

potential tearing due to wind loading. The weighting system will comprise of water or sand filled weights running along the centre of the pond on the longitudinal axis, with a series of ribs branching laterally to form a ribbed pattern. Depending on the prevailing wind conditions more or less ribs can be added as required. A double trench system is also to be provided. The double trench system comprises of a trench for the pond liner and a second trench for the cover. In the unlikely event of damage to the cover due to wind or other factors the affected area can be repaired without the need to disturb the pond liner.

NMC Planner's Comment:

In accordance with the application, removal of sludge will be in accordance with the relevant guidelines.

Recommend that details of the weighting system be submitted to the satisfaction of council before development commences.

**Hydraulic System Components**

*Page 7 of the report explains how the effluent enters and exits the CAL and flows to the TasWater treatment plant. There is no consideration of potential blockages in the system and a corresponding hazard assessment and response. For example, if a blockage occurs, what is the impact on the proposed CAL and treatment capacities.*

*Require evidence of HAZOP or emergency responses that produce spills and emissions.*

*The sludge handling system indicates that extraction ports will be provided in the sludge handling pipes, to enable removal via trucks. There is no indication of where the sludge is to be disposed of by the collection trucks.*

Pitt&Sherry Comment:

JBS have utilised the pipeline from the abattoir site to the TasWater treatment plant for 10 years without any blockages occurring. This same pipeline will be utilised.

A HAZOP for the proposed CAL will be prepared by JBS prior to construction commencing, refer section 6.15.

Refer comments above re sludge removal.

NMC Planner's Comment:

Recommend that the HAZOP be submitted to the satisfaction of council before the development commences.

**Gas Train Equipment**

*As the proposed facility is to be within 218 m and 600 m of existing housing it is an industry standard to produce modelling from the existing system to show that gas such as NO<sub>x</sub>, CO<sub>2</sub> and vented methane are not a potential environmental nuisance. This would remove the need for ongoing monitoring of air quality.*

*Require a commitment to produce via TAPM, air modelling showing no risk to nearest residence. If done properly it should also cover odour risk.*

Pitt&Sherry Comment:

Which industry standard is the above comment referring to? As outlined in section 6.1, during normal operational conditions there is no potential for the direct emission of pollutants or odour to the atmosphere from the CAL as all Biogas generated will be captured, piped and flared.

The proposed CAL will supplement the existing TasWater CAL and hence the emissions combusted by the new flare will displace the existing emissions combusted. It is also noted in section 6.1.3 that the existing JBS CAL in Dinmore which is located 250m from the closest receptor has had no operational issues in relation to odour.

Initial discussions with the EPA prior to the development of the EMP concluded that the atmospheric modelling or monitoring of the proposed CAL would not be required. The EPA have since reviewed the EMP and do not require modelling or monitoring.

NMC Planner's Comment:

The EPA have not required modelling and it is not recommended as a condition of the permit.

Odour monitoring is recommended following commencement of use of the CAL.

**Gas Flaring Equipment**

*It appears from the discussion relating to the gas flaring equipment that the area will be unmanned and rely on automated warning systems. There is no indication of the potential for large scale odour release following equipment failure. See commitment above.*

*Potential impacts from air emissions are accepted and commitments are made. Reliance on routine maintenance and operational activities to minimise emissions does not fully mitigate the risk of a larger plant closer to sensitive receptors. There is a need for initial modelling and monitoring, at the least, to show there will be no gas or odour impacts on residents.*

*This needs to be monitored during commissioning, with possible odour monitoring in place to quantify any escapes. As the new CAL is to be closer to residences, it cannot be assumed that there will not be a problem. Mitigation controls may need to be developed.*

*Require a commitment to produce some odour monitoring during commissioning as a baseline for future defence if required. Monitoring to be targeted at worse case situations such as venting.*

Pitt&Sherry Comment:

Refer above comment. Monitoring is not required by the EPA.

NMC Planner's Comment:

The EPA have not required modelling and it is not recommended as a condition of the permit.

Odour monitoring is recommended following commencement of use of the CAL.

**Groundwater**

*Table 3, page 21, details the groundwater bores but does not show the distance from the proposed CAL. Nor does it address potential effects.*

*Section 6.3.3 of the EMP relies on design of the pond liner to protect groundwater quality with mitigation measures restricted to quality control and no rocks or foreign objects under the liner. This is not an assurance of no impact to groundwater. From design information the perched groundwater may/will be in contact with the liner at 1.5 meters. It is a normal and regular occurrence of leaks through liners and clay even with guarantees.*

*Require a commitment to install some groundwater bores to monitor potential impacts prior to installation. This is an industry standard where contaminants can impact groundwater and acts as security and ongoing monitoring if required.*

Pitt&Sherry Comment:

Engineering design of the ponds and quality control procedures to be implemented during construction of the liner, added to the predominantly clay fill layer underneath the liner will ensure any potential impacts to the groundwater will be minimised. Which industry standard is the above referring to?

NMC Planner's Comment:

The EPA recommend installation groundwater monitoring bore/s. Recommend a condition requiring installation of groundwater monitoring bore/s to monitor potential impacts prior to installation of the CAL.

**Surface Water**

*Table 4 – Historical Inflow Water Quality Parameters shows analysis confirms that groundwater and surface water should be monitored from commissioning.*

*Section 6.2.2 of the EMP discusses performance requirements for protection of ecosystems, recreational waters, drinking water and agricultural use but there is no discussion or commitments to determine impacts from the CAL.*

*Require a commitment to monitor surface water quality for a period sufficient to draw long term conclusions on impacts, based on Table 4.*

Pitt&Sherry Comment:

Table 4 refers to wastewater quality to be treated within the proposed CAL and which will then go directly to the TasWater wastewater treatment plant for further treatment. We are not sure how Table 4 can confirm that groundwater and surface water should be monitored. This comment is not clear.

Process water will not come into contact with surface water therefore there will be no change to existing surface water quality.

NMC Planner's Comment:

Agree with the comments that process water will not come into contact with surface water therefore there will be no change to existing surface water quality.

**Noise**

*The EMP states that "the additional noise sources will most likely result in a negligible increase in the current overall noise emissions from the site".*

*Checking the noise power data provided and the distances it is reasonable to conclude that noise will not be a concern.*

*Require a commitment to conduct noise monitoring during commissioning to confirm that the operation does not pose a noise issue at the nearest residences.*

Pitt&Sherry Comment:

As ESD have concluded noise will not be a concern, pitt&sherry are uncertain why ESD then recommend noise monitoring. The noise generated will be negligible. Monitoring is not required by the EPA.

NMC Planner's Comment:

The EPA has not required noise monitoring and it is not recommend with this permit.

***De-sludging***

*JBS must have a De-sludging method or procedure in place. As that activity will generate significant odour release, and this should be minimised during such an event. Although there is to be air displacement from one vessel to the other escape of odour remains a potential issue. Hence the monitoring requirements.*

Pitt&Sherry Comment:

Refer to comments above re desludging:

*Withdrawal of sludge is discussed in section 6.5. As outlined in the EMP desludging is unlikely to be required, and if it is then the sludge will be reused or disposed of at an appropriately licenced facility in accordance with Tasmanian Biosolids Reuse Guidelines (1999) and the Approved Management Method (AMM) for Biosolids Reuse (2006) and with approval from the EPA. Stormwater run-off will be directed to Back Creek via open vee drains which discharge into the natural water course on the adjacent low lying paddock, refer to Figure 2, page 10 and section 6.2.4.*

NMC Planner's Comment:

Odour monitoring is recommended following commencement of use of the CAL.

***Conclusion***

*As stated in the previous review Council should consider whether the proposal meets their requirements for the environmental performance of the site or whether the proposal and permit is limited to addressing the waste flow quality from the site to improve TasWater treatment plant performance only. The main risk factor is having the new installation closer to town, although prevailing winds and modelling may show this is a low risk.*

*The Environmental Management Plan addressing a number of potential environmental impacts and nuisances associated with the development. A number of these issues, as noted in section 3, are not adequately addressed through initial testing / modelling or ongoing monitoring.*

Pitt&Sherry Overall Comment:

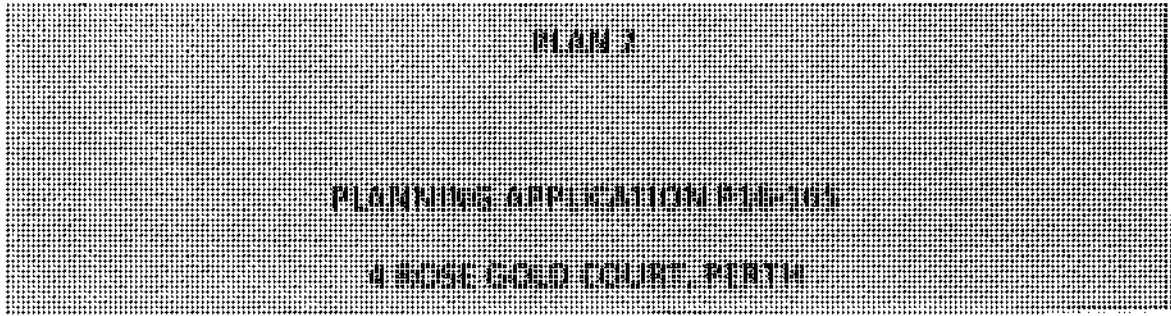
The purpose of the proposed JBS CAL is to improve the quality and reduce the quantity of trade waste sent to the TasWater Longford wastewater treatment plant. The existing



TasWater CAL is 6 ML and the proposed JBS CAL is 30 ML which will lead to significant environmental improvements with the TasWater wastewater treatment plant. Due to the expected environmental improvements as a result of this project and the simplicity of the project, extra onerous conditions for the proposed CAL are considered not to be required by pitt&sherry or the regulatory assessment officer at the EPA. The EPA, who have assessed the EMP, do not require any modelling or monitoring to be undertaken.

NMC Planner's Comment:

The EPA has reviewed the Environmental Effects Report and ESD's assessment and recommended groundwater and odour monitoring, and for contingency in case of disruption to operations. These matters are to be required as conditions of the permit.



