
4. Applicant's Response to Representations
5. Site Contamination Audit Statement
6. Relevant Development Plan Extracts and Location Maps consolidated 15 December 2016

Attachment 1

Plan of Division





Attachment 2

Supporting Information and Reports

1. EDALA Application Detail
2. Certificate of Title
3. Land Management Agreement (LMA)
4. Plan of Division with Tree Overlay
5. Building Envelope Plan (BEP)
6. Response to Request for Further Information
7. Dean Nicolle Tree Report
8. Project Green Tree Report
9. Traffic and Parking Report (CIRQA)
10. Additional CIRQA Response – email
11. Environmental Noise Assessment (Sonus)
12. Stormwater Management Report (TMK)

Application Detail

Search | Configure Notification Email | Log Out |

Application Detail Hide All Hide

General

Unique Id : 61438
 Development No : 361/D055/18
 Application Type : Conventional Land Division
 Application Extent : Provisional Development Plan Consent with Land Division Consent
 Land Use/Building Consent : No
 Council Name : City of Salisbury
 Agents Reference : A154114.00 Hughes Project Management
 Short Reference : 5 ThirMawson
 Submitting Agents Name : Alexander & Symonds Pty Ltd
 Submitted By : Planning Administrator, Alexander & Symonds Pty Ltd
 Application Status : Lodged & Distributed (No Decision)

Application Type Details : Conventional Land Division Hide

Total Area of Land to be Divided : 2.88 hectares
 Reserve Area : 0.0602 hectares
 Number of existing allotments : 1
 Number of proposed allotments (excluding road 78 and reserve) :
 Number of additional allotments : 77

Applicant Details Hide

Salutation	Name	Organisation Name	Address
		Hughes Project Management	c/- Alexander Symonds PO Box 1000 Kent Town SA 5071 South Australia AUSTRALIA

Owner Details Hide

Salutation	Name	Organisation Name	Address
		Mawson Lakes LDC Pty Ltd	c/- Alexander Symonds PO Box 1000 Kent Town SA 5071 South Australia AUSTRALIA

Contact Details Hide

Salutation	Name	Address	Telephone	Fax	Email
Mr	Planning Administrator	PO Box 1000 Kent Town 5071 South Australia AUSTRALIA	Telephone 1 : 8130 1666 Telephone 2 :	Fax 1 : 8362 0099 Fax 2 :	planning@alexander.com.au
Mobile :					

Subject/Property Details Hide

House No. :
 Lot No. : 5
 Street : Third Avenue
 Suburb/Town Mawson Lakes
 Hundred: Yatala
 Reference Section:

Title Reference and Plan Parcel

Title Code	Title Description	Volume	Folio	Plan Code	Plan Description	Plan No.	Parcel No.
CT	Certificate of Title	5097	702	D	Deposited Plan	34655	A5

Other Details Hide

Existing Use : Residential
 Description of Proposed Development : Land Division to create 78 allotments
 Does either schedule 21 or 22 of the No Development Regulations 1993 apply? :
 Notes :
 Additional Information Requests :
 Additional Fees and Payments :
 Lodgement Date : 18 Apr 2018
 Months for Development Approval Request : 12

Categorisation Details Hide

<https://www.edala.sa.gov.au/edala/EDALA.aspx?PageMode=ApplicationDisplay&Ap...> 25/03/2019

Application Detail

Decision Authority : Council Application Classification : Technical Kind of Development : Merit Notification Category : Not Applicable Zone : Urban Core Zone Development Plan Map No : Sal/47 Allocated Planner : Teresa Davis Categorisation Comments : Council to determine notification category Categorized By : Teresa Davis Categorisation Date : 27 Apr 2018					
Distribution Details Hide					
Referral Agency	Referred to Agent	First Accessed	Referral State	Due Date	Response
Development Assessment Commission	27 Apr 2018	14 Jun 2018	Returned on 21 Jun 2018		Show
SA Water Corporation	27 Apr 2018	27 Apr 2018	Returned on 13 Jun 2018		Show
DPTI - Transport Services Division	27 Apr 2018	30 Apr 2018	Returned on 28 May 2018		Show
DPTI - Mark Maintenance Section	27 Apr 2018	30 Apr 2018	Returned on 30 Apr 2018		Show
DECD - Education and Child Development	27 Apr 2018	14 May 2018	Returned on 14 May 2018		Show
DPTI - Public Transport Division	27 Apr 2018	04 May 2018	Returned on 04 May 2018		Show
Decision Authority	Distributed for Decision	First Accessed	Decision State	Decision Issued	Response
City of Salisbury	27 Apr 2018	30 Apr 2018	Current		Show
Decision Details Hide					
There has not yet been a decision submitted for this application					
Overturned Decision Details Hide					
There are no overturned decision details currently available for this application					
Clock Stops (State Commission Assessment Panel only) Hide					
No clock stops have been set					
Lodgement Fees Hide					
Fee Invoice No.	Fee Invoice Date	Invoice Description	Fee Status		
57385	18 Apr 2018	New Application Invoice	Fees Paid		
				Total Fee (\$)	
Fee Line Type Description				209.50	
Lodgement Fee (additional allotment)				158.00	
Land Division Fee (additional allotment)				1147.30	
Land Division Fee (per Additional Allotment)				417.00	
Statement of Requirements Fee (additional allotment)				347.00	
Certificate of Approval Fee (additional allotments)				208.00	
DAC Consultation Report Fee (additional allotments)					
Invoice Total Fee(\$) :				2486.80	
Certificate of Approval (CoA) Details Hide					
CoA Id	Stage Number	Status	Certificate Plan	Issue Date	Issuing Officer
56101	001	Awaiting DA Decision			
There are no further Certificate of Approval (CoA) details					
Certificate of Approval (CoA) Clearance Requirements Details Hide					
CoA Clearance Requirement Description	CoA Id	Stage No.	Agency Name	Distribution Date	Status
A final plan complying with the requirements for plans as set out in the Manual of Survey Practice Volume 1 (Plan Presentation and Guidelines) issued by the Registrar General to be lodged with the Development Assessment Commission for Land Division Certificate purposes.	56101	001	Development Assessment Commission	21 Jun 2018	Not yet Met
The financial requirements of SA Water shall be met for the provision of water supply and sewerage services.	56101	001	SA Water Corporation		Not yet Met
The augmentation requirements of SA Water shall be met.	56101	001	SA Water Corporation		Not yet Met
The necessary easements shall be vested to SA Water.	56101	001	SA Water Corporation		Not yet Met
Water mains to be extended from Third Avenue and linked through the development. Sewer main to be extended from Third Avenue.	56101	001	SA Water Corporation		Not yet Met
Additional DA Fees Hide					

<https://www.edala.sa.gov.au/edala/EDALA.aspx?PageMode=ApplicationDisplay&Ap...> 25/03/2019

Application Detail

Additional DA Fees - Paid					
Fee Desc	Fee Issue Date	Payment Date	Total Fee (\$)	Incl. GST	Detail
No Fees have been paid yet					
Additional DA Fees - Outstanding					
Fee Desc	Fee Issue Date		Total Fee (\$)	Incl. GST	
Mandatory Referral - Highways	27 Apr 2018		222.00		
Additional CoA Fees Hide					
There are currently no Certificate of Approval (CoA) fees generated for this application					
Application Documents Hide					
Document Title	Document Type	Version #	State	File Size (Kb)	Date Uploaded Notes
Proposal Plan	Proposed Plan of Division	1	Uploaded	231.7400000	18 Apr 2018 Show
Certificate of Title	Certificate of Title/Lease	1	Uploaded	71.3400000	18 Apr 2018 Show
Lodgement Fee Receipt	Miscellaneous	1	Uploaded	29.4600000	18 Apr 2018 Show
Location Plan Enlargement New	Miscellaneous	1	Uploaded	430.4300000	19 Apr 2018 Show
Location Plan New	Miscellaneous	1	Uploaded	443.1700000	19 Apr 2018 Show
LOTS Admin Interests New	Miscellaneous	1	Uploaded	28.0000000	20 Apr 2018 Show
DAC Regulation 29 Letter New	Miscellaneous	1	Uploaded	871.8700000	01 May 2018 Show
DAC Regulation 29 Letter New	Miscellaneous	1	Uploaded	871.8700000	01 May 2018 Show
Final Plan Documents for Certificate of Approval (CoA) Hide					
There are no Final Plans for Certificate of Approval (CoA) currently associated with this application					
Certified Certificate of Approval (CoA) Plan Documents Hide					
There are no Certified Certificate of Approval (CoA) Plans currently associated with this application					
Mode:ApplicationDisplay/Revision:14					
Disclaimer Terms and Conditions Department of Planning, Transport and Infrastructure, Level 5, 50 Flinders St, ADELAIDE South Australia 5000 - P 1800 752 664 Copyright					

<https://www.edala.sa.gov.au/edala/EDALA.aspx?PageMode=ApplicationDisplay&Ap...> 25/03/2019



Government of South Australia
Department of Planning,
Transport and Infrastructure

Product	Register Search (CT 5097/702)
Date/Time	18/04/2018 01:39PM
Customer Reference	A154114.00
Order ID	20180418007508
Cost	\$28.25



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Certificate of Title - Volume 5097 Folio 702

Parent Title(s)	CT 4379/657		
Creating Dealing(s)	RTD 7310503		
Title Issued	23/11/1992	Edition 6	Edition Issued 03/04/2018

Estate Type

FEE SIMPLE

Registered Proprietor

MAWSON LAKES LDC PTY. LTD. (ACN: 619 729 912)
OF UNIT 6 157 HYDE STREET YARRAVILLE VIC 3013

Description of Land

ALLOTMENT 5 DEPOSITED PLAN 34655
IN THE AREA NAMED MAWSON LAKES
HUNDRED OF YATALA

Easements

NIL

Schedule of Dealings

Dealing Number	Description
12895113	AGREEMENT UNDER DEVELOPMENT ACT, 1993 PURSUANT TO SECTION 57(1)
12895114	MORTGAGE TO NATIONAL AUSTRALIA BANK LTD. (ACN: 004 044 937)

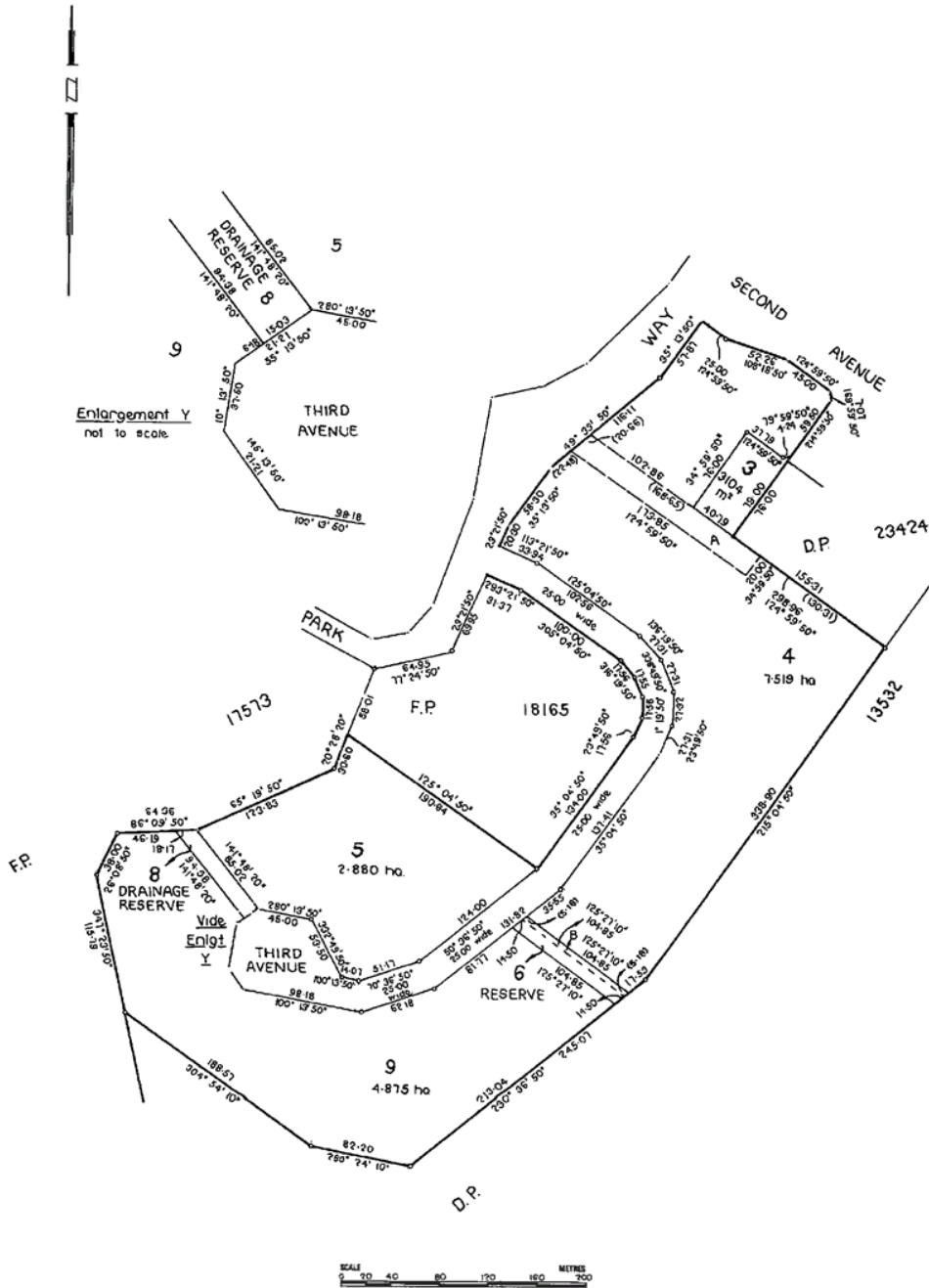
Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL




Product	Register Search (CT 5097/702)
Date/Time	18/04/2018 01:39PM
Customer Reference	A154114.00
Order ID	20180418007508
Cost	\$28.25

Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports



FORM B2 (Version 3)
GUIDANCE NOTES AVAILABLE

Orig. **AG 12895113**



13:21 21-Mar-2018
2 of 3

LANDS TITLES REGISTRATION OFFICE
SOUTH AUSTRALIA

FORM APPROVED BY THE REGISTRAR-GENERAL

PRIORITY NOTICE ID	
--------------------	--

BELOW THIS LINE FOR OFFICE & STAMP DUTY PURPOSES ONLY

SERIES NO	PREFIX
2	AG

\$160 →

AGENT CODE

LODGED BY:

NAIBS8

CORRECTION TO:


SOUTH AUSTRALIAN HOUSING TRUST SAHT

SUPPORTING DOCUMENTATION LODGED WITH INSTRUMENT
(COPIES ONLY)

- 1
- 2
- 3
- 4
- 5

© LAWSOFT PTY LTD (June 2016)

Ref:

CORRECTION	PASSED M
REGISTERED <i>Mattazzo</i>	3 APR 2018  REGISTRAR-GENERAL SOUTH AUSTRALIA

PRO

TYPE OF DOCUMENT

APPLICATION TO NOTE LAND MANAGEMENT AGREEMENT

PRIVACY COLLECTION STATEMENT: The information in this form is collected under statutory authority and is used for maintaining publicly searchable registers and indexes. It may also be used for authorised purposes in accordance with Government legislation and policy requirements.

(Pursuant to s 57(5) of the Development Act 1993)

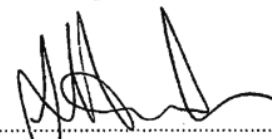
To the Registrar-General:

1. The **MINISTER FOR PLANNING** a body corporate constituted by a proclamation made pursuant to s 7(1) of the *Administrative Arrangements Act 1994* ("the Minister") of 11th Floor 45 Pirie Street Adelaide South Australia 5000 has entered into the attached Land Management Agreement dated the 19th day of February 2018 ("the Agreement") with **MAWSON LAKES LDC PROPRIETARY LIMITED** (ACN 619 729 912) of Unit 6, 157 Hyde Street Yarraville Victoria 3013 pursuant to Section 57(1) of the *Development Act 1993* ("the Act").
2. The Agreement relates to the whole of the land comprised in Certificate of Title Volume 5097 Folio 702 ("the Land").

NOW THEREFORE the Minister applies pursuant to s 57(5) of the Act to note the Agreement against the Land.

Dated 16th day of March 2018

SIGNED by Chief Executive, Urban Renewal)
 Authority by authority of the **MINISTER FOR**)
PLANNING pursuant to Section 20 of the)
Development Act 1993 in the presence of:)



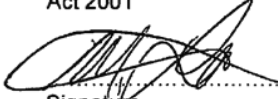
 John Hanlon, Chief Executive

Susan Anne Caust
 Signature of Witness
Susan Anne Caust
 Full Name of Witness

C/- Renewal SA
Level 9, Riverside Centre
North Terrace Adelaide SA 5000

Phone: 8207 1356

EXECUTED by **Mawson Lakes LDC Pty Ltd**
(ACN 619 729 912) of Unit 6, 157 Hyde Street Yarraville VIC 3013 in
accordance with Section 127 of the Corporations
Act 2001



Signature

MICHAEL JAY LANGFORD

Full Name (print)

Director

Office Held

19.2.2018

Date

Signature

Full Name (print)

Office Held

Date

And if only one person has signed, that person warrants that he/she is the sole director and the sole secretary of the company.

(Please affix the common seal if the company has a common seal)

RST Copy
(Return)**SCHEDULE**

ITEM 1 Date of Agreement	19-2-2018
ITEM 2 Owner	Owner's Name: <u>Mawson Lakes LDC Pty Ltd</u> ACN 619 729 912 Owner's Address: <u>Unit 6, 157 Hyde Street Yarraville VIC 3013</u>
ITEM 3 Land (Clause 13.10) Site Address of development	The whole of the land comprised in Certificate of Title Volume 5097 Folio 702 being Allotment 5 in Deposited Plan 34655. Allotment 5 Third Avenue Mawson Lakes SA 5095
ITEM 4 Provision of Affordable Housing Plan (Clause 2.2.1)	Due Date: within 30 days of obtaining Development Plan consent.
ITEM 5 Current Maximum Price (Clause 3.1.2)	House and Land \$304,000 Land Only \$136,800
ITEM 6 Mortgage (Clause 4.1)	Mortgagor: (insert institution name) Mortgage No: (insert mortgage number)
ITEM 7 Addresses for Notices (Clause 8)	Minister: Renewal SA Attention: Ms Jodi Davy Level 5, Riverside Centre, North Terrace Adelaide, South Australia, 5000 E-mail address: jodi.davy@sa.gov.au Owner: The Director Mawson Lakes LDC Pty Ltd of Unit 6, 157 Hyde Street Yarraville VIC 3013 Attention: Michael Langtree E-mail address: michael@broadtree.com.au

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MORTGAGEE'S CONSENT

insertdetails (ACN **insertdetails**) of **insertdetails** the mortgagee (or entitled to be registered as the mortgagee) pursuant to Memorandum of Mortgage No. **insertdetails** consents to the within Land Management Agreement pursuant to Section 57(4) of the Development Act 1993 and, without limitation, consents to and acknowledges that it will be bound by the provisions of clause 4 of the within Land Management Agreement.

EXECUTED by **insertdetails**
(ABN **insertdetails**)
by its Attorney

.....
print full name of Attorney

of **insertdetails**
who certifies that he/she has received no
notice of any revocation of the said
Power of Attorney

.....
Power of Attorney No. **insertdetails**

.....
Dated

.....
Signature of Witness

.....
Full Name of Witness (print)

.....
Address of Witness

.....
Business Hours Tel. No. of Witness



Address:

Contact Phone:

Date

EXECUTED by [redacted]
(A.B.N. [redacted]) in
accordance with Section 127 of the Corporations
Act 2001

Signature

Signature

Full Name (print)

Full Name (print)

Office Held

Office Held

Date

Date

And if only one person has signed, that person warrants that he/she is the sole director and the sole secretary of the company.

(Please affix the common seal if the company has a common seal)

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11.7 Severance

- 11.7.1 Each word, phrase, sentence, paragraph and clause of this Agreement is severable.
- 11.7.2 If a court determines that a part of this Agreement is unenforceable, invalid, illegal or void that court may sever that part.
- 11.7.3 Severance of a part of this Agreement will not affect any other part of this Agreement.

11.8 Relationship between the Parties

Nothing in this Agreement will constitute either party as the partner, agent, employee or officer of, or as a joint venturer with, the other party, and neither party has any authority to bind the other party in any manner without the prior written consent of the other party.

11.9 Governing Law

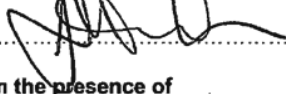
- 11.9.1 This Agreement is governed and construed in all respects in accordance with the law of the State of South Australia and the Commonwealth of Australia.
- 11.9.2 The parties submit to the jurisdiction of the Courts of the State of South Australia and the Commonwealth of Australia in respect of all matters arising under or relating to this Agreement, provided that any proceedings issued in the Courts of the Commonwealth of Australia are issued in the Adelaide Registry of any such Court.

11.10 Construction of Agreement

In the interpretation of this Agreement no rules of construction shall apply to the disadvantage of one party on the basis that that party put forward the Agreement or any part thereof.

EXECUTED AS AN AGREEMENT

By the **CHIEF EXECUTIVE, URBAN RENEWAL AUTHORITY, trading as RENEWAL SA** as delegate for **THE MINISTER FOR PLANNING** pursuant to an instrument of delegation dated 3 July 2014, pursuant to s20 of the *Development Act 1993*:


.....

in the presence of

Witness 

Print Name: Sue Coust

Position Held: Senior Executive Assistant

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The Minister may delegate any of its powers under this Agreement to any person.

10. REPORTING

The Owner must provide to the Director information reasonably requested by the Director relating to the creation and sale of Affordable Housing on the Land.

11. GENERAL

11.1 Good Faith

The Owner and the Minister must deal with one another in good faith in relation to their respective obligations under this Agreement.

11.2 Joint and Several Liability

When two or more persons are parties to this Agreement the covenants obligations and agreements on their part contained in this Agreement shall bind them jointly and each of them severally.

11.3 Assignment

11.3.1 The Owner must not assign, encumber or attempt to novate any of its rights or obligations in relation to this Agreement without the prior written consent of the Minister.

11.3.2 Unless this Agreement has been rescinded from the Land (or portion of the Land) pursuant to the provisions of this Agreement the Owner must not sell, assign, convey, transfer, create a trust in respect of, or otherwise dispose of the legal or any beneficial estate or interest in or to the Land or any portion of the Land other than in accordance with this Agreement, at any time during the term of this Agreement without the prior written consent of the Minister.

11.4 Entire Agreement

11.4.1 This Agreement incorporates the attached Schedule.

11.4.2 This Agreement contains the entire agreement between the parties with respect to its subject matter.

11.4.3 This Agreement supersedes any prior agreement, understanding or representation of the parties on the subject matter.

11.5 Modification

Any modification of this Agreement must be in writing and signed by each party.

11.6 Waiver

The Minister may waive compliance by the Owner with the whole or any part of the Owner's obligations provided that no such waiver will be effective unless expressed in writing and signed by the Minister.

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4.2.3 Both the Owner and the Minister agree to undertake best endeavours to expedite the signing of any documents appropriate to rescind this Agreement from the relevant properties to meet the Owner's timing required to complete the sale of the relevant apartments in the development.

5. OWNER TO OBTAIN CONSENTS

The Owner must:

- 5.1 obtain any consent(s) required to satisfy the requirements of Section 57 of the Act; and
- 5.2 provide a copy of the consent(s) to the Minister.

6. COSTS

- 6.1 The Minister agrees to pay the costs incurred in the stamping and noting of this Agreement against the relevant certificates of title for the Land.
- 6.2 The Owner shall pay the Minister's costs of and incidental to the rescission or partial rescission of this Agreement and the noting of such rescission or partial rescission against the relevant portions of the Land.

7. INDEMNITY

In the event of a breach or non-performance of its obligations under this Agreement, the Owner hereby indemnifies the Minister and agrees to keep the Minister forever indemnified in respect of the whole of the Minister's costs and expenses (including without limitation legal costs and expenses) of and incidental to the enforcement of the Owner's obligations under this Agreement.

8. NOTICES

- 8.1 Without prejudice to any other means of giving notice any notice required to be served under this Agreement shall be sufficiently served or given:
 - 8.1.1 by personal service on that party (or if it is a body corporate on a director, secretary or other officer of the party);
 - 8.1.2 if to the Owner, by post to the address of the Owner set out in Item 8 of the Schedule such other address as the Owner may notify the Minister from time to time as being the Owner's address for service of notices; and
 - 8.1.3 if to the Minister, by post to the address of the Minister set out in Item 7 of the Schedule or such other address as the Minister may notify each other party from time to time as being the Minister's address for service of notices.
- 8.2 Any notice may be signed on that party's behalf by its attorney, director, secretary or other officer or solicitor.
- 8.3 A notice by post shall be deemed to be served or given at the time when it ought to be delivered in the due course of post.

9. MINISTER MAY DELEGATE

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4.1 Noting of Agreement

The Minister and the Owner will do and execute all such documents and things as may be necessary to ensure that as soon as is possible after the execution of this Agreement by all necessary parties this Agreement is noted and a memorial thereof entered on the Certificate of Title for the Land pursuant to the provisions of Section 57 of the Act in priority to any other interest in the Land.

[IF THERE IS A MORTGAGE THE CLIENT MAY REQUEST THAT THE FOLLOWING CLAUSES BE INCLUDED]

Add to 4.1 'save and except for'

- 4.1.1 the estate and interest of the Mortgagee as mortgagee of the Land pursuant to the Mortgage listed in Item 6 of the Schedule.
- 4.1.2 It is acknowledged and agreed that if the Mortgagee exercises its power of sale under the Mortgage identified in Item 6 in the Schedule pursuant to Section 133 of the *Real Property Act 1886* that, notwithstanding Section 136(1)(a) of the *Real Property Act 1886*, any transfer of the Land or portion of the Land by the Mortgagee shall be made subject to this Agreement in accordance with the practice of the Registrar General of the Lands Titles Office to the effect that this Agreement will be binding on the purchaser of the Land or portion of the Land (as the case may be) as is contemplated by Section 57(7) of the Act.
- 4.1.3 The terms and conditions of this clause 4 are binding on the Mortgagee (and its successors assigns and transferees) as evidenced by the provision of the Mortgagee's consent to this Agreement.

4.2 Noting of Rescission

- 4.2.1 The Owner and the Minister agree that the Minister shall rescind (as that term is used in the Act) this Agreement and procure the noting by the Registrar General of such rescission of this Agreement over such relevant portions of the Land following:
 - (a) the approval of the Affordable Housing Plan by the Director;
 - (b) the Owner requesting the Minister to rescind the Agreement and specifying the particular allotment numbers in the relevant plan of division that will be used to deliver Affordable Housing Properties on that portion of the Land in accordance with the Affordable Housing Plan.
- 4.2.2 The Owner and the Minister agree that:
 - (a) any rescission of this Agreement and noting of such rescission under this clause 4.2 shall not release the Owner from its obligations under this Agreement to deliver the Outcomes contemplated by the Affordable Housing Plan; and
 - (b) the obligation on the Owner to deliver the Outcomes pursuant to this Agreement shall remain in full force and effect and is hereby confirmed.

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3.2.6 Subject to clause 3.4, if, at any time within the period commencing with the first day of such advertising and continuing whilst any Affordable Housing Apartment remains unsold, an Eligible Buyer offers to purchase an Affordable Housing Apartment at either:

- (a) the Owner's Asking Price, or
- (b) the Maximum Price,

then the Owner must enter into a contract to sell the Affordable Housing Apartment with such Eligible Buyer for that price.

3.3 Sale of Affordable Housing Properties - Non-Eligible Buyers

In the event that no Eligible Buyer makes an offer which complies with clause 3.2.3 or 3.2.6 (as the case may be) within the periods specified in clause 3.2.2, 3.2.4 or 3.2.5 (as the case may be), then the Owner may sell the Affordable Housing Property to a person other than an Eligible Buyer provided that the Affordable Housing Property is sold at a price not higher than the Maximum Price and this sale will be counted as a sale of Affordable Housing Property towards the Owner's obligation to deliver the Outcomes.

3.4 Sale of Affordable Housing Properties - Higher than the Maximum Price

3.4.1 The Owner may sell Affordable Housing Properties at a price higher than the Maximum Price if:

- (a) the Eligible Buyer is of the class set out in clause 2(4) of the Notice; or
- (b) the "Dwelling", as that term is defined in the Notice:
 - (i) complies with clause 2(3) of the Notice;
 - (ii) any approval to a variation in the price is approved by the Chief Executive Renewal SA (or their delegate) pursuant to clause 2(3) of the Notice.
- (c) in the case of an Affordable Housing Package or a completed or partially completed Affordable Housing Residence, at the Eligible Buyer's request, the dwelling includes items in excess of the Standard Turn Key Home requirements which increases the Price.

3.4.2 If the Affordable Housing Property is sold for a price higher than the Maximum Price, other than in accordance with the requirements of clause 3.4.1, then the sale will not be counted as a sale of an Affordable Housing Property towards the Owner's obligations to deliver the Outcomes.

3.5 Sale as a Land Only Affordable Property

3.5.1 The Owner is only permitted to sell an Affordable Housing Property as a Land Only Affordable Property in respect of Torrens Title Allotments.

4. NOTING OF THIS AGREEMENT

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for the purposes of this Agreement will not be less than the price specified in Item 5 of the Schedule at the execution of this Agreement.

3.2 Sale of Affordable Housing Properties - Eligible Buyers

3.2.1 The Owner must take reasonable steps to market Affordable Housing Properties to Eligible Buyers.

3.2.2 The Owner must not sell:

- (a) an Affordable Housing Package; or
- (b) a Land Only Affordable Housing Property; or
- (c) a completed or partially completed Affordable Housing Residence;

to any Person other than an Eligible Buyer unless and until the Owner has continuously advertised the Affordable Housing Package, the Land Only Affordable Housing Property or a completed or partially completed Affordable Housing Residence (as the case may be) through the Website (and through any other marketing mediums that the Owner and the Director agree), for at least thirty (30) days after development plan consent has been granted by the relevant authority provided that the Director may, at the Director's discretion, also require at least fourteen (14) days of such advertising to occur after the plan of division creating the relevant affordable housing allotment has been accepted for deposit by the Registrar-General of the Lands Titles Office.

3.2.3 Subject to clause 3.4, if, at any time within the period commencing with the first day of such advertising and continuing whilst any Affordable Housing Package or a completed or partially completed Affordable Housing Residence remains unsold, an Eligible Buyer offers to purchase an Affordable Housing Package or a completed or partially completed Affordable Housing Residence at either:

- (a) the Owner's Asking Price, or
- (b) the Maximum Price,

then the Owner must enter into a contract to sell the Affordable Housing Package or a completed or partially completed Affordable Housing Residence with such Eligible Buyer for that price.

3.2.4 The Owner must not sell an Affordable Housing Apartment to any Person other than an Eligible Buyer unless and until the Owner has advertised the Affordable Housing Apartment through the Website (and any other marketing mediums that the Owner and the Director agree) continuously for at least thirty (30) days after development plan consent has been granted for the Affordable Housing Apartment.

3.2.5 If any Affordable Housing Apartment remains unsold after the 30 day advertising period specified in 3.2.4 then that Affordable Housing Apartment may be offered for sale on the open market, provided that if any Affordable Housing Apartment still remains unsold at Practical Completion, a further period of fourteen (14) days of continuous advertising through the Website is required.

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- (b) the style and specifications of the Affordable Housing Residences which the Developer proposes to construct or approve for construction on the Land;
- (c) the attributes of the Land such as slope, location of water courses, trees and vegetation;
- (d) the home ownership and rental mix;
- (e) the accommodation mix; and
- (f) the proposed marketing plan for the Affordable Housing Properties.

2.2.6 The Owner must ensure that all Affordable Properties are developed in accordance with the approved Affordable Housing Plan subject to any amendments agreed pursuant to clause 2.2.3) and in accordance with any development authorisation received in respect of the application for the development of the Land.

2.3 Construction of Affordable Housing

The Owner must ensure that:

- 2.3.1 Affordable Housing Residences and/or Affordable Housing Packages are well integrated and complementary in design and appearance to other dwellings within the development;
- 2.3.2 in the event that the Owner is to develop the Land in stages, then the staging of the development must provide for the development of Affordable Properties concurrently with the development of other land and dwellings;
- 2.3.3 Affordable Housing Residences, and/or Affordable Housing Packages are equivalent (or better than) other dwellings in the development in their energy efficiency, insulation, water conservation mechanisms, and solar access rating;
- 2.3.4 the exterior appearance of Affordable Housing Residences and/or Affordable Housing Packages are reasonably similar to other dwellings built on the Land in the nature and quality of exterior building materials and finishes.

3. PRICE AND SALE OF AFFORDABLE HOUSING

3.1 Price of Affordable Housing Properties

3.1.1 Subject to clause 3.4, the Owner must not:

- (a) advertise Affordable Housing Properties, or
- (b) sell Affordable Housing Properties

at a price greater than the Maximum Price.

3.1.2 The Owner acknowledges and agrees that at the date of this Agreement the Maximum Price is that specified in Item 5 of the Schedule.

3.1.3 The parties acknowledge and agree that the Maximum Price may vary by publication of a fresh Notice. On publication of a fresh Notice the Maximum Price will vary accordingly provided that the Maximum Price

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1.30.5 clause headings are provided for reference purposes only and will not be resorted to in the interpretation of this Agreement.

1.31 the requirements of this Agreement are at all times to be construed as additional to the requirements of the Act and any other legislation affecting the Land.

2. **DEVELOPMENT OF AFFORDABLE HOUSING**

2.1 **Obligation to Create Affordable Housing**

The Owner must develop and offer for sale as Affordable Housing Properties not less than fifteen per cent (15%) of the total number of dwellings to be created on the Land (the "Outcomes").

2.2 **Affordable Housing Plan**

2.2.1 The Owner must prepare and in doing so consult with and obtain approval from the Director of an Affordable Housing Plan for the development of the Land by no later than the date specified in Item 4 of the Schedule.

2.2.2 The Affordable Housing Plan must:

- (a) specify development of the Land on a stage by stage basis;
- (b) specify the number and type of Affordable Housing Properties which are to be offered for sale in each sub-stage;
- (c) control a balanced delivery across a project that may support sub-stage approval with increased or decreased Affordable Housing Properties offered for sale, providing that the Outcomes are delivered;
- (d) in the case of Affordable Housing Apartments, specify the number, type and floor level within the building or buildings that the Affordable Housing Apartments are to be offered for sale.

2.2.3 An Affordable Housing Plan can be amended from time to time by the Owner, provided that:

- (a) the Outcomes are delivered in the amended Affordable Housing Plan; and
- (b) the amended Affordable Housing Plan is approved by the Director within fourteen (14) days of the amendment being made.

2.2.4 If requested by the Director, the Owner must meet and consult with the Director in good faith in relation to any concerns that the Director may have with the Affordable Housing Plan or any amendments to the Affordable Housing Plan.

2.2.5 The Owner acknowledges that the factors to be taken into account by the Director in considering the Affordable Housing Plan submitted by the Owner include:

- (a) the distribution of the Affordable Housing Properties through the stages;

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- 1.16 **"Mortgagee"** means the bank specified in Item 6 of the Schedule;
- 1.17 **"Notice"** means a notice published in the South Australian Government Gazette pursuant to Regulation 4 of the *South Australian Housing Trust (General) Regulations 1995 (SA)* as amended from time to time;
- 1.18 **"NRAS"** means the former National Rental Affordability Scheme established by the Australian Government;
- 1.19 **"Outcomes"** has the meaning as set out in clause 2.1;
- 1.20 **"Owner's Asking Price"** is the sale price (inclusive of GST but excluding stamp duty and registration fees) at which the Owner advertises Affordable Housing (being an amount no higher than the Maximum Price);
- 1.21 **"Person"** will include a corporate body or other entity;
- 1.22 **"Planning Strategy"** means the strategy formulated under the Development Act 1993.
- 1.23 **"Practical Completion"** means when an Affordable Housing Apartment is complete except for minor omissions and defects;
- 1.24 **"Renewal SA"** means a statutory corporation pursuant to the Housing and Urban Development (Administrative Arrangements) (Renewal SA) Regulations 2012 (SA);
- 1.25 **"Schedule"** means the schedule to this Agreement;
- 1.26 **"Standard Turn Key Home"** means a dwelling other than an Affordable Housing Apartment which satisfies both the definition of "Turn Key Home" and includes the 'mandatory inclusions' as specified in the Government of South Australia Affordable Homes Program, Turn Key Home definition provided on the website (www.sa.gov.au/affordablebuild) as at the relevant time being the time at which the Affordable Housing Property is listed for sale.
- 1.27 **"Torrens Title Allotments"** means an allotment that is not a community lot, a development lot or common property as defined in and created in accordance with the *Community Titles Act 1996*.
- 1.28 **"Website"** means the part of the website www.realestate.com.au that is used and maintained by Renewal SA for the purposes of listing affordable properties.
- 1.29 words and phrases used in this Agreement which are defined in the Act or in the Regulations made under the Act will have the meanings ascribed to them by the Act or the Regulations as the case may be;
- 1.30 references to any statute or subordinate legislation will include all statutes and subordinate legislation amending, consolidating or replacing the statute or subordinate legislation referred to;
 - 1.30.1 any term which is defined in the statement of the names and descriptions of the parties or in the Background will have the meaning there defined;
 - 1.30.2 a reference to a party includes that party's administrators, successors and permitted assigns;
 - 1.30.3 words importing the singular number or plural number will be deemed to include the plural number and the singular number respectively;
 - 1.30.4 words importing any gender will include every gender;

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20/07/2017



- 1.4.1 which is offered for sale in a house and land package which, if constructed, will result in an Affordable Housing Residence, and
- 1.4.2 which is purchased by an Eligible Buyer (or such other person as contemplated by clause 3.2) who has entered into a contract for the construction of a dwelling (which may be a different dwelling to the one originally included in the house and land package);
- 1.5 **"Affordable Housing Property"** means either an Affordable Housing Package or a completed or partially completed Affordable Housing Residence, a Land Only Affordable Housing Property, or an Affordable Housing Apartment, as the case may be;
- 1.6 **"Affordable Housing Residence"** means a dwelling that is constructed and meets the criteria for:
- 1.6.1 affordable housing specified in the Notice; and
- 1.6.2 a Standard Turn Key Home;
- 1.7 **"Affordable Housing Plan"** means the plan developed by the Owner and approved by the Director in accordance with clause 2. 2 of this Agreement;
- 1.8 **"Director"** means the Director, Housing Strategy within Renewal SA;
- 1.9 **"Eligible Buyer" means either:-**
- 1.9.1 a prospective homeowner listed on the SA Home Purchase Eligibility Register maintained by Housing SA; or
- 1.9.2 a registered community housing provider under the Community Housing Providers (National Law) (South Australia) Act 2013 (SA) or a party which is a transitioning housing association or transitioning housing co-operative under that Act; or
- 1.9.3 South Australian Housing Trust; or
- 1.9.4 a housing provider that is subject to an Affordable Housing Facilitation Agreement with any Minister, instrumentality or agency of the Crown in the right of the State of South Australia; or
- 1.9.5 a Person approved to provide affordable rental under the NRAS; or
- 1.9.6 such other Person as the Minister may from time to time nominate to the Owner in writing;
- 1.10 **"GST"** means the tax imposed by the GST Law;
- 1.11 **"GST Law"** has the meaning attributed in the A New Tax System (Goods and Services Tax) Act 1999 (Cth);
- 1.12 **"Land"** means the whole of the land comprised in the Certificates of Title specified in Item 3 of the Schedule and includes any part or parts of the Land;
- 1.13 **"Land Only Affordable Housing Property"** means an Affordable Housing Property that is not an Affordable Housing Package, nor a completed or partially completed Affordable Housing Residence and which comprises only the land to be offered for sale in accordance with clause 3.5;
- 1.14 **"Maximum Price"** is the maximum sale price for the Affordable Housing Property specified in the Notice and is inclusive of GST payable by an Eligible Buyer but excludes stamp duty and registration fees payable by an Eligible Buyer;
- 1.15 **"Mortgage"** means the mortgage specified in Item 6 of the Schedule;

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20/07/2017



ANNEXURE B

LAND MANAGEMENT DEED

LAND MANAGEMENT AGREEMENT dated the date specified in Item 1 of the Schedule

PARTIES:

MINISTER FOR PLANNING a body corporate pursuant to the *Administrative Arrangements Act 1994 (SA)* of 11th Floor, 45 Pirie Street, Adelaide SA 5000 ("**Minister**")

AND

THE ENTITY NAMED IN ITEM 2 OF THE SCHEDULE of the address specified in Item 2 of the Schedule ("**Owner**")

BACKGROUND:

- A. The Owner is the registered proprietor of the Land.
- B. The Owner acknowledges that the South Australian Government, via the South Australian Planning Strategy is committed to increasing both affordable home purchase and rental opportunities, and high need housing opportunities for South Australians, and that the planning strategy establishes a target of at least fifteen percent (15%) affordable housing in all significant new developments.
- C. The Minister and the Owner wish to manage the Land and to control development of the Land to ensure that the Government's affordable housing targets as set out in Background B above, are met.
- D. Pursuant to the provisions of Section 57(1) of the Act the Owner has agreed with the Minister to enter into this Agreement relating to any proposed development of the Land subject to the terms and conditions set out in this Agreement.

IT IS AGREED:

1. DEFINITIONS AND INTERPRETATION

The parties acknowledge that the matters recited in the Background and Schedule to this Agreement are true and accurate and agree that they form part of this Agreement. In the interpretation of this Agreement unless the context otherwise requires:

- 1.1 "**Act**" means the *Development Act 1993*;
- 1.2 "**Affordable Housing Apartment**" means an apartment constructed, or to be constructed, on the Land that meets the criteria for affordable housing specified in the Notice;
- 1.3 "**Affordable Housing Facilitation Agreement**" means a legal agreement made between the South Australian Government and a provider of housing which recognises, records and secures the policy and the respective financial interests agreed between the parties to such agreement in respect to the provision of affordable housing;
- 1.4 "**Affordable Housing Package**" means each allotment on the Land created by the Plan of Division;

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20/07/2017







65097-002

12 October 2018

Mr Chris Carrey
Development Officer - Planning
City of Salisbury
PO Box 8
SALISBURY SA 5108

Dear Chris,

RESPONSE TO LETTER FOR DA 361/698/2018/LD (361/D055/18)

We refer to your letter dated 20 June 2018, and subsequent email dated 28 August 2018, seeking further information in respect to the above land division application.

As a consequence of this request, the plan of division has been amended, and will be uploaded to EDALA. The amended plan of division seeks to resolve the key issues raised in your correspondence, with the balance of key matters further discussed herein. In summary, the following documents are appended to this letter:

- An amended plan of division (Appendix A);
- A Building Envelope Plan prepared by Alexander Symonds (Appendix B);
- Tree Assessment prepared by Dean Nicolle (Appendix C);
- Traffic and Parking Report from Cirqa (Appendix D); and
- Stormwater Management Report prepared by TMK Consulting Engineers (Appendix E).

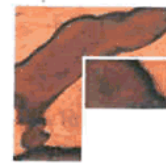
For ease of reference, we respond to the key issues in the order documented in your letter of 20 June 2018, then email of 28 August 2018.

1. Allotment Configuration

The plan of division has been amended (Appendix A) in order to achieve the following key outcomes:

- Increase the area of open space reserve from 602 square metres to 2806 square metres (9.7%) of the developable area;
- Relocate the open space reserve to abut Dry Creek and to reduce the interface of allotments to the western boundary and to facilitate the retention of six significant/regulated trees at this interface;
- Enhance the co-ordination of allotment types and in particular minimise the interface between terrace style allotments and conventional allotments;

65097-002 RF:



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- Reduction in the number of allotments from 78 to 62, resulting in an improved balance between density and off-street car parking provision; and
- Avoidance of a four way intersection with Technology Drive (left out only) and no direct access to the cul-de-dac head at the end of Third Avenue.

The amended plan of division seeks to balance the many factors which influence the orderly and economic development of the land, which is located within the Transition Area of the Urban Core Zone.

Importantly, whilst the Urban Core Zone as a whole generally anticipates a mix of uses, the focus of the Transition Area is to provide an appropriate interface with adjoining residential zones, primarily through the establishment of residential uses.

2. Dwelling Designs

In our opinion, it is not necessary to provide dwelling designs to support the land division. At best they would only be indicative and serve no formal purpose. The typical allotment types are common within the City of Salisbury and metropolitan Adelaide as a whole. In essence two primary typologies are proposed, these being:

- Terrace Lots – 6m wide by 30 metres deep, creating an area of 180 square metres. Housing product is expected to two storey detached dwellings, built boundary to boundary; and
- Conventional Lots – 10m wide by 30 metres deep, creating an area of 300 square metres. Housing product is expected to one or two storey detached dwellings.

We accept that Lot 6 is of an irregular shape, however with an area of 479 square metres, we are comfortable that a dwelling could be designed and accommodated in accordance with the expectations of the Development Plan.

In lieu of dwelling designs, Building Envelope Plans have been prepared (Appendix B), outcomes which are intended to be managed by the applicant. In addition to setbacks, the building envelope plans show intended driveway/controlled access locations, which will assist in the provision and retention of on-street car parking.

3. Interface Considerations

The issue of potential land use conflict needs to be considered in the context of the policy settings established by the Development Plan.

In particular, we note that:

- The Urban Core Zone anticipates *“A mixed use zone accommodating a mix of employment generating land uses and medium to high density residential development in close proximity to a high frequency public transport corridor”* – Objective 1; and





- The Transition Area is intended to *“provide a buffer between the Core Area and adjacent residential areas / zones with development taking the form of high quality medium density housing and, subject to Airport building height restrictions, the combination of four storey townhouses/terraces/mews and residential flat buildings will provide a range of housing for a diverse community. There will be some provision for mixed use buildings, where it does not negatively impact on the predominant residential character of the area”*. (Underlining our emphasis.)

We read from the above that residential uses are the primary activity anticipated within the Transition Area of the Urban Core Zone (to provide a buffer to adjacent residential areas). The proposal satisfies this expectation in terms of the juxtaposition of land uses.

Other than the Council-wide Interface Between Land Uses policies, the Development Plan provides no other specific direction in terms of this zone or locality (ie concept plan which delineates buffers) in order to further inform interface management.

The Interface Between Land Use policies have little application in this instance given that they either specifically apply to the interface between residential and non-residential zones (not specifically relevant in this instance) or provide policy direction in relation to uses which generate impacts (such as noise or air emissions).

The policy of most specific relevance is Principles 4 and 5, which state:

- 4 *Residential development adjacent to non-residential zones and land uses should be located, designed and/or sited to protect residents from potential adverse impacts from non-residential activities.*
- 5 *Sensitive uses likely to conflict with the continuation of lawfully existing developments and land uses desired for the zone should be designed to minimise negative impacts.*

In relation to the above, we do not consider that the adjacent office uses provide any unreasonable amenity impact on the proposed residential development, which is a sensitive use as referred to in Principle 5. We suggest that when considering amenity expectations, the overall mixed use nature of the Urban Core Zone suggests that the environment will be different to that which is expected within the heart of a residential zone or area.

In this context, and given the nature of development in the immediate locality of the subject land, we do not consider it an orderly, efficient or reasonable town planning approach to incorporate any substantive buffers/attenuation measures into the subject land as part of the land division.

However, recognising the mixed use interface, the applicant proposes as part of the civil works for the land division the establishment of a standard 2.1m high Colorbond fence along the extent of the north-eastern boundary (Lots 24-40 inclusive). Such provides a reasonable level of visual screening and a degree of acoustic protection (see further comments below).





Overall, in our opinion, the interface does not warrant further investigation or treatment, as:

- The adjacent office located at 14 Park Way is of a relatively low impact that should co-exist with future residential development, with setbacks and landscaping already established at the interface;
- We are not aware of any current proposed/approved use for 36-39 Third Avenue (Lot 303), however if proposed for non-residential use then a landscape buffer could be accommodated (if required, depending on the nature of the activity) within the adjacent allotment as part of any future proposal for that land;;
- There is linear strip of Council land which provides a buffer between the subject land and SAAB Australia to the east; and
- The DPTI document *'Reducing noise and air impacts from road, rail and mixed land use - A guide for builders, designers and the community'* identifies that *'light weight fences, such as colorbond steel or timber can be effective in reducing lower levels of noise'*. Therefore, the inclusion of the proposed fence along the north allotment boundary has the ability to reduce the travel of noise to the future dwellings from the adjacent low impact office and future use of the vacant land.

These features are shown in Figure 1 below.

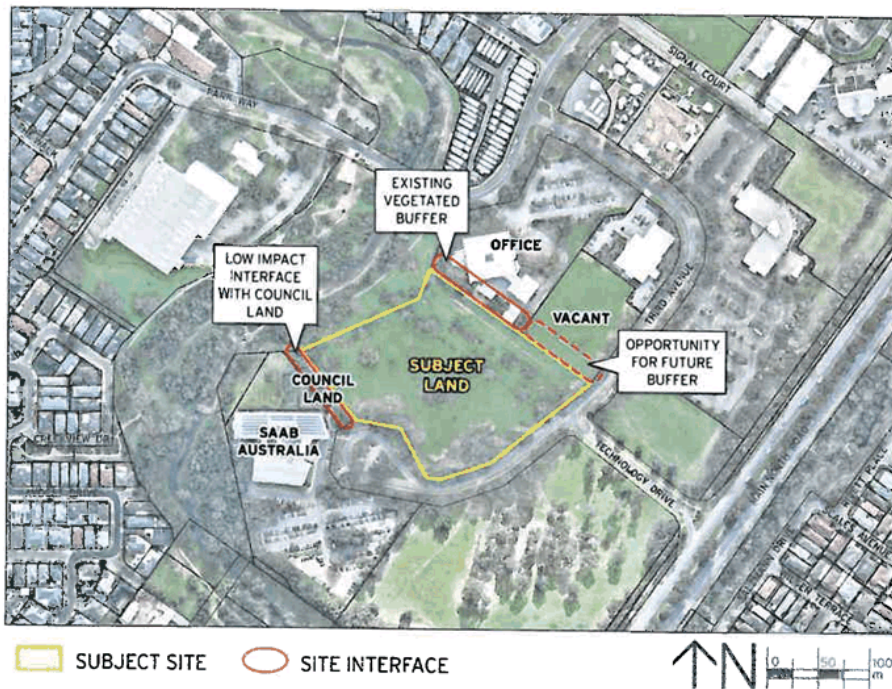


Figure 1: Site Interface and Existing/Potential Future Buffer



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4. Reserve

As mentioned, the applicant has increased the area of reserve to 2806 square metres, which represents 9.7% of the total area. The open space will adjoin the existing Dry Creek reserve. The applicant seeks the approval of the relevant planning authority (Council) not to seek the full 12.5% provision of open space, with the balance to be provided as a monetary contribution. Such an outcome in our opinion has merit as there is not necessarily a need for additional open space in this locality, given the proximity of the Dry Creek corridor and no policy directions being implemented as part of the introduction of the Urban Core Zone. However utilising the monetary contribution to undertake further investment in the amenity, usability and accessibility of the Dry Creek corridor would have greater benefit for the broader community.

5. Arborist

An arborist report has been obtained in relation to the land division application as originally lodged. We note that the report, prepared by Mr Dean Nicolle, reached some different conclusions to those by Project Green, who undertook a Tree Assessment in February 2017 for Renewal SA.

A copy of the report from Mr Nicolle is enclosed as Appendix C. Mr Nicolle has identified that 8 of the 25 trees assessed are significant, and 9 of the trees are regulated. Mr Nicolle assessed the retention worthiness or overall value of each of the trees. From this assessment, Mr Nicolle determined that:

- 8 of the trees are Priority 1 - highly worthy of retention;
- 6 of the trees are Priority 2 – moderately worthy of retention;
- 6 of the trees are Priority 3 – scarcely worthy of retention; and
- 5 of the trees are Priority 4 – not worthy of retention.

Of those 8 trees considered highly worth of retention, the applicant seeks to retain trees, 9, 12, 23 and 24 (as identified in the report of Mr Nicolle). Of the 6 trees considered moderately worthy of retention, the applicant seeks to retain trees 20 and 21.

As a consequence of the above, the application seeks the removal of 4 significant trees and 7 regulated trees. Such is identified on the amended plan of division (Appendix A).

We note that the recommendations of Mr Nicolle do not fully correlate with the comments of Council staff in relation to the retention of the stand of trees which in essence formed an extension of the alignment of Technology Drive. Generally Mr Nicolle found that the quality of this 'fragmented avenue of trees' to be poor, having a poor structure or in a reduced state of health.

In our opinion, it is important to note is that the northern portion of the land has historically been the subject of the placement of uncontrolled fill, as identified by environmental investigations and testing. For future residential and road construction purposes, the filled portion of land is likely to be removed and re-compacted in order to facilitate the development of the land. Such actions will clearly have potential implications on the retention of trees.



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Mr Nicolle observes *“that the proposed disposition of fill around any retained trees should have consideration of the recommended Tree Protection Zone of each tree, and may not be feasible in the case of tree retention”*.

The approach of locating those trees to be retained within the proposed open space therefore provides the best approach to ensuring the retention and management of the trees.

Those significant trees located in the area proposed for residential lots and/or roads are unlikely to be effectively retained and managed given the fill issues raised above.

6. Street Trees/Infrastructure

The amended plan of division seeks to limit vehicle access to Third Avenue to two locations. These being a new access road just east of the cul-de-sac and a left out only directly opposite Technology Drive.