**ATTACHMENTS**

- A Application & plans, correspondence with applicant
- B Response from referral agency
- C Representation & applicant's response
- D Planning Scheme assessment

TR Ref: 2016- TR/NMC - 0253

Council Reference: P16-165

Level 2, 24 Murray Street  
Hobart TAS 7001  
PO Box 335  
Kings Meadows TAS 7249  
T 03 6227 5212  
F 03 6227 5220  
E [landmanagement@tasrail.com.au](mailto:landmanagement@tasrail.com.au)  
[www.tasrail.com.au](http://www.tasrail.com.au)

General Manager  
Northern Midlands Council  
PO Box 156  
Longford TAS 7301  
Email: [Planning@nmc.tas.gov.au](mailto:Planning@nmc.tas.gov.au)

Dear Council,

**RE: APPLICATION FOR PLANNING PERMIT FOR LAND ADJOINING RAILWAY ASSET**

Thank you for Council's notification received by email on 5 October 2016 regarding an application for a new development: **4 multiple dwellings – vary front (W) setback (within 50 m of railway at 4 Rose Gould Court, Perth)**

TasRail has identified the following concerns with the proposed development:

The Road and Railway Assets Code notes an attenuation zone of 50 metres from the rail corridor boundary. The proposed development for Unit 1 is shown to be only 2 metres from the rail boundary. TasRail's assertion is 2 metres is too close for a sensitive use (dwelling) regardless sound insulation stated in the application.

Train horn noise is a major concern and is already an issue in this locality given the number and frequency of level crossings and train operating hours. TasRail's train services operate on a 24/7 schedule and the train horn is required to be sounded twice x one second blow per crossing, but can be sounded more often and for a longer duration in circumstances where the train driver perceives there to be a safety risk. Trains typically operate during the early hours of the morning at the location of the proposed dwelling, noting the timetable is subject to change at any time.

The TasRail fleet is fitted with an industry standard horn. The TIA report noted horn noise levels measured during the assessment as high 116dBA (even though horn noise was not included in the assessment).

A key finding of the TIA report supplied for the proposed development acknowledges that the land is exposed to high train noise and that engineering measures to reduce noise would be required to meet the referenced guideline. TasRail reinforces the need for this condition but is doubtful that the proposed mitigations will be sufficient to address the concern.

Should Council not uphold TasRail's objection to the proposal, it will need to ensure appropriate designs and materials are incorporated into the Building Permit, similar to requirements for other extreme environments such as earthquakes or cyclone areas. TasRail considers this to be a necessary mitigation to prevent the potential for vibration damage occurring as a consequence of the buildings being sited at a distance to the rail corridor boundary that is significantly less than recommended.

It should also be noted that the rail corridor is Crown Land and that TasRail is exempted from any contribution towards the costs of boundary fences.

In summary, TasRail requests that this application not be approved on the following grounds:

- the TIA underestimates train noise impacts on the proposed development and consequently the enjoyment of future occupants of the dwellings;
- the TIA has not adequately considered the reality that trains operate 24/7 with the timetable subject to change at any time;
- the TIA does not sufficiently take into account TasRail's operating procedure that apply to train horn use, currently requiring two blows per crossing and empowering a train driver to sound the horn at any time he/she perceives a safety risk;
- the risks associated with siting the proposed development only two metres from the rail corridor boundary, which is significantly less than the recommended attenuation zone of 50 metres.

TasRail notes the developer has proposed a number of mitigations, but is of the view these will not sufficiently address the issues/risks.

TasRail confirms the recommended minimum distance from the rail boundary for sensitive uses and new developments is 10 metres.

Should Council wish to discuss this matter further please email me at [landmanagement@tasrail.com.au](mailto:landmanagement@tasrail.com.au) or direct telephone 6227 5212.

Yours sincerely,



Michael Ince  
**MANAGER PROPERTY SERVICES**  
6 October 2016





PO BOX 7647 Launceston

Phone 6334 4089 | Email admin@urbantas.com.au

www.urbantas.com.au

VZ Designs Pty Ltd ABN 50110377421

Northern Midlands Council  
PO Box 156  
Longford, Tasmania 7301  
Tel: (03) 6397 7303  
Email: council@nmc.tas.gov.au

19/10/2016

Dear Melissa Cunningham,

Further to your letter dated 11<sup>th</sup> of October, and the concerns of TASRAIL, we have had further discussions with the developer and revised our plans with possible options that might clarify TASRAIL's objection.

Please note the information we have supplied back is not associated with a TIA but is associated with the VIPAC report dated 12<sup>th</sup> November 2014 at subdivision stage, associated with subdivision rail noise, ground vibration and air quality assessment, which we believe is the document TASRAIL is referring to.

After discussion with the developer, the additional information has been added to the plans which we believe should alleviate any concerns.

***The south east corner of unit 4 and the entire south east rear wall of unit 1 are to be upgraded to 140mm studs with R4 sound batts installed for both extra structural resistance and noise resistance from both vibration and sound.***

***Also the area of fence adjacent to both unit 1 and unit 4 is to be constructed 2.4 high in timber with an extra 15mm, 150mm wide shiplap board every 200mm for noise reduction***

Please also note the BCA (NCC) part 2.1 requires all structures to be built with structural stability and resistance to actions which I believe are greater than the structural behavior anticipated from the neighbouring rail line.

As part of the building act requirements, it is the responsibility of the designer, the engineer and the building surveyor, to design and approve a building that can withstand the loads put upon it from known factors.

After discussion with our engineer and building surveyor, we believe this process is relatively straight forward.

**JASON VAN ZETTEN**

RBP No. CC1952X

## Submission to Planning Authority Notice

Council Planning Permit No.	P16-165	Council notice date	5/10/2016
<b>TasWater details</b>			
TasWater Reference No.	TWDA 2016/01481-NMC	Date of response	11/10/2016
TasWater Contact	Amanda Craig	Phone No.	03) 6345 6318
<b>Response issued to</b>			
Council name	NORTHERN MIDLANDS COUNCIL		
Contact details	Planning@nmc.tas.gov.au		
<b>Development details</b>			
Address	4 ROSE GOLD COURT, PERTH	Property ID (PID)	3382286
Description of development	Multiple dwellings x 4 vary front (W) setback (within 50m of railway)		
<b>Schedule of drawings/documents</b>			
Prepared by	Drawing/document No.	Revision No.	Date of Issue
Urban Design Solutions	Site Plan	—	14/09/2016
<b>Conditions</b>			
Pursuant to the <i>Water and Sewerage Industry Act 2008 (TAS)</i> Section 56P(1) TasWater imposes the following conditions on the permit for this application:			
<b>CONNECTIONS, METERING &amp; BACKFLOW</b>			
1. A suitably sized water supply with metered connection / sewerage system and connection to the development must be designed and constructed to TasWater's satisfaction and be in accordance with any other conditions in this permit.			
2. Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost.			
3. Prior to commencing construction / use of the development, a boundary backflow prevention device and water meter must be installed, to the satisfaction of TasWater.			
<b>DEVELOPMENT ASSESSMENT FEES</b>			
4. The applicant or landowner as the case may be, must pay a development assessment fee to TasWater for this proposal of \$335.18 for development assessment as approved by the Economic Regulator and the fees will be indexed as approved by the Economic Regulator from the date of the Submission to Planning Authority Notice for the development assessment fee, until the date they are paid to TasWater. Payment is required within 30 days from the date of the invoice.			
<b>Advice</b>			
For information on TasWater development standards, please visit <a href="http://www.taswater.com.au/Development/Development-Standards">http://www.taswater.com.au/Development/Development-Standards</a>			
For application forms please visit <a href="http://www.taswater.com.au/Development/Forms">http://www.taswater.com.au/Development/Forms</a>			
The developer is responsible for arranging to locate existing TasWater infrastructure and clearly showing it on any drawings. Existing TasWater infrastructure may be located by TasWater (call 136 992) on site at the developer's cost, alternatively a surveyor and/or a private contractor may be engaged at the			





developers cost to locate the infrastructure.

*TasWater have a small number of townships that are on Boil Water and Do Not Consume Alerts. Please visit <http://www.taswater.com.au/News/Outages--Alerts> for a current list of these areas.*

#### Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.

#### Authorised by

A handwritten signature in black ink, appearing to read "Jason Taylor".

**Jason Taylor**  
Development Assessment Manager

#### TasWater Contact Details

Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au

Our ref: 111730.04; P16-165; Urban Design Solutions  
 Enquiries: Melissa Cunningham



**NORTHERN  
 MIDLANDS  
 COUNCIL**

15-09-2016

Urban Design Solutions  
 via email: admin@urbantas.com.au

Dear Mr Van Zetten

**Additional Information Required for Planning Application P16-165 - 4 multiple dwellings - vary front setbacks (within 50m of railway) at 4 Rose Gold Court, PERTH**

I refer to the abovementioned application, which has been further reviewed by Council's Planning Officers. The following information is required to compose a valid application under the *Northern Midlands Interim Planning Scheme 2013*:

- Owners details: &
- Privacy/separation for units 2 & 3.

**Owners details**

Although Engineering Action may have a contract of sale on the property, the title current owners is listed as Shervan Developments P/L; as such, Shervan Developments P/L must be shown as the owners on the application form. Please amend the application to reflect this and signed that they have been notified.

**Privacy/separation for unit 2 & 3**

Unit two and three does not comply with clause 10.4.6 of the Planning Scheme. Both living room windows (a habitable room) are located within 2.5m of a shared driveway and no screening is provided. It appears that there is room on site to move the driveway away from the window. Plans need to either show either compliance with the acceptable solution or written justification that the development complies with performance criteria. If you wish, rather than having the plans redrawn, the plans can be marked in red to indicate that the driveway is to be setback 2.5m off the windows, or with screening shown.

**10.4.6 Privacy for all dwellings**

<b>Objective: To provide reasonable opportunity for privacy for dwellings.</b>	
<b>Acceptable Solutions</b>	<b>Performance Criteria</b>
A3 A shared driveway or parking space (excluding a parking space allocated to that dwelling) must be separated from a window, or glazed door, to a habitable room of a multiple dwelling by a	P3 A shared driveway or parking space (excluding a parking space allocated to that dwelling), must be screened, or otherwise located or designed, to minimise detrimental impacts of vehicle noise or vehicle light intrusion to a



<p>horizontal distance of at least:</p> <p>(a) 2.5m; or</p> <p>(b) 1m if:</p> <p>(i) it is separated by a screen of at least 1.7m in height; or</p> <p>(ii) the window, or glazed door, to a habitable room has a sill height of at least 1.7m above the shared driveway or parking space, or has fixed obscure glazing extending to a height of at least 1.7 m above the floor level.</p>	<p>habitable room of a multiple dwelling.</p>
--	---

This information is required under Section 51(1AC) of the *Land Use Planning and Approvals Act 1993*. If you have any queries, please contact Council's Planning Section on 6397 7301, or e-mail [Planning@nmc.tas.gov.au](mailto:Planning@nmc.tas.gov.au).

Yours sincerely



Melissa Cunningham  
**PLANNING OFFICER**

Our ref: 111730.04; P16-165; Urban Design Solutions  
Enquiries: Melissa Cunningham



**NORTHERN  
MIDLANDS  
COUNCIL**

07 September 2016

Urban Design Solutions  
via email: [admin@urbantas.com.au](mailto:admin@urbantas.com.au)

Dear Mr Van Zetten

**Additional Information Required for Planning Application P16-165 - 4 multiple dwellings - vary front setbacks (within 50m of railway) at 4 Rose Gold Court, PERTH**

I refer to the abovementioned application, which has been reviewed by Council's Planning Officers. The following information is required to allow consideration of your application under the *Northern Midlands Interim Planning Scheme 2013*:

- Correct owner/owner's details to be shown on planning application form (owner on TheList is Shervan Developments P/L, whilst the planning application form has it listed as Engineering Action).
- Privacy/separation for unit three (Clause 10.4.6)
- Full site plan (Site plan page A03 missing)
- Surface material details of access/parking areas
- Turning template for unit four's garage

**Privacy/separation for unit 3**

Unit three does not comply with clause 10.4.6. Bedroom two and living room windows are located within 2.5 of a shared driveway and does not comply with the acceptable solution or the performance criteria. It appears that there is room on site to move the driveway away from the window, which in turn, would make vehicle access of unit four's garage easier.

**Turning template for unit four from garage**

Unit four's garage vehicle entry and exit movements appears to be very tight; as such, a turning template plan to demonstrate vehicle entry/exit is required.

Therefore, in accordance with Section 54 of the *Land Use Planning and Approvals Act 1993*, the statutory period for processing the application will not recommence until the requested information has been supplied to the satisfaction of the Planning Authority. It is a requirement of the Planning Authority that all correspondence, if emailed, is sent to [Planning@nmc.tas.gov.au](mailto:Planning@nmc.tas.gov.au) and referenced with the planning application number P16-165. If you have any queries, please contact Council's Planning Section on 6397 7301, or e-mail [Planning@nmc.tas.gov.au](mailto:Planning@nmc.tas.gov.au).

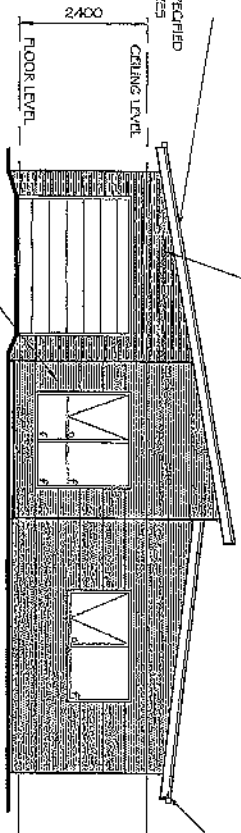
Yours sincerely



Melissa Cunningham  
**PLANNING OFFICER**

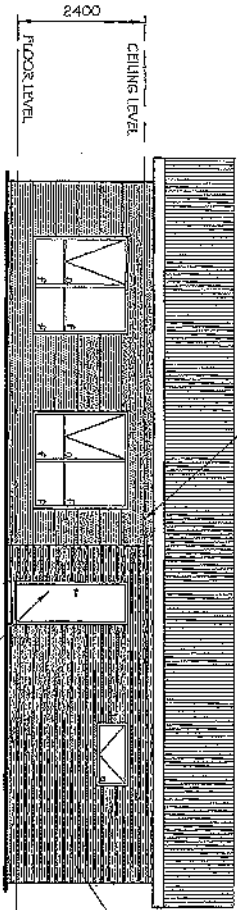
ROOF FRAMING (GREATER THAN 5 DEGREES)  
 CUSTOM CSR OR SIMILAR APPROVED SHEET ROOFING  
 COLOR AND COLOUR TO SELECTION, OVER ROOF  
 BATTING TO AS1604-2) AND APPROVED  
 ROOF TRUSSES INSTALLED STRICTLY IN ACCORDANCE  
 WITH MANUFACTURERS RECOMMENDATIONS.  
 ALL FRAMING DETAILS TO BE ADHERED TO.  
 INSULATE ROOF PRIOR TO SHEETING.  
 ALL TRUSS LOADS ARE TO BE DISTRIBUTED TO  
 PERIMETER WALLS ONLY - UNLESS OTHERWISE SPECIFIED  
 REFER TO ENGINEERS DETAILS FOR ALL LIMIT STATES

FEATURE PANEL CLADDING  
 CSR CHAMTEL DESIGNER SERIES  
 PRE FINISHED WALL SYSTEM  
 INSTALLED STRICTLY TO  
 MANUFACTURERS SPECIFICATIONS



**SOUTH ELEVATION**  
 SCALE: 1:100

EAVES  
 OVERHANG ROOFS 450mm  
 FRAME FOR LEVEL EAVES AND  
 LINE WITH PLYBOARD SHEETING  
 FASCIA  
 COLORBOND R95 - CONCRETE FOLDED  
 METAL GUTTER - FASCIA TRIM



**WEST ELEVATION**  
 SCALE: 1:100

FEATURE PANEL CLADDING  
 CSR CHAMTEL DESIGNER SERIES  
 PRE FINISHED WALL SYSTEM  
 INSTALLED STRICTLY TO  
 MANUFACTURERS SPECIFICATIONS

WINDOWS & DOORS  
 SELECTED ALUMINIUM FRAMED WINDOWS & DOORS  
 SLIDING OR AWNING STYLE (CONFIRM WITH OWNER)  
 SELECTED MDF REVEALS & TRIMS  
 INSTALL TO MANUFACTURERS SPECIFICATIONS  
 & AS2047. GLAZING TO BCA PART 3.5 & 4.5.1.2.2.6,  
 VENTILATION TO BCA 3.8.5

NGL ——— NATURAL GROUND LEVEL  
 FGL ——— FINISHED GROUND LEVEL

**ELEVATIONS**  
 SCALE: 1:100

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PROPOSED UNIT DEVELOPMENT  
 LOT: 5, NO: 115,  
 ROSE GOLD COURT  
 PERTH

Sheet A-39 OF 49  
 date: JANUARY 2016  
 scale: 1:100 @ A3  
 bal: BAL, LOW  
 design: JAZ, drawn: JAZ

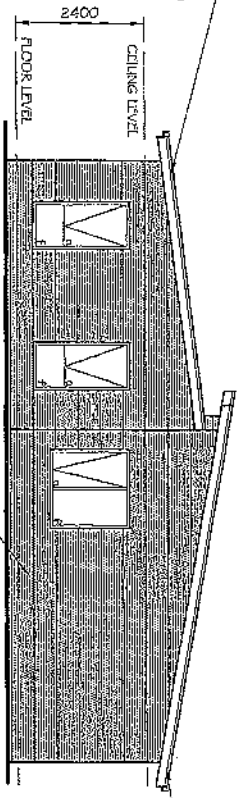
ISSUE  
**PLANNING**  
 PRINT DATE  
 4 SEP 2016

drawing no: 6186  
 AMENDMENT NO.  
 1.  
 2.  
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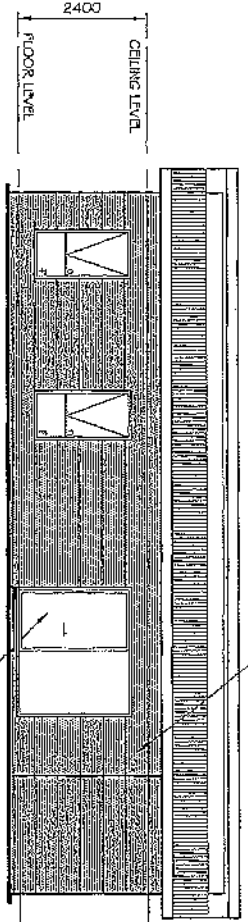
Jason Van Zellen Aedoct1852x  
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ROOF FRAMING (GREATER THAN 5 DEGREES)  
 CUSTOM ORD OR SIMILAR APPROVED SHEET ROOFING  
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 BATTENS (TO AS1564.2) AND APPROVED  
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 ALL ROOFS UNLESS ASKED TO BE DISTRIBUTED TO  
 PERIMETER WALLS ONLY - UNLESS OTHERWISE SPECIFIED  
 REFER TO ENGINEER'S DETAILS FOR ALL LIMIT SIZES



**NORTH ELEVATION**  
 SCALE: 1:100



**EAST ELEVATION**  
 SCALE: 1:100

NGL ——— NATURAL GROUND LEVEL  
 FGL ——— FINISHED GROUND LEVEL

**ELEVATIONS**  
 SCALE: 1:100

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**PROPOSED UNIT DEVELOPMENT**  
 LOT: 5, NO: 115,  
 ROSE GOLD COURT  
 PERTH

sheet: A-38	OF 48	ISSUE	drawing no: 8186
date: JANUARY 2016		<b>PLANNING</b>	AMENDMENT No.
scale: 1:100 @ A3		PRINT DATE	1.
by: BAL, LOW		1 4 SEP 2016	2.
design: JZ	drawn: JZ		3.

Jason Van Zellen Arch 1952x  
 Launceston Office Phone (03) 63 344 089  
 PO BOX 7647 Launceston 7250  
 Email admin@urbantas.com.au  
 www.urbantas.com.au



**NOTES**

ALL SITE DIMENSIONS ARE TO OUTSIDE CLADDING UNLESS NOTED DO NOT SCALE; IF IN DOUBT ASK ENGINEER FINISHED FLOOR LEVEL IS MINIMUM 150mm ABOVE FINISHED GROUND LEVEL.

CONFORM ALL DIMENSIONS ON SITE FROM TO COMMENCEMENT OF WORKS, THE BUILDER IS TO PROVIDE PROTECTION TO ADJOINING PROPERTIES AND BUILDINGS IN ACCORDANCE WITH THE BUILDING REGULATIONS

THE DOOR OF A FULLY ENCLOSED SANITARY COMPARTMENT MUST OPEN OUTWARDS, SLIDE OR BE READILY REMOVABLE FROM THE OUTSIDE OF THE COMPARTMENT UNLESS THERE IS A CLEAR SPACE OF AT LEAST 1200mm BETWEEN THE CLOSET PAN WITHIN THE SANITARY COMPARTMENT AND NEAREST PART OF THE DOORWAY

ALL OTHER MATTERS NOT SPECIFICALLY MENTIONED ARE TO COMPLY WITH THE BCA - IF IN DOUBT ASK

**LEGEND**

EXHAUST FAN OR SIMILAR EXHAUST FANS MUST BE FITTED WITH FAN-BELT DRIVE/ FAN COUPLING DRIVE. EXHAUST FAN TO EXTERIOR OF BUILDING MUST BE FITTED WITH LIGHT SWITCH TO ROOM VENTILATED ROOMS

LOCATION OF HARD-WIRED SMOKE ALARMS, SMOKE AND FITTING INDICATED ON PLAN, TO ROOM ALARMS MUST BE INTERCONNECTED WHERE THERE IS MORE THAN ONE ALARM.