Survey data has been obtained to identify the location of existing street trees and service infrastructure within the road reserve. None of the street trees have been identified as being significant or regulated. The survey also has identified adjacent infrastructure located in the road reserve. Such data is included on the amended plan of division (Appendix A).

We observe from the plan that there will be minimal conflict in respect to street trees/existing infrastructure, with one street tree likely to be impacted where the left out access is proposed.

7. Site History Report

A site history report is in the process of being finalised and will be submitted under separate cover as soon as possible.

8. ANEF Noise Contours

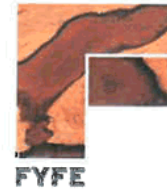
Council comments in respect to the ANEF Masterplan are noted. The applicant will provide information to prospective purchasers as part of the contract of sale.

9. Access/Traffic Management

In accordance with the request of Council, the plan of division has been amended in order to exclude access from via the cul-de-sac head. No connecting roads are proposed and the building envelope plans show driveway access to be excluded.

In respect to the intersection of Third Avenue and Technology Drive, and the request for a 4-way roundabout, the applicant has sought the advice of Cirqa, a copy of which is enclosed as Appendix D. The advice supports the amended plan of division which provides for a left-out only intersection to Third Avenue.

We note that there is nothing in the Council Development Plan which seeks a traffic management solution at this intersection, with the advice of Cirqa also demonstrating that the provision of a roundabout is a costly and unnecessary intervention. Most critically, the traffic volumes to be generated by the proposed development are able to be comfortably accommodated within the surrounding road network.



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10. Public Notification

We note the Council's assessment with respect to the categorisation of the proposed development. In our opinion, the proposed development is a Category 1 form of development. The basis for this conclusion is outlined below.

The Procedural Matters of the Urban Core Zone state:

'Categories of public notification are prescribed in Schedule 9 of the Development Regulations 2008.'

The following form of development is prescribed as a Category 1 form of development within the *Development Regulations 2008* (at Schedule 9, part 1, clause 5):

'The division of land (including for the construction of a road or thoroughfare) where the land is to be used for a purpose which is, in the opinion of the relevant authority, consistent with the objective of the zone or area under the relevant Development Plan, other than where the division will, in the opinion of the relevant authority, change the nature or function of an existing road.'

As discussed previously, the proposed development is within the Transition Area of the Urban Core Zone where residential development is clearly anticipated.

In addition, we note that an increase in traffic movements arising from the plan of division and subsequent residential development is not considered to change the nature or function of the existing road. To change the nature or function of an existing road, the land division would need to alter the hierarchy of an existing road or alter the way that vehicles would utilise an existing road. This will not occur as a result of this land division.

Given the above, in our opinion the proposed development is a Category 1 form of development pursuant to Schedule 9 of the *Development Regulations 2008* and no public notification is necessary.

Separately, the removal of regulated or significant trees is also considered to be a Category 1 form of development pursuant to clause 13 of Schedule 9 of the *Regulations*.

In forming this opinion, it is noted that the Procedural Matters of the Urban Core Zone identifies forms of development *'in addition'* to those prescribed in the *Regulations*, as either Category 1 or 2. The Procedural Matters identify *'all forms of development not listed as Category 1'* as Category 2.

It does not list land division as either Category 1 or 2, and, as the *Regulations* identify the land division as Category 1, it is not a *'form of development not listed as Category 1'*.

This 'capture all' does not intend to create a situation where development that is not listed as Category 1 within the Development Plan being treated as Category 2 form of development, even if it is identified as a Category 1 form of development in the *Development Regulations 2008*. On the contrary, the intent is to prevent development being a Category 3 form of development within the Urban Core Zone.



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This intent is made clear by the words 'in addition' within the Procedural Matters. The use of these words highlights that the designation of forms of development to Category 1 and 2 within the Development Plan should not be read in isolation of those listed in the *Regulations*.

Furthermore, as land division is not explicitly listed as a Category 2 form of development within the Development Plan, the Development Plan is not considered to contradict the *Development Regulations 2008*. Therefore, the reality that the assignment of a Category of development by the Development Plan prevails the *Regulations*, is not relevant in this instance.

In the light of the above, we request that the Council reconsider the categorisation of the proposed development as a Category 2 and encourage that legal advice be sought should the issue remain in doubt.

11. Engineering and Infrastructure

Preliminaries / Design

The applicant requests that the requirement for the preparation of the final design and construction management documents be attached as conditions to the development approval and will be provided prior to the commencement of construction.

Earthworks

The applicant accepts that these requirements will be attached as conditions of the land division consent.

Stormwater

A Stormwater Management Report prepared by TMK is attached as Appendix E. The following has been confirmed within this report:

- The extent that the site is affected by 100 year ARI storm event was identified and the method of flood protection works has been identified. In short, this will consist of a bund between Dry Creek and the proposed development and will be set at the flood level plus freeboard. The final design of the bund will be undertaken as part of the detailed design stage;
- A GPT sized to treat 1 year ARI peak flows with bypass capacity for larger event is proposed and its location is shown on the Stormwater Layout Plan; and
- No discharge of stormwater to Third Avenue is proposed.

The applicant accepts that a condition relating to CCTV footage of the underground drainage system will be attached to the Land Division Consent.

Footpaths

The location and design of footpaths will form part of the detailed design. In short, it is the intention of the applicant to provide footpaths along both sides of each of the proposed local access roads (not laneways), unless otherwise required by Council.



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Road Construction

The applicant acknowledges that conditions relating to road construction will be attached to the Land Division Consent.

Traffic Control Devices

The applicant acknowledges that conditions relating to traffic control devices will be attached to the Land Division Consent.

Lighting

The applicant acknowledges that conditions relating to lighting will be attached to the Land Division Consent. All lighting will accord with the relevant Australian Standards.

General

The applicant accepts that these requirements will be attached to the Land Division Consent.

12. Landscaping

The street tree layout and species will be included with the detailed design. The applicant accepts that these requirements will be attached to the Land Division Consent.

13. Recycled Water

The availability of recycled water is noted.

In relation to the matters raised in Council's email dated 28 August 2018, these are discussed below:

1. Number of allotments/interface

The amended plan of division (Appendix A) has reduced the number of larger allotments to minimise opportunities for future division. The size of former Lots 23 and 60, now Lots 24 and 62 respectively, have been retained. There is no intent at this stage to further divide allotment 24 which is one of the few larger allotments provided in the estate. The applicant wishes to retain allotment 62 as a super lot for a subsequent land division application. The further division of this super lot is yet to be designed and on-street car parking and street tree layout will be considered in any future division.

In relation to the specific lot interface concerns raised:

- Development extending boundary to boundary is anticipated for Lot 5 and in return, the Building Envelope Plan (Appendix B) also expects that the future dwelling on Lot 6 may also be developed on this shared boundary.
- Former Lots 51 and 59, now Lots 53 and 61, are wider than the adjoining allotments to facilitate a secondary street setback as shown on the Building Envelope Plan (Appendix B); and
- Former Lot 22, now Lot 23, has been amended to improve the interface with the adjoining allotment. It is anticipated that the dwellings on proposed Lots 17 to 23 will overlook the reserve.





Similar allotment sizes have been clustered together to limit the concerns raised in point 20 of Council's letter dated 20 June 2018 with larger allotments situated on corners.

All roads are proposed to be public roads.

2. Car Parking

The Building Envelope Plan denotes the availability of on-street vehicle parking identifying a total of 63 on-street car parks. This accommodates 1 on-street car park per allotment. The attached traffic and parking report prepared by Cirqa (Appendix D) identifies the following (on page 9):

'The proposed road layout will result in the provision of approximately 63 on-street parking spaces for the 62 allotments. In reality a small number of spaces will not eventuate due to the need to provide access for allotment 62. However, in the order of 60 spaces would be achievable on the proposed roads. Such a provision results in a high level of on-street car parking, well above the typical level of one on-street parking space per two dwellings applied to residential land divisions.'

Due to the number of on-street car parks achieved, the creation of a narrow laneway for the purpose of creating additional car parks forward of Lot 53 to 61 is in our opinion, unnecessary, even accounting for future yield on Lot 62.

3. Future Development

A Building Envelope Plan is attached (Appendix B).

In our opinion, it is not necessary to provide dwelling designs to support the land division. The typical allotment types are common within the City of Salisbury and metropolitan Adelaide as a whole.

In relation to former Lots 16 to 22 (now Lots 17 to 23), it is anticipated that vehicle access will be achieved from the rear boundary with visitor access (i.e. the front door) being obtained from the reserve. Eleven on-street car parking spaces have been included in the vicinity of these allotments where a path will be included in the detailed design linking them to the front of the future dwellings.

4. Noise

The matters surrounding interface with the adjoining land uses have been considered above.

In relation to aircraft noise, the applicant will provide information to prospective purchasers as part of the contract of sale.

5. Trees

A tree assessment prepared by Dean Nicolle is attached as Appendix C. The Building Envelope Plan (Appendix B) demonstrates that the proposed building envelopes do not encroach on the Tree Protection Zones proposed to be retained.





6. Presentation of the site

In relation to the points raised regarding the presentation of the site, the following can be confirmed:

- The landscaping and street planting arrangement can be included in the detailed design to ameliorate the presentation of the side boundaries and rear carports;
- Detail of the fencing treatment abutting the reserve is still being considered and is likely to be integrated with the ultimate development of the residential allotments adjacent. Colorbond fencing is proposed for:
 - the length of the north western boundary (adjacent Lots 24 to 40);
 - the length of Third Avenue (excluding Lot 62 and the proposed access/egress locations); and
 - the length of the south-eastern boundary.
- The location of the existing street trees along the Third Avenue Road verge have been shown on the amended plan of division (Appendix A);
- The landscaping plan for the site will form part of the detailed design of the site.

The applicant requests that the more specific elements of the land division design be attached as conditions/requirements of the Land Division Consent. This will enable the preparation of such plans and design with the assurance of a development approval.

7. Avoiding Additional Access

A 100mm wide reserve has been shown on the amended plan of division (Appendix A).

8. Matters raised by our Traffic Section

A Traffic and Parking Report prepared by Cirqa is attached as Appendix D. This report confirms the following:

- The road layout has been designed to accommodate the turning movements of a 10.0 metre long rigid vehicle and illustrates the simultaneous turning movements for such vehicles at key locations;
- In relation to the new T-junction with Third Avenue, Figure 3 within the report demonstrates that 10.0m vehicles can simultaneously enter and exit this intersection without conflict; and
- A left turn only egress has been incorporated adjacent proposed Lot 40 to accommodate the refuse vehicle movements;

In addition, the amended plan of division increases the separation distance between the 14.0 wide road way and the proposed access road for Lots 1 to 6 to avoid creating a 4-way intersection.



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Details regarding traffic controls and installation of hazard boards can be included in the final detailed design and it is anticipated that a collection point for Lots 1 to 6 will need to be discussed in more detail with NAWMA.

9. Comments from Landscape Design section

The building envelope plan (Appendix B) demonstrates that new buildings (other than fences) will not encroach on the Tree Protection Zone.

10. Stormwater/drainage

The ongoing discussions between TMK and Development Engineering are noted.

It is acknowledged that a number of the specific details such as landscaping are subject to the preparation of the detailed design. It is the applicant's preference that such design not be commenced until receiving the assurance of a development approval. In turn, we acknowledge that the Council may wish to discuss a suitable list of requirements to be attached to a Development Plan or Land Division Consent.

We trust that the above response will enable Council to progress its assessment of the application.

In the meantime, should you have any queries regarding this proposal, please do not hesitate to contact me on 0408 808 143.

Yours sincerely



Michael Osborn
National Planning Manager



Calyptra Pty Ltd
trading as

Dean Nicolle

Ph.D.; B.Sc.(Hons.) Botany; B.App.Sc. (Natural Resource Management)

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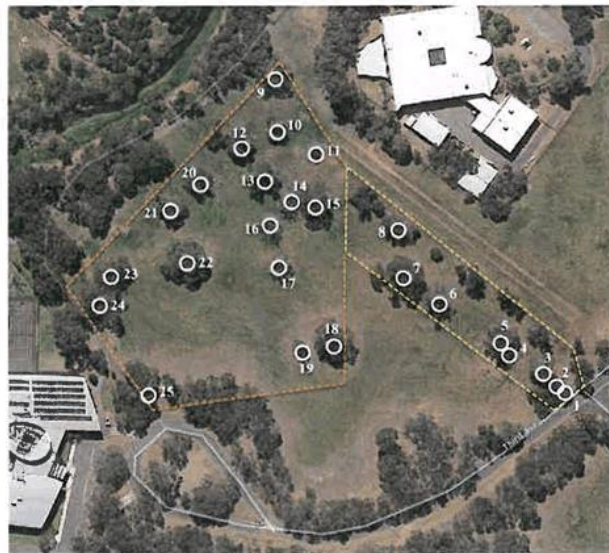
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Arboriculture - Botany - Ecology - Eucalypt Research

Tree Assessment – Third Avenue, Mawson Lakes, SA

Arboricultural assessment of 25 trees in relation to a proposed development



Arboricultural assessment and report requested by David Hughes, Director of *Hughes Project Management*, on the 17th of May 2018.

Arboricultural report prepared by Dean Nicolle following site inspections and tree assessments on the 23rd and 24th of May 2018.

Arboricultural report dated the 24th of May 2018.

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1.0 BACKGROUND

The proposed development of land on the north-west side of Third Avenue in Mawson Lakes, South Australia (see Figures 1A and 1B) has the potential to impact on a number of trees that occurs on the site.

This report arboriculturally assesses 25 trees on the subject site, in the following two areas:

- A fragmented avenue of trees extending north-west from technology Drive (*Trees 1 to 8*); and
- An area of trees in an area identified (by others) as requiring soil fill to allow development of the site (*Trees 9 to 25*).

All trees plotted on a survey plan of the site and provided to me, and within the two areas identified above, have been included in this assessment (see Figure 1B).

This report considers the legal status of each of the 25 trees, summarises the retention worthiness of each of these trees, and recommends appropriate Tree Protection Zones and High Use Setbacks for each tree (in the case of their retention in association with any site development).

2.0 METHODOLOGY

The assessment of the 25 trees subject of this report was undertaken on the 23rd and 24th of May 2018. The location and numbering of the 25 trees included in this assessment is indicated on the Google Earth image in Figure 1. Assessed trees were not physically marked or labelled in the field.

Recommendations made in this report are intended to provide information to assist decision-making with regard to tree retention on the site and to provide appropriate Tree Protection Zones and High Use Setbacks for planning and design purposes associated with any site development. This report does not provide ongoing detailed tree management relating to individual trees; however it is recommended that such detailed assessment be undertaken on retained trees *following* the development of the site.

2.1 Scope of this tree assessment and report

The purpose of the tree assessment is to provide quantitative and qualitative information on 25 trees on the site, especially in regard to their worthiness for retention, Tree Protection Zones, and High Use Setbacks.

For the 25 trees assessed, the following data were recorded:

- Tree identification (label) number
- Scientific name (species, subspecies, variety, cultivar)
- Common name
- Trunk circumference(s) at one metre above ground level
- Status as defined by the *Development Act 1993*
- Status as defined by the *Native Vegetation Act 1991*
- Age (estimated; in years)
- Origin (remnant, planted, self-seeded weed, etc.)
- Current health status
- Projected further Useful Life Expectancy
- Tree structure
- Structural notes
- Biodiversity value
- Landscape value
- Retention worthiness
- Tree Protection Zone (TPZ) and associated data used to calculate the TPZ
- High Use Setback (HUS)

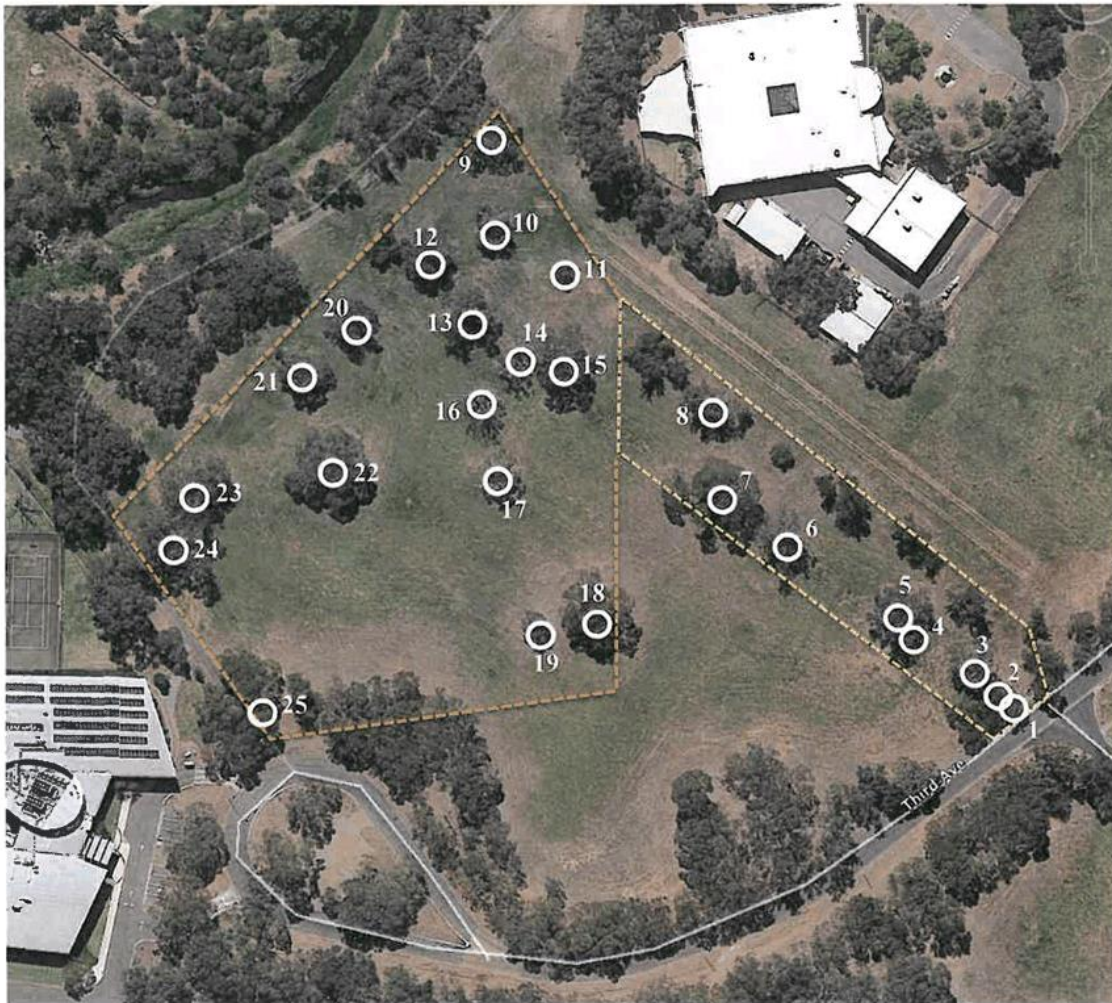


Figure 1A. Site Plan – Aerial image. Google Earth image of the subject site, indicating the location and labelling of the 25 trees included in this assessment. The fragmented avenue of trees is indicated by the superimposed dashed yellow polygon, and includes Trees 1 to 9 (all other trees within the yellow polygon are non-controlled). The area potentially requiring soil fill is indicated by the superimposed dashed orange polygon, and includes Trees 9 to 25.

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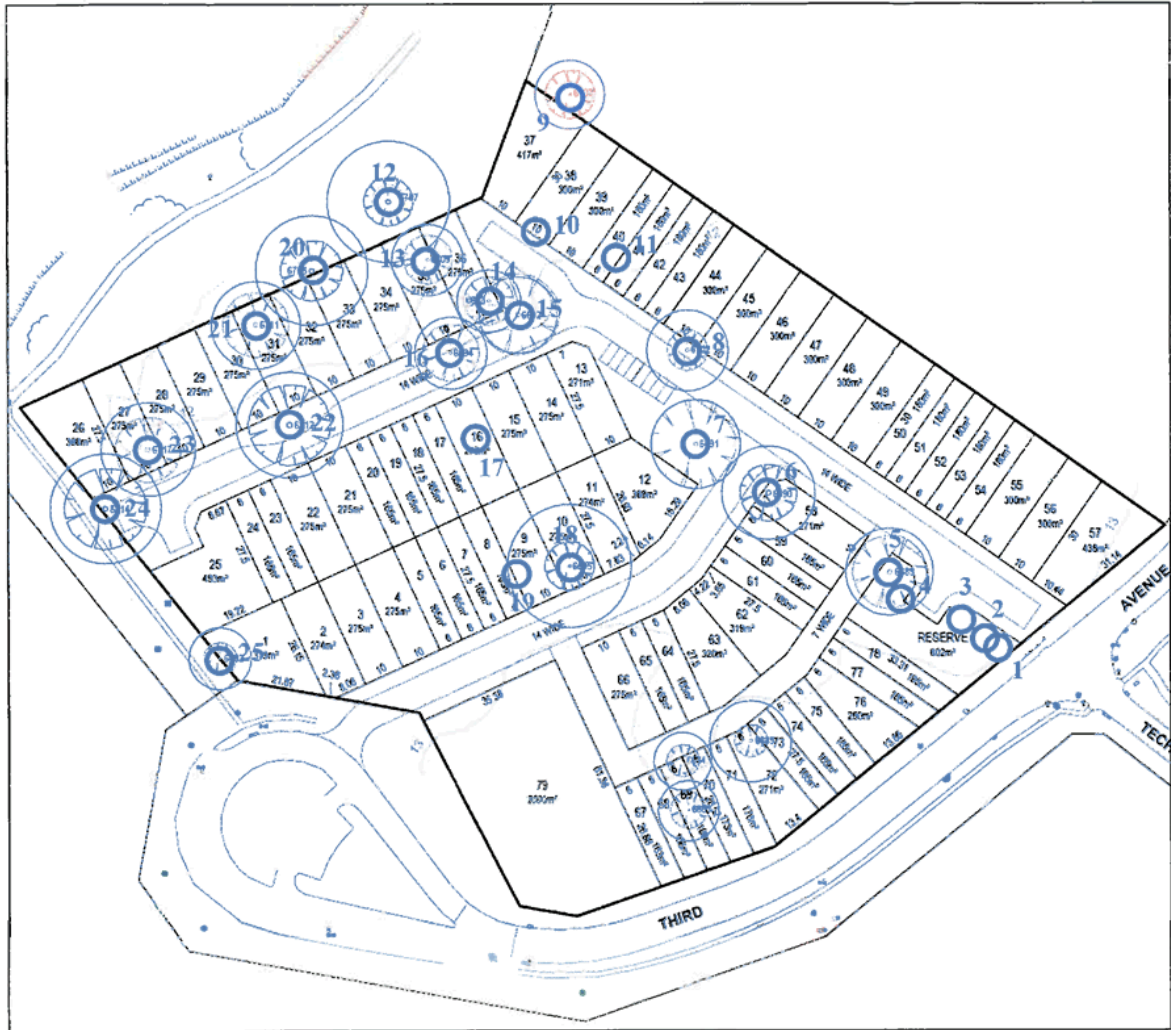


Figure 1B. Site Plan – Survey plan. The survey plan of the subject site, indicating the location and labelling of the 25 trees included in this assessment. Note that some trees are not plotted on the survey plan, and their locations are indicative only.

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3.0 TREE SPECIES

The 25 trees represent two species (see Tables 1A and 1B). These two species are:

1) *Eucalyptus camaldulensis* (river red gum) - 23 trees.

Seven subspecies of *Eucalyptus camaldulensis* are recognised, of which only subsp. *camaldulensis* occurs in the Adelaide region. All 23 trees represent *E. camaldulensis* subsp. *camaldulensis*.

Key references: Nicolle (2013) *Native Eucalypts of South Australia*, pp. 44–45. Nicolle (2016) *Taller Eucalypts for Planting in Australia*, pp. 56–59.

2) *Casuarina glauca* (swamp she-oak) - 2 trees.

Casuarina glauca is exempt from the *Development Act 1993* by virtue of its listing as a Class 51 declared plant in the *Natural Resources Management Act 2004*.

Key references: Boland *et al.* (2006) *Forest Trees of Australia*, 5th ed., pp. 84–85.

4.0 DEVELOPMENT ACT 1993

In accordance with the *Development (Regulated Trees) Variation Regulations 2011* under the *Development Act 1993*:

- 8 of the 25 trees are significant, having a trunk circumference or a combined trunk circumference of *greater than three metres* at one metre above ground level and not being exempt by virtue of their species or by the bushfire rating of the locality and the distance to a residential dwelling.
- A further 9 of the 25 trees are regulated, having a trunk circumference or combined trunk circumference of *between two and three metres* at one metre above ground level and not being exempt by virtue of their species or by the bushfire rating of the locality and the distance to a residential dwelling.
- The remaining 8 of the 25 trees are non-controlled, having a trunk circumference or combined trunk circumference of *less than two metres* at one metre above ground level or being exempt by virtue of their species or by the bushfire rating of the locality and the distance to a residential dwelling or by their dead status.

The status of the trees as defined by the *Development Act 1993* is indicated in Tables 1A and 1B and is graphically indicated in Figure 2. Trees defined as regulated or significant by the *Act* cannot be removed, damaged or pruned by more than 30% of the crown area without local government (Council) development approval.

Table 1A. Species and Development Act 1993 – Fragmented avenue. The 8 trees assessed in the fragmented avenue, indicating the tree number, scientific name, common name, trunk circumference at one metre above ground level, and legal status (as defined by the Development Act 1993) of each tree.

Tree	Scientific name	Common name	Trunk circumference at one metre above ground level (metres)	Legal status (Development Act 1993)
1	<i>Eucalyptus camaldulensis</i>	river red gum	2.30 m	Regulated
2	<i>Eucalyptus camaldulensis</i>	river red gum	1.75 m	Not controlled
3	<i>Eucalyptus camaldulensis</i>	river red gum	3.58 m	Significant
4	<i>Eucalyptus camaldulensis</i>	river red gum	1.95 m	Not controlled
5	<i>Eucalyptus camaldulensis</i>	river red gum	2.72 m	Regulated
6	<i>Eucalyptus camaldulensis</i>	river red gum	3.14 m	Significant
7	<i>Eucalyptus camaldulensis</i>	river red gum	2.97 m	Regulated
8	<i>Casuarina glauca</i>	swamp she-oak	2.72 m	Not controlled ¹

Table 1B. Species and Development Act 1993 – Fill area. The 18 trees assessed in the fill area, indicating the tree number, scientific name, common name, trunk circumference at one metre above ground level, and legal status (as defined by the Development Act 1993) of each tree.

Tree	Scientific name	Common name	Trunk circumference at one metre above ground level (metres)	Legal status (Development Act 1993)
9	<i>Eucalyptus camaldulensis</i>	river red gum	4.30 m	Significant
10	<i>Casuarina glauca</i>	swamp she-oak	2.5 + 2.5 = 5.00 m	Not controlled ¹
11	<i>Eucalyptus camaldulensis</i>	river red gum	0.68 m	Not controlled
12	<i>Eucalyptus camaldulensis</i>	river red gum	3.95 m	Significant
13	<i>Eucalyptus camaldulensis</i>	river red gum	2.30 m	Regulated
14	<i>Eucalyptus camaldulensis</i>	river red gum	2.11 m	Regulated
15	<i>Eucalyptus camaldulensis</i>	river red gum	2.63 m	Regulated
16	<i>Eucalyptus camaldulensis</i>	river red gum	2.25 m	Regulated
17	<i>Eucalyptus camaldulensis</i>	river red gum	1.40 m	Not controlled
18	<i>Eucalyptus camaldulensis</i>	river red gum	3.10 m	Significant
19	<i>Eucalyptus camaldulensis</i>	river red gum	0.85 + 0.78 = 1.63 m	Not controlled
20	<i>Eucalyptus camaldulensis</i>	river red gum	3.78 m	Significant
21	<i>Eucalyptus camaldulensis</i>	river red gum	2.96 m	Regulated
22	<i>Eucalyptus camaldulensis</i>	river red gum	3.80 m	Significant
23	<i>Eucalyptus camaldulensis</i>	river red gum	2.88 m	Regulated
24	<i>Eucalyptus camaldulensis</i>	river red gum	3.30 m	Significant
25	<i>Eucalyptus camaldulensis</i>	river red gum	1.39 m	Not controlled

¹ This species is exempt from the *Development Act 1993* by virtue of its listing as a Class 51 declared plant in the *Natural Resources Management Act 2004*.



Figure 2. Significant & regulated trees. The 25 assessed trees, indicating their legal status as defined by the Development Act 1993 (also see Tables 1A and 1B).

Blue = **Significant** as defined by the Development Act 1993.

Green = **Regulated** as defined by the Development Act 1993.

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5.0 NATIVE VEGETATION ACT 1991

In accordance with the *Native Vegetation Regulations 2017* under the *Native Vegetation Act 1991*:

- 22 of the 25 trees are protected under the *Native Vegetation Act 1991*, being remnant or semi-remnant trees of species indigenous to the site, and not being exempt by virtue of their dead status and trunk circumference, or their distance to a building.
- 3 of the 25 trees are not protected under the *Native Vegetation Act 1991*, being non-indigenous species or intentionally planted trees of species indigenous to the site, or being exempt by virtue of their dead status and trunk circumference, or their distance to a building.

The protected status of the trees according to the *Native Vegetation Regulations 2017* under the *Native Vegetation Act 1991* is indicated in Tables 2A and 2B and is graphically indicated in Figure 3. The removal of trees protected under the *Act* may require Council notification or approval.

Table 2A. Origin, age and Native Vegetation Act 1991 – Fragmented avenue. The 8 trees assessed in the fragmented avenue, indicating the tree number, abbreviated scientific name, natural distribution of the species, tree origin, estimated tree age (as of 2018), and legal protection of the tree under the Native Vegetation Act 1991.

Tree	Scientific name	Natural distribution of species	Origin	Age (years)	Protected under Native Vegetation Act (1991)
1	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
2	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
3	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
4	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
5	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
6	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
7	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
8	<i>Casuarina glauca</i>	East coast of Queensland and New South Wales	Planted	50 - 100	No (non-indigenous)

Table 2B. Origin, age and Native Vegetation Act 1991 – Fill area. The 18 trees assessed in the fill area, indicating the tree number, abbreviated scientific name, natural distribution of the species, tree origin, estimated tree age (as of 2018), and legal protection of the tree under the Native Vegetation Act 1991.

Tree	Scientific name	Natural distribution of species	Origin	Age (years)	Protected under Native Vegetation Act (1991)
9	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Remnant or semi-remnant	100 - 200	Yes
10	<i>Casuarina glauca</i>	East coast of Queensland and New South Wales	Planted	50 - 100	No (non-indigenous)
11	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	6 - 12	Yes
12	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Remnant or semi-remnant	100 - 200	Yes
13	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
14	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
15	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	80 - 160	Yes
16	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	50 - 100	Yes
17	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	20 - 40	Yes
18	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	20 - 40	Yes
19	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	8 - 16	Yes
20	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Remnant or semi-remnant	100 - 200	Yes
21	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Remnant or semi-remnant	100 - 200	Yes
22	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	25 - 45	Yes
23	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	50 - 100	Yes
24	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Semi-remnant	50 - 100	Yes
25	<i>Eucalyptus camaldulensis</i>	Locally indigenous	Planted	15 - 30	No (intentionally planted)

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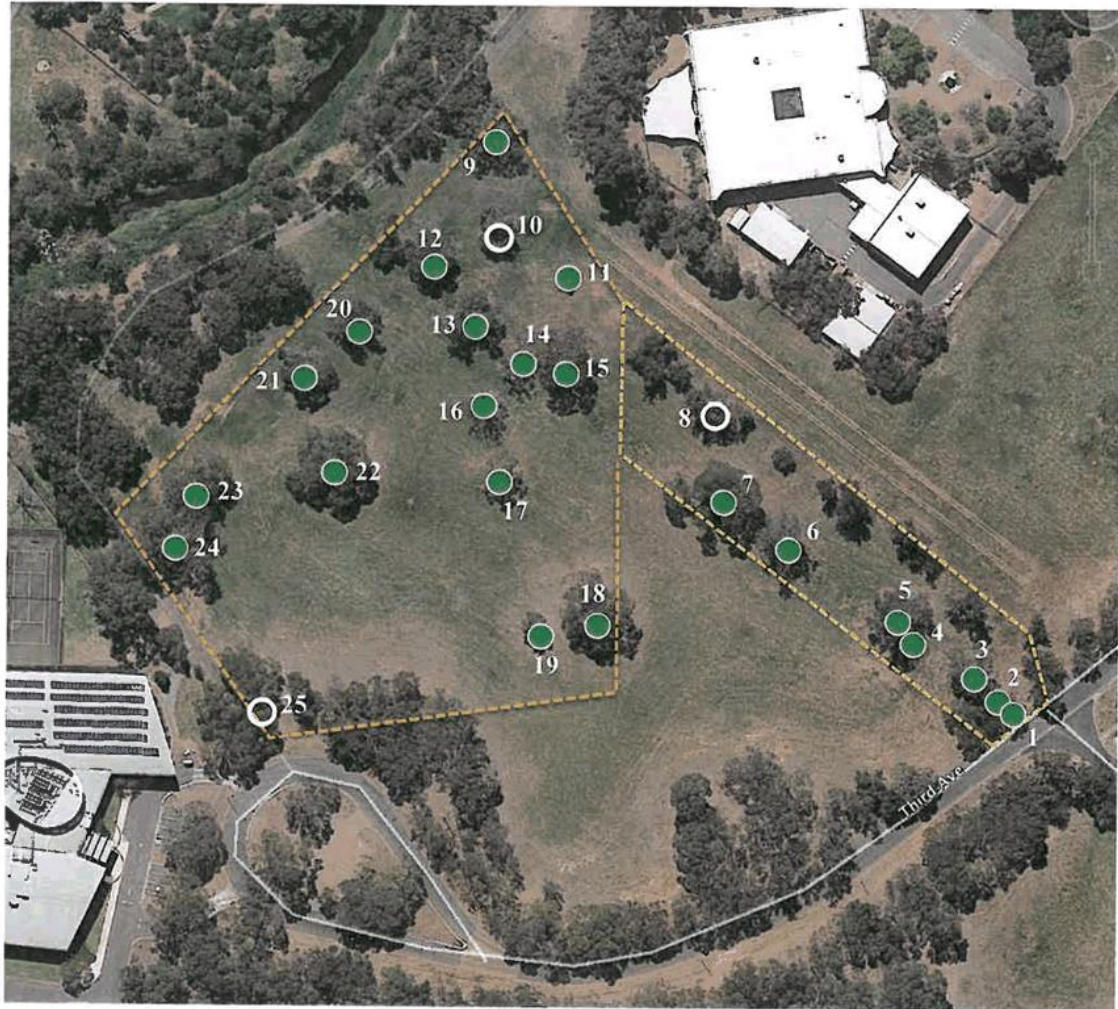


Figure 3. Protected native vegetation. The 25 assessed trees, indicating their status as defined by the Native Vegetation Act 1991 (also see Tables 2A and 2B).

Green dots = Protected under the Native Vegetation Act 1991.

Empty circles = Not protected under the Native Vegetation Act 1991.

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6.0 TREE ORIGIN and AGE

The origin and estimated age (in years) of each of the 25 trees is indicated in Tables 2A and 2B. The natural distribution for the species of each tree is also provided in Tables 2A and 2B. The following categories of tree origin were used:

Remnant – No trees

Defined as trees that *certainly* pre-date European settlement and development of the site.

Remnant or semi-remnant – 4 trees

Defined as trees that *may* pre-date European settlement and development of the site.

Semi-remnant – 18 trees

Defined as trees that are naturally seeded but do *not* pre-date European settlement and development of the site.

Planted – 3 trees

Intentionally planted trees.

Self-seeded weed – No trees

Trees that are exotic to the locality and have certainly self-established in a weedy manner.

7.0 TREE HEALTH

All assessed trees were given an overall current health rating, relating to the health status, health trend, and vigour of the tree (see Tables 3A and 3B).

Excellent: 1 tree (*Tree 22*)

Above average: 10 trees

Average: 6 trees

Below average: 5 trees

Poor: 2 trees

Very poor: 1 tree (*Tree 16*)

Dead: No trees

The current health status of the tree does not necessarily directly relate to the Useful Life Expectancy of the tree, especially where tree health is related to seasonal factors or recent climatic conditions.

8.0 FURTHER USEFUL LIFE EXPECTANCY

The further *Useful* Life Expectancy indicates how much longer the tree can usefully and safely fulfil its function within the settings in which it is situated (or proposed to be situated), and under the existing conditions and with reasonable management of the tree.

The further Useful Life Expectancy is based on the characteristics and growing requirements of different species and the current health and health trend of each individual. Useful Life Expectancy figures are of projected years of useful life from now onwards, not of total tree life-span.

10 of the 25 trees have a further Useful Life Expectancy of a minimum of 20 years (20+ years).

10 of the 25 trees have a further Useful Life Expectancy of less than 20 years, including three trees where the Useful Life Expectancy has been exceeded.

The remaining 5 trees have a further Useful Life Expectancy of potentially more than 20 years but possibly much less, depending on future environmental conditions.

9.0 BIODIVERSITY VALUE

The 25 trees were each assigned an overall biodiversity value (see Tables 3A and 3B), relating to the direct biodiversity value of the tree itself (its species, rarity in the region, etc.) and relating to indirect biodiversity value of the tree (habitat value, presence of habitable faunal hollows, etc.). The following values were assigned to each tree:

Very high – 14 trees

Reproductively mature, remnant trees of species indigenous to the site and with habitable faunal hollows have been assigned a high biodiversity value.

High – 6 trees

Reproductively mature trees of species indigenous to the site have been assigned a high biodiversity value.

Moderate – 3 trees

Locally exotic Australian native species have been assigned a moderate biodiversity value. Reproductively immature trees of species indigenous to the site have also been assigned a moderate biodiversity value.

Low – 2 trees

Non-Australian native species with some value as feed trees to native fauna have been assigned a low biodiversity value.

Negligible – No trees

Most conifers and winter-deciduous trees originating from the northern hemisphere have been assigned a negligible biodiversity value.

Invasive – No trees

Trees have been designated invasive if the species is known to be weedy in natural environmental in the local area.

10.0 LANDSCAPE VALUE

The 25 trees were scored for their landscape value (see Tables 3A and 3B), relating to the conspicuousness of the tree in the landscape and the more subjective aesthetic appeal of the tree. The following landscape values were used:

<u>Very high:</u>	No trees
<u>High:</u>	5 trees
<u>Moderate to high:</u>	7 trees
<u>Moderate:</u>	11 trees
<u>Low to moderate:</u>	1 tree
<u>Low:</u>	1 tree

Table 3A. Health, life expectancy, biodiversity and landscape values – Fragmented avenue. The 8 trees assessed in the fragmented avenue, indicating the tree number, scientific name, origin, age, current health, projected further Useful Life Expectancy, biodiversity value and landscape value of each tree.

Tree	Abbreviated scientific name	Health	Useful Life Expectancy (years)	Biodiversity value	Landscape value
1	<i>Eucalyptus camaldulensis</i>	Poor	< 2 - 5	Very high	Moderate
2	<i>Eucalyptus camaldulensis</i>	Below average	< 10 - 20	Very high	Moderate
3	<i>Eucalyptus camaldulensis</i>	Below average	0	Very high	High
4	<i>Eucalyptus camaldulensis</i>	Poor	< 5 - 10	Very high	Moderate
5	<i>Eucalyptus camaldulensis</i>	Average	10 - 20+	Very high	Moderate to high
6	<i>Eucalyptus camaldulensis</i>	Below average	0	Very high	Moderate to high
7	<i>Eucalyptus camaldulensis</i>	Above average	< 10 - 20	Very high	High
8	<i>Casuarina glauca</i>	Above average	< 10 - 20	Low	Moderate

Table 3B. Health, life expectancy, biodiversity and landscape values – Fill area. The 18 trees assessed in the fill area, indicating the tree number, scientific name, origin, age, current health, projected further Useful Life Expectancy, biodiversity value and landscape value of each tree.

Tree	Abbreviated scientific name	Health	Useful Life Expectancy (years)	Biodiversity value	Landscape value
9	<i>Eucalyptus camaldulensis</i>	Average	20+	Very high	Moderate to high
10	<i>Casuarina glauca</i>	Average	0	Moderate	Moderate
11	<i>Eucalyptus camaldulensis</i>	Above average	20+	Low	Low
12	<i>Eucalyptus camaldulensis</i>	Average	20+	Very high	Moderate to high
13	<i>Eucalyptus camaldulensis</i>	Above average	20+	Very high	Moderate to high
14	<i>Eucalyptus camaldulensis</i>	Below average	< 10 - 20	Very high	Moderate
15	<i>Eucalyptus camaldulensis</i>	Above average	20+	Very high	Moderate to high
16	<i>Eucalyptus camaldulensis</i>	Very poor	< 2	High	Moderate
17	<i>Eucalyptus camaldulensis</i>	Above average	20+	High	Moderate
18	<i>Eucalyptus camaldulensis</i>	Above average	30+	High	High
19	<i>Eucalyptus camaldulensis</i>	Above average	20+	Moderate	Low to moderate
20	<i>Eucalyptus camaldulensis</i>	Below average	10 - 20+	Very high	Moderate
21	<i>Eucalyptus camaldulensis</i>	Average	10 - 20+	Very high	Moderate
22	<i>Eucalyptus camaldulensis</i>	Excellent	20+	High	High
23	<i>Eucalyptus camaldulensis</i>	Average	20+	High	Moderate to high
24	<i>Eucalyptus camaldulensis</i>	Above average	10 - 20+	High	High
25	<i>Eucalyptus camaldulensis</i>	Above average	10 - 20+	Moderate	Moderate

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11.0 TREE STRUCTURE

A rating of the overall structure of each tree is provided in Tables 4A and 4B. Tree structure considers the trunk lean and crown weighting, significant structural defects, atypical basal and trunk characteristics, undesirable or atypical crown characteristics, and dead material present in the crown of the trees, among other attributes. The breakdown of tree structure categories follows:

<u>Excellent:</u>	1 tree (<i>Tree 22</i>)
<u>Above average</u>	7 trees
<u>Average</u>	6 trees
<u>Below average</u>	6 trees
<u>Poor</u>	3 trees
<u>Very poor</u>	2 trees

The general tree structure does not always directly relate to the risk that the tree represents to personal safety. This is partly because the risk that the tree represents is correlated to the under-crown utilisation of the site as well as the structure of the tree.

Some of the structural defects and undesirable crown characteristics can be mitigated or managed through appropriate maintenance pruning and/or selective crown pruning.

12.0 RISK to PERSONAL SAFETY

The 25 trees were assessed for their current risk to personal safety, *assuming maintenance pruning of the trees and development of the site in compliance with the High Use Setback recommended for each tree*. The risk associated with each tree is determined by assessing the *likelihood* of structural failure of the tree and parts of the tree, and determining the *consequence* in the case of structural failure of the tree or part of the tree.

The risk to personal safety and to damage property associated with each tree is partly related to tree structure, although some trees of poor structure may have a relatively low risk (especially in small trees or where the under-crown utilisation of the site is low), and some trees of sound structure may have a relatively higher risk (especially in very large trees, where the under-crown utilisation is high, and in species subject to sudden branch failure events). One of the following risk categories was assigned to each tree (see Tables 4A and 4B):


<u>Very low:</u>	2 trees	Acceptable  Unacceptable
<u>Low:</u>	6 trees	
<u>Low to moderate:</u>	15 trees	
<u>Moderate:</u>	2 trees	
<u>Moderate to high:</u>	No trees	
<u>High:</u>	No trees	

Table 4A. Structure and risk – Fragmented avenue. The 8 trees assessed in the fragmented avenue, indicating the tree number, abbreviated scientific name, tree structure, and the risk to personal safety (following maintenance pruning of the tree and development of the site in compliance with the High Use Setbacks recommended).

Tree	Abbreviated scientific name	Tree structure	Structural notes	Risk to personal safety
1	<i>E. camaldulensis</i>	Poor	Extensive trunk hollowing; long-past and recent canopy dieback	Low to moderate
2	<i>E. camaldulensis</i>	Below average	Long-past extensive branch failures & canopy dieback; secondary canopy formed	Low
3	<i>E. camaldulensis</i>	Very poor	Major trunk defect; long-past extensive canopy dieback	Moderate
4	<i>E. camaldulensis</i>	Below average	Slight trunk lean & crown weight to south-west; long-past canopy dieback	Low to moderate
5	<i>E. camaldulensis</i>	Average	Numerous branch failures & long-past canopy dieback; compact canopy	Low to moderate
6	<i>E. camaldulensis</i>	Poor	Major defects & numerous branch failures	Moderate
7	<i>E. camaldulensis</i>	Below average	Numerous defects & hollows; high canopy	Low to moderate
8	<i>Casuarina glauca</i>	Below average	Numerous small to medium-sized branch failures	Low

Table 4B. Structure and risk – Fill area. The 18 trees assessed in the fill area, indicating the tree number, abbreviated scientific name, tree structure, and the risk to personal safety (following maintenance pruning of the tree and development of the site in compliance with the High Use Setbacks recommended).

Tree	Abbreviated scientific name	Tree structure	Structural notes	Risk to personal safety
9	<i>E. camaldulensis</i>	Average	Numerous branch failures; compact canopy	Low to moderate
10	<i>Casuarina glauca</i>	Very poor	Twin trunks; very extensive past branch failures	Low to moderate
11	<i>E. camaldulensis</i>	Above average	Immature tree	Very low
12	<i>E. camaldulensis</i>	Above average	Some long-past canopy dieback; secondary canopy formed	Low to moderate
13	<i>E. camaldulensis</i>	Average	Generally sound; some branch failures	Low to moderate
14	<i>E. camaldulensis</i>	Poor	Numerous past branch failures	Low to moderate
15	<i>E. camaldulensis</i>	Above average	Generally sound; some past branch failures	Low to moderate
16	<i>E. camaldulensis</i>	Above average	Sound primary structure; extensive canopy dieback over the last 2 years	Low to moderate
17	<i>E. camaldulensis</i>	Above average	Good structure; semi-mature tree	Low
18	<i>E. camaldulensis</i>	Above average	Generally sound; multi-leader	Low
19	<i>E. camaldulensis</i>	Average	Immature tree; twin trunks	Very low
20	<i>E. camaldulensis</i>	Below average	Some long-past canopy dieback; secondary canopy formed	Low to moderate
21	<i>E. camaldulensis</i>	Below average	Some long-past canopy dieback; numerous hollows	Low to moderate
22	<i>E. camaldulensis</i>	Excellent	Very sound structure; low spreading canopy	Low to moderate
23	<i>E. camaldulensis</i>	Above average	Generally sound; minor basal decay	Low
24	<i>E. camaldulensis</i>	Average	Generally sound; over-extended leaders to north-east	Low to moderate
25	<i>E. camaldulensis</i>	Average	Generally sound; semi-mature tree	Low

D.Nicolle, 24th May 2018, Third Ave, Mawson Lakes SA, 25 trees

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13.0 RETENTION WORTHINESS

The retention worthiness reflects the overall 'value' of the tree. The 25 trees were each included in one of five retention worthiness categories based on the following data recorded for each tree:

- Historical significance (*National Trust of South Australia*);
- Legal status (*Development Act 1993*);
- Tree origin;
- Current health;
- Further life expectancy;
- Biodiversity value;
- Landscape value;
- Tree structure; and
- Risk to safety

Each tree was scored for each of these nine characteristics, as indicated in Table 5. The sum of scores for each tree provides a total score for each tree (see Table 5). The higher the total score, the more valuable the tree. Total score for each tree can vary from -110 (lowest point value for all nine characteristics) to 120 points (highest point value for all nine characteristics).

Table 5. Scoring for retention worthiness. The characteristics and character states used to score each tree to determine its retention priority.

Historical significance (NTSA*)	<i>National importance</i> Score: 40	<i>State importance</i> Score: 30	<i>Regional importance</i> Score: 20	<i>Local importance</i> Score: 10	<i>Not listed on NTSA²</i> Score: 0			
Legal status	<i>Significant</i> Score: 10		<i>Regulated</i> Score: 5		<i>Other</i> Score: 0			
Origin	<i>Remnant</i> Score: 10	<i>Remnant/semi</i> Score: 8	<i>Semi-remnant</i> Score: 5	<i>Semi- / planted</i> Score: 3	<i>Planted</i> Score: 0	<i>Planted / weed</i> Score: -5	<i>Weed</i> Score: -10	
Health	<i>Excellent</i> Score: 10	<i>Above average</i> Score: 8	<i>Average</i> Score: 5	<i>Below average</i> Score: 3	<i>Poor</i> Score: 0		<i>Very poor</i> Score: -10	<i>Dead</i> Score: -20
Further life expectancy	<i>30+ years</i> Score: 10	<i>20+ years</i> Score: 8	<i>10-20+ years</i> Score: 5	<i>10-20 years</i> Score: 2	<i><10-20 yrs</i> Score: 0	<i><5-10 yrs</i> Score: -5	<i><5 years</i> Score: -10	<i><2 yrs</i> Score: -20
Biodiversity	<i>Very high</i> Score: 10	<i>High</i> Score: 8	<i>Moderate</i> Score: 5	<i>Low</i> Score: 2	<i>Negligible</i> Score: 0		<i>Invasive</i> Score: -10	
Landscape	<i>Very high</i> Score: 10	<i>High</i> Score: 8	<i>Mod to high</i> Score: 5	<i>Moderate</i> Score: 3	<i>Low to mod</i> Score: 0		<i>Low</i> Score: -10	
Structure	<i>Excellent</i> Score: 10		<i>Above average</i> Score: 5		<i>Average</i> Score: 0	<i>Below average</i> Score: -5	<i>Poor</i> Score: -10	<i>Very poor</i> Score: -20
Risk to safety	<i>Very low</i> Score: 10	<i>Low</i> Score: 7	<i>Low to mod</i> Score: 4		<i>Moderate</i> Score: 0	<i>Mod to high</i> Score: -5	<i>High</i> Score: -10	<i>Very high</i> Score: -20

² *National Trust of South Australia* register of significant trees.

Priority 1A trees – Very highly worthy of retention

Total score of >64 points. Remnant or semi-remnant trees in sound health, with a long life expectancy, of superior structure, and with a significant biodiversity value and landscape value.

Priority 1A trees are relatively rare and should be retained by appropriate development design and construction.

None of the 25 trees are assessed as Priority 1A trees.

Priority 1 trees – Highly worthy of retention

Total score of 45 to 64 points. Trees in sound health and/or with a long life expectancy, of generally sound structure (or where defects can be practically mitigated or managed), and usually with a significant biodiversity value and/or landscape value.

Priority 1 trees should be retained by appropriate development design and construction.

8 of the 25 trees are assessed as Priority 1 trees.

Priority 2 trees – Moderately worthy of retention

Total score of 30 to 44 points. Trees in sound healthy and/or with an expected moderate to long-life expectancy, of reasonable structure (or where defects can be mostly mitigated or managed), and of moderate to high biodiversity value and/or landscape value.

Priority 2 trees should be retained wherever possible, by appropriate development design and construction.

6 of the 25 trees are assessed as Priority 2 trees.

Priority 3 trees – Scarcely worthy of retention

Total score of 10 to 29 points. Trees often of reduced health and/or having a short to moderate life expectancy, and/or may have some structural flaws, and are generally of lower biodiversity value and/or lower landscape value.

Priority 3 trees should not constrain site development but may be retained if the proposed design and construction allows.

6 of the 25 trees are assessed as Priority 3 trees.

Priority 4 trees – Not worthy of retention

Total score of <10 points. Trees in poor health and/or having a short life expectancy, and/or have significant structural flaws that cannot be practically mitigated or managed, and/or are of no or little biodiversity value and/or landscape value.

Priority 4 trees should not constrain site development and should be removed in the case of site development, even if they do not constrain site development.

5 of the 25 trees are assessed as Priority 4 trees.

Table 6A. Retention worthiness – Fragmented avenue. The 8 trees assessed in the fragmented avenue, indicating the tree number, scientific name, scores for Historical significance, Legal status (as defined by the Development Act 1993), Origin, Health, Further Useful Life Expectancy, Structure, Risk to safety, Biodiversity Value and Landscape Value, total score and retention worthiness (using total scores) for each tree. Trees are colour-coded according to their retention worthiness (see Figure 4).

Tree	Scientific name	Scores for:										Total score	Retention worthiness (using the total score for each tree)
		Historical significance, Legal status (Dev. Act 1993), Origin, Health, Further Useful Life Expectancy, Structure, Risk to safety, Biodiversity value, Landscape value											
1	<i>E. camaldulensis</i>	0	5	5	0	-15	-10	4	10	3	2	P4 - Not worthy of retention	
2	<i>E. camaldulensis</i>	0	0	5	3	-5	-5	7	10	3	18	P3 - Scarcely worthy of retention	
3	<i>E. camaldulensis</i>	0	10	5	3	-20	-20	0	10	8	-4	P4 - Not worthy of retention	
4	<i>E. camaldulensis</i>	0	0	5	0	-5	-5	4	10	3	12	P3 - Scarcely worthy of retention	
5	<i>E. camaldulensis</i>	0	5	5	5	5	0	4	10	5	39	P2 - Moderately worthy of retention	
6	<i>E. camaldulensis</i>	0	10	5	3	-20	-10	0	10	5	3	P4 - Not worthy of retention	
7	<i>E. camaldulensis</i>	0	5	5	8	-5	-5	4	10	8	30	P2 - Moderately worthy of retention	
8	<i>Casuarina glauca</i>	0	0	0	8	-5	-5	7	2	3	10	P3 - Scarcely worthy of retention	

Table 6B. Retention worthiness – Fill area. The 18 trees assessed in the fill area, indicating the tree number, scientific name, scores for Historical significance, Legal status (as defined by the Development Act 1993), Origin, Health, Further Useful Life Expectancy, Structure, Risk to safety, Biodiversity Value and Landscape Value, total score and retention worthiness (using total scores) for each tree. Trees are colour-coded according to their retention worthiness (see Figure 4).

Tree	Scientific name	Scores for: Historical significance, Legal status (<i>Dev. Act 1993</i>), Origin, Health, Further Useful Life Expectancy, Structure, Risk to safety, Biodiversity value, Landscape value										Total score	Retention worthiness (using the total score for each tree)
		0	10	8	5	8	0	4	10	5	50		
9	<i>E. camaldulensis</i>	0	10	8	5	8	0	4	10	5	50	P1 - Highly worthy of retention	
10	<i>Casuarina glauca</i>	0	0	0	5	-20	-20	4	5	3	-23	P4 - Not worthy of retention	
11	<i>E. camaldulensis</i>	0	0	5	8	8	5	10	2	-10	28	P3 - Scarcely worthy of retention	
12	<i>E. camaldulensis</i>	0	10	8	5	8	5	4	10	5	55	P1 - Highly worthy of retention	
13	<i>E. camaldulensis</i>	0	5	5	8	8	0	4	10	5	45	P1 - Highly worthy of retention	
14	<i>E. camaldulensis</i>	0	5	5	3	-5	-10	4	10	3	15	P3 - Scarcely worthy of retention	
15	<i>E. camaldulensis</i>	0	5	5	8	8	5	4	10	8	53	P1 - Highly worthy of retention	
16	<i>E. camaldulensis</i>	0	5	5	-10	-20	5	4	8	3	0	P4 - Not worthy of retention	
17	<i>E. camaldulensis</i>	0	0	5	8	8	5	7	8	3	44	P2 - Moderately worthy of retention	
18	<i>E. camaldulensis</i>	0	10	5	8	10	5	7	8	8	61	P1 - Highly worthy of retention	
19	<i>E. camaldulensis</i>	0	0	5	8	8	0	10	5	0	36	P2 - Moderately worthy of retention	
20	<i>E. camaldulensis</i>	0	10	8	3	5	-5	4	10	3	38	P2 - Moderately worthy of retention	
21	<i>E. camaldulensis</i>	0	5	8	5	5	-5	4	10	3	35	P2 - Moderately worthy of retention	
22	<i>E. camaldulensis</i>	0	10	5	10	8	10	4	8	8	63	P1 - Highly worthy of retention	
23	<i>E. camaldulensis</i>	0	5	5	5	8	5	7	8	5	48	P1 - Highly worthy of retention	
24	<i>E. camaldulensis</i>	0	10	5	8	5	0	4	8	8	48	P1 - Highly worthy of retention	
25	<i>E. camaldulensis</i>	0	0	0	8	5	0	7	5	3	28	P3 - Scarcely worthy of retention	



Figure 4. Retention worthiness. The 25 assessed trees, colour-coded according to their retention worthiness.

- Purple** = Priority 1A trees – Very highly worthy of retention;
- Blue** = Priority 1 trees – Highly worthy of retention;
- Green** = Priority 2 trees – Moderately worthy of retention;
- Yellow** = Priority 3 trees – Scarcely worthy of retention;
- Red** = Priority 4 trees – Not worthy of retention.

D.Nicolle, 24th May 2018, Third Ave, Mawson Lakes SA, 25 trees

14.0 TREE PROTECTION ZONES (TPZs)

The Tree Protection Zone (TPZ) relates to the *root system of a tree*, and is necessary to *maintain the health of the tree* during and following the proposed development of the site, by limiting construction activities and machinery access within the TPZ and limiting the root damage to the tree.

The Tree Protection Zone does not indicate the root extent (root spread) of a tree, as the root extent is usually greater than the TPZ for most trees. The TPZ merely designates the area in which soil disturbance must be minimised (and therefore root damage minimised) in order to maintain the health, longevity and stability of the tree.

A Tree Protection Zone is not a 'sterile zone' or an 'exclusion zone' for all activities and development, but instead defines the area around the tree in which tree-sensitive design and construction techniques *must* be employed, in order to maintain the health, longevity and structure of the tree.

The TPZs recommended here have been calculated using a method that conforms to the *Australian Standard for the Protection of Trees on Development Sites (AS 4970)*. The Australian Standard allows for the use of species- and tree-specific data to modify the factorial (up or down) to be more specific to the tree being assessed; i.e. relating to the tolerance of the species to soil disturbance and the age class of the tree for its species. The adjustment of the factorial from a minimum of 6 (for young trees of species highly tolerant of soil disturbance) to a maximum of 18 (for old trees of species highly susceptible to soil disturbance) will result in a larger or smaller TPZ for individual trees compared to the 'standard' factorial of 12 used where data on the species and individual tree have not been taken into account. The input data used to calculate the Tree Protection Zone for each of the 18 trees is detailed in Tables 7A and 7B.

AS 4970 suggests that Tree Protection Zones be capped at a minimum of 2.0 metres from the centre of the tree (regardless of whether the calculated TPZ is actually smaller than this figure) and capped at a maximum of 15.0 metres from the centre of the tree (regardless of whether the calculated TPZ is actually larger than this figure). However there is *no biological basis* for the lower or upper capping of TPZs, and as such, TPZs are not capped here. *The Tree Protection Zone for each tree is provided in Tables 7A and 7B*. All TPZ distances are a minimum distance required (in metres) from the centre (trunk) of the tree at natural ground level.

Encroachment of up to 10% of the area of the TPZ is acceptable provided the encroached area of TPZ is gained elsewhere on the subject site and adjoining the outer edge of the TPZ. Encroachment within more than 10% of the area of the recommended TPZ may detrimentally affect the health of the tree by extensively severing or otherwise damaging the root system of the tree. Pre-existing developed areas within the calculated TPZ radius are also exempt from the effective TPZ area.

Activities that should be excluded from the TPZ include any mechanical soil removal (excavation), deposition (storage of fill) or cultivation (disturbance) associated with the proposed development, whether for earthworks, trenching, landscaping, or other associated works.

Non-linear fence or pylon footings (i.e. bored pier/post holes and screw-pile piers) are acceptable within the TPZ. As such, structures constructed using pier and beam footings are possible within the TPZ. Other structures and construction activities within the TPZ (such as residential driveways, footpaths, roadways, built-form structures, etc.) may be acceptable in some cases, provided tree-sensitive design and construction methods are employed, which may include:

1. Laying services within piping or conduits under the TPZ using directional under-boring.
2. Construction of hard surfaces (including roadways, driveways, footpaths and floors) over existing soil levels (to avoid the excavation of natural soil) and using structural soil as fill and open-sealed or permeable paving where necessary.
3. Pier & beam or screw-pile constructed structures that do not require area-excavation (cut) or linear-excavation (trenching) of soil.
4. Hand excavation in association with other root-sensitive excavation (e.g. a soil vacuum) to enable larger-sized roots to be retained in-situ. Such excavation is usually used as an exploratory method to ascertain the location and depth of larger-sized roots, which may dictate the required levels/positions of infrastructure.
5. Like-for-like replacement of any exiting surfaces or structures in the TPZ with new surfaces or structures in the same position where within the TPZ.

15.0 HIGH USE SETBACKS (HUSs)

The High Use Setback (HUS) relates to the *crown of a tree*, and is recommended to maintain an acceptable level of risk to property and to safety from the subject tree following the development of the site.

Recommended minimum high use setbacks are formulated using numerous factors, including:

- Tree species and species characteristics including root structure, canopy characteristics and failure tendency;
- Current tree size and structure;
- Trunk habit and canopy weighting;
- Anticipated future tree size and structure under existing and proposed conditions;
- Anticipated site use.

The High Use Setback for each tree is listed in Tables 7A and 7B.

High Use Setbacks may vary from one side of a tree to the other due to the trunk lean, crown weighting and other crown characteristics of the tree, as well as the topography of the site.

Encroachment of private open space and residential structures into the High Use Setback is likely to increase the risk to safety associated with a tree to an unacceptable level over the long-term (i.e. following any development of the site). All residential dwellings and at least 50% of the private open space for each residence should occur outside of the HUS, with highest-use areas preferentially located outside of the HUS.

Table 7A. Tree Protection Zones & High Use Setbacks – Fragmented avenue. The 8 trees assessed in the fragmented avenue, indicating the abbreviated species name, retention worthiness, trunk Diameter at Breast Height (DBH, single-trunk equivalent), species soil disturbance tolerance, tree maturity, TPZ calculation factorial, calculated Tree Protection Zone (TPZ) and the recommended High Use Setback (HUS) for each tree. Trees are colour coded according to their retention worthiness, and to match the tree mapping in Figure 4.

Tree	Abbreviated species	Retention worthiness	DBH	Species soil disturbance tolerance	Tree maturity	TPZ factorial	Calculated TPZ	High Use Setback (HUS)
1	<i>E. camaldulensis</i>	P4	0.716	High	Mature	9	6.4 m radius	12.0 m radius
2	<i>E. camaldulensis</i>	P3	0.557	High	Mature	9	5.0 m radius	8.0 m radius
3	<i>E. camaldulensis</i>	P4	1.130	High	Mature	9	10.2 m radius	14.0 m radius
4	<i>E. camaldulensis</i>	P3	0.605	High	Mature	9	5.4 m radius	10.0 m radius
5	<i>E. camaldulensis</i>	P2	0.859	High	Mature	9	7.7 m radius	10.0 m radius
6	<i>E. camaldulensis</i>	P4	0.955	High	Mature	9	8.6 m radius	14.0 m radius
7	<i>E. camaldulensis</i>	P2	0.929	High	Mature	9	8.4 m radius	14.0 m radius
8	<i>Casuarina glauca</i>	P3	0.828	Moderate to high	Mature to old	12	9.9 m radius	6.0 m radius

Table 7B. Tree Protection Zones & High Use Setbacks – Fill area. The 18 trees assessed in the fill area, indicating the abbreviated species name, retention worthiness, trunk Diameter at Breast Height (DBH, single-trunk equivalent), species soil disturbance tolerance, tree maturity, TPZ calculation factorial, calculated Tree Protection Zone (TPZ) and the recommended High Use Setback (HUS) for each tree. Trees are colour coded according to their retention worthiness, and to match the tree mapping in Figure 4.

Tree	Abbreviated species	Retention worthiness	DBH	Species soil disturbance tolerance	Tree maturity	TPZ factorial	Calculated TPZ	High Use Setback (HUS)
9	<i>E. camaldulensis</i>	P1	1.210	High	Mature to old	10.5	12.7 m radius	9.0 m radius
10	<i>Casuarina glauca</i>	P4	1.751	Moderate to high	Mature to old	12	21.0 m radius	7.0 m radius
11	<i>E. camaldulensis</i>	P3	0.207	High	Young	6	1.2 m radius	8.0 m radius
12	<i>E. camaldulensis</i>	P1	1.210	High	Mature to old	10.5	12.7 m radius	10.0 m radius
13	<i>E. camaldulensis</i>	P1	0.732	High	Mature	9	6.6 m radius	10.0 m radius
14	<i>E. camaldulensis</i>	P3	0.668	High	Mature	9	6.0 m radius	10.0 m radius
15	<i>E. camaldulensis</i>	P1	0.828	High	Mature	9	7.4 m radius	12.0 m radius
16	<i>E. camaldulensis</i>	P4	0.716	High	Mature	9	6.4 m radius	12.0 m radius
17	<i>E. camaldulensis</i>	P2	0.430	High	Young	6	2.6 m radius	10.0 m radius
18	<i>E. camaldulensis</i>	P1	0.923	High	Young	6	5.5 m radius	10.0 m radius
19	<i>E. camaldulensis</i>	P2	0.382	High	Young	6	2.3 m radius	8.0 m radius
20	<i>E. camaldulensis</i>	P2	1.146	High	Mature	9	10.3 m radius	10.0 m radius
21	<i>E. camaldulensis</i>	P2	0.939	High	Mature	9	8.5 m radius	10.0 m radius
22	<i>E. camaldulensis</i>	P1	1.114	High	Young	6	6.7 m radius	12.0 m radius
23	<i>E. camaldulensis</i>	P1	0.917	High	Mature	9	8.3 m radius	10.0 m radius
24	<i>E. camaldulensis</i>	P1	1.050	High	Mature	9	9.5 m radius	14.0 m radius
25	<i>E. camaldulensis</i>	P3	0.583	High	Young	6	3.5 m radius	10.0 m radius to N hemi

16.0 SUMMARY of FINDINGS and RECOMMENDATIONS

Fragmented avenue of trees

- 2 significant trees
- 3 regulated trees
- 3 non-controlled trees

The quality of the 8 assessed trees in the fill area is generally poor (see Figure 4). Many of the 18 trees have poor structure or are in a reduced state of health, partly due to marginal environmental conditions for the species.

Fill area

- 6 significant trees
- 6 regulated trees
- 5 non-controlled trees

The quality of the 17 trees assessed in the fill area is variable, and includes a number of higher value trees (see Figure 4). The proposed deposition of fill around any retained trees should have consideration to the recommended Tree Protection Zone of each tree, and may not be feasible in the case of tree retention.

General recommendations

It is recommended that tree retention on the site be directed by the overall value of each tree, as indicated by each tree's retention worthiness as assessed here. Figure 4 indicates the location and labelling of the 25 trees included in this assessment, with each tree colour-coded with regard to its retention worthiness.

In the case of site development, consideration should be given to the Tree Protection Zone (TPZ) and High Use Setback (HUS) for any retained trees, to ensure that the health, longevity, stability and risk to safety associated with retained trees is not compromised.

I thank you for the opportunity to provide this arboricultural assessment and report. If you require further information or clarification please contact me for assistance.



Dean Nicolle
Ph.D.; B.Sc.(Hons.) Botany; B.App.Sc. (Natural Resource Management).

D.Nicolle, 24th May 2018, Third Ave, Mawson Lakes SA, 25 trees

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Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports



The poster features a dark blue background with white text and graphics. At the top left is the Project Green logo, a stylized leaf inside a circle. Below it, the text 'project GREEN' is written in a sans-serif font. The main title 'TREE ASSESSMENT' is centered in large, bold, white capital letters. Below the title, the location 'S9316 Renewal Sa Lot 5 Technology Park Sa' is listed. The date 'Friday, 10 February 2017' is printed below that. The contact information for Project Green Pty Ltd is provided, including the address '25-27 Ceafield Road, Para Hills, West SA 5096', ABN, ACN, telephone, and fax numbers, and the email 'admin@projectgreen.net.au'. The flametree logo is in the bottom right corner. The right side of the poster has a green background with a stylized tree graphic made of circuit lines and the 'eoen' logo.


project GREEN

TREE ASSESSMENT

S9316 Renewal Sa Lot 5 Technology Park Sa

Friday, 10 February 2017

Project Green Pty Ltd
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 flametree





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INTRODUCTION & BACKGROUND INFORMATION

1.0 INTRODUCTION

Project Green was engaged by Renewal SA to undertake an audit on trees located at lot 5, Technology Park, Mawson Lakes. The aim of the audit was to identify and assess all trees at the site to identify which trees on site are currently regulated or significant or are likely to attain a size to be regulated or significant in the near future

Site visits were undertaken for the purposes of conducting the visual tree assessment. A total of 36 trees were assessed in this report refer APPENDIX A 'TREE SCHEDULES' for further detail. All trees were assessed against the South Australian Development Act 1993, refer APPENDIX A 'TREE SCHEDULES' and APPENDIX B 'LEGISLATIVE STATUS GRAPH' for more information.

Recommendations for retention are based on structural defects noted in the trees which would be undesirable in a new developed precinct

2 BACKGROUND INFORMATION

2.1 DOCUMENTS AND INFORMATION PROVIDED

A list of required attributes and value lists associated with these attributes were provided for reference as well as a basic site map

2.2 LEGISLATIVE REQUIREMENTS

Regard was given to the following legislation and standards for the purpose of assessing trees at the school and providing recommendations on 'Regulated' and 'Significant' trees.





Project GREEN

INTRODUCTION & BACKGROUND INFORMATION

2.2.2 DEVELOPMENT ACT 1993

The *Development Act 1993* (Act) provides that any activity that damages a 'Regulated' or 'Significant' tree is classed as 'Development' and as such requires development approval.

The Act defines tree damaging activity as:

- a) the killing or destruction of a tree; or
- b) the removal of a tree; or
- c) the severing of branches, limbs, stems or trunk of a tree; or
- d) the ringbarking, topping or lopping of a tree; or
- e) any other substantial damage to a tree,

and includes any other act or activity that causes any of the foregoing to occur but does not include maintenance pruning that is not likely to affect adversely the general health and appearance of a tree or that is excluded by regulation from the ambit of this definition.

A 'Significant' tree is defined as any tree in Metropolitan Adelaide which has a trunk circumference of 3m or more – or, in the case of trees with multiple trunks, that have trunks with a total circumference of 3m or more and an average circumference of 625mm or more – measured at a point 1m above natural ground level; or any tree identified as a 'Significant' tree in a Development Plan.

A 'Regulated' tree is defined as any tree in Metropolitan Adelaide which has a trunk circumference of 2m or more – or, in the case of trees with multiple trunks, that have trunks with a total circumference of 2m or more and an average circumference of 625mm or more – measured at a point 1m above natural ground level.



INTRODUCTION BAC GROUND INFORMATION



2.2.3 DEVELOPMENT REGULATIONS 2008

The *Development Regulations 2008* (Regulations) list a range of tree species as 'exempt' from regulated tree controls. The trees listed are:

- All trees located within 10 metres of an existing dwelling or existing in-ground swimming pool (excluding *Agonis flexuosa* and any *Eucalypt* species).
- A list of 24 other tree species commonly planted in urban areas.

In addition the Regulations also exempt the need for an applicant to seek approval to:

- Remove a regulated or significant tree that is dead.
- Remove a regulated or significant tree within 20 metres of a dwelling in Medium or High Bushfire Protection Areas.

Any pruning works recommended in this audit are considered to fulfil the criteria contained within Regulation 6A (8) of the *Development Regulations 2008* in so far as the works recommended do not remove more than 30% of a tree's crown and are targeted at removing only dead or diseased wood, or branches that pose a material risk and occur in a location that is frequently used by people.

Any regulated trees identified for removal, or where tree damaging activity may occur, will require a Development Application to be lodged in accordance with the relevant Local Government Authority.

Therefore it is suggested that before any works occur on such trees notification is undertaken with a local government representative to discuss the intention of works and seek the necessary approvals to perform the work.

2.2.4 AUSTRALIAN STANDARD 4970-2009 PROTECTION OF TREES ON DEVELOPMENT SITES

Australian Standard 4970-2009 protection of trees on development sites specifies calculations for Tree Protection Zones and Tree Structural Root Zones as used in this report. This standard also outlines protection measures and construction methodologies designed to preserve and protect significant and regulated trees.





PROJECT GREEN

METHOD & RESULTS

3.0 METHOD

The tree audit was undertaken utilising Project Green's new EDEN 4 software platform utilising the Flametree Data Collection and Management Software Solution on Apple iPads™.

All trees on site were assessed against Project Green's Data collection attribute list that has been specifically designed for Renewal SA.

The following methods were used to assess the trees on site:

- **Unique ID** - Individual trees are given a unique Project Green identification number.
- **GEO Location** - The GPS location (longitude/latitude) of all trees is captured utilising ta GPS connected locational signal
- **Identification** - trees were identified by genus and species
- **Height** - Tree height was estimated and these estimated verified routinely using a Nikon Forestry 550 range finder.
- **Legislative Status** - a trunk circumference measurement was taken at 1 metre above natural ground level. A rule tape measure was used to take measurements.
- **Tree Structure** - was assessed based on assessing live crown ratio recorded as a % and other crown physiology including limb attachment, taper, evidence of past limb failure, wound occlusion, evidence of any pest and or insect occurrence and general overall structure for the species being assessed
- **Structural Root Zone** - A measurement of the base of each tree was undertaken to calculate the SRZ of the tree
- **Tree Protection Zone**- A measurement at 1.4M from Natural ground level of each tree was undertaken to calculate the TPZ of the tree.
- **Canopy Spread** - North-South and East-West canopy spread was estimated in metres and was routinely checked with a tape measure



- **Tree Form and Tree Health** - each tree was assessed for its biological attributes such as health and vigour with these being assessed and ranked in accordance with recognised industry standards.
- **ULE** - for each tree is derived by assessing all factors of the tree that affect life expectancy and each tree is given an expected life range in line with Renewal SA's Value Set
- **Work Required** - tree work requirements were recorded and can be found in the recommendations of the tree schedule in Appendix B.
- **Photograph** - photographic records were taken of each tree.

3.1 LIMITATIONS

The trees were inspected visually from the ground only. Aerial, subsurface or invasive inspections were not performed and no soil or plant samples were laboratory tested. Due to plant hybridisation some species can be difficult to accurately identify.

Information contained in this report is based on observations taken on the day of inspection and material provided only. It is possible that changes in environmental conditions or subsequent information may affect or alter these findings. This report has been prepared on behalf of and for the exclusive use of the Project Green client.

4 RESULTS

Refer to Appendix A Tree Schedules
Refer to Appendix B Charts & Graphs

5 MAPS

Interactive Map URL:

<https://www.google.com/maps/d/edit?mid=1F8rkRkPbELksm7ZGh1xLKdLna0&hl=-34.8196820908292%2C138.61762&z=18>

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§ DISCUSSION

A total of 36 trees were included in the report of Lot 5 Technology Park, Lawson Lakes. The site was found to contain thirty four trees which satisfy conditions to be afforded Regulated status under state legislation, with thirteen of these trees deemed as being Significant. The S.A. Development Act regulates removal or damaging activity occurring to such trees without prior Development Approval from the relevant local council.

In addition to these a further 2 trees was identified as possibly meeting the size requirement for regulation within the next 12 -18 months.

Ten trees are recommended for removal from the site as they all exhibit characteristics that would render them as unacceptable species for any new development of the site

The majority of records were found to be of the Eucalyptus Genus or Gum trees. Eucalypts provide numerous positive attributes as landscape trees; they are generally fast growing, long-lived, hardy, and provide a sense of place and essential habitat for wildlife. They have, however, shown a greater propensity than other tree species to drop material from their crowns, including branches of various diameter. Regular assessment and subsequent works on this type of tree is therefore necessary to facilitate good tree structure and minimise the risk presented. It is recommend that these trees are monitored and managed into the future.





RECOMMENDATIONS

7 RECOMMENDATIONS

Based on the findings of the tree audit, the following is recommended:

1. Seek approval for, and undertake removal of all trees identified as requiring removal in Appendix A
2. Establish a Tree Protection Zone or as a minimum a Structural Root Zone protection fencing on all trees for which retention has been identified prior to commencing construction activities on site
3. As a minimum, a follow up tree audit should be undertaken within 18 months to assess additional trees against the Development Act if construction works have not commenced on site
4. All tree works should be overseen/supervised by a qualified Arborist with a minimum Certification of Level IV Horticulture (Arboriculture).

All works should be undertaken in accordance with Australian Standard 4373-2007 Pruning of Amenity Trees.



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8 **DISCLAIMER**

This report only covers identifiable defects present at the time of inspection. The author accepts no responsibility and cannot be held liable for any structural defect or unforeseen event/situation that may occur after the time of inspection, unless clearly specified time scales are detailed within the report.

The author cannot guarantee trees contained within this report will be structurally sound under all circumstances, and cannot guarantee that the recommendations made will categorically result in the tree being made safe.

Unless specifically mentioned this report will only be concerned with above ground inspections, that will be undertaken visually from ground level. Trees are living organisms and as such cannot be classified as safe under any circumstances. The recommendations are made on the basis of what can be reasonably identified at the time of inspection therefore the author accepts no liability for any recommendations made.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however the author can neither guarantee nor be responsible for the accuracy of information provided by others





REFERENCES

9 REFERENCES

Dunster, J.A., (2013) Tree Risk Assessment Manual. ISA Publications.

Googlemaps.com

Matheny, N.P. & Clark, J.R (1994) Evaluation of Hazard Trees in Urban Areas. ISA Publications.

SA Development Act 1993, Government of South Australia

SA Development Regulations 2008, Government of South Australia

Shigo, A. L. (1998) A New Tree Biology (ninth edition) Shenwin Dodge Printers, Littleton, New Hampshire.

www.Treaz.com – Pre Planning tree Surveys: Safe Useful Life Expectancy (SULE) is the natural progression



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GLOSSARY

Co-dominant stems	Stems or trunks of about the same size originating from the same position from the main stem (AS4373:2007)
Crown maintenance	Pruning that preserves the size and structure of a tree while maintaining the crown volume (AS4373:2007).
Deadwood	Dead branches within a tree's canopy can be categorised as small, medium or large in size based on diameter and length and volume within the canopy.
End weight	Excessive formation of foliage concentrated at the distal end of the branch
Exotic	A plant introduced from another country or region to a place where it was not indigenous.
Formative prune	The pruning of trees to assist with the development of crown form and shape, and to develop strong structure.
Health	Includes the tree's vigour exhibited by density of crown, cover, leaf colour etc.
Live Crown Ratio	Is the proportion of live crown to tree height used to assist in the assessment of potentially hazardous trees.
Reduction prune	Branches specifically pruned to reduce crown height or crown spread by pruning to reduce the length of the branch with a final cut at a branch union inside the crown. Here the retained branch should be (>1/3) of the diameter of the removed branch (Australian Standard 2007p.8, Draper & Richards 2009, p. 123-124).
Remedial prune	Pruning to repair previously poorly undertaken works or to assist in re-establishing the crown form and shape.
Size	Tree Height and canopy diameter measured in meters.
Taper	In roots and branches; the decrease in diameter along a given length, usually reducing gradually in the distal direction (away from the point of attachment).
Visual Tree Assessment (VTA)	A visual inspection of a tree from the ground undertaken by a trained Arborist competent in determining tree type, structural integrity, health, growing environment and environmental benefits or impacts the tree may present, and determining suitable methods for managing the tree and impact it may have on its immediate surrounds. The inspection is limited to those attributes observed on the day of inspection. No other investigation techniques are used unless stated otherwise.

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PROJECT GREEN

HAZARD ASSESSMENT

Each tree has been assessed using Matheny & Clark (1994) Hazard Rating in line with the following description and expression: Hazard = Failure Potential + Size of Defective Part + Target Rating

DEVELOPING THE HAZARD RATING

Failure Potential

Failure potential identifies the most likely failure and rates the likelihood that the structural defect(s) will result in failure within the inspection period. Examples of ratings are:

1. Low: defects are minor (e.g. dieback of twigs, small wounds with good wound wood development)
2. Medium: defects are present and obvious (e.g. cavity encompassing 10-25% of the circumference of the trunk, co-dominant stems without included bark)
3. High: numerous and/or significant defects present (e.g. cavity encompassing 30-50% of the circumference of the trunk, multiple pruning wounds with decay along a branch).
4. Severe: Defects are very severe (e.g. heartrot decay conks along the main stem, cavity encompassing more than 50% of the trunk)

Size of Defective Part

Size of defective part rates the size of the part most likely to fail. The larger the part that fails, the greater the potential for damage. Therefore, the size of the failure affects the hazard potential. Examples are:

1. Most likely failure less than 15cm in diameter.
2. Most likely failure 15 to 45cm in diameter.
3. Most likely failure 45 to 75cm in diameter.
4. Most likely failure greater than 75cm in diameter.

TARGET RATING

Target rating rates the use and occupancy of the area that would be struck by the defective part.

1. Occasional use: Jogging, cycling etc.
2. Intermittent use: Picnic area, day use parking etc.
3. Frequent use, secondary structure: Seasonal camping area, storage facilities etc.
4. Constant use, structures: year round use for a number of hours each day, residences.

The hazard rating is not intended to define "danger" or provide risk acceptance. The score is intended to be used as a simple guide to help client priorities where resources are scarce.

Further information see Matheny N, P & Clark J, R. (1994) A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas, Second Edition, International society of Arboriculture Books.

Hazard Score



Project GREEN
Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	14

Legislative Appraisal

Base Circumference (mm)	2000
Structural Root Zone (m)	2.73822746
1m Circum. Total (mm)	2220
1m Circum. Average (mm)	1110
Legislative Status	Regulated
1.4m Circumference (mm)	1970
Tree Protection Zone (m)	7.52866242

Works Required

• Western Side 11- 20% Weight Reduction On Lateral Required

Prune Tree To Reduce Western Canopy Extension.

Location Data

Date	Wed, 8 Feb 2017
Latitude	-34.8201352
Longitude	138.616761
ID Number	PGSA00006682



Appendix A: Tree Schedule
 Botanical Name: *Eucalyptus camaldulensis* - River Red Gum



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	14
Structure	Excellent
Crown Dia. N/S	9
Crown Dia. E/W	10

Legislative Appraisal

Base Circumference (mm)	2650
Structural Root Zone (m)	3 08176977
1m Circum. Total (mm)	2130
1m Circum. Average (mm)	2130
Legislative Status	Regulated
1.4m Circumference (mm)	1940
Tree Protection Zone (m)	7.41401274

Works Required

• No Works Required
No Work Required.

Location Data

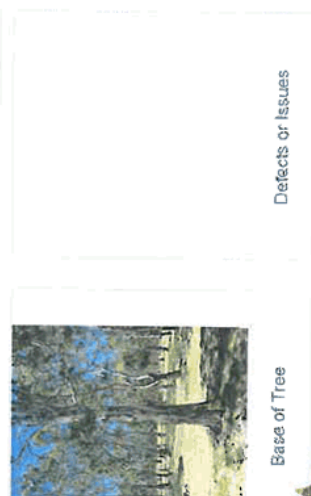
Date	Wed, 8 Feb 2017
Latitude	-34.8204843
Longitude	138.617939
ID Number	PGSA00006683



Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree

Defects or Issues



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	19
Structure	Excellent
Crown Dia. N/S	9
Crown Dia. E/W	9

Legislative Appraisal

Base Circumference (mm)	2800
Structural Root Zone (m)	3.15386643
1m Circum. Total (mm)	2010
1m Circum. Average (mm)	2010
Legislative Status	Regulated
1.4m Circumference (mm)	1850
Tree Protection Zone (m)	7.07006369

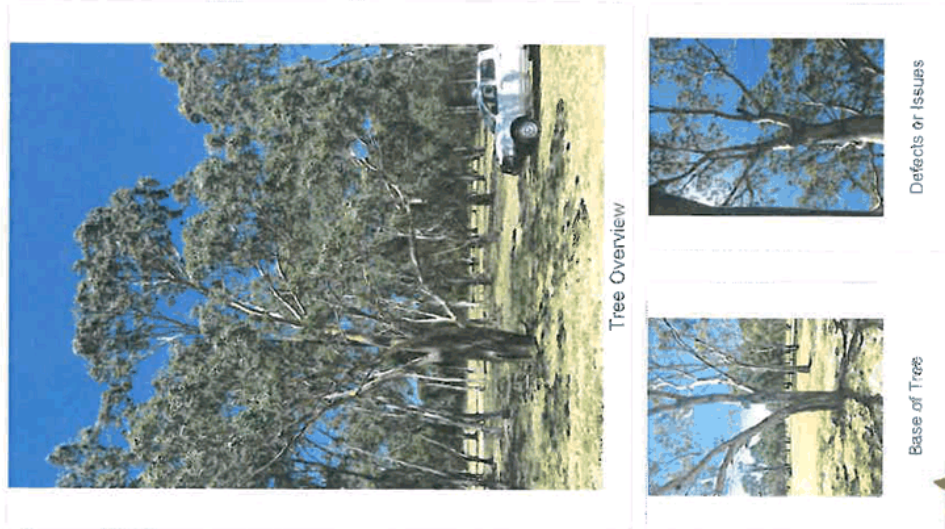
Works Required

• No Works Required
No Work Required.

Location Data

Date	Wed, 8 Feb 2017
Latitude	-34.8203893
Longitude	138.617958
ID Number	PGSA00006684


Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	13
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	11

Legislative Appraisal

Base Circumference (mm)	2300
Structural Root Zone (m)	2.90377268
1m Circum. Total (mm)	2850
1m Circum. Average (mm)	1425
Legislative Status	Regulated
1-4m Circumference (mm)	2600
Tree Protection Zone (m)	9.93630573

Works Required

• No Works Required

No Work Required.

Location Data

Date	Wed, 8 Feb 2017
Latitude	-34.8203408
Longitude	138.618156
ID Number	PGSA00006685

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Tree Information

Retainability	No
Age Class	Senescent
Health	Fair
Useful Life Expectancy	11+
Height	10
Structure	Poor
Crown Dia. N/S	8
Crown Dia. E/W	8

Legislative Appraisal

Base Circumference (mm)	2750
Structural Root Zone (m)	3.13008877
1m Circum. Total (mm)	2320
1m Circum. Average (mm)	2320
Legislative Status	Regulated
1-4m Circumference (mm)	2380
Tree Protection Zone (m)	9.0955414

Works Required

<ul style="list-style-type: none"> Remove Deadwood to 30mm and Stubs

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8201865
Longitude	138.61883
ID Number	PGSA00006666



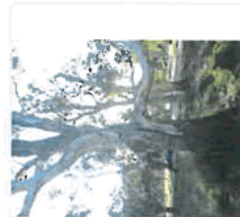
Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



PROJECT GREEN



Tree Overview



Base of Tree



Defects or Issues

Tree Information

Retainability	No
Age Class	Senescent
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Average
Grown Dia. N/S	19
Crown Dia. E/W	15

Legislative Appraisal

Base Circumference (mm)	4000
Structural Root Zone (m)	3.66354997
1m Circum. Total (mm)	3600
1m Circum. Average (mm)	3600
Legislative Status	Significant
1.4m Circumference (mm)	3480
Tree Protection Zone (m)	13.2993631

Works Required

- Remove Deadwood to 30mm and Stubs
- Reduce To Upright
- Western Side 11- 20% Weight Reduction On Lateral Required

Average Structure Tree.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8201344
Longitude	138.618776
ID Number	PGSA00006687




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Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum

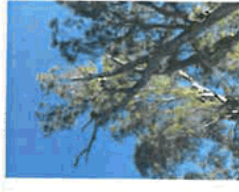




Tree Overview



Base of Tree



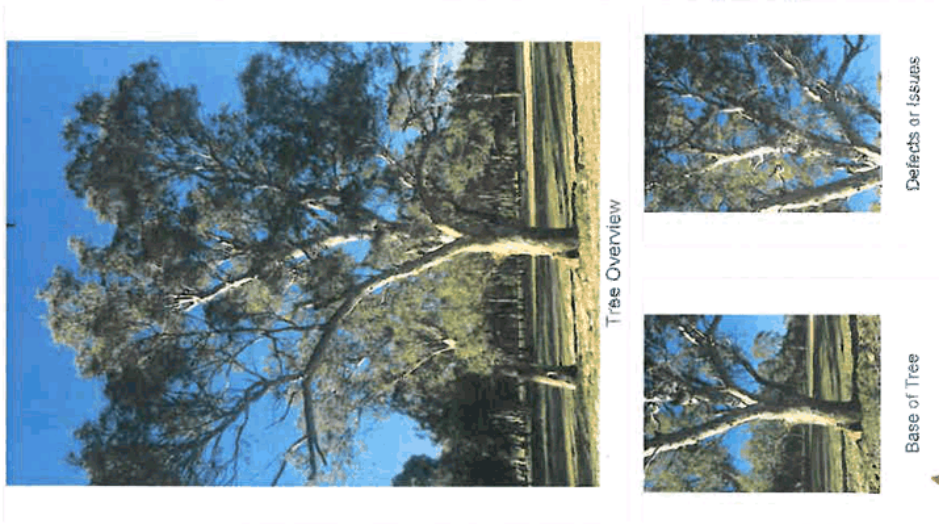
Defects or Issues

Tree Information		Legislative Appraisal	
Retainability	Yes	Base Circumference (mm)	2450
Age Class	Mature	Structural Root Zone (m)	2 98185609
Health	Good	1m Circum. Total (mm)	1980
Useful Life Expectancy	11+	1m Circum. Average (mm)	1980
Height	15	Legislative Status	Exempt
Structure	Average	1.4m Circumference (mm)	1850
Crown Dia. N/S	7	Tree Protection Zone (m)	7.07006369
Crown Dia. E/W	9	Works Required	
		<ul style="list-style-type: none"> Remove Deadwood to 30mm and Stubs 	
		Tree Close To Becoming Regulated. Prune Major Deadwood From Tree.	

Location Data	
Date	Thu, 9 Feb 2017
Latitude	-34.820033
Longitude	138.618567
ID Number	PGSA00006688




Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	15
Crown Dia. E/W	13

Legislative Appraisal

Base Circumference (mm)	3250
Structural Root Zone (m)	3.35759211
1m Circum. Total (mm)	2750
1m Circum. Average (mm)	2750
Legislative Status	Regulated
1.4m Circumference (mm)	2780
Tree Protection Zone (m)	10.6242038

Works Required

- Remove Deadwood to 30mm and Stubs

Prune All Major Deadwood From Tree

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8199909
Longitude	138.618535
ID Number	PGSA00006689

Item 5.1.1 - Attachment 2 - Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Information

Retainability	Yes
Age Class	Veteran
Health	Excellent
Useful Life Expectancy	11+
Height	22
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	13

Legislative Appraisal

Base Circumference (mm)	3920
Structural Root Zone (m)	3.63259576
1m Circum. Total (mm)	3120
1m Circum. Average (mm)	3120
Legislative Status	Significant
1.4m Circumference (mm)	3000
Tree Protection Zone (m)	11.4649682

Works Required

- No Works Required

No Work Required. Minor Deadwood In Canopy.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8188005
Longitude	138.618227
ID Number	PGSA00006680


Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree



Defects or Issues

Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	23
Structure	Excellent
Crown Dia. N/S	17
Crown Dia. E/W	19

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.819688
Longitude	138.618032
ID Number	PGSA00006691

Legislative Appraisal

Base Circumference (mm)	4000
Structural Root Zone (m)	3.66354997
1m Circum. Total (mm)	2920
1m Circum. Average (mm)	2920
Legislative Status	Regulated
1.4m Circumference (mm)	2850
Tree Protection Zone (m)	10.8917197

Works Required

- Remove Deadwood to 30mm and Stubs
- Remove Crossovers
- Remove Rubbing Limbs
- Southern Side 11- 20% Weight Reduction On Lateral Required

Prune All Major Deadwood From Canopy And Reduce The South Western Scaffold Limb By 15-20%

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Item 5.1.1 - Attachment 2 - Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree

Defects or Issues



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	22
Structure	Excellent
Crown Dia. N/S	18
Crown Dia. EW	18

Legislative Appraisal

Base Circumference (mm)	3450
Structural Root Zone (m)	3.44287253
1m Circum. Total (mm)	2550
1m Circum. Average (mm)	2550
Legislative Status	Regulated
1.4m Circumference (mm)	2470
Tree Protection Zone (m)	9.43949045

Works Required

- Remove Deadwood to 30mm and Stubs

Prune Deadwood From Tree.

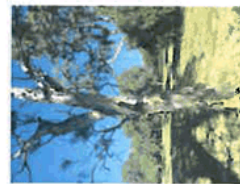
Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.819405
Longitude	138.617586
ID Number	PGSA00006692

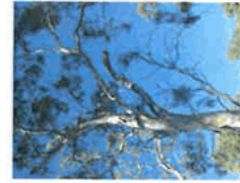
Appendix A: Tree Schedule
 Botanical Name: *Eucalyptus camaldulensis* - River Red Gum



Tree Overview



Base of Tree



Defects or Issues



Tree Information

Retainability	Yes
Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	9
Crown Dia. EW	7

Legislative Appraisal

Base Circumference (mm)	2670
Structural Root Zone (m)	3.0915171
1m Circum. Total (mm)	2120
1m Circum. Average (mm)	2120
Legislative Status	Regulated
1.4m Circumference (mm)	2020
Tree Protection Zone (m)	7.71974522

Works Required

• No Works Required
No Work Required. Minor Deadwood Through Tree.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8193769
Longitude	138.61749
ID Number	PGSA00006663

Item 5.1.1 - Attachment 2 - Appendix 2: Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



PROJECT GREEN



Tree Overview



Base of Tree



Defects or Issues

Tree Information

Retainability	Yes
Age Class	Mature
Health	Fair
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	12
Crown Dia. EW	12

Legislative Appraisal

Base Circumference (mm)	2900
Structural Root Zone (m)	3.20069346
1m Circum. Total (mm)	2250
1m Circum. Average (mm)	2250
Legislative Status	Regulated
1.4m Circumference (mm)	2320
Tree Protection Zone (m)	8.86624204

Works Required

- Remove Deadwood to 30mm and Stubs

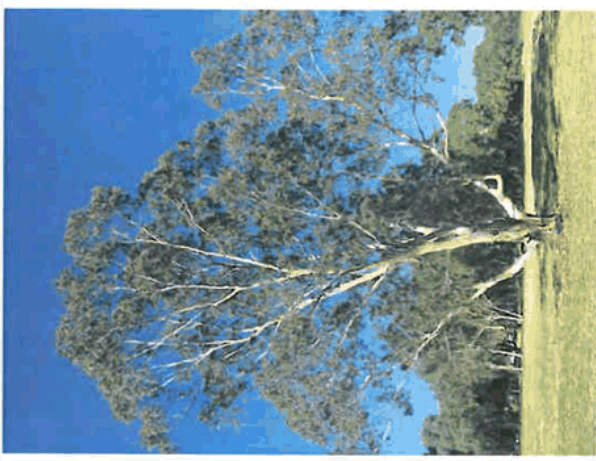
Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8194922
Longitude	138.617381
ID Number	PGSA00006694


Tree Showing Healthy New Growth Developing Following A Past Canopy Decline. Minor Deadwood Through Out Tree. Prune Majority Of Deadwood From Tree.




Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree

Defects or Issues

Tree Information	
Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	19
Structure	Excellent
Crown Dia. N/S	17
Crown Dia. E/W	18

Location Data	
Date	Thu, 9 Feb 2017
Latitude	-34.8199662
Longitude	138.617682
ID Number	PGSA00005695

Legislative Appraisal	
Base Circumference (mm)	3350
Structural Root Zone (m)	3.4006015
1m Circum. Total (mm)	3030
1m Circum. Average (mm)	3030
Legislative Status	Significant
1.4m Circumference (mm)	4680
Tree Protection Zone (m)	15

Works Required

- No Works Required

Well Structured Tree With No Defects. Worth Retaining. No Work Required



Item 5.1.1 - Attachment 2 - Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Casuarina glauca - Swamp Sheoak



Tree Overview



Base of Tree

Defects or Issues



Tree Information

Retainability	No
Age Class	Senescent
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	7
Structure	Poor
Crown Dia. N/S	9
Crown Dia. E/W	7

Legislative Appraisal

Base Circumference (mm)	3100
Structural Root Zone (m)	3.2916135
1m Circum. Total (mm)	2450
1m Circum. Average (mm)	2450
Legislative Status	Regulated
1.4m Circumference (mm)	2400
Tree Protection Zone (m)	9.17197452

Works Required

• No Works Required
No Work

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8200159
Longitude	138.618914
ID Number	PGSA0000000000

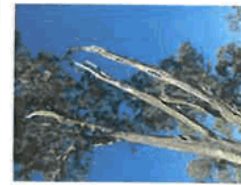
Appendix A: Tree Schedule
Botanical Name: Casuarina glauca - Swamp Sheoak



Tree Overview



Base of Tree



Defects or Issues



Tree Information

Retainability	No
Age Class	Senescent
Health	Good
Useful Life Expectancy	11+
Height	19
Structure	Average
Crown Dia. N/S	10
Crown Dia. EW	9

Legislative Appraisal

Base Circumference (mm)	4200
Structural Root Zone (m)	3.73939743
1m Circum. Total (mm)	3120
1m Circum. Average (mm)	3120
Legislative Status	Significant
1.4m Circumference (mm)	3150
Tree Protection Zone (m)	12.0382166

Works Required

<ul style="list-style-type: none"> Remove Deadwood to 30mm and Stubs
Remove Major Deadwood.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8199699
Longitude	138.618752
ID Number	PGSA00006697

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Appendix A: Tree Schedule
Botanical Name: Casuarina glauca - Swamp Sheoak



Tree Overview



Base of Tree



Defects or Issues

Tree Information

Retainability	No
Age Class	Senescent
Health	Excellent
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	12

Legislative Appraisal

Base Circumference (mm)	3400
Structural Root Zone (m)	3.42182716
1m Circum. Total (mm)	2780
1m Circum. Average (mm)	2780
Legislative Status	Regulated
1.4m Circumference (mm)	2600
Tree Protection Zone (m)	9.93630573

Works Required

- Remove Deadwood to 30mm and Stubs

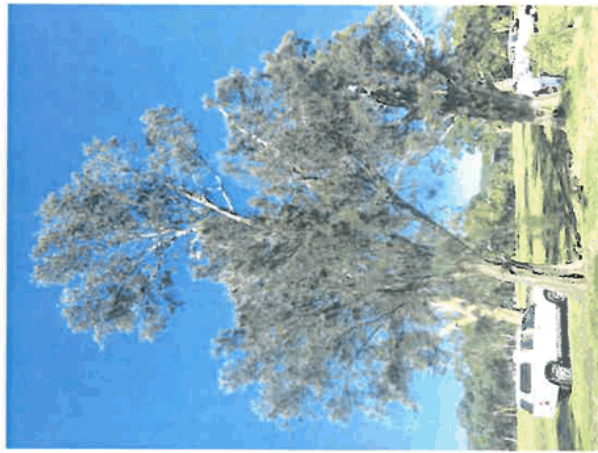
Prune Large Deadwood From Tree.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8198057
Longitude	138.61857
ID Number	PGSA00006698



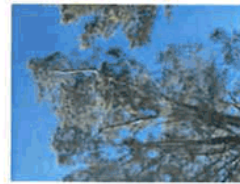
Appendix A: Tree Schedule
Botanical Name: Casuarina glauca - Swamp Sheoak



Tree Overview



Base of Tree



Defects or Issues



Tree Information

Retainability	No
Age Class	Veteran
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	10

Legislative Appraisal

Base Circumference (mm)	3100
Structural Root Zone (m)	3.2916135
1m Circum. Total (mm)	2100
1m Circum. Average (mm)	2100
Legislative Status	Regulated
1.4m Circumference (mm)	2050
Tree Protection Zone (m)	7.8343949

Works Required

- Remove Deadwood to 30mm and Stubs
- Prune Large Deadwood From Canopy.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8197313
Longitude	138.618409
ID Number	PGSA00006888

Item 5.1.1 - Attachment 2 - Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Casuarina glauca - Swamp Sheoak



Tree Overview



Base of Tree



Defects or Issues

Tree Information

Retainability	No
Age Class	Senescent
Health	Fair
Useful Life Expectancy	11+
Height	12
Structure	Poor
Crown Dia. N/S	8
Crown Dia. E/W	8

Legislative Appraisal

Base Circumference (mm)	3750
Structural Root Zone (m)	3.56557894
1m Circum. Total (mm)	3250
1m Circum. Average (mm)	3250
Legislative Status	Significant
1.4m Circumference (mm)	3050
Tree Protection Zone (m)	11.656051

Works Required

- Remove Deadwood to 30mm and Stubs
- Remove Deadwood.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8196829
Longitude	138.618352
ID Number	PGSA00006700



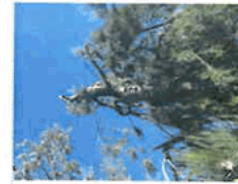
Appendix A: Tree Schedule
 Botanical Name: *Casuarina glauca* - Swamp Sheoak



Tree Overview



Base of Tree



Defects or Issues



Tree Information

Retainability	No
Age Class	Senescent
Health	Fair
Useful Life Expectancy	3 - 10 Years
Height	7
Structure	Poor
Crown Dia. N/S	3
Crown Dia. E/W	3

Legislative Appraisal

Base Circumference (mm)	2900
Structural Root Zone (m)	3.20069346
1m Circum. Total (mm)	2100
1m Circum. Average (mm)	2100
Legislative Status	Regulated
1.4m Circumference (mm)	1900
Tree Protection Zone (m)	7.2611465

Works Required

• No Works Required

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8195255
Longitude	138.618123
ID Number	PGSA00003701

No Work.

Item 5.1.1 - Attachment 2 - Appendix 2: Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Casuarina glauca - Swamp Sheoak



Tree Information

Retainability	Yes
Age Class	Veteran
Health	Excellent
Useful Life Expectancy	11+
Height	17
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	13

Legislative Appraisal

Base Circumference (mm)	3500
Structural Root Zone (m)	3.46374173
1m Circum. Total (mm)	2620
1m Circum. Average (mm)	2620
Legislative Status	Regulated
1.4m Circumference (mm)	2600
Tree Protection Zone (m)	9.93630573

Works Required

• No Works Required
No Work.

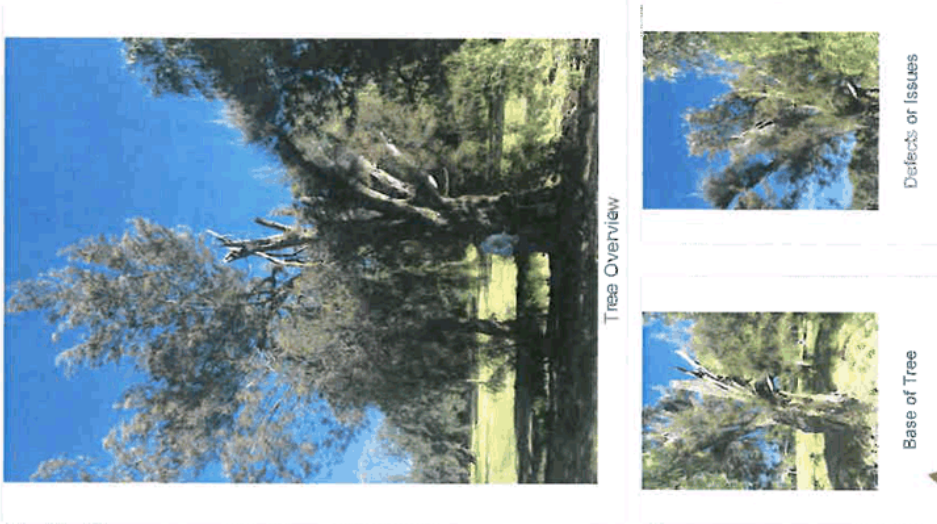
Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8195242
Longitude	138.618033
ID Number	PGSA00006702

Appendix A: Tree Schedule
Botanical Name: Casuarina glauca - Swamp Sheoak



PROJECT GREEN



Tree Information

Retainability	No
Age Class	Senescent
Health	Fair
Useful Life Expectancy	3 - 10 Years
Height	9
Structure	Poor
Crown Dia. N/S	8
Crown Dia. E/W	6

Legislative Appraisal

Base Circumference (mm)	4450
Structural Root Zone (m)	3.83131737
1m Circum. Total (mm)	3420
1m Circum. Average (mm)	3420
Legislative Status	Significant
1.4m Circumference (mm)	3270
Tree Protection Zone (m)	12.4968153

Works Required

- Remove Deadwood to 30mm and Stubs
- Remove Failed Limb Caught In Tree.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8193982
Longitude	138.617892
ID Number	PGSA00006703

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Item 5.1.1 - Attachment 2 - Appendix 2: Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Casuarina glauca - Swamp Sheoak



Tree Overview



Base of Tree

Defects or Issues



Tree Information

Retainability	No
Age Class	Senescent
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Average
Crown Dia. N/S	10
Crown Dia. E/W	9

Legislative Appraisal

Base Circumference (mm)	5600
Structural Root Zone (m)	4.2196448
1m Circum. Total (mm)	6850
1m Circum. Average (mm)	3425
Legislative Status	Significant
1.4m Circumference (mm)	6100
Tree Protection Zone (m)	15

Works Required

• No Works Required

No Work Required. Very Old And Large Tree For The Species.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8190946
Longitude	138.61742
ID Number	PGSA00006704

Appendix A: Tree Schedule
Botanical Name: Eucalyptus cladocalyx - Sugar Gum



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	22
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	10

Legislative Appraisal

Base Circumference (mm)	2900
Structural Root Zone (m)	3.20069346
1m Circum. Total (mm)	2230
1m Circum. Average (mm)	2230
Legislative Status	Regulated
1.4m Circumference (mm)	2200
Tree Protection Zone (m)	8.40764331

Works Required

• No Works Required
No Work Required.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8189501
Longitude	138.61772
ID Number	PGSA00006705

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Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree

Defects or Issues

Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	14
Structure	Good
Crown Dia. N/S	18
Crown Dia. E/W	18

Legislative Appraisal

Base Circumference (mm)	5000
Structural Root Zone (m)	4.02350296
1m Circum. Total (mm)	4050
1m Circum. Average (mm)	4050
Legislative Status	Significant
1.4m Circumference (mm)	3480
Tree Protection Zone (m)	13.2993631

Works Required

- Remove Deadwood to 30mm and Stubs
- Prune All Major Deadwood From Tree.