GRATE DRAIN TO GARAGE DOOR OPENING TO DIRECT ALL STORMWATER AWAY FROM BUILDING OPENING, TO SW SYSTEM

CONCRETE OR PAVED PATH / DRIVEWAY TO ALL ACCESS DOORS TO DWELLING TO ALL DRIVEWAYS, PATIOS & PATHS ARE TO BE CONSTRUCTED TO DIRECT SW AWAY FROM DWELLING @ 1:50 MINIMUM SLOPE AND HAVE A ROCK SIZE THRESHOLD OF 100mm

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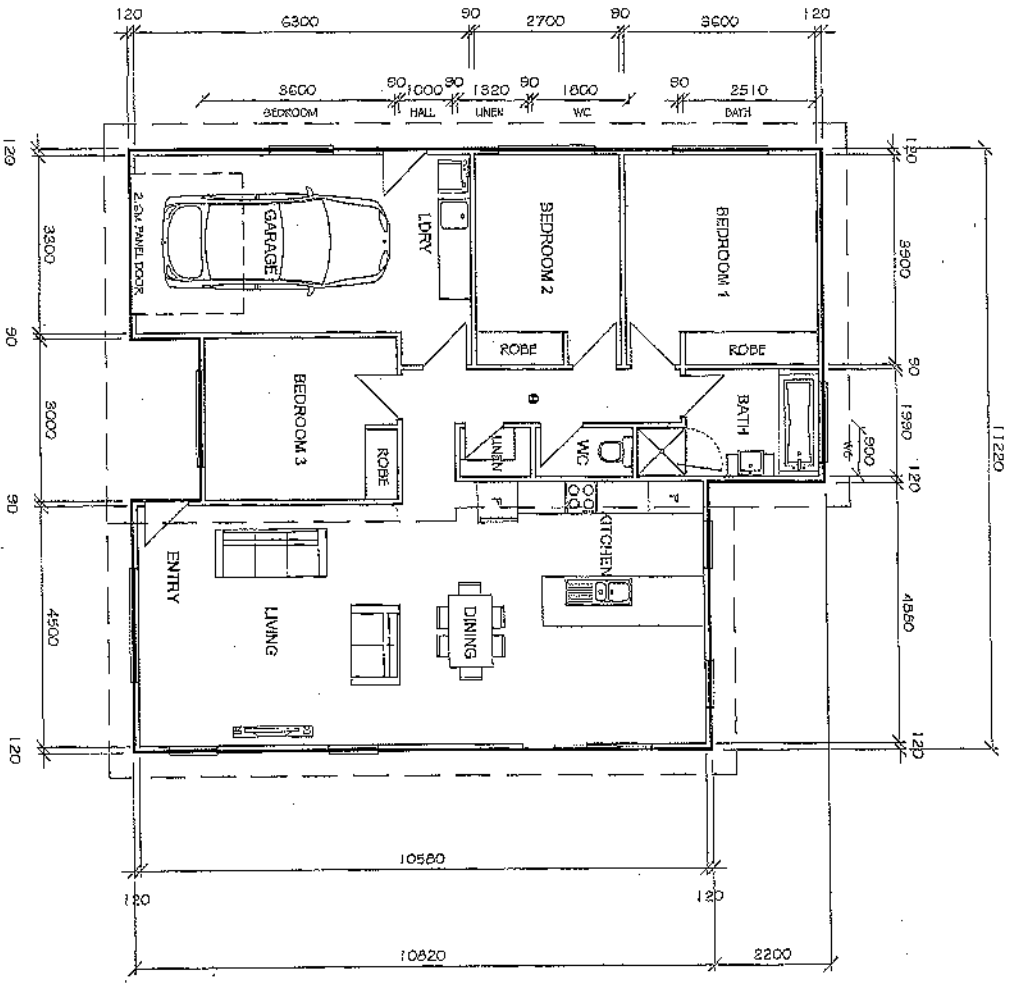
**PROPOSED UNIT DEVELOPMENT**  
**LOT: 5, NO: 115,**  
**ROSE GOLD COURT**  
**PERTH**

sheet: A-37 OF 49  
 date: JANUARY 2016  
 scale: 1:100 @ A3  
 htl: BAL, TOW  
 design: JNZ drawn: JNZ

ISSUE  
**PLANNING**  
 PRINT DATE  
 14 SEP 2016

drawing no: 6165  
 AMENDMENT NO.  
 1.  
 2.  
 3.

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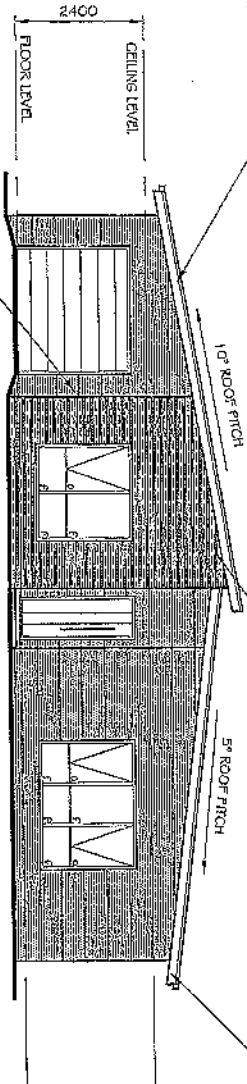


AREA 131.29 M2 (14.13 SQ)

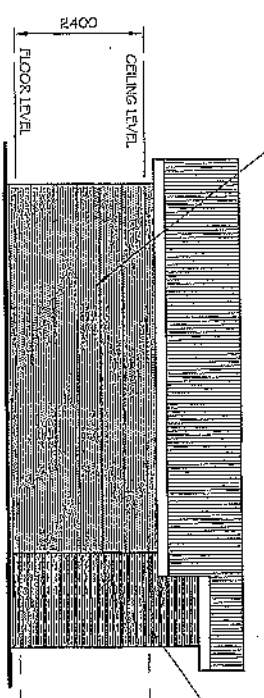
**FLOOR PLAN**  
 SCALE: 1:100

**UNIT 4**

ROOF FRAMING (GREATER THAN 5 DEGREES)  
 CUSTOM ORB OR SIMILAR APPROVED SHEET SCOFFING  
 COLORBOND COLOURS TO BE SPECIFIED, OVER ROOF  
 BATTENS (TO AS1684.2) AND APPROVED  
 ROOF TRUSSES INSTALLED STRICTLY IN ACCORDANCE  
 WITH MANUFACTURERS RECOMMENDATIONS.  
 ALL FINISH DETAILS TO BE ADHERED TO.  
 ISOLATE ROOF FROM TO SHEETING  
 ALL TRUSS LOADS ARE TO BE DISTRIBUTED TO  
 PERIMETER WALLS ONLY - UNLESS OTHERWISE SPECIFIED  
 REFER TO ENGINEERS DETAILS FOR ALL LIMIT SIZES



**SOUTH ELEVATION**  
 SCALE: 1:100



**WEST ELEVATION**  
 SCALE: 1:100

WINDOWS & DOORS  
 SELECTED ALUMINIUM FRAMED WINDOWS & DOORS  
 SLIDING OR AMHING STYLE (CONFIRM WITH OWNER)  
 SELECTED MDF REVEALS & TRIMS  
 INSTAL TO MANUFACTURERS SPECIFICATIONS  
 & AS2047 CLADDING TO BCA PART 3.6 & AS1296.  
 VENTILATION TO BCA 3.B.5

NGL \_\_\_\_\_ NATURAL GROUND LEVEL  
 FGL \_\_\_\_\_ FINISHED GROUND LEVEL

**ELEVATIONS**  
 SCALE: 1:100

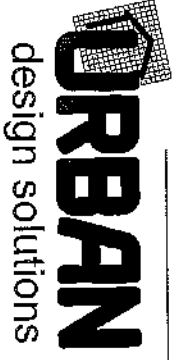
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**PROPOSED UNIT DEVELOPMENT**  
 LOT: 5, NO: 115.  
 ROSE GOLD COURT  
 PERTH

sheet: A.29 OF 49	ISSUE
date: JANUARY 2016	<b>PLANNING</b>
scale: 1:100 @ A3	drawing no: 6166
des: DAL T.L.O.W	AMENDMENT NO.
design: JVZ	drawn: JVZ

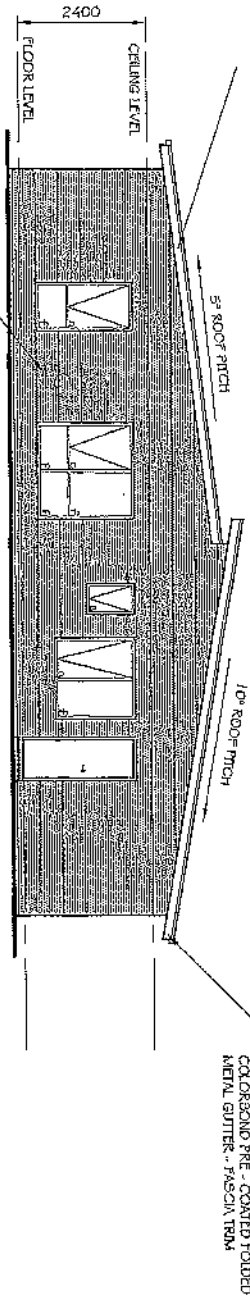
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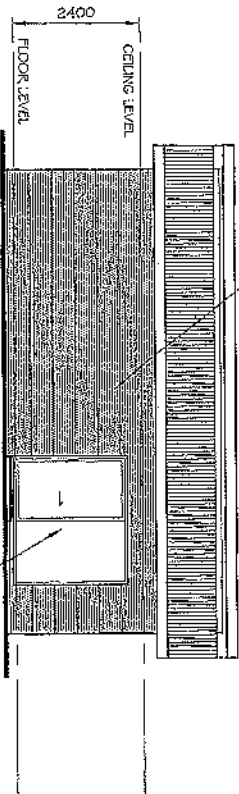