Location Data

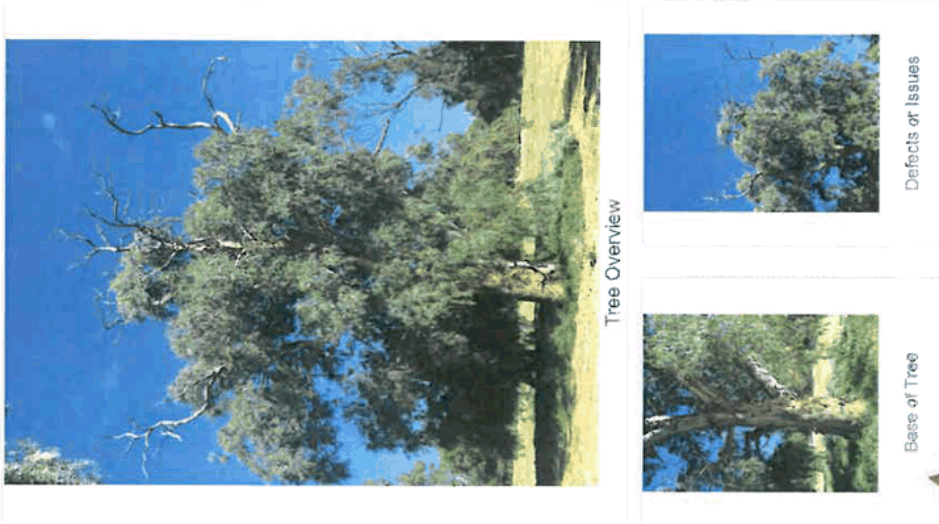
Date	Thu, 9 Feb 2017
Latitude	-34.81888
Longitude	138.617377
ID Number	PGSA00006706



Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



PROJECT GREEN



Tree Information

Retainability	Yes
Age Class	Veteran
Health	Excellent
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	10

Legislative Appraisal

Base Circumference (mm)	4900
Structural Root Zone (m)	3.98950742
1m Circum. Total (mm)	3980
1m Circum. Average (mm)	3980
Legislative Status	Significant
1.4m Circumference (mm)	3900
Tree Protection Zone (m)	14.9044586

Works Required

- Remove Deadwood to 30mm and Stubs
- Prune Major Deadwood From Upper Canopy.

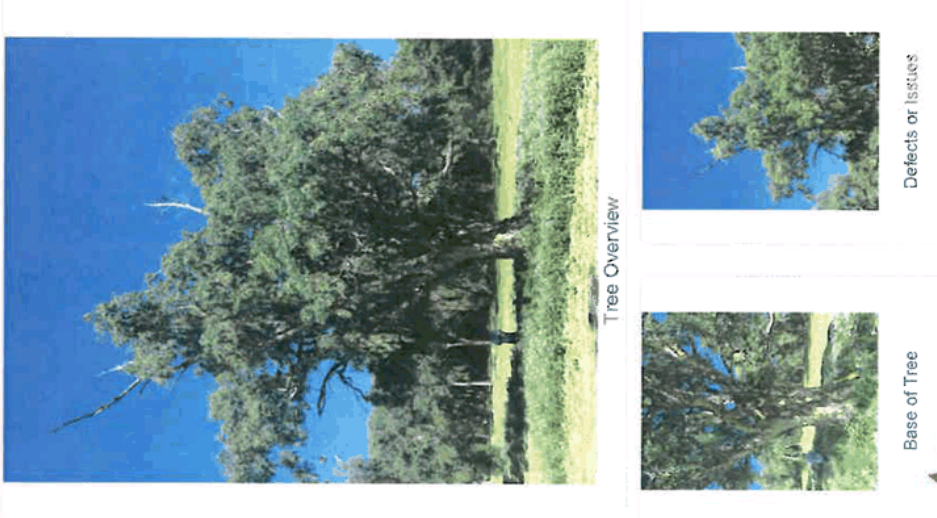
Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8181483
Longitude	138.617226
ID Number	PGSA00006707

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Item 5.1.1 - Attachment 2 - Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Information

Retainability	Yes
Age Class	Veteran
Health	Excellent
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	10

Legislative Appraisal

Base Circumference (mm)	4050
Structural Root Zone (m)	3.68271434
1m Circum. Total (mm)	3750
1m Circum. Average (mm)	3750
Legislative Status	Significant
1.4m Circumference (mm)	3550
Tree Protection Zone (m)	13.566879

Works Required

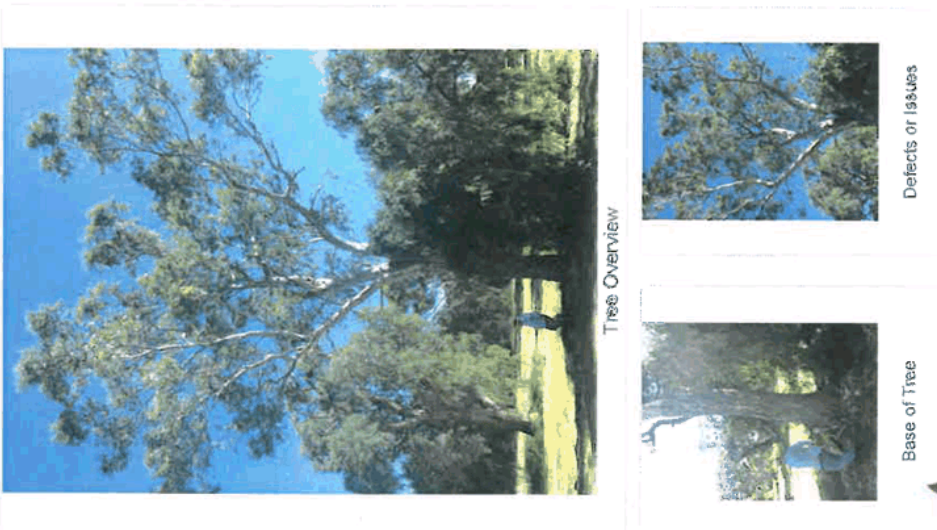
- Remove Deadwood to 30mm and Stubs
- Prune All Major Deadwood From Upper Canopy.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8193001
Longitude	138.617008
ID Number	PGSA00006708




Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	13
Crown Dia. EW	13

Legislative Appraisal

Base Circumference (mm)	2800
Structural Root Zone (m)	3.15386643
1m Circum. Total (mm)	2330
1m Circum. Average (mm)	2330
Legislative Status	Regulated
1.4m Circumference (mm)	2300
Tree Protection Zone (m)	8.78980892

Works Required

• No Works Required
No Work Required.

Location Data

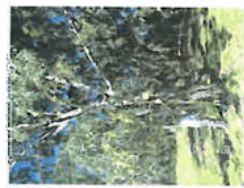
Date	Thu, 9 Feb 2017
Latitude	-34.8192792
Longitude	138.617319
ID Number	PGSA00006709

Item 5.1.1 - Attachment 2 - Appendix 2: Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree

Defects or Issues



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	16
Structure	Excellent
Crown Dia. N/S	10
Crown Dia. E/W	10

Legislative Appraisal

Base Circumference (mm)	2300
Structural Root Zone (m)	2.90377268
1m Circum. Total (mm)	2030
1m Circum. Average (mm)	2030
Legislative Status	Regulated
1.4m Circumference (mm)	1850
Tree Protection Zone (m)	7.07006369

Works Required

• No Works Required

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8191978
Longitude	138.616813
ID Number	PGSA00006710

No Work Required.

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree



Defects or Issues



Tree Information

Retainability	Yes
Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	8
Crown Dia. EW	13

Legislative Appraisal

Base Circumference (mm)	3400
Structural Root Zone (m)	3.42182716
1m Circum. Total (mm)	2860
1m Circum. Average (mm)	2860
Legislative Status	Regulated
1.4m Circumference (mm)	2830
Tree Protection Zone (m)	10.8152866

Works Required

<ul style="list-style-type: none"> Remove Deadwood to 30mm and Stubs Northern Side 11- 20% Weight Reduction On Lateral Required
Prune All Major Deadwood And Reduce The Northern Scaffold Limb By 10-15%

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8194306
Longitude	138.616864
ID Number	PGSA00006711

Item 5.1.1 - Attachment 2 - Appendix 2: Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree

Defects or Issues

Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	16
Crown Dia. E/W	14

Legislative Appraisal

Base Circumference (mm)	4500
Structural Root Zone (m)	3.84933917
1m Circum. Total (mm)	3900
1m Circum. Average (mm)	3900
Legislative Status	Significant
1.4m Circumference (mm)	3400
Tree Protection Zone (m)	12.9936306

Works Required

- Remove Deadwood to 30mm and Stubs
- Prune Deadwood From Canopy.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8196715
Longitude	138.616926
ID Number	PGSA00006712



Appendix A: Tree Schedule
Botanical Name: Eucalyptus sargentii - Salt River Gum



Tree Overview



Base of Tree



Defects or Issues

Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	14
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	11

Legislative Appraisal

Base Circumference (mm)	2100
Structural Root Zone (m)	2.79491772
1m Circum. Total (mm)	1900
1m Circum. Average (mm)	1900
Legislative Status	Exempt
1.4m Circumference (mm)	1900
Tree Protection Zone (m)	7.2611465

Works Required

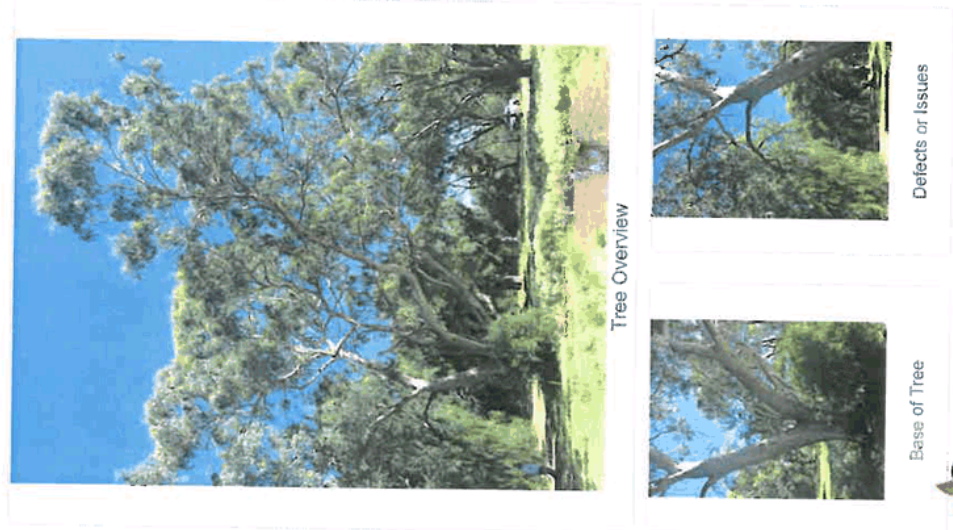
- Remove Deadwood to 30mm and Stubs
- Prune Tree To Remove All Major Deadwood.

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8196059
Longitude	138.616326
ID Number	PGSA00006713



Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	22
Structure	Good
Crown Dia. N/S	20
Crown Dia. E/W	24

Legislative Appraisal

Base Circumference (mm)	3700
Structural Root Zone (m)	3.54553395
1m Circum. Total (mm)	3290
1m Circum. Average (mm)	3290
Legislative Status	Significant
1.4m Circumference (mm)	3500
Tree Protection Zone (m)	13.3757962

Works Required

- Remove Deadwood to 30mm and Stubs
 - Eastern Side 11-20% Weight Reduction On Lateral Required
- Prune All Major Deadwood From Tree And Reduce Over Extended Scaffold Limbs By 15-20%

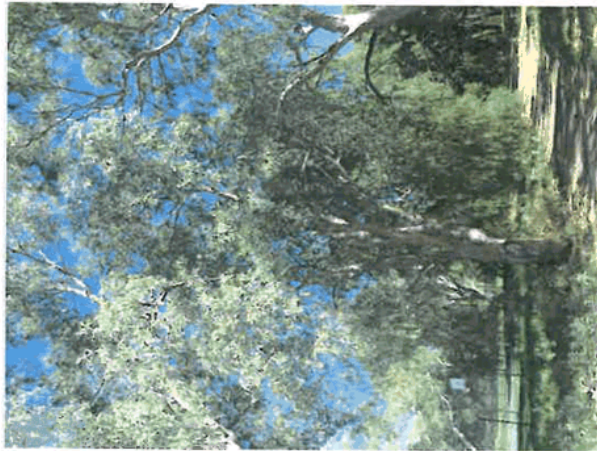
Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8198376
Longitude	138.616451
ID Number	PGSA00006714



Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree

Defects or Issues

Tree Information

Retainability	Yes
Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	14
Structure	Good
Crown Dia N/S	9
Crown Dia E/W	9

Legislative Appraisal

Base Circumference (mm)	2300
Structural Root Zone (m)	2.90377268
1m Circum. Total (mm)	2100
1m Circum. Average (mm)	2100
Legislative Status	Regulated
1.4m Circumference (mm)	2070
Tree Protection Zone (m)	7.91082803

Works Required

- No Works Required

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8198648
Longitude	138.616408
ID Number	PGSA00006715

No Work. Minor Deadwood In Tree.



Item 5.1.1 - Attachment 2 - Appendix 2: Supporting Information and Reports

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree



Defects or Issues

Tree Information

Retainability	Yes
Age Class	Veteran
Health	Excellent
Useful Life Expectancy	11+
Height	23
Structure	Excellent
Crown Dia. N/S	20
Crown Dia. E/W	22

Legislative Appraisal

Base Circumference (mm)	5500
Structural Root Zone (m)	4.18783202
1m Circum. Total (mm)	5000
1m Circum. Average (mm)	5000
Legislative Status	Significant
1.4m Circumference (mm)	4700
Tree Protection Zone (m)	15

Works Required

<ul style="list-style-type: none"> No Works Required
No Work Required. Trees Protection Zone Extends Beyond Fence Line And Path Through Reserve. (15m)

Location Data

Date	Thu, 9 Feb 2017
Latitude	-34.8198141
Longitude	138.616407
ID Number	PGSA00006716



Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum



Tree Overview



Base of Tree

Defects or Issues

Tree Information

Retainability	Yes
Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	14

Legislative Appraisal

Base Circumference (mm)	3150
Structural Root Zone (m)	3.31380811
1m Circum. Total (mm)	2850
1m Circum. Average (mm)	2850
Legislative Status	Regulated
1.4m Circumference (mm)	3000
Tree Protection Zone (m)	11.4649682

Works Required

• No Works Required
No Work Required.

Location Data

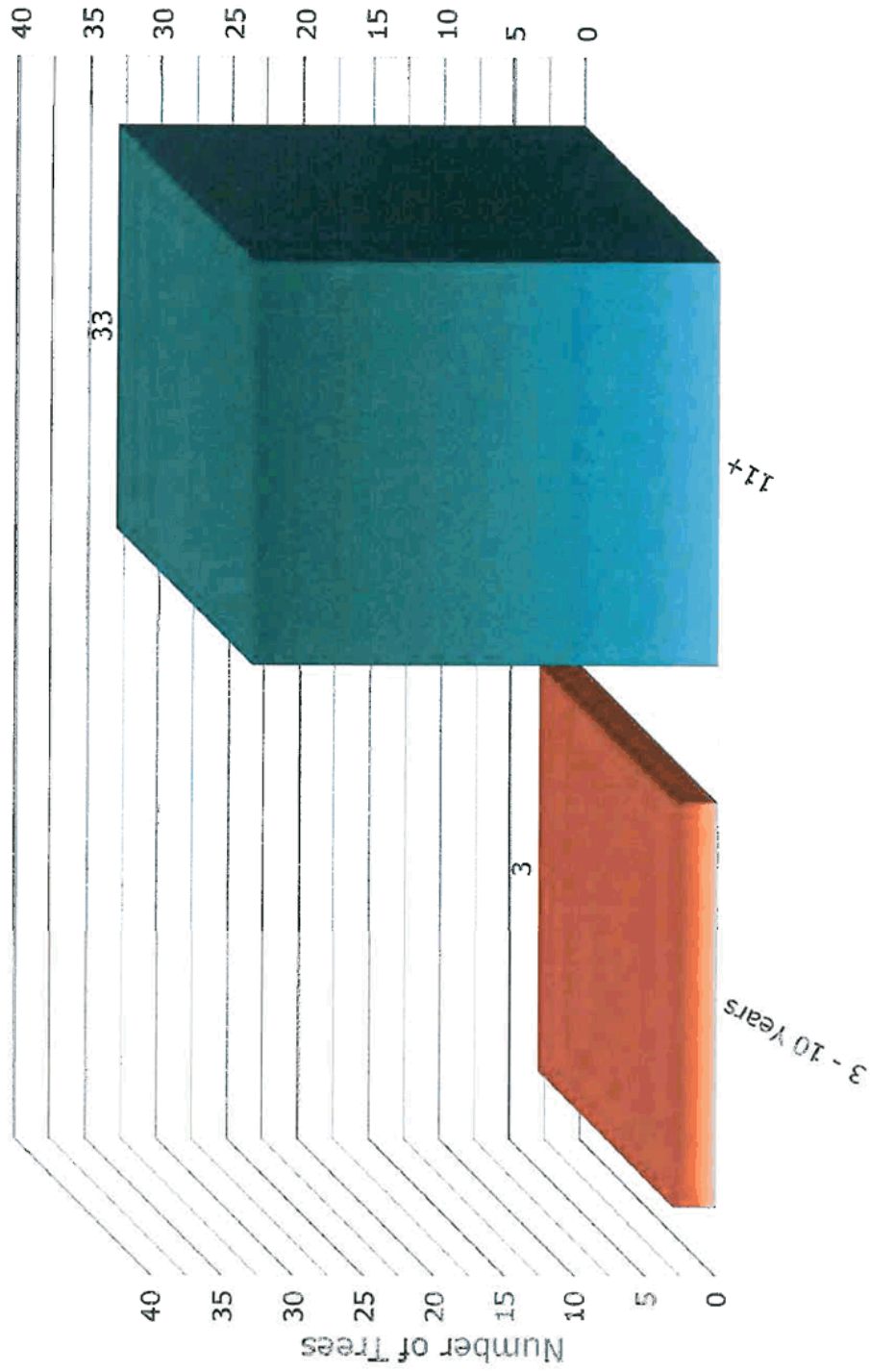
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Latitude	-34.8196799
Longitude	138.616576
ID Number	FGSA00006747



Appendix B:
USEFUL LIFE EXPECTANCY

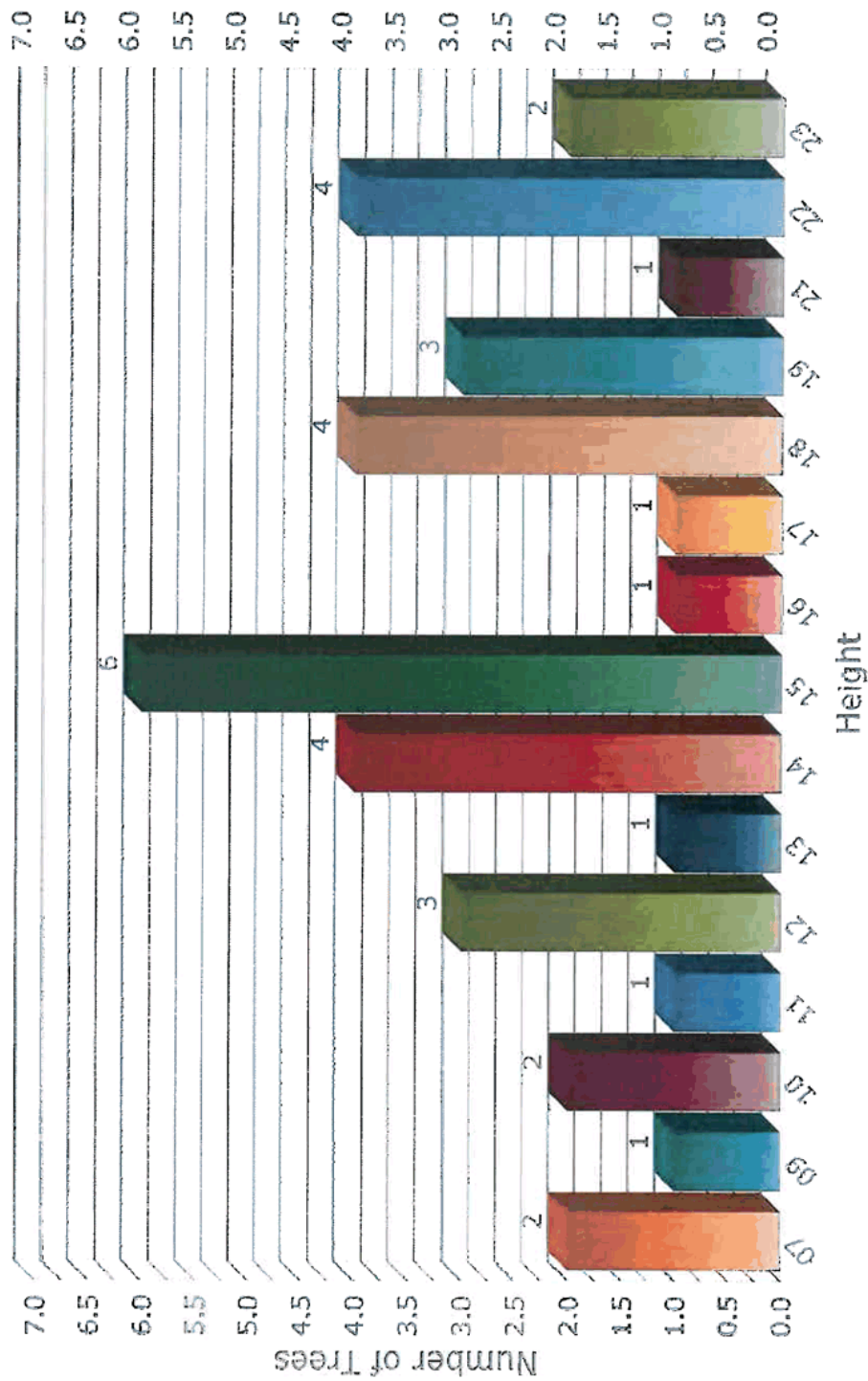


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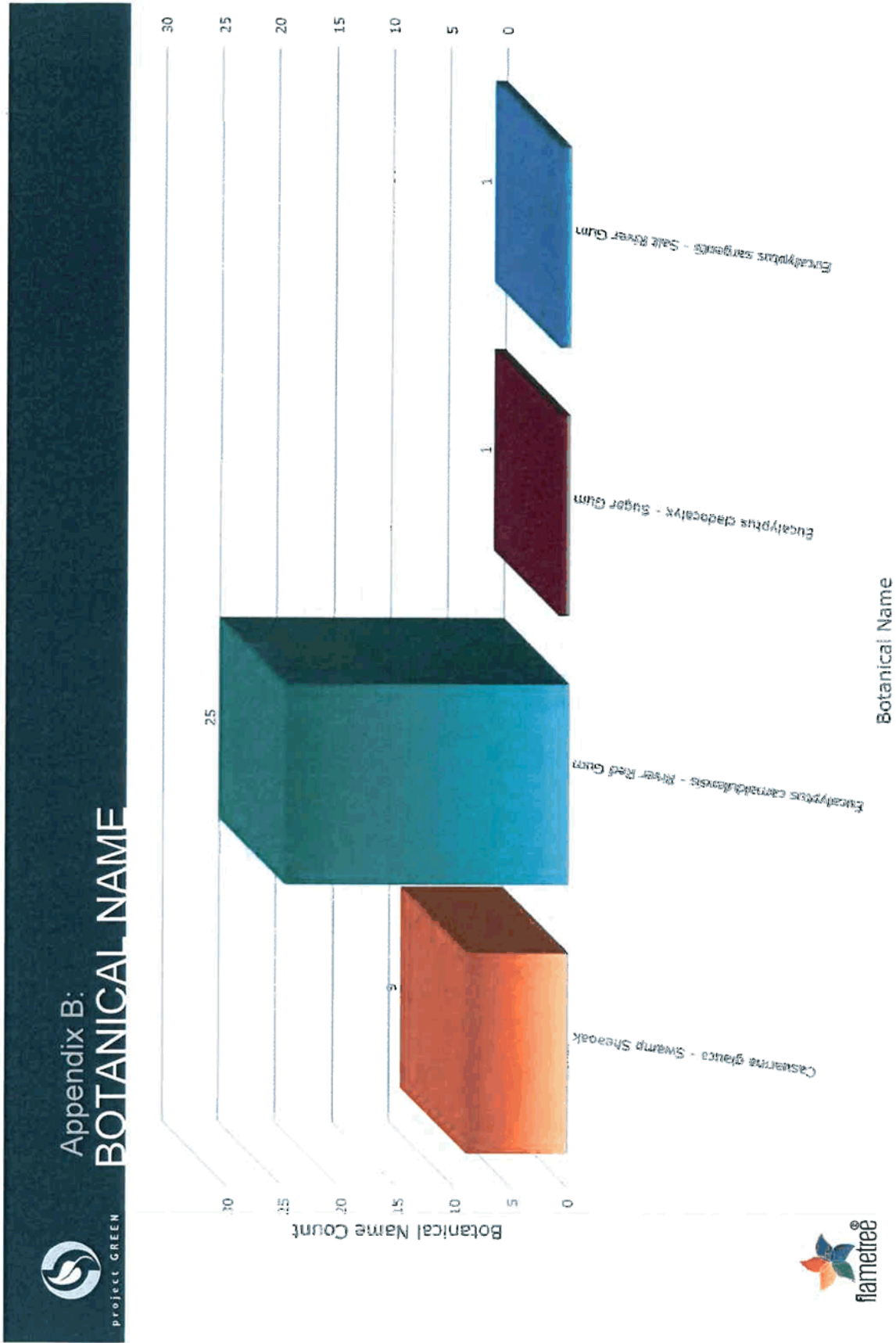
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Appendix B:
TREE HEIGHT



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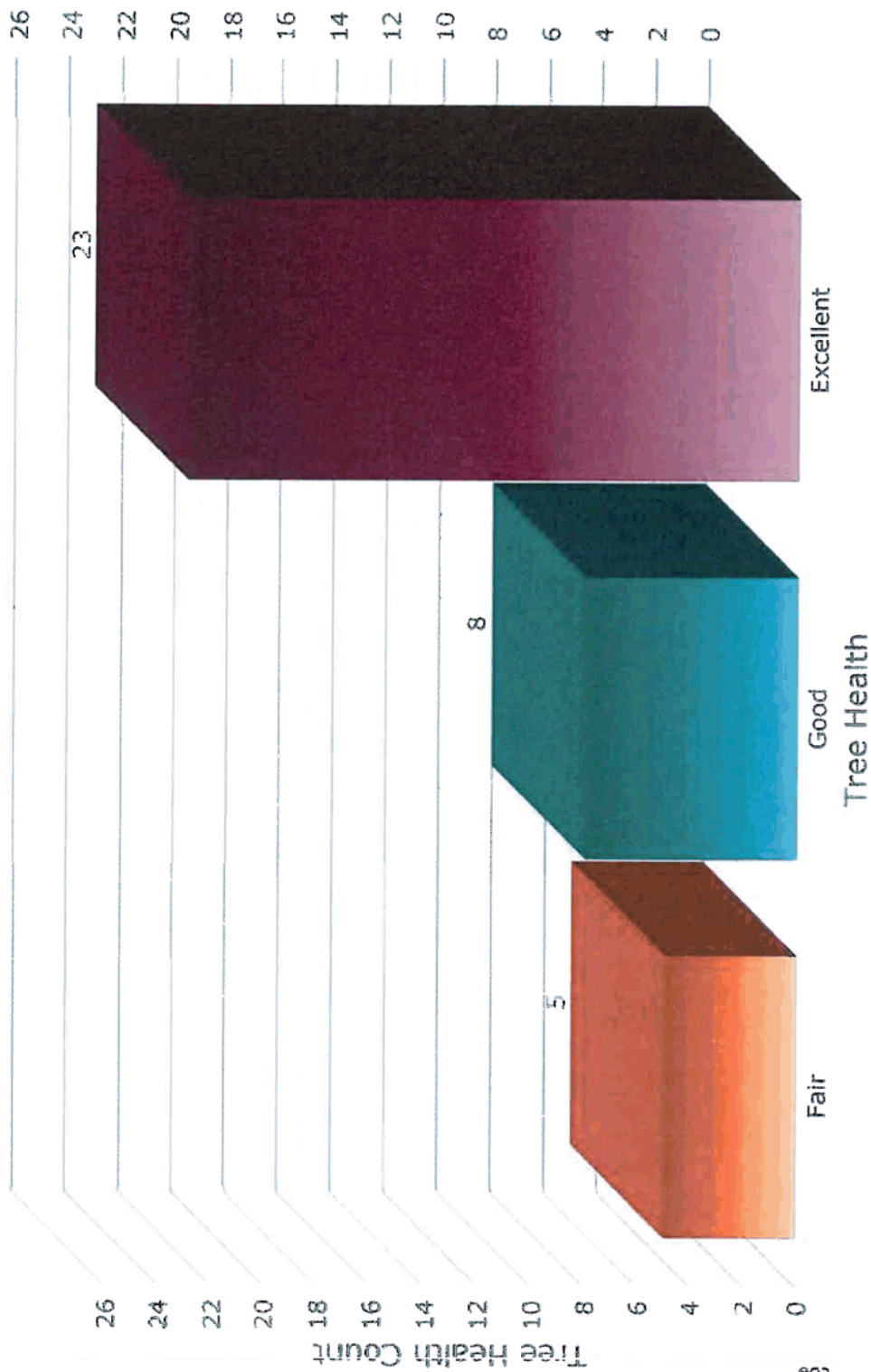
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Appendix B:
TREE HEALTH

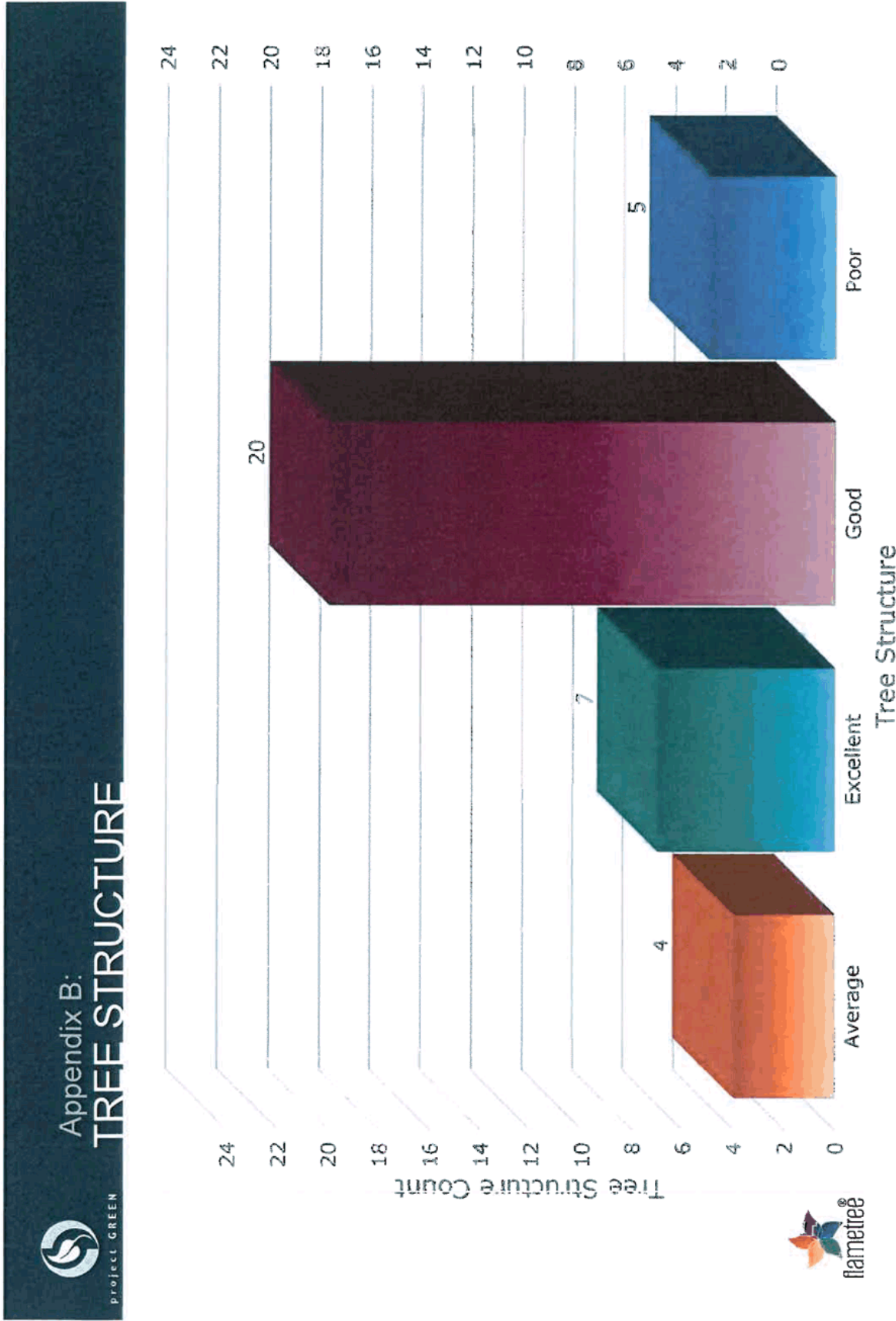


PROJECT GREEN

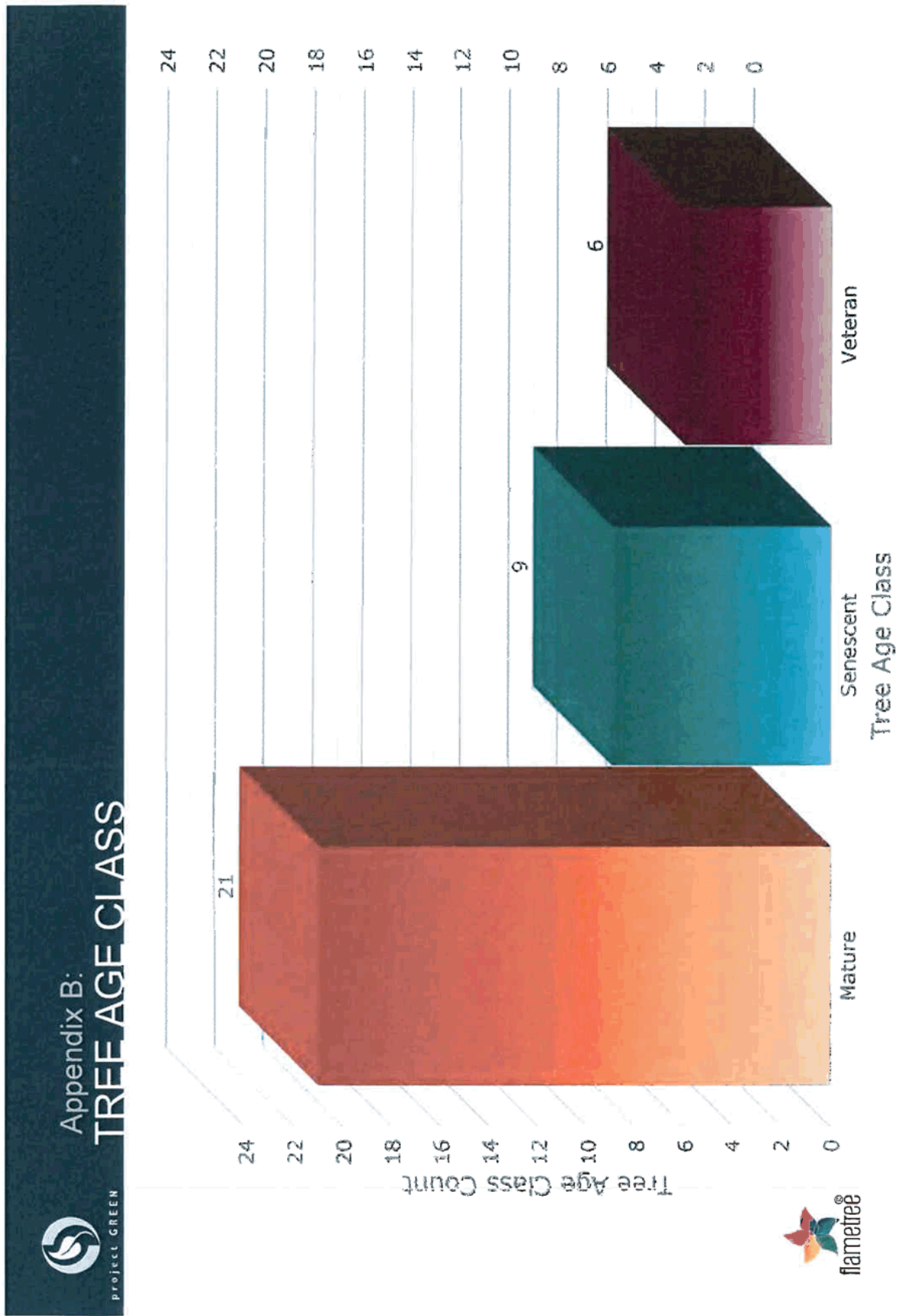


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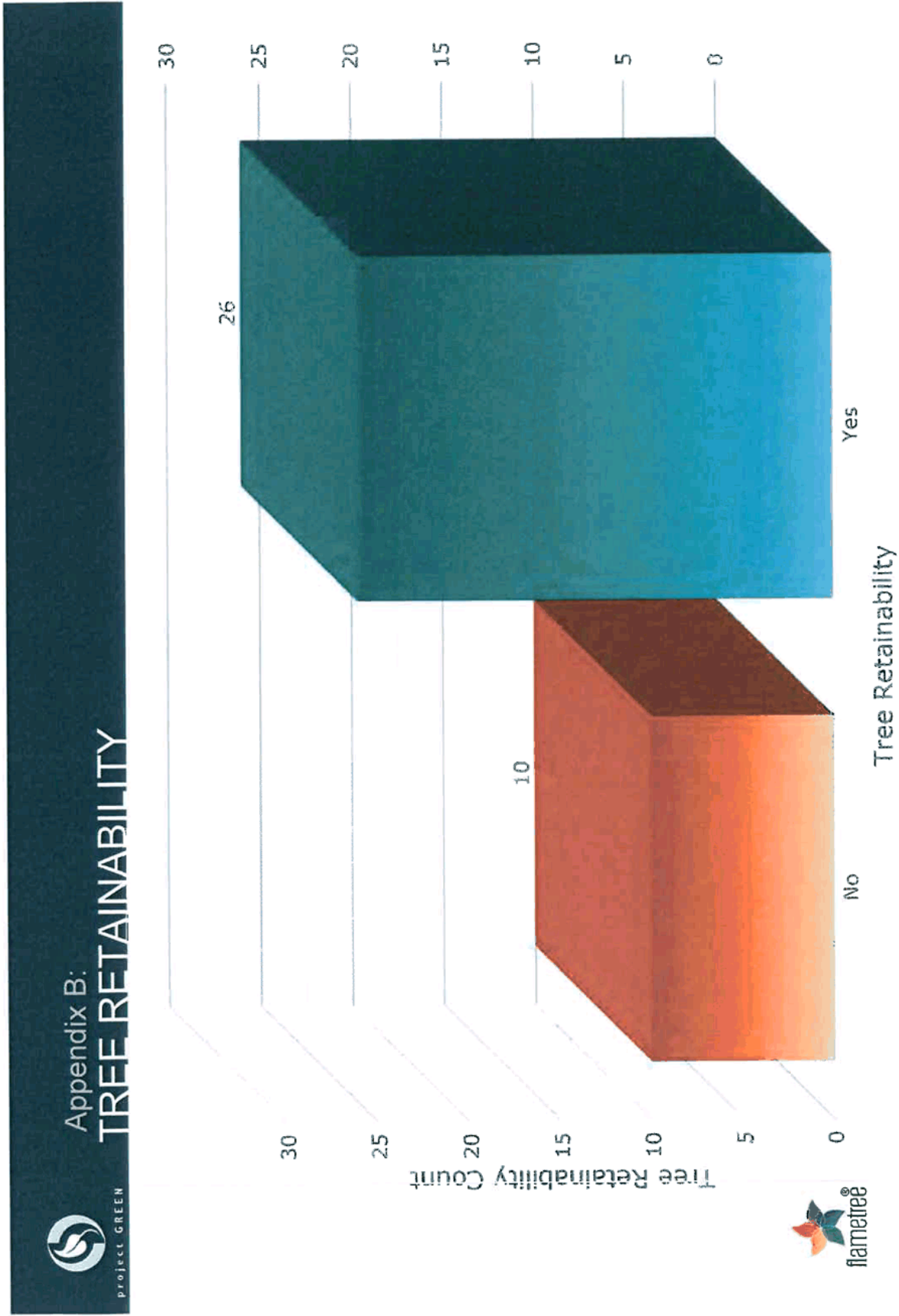
Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports



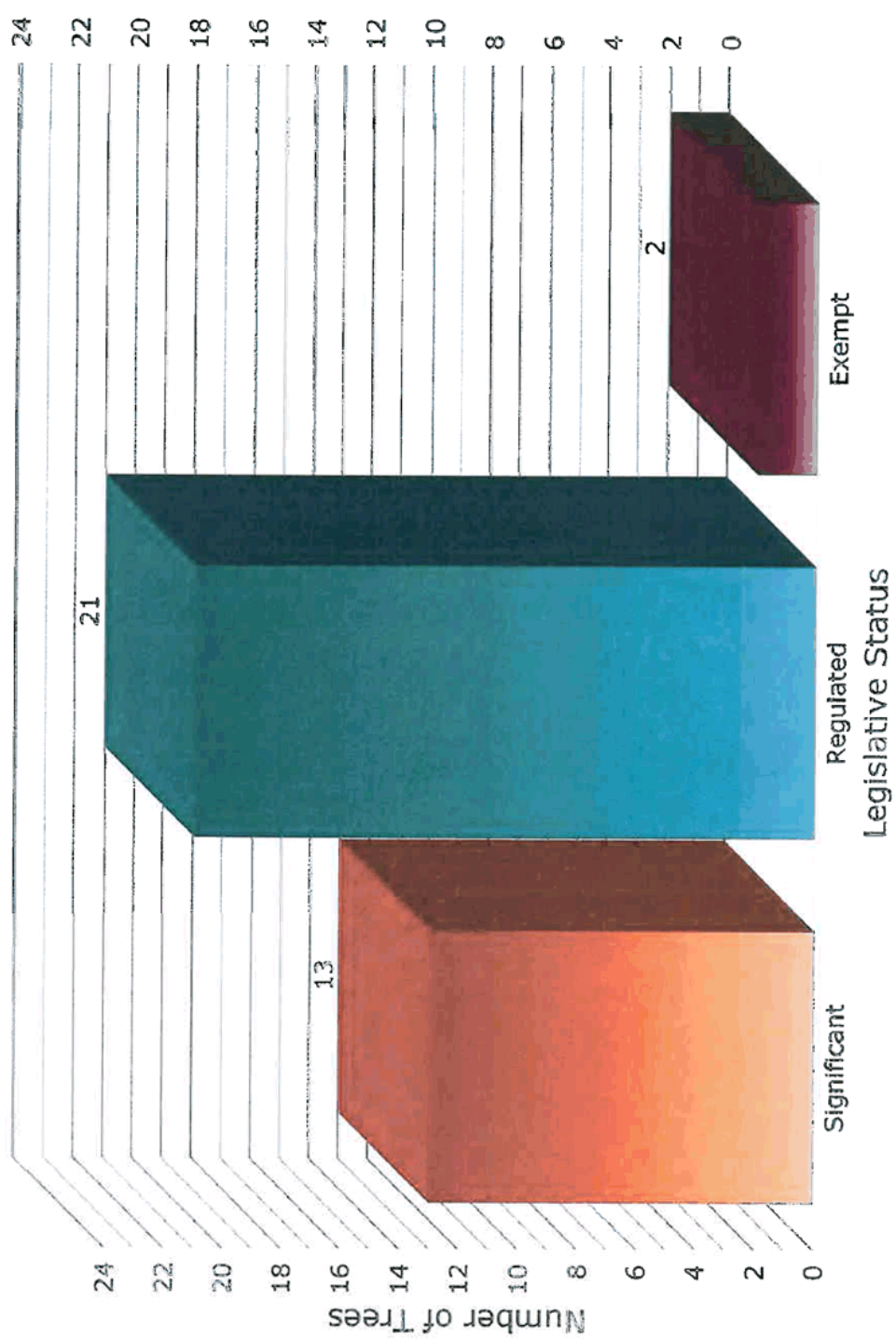
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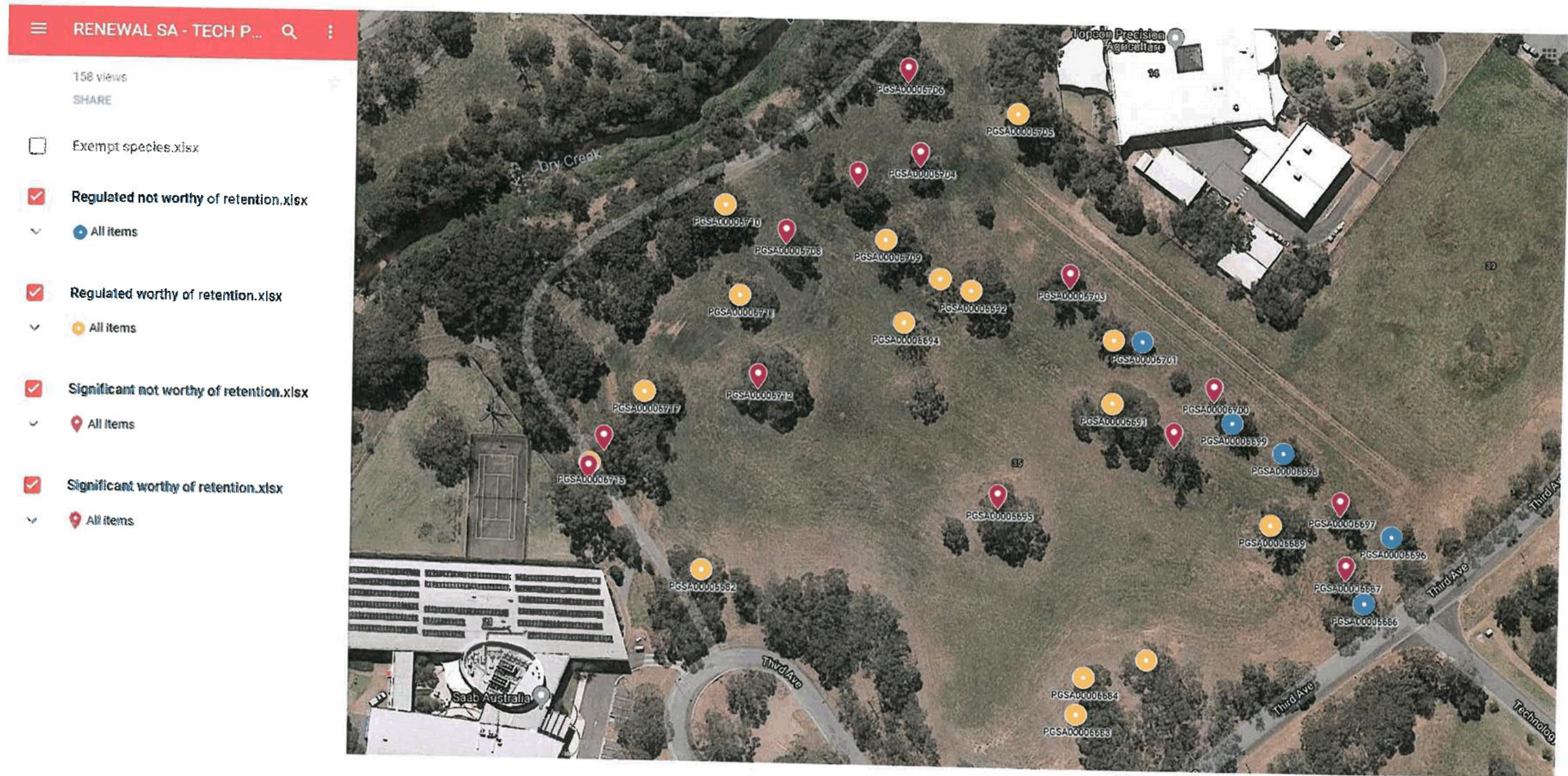
Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports



Appendix B:
LEGISLATIVE STATUS



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**LOT 5 LAND DIVISION
THIRD AVENUE, MAWSON LAKES**
TRAFFIC AND PARKING REPORT





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APPENDIX A: LAND DIVISION PLANS		



1. INTRODUCTION

CIRQA has been engaged to provide design and assessment advice for a proposed residential land division at Lot 5 Third Avenue, Mawson Lakes. The proposal comprises the land division of the subject site to create 62 residential allotments. Specifically, CIRQA has provided advice in respect to the traffic and parking aspects of the proposal.

This report provides a review of the subject site, the proposed development (and its associated operation), its access and parking provisions and the associated traffic impact on the adjacent road network. The traffic and parking assessments have been based upon plans prepared by Alexander Symonds (drawings no. A15411PROP(F) and A15411BEP(C), dated 10/10/2017, refer Appendix A).

2. BACKGROUND

2.1 SUBJECT SITE

The subject site is located at Lot 5 Third Avenue, Mawson Lakes. The site is bound by Third Avenue to the south, commercial offices to the north-east and south-west, and vacant land to the north-west. The Salisbury Council's Development Plan identifies that the site is located within an Urban Core Zone.

The subject site is currently vacant. There are currently no crossovers or formal access points to the site.

Figure 1 illustrates the location of the subject site and the surrounding road network.

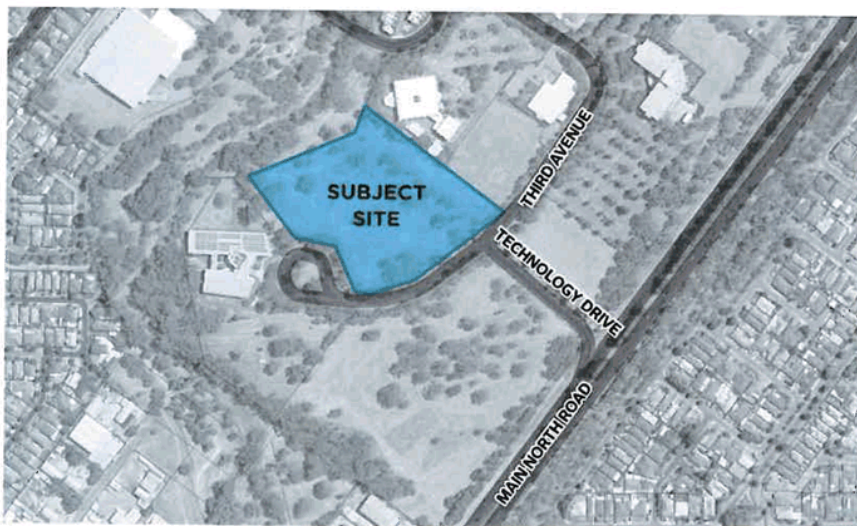


Figure 1 – Location of the subject site and existing access with regard to the adjacent road network

2.2 ADJACENT ROAD NETWORK

Third Avenue is a local road under the care and control of the Salisbury Council. Third Avenue comprises an 8 m wide carriageway (approximate), with an unmarked single traffic lane in each direction. The default urban speed limit of 50 km/h applies on Third Avenue. Data recorded by the City of Salisbury indicates that Third Avenue (north of Technology Drive) has a daily traffic volume of approximately 1,060 vehicles per day (vpd). South of Technology Drive, the current traffic volume is in the order of 475 vpd.



Technology Drive is a local road under the care and control of the Salisbury Council. Technology Drive comprises a 6 m wide single traffic lane carriageway (approximate). The road forms a one-way link from Main North Road (via left-in movements only) to Third Avenue. The default urban speed limit of 50 km/h applies on Technology Drive. Data recorded by the City of Salisbury indicates that Technology Drive has a daily traffic volume of approximately 840 vpd.

2.3 WALKING AND CYCLING

Pedestrian access is facilitated via a sealed footpath on the southern side of Third Avenue, on the northern side of Technology Drive and on both sides of Main North Road. A sealed shared (pedestrian and cyclist) path also exists along the northern and western boundaries of the subject site, providing a link between Third Avenue and Park Way and the broader Mawson Lakes precinct. Cyclists can access the site using the footpath and shared path network or via the dedicated bike lanes on Main North Road, which form part of the Bike Direct network. Cyclists are also able to access the site via shared arrangements on the adjacent road network.

2.4 PUBLIC TRANSPORT

The subject site is serviced by public transport services along Main North Road and the nearby Park Way. Bus stops are located approximately 200 m and 160 m from the subject site on Main North Road and Park Way, respectively.

Main North Road services include:

- 228: Smithfield Interchange to City;
- 228F: Smithfield Interchange to City;
- 228X: Smithfield Interchange to City (express);
- 472: Smithfield Interchange to Roma Mitchell Secondary School (school service);
- 930: Paradise to Mawson Lakes (school service);
- 949: Elizabeth to Adelaide Secondary School of English (school service); and
- AOX15: Elizabeth Shopping Centre to Adelaide Oval (Adelaide Oval event service).

Park Way services include:

- 238: UniSA Mawson Lakes Campus to City;
- 501: Mawson Interchange to City; and
- 565: Mawson Interchange to Ingle Farm.



It should also be noted that the Mawson Interchange and Mawson Lakes Railway Station is located approximately 1,800 m from the subject site (which includes a 550 space 'Park 'n' Ride' facility).



3. PROPOSED DEVELOPMENT

3.1 LAND USE AND YIELD

The proposal comprises the land division of the subject site resulting in the creation of 62 residential allotments plus a public reserve. The land division includes the proposal for new public road reserves to provide access to/from the various allotments. Of the 62 allotments, 61 will be developed for low density dwellings with one larger allotment (fronting Third Avenue) proposed to accommodate higher density development.

3.2 ACCESS AND PARKING DESIGN

The site will be serviced by a new internal public road network with a primary connection to Third Avenue. The primary access will form a priority controlled (unsignalised) intersection with Third Avenue. A secondary link to Third Avenue is provided on the eastern corner of the subject site which is proposed to form a left-out only for vehicles exiting the subject site onto Third Avenue. The access points will form new priority-controlled T-intersections with Third Avenue. No direct access for the allotments is proposed to be accommodated via Third Avenue (and a 'buffer' strip will be provided to formalise this access restriction).

The internal roads will all comprise low volume, local roads or laneways. Traffic volumes of all the proposed roads (including the primary access road) will carry volumes well below the typical limit for a local residential street of 2,000 vpd. The road will comprise the following cross sections:

- Local road – 14 m wide road reserve with 7.2 m wide carriageway with footpaths provided on both sides of the road; and
- Laneways – 8 m wide road reserve (minimum) with 6.0 m wide carriageway.

Pedestrian movements within laneways will be shared with vehicular movements as is typical for laneways (given the slow speed, low volume environment) and also available via footpaths on the frontage roads for rear loaded dwellings. For allotments 17 to 23, it is recommended that a footpath path be provided within the adjacent reserve along the north-western boundary of the allotments.

Intersections proposed within the internal road network will all be priority-controlled T-intersections with no four-way intersections (the intersection of the laneway behind allotments 1 to 5 has been staggered to avoid creation of a four-way intersection with the road at the rear of allotment 62). Verge widths and corner cut-offs will be provided to ensure adequate distances are provided with the proposed road network.



On-street (parallel) parking will be accommodated on both sides of the roads' carriageway. Additional angled bays are proposed in the vicinity of the reserve and allotments 17 to 23). The angled spaces will not strictly conform with Australian Standard, *Parking Facilities Part 5: On-street parking* (AS 2890.5-1993) in that the additional manoeuvring area identified in the Standard (between the road and parking spaces) is not proposed. The angled spaces will however be provided in conformance with the Australian/New Zealand Standard, *Parking Facilities Part 1: Off-street car parking* (AS/NZS 2890.1:2004). The non-conforming arrangement will require approval from the City of Salisbury. However, the arrangement is considered supportable given the road design seeks to encourage a low speed environment with improved safety outcomes for all road users. Furthermore, traffic volumes on the carriageways adjacent the angled spaces will be very low and there will be minimal conflict risk associated with the proposed arrangement.

The road layout has been designed to accommodate the turning movements of a 10.0 m long rigid vehicle (to accommodate refuse collection, furniture removalist vehicles and emergency services vehicles).

As noted above, footpaths (of 1.5 m width) will be provided on both sides of each proposed local road (excluding laneways). Bicycle movements will be shared with vehicle movements within the roads' carriageways or on the footpaths with pedestrians. Such arrangements are acceptable given the very low volumes forecast for the proposed roads (refer Section 5).

3.3 REFUSE COLLECTION

The road layout has been designed to accommodate the turning movements of a 10.0 m long rigid vehicle (accommodating refuse collection, furniture removalists and emergency service vehicles). Figures 2 to 4 illustrate turning movements at key locations for such vehicles.

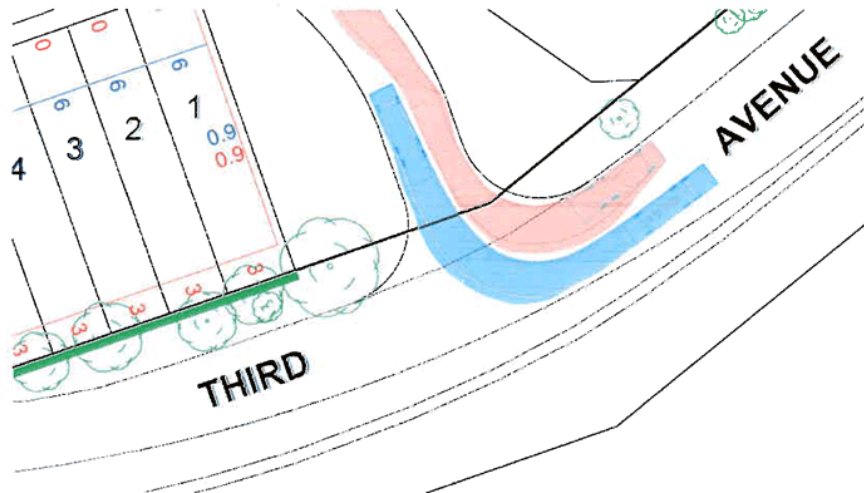


Figure 2 – Simultaneous 10.0 m long truck movements at the primary access

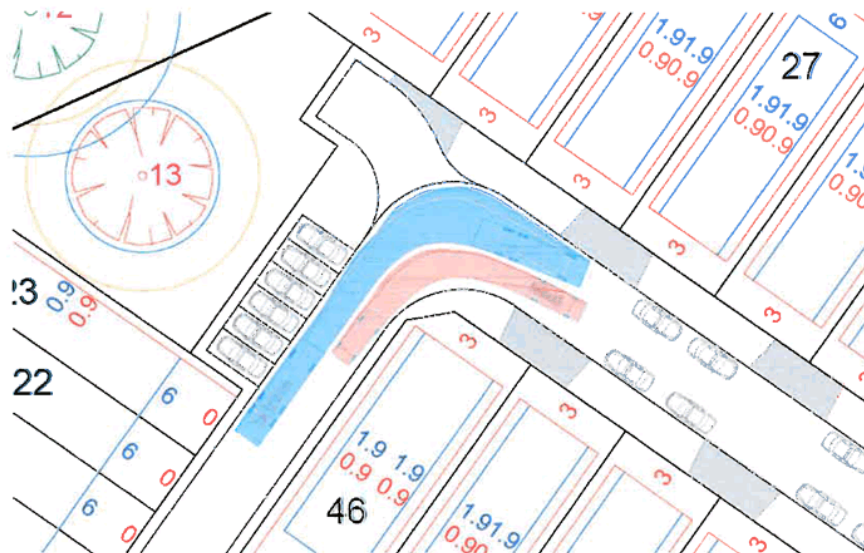


Figure 3 – Simultaneous 10.0 m long truck and B99 car turn paths

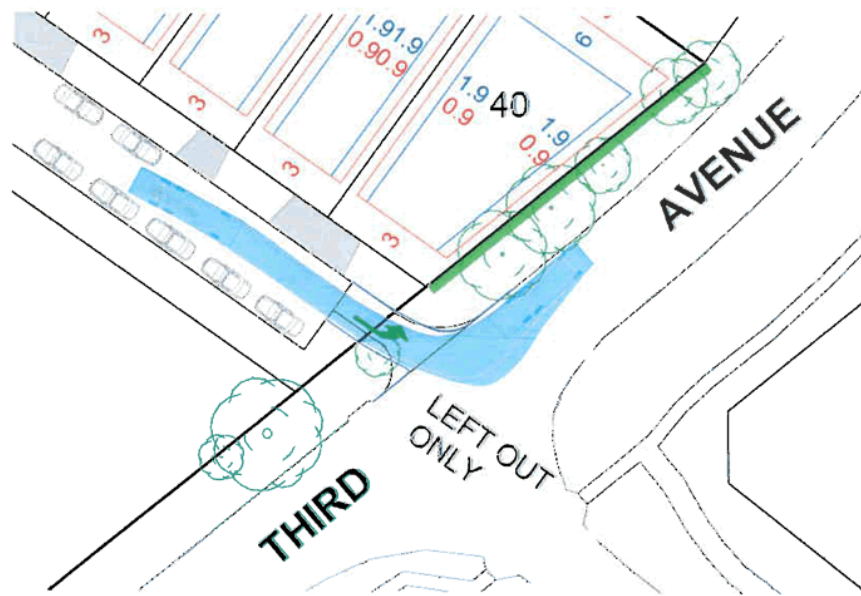


Figure 4 - 10.0 m long truck left-out egress movement



4. PARKING ASSESSMENT

As illustrated on the attached plan, the proposed road layout will result in the provision of approximately 63 on-street parking spaces for the 62 allotments. In reality, a small number of spaces will not eventuate due to the need to provide access for allotment 62. However, in the order of 60 spaces would be achievable on the proposed roads. Such a provision results in a high level of on-street parking, well above the typical level of one on-street parking space per two dwellings applied to residential land divisions.

Parking provision within individual allotments would be assessed during individual development applications for any proposed dwellings. The proposed allotment sizes will more than adequately accommodate parking requirements for future dwellings developed within the site.



5. TRAFFIC ASSESSMENT

5.1 TRAFFIC GENERATION AND DISTRIBUTION

Daily traffic generation rates for traditional dwellings in the order of 7.5 to 8 trips per dwelling are commonly applied within Adelaide (with 10% occurring during the am and pm peak hours). For conservatism, the higher of the above range (8.0 trips per dwelling) has been adopted for assessment of the single dwelling allotments. For the higher density development, a reduced traffic generation rate of 6.5 daily trips per dwelling (with 10% generated during the peak hours) has been adopted (in line with typical rates applied for such proposals). For the higher density allotment, it has been assumed that approximately 20 dwellings could be developed.

On this basis, the future development of the proposed allotments could generate in the order of 618 daily vehicle trips (or approximately 60 peak hour trips).

A forecast of the distribution of the following peak hour movements has been prepared on the basis of the following assumptions:

- am peak hour movements will comprise 70% trips out of and 30% trips in to the site;
- pm peak hour movements will comprise 30% trips out of and 70% trips in to the site;
- 15% of movements will be to/from the north (approximately 9 trips);
- 15% of movements will be to/from the east (approximately 9 trips);
- 40% of movements will be to/from the south (approximately 24 trips); and
- 30% of movements will be to/from the west (approximately 18 trips).

Given the layout of the broader road network (including the 'dead-end' nature of Third Avenue to the west and the one-way restriction on Technology Drive), the distribution of the majority of movements will be via Third Avenue (north of Technology Drive). On this basis, Figure 4 illustrates the forecast additional peak hour traffic movements at the primary and secondary access points as well as on Technology Drive and Third Avenue (north of Technology Drive).

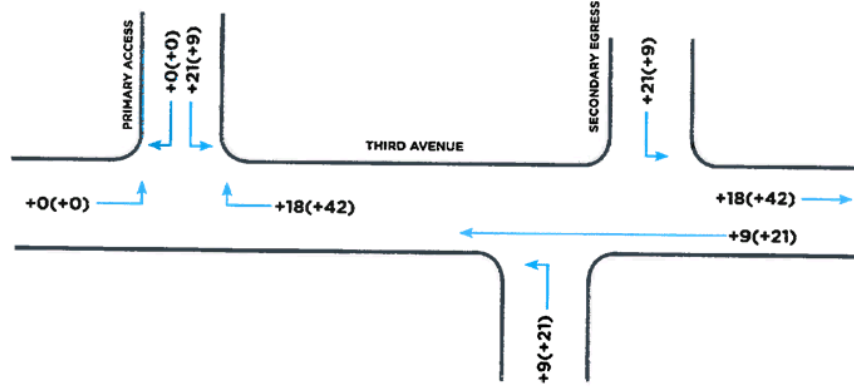


Figure 5 – Forecast additional am and (pm) peak hour movements

5.2 TRAFFIC IMPACT

The predicted low volumes of traffic generated by the proposed development are within the capacity of Third Avenue. The low number of additional trips would be readily accommodated at the proposed access points and on Third Avenue. The traffic volumes would be further distributed on the broader road network with negligible impact and no change to the existing nature and function of Third Avenue or Technology Drive.

In relation to the proposed left-out only egress on to Third Avenue, it is acknowledged Council’s initial preference was for all access to the proposed allotments to be accommodated via a single access point on Third Avenue. However, the proposed left-out egress is considered appropriate and in line with the Development Plan in that it:

- allows the efficient movement of service and emergency vehicles (in particular, it avoids the need to provide a turnaround area with reversing manoeuvres at the north-east side of allotment 62) as sought by the Land Division – Principle of Development Control (PDC) 15(g);
- allows provision of adequate sight distances between drivers exiting via the left-out egress and other drivers travelling along both Third Avenue and Technology Drive as sought by Land Division PDC 17(b); and
- accommodates an efficient movement of traffic with minimised trip lengths as sought by Land Division PDC 19.

The proposed left-out egress will be staggered from the adjacent intersection of Third Avenue/Technology Drive and can be signed and linemarked appropriately to define the associated turn restriction. In reality, there would be no reason for drivers to undertake other movements from the egress given Third Avenue is a



'dead-end' to the south-west of the ingress and Technology Drive is one-way and does not accommodate egress movements to Main North Road. In addition to the above, the number of traffic movements utilising the left-out movement will be very low and can be accommodated efficiently and safely.



6. SUMMARY

The proposed residential land division will result in the division of the existing allotment into 62 residential allotments. Access to the land division and all 62 allotments will be provided via a new internal public road network. No direct access to allotments will be provided via Third Avenue. Access to the new roads will be provided via a primary access point on Third Avenue and secondary (minor) left-out only egress to Third Avenue.

On-street parking will be provided throughout the land division. In the order of 60 on-street spaces will be provided which results in a high level of on-street parking rate (well above the typical rate of one space per two dwellings applied in residential land divisions). This will easily accommodate on-street parking demands associated with future residential development on the proposed allotments.

It is forecast that future development of the land division would generate in the order of 60 peak hour trips. These movements would be distributed to/from the broader road network via Third Avenue. The forecast number of movements is low and would be readily accommodated on the adjacent road network with negligible impact.

Chris Carrey

From: David Hughes <david@hughespm.com.au>
Sent: Monday, 17 December 2018 11:32 AM
To: Chris Carrey
Subject: (DWS Doc No 5171937) Fwd: Third Avenue - Traffic response

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Chris,

FYI

Regards

David Hughes
Director



p: PO Box 479 Torrens Park SA 5062
m: 0459 077 304
e: david@hughespm.com.au
w: <http://www.hughespm.com.au>

----- Forwarded message -----
From: Ben Wilson (CIRQA) <ben@cirqa.com.au>
Date: Thu, Dec 13, 2018 at 5:00 PM
Subject: Third Avenue - Traffic response
To: David Hughes <david@hughespm.com.au>

Hi David,

Further to your request, I have reviewed the comments provided by Council in relation to the proposed land division. I have extracted the key comments relating to traffic matters below (in italics) followed by my response to each item.

Public Notification

“We disagree with the position of CIRQA, and have formed the view that the division will change the nature or function of Third Avenue.”

While the section in front of the site is essentially a local (access) road... the section north-east of Technology Drive should be classed as a collector road. While it's volumes are not currently at the level associated with that designation, the limited connectivity for the broader area and connection via Main North Road would mean that if the area had been developed more fully (as per its zoning) then this section of Third Avenue would have volumes above that associated with a local access road. The function and nature of Third Avenue is to carry higher volumes associated with the associated catchment area in line with a 'collector road' designation -just because these areas have not yet been developed doesn't reduce the road's intended function. In particular, I note that the area has been planned and designed as an Urban Core Zone which would clearly have a reasonable potential for generation of traffic above that currently experienced and would require the section of Third Avenue north of-east of Technology Drive to function as a collector road. The section immediately in front of our site – even using Council's suggested higher generation numbers (discussed further below) – would be within the levels associated with residential/local access roads. This development not change the nature and function of this 'local road' section. I therefore continue to be of the opinion that the proposal will not change the nature and function of Technology Drive.

“The CIRQA report assumes trip generation values which are not in keeping with standard industry practice. This results in lower proposed traffic volumes than may otherwise be expected. Given the isolated nature of the development from minor services it's reasonable to expect 10 trips per day per dwelling (conservatively resulting in 810 trips per day based on construction of 20 dwellings on Lot 62).”

It is common-place for reduced trip generation rates below the 'historic' 10 trips per dwelling rate to be adopted and approved within metropolitan Adelaide. Surveys undertaken by other consultancies have confirmed that current generation rates are below the traditional rate noted by Council. In particular, I am aware of a survey undertaken by MFY in a relatively isolated residential area of Mt Barker (with limited public transport and walking/cycling connections) that identified a daily traffic generation rate below 8 trips per dwelling. Nevertheless, adopting the higher rate identified by Council (of 10 trips per dwelling with 10% in the peak) there would be negligible difference to the outcomes of the previous traffic assessment. On this rate, the proposal would generate 810 daily trips (81 peak hour) assuming that the higher density dwellings are also assessed at this rate. The traffic volumes on Third Avenue would increase to up to 1,285 vehicles per day and 1,670 vpd (approximately 200 vpd would enter via Technology Drive) for the sections south-west and north-east of Technology Drive, respectively. This still aligns with the above comments regarding the nature and function of Third Avenue.

“The increase in traffic volumes proposed by the development will result in the traffic volumes approaching 1900 vehicles per day and change the nature of Third Avenue from a local road to a local collector road. In addition, the proposal will introduce residential vehicle movements to a stretch of road which presently experiences predominantly business related movements only.”

As above, the traffic volumes will be below 1,900 vpd on any one section of Third Avenue (as a proportion of movements will not utilise the north-eastern section of Third Avenue). As discussed above, I am of the opinion that the nature and function of Third Avenue is not altered by the proposal.

Traffic/Access and Car Parking

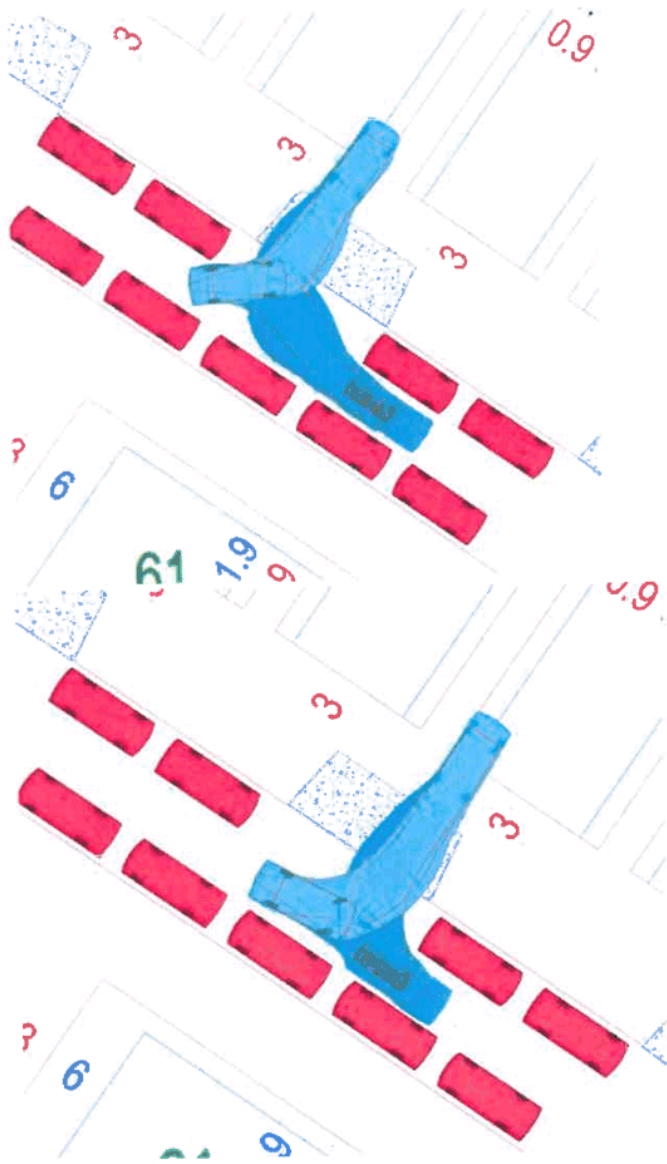
“In accordance with comments above, the CIRQA predicted traffic volumes should be recalculated.”

Updated traffic volumes have been provided above based on the Council suggested rate.

“The assumption for on-street car parking numbers appears unrealistic.

- It is assumed that all allotments will have a single width driveway – how do you propose to deliver this as an outcome?
- On street parking provision opposite driveways and behind the parking bays adjacent Lot 17 will likely not work.
- Detailed manoeuvring templates should be provided for all ‘tight’ parking situations if these spaces are to be relied upon.”

I do not agree with Council’s statement regarding the on-street parking provision being unrealistic. While it is noted that some driveways may be provided as dual width driveways which would reduce provision, there is a significant provision of on-street spaces based on the current plan. Even on a worst-case basis of all dwellings (other than those accessed via laneways or on the high density lot) having dual driveways, there would be approximately 12 to 14 less on-street parking spaces. This would result in approximately 46 to 48 on-street spaces – still above the provision of one on-street space per dwelling. In relation to parking opposite driveways, such provisions on roads with a carriageway width of 7.2 m is common place in Adelaide without issue (two example turn paths are provided below for this arrangement).



It is also unclear why Council believes the parking spaces adjacent Lot 17 will “likely not work”. The dimensional provisions are in line with typical parking space provision (and if necessary, could be widened further).

“Preliminary discussion included provision of a reserve strip along the full width of the site to prevent direct access to Third Avenue. Whilst this has been provided partially, direct access from the super lot (lot 62) to Third Avenue is not supported. The 100mm reserve should extend from Lot 16 to Lot 1, the entire frontage of Lot 62 and Lot 40 – i.e. there should be no direct access from any of the lots to Third Avenue.”

I am of the understanding direct access for proposed lots to Third Avenue is not intended. This could be addressed with the extension of the reserve strip as suggested by Council.

“We have concerns with the creation of the proposed 4-way junction where the ‘left out only’ access will meet with Technology Drive and Third Avenue. The attempt to partially offset the junction is acknowledged; however we have a concern that this access may be subject to misuse, particularly by

vehicles seeking to turn right into the road to short-cut the main access. Additional detail regarding how this may be controlled is required.”

While it is acknowledged that there is the ability for ‘ opportunistic’ illegal movements to occur, the number of such movements would be low and drivers, if this was undertaken, would tend to do so when the side road was clear of oncoming vehicles – the conflict risk would be low. Nevertheless, there would be opportunity to increase the angle of the left-out egress as part of detailed design if required to further reinforce the turn restriction. Consideration could also be given to the installation of a narrow, cigar central median on Third Avenue to restrict the right turn in that Council has raised concern about (whilst retaining turns out of Technology Drive). Alternatively, the connection could be removed and the five adjacent dwellings be serviced by either trucks reversing down the short section of road or residents positioning their bins either on Third Avenue or the priority internal road (such as near lots 33 and 33 or on the north-western side of lot 62). This would require residents to wheel bins less than 50 m (which is the level typically applied for maximum bin carting distances).

“In addition, on street parking shown between Lot 62 and Lots 37-40 suggests that parking will occur on both sides of the road. Detail regarding how vehicles are expected to turn around without using private driveways is sought.”

Crossovers for dwellings do not form part of private driveways and can legally be utilised for turning movements. Nevertheless, the end parking space could be removed to provide additional turning area with minimal impact on overall provision.

Footpaths

“For the purpose of facilitating the installation of street trees. Our preference is for footpaths to be installed on one side of the local roads. This is so as to minimise future conflict between street trees and footpath/ public infrastructure.”

Noted – Council’s preference for footpaths on only one side of the roads can easily be adopted.

“In relation to footpath provision from the development to the Dry Creek Linear Trail, this should be facilitated from the road corridor between lots 16 and 17, which will also provide opportunity to provide an access path across the front of lots 17-23 to access into footpath network of the development and to the reserve.”

Agreed

If you require any further information, please feel free to contact me on (08) 7078 1801.

Cheers,

Ben Wilson | Director



Planning and Design of Networks to Move People

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Residential Sub-Division

Technology Park

Environmental Noise Assessment

S5895C2

January 2019

sonus.

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Prepared by
Chris Turnbull (MAAS)

Reviewed by
Jason Turner (MAAS)



GLOSSARY

A-weighting	Frequency adjustment representing the response of the human ear
dB(A)	A-weighted noise level (sound pressure level) measured in decibels
L _{Aeq}	The A-weighted equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.
L _{Amax}	The A weighted maximum instantaneous sound pressure level in decibels.

Residential Sub-Division Technology Park
Environmental Noise Assessment
S5895C2
January 2019



INTRODUCTION

A residential subdivision is proposed for land at Technology Park, Mawson Lakes. The extent of the subject land is shown in Figure 1 below and will comprise a range of detached dwellings.

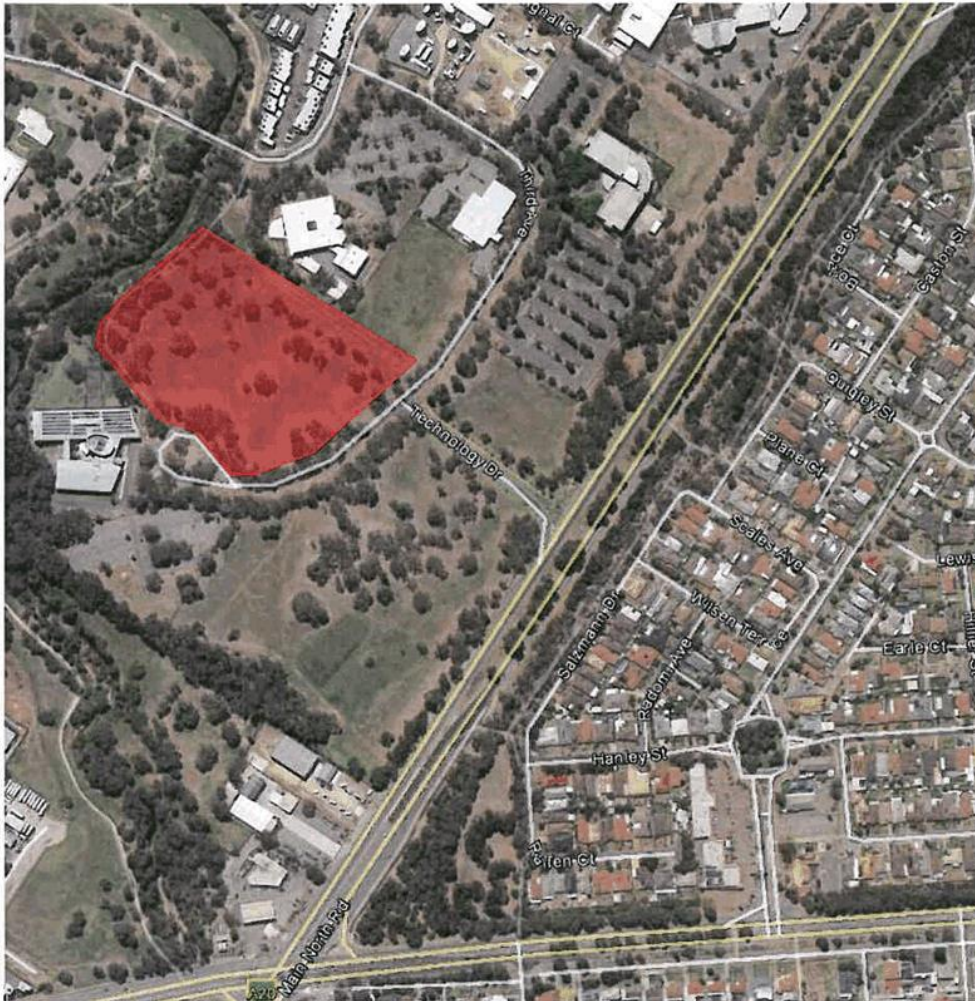


Figure 1: Subject Land

The subject land is located within an Urban Core Zone of the Salisbury Council Development Plan, which promotes a combination of commercial and residential land uses. The surrounding area includes several mixed uses within the same zone, including commercial uses immediately northeast and southwest of the site, vacant land to the



northwest and southeast and Main North Road in the order of 180m to the southeast across the vacant land. Parafield airport is also located to the northeast of the site, with aircraft regularly passing over the subject site.

This assessment considers the potential impact of noise on the amenity of the proposed residences as well as considering the potential for future residents to constrain the existing and future desired land uses in the vicinity. In particular the assessment considers the noise from existing and future commercial land uses, Parafield Airport and Main North Road.

The assessment has been based on:

- observations conducted on and around the subject land on 6 and 18 June 2019; and,
- Alexander Symonds Surveying Consultants drawing of the proposed subdivision, numbered A154114BEP(B) and dated 25 September 2019.

This report summarises the assessment and provides a method to provide appropriate amenity for residences in close proximity to the existing noise sources and minimise negative impacts on existing and potential future land uses desired in the locality.



DEVELOPMENT PLAN

The Salisbury Council Development Plan (consolidated 15 December 2016) has been reviewed, and the relevant provisions summarised below:

GENERAL SECTION

Building near Airfields

PRINCIPLES OF DEVELOPMENT CONTROL

- 6. Development within areas affected by aircraft noise should be consistent with Australian Standard AS2022: - Acoustics - Aircraft Noise Intrusion - Building Siting and Construction.*

Interface Between Land Uses

OBJECTIVES

- 3. Protect desired land uses from the encroachment of incompatible development.*

PRINCIPLES OF DEVELOPMENT CONTROL

- 2. Development should be sited and designed to minimise negative impacts on existing and potential future land uses desired in the locality.*
- 4. Residential development adjacent to non-residential zones and land uses should be located, designed and/or sited to protect residents from potential adverse impacts from non-residential activities.*

Residential Development

- 32. Residential development close to high noise sources (eg major roads, railway lines, tram lines, industry, and airports) should be designed to locate bedrooms, living rooms and private open spaces away from those noise sources, or protect these areas with appropriate noise attenuation measures.*

URBAN CORE ZONE

OBJECTIVES

- 6. Development that is compatible with existing and forecast noise nuisance from aircraft operations at Parafield Airport.*

Residential Sub-Division Technology Park
 Environmental Noise Assessment
 S5895C2
 January 2019

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CRITERIA

The Development Plan requires residential development to protect desired land uses from future constraint as a result of encroachment, while also providing suitable amenity for occupants with respect to the noise from aircraft, commercial land uses and road traffic.

The relevant noise criteria to address the Development Plan requirements vary according to the noise source under consideration. Based on the Development Plan provisions, the following noise policies and standards have been considered;

- *Environment Protection (Noise) Policy 2007 and Australian/New Zealand Standard AS/NZS2107* to address existing and potential future commercial land uses in the vicinity;
- *Australian Standard AS2021: - Acoustics - Aircraft Noise Intrusion - Building Siting and Construction* to address the noise from aircraft; and,
- *Minister's Specification SA78B Construction Requirements for the control of external sound* to address road traffic noise. The provisions also provide a method for designing acoustic treatments into dwellings that address a combination of noise sources in the vicinity of a residential development.

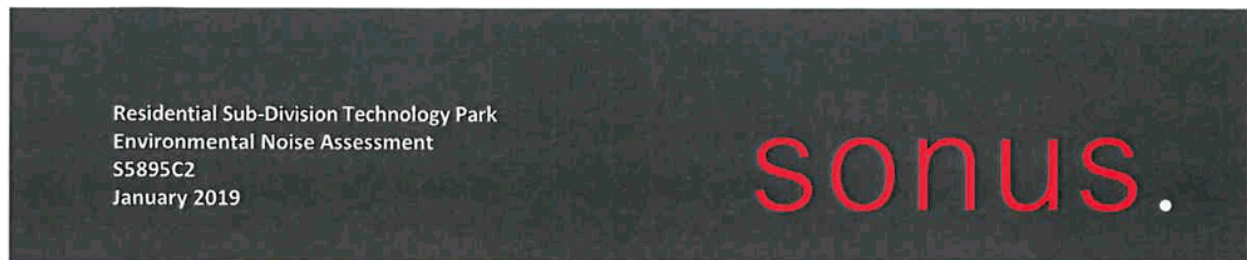
Environment Protection (Noise) Policy 2007

For noise from commercial land uses, the *Environment Protection (Noise) Policy 2007* (the Policy) is most relevant.

The *Environment Protection (Noise) Policy 2007* (the Policy) is underpinned by the World Health Organisation Guidelines¹ for community noise and is directly linked to Australian/New Zealand Standard AS/NZS2107² (the AS/NZS2107 Standard). The Policy provides an objective measure of acceptable noise levels for residential amenity and for the protection of the ongoing operation of existing commercial land uses. That is, achieving the relevant requirements of the Policy at residences on the subject site would provide suitable noise levels at those residences and would protect the existing land uses from any action under the *Environment Protection Act 1993* in the event of a noise complaint.

¹ Berglund, Lindvall and Schwela, 1999, "Guidelines for Community Noise"

² Australian/New Zealand Standard AS/NZS2107 "Acoustics – Recommended design sound levels and reverberation times for building interiors"



The Policy provides noise criteria:

- outside of a residence, such as in a backyard or other private open space; or
- inside habitable rooms of a residence, such as bedrooms and living areas, in situations where acoustic treatment is applied to a facade.

Where the assessment location is inside a habitable room, the applicable noise criteria are determined to be the higher of the external criteria less 20 dB(A), and the satisfactory level set out in the AS/NZ2107 Standard.

The Policy provides goal noise levels based on the Development Plan zones of the area. Based on the Urban Core Zone of the subject land and noise sources, the Policy provides the following goal noise levels to be achieved at residences on the subject land from activity at the surrounding land uses:

- Daytime (7am to 10pm) noise levels directly outside residences of no greater than 57 dB(A); or daytime noise levels within habitable rooms of the residences of 37 dB(A) (with the internal noise level achieved by applying acoustic treatment to the facades of the residence); and,
- Night-time (10pm to 7am) noise levels directly outside residences of no greater than 50 dB(A); or night time noise levels within habitable rooms of the residences of 30 dB(A) (with the internal noise level achieved by applying acoustic treatment to the façades of the residence).

Under the Policy, the goal noise levels are effectively “adjusted” for each characteristic of tone, impulse, low frequency and modulation that the noise source exhibits. Based on the observations and noise measurements conducted at the subject site, a penalty is not considered to be warranted.

Aircraft Standard

The subject site is not designated as an “area affected by aircraft noise”, however the *Australian Standard 2021: 2015 Acoustics – Aircraft noise intrusion – Building siting and construction* (the AS2021 Standard) is referenced by the Development Plan provisions and provides guidance for the extent of noise reduction required to provide acceptable indoor noise levels at sites exposed to aircraft noise. The standard classifies land for noise sensitive development as either:

- unconditionally acceptable, without any need to upgrade building facades;
- conditionally acceptable, with specific upgrades to building facades; or,
- unacceptable, subject to the planning authority.



The AS2021 Standard uses a descriptor known as the ANEF (Australian Noise Exposure Forecast) to objectively determine the classification. Part of the proposed site is outside of the Parafield Airport ANEF 20 contour and therefore is deemed to be unconditionally acceptable, however part of the site is between the 20 and 25 ANEF contours, as shown in Appendix A. For the portion of site between the 20 and 25 ANEF contours, the aircraft Standard deems the land to be conditionally acceptable.

Where the aircraft Standard considers the site to be “conditionally acceptable”, the following maximum internal noise level criteria are recommended to be achieved:

Type of room	Indoor Design Sound Level (dB(A))
Bedrooms (and dedicated lounges)	50
Other Habitable Spaces	55
Bathrooms, Laundries	60

Minister’s Specification SA 78B

The intent of the *Minister’s Specification SA 78B* (SA78B) is to protect the occupants of residential buildings from the sound intrusion of road and rail corridors and from mixed use activity. To this end, SA78B establishes “performance requirements” to be met by a development.

SA78B introduces mandatory requirements under the Building Code of Australia (BCA) depending primarily on “designation” in the Development Plan. The development site is not designated within the Development Plan and therefore the requirements of SA78B do not strictly apply to the subject site. Notwithstanding, the provisions provide a method for assessing the potential impact of Main North Road and commercial activity.

The provisions include a “verification” method of assessment based on achieving specific noise levels inside residences and a “deemed to satisfy” method which assigns a “Sound Exposure Category” (SEC) to each façade based on the distance and noise source being considered (road, rail or mixed use activity). The SECs range from 1 to 5, with SEC 1 requiring limited acoustic treatment and SEC 5 requiring extensive treatment.



The different SECs are based on a standard dwelling construction achieving a 20 dB(A) noise reduction across the facade and each SEC being a 4 dB(A) increase on the previous, as follows.

Sound Exposure Category	Facade Noise Reduction
1	24 dB(A)
2	28 dB(A)
3	32 dB(A)
4	36 dB(A)
5	40 dB(A)

ASSESSMENT

On-site observations and short term noise measurements of the noise sources at the existing commercial land uses were conducted on 3 and 18 January 2019. Noise measurements of aircraft take-off were also conducted in the portion of the site between the Parafield Airport ANEF 20 and 25 contours. Appendix A shows the location of the commercial noise sources and the portion of the site between the 20 to 25 ANEF contours.

Commercial Activity

During the site visits, observations and noise measurements were conducted at the southwest and northeast boundaries of the site, which interface the commercial premises. Potential noise sources at the commercial premises were observed to comprise mechanical plant at ground and roof level, outdoor staff areas and car parking. These activities often operate at the interface between commercial and residential areas without any significant impact on the amenity. Notwithstanding, an assessment has been made to ensure appropriate amenity at residences and protection of the commercial activities from encroachment.

The highest noise source measured was from a cooling tower at the premises to the northeast. A noise level of 55 dB(A) was measured at the site boundary and therefore it is predicted that the resulting noise level at the line of the closest proposed dwelling facade will be 53 dB(A). Based on the observation of other potential noise sources, it is not expected that higher noise levels would be experienced at other locations.

Based on the above, the Policy daytime goal noise level outside of a residence would easily be achieved, however the night time goal noise level would be exceeded if the cooling tower operated during the night time hours.

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 Environmental Noise Assessment
 S5895C2
 January 2019

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To ensure that the proposed residences achieve the requirements of the Policy in all potential circumstances and therefore do not impact on the ongoing or potential future operation of commercial activities in the area, it is proposed that the dwellings be constructed in accordance with the "Sound Exposure Category 1" requirements of SA78B's "Deemed to Satisfy" approach.

Sound Exposure Category 1 is based on a noise reduction of 24 dB(A) and it would therefore be expected that an internal noise level of no more than 29 dB(A) would be achieved within habitable rooms. The internal noise criteria of the Policy would therefore be achieved even if the cooling tower operates at night.

Appendix B provides the minimum acoustic rating of specific building elements for Sound Exposure Category 1 and building construction examples which will achieve the ratings.

Aircraft

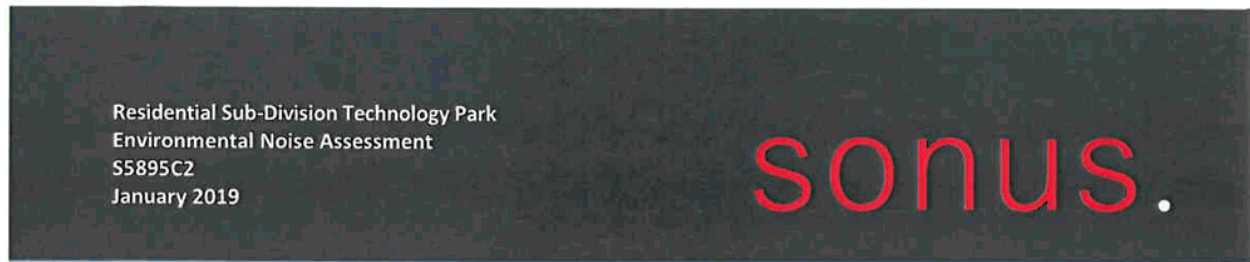
Under the aircraft standard, there are no acoustic requirements for residences constructed outside of the ANEF 20 contour.

The portion of the site which is between the ANEF 20 to 25 contours is required to be designed such that the maximum noise level from aircraft within different rooms achieve the design noise levels provided by the aircraft Standard.

In order to assess the noise from aircraft from Parafield airport taking off and passing over the subject site, noise measurements were taken within the area of the site between the 20 and 25 ANEF contours. The measurements included both single and twin engine aircraft. The maximum noise levels ranged from 59 dB(A) to 67 dB(A).

The highest noise reduction required to achieve the design noise levels of the standard is 17 dB(A) based on an aircraft noise level of 67 dB(A) and a design noise level of 50 dB(A) within bedrooms or dedicated lounge rooms.

As discussed previously, all dwellings are proposed to include Sound Exposure Category 1 treatments in accordance with SA78B, and are therefore designed to achieve a noise reduction of 24 dB(A) across the facade. The noise level within dwellings from aircraft are therefore predicted to be less than 50 dB(A), easily achieving the design noise levels provided by the Standard.



Road Traffic Noise

Notwithstanding the requirements of the Development Plan and the site not being “designated”, the portion of Main North Road closest to the site is designated in the *South Australian Planning Policy Noise and Air Emissions-Overlay 3* as being a Type A road and has a speed limit of 80km/hr.

Under the deemed to satisfy approach of SA 78B, acoustic treatment is required to be applied to dwellings within a distances of 150m or less to the designated road, where the speed limit is between 70 and 90km/hr.

Given that the road is at a distance of greater than 150m, the requirements of the deemed to satisfy method are achieved without acoustic treatment. Notwithstanding, the application of Sound Exposure Category1 acoustic treatments to all dwellings at the proposed site will reduce the noise level from traffic and protect against the noise from the major road.

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January 2019

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CONCLUSION

An environmental noise assessment has been made of the proposed residential subdivision at Technology Park, Mawson Lakes.

The assessment addresses the noise from existing commercial land uses surrounding the site and the potential impacts of future commercial uses. The assessment also considers the potential impact of noise from aircraft and traffic, in accordance with the Development Plan.

Based on the assessment, the proposed subdivision will achieve the relevant environmental noise criteria with the recommended acoustic treatments, comprising upgrading the dwelling facade constructions.

Achieving the acoustic criteria will ensure an adequate level of amenity for new residences while protecting the continuation of lawfully existing and potential future commercial land uses.

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**APPENDIX A:
Subdivision Site and Commercial Noise Sources**



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Environmental Noise Assessment
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January 2019

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APPENDIX B: Sound Exposure Category 1 Building Constructions

Building Element	Minimum Construction Rating	Example Construction
<i>Roof and Ceiling</i>	No Specific Requirements	<ul style="list-style-type: none"> Any construction acceptable
<i>External Walls</i>	$R_w + C_{tr}$ of no less than 45	Either; <ul style="list-style-type: none"> Any masonry construction (brick etc.); or, Lightweight construction as follows; <ul style="list-style-type: none"> one row of 90mm studs at 600mm centres with - resilient steel channels fixed to the outside of the studs; and 9.5mm hardboard or 9mm fibre cement sheeting or 11mm fibre cement weatherboards fixed to the outside of the channels; and 75mm thick glass or mineral wool insulation with a density of 11kg/m^3 or 75mm thick polyester insulation with a density of 14kg/m^3, positioned between the studs; and two layers of 16mm fire-protective grade plasterboard fixed to the inside face of the studs.
<i>Windows and external glass doors</i>	$R_w + C_{tr}$ as specified in the following table.	
<i>Ventilation system</i>	RW of no less than 40 for any ventilation system provided in addition to openable windows.	If outside air ventilation, other than openable windows, is provided across a facade then that ventilation system must be designed to achieve an R_w of 40.

Room	Area of window and external glass doors as a percentage of the floor area of the room	Minimum $R_w + C_{tr}$	Example Construction
<i>(a) Bedroom (b) A non-habitable room attached to (a)</i>	Not more than 20%	25	Minimum 6mm thick glass
	More than 20% but not more than 40%	28	Minimum 6mm thick glass
	More than 40% but not more than 60%	31	Minimum 8.38mm thick Laminated Glass
	More than 60% but not more than 80%	34	Minimum 10.5mm thick VLam Hush Glass
	More than 80%	37	Minimum 12.5mm thick VLam Hush Glass
<i>(c) Habitable room, other than a bedroom and an enclosed kitchen (d) A non-habitable room attached to (c)</i>	Not more than 20%	22	Minimum 6mm thick glass
	More than 20% but not more than 40%	25	Minimum 6mm thick glass
	More than 40% but not more than 60%	28	Minimum 6mm thick glass
	More than 60% but not more than 80%	31	Minimum 8.38mm thick Laminated Glass
	More than 80%	34	Minimum 10.5mm thick VLam Hush Glass

TMK CONSULTING ENGINEERS

1712092_SMR/A
16th August 2018



STORMWATER MANAGEMENT REPORT

PROPOSED RESIDENTIAL LAND DIVISION
LOT 5 THIRD AVENUE
MAWSON LAKES, 5095

prepared for
MAWSON LAKES LDC



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STORMWATER MANAGEMENT REPORT
1712092_SMR/A

Principal:	MAWSON LAKES LDC	Job Number:	1712092
Contractor:	T.B.A	Development No:	361/D055/18
Project Title:	PROPOSED RESIDENTIAL LAND DIVISION	Date:	16 th July 2018
Site:	LOT 5 THIRD AVENUE, MAWSON LAKES S.A. 5095		

This is a Stormwater Management Report giving specific recommendations for construction of the Proposed Residential Land Division at the above site.

This report must be read in conjunction with all listed attachments. Changes to the design or construction must not be made without further written advice from the Engineer.

This report is valid for a period of 24 months, based on current standards and regulations, etc.

GENERAL NOTES:

1. These calculations are to be read in conjunction with the relevant associated Civil Drawings and / or details.
2. All work is to comply with relevant SAA Standards and Guides.

AS/NZS 3500.3: Part 3 Stormwater Drainage
 Australian Rainfall and Run-off Volume 8: Urban Stormwater Management
 Australian Runoff Quality – A Guide to Water Sensitive Urban Design
 Storm drainage design in small urban catchments: A handbook for Australian practice
 Water Sensitive Urban Design (WSUD) Engineering Procedure: Stormwater
 Water Services Association of Australia Code (WSAA).

ATTACHMENTS:
 Stormwater Management Report
 Stormwater Layout Plan
 Soil Erosion Plan
 Flood Map
 Indicative Bund Alignment
 Council Correspondence

For and on behalf of
TMK Consulting Engineers

SOTHYA TAN
 Senior Engineer/Scientist (CIVIL)

Document Title: TMK External Document Template
 Issue Date: 20/05/10

Document Code: BF022

Revision Code: 01
 Approved by: MCT
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Our Ref: 1712092
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STORMWATER MANAGEMENT REPORT
THRID AVENUE, MASWON LAKES
SA 5095

A. General

This report details the stormwater management strategies for the proposed residential land division located at Lot 5 Third Avenue, Mawson Lakes. The proposed land division will include the creation of 60 Torrens Titled residential allotments and 4 roads (refer *Appendix A – Stormwater Layout Plan*). The objective of the report is to demonstrate how stormwater runoff would be captured and conveyed from the subject site safely to the receiving drainage network while considering stormwater quality management and the incorporation of Water Sensitive Urban Design (WSUD) elements.

B. Stormwater Drainage

OVERVIEW

The subject site covers a total area of approximately 2.91ha with no existing infrastructure present (refer *Figure 1 – Site Aerial View*). The site in its pre-developed state drains at approximately 0.7% gradient to the north towards Dry Creek.

Stormwater runoff from the proposed development would be routed through a conventional underground drainage system comprising of Side Entry Pits (SEP), Junction Boxes (JB) and Reinforced Concrete Pipes (RCP) in accordance with Council specifications. A rear of allotment stormwater easement is proposed to allow runoff from the proposed underground stormwater network to connect into the stormwater infrastructure located at the north western end of Road 'CL02' ultimately discharging into Dry Creek to the north west via an existing headwall/discharge point.

The stormwater management report is prepared in accordance with the design criteria listed below:

- The stormwater drainage system is designed using Bureau of Meteorology (BoM) published rainfall Intensity Frequency Duration (IFD) data as a minor / major system to accommodate the 1 in 5 / 1 in 100 year Average Recurrence Interval (ARI) storm events.
- The total site discharges are modeled as described in *Storm Drainage Design in Small Urban Catchments, a handbook for Australian practice* by John Argue & *Australian Rainfall and Runoff (ARR87), Book Eight - Urban Stormwater Management*.



Figure 1 - Site Aerial View

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SA 5095

HYDRAULICS AND HYDROLOGY

The *Rational Method* and DRAINS ILSAX Hydrological model were used for the hydrological and hydraulic modeling and analysis of the subject site. DRAINS is a multi-purpose windows program for designing and analyzing various types of urban stormwater drainage systems and catchments.

DRAINS can model drainage systems at all scales, from very small to very large. It simulates the conversion of rainfall patterns to stormwater runoff hydrographs and routes these through networks of pipes, channels and streams integrating;

- Design and analysis tasks,
- Hydrology and hydraulics,
- Closed conduit and open channel systems,
- Culverts and bridges,
- Stormwater detention systems,
- Large scale urban and rural catchments and
- Overflow elements, which provide paths for flows in the stormwater system once the capacity of the pipe system is exceeded.

The ILSAX hydrological model is the main model used to simulate the operation of urban stormwater drainage systems in DRAINS. It comes from the ILSAX program (O'Loughlin, 1993), which in turn was based on ILLUDAS and the TRRL method. This model uses time-area calculations and Herten Infiltration procedures to calculate flow hydrograph and sub-catchments. The various sub-catchments' flows are combined and routed through a pipe and channel system. Calculations are performed at specified times after the start of each storm, using small time intervals, one minute or less. At each time step, a hydraulic grade line analysis is performed throughout the drainage network determining flow and water levels.

The parameters selected for use are as follows:

- Allotment sites are based on a 70% impervious area and 30% pervious area directly connected to the underground stormwater infrastructure
- Antecedent Moisture Content (AMC) of 3.0.
- Soil type of 3.0 (slow to moderate infiltration rates).

POST-DEVELOPMENT FLOW CALCULATIONS:

Post-development flow rates discharging to the proposed connection point were determined using DRAINS in order to calculate the peak flow rates for both the minor and major storm events. The results are summarized below (refer *Appendix B - DRAINS Output*).

$$Q_5 = 0.395 \text{ m}^3/\text{sec}$$

$$Q_{100} = 0.941 \text{ m}^3/\text{sec}$$

Required outlet pipe size = 600 RCP

C. Stormwater Quality Management

Stormwater pollution and erosion control improvement strategic measures are implemented within the development to ensure that pollutants are trapped prior to exiting the site or entering the existing drainage system and to prevent initial contamination of stormwater from roadside pollution during construction. This is achieved through the provision of silt fences, sedimentation basins, hay bale barriers and shaker pads. Soil erosion and drainage management plans will be submitted to Council as part of detailed design.

The post-development stormwater runoff rates generated by this site will undergo water quality treatment prior to discharging into Dry Creek. A GPT will be sized to treat the 1 yr ARI peak flow with a high flow bypass for larger flow events (refer Appendix F – Council Correspondence) ultimately discharging to Dry Creek.

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SA 5095

D. Flood Management

The minor system would be designed to accommodate the 5 year average recurrence internal (ARI) with a minimum freeboard of 150 mm maintained between the hydraulic grade level (HGL) in a stormwater pit and the gutter invert level.

The major system would be designed, as per Council requirements, so that no inundation of private land occurs as a result of a 100 year ARI storm event and the gap flows are conveyed within the defined overland flow systems including roadways and reserves within the development.

A bund is proposed between Dry Creek and the proposed development to assist with flood management and will be set at the flood level plus freeboard (refer Appendix D – Flood Map). Exact level of bund to be determined at detailed design stage. The overland flows will be collected by flood gullies and ultimately piped under the bund into Dry Creek (refer Appendix E - Indicative Bund Alignment). Pipes will be sized for the gap flow that is conveyed within the overland flow paths.