ROOF FRAMING (GREATER THAN 5 DEGREES)  
 CUSTOM ORB OR SIMILAR APPROVED SHEET ROOFING  
 COLORBOND COLOUR TO BE SELECTED, OVER ROOF  
 BATTENS TO AS1694.21 AND APPROVED  
 ROOF TRUSSES INSTALLED STRICTLY IN ACCORDANCE  
 WITH MANUFACTURERS RECOMMENDATIONS.  
 ALL TRUSS DETAILS TO BE ADHERED TO.  
 SIMILATE ROOF PITCH TO SHEDDING  
 ALL TRUSS LOADS ARE TO BE DISTRIBUTED TO  
 PERIMETER WALLS ONLY - UNLESS OTHERWISE SPECIFIED  
 REFER TO ENGINEERS DETAILS FOR ALL UNITS SIZES



**NORTH ELEVATION**  
 SCALE: 1:100



**EAST ELEVATION**  
 SCALE: 1:100

**WINDOWS & DOORS**  
 SELECTED ALUMINIUM FRAMED WINDOWS & DOORS  
 SLIDING OR AWNING STYLE (CONFORM WITH OWNER'S  
 SPECIFIC MOF REVEALS & TRIMS  
 INSTALL TO MANUFACTURERS SPECIFICATIONS  
 # AS2047, GLAZING TO BCA PART 3.6 & AS1226.  
 VENTILATION TO BCA 3.2.5

NGL ——— NATURAL GROUND LEVEL  
 FGL ——— FINISHED GROUND LEVEL

**ELEVATIONS**  
 SCALE: 1:100

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**PROPOSED UNIT DEVELOPMENT**  
 LOT: 5, NO: 115,  
 ROSE GOLD COURT  
 PERTH

Sheet: A.29 OF 49	ISSUE
date: JANUARY 2018	<b>PLANNING</b>
scale: 1:100 @ A3	PRINT DATE
date: 14 SEP 2018	
author: B.M. LOUW	
designer: J.VZ	
drawn: J.VZ	

drawing no: 6169	AMENDMENT No.
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2.	
3.	

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**NOTES**

ALL SITE DIMENSIONS ARE TO OUTSIDE CLADDING UNLESS NOTED DO NOT SCALE, IF IN DOUBT ASK

FINISH FLOOR LEVEL IS MINIMUM 150mm ABOVE FINISHED GROUND LEVEL

CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORKS, THE BUILDER IS TO PROVIDE PROTECTION TO ADJOINING PROPERTIES AND BUILDINGS IN ACCORDANCE WITH THE BUILDING REGULATIONS

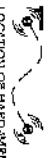
THE DOOR OF A FULLY ENCLOSED SANITARY COMPARTMENT MUST OPEN OUTWARDS, SLIDE OR BE REMOVABLE FROM THE OUTSIDE OF THE COMPARTMENT UNLESS THERE IS A CLEAR SPACE OF AT LEAST 1200mm BETWEEN THE CLOSEST PAN WITHIN THE SANITARY COMPARTMENT AND NEAREST PART OF THE DOORWAY

ALL OTHER MATTERS NOT SPECIFICALLY MENTIONED ARE TO COMPLY WITH THE BCA - IF IN DOUBT ASK

**LEGEND**

EXHAUST FAN OR SIMILAR MUST BE FITTED WITH A SOUNDING DEVICE / STOP CLOSING DAMPER

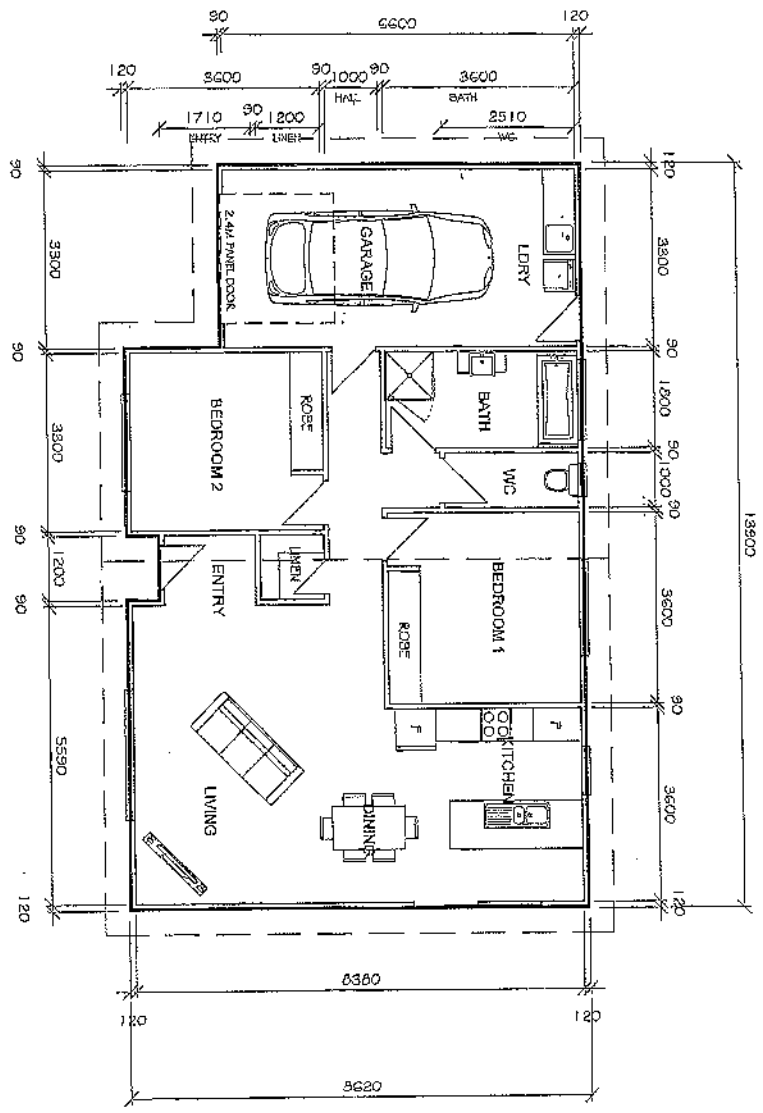
EXHAUST FAN MUST BE FITTED TO EXTERIOR OF BUILDING AND WIRE TO LIGHT SWITCH TO NON VENTILATED ROOMS



LOCATION OF HAND-WIRED SMOKE ALARMS, SUPPLY AND FIT WHERE INDICATED ON PLAN, TO BCA 3.7.2 REQUIREMENTS. SMOKE ALARMS MUST BE INTERCONNECTED WHERE THERE IS MORE THAN ONE ALARM.

GRANT DRAIN TO GARAGE DOOR OPENING TO DIRECT ALL STORMWATER AWAY FROM BUILDING OPENING, TO SW SYSTEM

CONCRETE OR PAVED PATH, DRIVEWAY TO ALL ACCESS ROADS TO INCLUDING ALL DRIVEWAYS, PATIOS & PATHS ARE TO BE CONSTRUCTED TO DIRECT SW AWAY FROM DWELLING @ 1.5% MINIMUM GRADE AND HAVE A MAX STEEP HEIGHT OF 120mm



AREA 113.11 M2 (12.18 SQ)

**FLOOR PLAN**

SCALE: 1:100



**UNIT 3**

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**PROPOSED UNIT DEVELOPMENT**  
 LOT: 5, NO: 115,  
 ROSE GOLD COURT  
 PERTH

sheet: A.27 OF 49
date: JANUARY 2016
scale: 1:100 @ A3
bat: BAL, LOW
designer: JVZ
drawn: JVZ

ISSUE	PLANNING
drawing no: 6166	AMENDMENT NO.
1	1
2	2
3	3

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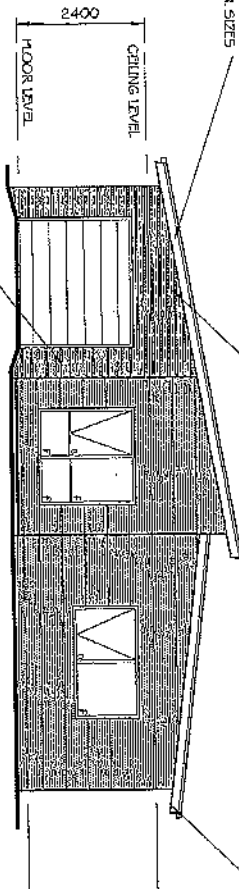




ROOF FRAMING (GREATER THAN 5 DEGREES) CUSTOM ORS OR SIMILAR APPROVED SHEET ROOFING COLOR/ROUND COLOUR TO SELECTION, OVER ROOF BATTENS (TO AS 1684.2) AND APPROVED ROOF TRUSSES, INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. ALL FIXING DETAILS TO BE ADHERED TO. SIGULATE ROOF PRIOR TO SHEETING. ALL TRUSS JOINTS ARE TO BE DISTRIBUTED TO PERMETER WALLS ONLY - UNLESS OTHERWISE SPECIFIED REFER TO ENGINEERS DETAILS FOR ALL UNITS. SIZES

FEATURE PANEL CLADDING CSR CEMENTITE, DESIGNER SERIES PRE FINISHED WALL SYSTEM, INSTALLED STRICTLY TO MANUFACTURERS SPECIFICATIONS

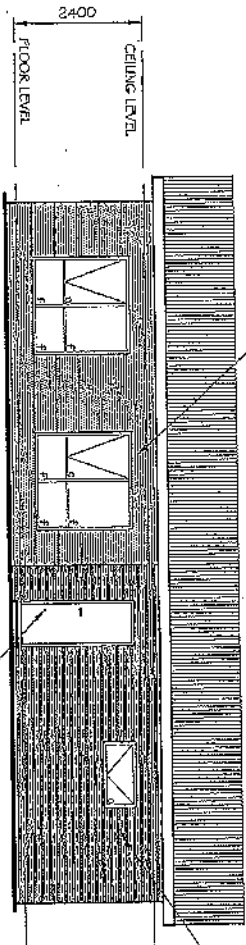
EAVES OVERHANG ROOFS 450mm FRAMED FOR LEVEL EAVES AND LINE WITH RIBBONBOARD SHEETING FASCIA COLOR/ROUND PRE-COATED FOLDED METAL CUTTER - FASCIA TRIM



**SOUTH ELEVATION**  
SCALE: 1:100

WALL CLADDING SOCON STRIA PANEL, INSTALLED STRICTLY TO MANUFACTURERS SPECIFICATIONS

FEATURE PANEL CLADDING CSR CEMENTITE, DESIGNER SERIES PRE FINISHED WALL SYSTEM, INSTALLED STRICTLY TO MANUFACTURERS SPECIFICATIONS



**WEST ELEVATION**  
SCALE: 1:100

WINDOWS & DOORS SELECTED ALUMINIUM FRAMED WINDOWS & DOORS SLIDING OR AWNING STYLE (CONFIRM WITH OWNER) SELECTED MDF REVEALS & TRIMS INSTALL TO MANUFACTURERS SPECIFICATIONS & AS2047, GLAZING TO BCA PART 3.4 & AS1206, VENTILATION TO BCA 3.8.5

NGL - NATURAL GROUND LEVEL  
FGL - FINISHED GROUND LEVEL

**ELEVATIONS**  
SCALE: 1:100

PROPOSED UNIT DEVELOPMENT  
LOT: 5, NO: 115.  
ROSE GOLD COURT  
PERTH

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date: JANUARY 2016	
scale: 1:100 @ A3	
bal: BAL 'LOW	
design: JAZ	drawn: JAZ

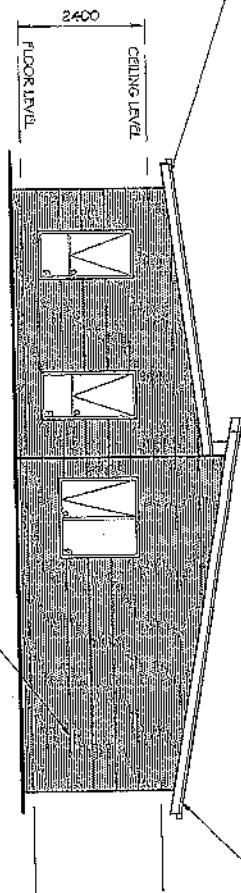
ISSUE	PLANNING
PRINT DATE	4 SEP 2016

drawing no: 6186
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ROOF FRAMING (GREATER THAN 5 DEGREES)  
 CUSTOM ORB OR SIMILAR APPROVED SHEET ROOFING  
 COLORBOND COLOUR TO SELECTION. OVER ROOF  
 BATTENS (TO AS1684.2) AND APPROVED  
 ROOF TRUSSES INSTALLED STRICTLY IN ACCORDANCE  
 WITH MANUFACTURERS RECOMMENDATIONS.  
 ALL FIXING DETAILS TO BE ADHERED TO.  
 SIMILATE ROOF PRIOR TO SHEETING  
 ALL TRUSS LOADS ARE TO BE DISTRIBUTED TO  
 PERIMETER WALLS ONLY - UNLESS OTHERWISE SPECIFIED  
 REFER TO ENGINEER'S DETAILS FOR ALL LIMIT SIZES

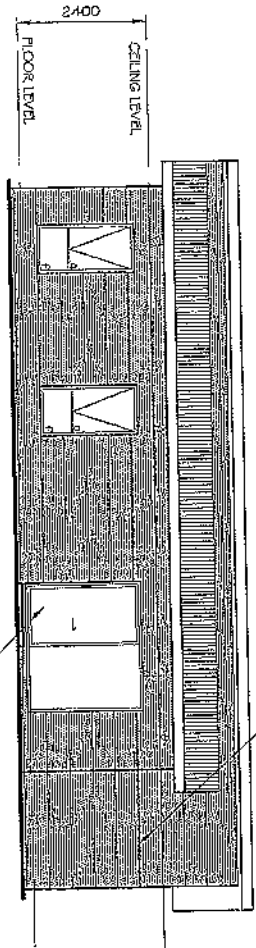


WALL CLADDING  
 SOXON STRIA PANEL  
 INSTALLED STRICTLY TO  
 MANUFACTURERS SPECIFICATIONS

EAVES  
 OVERHANG ROOF'S 450mm  
 FRAME FOR LEVEL EAVES AND  
 LINE WITH EXTERIOR SHEETING

FASQIA  
 COLORBOND PRE-COATED FOLDED  
 METAL GUTTER - FASQIA TRIM

NORTH ELEVATION  
 SCALE: 1:100



WINDOWS & DOORS  
 SELECTED ALUMINIUM FRAMED WINDOWS & DOORS  
 SLIDING OR AWNING STYLE (CONFORM WITH OWNER'S  
 SELECTED ROOF REVUELS & TRIMS  
 INSTAL TO MANUFACTURERS SPECIFICATIONS  
 & AS2047. GLAZING TO BCN PART 3.6 & AS1226.  
 VENTILATION TO PCA 3.6.5

EAST ELEVATION  
 SCALE: 1:100

NGL - - - - NATURAL GROUND LEVEL  
 FGL - - - - FINISHED GROUND LEVEL

ELEVATIONS  
 SCALE: 1:100

PROPOSED UNIT DEVELOPMENT  
 LOT: 5, NO: 115,  
 ROSE GOLD COURT  
 PERTH

sheet: A 18 OF 49  
 date: JANUARY 2016  
 scale: 1:100 @ A3  
 dra: DAL 'LOW  
 design: JAZ | draw: JAZ

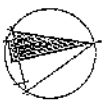
ISSUE  
 PLANNING  
 PRINT DATE  
 4 SEP 2016

drawing no: 6166  
 AMENDMENT No.  
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# UNIT 2

### NOTES

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CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORKS. THE BUILDER IS TO PROVIDE PROTECTION TO ADJOINING PROPERTIES AND BUILDINGS IN ACCORDANCE WITH THE BUILDING REGULATIONS

THE DOOR OF A FULLY ENCLOSED SANITARY COMPARTMENT MUST OPEN OUTWARDS, SLIDE OR BE REMOVABLE FROM THE OUTSIDE OF THE COMPARTMENT UNLESS THERE IS A CLEAR SPACE OF AT LEAST 1200mm BETWEEN THE CLOSET PAN WITHIN THE SANITARY COMPARTMENT AND NEAREST PART OF THE DOORWAY

ALL OTHER MATTERS NOT SPECIFICALLY MENTIONED ARE TO COMPLY WITH THE BCA - IF IN DOUBT ASK

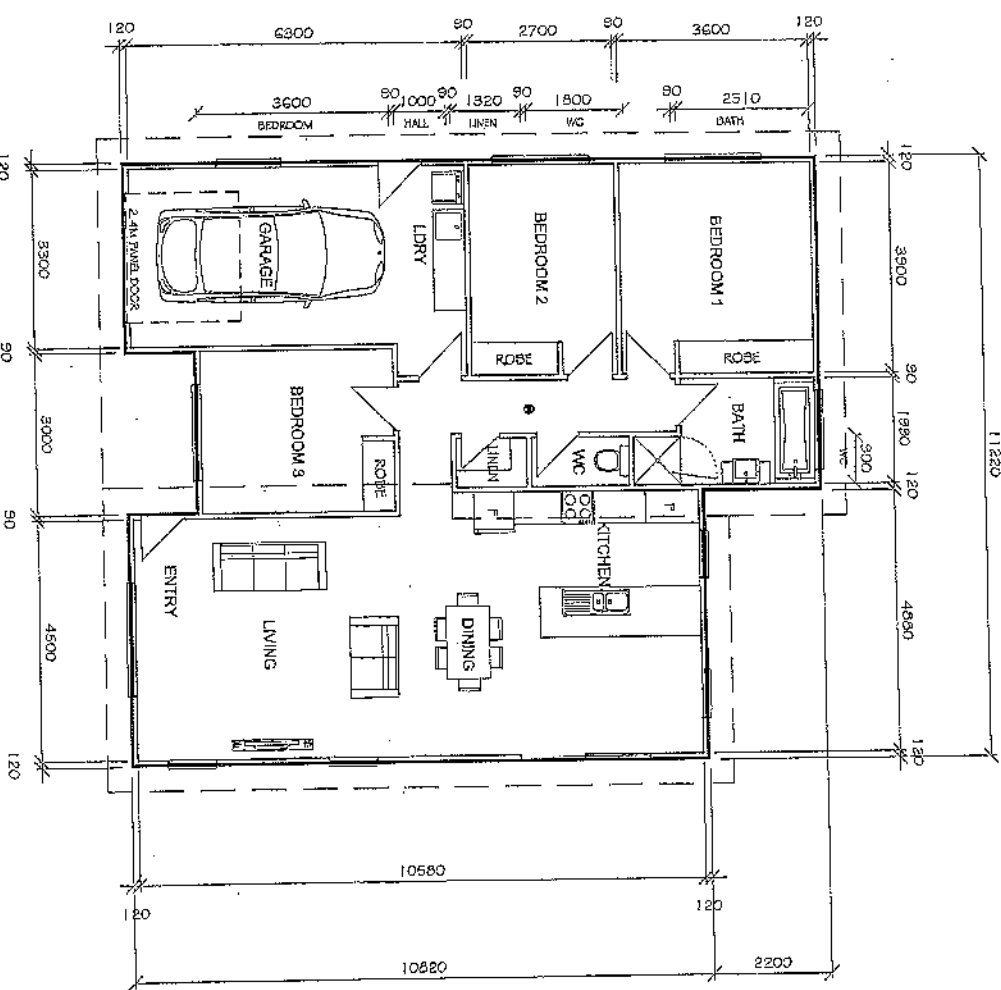
### LEGEND

- 1. EXHAUST FAN OR SIMILAR
- 2. EXHAUST FAN MUST BE FITTED WITH EXHAUSTING DEVICE / SELF CLOSING DAMPER
- 3. (B.C.A. 3.12.3.4)
- 4. (B.C.A. 3.12.3.4)

LOCATION OF HARD-WIRED SMOKE ALARMS, SUFFY AND FIT WHERE INDICATED ON PLAN. TO COMPLY WITH REGULATIONS RECOMMENDED SMOKE ALARMS MUST BE INTERCONNECTED WHETHER THERE IS MORE THAN ONE ALARM.