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APPENDIX A
Stormwater Layout Plan

Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports

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Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports

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APPENDIX B

SOIL ERSION & DRAINAGE MANAGEMENT PLAN

Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports

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SA 5095

APPENDIX C

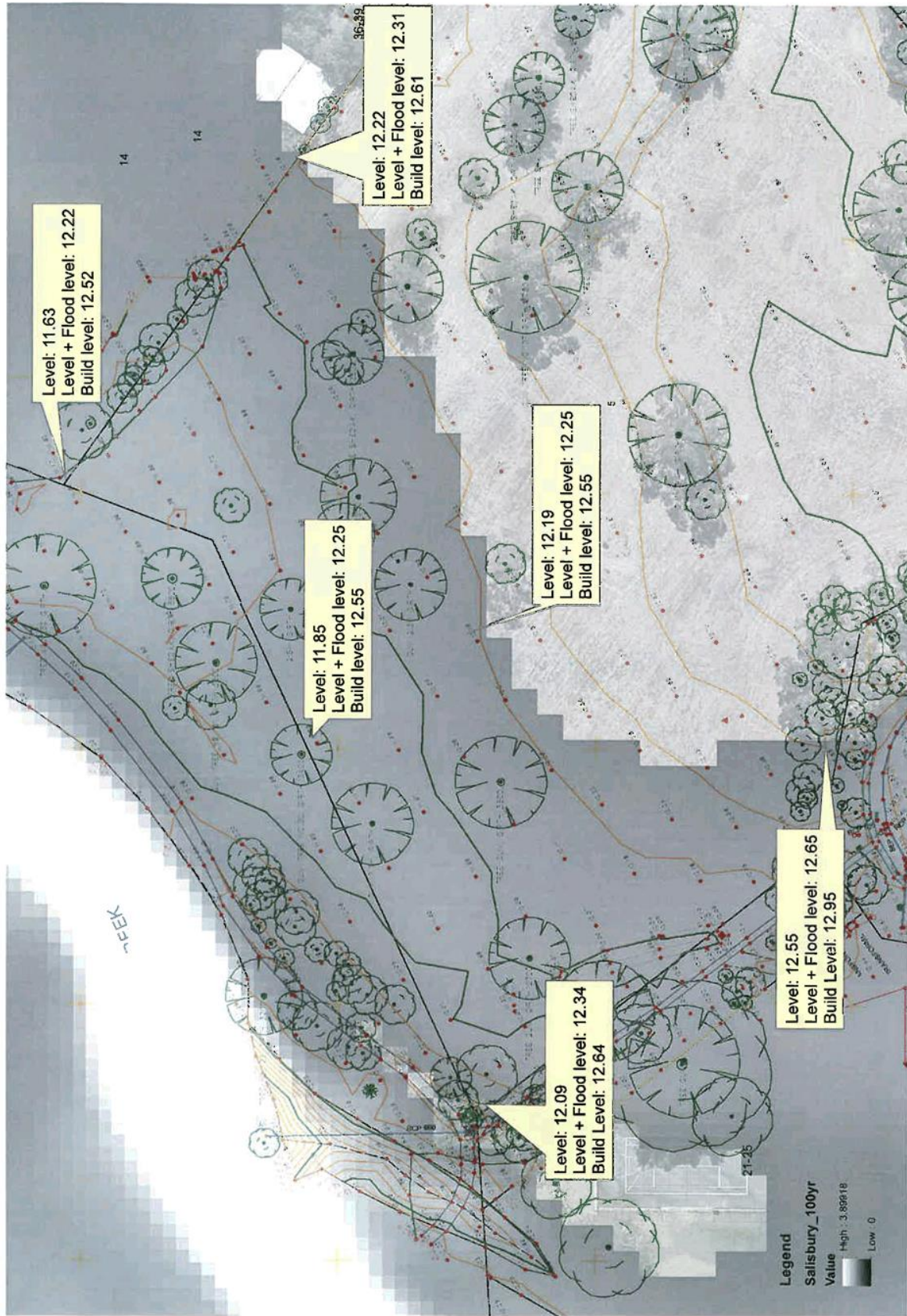
Flood Map

Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports

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SA 5095

APPENDIX D

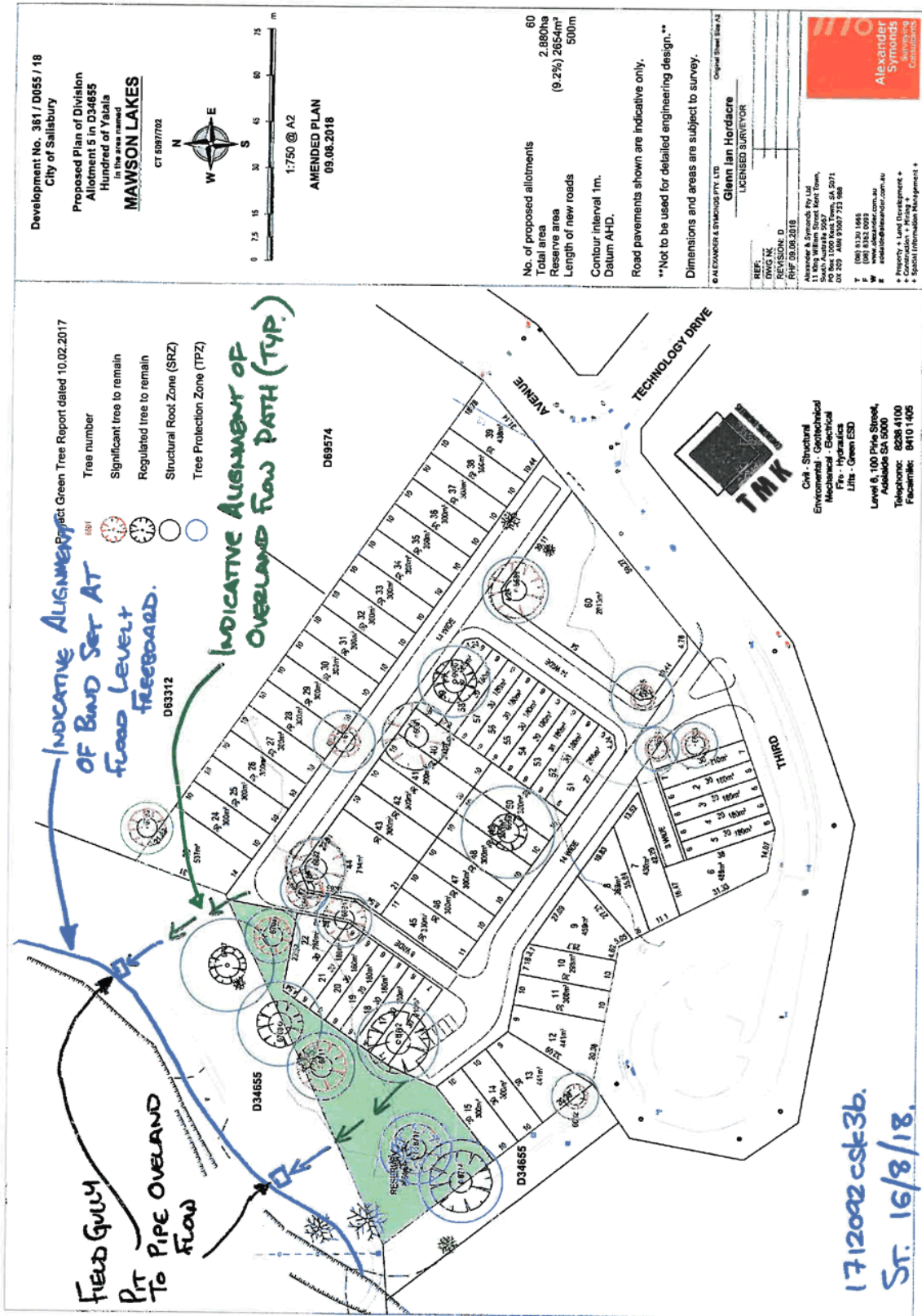
Indicative Bund Alignment

Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports

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Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports

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SA 5095

APPENDIX E
Council Correspondence

Item 5.1.1 - Attachment 2 - Attachment 2: Supporting Information and Reports

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Issue Date: 20/05/10

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Revision Code: 01
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Blake Saunders

From: Sam Kenny [SKenny@salisbury.sa.gov.au]
Sent: Thursday, 26 July 2018 6:05 PM
To: Sothya Tan
Cc: David Hughes; Carlo Talladira; Chris Carrey; Michael Osborn
Subject: RE: Lot 5 Mawson Lakes

Hi Sothya

Please note Dameon's comment below.

Regards

Sam Kenny

Principal Development Engineer
Development Services
D: 08 8406 8360 | M: 0401 984 739
E: skenny@salisbury.sa.gov.au

City of Salisbury
12 James Street, Salisbury, South Australia, 5108
P: 08 8406 8222
F: 08 8281 5466
TTY: 08 8406 8596
W: www.salisbury.sa.gov.au

From: Dameon Roy
Sent: Wednesday, 25 July 2018 8:12 AM
To: Sam Kenny
Cc: Chris Carrey
Subject: Re: Fwd: RE: Lot 5 Mawson Lakes

The sketch is ok, noting the two flow paths will probably need piping through the bund.

Cheers Dameon

Get [Outlook for Android](#)

On Tue, Jul 24, 2018 at 1:10 PM +0930, "Sam Kenny" <SKenny@salisbury.sa.gov.au> wrote:

Hi Dameon

Are you able to provide a brief response to TMK to keep this moving?

Sam Kenny
Principal Development Engineer
City of Salisbury
12 James Street
Salisbury SA 5108
Ph 8406 8360

Sent from my Samsung Galaxy smartphone.

----- Original message -----

From: Sam Kenny <SKenny@salisbury.sa.gov.au>
Date: 24/7/18 1:09 pm (GMT+09:30)
To: Chris Carrey <CCarrey@salisbury.sa.gov.au>
Subject: Re: RE: Lot 5 Mawson Lakes

Dameon was on leave for a fortnight until yesterday..I'll follow up but he will have a lot on his to do list.

Sam Kenny
Principal Development Engineer
City of Salisbury
12 James Street
Salisbury SA 5108
Ph 8406 8360

Sent from my Samsung Galaxy smartphone.

----- Original message -----

From: Chris Carrey <CCarrey@salisbury.sa.gov.au>
Date: 24/7/18 12:56 pm (GMT+09:30)
To: Sam Kenny <SKenny@salisbury.sa.gov.au>
Subject: RE: RE: Lot 5 Mawson Lakes

Hey Sam

How is this one progressing with Dameon etc?

Chris Carrey

Development Officer - Planning
Development Services
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E: CCarrey@salisbury.sa.gov.au

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12 James St, Salisbury, South Australia, 5108
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From: Sothya Tan [<mailto:sothyat@tmkeng.com.au>]
Sent: Wednesday, 11 July 2018 3:55 PM
To: Dameon Roy
Cc: David Hughes; Sam Kenny; Carlo Talladira; Chris Carrey; Michael Osborn
Subject: RE: RE: Lot 5 Mawson Lakes

Hi Dameon,

Noting that council is currently in the process of picking up as-con survey for the works along the northern side of the creek. I've attached a sketch showing what my understanding would be for bund solution we discussed in the meeting. Can you please advise if the sketch is an accurate representation of what would be required?

As the developer is seeking to gain planning approval I would like to determine what the 'in principle' solution is in order to finalise the stormwater management report.

Happy to discuss further

Kind Regards

From: Sam Kenny [<mailto:SKenny@salisbury.sa.gov.au>]
Sent: Friday, 29 June 2018 4:18 PM
To: Sothya Tan
Cc: David Hughes; Carlo Talladira; Chris Carrey; Michael Osborn; Dameon Roy
Subject: RE: RE: Lot 5 Mawson Lakes

Hi Sothya

I've been advised that there weren't formal plans for the upstream works but rather that they were set out onsite based on GIS data. Council is still to undertake the as-con survey so unfortunately we're not able to provide anything further at this stage.

Regards

Sam Kenny
Principal Development Engineer
Development Services
D: 08 8406 8360 | M: 0401 984 739
E: skenny@salisbury.sa.gov.au

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12 James Street, Salisbury, South Australia, 5108
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From: Sam Kenny
Sent: Wednesday, 20 June 2018 10:40 AM
To: Sothya Tan; Dameon Roy
Cc: David Hughes; Carlo Talladira; Chris Carrey; Michael Osborn
Subject: (DWS Doc No 4905501) RE: Lot 5 Mawson Lakes

Thanks Sothya.

Dameon, are you able to provide any further detail (plans etc) of the recent upstream works on Dry Creek?

Sam Kenny
Principal Development Engineer
Development Services
D: 08 8406 8360 | M: 0401 984 739
E: skenny@salisbury.sa.gov.au

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From: Sothya Tan [<mailto:sothyat@tmkeng.com.au>]
Sent: Wednesday, 20 June 2018 9:49 AM
To: Sam Kenny
Cc: David Hughes; Carlo Talladira; Chris Carrey; Dameon Roy; Michael Osborn
Subject: RE: Lot 5 Mawson Lakes

Hi Sam,

I thought it was a productive meeting and thought it might be useful to capture some items. Please see my notes below regarding the stormwater discussions:

- Council have recently completed works on the northern side of Dry Creek with the provision of a bund to assist with flood management
- Dameon Roy advised that a similar solution on the development side could be considered
- Provision of a bund/levy on the development side could assist and reduce fill requirements of the allotments impacted by the flood area
- Agreed that this reduction in filling of the development would also assist with the conveying of major overland flows
- Potential reduction of developer contributions for stormwater if bund/levy works are constructed by the developer in coordination with council
- TMK to provide Council with engineering survey to assist with determination of flood levels – Complete/mailed on Friday 15th June
- Council to provide flood mapping based on provided survey – Complete/mailed to TMK on Monday 18th June

If you have any additions or amendments please advise

In addition to this, could council provide some details in regards to the recently completed works on the northern side of Dry Creek as this will give us a better understanding of the scope of works required.

If you have any further queries please let me know

Kind Regards

From: Sam Kenny [<mailto:SKenny@salisbury.sa.gov.au>]
Sent: Monday, 18 June 2018 11:30 AM
To: Sothya Tan
Cc: David Hughes; Carlo Talladira; Chris Carrey
Subject: RE: Lot 5 Mawson Lakes

Hi Sothya

I hadn't intended on sending minutes. Chris Carrey (Dev Planner for this application) will be issuing a formal response in the next day or so and this will capture the issues discussed in the meeting.

The traffic count has been requested by Tony and I'll forward this and the levels data as soon as possible.

Sam Kenny
Principal Development Engineer
Development Services
D: 08 8406 8360 | M: 0401 984 739
E: skenny@salisbury.sa.gov.au

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From: Sothya Tan [<mailto:sothyat@tmkeng.com.au>]
Sent: Monday, 18 June 2018 11:04 AM
To: Sam Kenny
Cc: David Hughes; Carlo Talladira
Subject: RE: Lot 5 Mawson Lakes

Hi Sam,

Just following up if there will be minutes from the meeting last week?

Kind Regards

Sothya Tan

Senior Engineer / Scientist (Civil)

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E sothyat@tmkeng.com.au



Civil - Structural - Environmental - Geotechnical - Mechanical - Electrical - Fire - Hydraulics - Lifts - Green ESD

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From: Sam Kenny [<mailto:SKenny@salisbury.sa.gov.au>]

Sent: Tuesday, 12 June 2018 12:27 PM

To: David Hughes; Sothya Tan

Subject: RE: Lot 5 Mawson Lakes

Hi David and Sothya

Sorry I need to propose a revised option. Would 11am on Friday suit?

Sam Kenny

Principal Development Engineer
Development Services
D: 08 8406 8360 | M: 0401 984 739
E: skenny@salisbury.sa.gov.au

City of Salisbury
12 James Street, Salisbury, South Australia, 5108
P: 08 8406 8222
F: 08 8281 5466
TTY: 08 8406 8596
W: www.salisbury.sa.gov.au

From: Sam Kenny
Sent: Tuesday, 12 June 2018 9:18 AM
To: David Hughes
Subject: RE: Lot 5 Mawson Lakes

Hi David

Yes traffic/landscaping etc will be included but the difficulty at my end is arranging a time when Dameon Roy is available. At this stage I'm able to arrange the necessary people at 4pm on Friday. Please advise whether you are available.

Regards

Sam Kenny

Principal Development Engineer
Development Services
D: 08 8406 8360 | M: 0401 984 739
E: skenny@salisbury.sa.gov.au

City of Salisbury
12 James Street, Salisbury, South Australia, 5108
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W: www.salisbury.sa.gov.au

From: David Hughes [<mailto:david@hughespm.com.au>]
Sent: Friday, 8 June 2018 10:52 AM
To: Sam Kenny
Subject: Lot 5 Mawson Lakes

Hi Sam,

I have been invited to a meeting for Tuesday at 10am.

I am unable to make that time work unfortunately.

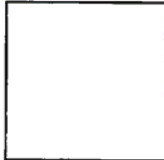
I can make Thursday at the same time?

However, as discussed Tuesday just gone, are you able to re schedule the meeting, but include Traffic, Landscaping, planning and engineering.

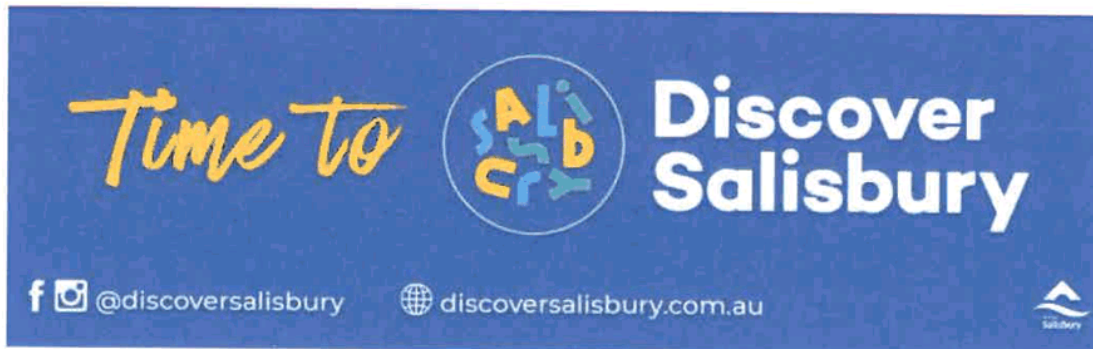
I would really appreciate an opportunity to have a round table discussion to make sure we kick things off in the right direction.

Regards

David Hughes
Director



p: PO Box 479 Torrens Park SA 5062
m: 0459 077 304
e: david@hughespm.com.au
w: <http://www.hughespm.com.au>



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Blake Saunders

From: Sothya Tan
Sent: Friday, 25 May 2018 9:53 AM
To: Blake Saunders
Subject: FW: Mawson Lakes - Lot 5 Third Avenue - Preliminary stormwater advice

Follow Up Flag: Follow up
Flag Status: Flagged

Fyi

Sothya Tan
Senior Engineer / Scientist (Civil)
D (08) 8238 4177 | F 08 8410 1405 | M
E sothyat@tmkeng.com.au

[Engineers Australia has recently published a technical paper on the design of house footings using innovative methods developed at TMK. Click here to read.](#)

From: Sam Kenny [mailto:SKenny@salisbury.sa.gov.au]
Sent: Wednesday, 9 May 2018 2:21 PM
To: Sothya Tan
Cc: Carlo Talladira; Aaron Curtis
Subject: RE: Mawson Lakes - Lot 5 Third Avenue - Preliminary stormwater advice

Hi Sothya

Yes, a safe overland flow path is required for the 100yr ARI events (I should have clarified that where I hadn't commented on Sharyn's advice, her advice still stood). Overland flow to Third Avenue will not be supported. Drainage through the reserve will be ok so long as you can show that safe flows can be achieved but it's likely that surface levels and the existing path would need to be modified to accomplish this.

I apologise for the typo regarding the GPT. The GPT needs to be sized to treat the 1yr ARI peak flows with high flow bypass for larger flow events. I'm waiting for some info regarding the type of GPT used elsewhere across Mawson Lakes as we will likely specify the same in this instance for consistency and ease of maintenance – likewise I'm awaiting further advice on water quality targets although the aim will be to target as high a recovery of suspended solids as possible as that's the largest issue we have with inflows to Dry Creek. I'll let you know when I have further info.

Sam Kenny
Principal Development Engineer
Development Services
D: 08 8406 8360 | M: 0401 984 739
E: skenny@salisbury.sa.gov.au

City of Salisbury
12 James Street, Salisbury, South Australia, 5108
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TTY: 08 8406 8596
W: www.salisbury.sa.gov.au

From: Sothya Tan [mailto:sothyat@tmkeng.com.au]
Sent: Tuesday, 8 May 2018 5:15 PM
To: Sam Kenny
Cc: Carlo Talladira; Aaron Curtis
Subject: RE: Mawson Lakes - Lot 5 Third Avenue - Preliminary stormwater advice

Hi Sam,

Thank you for getting back to me promptly.

Just want to clarify a few items:

- Sharyn advised that an overland flow path will be required for the 100 year event, if stormwater cannot be discharged to Third Avenue, can this be directed to the drainage reserve and ultimately the creek? Or can the overland flow be directed to Third Avenue
- Generally a GPT is sized for a 3 month, 6 month, or 1 year ARI, can you please clarify

Happy to discuss upgrades as this was assumed based on previous advice.

Feel free to give me a call

Kind Regards

From: Sam Kenny [<mailto:SKenny@salisbury.sa.gov.au>]
Sent: Tuesday, 8 May 2018 5:05 PM
To: Sothya Tan
Cc: Carlo Talladira; Aaron Curtis
Subject: RE: Mawson Lakes - Lot 5 Third Avenue - Preliminary stormwater advice

Hi Sotty

I've reviewed the site with Council's asset owner and the majority of Sharyn's advice still stands. Whilst a contribution in lieu of onsite detention would be supported, stormwater needs to undergo water quality treatment prior to discharge to the river and in this instance, Council's will seek a GPT sized to treat 10yr ARI peak flows with high flow bypass capacity for larger events. Discharge of stormwater to Third Avenue is not supported.

There are some issues with the capacity of the stormwater system within the drainage reserve due to tree roots and Council would be open to discussing upgrading the existing system to cater for additional flows arising from this site.

I hope this helps. Please give me a call if you would like further info.

Sam Kenny
Principal Development Engineer
Development Services
D: 08 8406 8360 | M: 0401 984 739
E: skenny@salisbury.sa.gov.au

City of Salisbury
12 James Street, Salisbury, South Australia, 5108
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F: 08 8281 5466
TTY: 08 8406 8596
W: www.salisbury.sa.gov.au

From: Sothya Tan [<mailto:sothyat@tmkeng.com.au>]
Sent: Monday, 7 May 2018 4:22 PM
To: Sam Kenny
Cc: Carlo Talladira
Subject: FW: Mawson Lakes - Lot 5 Third Avenue

Hi Sam,

I am commencing a Stormwater Management Report for the above mentioned site. During the Renewal SA tender process Sharyn provided the advice below in regards to the site requirements. Given some time has passed, can you please confirm that this still applies.

Feel free to give me a call if you need any further information

Kind Regards

From: Sharyn Chadwick [<mailto:SChadwick@salisbury.sa.gov.au>]
Sent: Wednesday, 19 April 2017 11:59 AM
To: Sothya Tan
Cc: Jason Tamas
Subject: RE: Mawson Lakes

Hi Sothya,

A portion of this site is within the Q100 flood zone. My records indicate up to 0.5m of inundation within the first 60m of the site adjacent Dry Creek. The bench levels for all allotments will need to be at least 300mm above the flood zone and you will need to demonstrate that adjacent properties will not be impacted by this filling and / or retaining.

The minor storm for residential is the 1 in 5 year event unless otherwise required.

Detention of the peak flows to the pre-development equivalent is one option. 1000 litre rainwater tanks will be required for each dwelling if a recycled water system is not connected. Although Salisbury Water manage recycled water throughout most of the City of Salisbury, the Mawson Lakes system is under the jurisdiction of SA Water.

There appears to be an existing stormwater pipe system in the drainage reserve to the west of the site. My records indicate that it is a 375dia through the head of Third Avenue, then becomes a 525dia at the start of the drainage reserve. Your survey indicates that it is a 600 at the outfall to Dry Creek. It may be possible for the developer to upgrade the section of pipe downstream of a connection from this site to accommodate the additional flows from the site. The invert of the outlet can be no lower than existing and we do not encourage construction of any additional outlets this may be negotiable if no other option exists.

There is also a pipe in Third Ave running in the opposite direction. It appears to start as a 375dia at the SEP approx. 50m south of Technology Drive, and then becomes a 450dia near the intersection with Technology Drive, gradually increasing in size until it discharges as a 900dia from Fourth Ave. This would be quite a bit trickier to incorporate additional flows and isn't recommended. If discharge of the full flow to Dry Creek is adopted in lieu of detention, then a contribution at the rate of \$32,500 per hectare will be payable to Council to assist with upgrading downstream headworks.

An overland flowpath for the major storm (1 in 100 years) will be required.

I trust this assists. Please let me know if you require any additional information.

Kind Regards,

Sharyn Chadwick
Principal Development Engineer
Development Services
D: 08 8406 8360
E: schadwick@salisbury.sa.gov.au

City of Salisbury
12 James St, Salisbury, South Australia, 5108
P: 08 8406 8222
F: 08 8281 5466
TTY: 08 8406 8596
W: www.salisbury.sa.gov.au

From: Sothya Tan [<mailto:sothyat@tmkeng.com.au>]
Sent: Tuesday, 18 April 2017 2:50 PM
To: Sharyn Chadwick
Subject: RE: Mawson Lakes

Thanks Sharyn ☺

Sothya Tan
Engineer Environmental Scientist (Civil)
D (08) 8238 4177 | F 08 8410 1405 | M
E sothyat@tmkeng.com.au



Civil - Structural - Environmental - Geotechnical - Mechanical - Electrical - Fire - Hydraulics - Lifts - Green ESD

Level 6, 100 Pirie Street, Adelaide South Australia 5000
www.tmkeng.com.au

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From: Sharyn Chadwick [<mailto:SChadwick@salisbury.sa.gov.au>]
Sent: Tuesday, 18 April 2017 2:28 PM
To: Sothya Tan
Subject: Mawson Lakes

Hi Sothya,

Dameon Roy & Jason Tamas are both due back tomorrow, so I should be able to get you comments by Thursday if all goes to plan.

Cheers,

Sharyn Chadwick
Principal Development Engineer
Development Services
D: 08 8406 8360
E: schadwick@salisbury.sa.gov.au

City of Salisbury
12 James St, Salisbury, South Australia, 5108
P: 08 8406 8222
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Attachment 3
Notice of Category 2 Application and Representations
Received

**DEVELOPMENT ACT 1993
CITY OF SALISBURY**

NOTICE OF APPLICATION FOR CATEGORY 2 DEVELOPMENT
Pursuant to Section 38(4) of the *Development Act 1993*

An application for development has been lodged with the Council for assessment. The details are as follows:

APPLICATION NO:	361/698/2018/LD
APPLICANT:	Hughes Project Management C/- Alexander Symonds Pty Ltd PO Box 1000 KENT TOWN SA 5071
NATURE OF DEVELOPMENT:	LAND DIVISION - CREATION OF 62 ALLOTMENTS FROM ONE (1) ALLOTMENT, PUBLIC ROADS AND RESERVE, REMOVAL OF 14 REGULATED TREES AND 7 REGULATED TREES AND RETENTION OF 3 REGULATED TREES AND 1 SIGNIFICANT TREE
LOCATION:	26-35 Third Avenue , Mawson Lakes SA 5095
CERTIFICATE OF TITLE:	CT-5097/702
ZONE:	Urban Core

The application may be examined at the Office of the Council located at 12 James Street, Salisbury during normal business hours (8.30am – 5pm Monday to Friday) and on Council's web site at www.salisbury.sa.gov.au . Any person or body may make representations in writing, or by email development@salisbury.sa.gov.au, concerning this application and should address their representation to the Chief Executive Officer at PO Box 8, Salisbury or representations@salisbury.sa.gov.au. Representations must be received **no later than Wednesday 20th February 2019**.

Each person making a submission should indicate whether they wish to appear personally, or be represented by another party, in support of their submission. Please note that should you nominate to be heard in support of your representation, you will be required to attend a Development Assessment Panel meeting held at the Council offices, scheduled on the fourth Tuesday of each month at 6.00pm (unless otherwise advised).

Please note that pursuant to Section 38(8) of the *Development Act 1993*, a copy of each representation received will be forwarded to the applicant to allow them to respond to all representations received.

This development is classified as a Category 2 development under the Development Act. Please be aware that there is no right of appeal against Council's decision.

Signed: Chris Carrey, Development Officer

Date: 7 February 2019

THIS IS THE FIRST AND ONLY PUBLICATION OF THIS NOTICE

CATEGORY 2



STATEMENT OF REPRESENTATION
Pursuant to Section 38 of the *Development Act 1993*

To: City of Salisbury
PO Box 8, SALISBURY SA 5108
Email: representations@salisbury.sa.gov.au

THIS SHEET PROVIDES YOU WITH THE OPPORTUNITY TO MAKE COMMENTS IN RELATION TO A PROPOSED DEVELOPMENT. PLEASE FIND ATTACHED DETAILS OF THE PROPOSED DEVELOPMENT.

Application No:	361/698/2018/LD
Applicant:	Hughes Project Management
Location:	26-35 Third Avenue , Mawson Lakes SA 5095
Nature of Development:	LAND DIVISION - CREATION OF 62 ALLOTMENTS FROM ONE (1) ALLOTMENT, PUBLIC ROADS AND RESERVE, REMOVAL OF 14 REGULATED TREES AND 7 REGULATED TREES AND RETENTION OF 3 REGULATED TREES AND 1 SIGNIFICANT TREE

YOUR DETAILS: (this information must be provided to ensure that this is a valid representation)

NAME(S): Rocco Musolino for Domfern Pty Ltd

ADDRESS: [REDACTED]

PHONE NO: [REDACTED] EMAIL: [REDACTED]

I am: (please tick one of the following boxes as appropriate)

- The owner/occupier of the property located at: ...14 Park Way Ice Mawson lakes.
- Other (please state):

YOUR COMMENTS:

I/We: (please tick the most appropriate box below)

- Support the proposed development.
- Oppose the proposed development.

Whether you support or oppose this proposal you must provide written reasons below to ensure that this is a valid representation.

We oppose the development proposed at 26-35 Third Ave as it compromises the existing landscape from a

PTO

Item 5.1.1 - Attachment 3 - Attachment 3: Notice of Category 2 Application and Representations received

361/698/2018/LD

commercial technology hub, this residential development adds to the landscape moving further towards a residential hub.

- We believe the development will discourage future commercial use of our existing site and possibly lead our existing tenant to relocate, leading to a reduction of local longtime employment opportunities.
- Attached is an aerial view of allotments vs our existing site, lots 28 - 33 are in close proximity to an existing cooling tower, how is this going to impact future residents? and will we be exempt from any noise complaints?
- attached also is a list of concerns from the existing tenants at 14 Parkway tee.

My concerns would be addressed by: (state changes/actions to the proposal sought)

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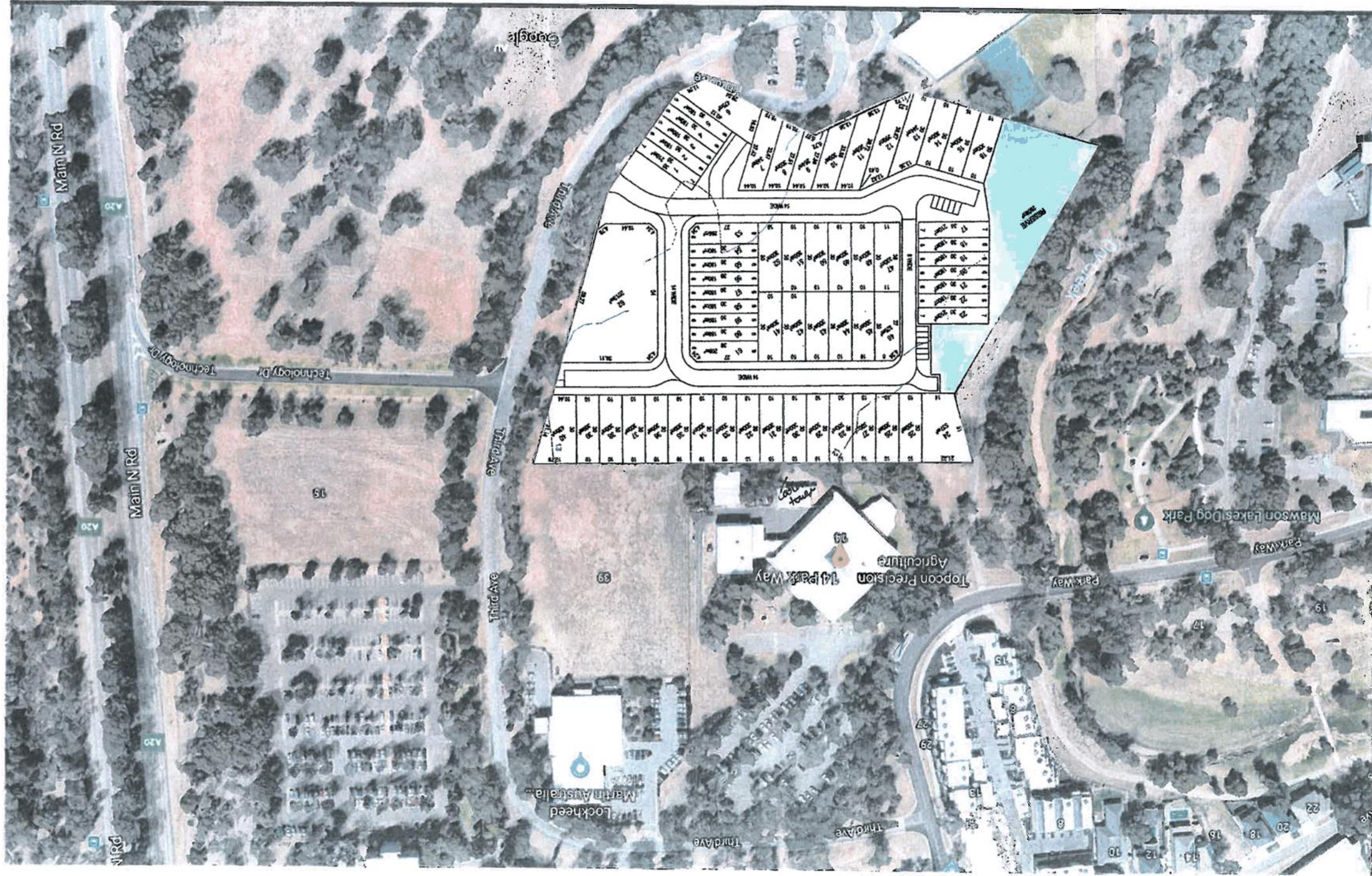
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PTO



[Redacted]

From: Vinh Lieu [Redacted]
Sent: Friday, 15 February 2019 2:25 PM
To: [Redacted]
Subject: City of Salisbury - Land Development concerns

Hi Rocco,

Below is a list of concerns / queries regarding the application for creation of 62 allotment for housing developments on 26-23 Third Avenue, Mawson Lakes

- Possible noise complaint from new neighbours as we have delivery truck commencing at 7:30am?
- Cooling tower noise - will this cause complaints?
- We may need to increase security eg. more cameras as increase chance of trespassing
- Do we need to frost our first floor windows (additional cost to the business)?
- Increase in traffic as only exit is from third avenue – how do they plan to mitigate the impact of more traffic and density on neighbours?
- Upper stories blocking views, sunlight.
- Will the development push unwanted animals (e.g. snakes) toward our site both during development and permanently? What could reduce this?
- We may need security fencing around our entire facility to ensure no trespassing and ensure safety of individuals leaving after dark – in the process of obtaining quotes.
- Will this development encourage further development of business in local area – e.g. cafes, local shops and services (this may be a positive)- but also introduce other concerns i.e. the need for more off road parking in surrounding streets?
- What is the estimate time frame for the development?

Kind regards
Vinh Lieu



[Redacted]

[Redacted]

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Regulation 35(e) of the *Development Regulations 2008* requires that a representation must indicate a person's desire to be heard. Please note that if you do not indicate that you wish to be heard, it will be taken that you do not wish to be heard by the Panel.

I/We:

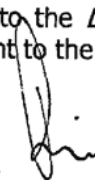
- Do not wish to be heard in support of my representation.
- Wish to be heard in support of my representation, and I will be:
 - Appearing personally,
 - OR**
 - Represented by the following person:
 - Contact details:

(Please note, matters raised in your written representation will be considered during the assessment and do not need to be repeated at the hearing).

Your written representation must be received by Council no later than 11.59pm on Wednesday 20th February 2019, to ensure that it is a valid representation and taken into account.

Representor's Declaration:

I am aware that the representation will become a public document as prescribed in the *Freedom of Information Act 1991*, and will be made available to the applicant, agencies and other bodies pursuant to the *Development Act 1993*, and may be uploaded to the Council's website as an attachment to the hearing agenda.

Signature: 

Date: 19 / 2 / 19

Please complete this checklist to ensure your representation is valid:

- Name and address of person (or persons).
- If more than one person, details of person making the representation.
- Detail of reasons for making the representation.
- Indication whether or not the person (or persons) wishes to be heard.
- Submitted no later than 11.59pm on **Wednesday 20th February 2019.**



20 February 2019

City of Salisbury
Chief Executive Officer

Via Email: representations@salisbury.sa.gov.au.

Dear Chief Executive Officer

**RE: Representation Opposing Development Application 361/698/2018/LD
Located at 26-35 Third Avenue, Mawson Lakes**

MasterPlan SA Pty. Ltd. has been engaged by SAAB Australia ('our client'), owners and occupiers of 21 Third Avenue, Mawson Lakes.

We have inspected the proposal and have reviewed the provisions of the Development Plan.

As per Council's correspondence dated 5 February 2019 Development Application 361/698/2018/LD, proposes the *creation of 62 allotments from one (1) allotment public roads and reserve, removal of 14 regulated trees and 7 regulated trees and retention of three (3) regulated trees and one (1) significant tree.*

For the purposes of this representation it is important to note that both the land the subject of the application and our client's land are located in the Urban Core Zone of the Salisbury Council Development Plan.

Our client advises that they oppose the proposal as presented and we have determined, having regard to the provisions of the Development Plan, that the proposal in its current form does not warrant approval.

1.0 INCORRECT DESCRIPTION OF THE NATURE OF DEVELOPMENT

As per Council's correspondence dated 5 February 2019, the nature of the development is described as:

"Land Division - Creation of 62 allotments from one (1) allotment public roads and reserve, removal of 14 regulated trees and 7 regulated trees and retention of three (3) regulated trees and one (1) significant tree."

(Our emphasis)

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ISO 9001:2015 Certified
ABN 30 007 755 277
plan@masterplan.com.au



51235LET01



From this description, it can be assumed that no significant trees are proposed to be removed. From the town planning report accompanying the application it is stated that *"the application seeks the removal of four (4) significant trees and seven (7) regulated trees"*

In our experience, the removal of significant trees is often a highly contentious issue for the local community. The description used by Council may have resulted in surrounding landowners not understanding that in-fact a number of significant trees are proposed to be removed.

Given that application has been incorrectly described by Council, we respectfully request that the application be renotified for the benefit of both our client and the adjacent landowners to ensure there is no confusion and the application is clear.

2.0 OUR CLIENT'S PROPERTY AND OPERATIONS

Our client's property is located at 21 Third Avenue, Mawson Lakes. This property is located 15 metres west of the site of the proposed development, separated only by a pedestrian link within a Council reserve.

Our client's land is the national headquarters of SAAB Australia who are a defence, security and traffic management solutions provider specialising in computer-based command and control systems. The property is a highly secure and strategically important component for military defence operations.

A significant proportion of Saab's business supports Commonwealth Defence programs. As such, Saab's facility is a secure facility which complies strictly with Commonwealth Defence Security requirements. Saab's Facility is fitted with CCTV to monitor the building and the approach and access areas to the building.

Our client contends that the encroachment of sensitive land uses to within 15 metres of our client's property is not acceptable given the potential threat posed to this strategic facility.

3.0 DEVELOPMENT PLAN ASSESSMENT

It is acknowledged that the Urban Core Zone seeks a mixed-use zone accommodating a mix of employment generating land uses and medium to high density residential development. However, the proposed encroachment of land uses in such close proximity to the existing and lawful operation of our client's facility poses a considerable impact regarding the interface between the proposed and existing land use.

51235LET01

2



3.1 Interface Between Land Uses

We have formed the view that the proposed development does not have appropriate regard to the General Section of the Development Plan in relation to the Interface between Land Uses.

Objective 1 Development located and designed to minimise adverse impact and conflict between land uses.

The proposed encroachment of residential land uses to within 15 metres of the existing and lawful Saab Australia facility presents a significant conflict between these land uses. The Saab Australia facility is a high security facility that is of national strategic importance to our defence sector and requires separation from such land uses.

The development of residential dwellings within close proximity to a secure facility therefore does not accord with Objective 1.

Principles of Development Control

- 1 Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:
 - (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants;
 - (b) noise;
 - (c) vibration;
 - (d) electrical interference;
 - (e) light spill;
 - (f) glare;
 - (g) hours of operation; and
 - (h) traffic impacts.

Safe, convenient and uncongested access to and from our client's facility is important for Saab's staff and operations. Saab is concerned that the proposed development is isolated from public transport options and conveniences, causing increased traffic volumes. This is likely to change the nature and function of Third Avenue.



On-street parking in the development and the internal road network appears tight. This may result in illegal parking and congestion in the area.

As such it is considered that the proposal does not achieve Principle 1 (h).

- 2 Development should be sited and designed to minimise negative impacts on existing and potential future land uses desired in the locality.
- 4 Residential development adjacent to non-residential zones and land uses should be located, designed and/or sited to protect residents from potential adverse impacts from non-residential activities.
- 5 Sensitive uses likely to conflict with the continuation of lawfully existing developments and land uses desired for the zone should be designed to minimise negative impacts.

The proposed encroachment of sensitive land uses to within 15 metres of the existing and lawful Saab Australia property presents a significant conflict between the land uses. The Saab Australia facility is a high security facility that is of national strategic importance to our defence sector.

The development of residential dwellings in close proximity to a secure facility therefore is not in accordance with Principle 2, 4 and 5 above.

It is considered that the proposed development does not take into consideration the existing and lawful Saab facility and poses considerable conflict to its ongoing operation. The proposed development does not achieve the intent of the General Section in relation to the Interface between Land Uses.

3.2 Land Division

Principle 4(j) of the General Section that relates to Land Division states that the design of a land division should incorporate the preservation of significant trees.

The proposed development may result in the removal of four (4) significant trees and therefore does not comply with Principle 4(j).

3.3 Significant Trees

- 5 Land should not be divided or developed where the division or development would be likely to result in a substantial tree-damaging activity occurring to a significant tree.

The proposed development may result in the removal of four (4) significant trees and therefore does not achieve Principle 5 of the General Section in relation to Significant Trees.

51235LET01

4



3.4 Regulated Trees

- 1 Development should have minimum adverse effects on regulated trees.

The proposed development may result in the removal of seven (7) regulated trees and therefore does not achieve Principle 1 of the General Section in relation to Regulated Trees.

4.0 CONCLUSION

In summary we form the view that the proposed development in its current form presents several significant departures from the intent of the relevant Interface between Land Uses provisions to warrant refusal. The proposed development in its current form will have substantial and detrimental impacts on the ongoing operation of the Saab facility which is of national strategic importance. Alternative design options need to be considered to take these matters into account to ensure proper planning outcomes.

We respectfully request the Planning Authority accept the proposition that this proposal fails to satisfy the Interface between Land Uses, Significant Trees and Regulated Trees elements of the Development Plan and that it does not warrant the Authority's favourable consideration.

Further, in the interest of our client and the local community, we respectfully request that the application be renotified with the correct description of the nature of the development.

Our client wishes to reserve the right to make further submissions and present their views at Councils Assessment Panel (CAP).

Yours sincerely,

Simon Tonkin
MasterPlan SA Pty Ltd

Attachment 4
Applicant's Response to Representations



Our ref: JAL/219071

25 March 2019

Mr Chris Carrey
City of Salisbury
PO Box 8
SALISBURY SA 5108

By email: development@salisbury.sa.gov.au

Dear Mr Carrey

DA 361/698/2018LD – Residential Land Division - Creation of 62 Allotments from one (1) allotment, public roads and reserve, removal of 14 regulated trees and 7 significant trees and retention of 3 regulated trees and 1 significant tree - 26-35 Third Avenue, Mawson Lakes SA 5095

This firm acts for the applicant, Mawson Lakes LDC Pty Ltd and this response to the representations lodged with the Council about this application is made on our client's behalf.

Development Plan provisions

The Urban Core Zone expressly envisages housing at medium and high density in a range of dwelling types. I emphasise the terms of the objectives and Desired Character statement as follows -

Objective 1 - A mixed use zone accommodating a mix of employment generating land uses and medium to high density residential development in close proximity to a high frequency public transport corridor.

Objective 2 - Development within a mixed use environment that is compatible with surrounding development and which does not unreasonably compromise the amenity of the zone or any adjoining residential zone.

These objectives make it plain that a mix of residential and employment generating uses are called for but that any employment generating development must be compatible with residential development. The Residential Zone is within less than 100m from the north western boundary of the SAAB land.

Desired Character statement -

"This zone will function primarily as a District Centre that supports housing at medium and high densities and a range of dwelling types which are conveniently located in proximity to high frequency public transport services, recreation, commercial, shop, office and other mixed use activities.

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- 2 -

Development within this zone will result in significant employment generating activity closely aligned to nearby public transport infrastructure and services. Medium and high density housing, primarily in the form of row dwellings, residential flat buildings and mixed use buildings, will be developed in the zone....

The Transition Area will provide a buffer between the Core Area and adjacent residential areas / zones with development taking the form of high quality medium density housing and, subject to Airport building height restrictions, the combination of four storey townhouses/terraces/mews and residential flat buildings will provide a range of housing for a diverse community. There will be some provision for mixed use buildings, where it does not negatively impact on the predominant residential character of the area." (my underlining).

The desired character statement makes it plain that medium and high density residential development is expressly envisaged in the Transition Area applicable to this land. Other non-residential uses must not impact negatively on the desired "predominant residential character of the area".

Proposed land use consistent with Zone

This land division enables the future development of the allotments for medium to high density dwellings and residential flat buildings.

The proposal is entirely consistent with the objectives and the desired character for the Zone.

No Acoustic Concerns

The applicant has commissioned an acoustic engineering report prepared by Sonus Acoustic Engineers. The Report considers the potential impact of noise on the amenity of the proposed residences having regard to existing and future commercial land uses in the locality, Parafield Airport and Main North Road.

The Sonus Acoustic Engineering Report has concluded that the sound exposure at the location of any proposed dwelling arising out of existing commercial activity would easily achieve the relevant provisions of the *Environment Protection (Noise) Policy 2007* during the day. Sonus similarly concludes that in the circumstances all dwellings on the site are constructed in accordance with Sound Exposure Category 1 of SA78B the provisions of the Noise Policy will be achieved.

No legitimate "security" concerns

It is frankly laughable for Masterplan to assert (without substantiation) that dwellings adjacent the SAAB land presents a potential threat to the SAAB facility. This is nothing more than rank assertion. No proper basis for this nonsense is put forward, for the simple reason that the contention is plainly baseless. The SAAB site is already adjacent a public reserve and within 100m of the residential Zone to the west. It cannot be seriously suggested that more dwellings will have any appreciable bearing on the SAAB site.

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- 3 -

Further more, SAAB would no doubt need to take proper measures now to properly secure its site from the public access provided on 3 sides of the property (Third Avenue, the public walkway and the Council reserve).

Lastly, the Development Plan makes it clear that employment generating uses must accept that the predominant use envisaged by the Desired Character statement is residential.

No adverse traffic impacts

The proposed development provides 62 on street car parking spaces (within the roads within this land division) at the rate of 1 per allotment. In addition, future dwellings on those allotments will no doubt be required to provide on site spaces. There will be no on street parking problem created by this division.

The traffic volumes generated by the future development of the site will be entirely within the density expectations for the Zone, indeed, if anything, the proposal will generate a lower volume of traffic than the maximum density expectations for the Transition Area (150 dwellings/hectare).

Significant Trees

The design of the land division retains four significant and three regulated trees. In this sense the proposed development complies with the Council's Development Plan provisions regarding the retention of significant and regulated trees in residential land division.

Conclusion

The proposed development is deserving of approval. Our client requests an opportunity to appear at the CAP meeting when this application is considered to answer any questions from the members and respond to any representations. Please advise of the date and time of the relevant meeting.

Yours faithfully



James Levinson
BOTTEN LEVINSON
Mob: 0407 050 080
Email: jal@bllawyers.com.au

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Attachment 5
Site Contamination Audit Statement

SITE CONTAMINATION AUDIT SYSTEM SITE CONTAMINATION AUDIT STATEMENT



INSTRUCTIONS

Requirements relating to site contamination audit statements are prescribed in the *Environment Protection Regulations 2009* (the Regulations) and include the following:

Regulation 67—Site contamination audit report summary and statement

- (1) A site contamination audit report required under section 103Z(4)(a) and (b)(i) of the Act¹ must include a summary of the findings of the site contamination audit to which it relates that—
 - (a) is in the form set out in Schedule 3 clause 8 for site contamination audit statements; and
 - (b) is certified by the responsible auditor in accordance with the directions contained in the form set out in Schedule 3 clause 8.
- (2) A site contamination audit statement required under section 103Z(4)(b)(ii) of the Act in relation to a site contamination audit must comprise—
 - (a) a copy of the summary in the site contamination audit report relating to the audit and itself be certified by the responsible auditor in accordance with the directions contained in the form set out in Schedule 3 clause 8; or
 - (b) a photocopy, faxed copy or electronic copy of the summary as certified by the responsible auditor in accordance with the directions contained in the form set out in Schedule 3 clause 8.

Audit reports and audit statements are required to be provided to the EPA under section 103Z(4) of the Act, which requires that:

103Z—Requirements relating to site contamination audits

- (4) A site contamination auditor must, on the completion of each site contamination audit for which the auditor is the responsible auditor—
 - (a) provide a site contamination audit report to the person who commissioned the audit; and
 - (b) at the same time, provide—
 - (i) a site contamination audit report to the Authority; and
 - (ii) a site contamination audit statement to the council for the area in which the land to which the audit relates is situated and any prescribed body².

Penalty: Division 5 fine.

Where the audit subject to this form has been completed subject to a restricted scope, the audit report must be identified in the title as a 'Site contamination audit report (restricted scope)'.

An audit subject to a restricted scope is not suitable to be relied upon by a planning authority for the purpose of making decisions as to whether land is suitable for a sensitive use or another use or range of uses.

Please ensure that all sections of the form are completed, requested information and attachments (where necessary) are provided and labelled as indicated.

Please do not modify the form by moving or deleting sections or text, including these instructions.

Please ensure you are using the current version of the form (check the [EPA website](#)).

Refer to the current version of the EPA publication [Guidelines for the site contamination audit system](#), for further information. For any enquiries or questions relating to the site contamination audit system, including requests for editable versions of this form, contact the EPA Site Contamination Branch.

¹ *Environment Protection Act 1993*.

² Refer to Regulation 68 of the Environment Protection Regulations 2009 regarding prescribed bodies.

Form current as at December 2015

Site contamination audit statement

Site contamination audit statements must be included in the relevant site contamination audit reports, and be sent to:

By mail

Manager, Site Contamination Branch
Environment Protection Authority
GPO Box 2607
Adelaide SA 5001

Forms can also be emailed in pdf format to the Manager and an auditor's allocated EPA coordinator.

For any enquiries or questions relating to the site contamination audit system, contact the EPA Site Contamination Branch on:

Telephone: (08) 8204 2004

Email: <EPAsitecontam@sa.gov.au>

Form current as at December 2015

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SITE CONTAMINATION AUDIT STATEMENT

EPA GENI Reference

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(EPA use only)

SITE CONTAMINATION AUDIT STATEMENT(under section 103Z of the *Environment Protection Act 1993*)

This statement contains the summary of the findings of the site contamination audit set out in the site contamination audit report titled: *[insert title of site contamination audit report]*

SITE CONTAMINATION AUDIT REPORT 62041_SCAR_001**26-35 Third Avenue, Mawson Lakes, South Australia****Completed for Hughes Project Management**(referred to in this form as '*the report*')dated *[insert report date]*: **9 November 2018**

SECTION A: AUDITOR DETAILS																
Name of auditor*:	James Robert Fox															
Auditor's accreditation number:	2015039															
Name of auditor's company or business:	Land & Water Consulting															
SECTION B: AUDIT SITE DETAILS																
Auditor's project reference:	HG-03															
EPA reference:	62041															
Name of audit site <i>[if applicable]</i> :																
Address of audit site:	26 – 35 Third Avenue, Mawson Lakes, South Australia															
Name of council for area in which audit site is situated <i>[if within council area]</i> :	City of Salisbury															
Provide the following particulars** relating to the relevant land and the audit: <i>** If insufficient space, details may be annexed to this form.</i>																
- certificates of title of all the relevant land and an indication of whether the audit site comprises all or part only of the land shown on or described in the certificates of title	All of the land shown on or as described in: <ul style="list-style-type: none"> • Certificate of Title Volume 5097 Folio 702 • Deposited Plan 34655 Allotment 5, Hundred of Yatala Refer Attachment A															
- details sufficient to identify the location of the land, including section or allotment numbers, area and hundred and AMG co-ordinates (GDA 94, UTM 53 and 54)	<ul style="list-style-type: none"> - Deposited Plan 34655 Allotment 5, Hundred of Yatala comprising 2.88 ha <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Vertex (Zone 54)</th> <th style="width: 25%;">Easting</th> <th style="width: 25%;">Northing</th> </tr> </thead> <tbody> <tr> <td>North</td> <td>282103.118</td> <td>6144452.423</td> </tr> <tr> <td>East</td> <td>282256.944</td> <td>6144343.165</td> </tr> <tr> <td>South</td> <td>282108.951</td> <td>6144248.248</td> </tr> <tr> <td>West</td> <td>281978.355</td> <td>6144371.740</td> </tr> </tbody> </table>	Vertex (Zone 54)	Easting	Northing	North	282103.118	6144452.423	East	282256.944	6144343.165	South	282108.951	6144248.248	West	281978.355	6144371.740
Vertex (Zone 54)	Easting	Northing														
North	282103.118	6144452.423														
East	282256.944	6144343.165														
South	282108.951	6144248.248														
West	281978.355	6144371.740														

Form current as at December 2015

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Site contamination audit statement

- if the audit site comprises part only of the land described in the certificates of title, or if there is no certificate of title for the land comprising the audit site— survey plans prepared by a licensed surveyor	Not Applicable
- audit plans indicating the location and extent of the audit site (which must comply with the guidelines issued by the EPA from time to time) - refer Attachment B	
SECTION C: AUDIT DETAILS	
Name of owner of audit site:	MAWSON LAKES LDC PTY. LTD. (ACN: 619 729 912) OF UNIT 6 157 HYDE STREET YARRAVILLE VIC 3013
Name of occupier of audit site:	Vacant
Name, postal address and position of person who commissioned audit:	Mr David Hughes Director Hughes Project Management PO Box 479 Torrens Park SA 5062 m: 0459 077 304
Indicate authority of person who commissioned audit:	EPA Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Owner Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Occupier Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Developer Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Other <i>[please specify]</i>
Indicate reasons for audit <i>[indicate all reasons]</i> :	Required under the Development Act 1993 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Required under the Environment Protection Act 1993 Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Other <i>[please specify]</i>
If audit was required under the Environment Protection Act 1993, provide EPA reference number:	Not Applicable
Indicate audit purposes <i>[indicate all purposes]</i> :	Determining the nature and extent of any site contamination present or remaining on or below the surface of the site Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Determining the suitability of the site for a sensitive use or another use or range of uses Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Determining what remediation is or remains necessary for a specified use or range of uses Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>[NB: an audit may be required for all of the above purposes.]</i>

Form current as at December 2015

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Site contamination audit statement

If audit was required for development plan consent under the *Development Act 1993*, provide:

Name of relevant planning authority:	City of Salisbury
Development application number [if known]:	DA 361/698/2018
Site zoning:	Urban Core
Proposed site use:	Residential

Date of commencement of audit:	30 August 2018
Date of notification of commencement of audit to EPA:	30 August 2018
Date of completion of audit:	8 November 2018

SUMMARY OF FINDINGS

Site contamination audit statement

GENERAL

The Auditor is satisfied that the various phases of assessment work presented in the Consultants reports are adequate for the purposes of completing a site contamination audit report. This information included:-

- A historical review via various lines of enquiry and information sources;
- Interpretation of the potential historical sources of contamination from both on and off site sources, finding no indication of potentially contaminating activities on the Site, other than potential layering of reworked natural soils as fill across the northern portion of the Site;
- Sampling programs for soil adopting grid based soil sampling across the balance of the Site where fill was potentially noted during a geotechnical assessment. The depth and methodology of sampling was also considered sufficient in terms of the potential type and extent of impacts being assessed and noting that geotechnical bores were advanced to 3 m below ground level and reported natural soil conditions;
- Analytical programs for soil that included analyses for the main chemicals/ substances of interest based on the site history;
- Quality assurance and quality control programs to verify the accuracy, precision and reproducibility of laboratory data; and
- Reporting, data presentation, and interpretation of a suitable quality to provide the Auditor with confidence in the quality of the information being used to form the basis for the assessment of the site condition.

The auditor concurs with the site history as documented by the consultant's report, in that the Site was historically used as pastural (stock) land (no intensive agriculture) and has not been developed nor has been subject to any potentially contaminating activity.

SITE CONTAMINATION AUDIT STATEMENT

ASSESSMENT OF THE FINAL STATUS AND CONDITION OF THE SITE**Soil - Protection of Human Health**

Soils across the northern portion of the Site as well as a sample from the southern portion of the Site were collected and analysed for a range of chemical substances. It is considered that there have been no potentially contaminating activities undertaken at the Site. The trigger for chemical assessment of soils is that 'fill' was reported on the northern portion of the Site, albeit reworked natural soils, during a geotechnical assessment for dwelling footing design. The laboratory based chemical analysis reported the chemical substances as analysed (broad range, deemed sufficient to capture realistic chemical substances) to be below the laboratory limits of reporting and / or the auditors criteria for low density residential land use (i.e. a sensitive land use as defined in Section 3-1 of the *Environment Protection Act 1993*) for protection of human health.

Based on the assessments undertaken at the Site and as verified by an audit check sample, the auditor considers that the status and condition of the soil at the Site does not present any actual or potential harm to human health and that the soils at the Site are satisfactory for use in a sensitive land use scenario.

Soil - Protection of Environmental Receptors (Ecology)

Soils across the northern portion of the Site as well as a sample from the southern portion of the Site were collected and analysed for a range of chemical substances. It is considered that there have been no potentially contaminating activities undertaken at the Site. The trigger for chemical assessment of soils is that 'fill' was reported on the northern portion of the Site, albeit reworked natural soils, during a geotechnical assessment for dwelling footing design. The laboratory based chemical analysis reported the chemical substances as analysed (broad range, deemed sufficient to capture realistic chemical substances) to be below the laboratory limits of reporting and / or the auditors criteria for low density residential land use (i.e. a sensitive land use as defined in Section 3-1 of the *Environment Protection Act 1993*) for protection of ecology / environment.

Based on the assessments undertaken at the Site and as verified by an audit check sample, the auditor considers that the status and condition of the soil at the Site does not present any actual or potential harm to the environment (ecological receptors) and that the soils at the Site are satisfactory for use in a sensitive land use scenario.

Groundwater

Given the history of the Site (green-field), a review of environmental records in the vicinity of the Site, the absence of PCA and apparent absence of PCA within a 200 m radius of the Site and the results of the soils chemical analysis, there was no reason to consider that groundwater beneath the Site is potentially contaminated and was not assessed nor requested to be assessed following the auditors review of information presented in the Consultants reports and information sourced directly by the auditor.

Surface Waters

Given the history of the Site (green-field), a review of environmental records in the vicinity of the Site, the absence of PCA and apparent absence of PCA within a 200 m radius of the Site, and the results of the soils chemical analysis, there was no reason to consider that surface

Site contamination audit statement

water adjacent to the Site is potentially at risk from the status and condition of the Site. Assessment (sampling and analysis) of the surface water was therefore deemed unnecessary.

Soil Vapour

Given the history of the Site, review of environmental records in the vicinity of the Site, the absence of PCA and apparent absence of PCA within a 200 m radius of the Site and the results of the soils chemical analysis, there was no reason to consider that volatile chemical substances as soil vapour is an issue (or potential issue) at the Site. Soil vapour was therefore not assessed or requested to be assessed.

Potential for off-site Migration

Given the history of the Site, review of environmental records in the vicinity of the Site, the absence of PCA and the results of the soils chemical analysis, there is no reason to consider that the Site is a source site of contamination and therefore is not likely to give rise to offsite migration of contamination.

Non-Site Contamination Issues

The auditor has also considered non-site contamination issues and considers that these issues do not present a risk in the context of the proposed development.

Statement on the nature and extent of site contamination and site conditions following assessment and/ or remediation

In South Australia, the assessment, management and remediation of site contamination is regulated by the Environment Protection Authority in accordance with Section 5B of the *Environment Protection Act, 1993* (EP Act). The EP Act defines site contamination as:

- (1) *For the purposes of this Act, site contamination exists at a site if—*
 - (a) *chemical substances are present on or below the surface of the site in concentrations above the background concentrations (if any); and*
 - (b) *the chemical substances have, at least in part, come to be present there as a result of an activity at the site or elsewhere; and*
 - (c) *the presence of the chemical substances in those concentrations has resulted in—*
 - (i) *actual or potential harm to the health or safety of human beings that is not trivial, taking into account current or proposed land uses; or*
 - (ii) *actual or potential harm to water that is not trivial; or*
 - (iii) *other actual or potential environmental harm that is not trivial, taking into account current or proposed land uses.*
- (2) *For the purposes of this Act, environmental harm is caused by the presence of chemical substances—*
 - (a) *whether the harm is a direct or indirect result of the presence of the chemical substances; and*
 - (b) *whether the harm results from the presence of the chemical substances alone or the combined effects of the presence of the chemical substances and other factors.*
- (3) *For the purposes of this Act, site contamination does not exist at a site if circumstances of a kind prescribed by regulation apply to the site.*

SITE CONTAMINATION AUDIT STATEMENT

A key aspect in the definition of site contamination is whether chemical substances have been added to the site through an activity and whether these substances are above background concentrations.

This is what the staged environmental assessment aims to assess. Where chemical substances have been determined to be present due to an activity above background concentrations, the environmental assessment determines whether these concentrations have resulted in actual or potential harm to the health or safety of human beings or the environment that is not trivial, or actual or potential harm to water, that is not trivial.

Based on the proposed residential land use, site contamination as defined in the *Environment Protection Act, 1993* is not considered to exist.

Site contamination audit statement

AUDITOR DETERMINATIONS AND AUDIT OUTCOMES

Nature and Extent of Any Site Contamination Present or Remaining on or Below the Surface of the Site

With respect to Section 4 of the Guidelines for the Site Contamination Audit System (2015), the Auditor's determinations and the audit outcomes relating to the nature and extent of any site contamination present or remaining on or below the surface of the Site are:

1. The nature and extent of any site contamination present or remaining on or below the surface of the site has been adequately determined;
2. Based on future residential use of the site as defined in the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM), 1999 as amended 2013, site contamination as defined in the *Environment Protection Act, 1993* is not considered to exist at the site.

Suitability of Site for a Sensitive Use or another Use or Range of Uses

The audit site is suitable for the following sensitive use or another use or range of uses (subject to planning consent from City of Salisbury, including:

- a) Sensitive - residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake (no poultry));
- b) Sensitive - residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments;
- c) Sensitive - childcare centres, kindergartens, preschools and primary schools;
- d) Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths; and / or
- e) Commercial / industrial, includes premises such as shops, offices, factories and industrial sites. The above land uses are as defined in the generic land use scenarios in the National Environment Protection (Assessment of Site Contamination) Measure 1999 as amended 2013.

What Remediation is or Remains Necessary for a Specified Use or Range of Uses?

No remediation is or remains necessary for the specified use or range of uses.

SITE CONTAMINATION AUDIT STATEMENT

AUDITOR CONDITIONS AND RECOMMENDATIONS**Audit Conditions**

The audit conditions as per Section 12 of the Guidelines for the Site Contamination Audit System (December 2015) are as follows:

- 1 Planning and Development**
 - a) No conditions are required relating to planning and development
- 2 Environmental Monitoring**
 - a) No conditions are required relating to environmental monitoring.
- 3 Site Management**
 - a) No conditions are required relating to site management.
- 4 Water Restrictions**
 - a) No conditions are required relating to water restrictions.

Recommendations to the EPA in relation to the restriction or prohibition on taking water affected by site contamination

No recommendation is made to the EPA in relation to the restriction or prohibition on taking water affected by site contamination.

Other Recommendations

1. The Site Contamination Audit Report does not address the geotechnical issues associated with the development of the Site. The site owner is advised to seek independent geotechnical advice regarding the suitability of the site for its intended use and the suitability of any placed, backfill materials, or any other matters relevant to the geotechnical stability of the site.
2. It is recommended that shallow groundwater at the site is not extracted for any use without prior testing by a certified site contamination professional or practitioner to confirm that the condition of the groundwater is suitable for the proposed use. The SA Health Water Quality Fact Sheets 'Using bore water safely', 'Bore water quality testing' and 'Guidelines for the use of alternative water supplies (private users)' provide guidance on the safe use of bore water.
3. Should surplus soils be generated during construction and maintenance activities on-site, then waste soils should be managed in accordance with relevant EPA guidelines and/or requirements of waste or recycling depots authorised by the EPA.
4. Any soil imported to the site should be suitable for the application and sourced from a commercial supplier. Should waste soils be generated from another site to be imported to the site then the soils should be classified by an appropriately qualified consultant as meeting the residential land use (low density).
5. All persons who rely on this audit report and audit statement are advised to check the currency and details of the documents, and if any changes have occurred to the site condition since completion of the audit report. This site audit report and accompanying audit statement is based on the condition of the site and information reviewed that is current at the time of completion of the audit. Audit reports do not represent changes that may have occurred to the condition of the site since the completion of the audit.

Site contamination audit statement

CERTIFICATION OF COPY OF SUMMARY FINDINGS

I certify that the summary of findings contained within or annexed to this statement represents a true and accurate summary of the findings of the site contamination audit set out in the report.

Signed*:



Dr James Fox

Site Contamination Auditor, accredited by the Environment Protection Authority (EPA) under Division 4 of Part 10A of the *Environment Protection Act, 1993*

Dated: 9 November 2018

** This form must be completed and signed by the 'responsible auditor', being, under the Environment Protection Act 1993 and the Environment Protection Regulations 2009, the auditor who personally carried out or directly supervised the work involved in the audit.*

This site contamination audit statement must be lodged, on completion of the audit, with the council for the area in which the audit site is situated and any prescribed body (see regulation 68 of the Environment Protection Regulations 2009).

The report (including the summary of findings) will be recorded in the public register kept by the EPA under section 109 of the Environment Protection Act 1993.

SITE CONTAMINATION AUDIT STATEMENT

Attachment A – Certificate of Title

Form current as at December 2015

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Government of South Australia
Department of Planning,
Transport and Infrastructure

Product	Title Details
Date/Time	30/08/2018 12:36PM
Customer Reference	HG-03
Order ID	20180830005932
Cost	\$21.60

Certificate of Title

Title Reference CT 5097/702
Status CURRENT
Easement NO
Owner Number 71104528
Address for Notices UNIT 6, 157 HYDE ST YARRAVILLE, VIC 3013
Area 2.880HA (CALCULATED)

Estate Type

FEE SIMPLE

Registered Proprietor

MAWSON LAKES LDC PTY. LTD. (ACN: 619 729 912)
OF UNIT 6 157 HYDE STREET YARRAVILLE VIC 3013

Description of Land

ALLOTMENT 5 DEPOSITED PLAN 34655
IN THE AREA NAMED MAWSON LAKES
HUNDRED OF YATALA

Last Sale Details

Dealing Reference TRANSFER (T) 12895112
Dealing Date 20/03/2018
Sale Price \$5,760,000
Sale Type FULL VALUE / CONSIDERATION AND WHOLE OF LAND

Constraints

Encumbrances

Dealing Type	Dealing Number	Beneficiary
AGREEMENT	12895113	MINISTER FOR PLANNING
MORTGAGE	12895114	NATIONAL AUSTRALIA BANK LTD. (ACN: 004 044 937)

Stoppers

NIL

Valuation Numbers

Valuation Number	Status	Property Location Address
4420046003	CURRENT	26-35 THIRD AVENUE, MAWSON LAKES, SA 5095

Notations



Product	Title Details
Date/Time	30/08/2018 12:36PM
Customer Reference	HG-03
Order ID	20180830005932
Cost	\$21.60

Dealings Affecting Title

NIL

Notations on Plan

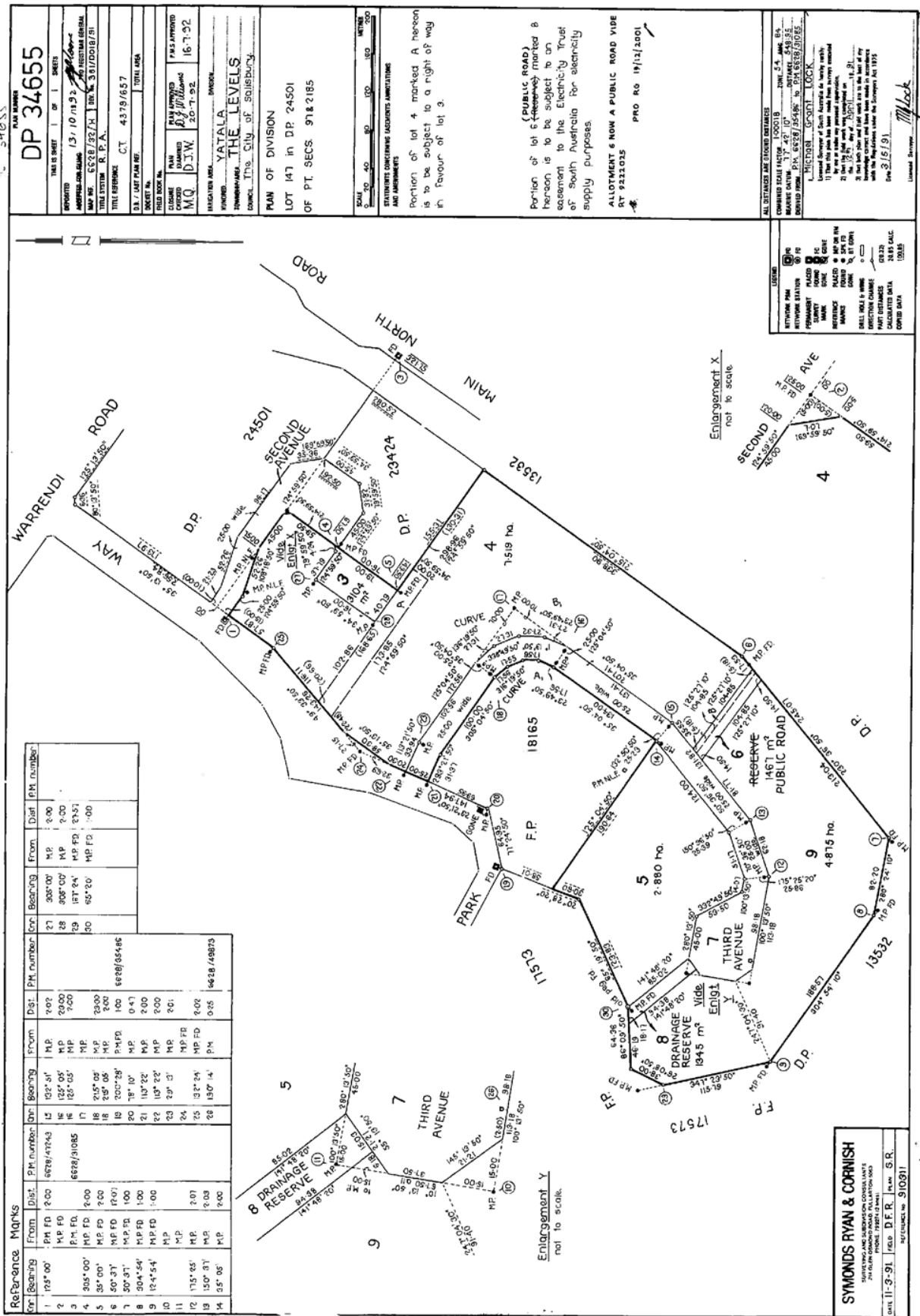
NIL

Registrar-General's Notes

NIL

Administrative Interests

NIL



Item 5.1.1 - Attachment 5 - Site Contamination Audit Statement

Site contamination audit statement

Attachment B – The Audit Site

Form current as at December 2015

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Land Services Group

The Property Location Browser is available on the Land Services Group Website: www.sa.gov.au/landservices

LWC HG-03 / Lot 5 Third Avenue Mawson Lakes

Date created:
August 30, 2018

Audit Area



Government of South Australia
Department of Planning,
Transport and Infrastructure



Disclaimer: The information provided above, is not represented to be accurate, current or complete at the time of printing this report. The Government of South Australia accepts no liability for the use of this data, or any reliance placed on it.

Item 5.1.1 - Attachment 5 - Attachment 5: Site Contamination Audit Statement

Attachment 6
Relevant Development Plan Extracts and Location
Maps consolidated 15 December 2016

Building near Airfields

OBJECTIVES

- 1 Development that ensures the long-term operational, safety, commercial and military aviation requirements of airfields (airports, airstrips and helicopter landing sites) continue to be met.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 The height and location of buildings and structures should not adversely affect the long-term operational, safety, commercial and military aviation requirements of airfields.
- 2 Buildings and structures that exceed the airport building heights as shown on Overlay Maps – Development Constraints or [Concept Plan Map Sal/1 – Edinburgh Defence Airfield Defence \(Area Control\) Regulations](#) should not be developed unless a safety analysis determines that the building/structure does not pose a hazard to aircraft operations.
- 3 Development in the vicinity of airfields should not create a risk to public safety, in particular through any of the following:
 - (a) lighting glare
 - (b) smoke, dust and exhaust emissions
 - (c) air turbulence
 - (d) storage of flammable liquids
 - (e) attraction of birds
 - (f) reflective surfaces (eg roofs of buildings, large windows)
 - (g) materials that affect aircraft navigational aids.
- 4 Outdoor lighting within 6 kilometres of an airport should be designed so that it does not pose a hazard to aircraft operations.
- 5 Development that is likely to increase the attraction of birds should not be located within 3 kilometres of an airport used by commercial and military aircraft. If located closer than 3 kilometres the facility should incorporate bird control measures to minimise the risk of bird strikes to aircraft. Such development includes, but is not limited to, aquaculture, farming, food processing plants, water treatment and storage structures, non-food garbage landfill and food garbage disposal.
- 6 Development within areas affected by aircraft noise should be consistent with Australian Standard AS2022: - Acoustics - Aircraft Noise Intrusion - Building Siting and Construction.

RAAF Base Edinburgh

Building Heights

- 7 Buildings and structures should not exceed the airport building heights as shown on [Concept Plan Map Sal/1 – Edinburgh Defence Airfield Defence \(Area Control\) Regulations](#).

Crime Prevention

OBJECTIVES

- 1 A safe, secure, crime resistant environment where land uses are integrated and designed to facilitate community surveillance.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Development should be designed to maximise surveillance of public spaces through the incorporation of clear lines of sight, appropriate lighting and the use of visible permeable barriers wherever practicable.
- 2 Buildings should be designed to overlook public and communal streets and public open space to allow casual surveillance.
- 3 Development should provide a robust environment that is resistant to vandalism and graffiti.
- 4 Development should provide lighting in frequently used public spaces including those:
 - (a) along dedicated cyclist and pedestrian pathways, laneways and access routes
 - (b) around public facilities such as toilets, telephones, bus stops, seating, litter bins, automatic teller machines, taxi ranks and car parks.
- 5 Development, including car park facilities should incorporate signage and lighting that indicate the entrances and pathways to, from and within sites.
- 6 Landscaping should be used to assist in discouraging crime by:
 - (a) screen planting areas susceptible to vandalism
 - (b) planting trees or ground covers, rather than shrubs, alongside footpaths
 - (c) planting vegetation other than ground covers a minimum distance of two metres from footpaths to reduce concealment opportunities.
- 7 Site planning, buildings, fences, landscaping and other features should clearly differentiate public, communal and private areas.
- 8 Buildings should be designed to minimise and discourage access between roofs, balconies and windows of adjoining dwellings.
- 9 Public toilets should be located, sited and designed:
 - (a) to promote the visibility of people entering and exiting the facility (eg by avoiding recessed entrances and dense shrubbery that obstructs passive surveillance)
 - (b) near public and community transport links and pedestrian and cyclist networks to maximise visibility.
- 10 Development should avoid pedestrian entrapment spots and movement predictors (eg routes or paths that are predictable or unchangeable and offer no choice to pedestrians).

Hazards

OBJECTIVES

- 1 Maintenance of the natural environment and systems by limiting development in areas susceptible to natural hazard risk.
- 2 Development located away from areas that are vulnerable to, and cannot be adequately and effectively protected from the risk of natural hazards.
- 3 Critical community facilities such as hospitals, emergency control centres, major service infrastructure facilities, and emergency service facilities located where they are not exposed to natural hazard risks.
- 4 Development located and designed to minimise the risks to safety and property from flooding.
- 5 Development located to minimise the threat and impact of bushfires on life and property.
- 6 Expansion of existing non-rural uses directed away from areas of high bushfire risk.
- 7 The environmental values and ecological health of receiving waterways and marine environments protected from the release of acid water resulting from the disturbance of acid sulphate soils.
- 8 Protection of human health and the environment wherever site contamination has been identified or is suspected to have occurred.
- 9 Appropriate assessment and remediation of site contamination to ensure land is suitable for the proposed use and provides a safe and healthy living and working environment.
- 10 Minimisation of harm to life, property and the environment through appropriate location of development and appropriate storage, containment and handling of hazardous materials.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Development should be excluded from areas that are vulnerable to, and cannot be adequately and effectively protected from, the risk of hazards.
- 2 Development located on land subject to hazards as shown on the *Overlay Maps - Development Constraints* should not occur unless it is sited, designed and undertaken with appropriate precautions being taken against the relevant hazards.
- 3 There should not be any significant interference with natural processes in order to reduce the exposure of development to the risk of natural hazards.

Flooding

- 4 Development should not occur on land where the risk of flooding is likely to be harmful to safety or damage property.
- 5 Development should not be undertaken in areas liable to inundation by tidal, drainage or flood waters unless the development can achieve all of the following:
 - (a) it is developed with a public stormwater system capable of catering for a 1-in-100 year average return interval flood event
 - (b) buildings are designed and constructed to prevent the entry of floodwaters in a 1-in-100 year average return interval flood event.

- 14 Where land division does occur it should be designed to:
 - (a) minimise the danger to residents, other occupants of buildings and fire fighting personnel
 - (b) minimise the extent of damage to buildings and other property during a bushfire
 - (c) ensure each allotment contains a suitable building site that is located away from vegetation that would pose an unacceptable risk in the event of bushfire
 - (d) ensure provision of a fire hazard separation zone isolating residential allotments from areas that pose an unacceptable bushfire risk by containing the allotments within a perimeter road or through other means that achieve an adequate separation.
- 15 Vehicle access and driveways to properties and public roads created by land division should be designed and constructed to:
 - (a) facilitate safe and effective operational use for fire-fighting and other emergency vehicles and residents
 - (b) provide for two-way vehicular access between areas of fire risk and the nearest public road.
- 16 Olive orchards should be located and developed in a manner that minimises their potential to fuel bushfires.

Salinity

- 17 Development should not increase the potential for, or result in an increase in, soil and water salinity.
- 18 Preservation, maintenance and restoration of locally indigenous plant species should be encouraged in areas affected by dry land salinity.
- 19 Irrigated horticulture and pasture should not increase groundwater-induced salinity.

Acid Sulfate Soils

- 20 Development and activities, including excavation and filling of land, that may lead to disturbance of potential or actual acid sulfate soils (including land identified on the *Overlay Maps – Development Constraints*) should be avoided unless such disturbances are managed in a way that effectively avoids the potential for harm or damage to any of the following:
 - (a) the marine and estuarine environment
 - (b) natural water bodies and wetlands
 - (c) agricultural or aquaculture activities
 - (d) buildings, structures and infrastructure
 - (e) public health.
- 21 Development, including primary production, aquaculture activities and infrastructure, should not proceed unless it can be demonstrated that the risk of releasing acid water resulting from the disturbance of acid sulfate soils is minimal.

Site Contamination

- 22 Development, including land division, should not occur where site contamination has occurred unless the site has been assessed and remediated as necessary to ensure that it is suitable and safe for the proposed use.

Infrastructure

OBJECTIVES

- 1 Infrastructure provided in an economical and environmentally sensitive manner.
- 2 Infrastructure, including social infrastructure, provided in advance of need.
- 3 Suitable land for infrastructure identified and set aside in advance of need.
- 4 The visual impact of infrastructure facilities minimised.
- 5 The efficient and cost-effective use of existing infrastructure.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Development should not occur without the provision of adequate utilities and services, including:
 - (a) electricity supply
 - (b) water supply
 - (c) drainage and stormwater systems
 - (d) waste disposal
 - (e) effluent disposal systems
 - (f) formed all-weather public roads
 - (g) telecommunications services
 - (h) social infrastructure, community services and facilities
 - (i) gas services.
- 2 Development should only occur where it provides, or has access to, relevant easements for the supply of infrastructure.
- 3 Development should incorporate provision for the supply of infrastructure services to be located within common service trenches where practicable.
- 4 Development should not take place until adequate and co-ordinated drainage of the land is assured.
- 5 Development in urban areas should not occur without provision of an adequate reticulated domestic quality mains water supply and an appropriate waste treatment system.
- 6 In areas where no reticulated water supply is available, buildings whose usage is reliant on a water supply should be equipped with an adequate and reliable on-site water storage system.
- 7 Electricity infrastructure should be designed and located to minimise its visual and environmental impacts.
- 8 Development and landscaping within 25 metres of the 275 kV overhead electricity lines should ensure that all clearances and safety restrictions are met.

**Salisbury Council
General Section
Infrastructure**

- 9 In urban areas, electricity supply serving new development should be installed underground.
- 10 Utilities and services, including access roads and tracks, should be sited on areas already cleared of native vegetation. If this is not possible, their siting should cause minimal interference or disturbance to existing native vegetation and biodiversity.
- 11 Utility buildings and structures should be grouped with non-residential development where possible.
- 12 Development in proximity to infrastructure facilities should be sited and be of a scale to ensure adequate separation to protect people and property.

Interface between Land Uses

OBJECTIVES

- 1 Development located and designed to minimise adverse impact and conflict between land uses.
- 2 Protect community health and amenity from adverse impacts of development.
- 3 Protect desired land uses from the encroachment of incompatible development.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:
 - (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants
 - (b) noise
 - (c) vibration
 - (d) electrical interference
 - (e) light spill
 - (f) glare
 - (g) hours of operation
 - (h) traffic impacts.
- 2 Development should be sited and designed to minimise negative impacts on existing and potential future land uses desired in the locality.
- 3 Development adjacent to a Residential Zone should be designed to minimise overlooking and overshadowing of adjacent dwellings and private open space.
- 4 Residential development adjacent to non-residential zones and land uses should be located, designed and/or sited to protect residents from potential adverse impacts from non-residential activities.
- 5 Sensitive uses likely to conflict with the continuation of lawfully existing developments and land uses desired for the zone should be designed to minimise negative impacts.
- 6 Non-residential development on land abutting a residential zone should be designed to minimise noise impacts to achieve adequate levels of compatibility between existing and proposed uses.

Noise Generating Activities

- 7 Development that emits noise (other than music noise) should include noise attenuation measures that achieve the relevant *Environment Protection (Noise) Policy* criteria when assessed at the nearest existing noise sensitive premises.
- 8 Development with the potential to emit significant noise (e.g. industry) should incorporate noise attenuation measures that prevent noise from causing unreasonable interference with the amenity of noise sensitive premises.

Salisbury Council
General Section
Land Division

Land Division

OBJECTIVES

- 1 Land division that occurs in an orderly sequence allowing efficient provision of new infrastructure and facilities and making optimum use of existing under utilised infrastructure and facilities.
- 2 Land division that creates allotments appropriate for the intended use.
- 3 Land division layout that is optimal for energy efficient building orientation.
- 4 Land division that is integrated with site features, including landscape and environmental features, adjacent land uses, the existing transport network and the availability of infrastructure.
- 5 Land division restricted in rural areas to ensure the efficient use of rural land for primary production and avoidance of uneconomic infrastructure provision.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 When land is divided:
 - (a) stormwater should be capable of being drained safely and efficiently from each proposed allotment and disposed of from the land in an environmentally sensitive manner
 - (b) a sufficient water supply should be made available for each allotment
 - (c) provision should be made for the disposal of wastewater, sewage and other effluent from each allotment without risk to health
 - (d) proposed roads should be graded, or be capable of being graded to connect safely and conveniently with an existing road or thoroughfare.
- 2 Land should not be divided if any of the following apply:
 - (a) the size, shape, location, slope or nature of the land makes any of the allotments unsuitable for the intended use
 - (b) any allotment will not have a frontage to one of the following:
 - (i) an existing road
 - (ii) a proposed public road
 - (iii) access to a public road via an internal roadway in a plan of community division
 - (c) the intended use of the land is likely to require excessive cut and/or fill
 - (d) it is likely to lead to undue erosion of the subject land or land within the locality
 - (e) the wastewater treatment plant to which subsequent development will be connected does not have sufficient capacity to handle the additional wastewater volumes and pollutant loads generated by such development
 - (f) the area is unsewered and cannot accommodate an appropriate onsite wastewater disposal system within the allotment that complies with (or can comply with) the relevant public and environmental health legislation applying to the intended use(s)

- (g) any allotments will straddle more than one zone, policy area or precinct
- (h) the allotments unreasonably restrict access to publicly owned land such as recreation areas.

Design and Layout

- 3 Land divisions should be designed to ensure that areas of native vegetation and wetlands:
 - (a) are not fragmented or reduced in size
 - (b) do not need to be cleared as a consequence of subsequent development.
- 4 The design of a land division should incorporate:
 - (a) roads, thoroughfares and open space that result in safe and convenient linkages with the surrounding environment, including public and community transport facilities, and which, where necessary, facilitate the satisfactory future division of land and the inter-communication with neighbouring localities
 - (b) new road and allotment access points providing appropriate separation distances from existing road junctions or level crossings
 - (c) safe and convenient access from each allotment to an existing or proposed road or thoroughfare
 - (d) areas to provide appropriate separation distances between potentially conflicting land uses and/or zones
 - (e) suitable land set aside for useable local open space
 - (f) public utility services within road reserves and where necessary within dedicated easements
 - (g) the preservation of significant natural, **cultural** or landscape features including State and local heritage places
 - (h) protection for existing vegetation and drainage lines
 - (i) where appropriate, the amalgamation of smaller allotments to ensure co-ordinated and efficient site development
 - (j) the preservation of significant trees.
- 5 Land division should result in allotments of a size suitable for their intended use.
- 6 Land division should facilitate optimum solar access for energy efficiency.
- 7 Land division within an area identified as being an 'Excluded Area from Bushfire Protection Planning Provisions' as shown on *Bushfire Protection Area BPA Maps - Bushfire Risk* should be designed to make provisions for:
 - (a) emergency vehicle access through to the Bushfire Protection Area and other areas of open space connected to it
 - (b) a mainly continuous street pattern serving new allotments that eliminates the use of cul-de-sacs or dead end roads
 - (c) a fire hazard separation zone isolating residential allotments from areas that pose an unacceptable bushfire risk by containing the allotments within a perimeter road or through other means that achieve an adequate separation.

- 14 The arrangement of roads, allotments, reserves and open space should enable the provision of a stormwater management drainage system that:
- (a) contains and retains all watercourses, drainage lines and native vegetation
 - (b) enhances amenity
 - (c) integrates with the open space system and surrounding area.

Roads and Access

- 15 Road reserves should be of a width and alignment that can:
- (a) provide for safe and convenient movement and parking of projected volumes of vehicles and other users
 - (b) provide for footpaths, cycle lanes and shared-use paths for the safety and convenience of residents and visitors
 - (c) allow vehicles to enter or reverse from an allotment or site in a single movement allowing for a car parked on the opposite side of the street
 - (d) accommodate street tree planting, landscaping and street furniture
 - (e) accommodate the location, construction and maintenance of stormwater drainage and public utilities
 - (f) provide unobstructed, safe and efficient vehicular access to individual allotments and sites
 - (g) allow for the efficient movement of service and emergency vehicles.
- 16 The design of the land division should facilitate the most direct route to local facilities for pedestrians and cyclists and enable footpaths, cycle lanes and shared-use paths to be provided of a safe and suitable width and reasonable longitudinal gradient.
- 17 The layout of land divisions should result in roads designed and constructed to ensure:
- (a) that traffic speeds and volumes are restricted where appropriate by limiting street length and/or the distance between bends and slow points
 - (b) there are adequate sight distances for motorists at intersections, junctions, pedestrian and cyclist crossings, and crossovers to allotments to ensure the safety of all road users and pedestrians
 - (c) that existing dedicated cycling and walking routes are not compromised.
- 18 The design of the land division should provide space sufficient for on-street visitor car parking for the number and size of allotments, taking account of:
- (a) the size of proposed allotments and sites and opportunities for on-site parking
 - (b) the availability and frequency of public and community transport
 - (c) on-street parking demand likely to be generated by nearby uses.
- 19 The layout of land divisions should incorporate street patterns designed to enhance the efficient movement of traffic and minimise trip lengths.

Salisbury Council
 General Section
 Natural Resources

Natural Resources

OBJECTIVES

- 1 Retention, protection and restoration of the natural resources and environment.
- 2 Protection of the quality and quantity of South Australia's surface waters, including inland, *marine and estuarine* and underground waters.
- 3 The ecologically sustainable use of natural resources including water resources, including *marine waters*, ground water, surface water and watercourses.
- 4 Natural hydrological systems and environmental flows reinstated, and maintained and enhanced.
- 5 Development consistent with the principles of water sensitive design.
- 6 Development sited and designed to:
 - (a) protect natural ecological systems
 - (b) achieve the sustainable use of water
 - (c) protect water quality, including receiving waters
 - (d) reduce runoff and peak flows and prevent the risk of downstream flooding
 - (e) minimise demand on reticulated water supplies
 - (f) maximise the harvest and use of stormwater
 - (g) protect stormwater from pollution sources.
- 7 Storage and use of stormwater which avoids adverse impact on public health and safety.
- 8 Native flora, fauna and ecosystems protected, retained, conserved and restored.
- 9 Restoration, expansion and linking of existing native vegetation to facilitate habitat corridors for ease of movement of fauna.
- 10 Minimal disturbance and modification of the natural landform.
- 11 Protection of the physical, chemical and biological quality of soil resources.
- 12 Protection of areas prone to erosion or other land degradation processes from inappropriate development.
- 13 Protection of the scenic qualities of natural and rural landscapes.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Development should be undertaken with minimum impact on the natural environment, including air and water quality, land, soil, biodiversity, and scenically attractive areas.
- 2 Development should ensure that South Australia's natural assets, such as biodiversity, water and soil, are protected and enhanced.

- 3 Development should not significantly obstruct or adversely affect sensitive ecological areas such as creeks, wetlands, estuaries and significant seagrass and mangrove communities.
- 4 Development should be appropriate to land capability and the protection and conservation of water resources and biodiversity.

Water Sensitive Design

- 5 Development should be designed to maximise conservation, minimise consumption and encourage re-use of water resources.
- 6 Development should not take place if it results in unsustainable use of surface or underground water resources.
- 7 Development should be sited and designed to:
 - (a) capture and re-use stormwater, where practical
 - (b) minimise surface water runoff
 - (c) prevent soil erosion and water pollution
 - (d) protect and enhance natural water flows
 - (e) protect water quality by providing adequate separation distances from watercourses and other water bodies
 - (f) not contribute to an increase in salinity levels
 - (g) avoid the water logging of soil or the release of toxic elements
 - (h) maintain natural hydrological systems and not adversely affect:
 - (i) the quantity and quality of groundwater
 - (ii) the depth and directional flow of groundwater
 - (iii) the quality and function of natural springs.
- 8 Water discharged from a development site should:
 - (a) be of a physical, chemical and biological condition equivalent to or better than its pre-developed state
 - (b) not exceed the rate of discharge from the site as it existed in pre-development conditions.
- 9 Development should include stormwater management systems to protect it from damage during a minimum of a 1-in-100 year average return interval flood.
- 10 Development should have adequate provision to control any stormwater over-flow runoff from the site and should be sited and designed to improve the quality of stormwater and minimise pollutant transfer to receiving waters.
- 11 Development should include stormwater management systems to mitigate peak flows and manage the rate and duration of stormwater discharges from the site to ensure the carrying capacities of downstream systems are not overloaded.
- 12 Development should include stormwater management systems to minimise the discharge of sediment, suspended solids, organic matter, nutrients, bacteria, litter and other contaminants to the stormwater system.

Salisbury Council
 General Section
 Open Space and Recreation

Open Space and Recreation

OBJECTIVES

- 1 The creation of a network of linked parks, reserves, recreational trails and recreation areas at regional and local levels.
- 2 Pleasant, functional and accessible open spaces providing a range of physical environments.
- 3 A wide range of settings for active and passive recreational opportunities.
- 4 An appropriate quantity, quality and distribution of open space that reflects the local, neighbourhood, district, council wide and regional needs of the community as reflected by indicators such as population density and demographic structure
- 5 The provision of open space in the following hierarchy:
 - State
 - Regional
 - District
 - Neighbourhood
 - Local.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Urban development should include public open space and recreation areas.
- 2 Public open space and recreation areas should be of a size, dimension and location that:
 - (a) facilitate a range of formal and informal recreation activities
 - (b) provide for the movement of pedestrians and cyclists
 - (c) incorporate existing vegetation and natural features, watercourses, wildlife habitat and other sites of natural or cultural value
 - (d) link habitats, wildlife corridors, public open spaces and existing recreation facilities
 - (e) enable effective stormwater management
 - (f) provides for the planting and retention of large trees and vegetation.
- 3 Open space should be designed to incorporate:
 - (a) pedestrian, cycle linkages to other open spaces, centres, schools and public transport nodes
 - (b) park furniture, shaded areas and resting places to enhance pedestrian comfort
 - (c) safe crossing points where pedestrian routes intersect the road network
 - (d) easily identified access points
 - (e) frontage to abutting public roads to optimise pedestrian access and visibility
 - (f) re-use of stormwater for irrigation purposes

Orderly and Sustainable Development

OBJECTIVES

- 1 Orderly and economical development that creates a safe, convenient and pleasant environment in which to live.
- 2 Development occurring in an orderly sequence and in a compact form to enable the efficient provision of public services and facilities.
- 3 Development that does not jeopardise the continuance of adjoining authorised land uses.
- 4 Development that does not prejudice the achievement of the provisions of the Development Plan.
- 5 Development abutting adjoining Council areas having regard to the policies of that Council's Development Plan.
- 6 Urban development contained within existing townships and settlements and located only in zones designated for such development.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Development should not prejudice the development of a zone for its intended purpose.
- 2 Land outside of townships and settlements should primarily be used for primary production and conservation purposes.
- 3 The economic base of the region should be expanded in a sustainable manner.
- 4 Urban development should form a compact extension to an existing built-up area.
- 5 Ribbon development should not occur along the coast, water frontages or arterial roads shown in *Overlay Maps - Transport*.
- 6 Development should be located and staged to achieve the economical provision of public services and infrastructure, and to maximise the use of existing services and infrastructure.
- 7 Where development is expected to impact upon the existing infrastructure network (including the transport network), development should demonstrate how the undue effect will be addressed.
- 8 Vacant or underutilised land should be developed in an efficient and co-ordinated manner to not prejudice the orderly development of adjacent land.

Salisbury Council
General Section
Regulated Trees

Regulated Trees

OBJECTIVES

- 1 The conservation of regulated trees that provide important aesthetic and/or environmental benefit.
- 2 Development in balance with preserving regulated trees that demonstrate one or more of the following attributes:
 - (a) significantly contributes to the character or visual amenity of the locality
 - (b) indigenous to the locality
 - (c) a rare or endangered species
 - (d) an important habitat for native fauna.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Development should have minimum adverse effects on regulated trees.
- 2 A regulated tree should not be removed or damaged other than where it can be demonstrated that one or more of the following apply:
 - (a) the tree is diseased and its life expectancy is short
 - (b) the tree represents a material risk to public or private safety
 - (c) the tree is causing damage to a building
 - (d) development that is reasonable and expected would not otherwise be possible
 - (e) the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree.
- 3 Tree damaging activity other than removal should seek to maintain the health, aesthetic appearance and structural integrity of the tree.

Salisbury Council
General Section
Residential Development

Residential Development

OBJECTIVES

- 1 Safe, convenient, pleasant and healthy-living environments that meet the full range of needs and preferences of the community.
- 2 An increased mix in the range and number of dwelling types available within urban boundaries to cater for changing demographics, particularly smaller household sizes and supported accommodation.
- 3 Higher dwelling densities in areas close to centres, public and community transport and public open spaces.
- 4 The regeneration of selected areas identified at zone and/or policy area levels.
- 5 Affordable housing and housing for aged persons provided in appropriate locations.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Residential allotments and sites should have the appropriate orientation, area, configuration and dimensions to accommodate:
 - (a) the siting and construction of a dwelling and associated ancillary outbuildings
 - (b) the provision of landscaping and private open space
 - (c) convenient and safe vehicle access and off street parking
 - (d) passive energy design.
- 2 Buildings on battleaxe allotments or the like should be single storey and be designed to maintain the privacy of adjoining properties.
- 3 Residential allotments should be of varying sizes to encourage housing diversity.
- 4 Dwellings constituting affordable housing should be located to optimise access to shops, social services and facilities, or public transport.
- 5 Medium density development that achieves gross densities of between 23 and 45 dwellings per hectare (which translates to net densities of between 40 and 67 dwellings per hectare) should typically be in the form of 2 to 4 storey buildings.
- 6 High density development that achieves gross densities of more than 45 dwellings per hectare (which translates to net densities of more than 67 dwellings per hectare) should typically be in the form of over 4 storey buildings.

Design and Appearance

- 7 Where a dwelling has direct frontage to a street the dwelling should be designed to provide surveillance and address the street.
- 8 Entries to dwellings should be clearly visible from the streets that they front to enable visitors to identify a specific dwelling easily.

Salisbury Council
General Section
Residential Development

Noise

- 31 Noise generated by fixed noise sources such as air conditioning units and pool pumps should be located, designed and attenuated to avoid causing potential noise nuisance to adjoining landowners and occupiers.
- 32 Residential development close to high noise sources (eg major roads, railway lines, tram lines, industry, and airports) should be designed to locate bedrooms, living rooms and private open spaces away from those noise sources, or protect these areas with appropriate noise attenuation measures.
- 33 Residential development on sites abutting established collector or higher order roads should include front fences and walls that will supplement the noise control provided by the building facade.
- 34 The number of dwellings sharing a common internal pedestrian entry within a residential flat building should be minimised to limit noise generation in internal access ways.
- 35 External noise and light intrusion to bedrooms should be minimised by separating or shielding these rooms from:
- active communal recreation areas, parking areas and vehicle access ways
 - service equipment areas and fixed noise sources on the same or adjacent sites.

Car Parking and Access

- 36 The number of driveway crossovers should be minimised and appropriately separated to optimise the provision of on-street visitor parking and preserve and enhance street character including opportunities for landscaping, tree planting and fences.
- 37 On-site parking should be provided having regard to:
- the number, nature and size of proposed dwellings
 - proximity to centre facilities, public and community transport within walking distance of the dwellings
 - the anticipated mobility and transport requirements of the likely occupants, particularly groups such as aged persons
 - availability of on-street car parking
 - any loss of on-street parking arising from the development (eg an increase in number of driveway crossovers).
- 38 Parking areas and internal driveways servicing more than one dwelling should be of a size and location to:
- serve users, including pedestrians, cyclists and motorists, efficiently, conveniently and safely
 - provide adequate space for vehicles to manoeuvre between the street and the parking area
 - reinforce or contribute to attractive streetscapes.
- 39 On-site visitor parking spaces for group and multiple dwellings and residential flat buildings should be sited and designed to:
- serve users efficiently and safely
 - not dominate internal site layout

Significant Trees

OBJECTIVES

- 1 The conservation of significant trees, in Metropolitan Adelaide, that provide important aesthetic and environmental benefit.
- 2 The conservation of significant trees in balance with achieving appropriate development.

PRINCIPLES OF DEVELOPMENT CONTROL

- 1 Development should preserve the following attributes where a significant tree demonstrates at least one of the following attributes:
 - (a) makes an important contribution to the character or amenity of the local area; or
 - (b) is indigenous to the local area and its species is listed under the *National Parks and Wildlife Act 1972* as a rare or endangered native species
 - (c) represents an important habitat for native fauna
 - (d) is part of a wildlife corridor of a remnant area of native vegetation
 - (e) is important to the maintenance of biodiversity in the local environment
 - (f) forms a notable visual element to the landscape of the local area.
- 2 Development should be undertaken so that it has a minimum adverse effect on the health of a significant tree.
- 3 Significant trees should be preserved, and tree-damaging activity should not be undertaken, unless:
 - (a) in the case of tree removal, where at least one of the following apply:
 - (i) the tree is diseased and its life expectancy is short
 - (ii) the tree represents an unacceptable risk to public or private safety
 - (iii) the tree is within 20 metres of a residential, tourist accommodation or habitable building and is a bushfire hazard within a Bushfire Prone Area
 - (b) the tree is shown to be causing or threatening to cause substantial damage to a substantial building or structure of value
 - (c) all other reasonable remedial treatments and measures have been determined to be ineffective
 - (d) it is demonstrated that all reasonable alternative development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.
 - (e) in any other case, any of the following circumstances apply:
 - (i) the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree
 - (ii) the work is required due to unacceptable risk to public or private safety

Salisbury Council
General Section
Significant Trees

- (iii) the tree is within 20 metres of a residential, tourist accommodation or habitable building and is a bushfire hazard within a Bushfire Prone Area
 - (iv) the tree is shown to be causing or threatening to cause damage to a substantial building or structure of value
 - (v) the aesthetic appearance and structural integrity of the tree is maintained
 - (vi) it is demonstrated that all reasonable alternative development options and design solutions have been considered to prevent substantial tree-damaging activity occurring.
- 4 Development involving ground work activities such as excavation, filling, and sealing of surrounding surfaces (whether such work takes place on the site of a significant tree or otherwise) should only be undertaken where the aesthetic appearance, health and integrity of a significant tree, including its root system, will not be adversely affected.
 - 5 Land should not be divided or developed where the division or development would be likely to result in a substantial tree-damaging activity occurring to a significant tree.

Transportation and Access

OBJECTIVES

- 1 A comprehensive, integrated, affordable and efficient air, rail, sea, road, cycle and pedestrian transport system that will:
 - (a) provide equitable access to a range of public, community and private transport services for all people
 - (b) ensure a high level of safety
 - (c) effectively support the economic development of the State
 - (d) have minimal negative environmental and social impacts
 - (e) maintain options for the introduction of suitable new transport technologies.
- 2 Development that:
 - (a) provides safe and efficient movement for all motorised and non-motorised transport modes
 - (b) ensures access for vehicles including emergency services, public infrastructure maintenance and commercial vehicles
 - (c) provides off street parking
 - (d) is appropriately located so that it supports and makes best use of existing transport facilities and networks.
- 3 A road hierarchy that promotes safe and efficient transportation in an integrated manner throughout the State.
- 4 Provision of safe, pleasant, accessible, integrated and permeable pedestrian and cycling networks.
- 5 Safe and convenient freight movement throughout the State.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

- 1 Land uses arranged to support the efficient provision of sustainable transport networks and encourage their use.

Movement Systems

- 2 Development should be integrated with existing transport networks, particularly major rail and road corridors as shown on *Location Maps* and *Overlay Maps - Transport*, and designed to minimise its potential impact on the functional performance of the transport networks.
- 3 Transport corridors should be sited and designed so as to not unreasonably interfere with the health and amenity of adjacent sensitive land uses.
- 4 Roads should be sited and designed to blend with the landscape and be in sympathy with the terrain.

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Transportation and Access

- 5 Land uses that generate large numbers of visitors such as shopping centres and areas, places of employment, schools, hospitals and medium to high density residential uses should be located so that they can be serviced by existing transport networks and encourage walking and cycling.
- 6 Development generating high levels of traffic, such as schools, shopping centres and other retail areas, entertainment and sporting facilities, should incorporate passenger pick-up and set down areas. The design of such areas should ensure interference to existing traffic is minimised and give priority to pedestrians, cyclists and public and community transport users.
- 7 The location and design of public and community transport set-down and pick-up points should maximise safety and minimise the isolation and vulnerability of users.
- 8 Development should provide safe and convenient access for all anticipated modes of transport including cycling, walking, public and community transport, and motor vehicles.
- 9 Development at intersections, pedestrian and cycle crossings, and crossovers to allotments should maintain or enhance sightlines for motorists, cyclists and pedestrians to ensure safety for all road users and pedestrians.
- 10 Driveway crossovers affecting pedestrian footpaths should maintain the level of the footpath.
- 11 Development should discourage commercial and industrial vehicle movements through residential streets and adjacent other sensitive land uses such as schools.
- 12 Industrial/commercial vehicle movements should be separated from passenger vehicle car-parking areas.
- 13 Development should make sufficient provision on site for the loading, unloading and turning of all traffic likely to be generated.

Cycling and Walking

- 14 Development should ensure that a permeable street and path network is established that encourages walking and cycling through the provision of safe, convenient and attractive routes with connections to adjoining streets, paths, open spaces, schools, public and community transport stops and activity centres.
- 15 Development should provide access, and accommodate multiple route options, for cyclists by enhancing and integrating with:
 - (a) open space networks, recreational trails, parks, reserves and recreation areas
 - (b) Adelaide's Metropolitan Open Space System.
- 16 Cycling and pedestrian networks should be designed to be permeable and facilitate direct and efficient passage to neighbouring networks and facilities.
- 17 New developments should give priority to and not compromise existing designated bicycle routes.
- 18 Where development coincides with, intersects or divides a proposed bicycle route or corridor, development should incorporate through-access for cyclists.
- 19 Developments should encourage and facilitate cycling as a mode of transport by incorporating end-of-journey facilities including:
 - (a) showers, changing facilities, and secure lockers
 - (b) signage indicating the location of bicycle facilities

- (c) secure bicycle parking facilities provided at the rate set out in [Table Sal/3 - Off Street Bicycle Parking Requirements](#).
- 20 Pedestrian facilities and networks should be designed and provided in accordance with relevant provisions of the *Australian Standards and Austroads Guide to Traffic Engineering Practice Part 13*.
- 21 Cycling facilities and networks should be designed and provided in accordance with the relevant provisions of the *Australian Standards and Austroads Guide to Traffic Engineering Practice Part 14*.

Access

- 22 Development should have direct access from an all weather public road.
- 23 **Development should be provided with safe and convenient access which:**
 - (a) **avoids unreasonable interference with the flow of traffic on adjoining roads**
 - (b) **provides appropriate separation distances from existing roads or level crossings**
 - (c) **accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision**
 - (d) **is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.**
- 24 Development should not restrict access to publicly owned land such as recreation areas.
- 25 The number of vehicle access points onto arterial roads shown on *Overlay Maps - Transport* should be minimised, and where possible access points should be:
 - (a) limited to local roads
 - (b) shared between developments.
- 26 The number of access points for cyclists and pedestrians onto all adjoining roads should be maximised.
- 27 Development with access from roads with existing or projected traffic volumes exceeding 6000 vehicles per day should be sited to avoid the need for vehicles to reverse on to or from the road.
- 28 Development with access from arterial roads or roads as shown on *Overlay Maps - Transport* should be sited to avoid the need for vehicles to reverse on to or from the road.
- 29 Driveways, access tracks and parking areas should be designed and constructed to:
 - (a) follow the natural contours of the land
 - (b) minimise excavation and/or fill
 - (c) minimise the potential for erosion from run-off
 - (d) avoid the removal of existing vegetation
 - (e) be consistent with *Australian Standard AS 2890 Parking facilities*.

Access for People with Disabilities

- 30 Development should be sited and designed to provide convenient access for people with a disability.
- 31 Where appropriate and practical, development should provide for safe and convenient access to the coast and beaches for disabled persons.