GRAVE DRAIN TO GARAGE DOOR OPENING TO DIRECT ALL STORED WATER AWAY FROM BUILDING OPENING, TO SAW-YESTER

CONCRETE OR PAVED PATH / DRIVEWAY TO BE CONSTRUCTED TO PERMIT ALL DRIVERS, TYRES & PATHS ARE TO BE CONSTRUCTED TO DIRECT SAW AWAY FROM DWELLING @ 1:50 MINIMUM GRADE AND HAVE A MAX STIFF HEIGHT OF 150mm



AREA 131.29 M2 (14.13 SQ)

## FLOOR PLAN

SCALE: 1:100

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**PROPOSED UNIT DEVELOPMENT**  
 LOT 5, NO: 115,  
 ROSE GOLD COURT  
 PERTH

sheet: A-17	of: 48
date:	JANUARY 2016
scale:	1:100 @ A3
bat:	BAL-TLOW

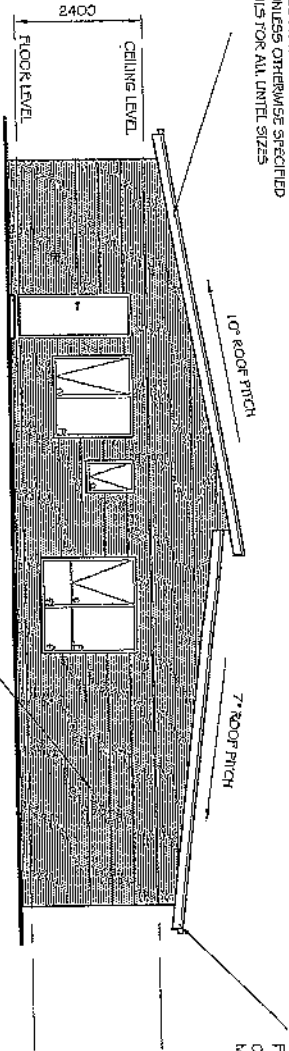
ISSUE	PLANNING
PRINT DATE	14 SEP 2016

drawing no:	6/165
AMENDMENT No.	1.
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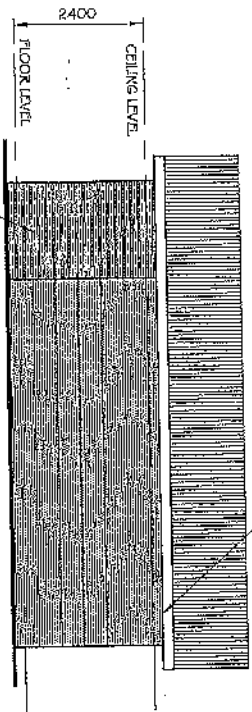
Jason Van Zellen Acc: 01982x  
 Launceston Office Phone (03) 63 344 088  
 PO BOX 7647 Launceston 7260  
 Email: admin@urbantas.com.au  
 www.urbantas.com.au



ROOF FRAMING (GREATER THAN 5 DEGREES)  
 CUSTOM ORB OR SIMILAR APPROVED SHEET ROOFING  
 COLOR AND COLOUR TO SELECTION, OVER ROOF  
 PATTERNS TO AS 1684.2) AND APPROVED  
 ROOF TRUSSES INSTALLED STRICTLY IN ACCORDANCE  
 WITH MANUFACTURERS RECOMMENDATIONS.  
 ALL TRUSS DECKS TO BE ADHERED TO.  
 SIMILAR ROOF PITCH TO SHEETING.  
 ALL TRUSS LOADS ARE TO BE DISTRIBUTED TO  
 PERIMETER WALLS ONLY - UNLESS OTHERWISE SPECIFIED  
 REFER TO ENGINEERS DETAILS FOR ALL UNIT SIZES



**SOUTH ELEVATION**  
 SCALE: 1:100



**WEST ELEVATION**  
 SCALE: 1:100

**WINDOWS & DOORS**  
 SELECTED ALUMINIUM FRAMED WINDOWS & DOORS  
 SLIDING OR AWNING STYLE (CONFIRM WITH OWNER)  
 SELECTED MOF REVEALS & TRIMS  
 INSTAL TO MANUFACTURERS SPECIFICATIONS  
 & A92047 GLAZING TO SCA PART 9.6 & A91296.  
 VENTILATION TO BCA 9.9.5

NGL ——— NATURAL GROUND LEVEL  
 FEL ——— FINISHED GROUND LEVEL

**ELEVATIONS**  
 SCALE: 1:100

**PROPOSED UNIT DEVELOPMENT**  
 LOT: 5, NO: 115,  
 ROSE GOLD COURT  
 PERTH

Sheet: A. 09	OF 49
date: JANUARY 2016	
scale: 1:100 @ A3	
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ISSUE	PLANNING
PRINT DATE	4 SEP 2016

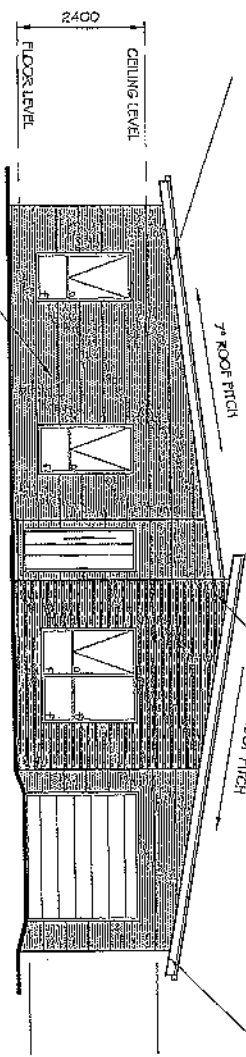
drawing no: 6166	AMENDMENT NO.
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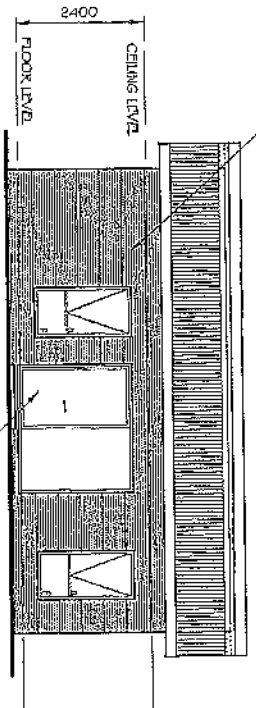


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ROOF FRAMING (GREATER THAN 5 DEGREES) CUSTOM ORN OR SIMILAR APPROVED SHEET ROOFING COLOR/COLOUR TO SATURATE, OVER ROOF BATTENS (TO AS 1664.2) AND APPROVED ROOF TRUSSES INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. ALL FINING DETAILS TO BE ADHERED TO. SIGILATE ROOF PRIOR TO SHEETING. ALL TRUSS LOADS ARE TO BE DISTRIBUTED TO PERIMETER WALLS ONLY - UNLESS OTHERWISE SPECIFIED REFER TO ENGINEERS DETAILS FOR ALL UNITS SIZES



**NORTH ELEVATION**  
SCALE: 1:100



**EAST ELEVATION**  
SCALE: 1:100

**WINDOWS & DOORS**  
SELECTED ALUMINIUM FRAME WINDOWS & DOORS SLEEK OR AWNING STYLE (CONFORM WITH OWNER) SELECTED W/OF RETICUL & TRIMS  
INSTALL TO MANUFACTURERS SPECIFICATIONS & AS2047. GLAZING TO BCA PART 3.6 & AS 1290. VENTILATION TO BCA 3.3.5

**EAVES**  
OVERHANG ROOF 450mm  
FRAME FOR EAVES, EAVES AND LINE WITH TUBBOARD SHEETING  
**FASCIA**  
COLORBOND PRE-COATED ROLDED METAL GUTTER - FASCIA TRIM

NCL ——— NATURAL GROUND LEVEL  
FGL ——— FINISHED GROUND LEVEL

**ELEVATIONS**  
SCALE: 1:100

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**PROPOSED UNIT DEVELOPMENT**  
LOT 5, NO: 115,  
ROSE GOLD COURT  
PERTH

sheet: A.08 OF 48	ISSUE	drawing no: 6168
date: JANUARY 2016	<b>PLANNING</b>	AMENDMENT NO.
scale: 1:100 @ A3	PRINT DATE	1.
del: BAL TOW	14 SEP 2016	2.

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**NOTES**

ALL SITE DIMENSIONS ARE TO OUTSIDE CLADDING UNLESS NOTED  
DO NOT SCALE, IF IN DOUBT ASK  
ENSURE FINISHED FLOOR LEVEL IS MINIMUM 150mm ABOVE FINISHED GROUND LEVEL

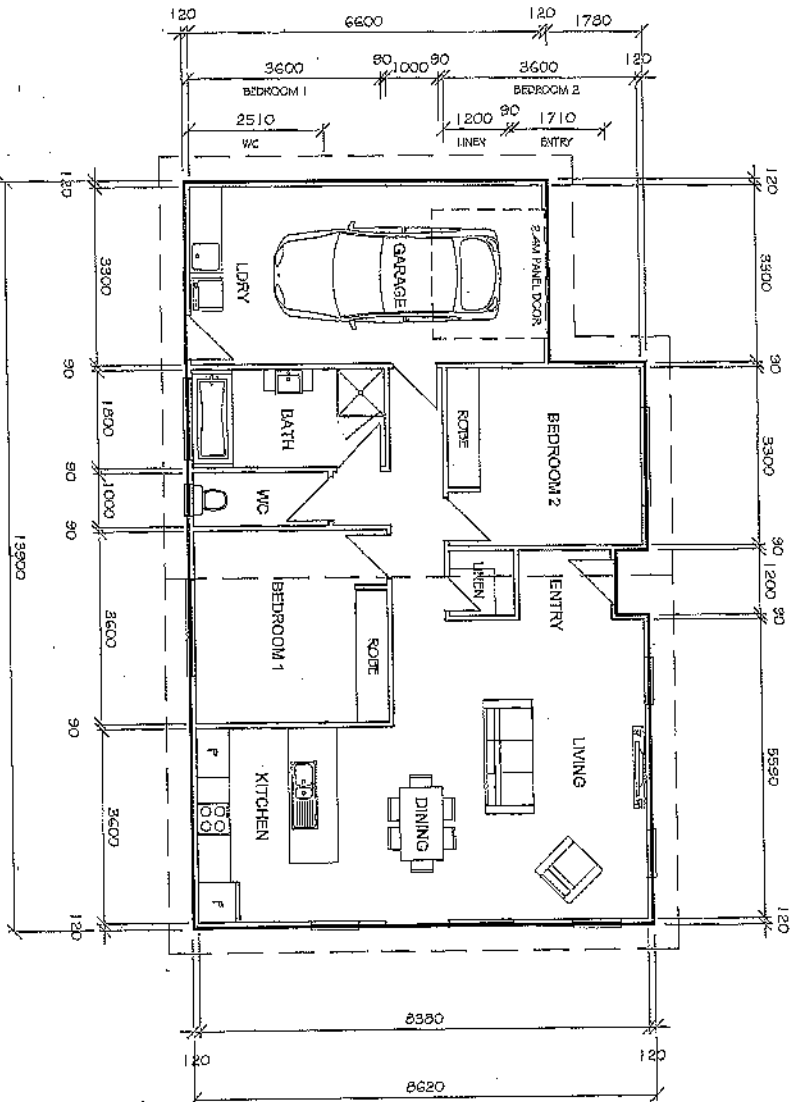
COVER ALL DIMENSIONS ON SITE FROM TO COMMENCEMENT OF WORKS. THE BUILDER IS TO PROVIDE PROTECTION TO ADJOINING PROPERTIES AND BUILDINGS IN ACCORDANCE WITH THE BUILDING REGULATIONS