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Transportation and Access

Vehicle Parking

- 32 Development should provide off-street vehicle parking and specifically marked disabled car parking places to meet anticipated demand in accordance with Table Sal/2 - Off Street Vehicle Parking Requirements or Table Sal/2A - Off Street Vehicle Parking Requirements for Designated Areas (whichever applies) unless an agreement is reached between the Council and the applicant for a reduced number of parking spaces where one of the following applies:
- (a) a financial contribution is paid into the Council Car Parking Funds specified by the Council, in accordance with the gazetted rate per car park associated with the 'Car Park Fund Areas' identified on Concept Plan Map Sal/27 - Salisbury District Centre Car Park Fund Area, Concept Plan Map Sal/29 - Ingle Farm District Centre Car Park Fund Area and Concept Plan Map Sal/32 - Mawson Lakes Town Centre Car Parking Fund Area
 - (b) it can be demonstrated that fewer car parks would be required to meet the car parking needs associated with the development.
- 33 Development should be consistent with **Australian Standard AS 2890 Parking facilities**.
- 34 Vehicle parking areas should be sited and designed in a manner that will:
- (a) facilitate safe and convenient pedestrian linkages to the development and areas of significant activity or interest in the vicinity of the development
 - (b) include safe pedestrian and bicycle linkages that complement the overall pedestrian and cycling network
 - (c) not inhibit safe and convenient traffic circulation
 - (d) result in minimal conflict between customer and service vehicles
 - (e) avoid the necessity to use public roads when moving from one part of a parking area to another
 - (f) minimise the number of vehicle access points to public roads
 - (g) avoid the necessity for backing onto public roads
 - (h) where reasonably possible, provide the opportunity for shared use of car parking and integration of car parking areas with adjoining development to reduce the total extent of vehicle parking areas and the requirement for access points
 - (i) not dominate the character and appearance of a site when viewed from public roads and spaces
 - (j) provide landscaping that will shade and enhance the appearance of the vehicle parking areas.
- 35 Vehicle parking areas should be designed to reduce opportunities for crime by:
- (a) maximising the potential for passive surveillance by ensuring they can be overlooked from nearby buildings and roads
 - (b) incorporating walls and landscaping that do not obscure vehicles or provide potential hiding places
 - (c) being appropriately lit
 - (d) having clearly visible walkways.
- 36 Where parking areas are not obviously visible or navigated, signs indicating the location and availability of vehicle parking spaces associated with businesses should be displayed at locations readily visible to customers.

Urban Core Zone

Refer to the [Map Reference Tables](#) for a list of the maps that relate to this zone.

OBJECTIVES

- 1 A mixed use zone accommodating a mix of employment generating land uses and medium to high density residential development in close proximity to a high frequency public transport corridor.
- 2 **Development within a mixed use environment that is compatible with surrounding development and which does not unreasonably compromise the amenity of the zone or any adjoining residential zone.**
- 3 Smaller dwellings, including innovative housing designs, located close to local services and public transport stops.
- 4 Mixed use development integrated with a high quality public realm that promotes walking, cycling, public transport patronage and positive social interaction.
- 5 A zone that provides a spatial separation, or transitions down, in scale and intensity to adjacent lower density residential zones.
- 6 Development that is compatible with existing and forecast noise nuisance from aircraft operations at Parafield Airport.
- 7 Development that contributes to the desired character of the zone.

DESIRED CHARACTER

This zone will function primarily as a District Centre that supports housing at medium and high densities and a range of dwelling types which are conveniently located in proximity to high frequency public transport services, recreation, commercial, shop, office and other mixed use activities. Development within this zone will result in significant employment generating activity closely aligned to nearby public transport infrastructure and services.

Medium and high density housing, primarily in the form of row dwellings, residential flat buildings and mixed use buildings, will be developed in the zone. Overall, the zone is intended to achieve an average net residential site density of 150 dwellings per hectare.

Due to the scale and intensity of development, the zone will focus around a Core Area with a Transition Area adjoining neighbouring zones.

The Core Area will provide the greatest intensity of land use and activity in the zone with a mix of residential, commercial and employment generating activities integrated with adjacent public transit stop(s). Located within the Core Area is the **Main Shopping Policy Area 26**, which will provide the primary focus for convenience shopping, including supermarkets, and cultural and community services in the zone.

Development adjacent to a fixed transit stop will be mixed both vertically and horizontally, with non-residential uses encouraged on the ground floor to create visual interest and invite personal interaction on street frontages. The exterior storage or display of goods will not compromise pedestrian movement.

Student and aged accommodation, serviced apartments and affordable housing are also strongly encouraged in the Core Area to assist in delivering an overall mix of residential activity in this area.

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The Transition Area will provide a buffer between the Core Area and adjacent residential areas / zones with development taking the form of high quality medium density housing and, subject to Airport building height restrictions, the combination of four storey townhouses/terraces/mews and residential flat buildings will provide a range of housing for a diverse community. There will be some provision for mixed use buildings, where it does not negatively impact on the predominant residential character of the area.

Development in the zone will achieve high quality urban design. Buildings will contribute to the provision of a coherent public realm by shaping the street space and, in particular, the physical and functional character of development fronting the key arterial road or public transport corridor.

As development intensifies, overlooking, overshadowing and noise impacts will be moderated through good design and noise attenuation techniques. Impacts on adjoining zones will also be addressed through appropriate building envelopes, transition of building heights, design and location of windows and balconies, and use of landscaping. Buildings will also be designed to maximise solar access within the development site. Installation of solar rooftops, green walls and other design initiatives is to be considered.

Development will contribute positively to the quality of the public realm by articulating buildings with canopies, modelled façades and balconies that make use of light and shade, and by providing architectural detail. Solid material will be balanced with glazed areas, and plant and service equipment will be enclosed and out of view from the street and neighbouring sites.

A proportion of the public open space will be sited away from the transit corridor to ensure that residents and workers have a quiet tranquil outdoor place to relax in.

Where appropriate, the range of setbacks provided in the zone to accommodate development fronting a primary and/or secondary road frontage will be critical in softening the continuous edge of new built form and provide a higher amenity streetscape and pedestrian environment which is shaded by street trees and other forms of mature vegetation.

Where appropriate, landscaping features including public art will be used in communal open space or public promenades to punctuate and identify spaces that may assist in establishing a sense of place within the zone for the enjoyment and benefit of users.

Wide footpaths with associated landscaping will be provided throughout the zone to encourage the development of active land uses at street level along key thoroughfares. Landscaping features, including public art, will be used to create high amenity spaces that establish a sense of place within the zone and promote community cohesion.

Cycling routes and pedestrian pathways, and high amenity public open space will create an attractive living environment. Public open space will include a range of forms and sizes including small pocket parks and formal plazas. Spaces will be designed as safe and attractive places for a range of community activities as well as water management. A proportion of the public open space will be sited away from the transit corridor to ensure that residents and workers have a quiet tranquil outdoor place to relax in.

On-site parking areas will be consolidated, shared and, where possible, not visible from the street or public spaces. Provision of bicycle facilities is to be encouraged, including at any future multi-deck car park at the Interchange.

Development within the policy area will include Water Sensitive Urban Design systems that maximise the harvest, treatment, storage and reuse of storm water and will be integrated throughout the area at the neighbourhood, street, site and building level. Harvested storm water will be used to improve the aesthetic and functional value of open spaces throughout the policy area, including public access ways and greenways. Properties within the policy area will be connected to the purple pipe water recycling system to maximise the capture and re-use of stormwater.

The Mawson Interchange provides integrated bus and passenger train interconnection, a drop off area for commuters and Park 'n' Ride facilities with car parking. As development in the area continues to expand and the population increases, more and more people are expected to make use of the Interchange. Development in the immediate vicinity of the Interchange will be designed and sited to cater for the increased patronage and while development overall will enhance the usage of the Interchange. The ground level car parking at the Interchange should become a future multi-deck car park with commercial and retail ground floor tenancies to improve the pedestrian linkages and activation.

PRINCIPLES OF DEVELOPMENT CONTROL**Land Use**

1 The following types of development, or combination thereof, are envisaged in the zone:

- affordable housing
- aged persons accommodation
- art gallery
- community centre
- communication dish
- consulting room
- dwelling
- dwelling and office
- educational establishment
- emergency services
- entertainment venue
- hall
- hospital
- library
- licensed premises
- nursing home
- office
- office and dwelling
- parking facility
- petrol filling station
- pre-school
- public transport Interchange
- recreation area
- residential flat building
- retirement village
- shop or group of shops
- supported accommodation
- swimming pool
- telecommunications facility
- theatre
- undercroft car parking.

2 The following additional types of development, or combination thereof, are envisaged within the Core Area of the zone, identified on [Concept Plan Map Sal/8 – Mawson Lakes Urban Core Zone](#):

- advertisement
- discount department store (located within the **Main Shopping Policy Area 26**)
- hotel
- indoor recreation centre
- place of worship
- tourist accommodation.
- supermarket (located within the **Main Shopping Policy Area 26**).

3 Development listed as non-complying is generally inappropriate.

4 Core Areas, Transition Areas and other identified features should be developed in accordance with the relevant [Concept Plan Map Sal/8 – Mawson Lakes Urban Core Zone](#).

5 Core Areas should be developed to include a range of land uses that are high pedestrian generators, directly promote public transport use and provide opportunities for multi-purpose trips.

6 Core Areas should incorporate integrated public open spaces, sport and recreation facilities, and community areas that act as social hubs for communal activity.

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- 7 Except in Core Areas where a higher intensity of development is envisaged, non-residential development should comprise uses that:
- are of local or neighbourhood scale
 - encourage walking to local shopping, community services and other activities
 - do not detrimentally impact on the amenity of nearby residents.

Form and Character

8 Development should be consistent with the desired character for the zone.

9 Residential development (other than residential development in mixed use buildings), should achieve a minimum net residential site density in accordance with the following:

Designated area	Minimum net residential site density
Core Area	150 dwellings per hectare net
Transition Area	70 dwellings per hectare net

10 Residential development in a mixed use building should achieve a minimum net residential site density of 60 dwellings per hectare.

11 In Transition Areas, development should provide a built form that provides the transition between an intense core of development and neighbouring lower intensity development.

Design and Appearance

12 In Core Areas:

- the ground and first floors of buildings should be built to dimensions including a minimum ceiling height of 4.5 metres to allow for adaptation to a range of land uses including shops, office and residential without the need for significant change to the building
- a minimum of 50 per cent of the ground floor primary frontage of buildings should be visually permeable, transparent or clear glazed to promote active street frontages and maximise passive surveillance.

13 Except in Core Areas, development of three or more storeys in height should ensure that:

- north-facing windows to habitable rooms of existing dwelling(s) on the same allotment, and on adjacent allotments, receive at least 3 hours of direct sunlight over a portion of their surface between 9.00 am and 3.00 pm on 21 June
- ground level open space of existing buildings receives direct sunlight for a minimum of 2 hours between 9.00 am and 3.00 pm on 21 June to at least the smaller of the following:
 - half of the existing ground level open space
 - 35 square metres of the existing ground level open space (with at least one of the area's dimensions measuring 2.5 metres).

14 Buildings should address public open space and defined pedestrian and cycle routes.

15 Masonry fences should be no more than 1.2 metres in height to maintain sight lines between buildings and the street and to improve safety through passive surveillance.

16 Buildings should predominantly provide vehicle access via a side street or rear lane access way.

- 17 Side streets and rear lane access ways should be designed to:
- (a) provide space between buildings that reduces building mass and creates a more interesting public realm
 - (b) achieve active frontages at a lower intensity than the primary street frontage.

Ancillary Buildings and Services

- 18 Outbuildings and other ancillary buildings should be sited and designed to complement the external appearance of the main building and maintain or enhances the visual attractiveness of the locality.
- 19 All services should be located underground in such a way as to minimize their visual intrusion and any adverse effect on the desired natural character of the zone.
- 20 Microwave dishes, antennae, aerials and the like should be located to minimise their visual impact from public roads and public spaces.
- 21 Communication towers should be incorporated into the built form of the site or located at the rear of sites and away from public roads and public spaces where it can be demonstrated that this could not be achieved and be of a complementary form to that building.
- 22 Development within the policy area should only occur where it includes provision for all of the following:
 - (a) a connection to the Recycled Water System to allow the water to be used for various uses, including garden watering and toilet flushing
 - (b) a common service trench capable of accommodating all of the infrastructure services required, including electricity, gas and telecommunications.

Building Envelope

Building Height

- 23 Except where airport building height restrictions prevail, building heights (excluding any rooftop locate mechanical plant or equipment) should be consistent with the following parameters:

Designated area	Minimum building height	Maximum building height
Core Area	4 storeys	10 storeys and up to 40.5 metres
Transition Area	No minimum	4 storeys and up to 16.5 metres

Setbacks from the Primary Road Frontage

- 24 Buildings (excluding verandas, porticos and the like) should be set back from the primary road frontage in accordance with the following parameters:

Designated area	Minimum setback from the primary road frontage
Core Area	No minimum
Transition Area	2 metres or as defined on the relevant Concept Plan

Setbacks from side boundaries

- 25 Buildings (excluding verandas, porticos and the like) should be set back from side boundaries in accordance with the following parameters:

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Designated area	Minimum setback from side boundaries
Core Area	No minimum
Transition Area	0.9 metres

Other Setbacks

- 26 Buildings (excluding verandas, porticos and the like) should be set back in accordance with the following parameters:

Setback parameter	Value
Minimum setback from secondary road frontage	0.9 metres
Minimum setback from a rear access way	No minimum where the access way is 6.5 metres or more OR Where the access way is less than 6.5 metres in width, the distance equal to the additional width required to make the access way 6.5 metres or more, to provide adequate manoeuvrability for vehicles
Minimum setback from the rear allotment boundary	4 metres where the subject land directly abuts an allotment of a different zone 3 metres in all other cases, except where development abuts the wall of an existing or simultaneously constructed building on the adjoining land

Incentives

- 27 Where a minimum of 3 hours sunlight access on 21 June to habitable rooms and open space of dwellings in adjoining zones can be maintained, the following incentives apply to development:

Form of development	Additional building height above maximum allowed height in the zone	Car parking Reduction (rounded to the nearest whole number)
Development which includes more than 15 per cent of dwellings as affordable housing	1 storey	30 per cent
Site of development located within 200 metres of a fixed public transport stop		30 per cent
The development includes undercroft parking with access from a road located to the side or rear of the site	1 storey	10 per cent
A building including non-residential development on the ground floor (or first two floors) with residential development on the floors above	1 storey	10 per cent except on land shown on <i>Overlay Map(s) - Strategic Transport Routes</i>
A building including a child care facility	1 storey	
A building including a rooftop garden that occupies a minimum 25 per cent of the building footprint area	1 storey	

Form of development	Additional building height above maximum allowed height in the zone	Car parking Reduction (rounded to the nearest whole number)
Sympathetic redevelopment of a local or State heritage place that retains the item and its appearance to the street		30 per cent
Maximum accumulated allowance	For buildings 5 storeys or less - 1 storey (and less than 4) metres additional building height. For buildings of 6 storeys or more - 2 storeys (and less than 8 metres) additional building height	30 per cent

Off Street Vehicle Parking

28 Except where incentives apply, vehicle parking should be provided at the following rates:

Form of development	Minimum number of parking spaces
Residential development	0.75 per dwelling
shops	3 per 100 square metres of gross leasable floor area
Tourist accommodation	1 space for every 4 bedrooms up to 100 bedrooms plus 1 additional parking space for every 5 bedrooms over 100 bedrooms
All other non-residential development	3 per 100 square metres of gross leasable floor area at ground floor level plus 1.5 additional parking spaces for every 100 square metres of gross leasable floor area above ground floor level

29 A lesser parking rate may be applied where justified based on local circumstances, for example where:

- (a) the proposed development is adjacent to a designated pedestrian and/or cycling path
- (b) the proposed development is in convenient walking distance to readily accessible and frequent public transport
- (c) convenient on-street car parking is readily available
- (d) the proposed development is on or adjacent to the site of a heritage place which hinders the provision of on-site parking
- (e) there is the opportunity to exploit shared car parking areas between uses based upon compatible hours of peak operation
- (f) suitable arrangements are made for any parking shortfall to be met elsewhere or by other means
- (g) for studio apartments, student accommodation, affordable housing, retirement villages or aged persons' accommodation.

30 Car parking should be provided in the form of basement level parking, undercroft parking or multi-level parking rather than 'at grade'.

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31 Multi-deck car parks should take the appearance of a commercial building.

Land Division

32 A traditional street grid pattern should be reinforced in any comprehensive development of areas for mixed use activity to maintain clear sightlines and ensure maximum connectivity.

33 Wherever practicable, land division and site amalgamation should:

- (a) create allotments that vary in size and are suitable for a variety of residential and commercial uses
- (b) improve the level of integration associated with the design and layout of buildings, vehicle parking areas, access points and landscaping treatments.

Mawson Innovation Policy Area 24

Refer to the [Map Reference Tables](#) for a list of the maps that relate to this policy area.

OBJECTIVES

- 1 A policy area accommodating a range of advanced technology organisations, in areas such as defence and aerospace, advanced electronics and information communication technology sectors.
- 2 A high quality innovative and progressive education and business community with organisations that range from small businesses and start-up companies to global organisations.
- 3 Development that meets accepted best practice principles in environmental design.
- 4 Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

The policy area provides opportunities to bring together the innovation, technology knowledge, and research and development resources of Technology Park, University of South Australia, and Mawson Lakes for business and research collaboration.

The policy area will provide facilities for technology businesses with an emphasis on the commercialisation of new technology and achieving sustainable growth in technology employment within Mawson Lakes. It will provide flexibility for technology businesses that want to grow and offer a range of accommodation solutions to suit businesses of any size, including short term serviced offices, long term leased accommodation and fully serviced commercial land with flexible allotment sizes. There will be opportunities for limited residential uses of a higher density within the Technology Park area, particularly along the river front, which will be maintained as a park like setting.

Buildings which are capable of accommodating information and communication technologies, software design and development, wireless systems, satellite and mobile communications, sensor signals and information processing, environmental and materials technologies, defence and aerospace technologies, education and health technologies and associated support services.

Buildings will be located in landscaped settings, with staff car parking, service access, storage areas and external operations located to the rear of buildings. Visitor parking will be conveniently located adjacent to the main entrance to buildings. Under croft car-parking is envisaged.

Development of State Heritage Places will provide for the continued use or adaptive re-use of the buildings and support the conservation of their cultural significance. Adjacent development will conserve the setting of these State heritage places.

Development will have regard to the Parafield Airport operational requirements for matters such as building height restrictions, and airplane noise, operational airspace intrusion, wildlife strike management and lighting.

The Mawson Lakes campus of the University of South Australia will continue to provide a base for the University's computing and information technology, engineering, science, civil aviation, applied science, sports science, e-commerce and environmental studies programs. It will continue to house many internationally and nationally recognised research institutes and centres. The campus enjoys state-of-the-art research facilities, an extensive library and collaborative links with nearby Technology Park Adelaide.

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The Mawson Centre building provides a shared space for the campus and the Mawson Lakes community, containing a library, lecture theatre and computer barn. Increased pedestrian and vehicular traffic to the campus will continue from the north-west, from a combination of higher residential densities, proximity to the railway station and bus interchange and access from Elder Smith Road. Development of the campus will recognise these influences.

Buildings within the campus are principally rectilinear in nature, two to three storeys in height, have flat roofs and have resulted in a series of courtyards, avenues, vistas and views. This form of development will be continued for infill development, capitalising on the existing precedent. However, a contrast in building form is appropriate at strategic sites around the campus and at the three main entry points of the campus, in the south-east, south-west and north-west corners. Developments at the interface with the Core Area of the Urban Core Zone will respond to their individual contexts.

The Endeavour College campus will continue its educational activities with provision for community uses. Built form will be consistent in style with the main building.

All development will be of high quality architectural design and build, and designed, sited, constructed and operated to meet contemporary water and energy efficiency requirements.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following forms of development are envisaged in the Policy Area:

- affordable housing
- consulting room
- community centre
- dwellings located above non-residential land uses
- educational establishment
- health facility
- light industry associated with high technology or research and development related uses
- library
- office
- pre-school
- primary school
- public administration office
- residential flat building
- service trade premises
- shop with a gross leasable area less than 250 square metres
- store
- theatre
- training facility
- warehouse.

Form and Character

2 Development that contributes to the desired character of the policy area.

3 Mixed use developments should complement the predominant built form and be compatible with the land uses and activities that exist within the locality.

4 Buildings in the Mawson Lakes Innovation policy area should provide:

- (a) a highly articulated building form, with a range of roof forms, including flat, pitched or curved roof shapes
- (b) vertical and horizontal articulation at appropriate intervals

- (c) variation in facades by the use of such means as balconies, porticos, verandas and minor variations in building lines to create shadow lines
- (d) pedestrian shelter along major pedestrian routes
- (e) a continuous building form to the street frontage
- (f) a wide range of materials and finishes
- (g) legible entry points for both commercial and residential activities
- (h) orientation to public roads and/or public spaces.

5 Residential development in the policy area should only occur where one or more of the following applies:

- (a) it is combined with a small scaled office, business or research activity to form a small offices/home offices (SOHOs)
- (b) it is located adjacent to the lake and/or the alignment of Dry Creek
- (c) it is designed to integrate with the commercial environment in which it is located and it utilises contemporary design solutions such as glass, steel, aluminium, concrete, fibre-cement and synthetic materials.

6 The non-residential component of SOHOs should:

- (a) not adversely impact on the residential component
- (b) be larger than 30 square metres or 30 percent of the total floor area and not less than 100 square metres.

University of South Australia's Mawson Lakes campus

7 Development within the Mawson Lakes Campus should:

- (a) be designed and sited to maintain the campus as a pre-eminent tertiary institution particularly in the fields of information technology, engineering environment and education.
- (b) be integrated with development in the adjoining **Mawson Central Policy Area** and surrounding facilities.
- (c) be integrated with and designed to complement the open space amenity of the campus.
- (d) provide a safe and convenient parking and access for campus users and visitors.
- (e) ensure recreational areas and facilities are integrated throughout the campus and they are designed to accommodate a range of activities that are accessible to the community.

PROCEDURAL MATTERS**Complying Development**

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

Non-complying Development

Development (including building work, a change in the use of land or division of an allotment) involving any of the following is non-complying:

Form of development	Exceptions
Advertisement and/or advertising hoarding that achieves one or more of the following: (a) it moves, rotates or incorporates flashing lights (b) it is attached to a building and any part extends above the roof line of the building.	
Fuel depot	
General industry	
Light industry	
Public service depot	
Road transport terminal	
Service trade premises	
Special industry	
Store	
Transport depot	
Warehouse	
Waste reception, storage, treatment or disposal	

Public Notification

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

In addition, the following forms of development, or any combination of (except where the development is classified as non-complying), are designated:

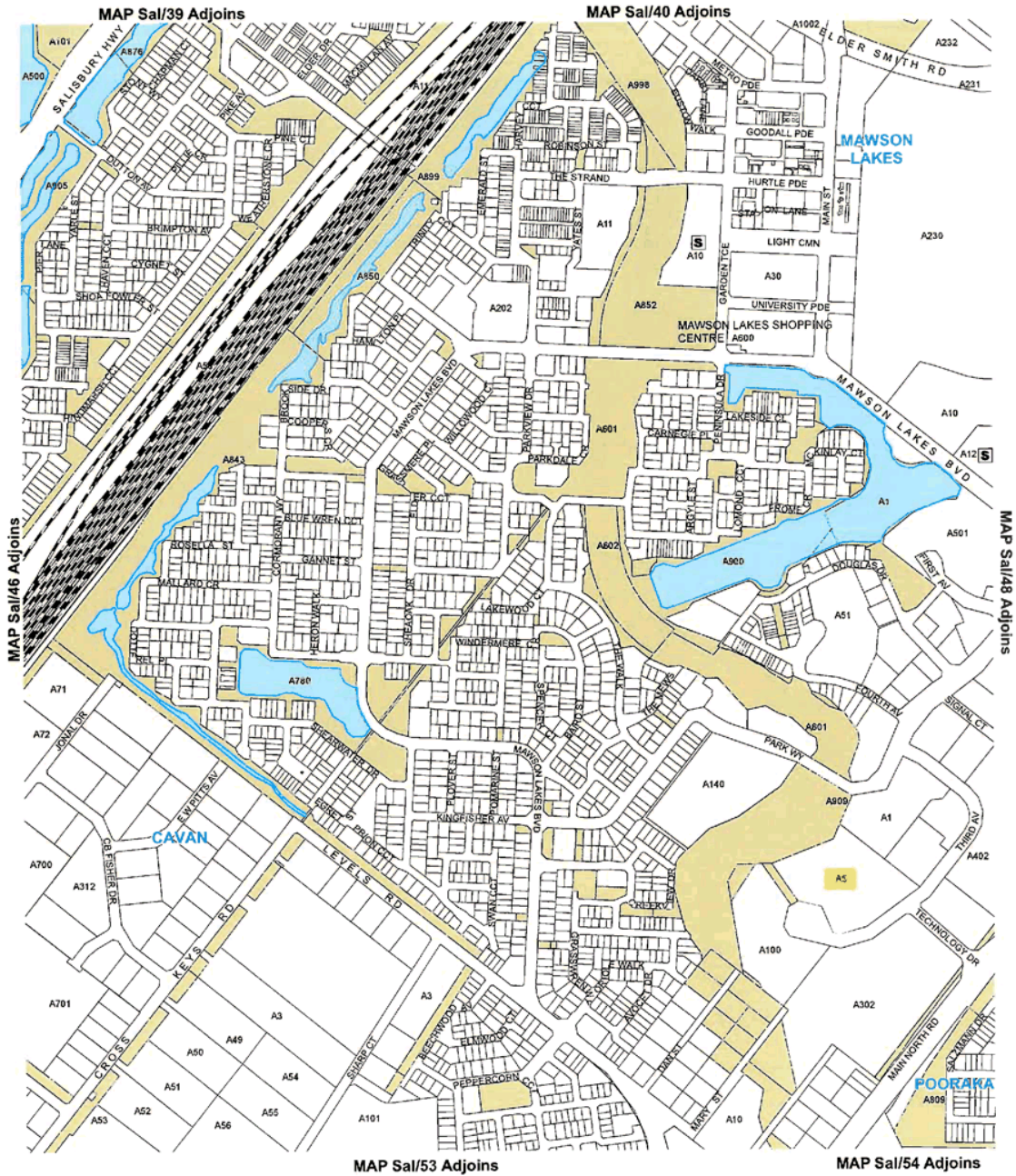
Category 1	Category 2
Advertisement	All forms of development not listed as Category 1
Aged persons accommodation	
All forms of development that are ancillary and in association with residential development	
Art gallery	
Consulting room	
Communication dish	
Dwelling	

Salisbury Council
 Zone Section
 Urban Core Zone

Category 1	Category 2
Dwelling and office	
Educational establishment	
Hall	
Hotel where located within the 'Core Area' on Concept Plan Map Sal8 – Mawson Lakes Urban Core Zone .	
Indoor recreation facility	
Nursing home	
Office	
Parking facility	
Pre-school	
Primary school	
Recreation area	
Residential flat buildings	
Retirement village	
Shop or group of shops where located:	
(a) within the Main Shopping Policy Area 25	
(b) outside of the Main Shopping Policy Area 25 and has a gross leasable area of 500 square metres or less.	
Supported accommodation	
Telecommunications facility	
Tourist accommodation	

Salisbury Council
Table Section**Table Sal/2 - Off Street Vehicle Parking Requirements**

Form of Development	Number of Required Car Parking Spaces
Detached dwelling Semi Detached Dwelling Row Dwelling	2 spaces per dwelling, one of which is to be covered
Residential flat building Multiple dwelling Group dwelling	1 space per dwelling, plus 0.5 on-site visitor car parking spaces per dwelling
Industry, warehouses, stores	
Office component	1 space per 30 square metres
Plus	Plus
Non-office component	
Up to 200 square metres	1 space per 50 square metres
Plus 200-2000 square metres	1 additional space for every 75 square metres
Plus greater than 2000 square metres	1 additional space for every 150 square metres
Or	Or
For labour intensive industries, inclusive of office component (whichever ever is greater)	0.75 car parking spaces per employee
Medical	
Consulting room	10 per 100 square metres of total floor area, with a minimum of 3 spaces per tenancy
Hospital	2.5 spaces per bed
Nursing home	1 space for every 4 beds
The following vehicle parking requirements apply to development specifically within the Mixed Use (Bulky Goods, Entertainment and Leisure) Zone :	
Form of Development	Minimum number of required vehicle parking spaces
All forms of development (except Light Industry)	3 spaces per 100 square metres of gross leasable floor area

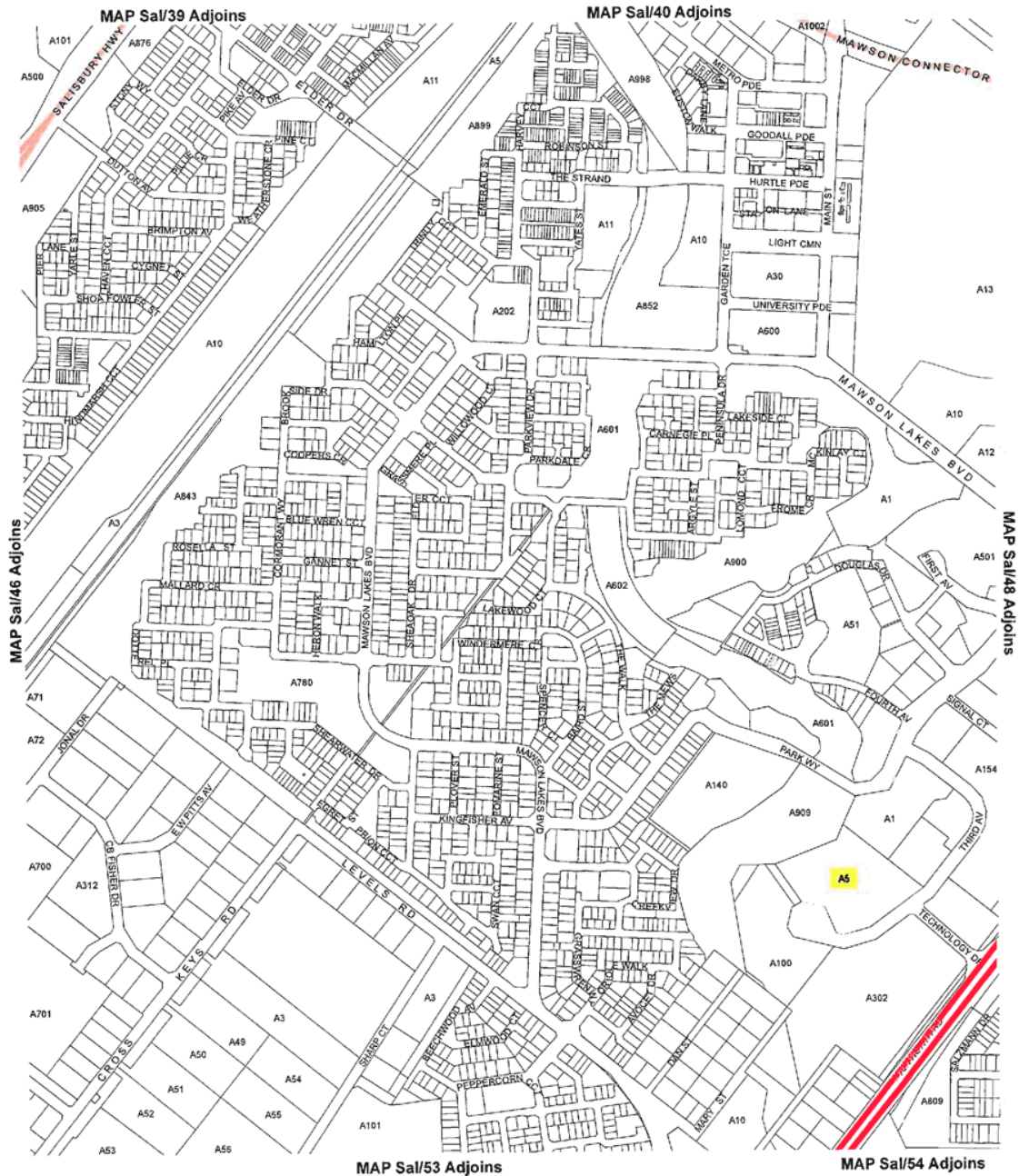


Location Map Sal/47

- S School
- Railways
- Local Reserves
- Waterbodies

SALISBURY COUNCIL
Consolidated - 15 December 2016

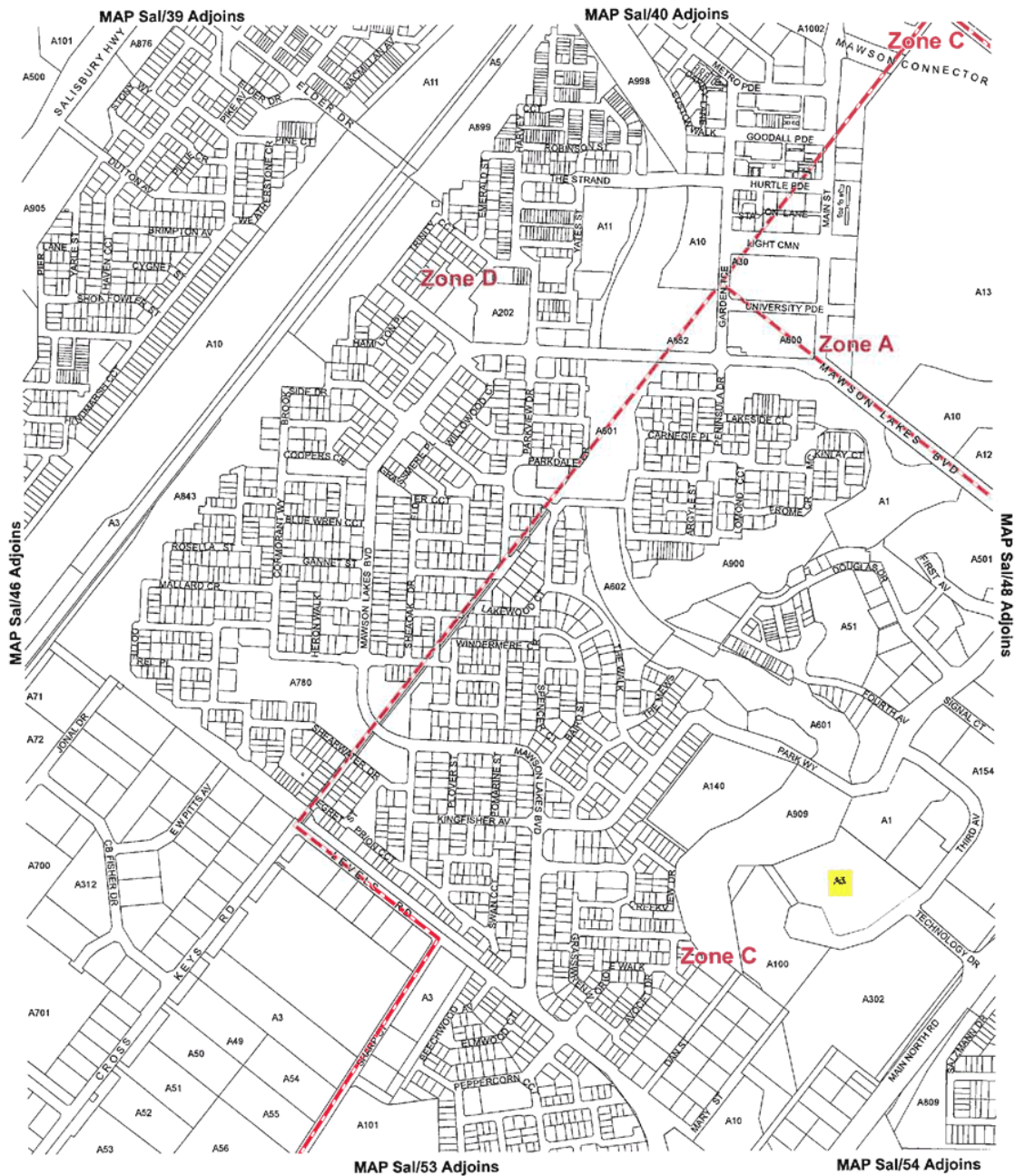
Item 5.1.1 - Attachment 6 - Attachment 6 - Attachment 6: Relevant Development Plan Extracts and Location Maps consolidated 15 December 2016



Overlay Map Sal/47 TRANSPORT

SALISBURY COUNCIL

Consolidated - 15 December 2016



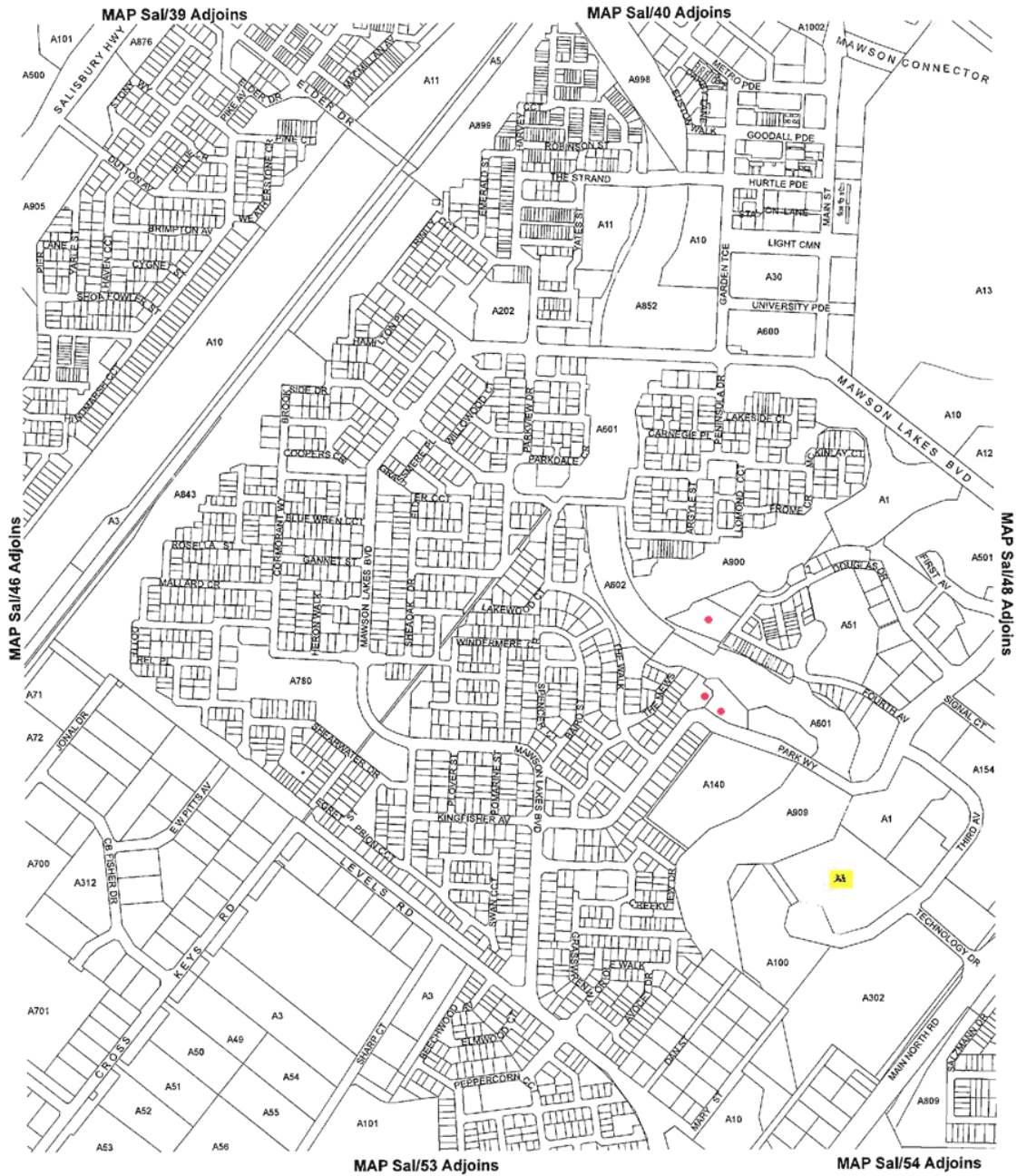
NOTE: Airport Building Heights should be read in conjunction with concept plan map showing heights for Edinburgh Defence Airfield

- Airport Building Heights**
 Referral to Commonwealth Secretary
 for Dept. of Transport and Regional Services
- Zone A All Structures
 - Zone B All Structures Exceeding 15 metres above existing ground level
 - Zone C All Structures Exceeding 30 metres above existing ground level
 - Zone D All Structures Exceeding 45 metres above existing ground level

 Airport Building Heights

Overlay Map Sal/47 DEVELOPMENT CONSTRAINTS

SALISBURY COUNCIL
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Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

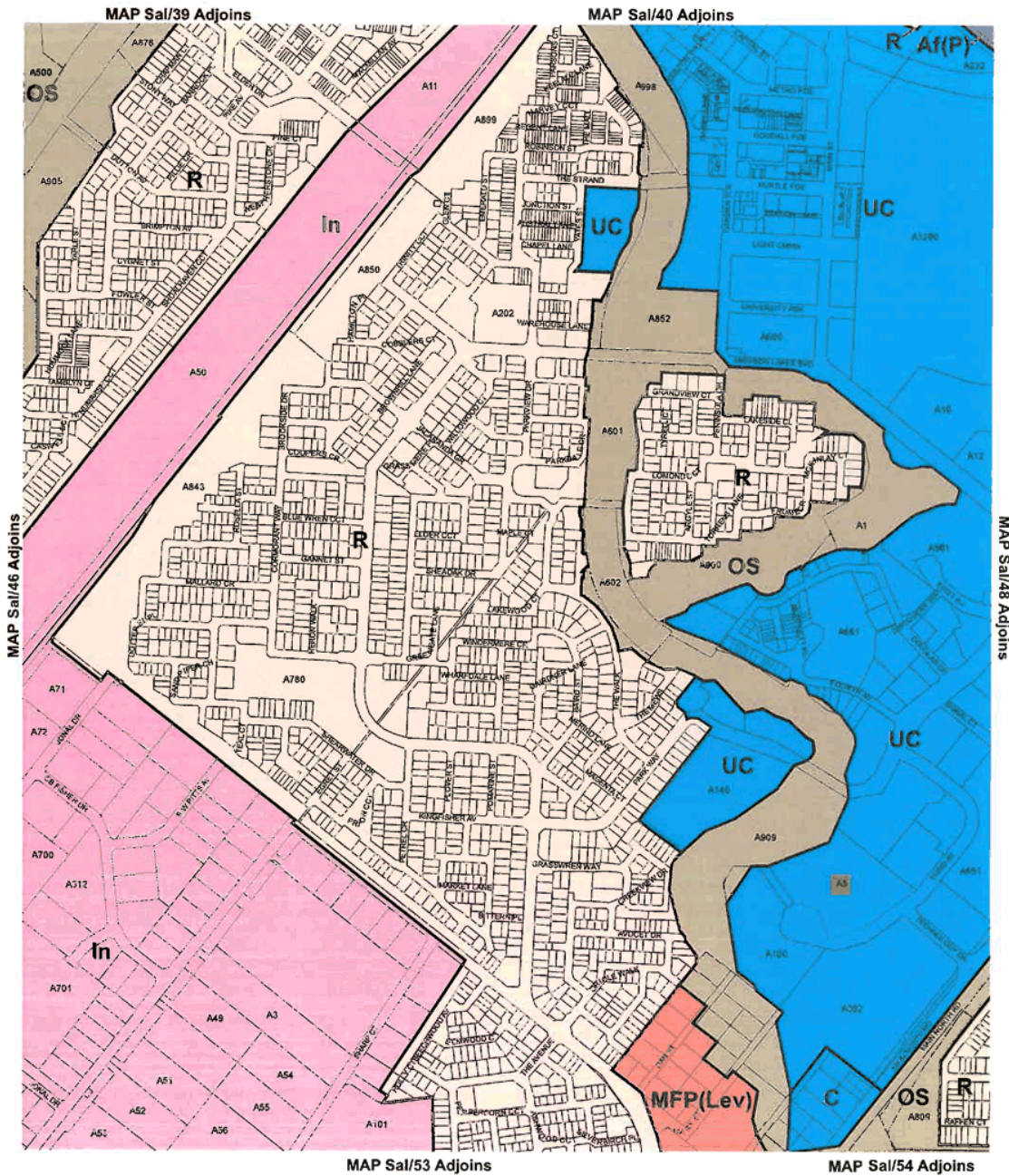


Overlay Map Sal/47 HERITAGE

SALISBURY COUNCIL

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● State heritage place



Lamberts Conformal Conic Projection, GDA84

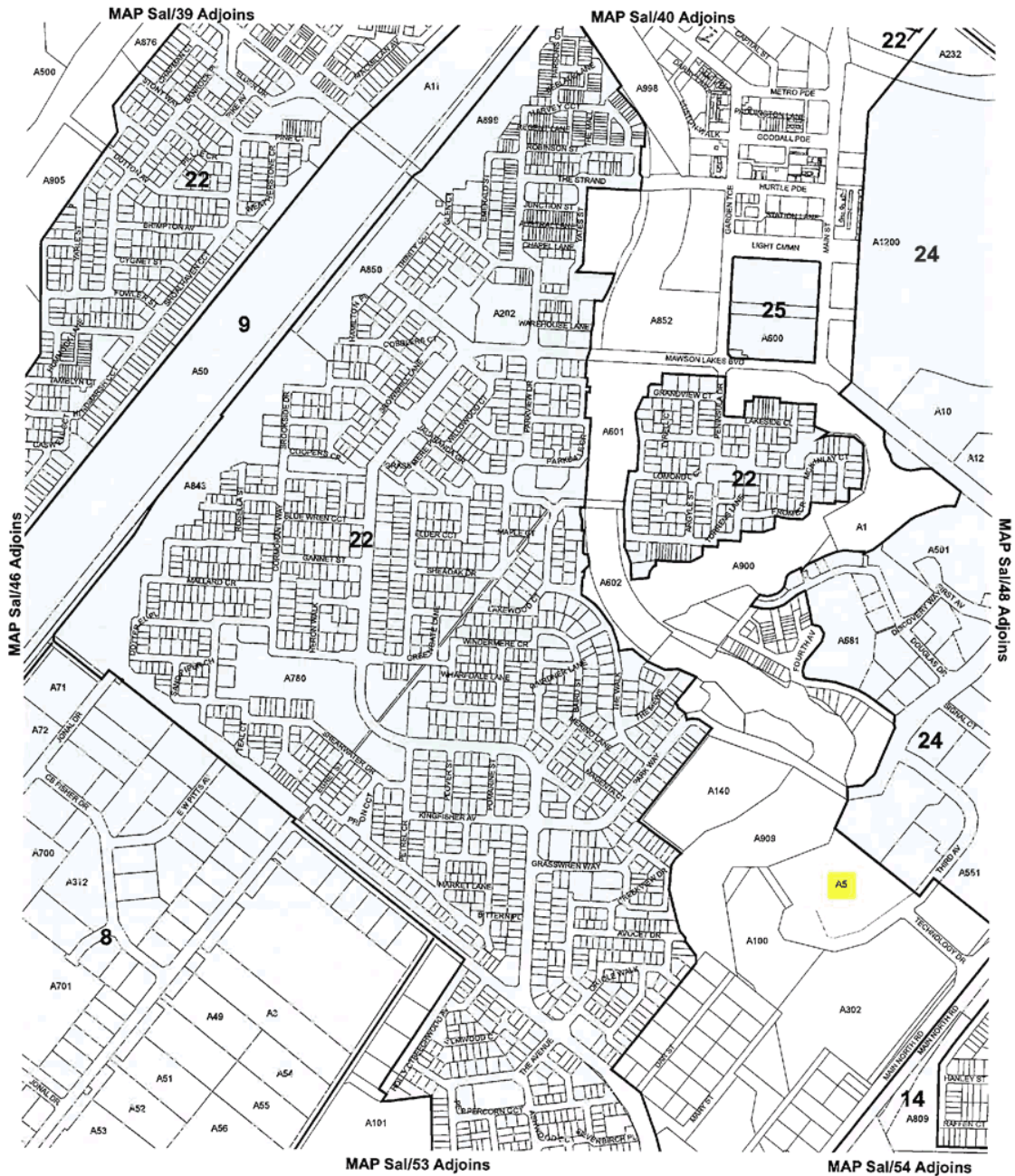


- Zones**
- A(P) Airfield (Parafield)
 - Commercial
 - In Industry
 - MFP(Lev) Multi Function Pools (Levels)
 - OS Open Space
 - R Residential
 - UC Urban Core
 - Zone Boundary

Zone Map Sal/47

SALISBURY COUNCIL
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Item 5.1.1 - Attachment 6 - Attachment 6 - Attachment 6: Relevant Development Plan Extracts and Location Maps consolidated 15 December 2016



Lamberts Conformal Conic Projection, GDA84

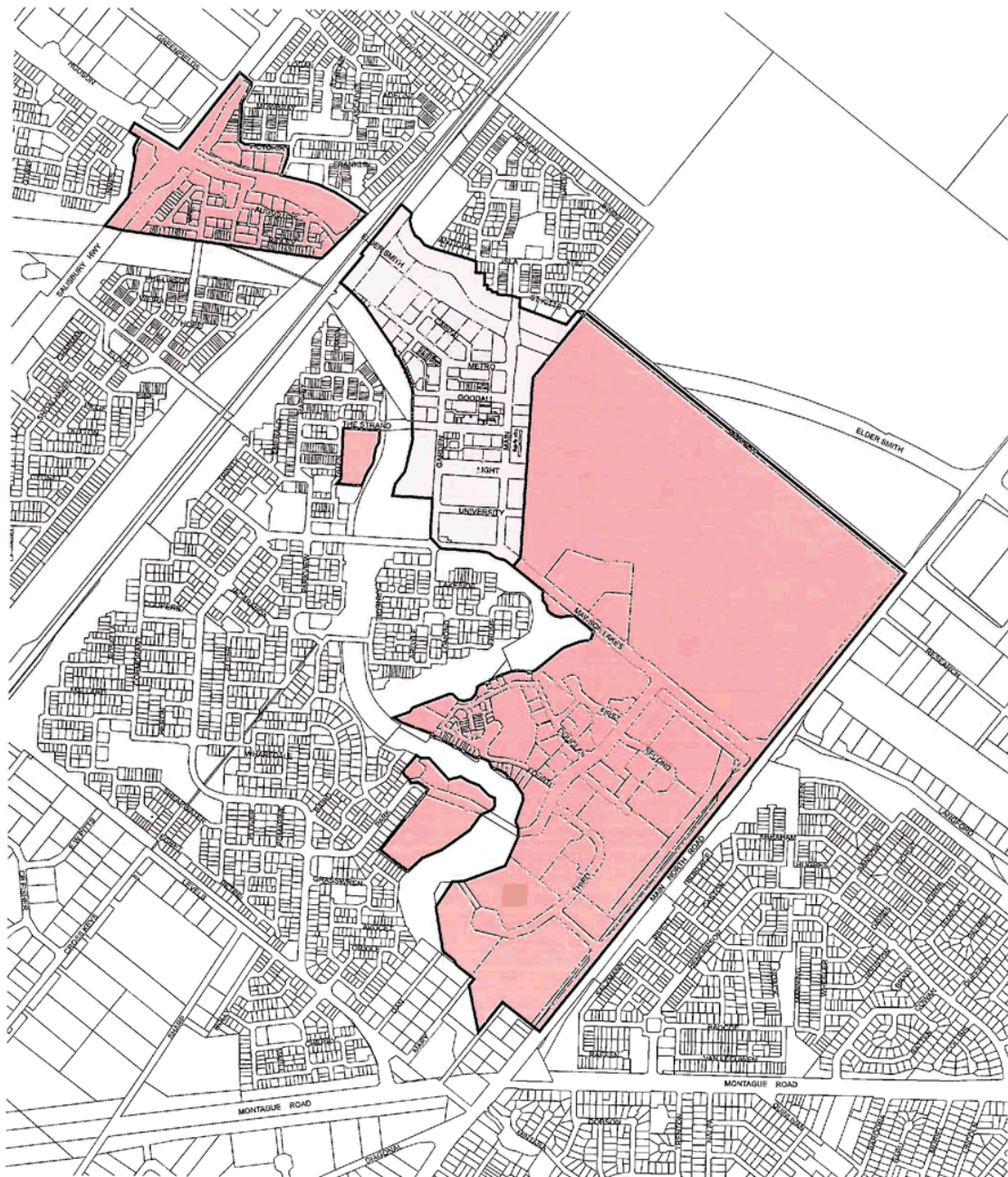
- Policy Area**
- 14 Landscape Buffer
 - 22 Mawson Lakes
 - 24 Mawson Innovation
 - 25 Main Shopping
 - 8 Greater Levels
 - 9 Infrastructure



Policy Area Map Sal/47

 Policy Area Boundary

SALISBURY COUNCIL
Consolidated - 15 December 2016



Concept Plan Map Sal/8

MAWSON LAKES URBAN CORE ZONE

CITY OF SALISBURY

Consolidated - 15 December 2016

Item 5.1.1 - Attachment 6 - Attachment 6: Relevant Development Plan Extracts and Location Maps consolidated 15 December 2016

ITEM	5.2.1
	COUNCIL ASSESSMENT PANEL
DATE	24 April 2019
HEADING	Status of Current Appeal Matters and Deferred Items
AUTHOR	Aaron Curtis, Team Leader - Planning, City Development
CITY PLAN LINKS	4.3 Have robust processes that support consistent service delivery and informed decision making.
SUMMARY	This item provides an update on the status of current appeal matters and deferred items.

RECOMMENDATION

1. The information be received.

ATTACHMENTS

There are no attachments to this report.

<i>Applicant</i>	<i>Matter</i>	<i>Status</i>
<i>GIC Kings Road Pty Ltd, 1460 Main North Road, Salisbury South (361/1589/2017)</i>	<i>83 Saints Road Nominees Pty Ltd and City of Salisbury and GIC Kings Road Pty Ltd – Mixed Use Retail and Entertainment Complex – Judicial Review proceedings in the Civil Jurisdiction of the Supreme Court of South Australia</i>	<i>Directions hearing took place on 27th March 2019. Orders made for the appellant and respondents to file any affidavits and expert reports by 15th May and 29th May 2019 respectively. Matter adjourned for further directions on 31st May 2019. Hearing has been set down for 3 days from Monday 24th June 2019.</i>
<i>United Sikhs, 701-709 Port Wakefield Road, Globe Derby Park (361/1144/2016)</i>	<i>Applicant appeal against CAP decision (on 24 October 2017) to refuse Community Facility.</i>	<i>The appellant has withdrawn the appeal.</i>

CO-ORDINATION

Officer: GMCiD MDS
Date: 10.04.19 09.04.19