THE DOOR OF A FULLY ENCLOSED SANITARY COMPARTMENT MUST OPEN OUTWARDS, SLIDE OR BE READILY REMOVABLE FROM THE OUTSIDE OF THE COMPARTMENT UNLESS THERE IS A CLEAR SPACE OF AT LEAST 1000mm BETWEEN THE CLOSET PAN WITHIN THE SANITARY COMPARTMENT AND NEAREST PART OF THE DOORWAY

ALL OTHER MATTERS NOT SPECIFICALLY MENTIONED ARE TO COMPLY WITH THE BCA - IF IN DOUBT ASK

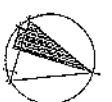
**LEGEND**

- ⊗ EXHAUST FAN OR SIMILAR
- ⊗ EXHAUST FANS MUST BE FITTED WITH BACKFLOW VALVES
- ⊗ EXHAUST FANS MUST BE FITTED WITH EXHAUST FAN TO EXTEND TO BUILDING HEAD WITH TO LIGHT SWITCH TO NON VENTILATED ROOMS
- ⊗ LOCATION OF HARD WARED SLIDE ALARMS, SMOKE AND HE VENTILATED ON FAN, TO BE CONSTRUCTED TO DIRECT SW MUXY FROM DWELLING TO DIRECT SW MUXY AND HAVE A MAX SIZE THRESH OF 150mm
- ▬ GRADE DOWN TO GARAGE DOOR OPENING TO DIRECT ALL STORMWATER AWAY FROM BUILDING OPENING TO SW SYSTEM
- ▬ CONCRETE OR PAVED PATH/DRIVEWAY TO ALL ACCESS POINTS TO DWELLING TO ALL DRIVEWAYS, PATIOS & PATHS ARE TO BE CONSTRUCTED TO DIRECT SW MUXY FROM DWELLING TO DIRECT SW MUXY AND HAVE A MAX SIZE THRESH OF 150mm



AREA 113.11 M2 (12.18 SQ)

**FLOOR PLAN**  
SCALE: 1:100



**UNIT 1**

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**PROPOSED UNIT DEVELOPMENT**  
LOT 5, NO: 115,  
ROSE GOLD COURT  
PERTH

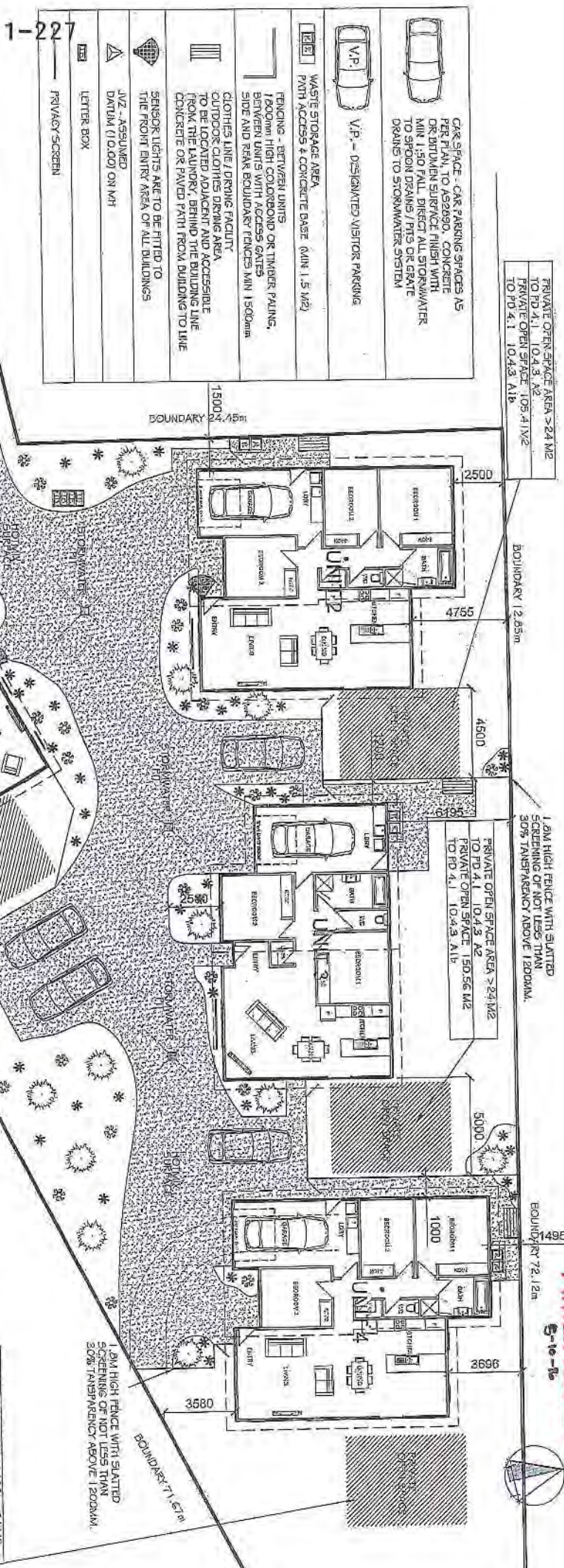
sheet: A.07 OF 49	ISSUE
date: JANUARY 2016	<b>PLANNING</b>
scale: 1:100 @ A3	PRINT DATE
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drawing no: 6168	AMENDMENT No.
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PRIVATE OPEN SPACE AREA > 24 M<sup>2</sup>  
 TO PD 4.1 10.4.3 A2  
 PRIVATE OPEN SPACE 105.41 M<sup>2</sup>  
 TO PD 4.1 10.4.3 A1B

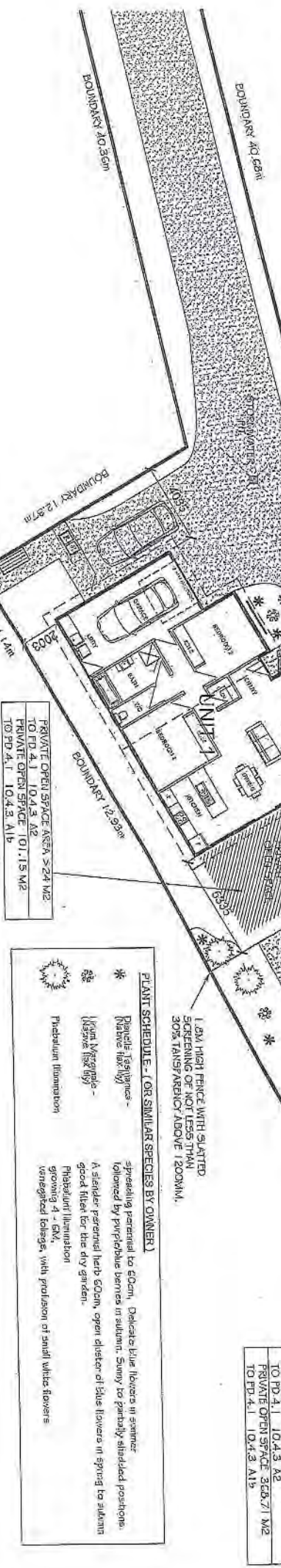
1.0M HIGH FENCE WITH SLATTED  
 SCREENING OF NOT LESS THAN  
 30% TRANSPARENCY ABOVE 1.200M.

PRIVATE OPEN SPACE AREA > 24 M<sup>2</sup>  
 TO PD 4.1 10.4.3 A2  
 PRIVATE OPEN SPACE 150.56 M<sup>2</sup>  
 TO PD 4.1 10.4.3 A1B

PRIVATE OPEN SPACE AREA > 24 M<sup>2</sup>  
 TO PD 4.1 10.4.3 A2  
 PRIVATE OPEN SPACE 308.71 M<sup>2</sup>  
 TO PD 4.1 10.4.3 A1B

- CAR SPACE - CAR PARKING SPACES AS PER PLAN, TO ASPHALT, CONCRETE OR BITUMEN SURFACE FINISH WITH MIN 1:30 FALL. BIKES ALL STORED WATER DRAINS TO STORMWATER STRAIN
- V.P. - DESIGNATED VISITOR PARKING
- WASTE STORAGE AREA PATH ACCESS & CONCRETE BASE (MIN 1.5 M<sup>2</sup>)
- FENCING - BETWEEN UNITS 1.800MM HIGH COULDRON OR THUNDER PILING, BETWEEN UNITS WITH ACCESS GATES SIDE AND RANK BOUNDARY FENCES MIN 1500MM
- CLOTHES LINE / DRYING FACILITY OUTDOOR CLOTHES DRYING AREA TO BE LOCATED ADJACENT AND ACCESSIBLE FROM THE LAUNDRY, BEHIND THE BUILDING LINE CONCRETE OR PAVED PATH FROM BUILDING TO LINE
- SENSOR LIGHTS ARE TO BE FITTED TO THE FRONT ENTRY AREA OF ALL BUILDINGS
- JUZ - ASSUMED DATUM (110.00) ON MH
- LETTER BOX
- PRIVACY SCREEN

1-227



PRIVATE OPEN SPACE AREA > 24 M<sup>2</sup>  
 TO PD 4.1 10.4.3 A2  
 PRIVATE OPEN SPACE 101.15 M<sup>2</sup>  
 TO PD 4.1 10.4.3 A1B

1.0M HIGH FENCE WITH SLATTED  
 SCREENING OF NOT LESS THAN  
 30% TRANSPARENCY ABOVE 1.200M.

**PLANT SCHEDULE - (OR SIMILAR SPECIES BY OWNER)**

- Platycodon grandiflorus** - Spreading perennial to 60cm. Delicate blue flowers in summer followed by purple/blue berries in autumn. Sunny to partially shaded positions. A slender perennial herb 60cm, open duster of blue flowers in spring to autumn good filler for the dry garden.
- Platycodon grandiflorus** - Spreading perennial to 60cm. Delicate blue flowers in summer followed by purple/blue berries in autumn. Sunny to partially shaded positions. A slender perennial herb 60cm, open duster of blue flowers in spring to autumn good filler for the dry garden.
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**PLANNING COMPLIANCE**

SCALE: 1:200

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**PROPOSED UNIT DEVELOPMENT**  
 LOT: 5, NO: 115,  
 ROSE GOLD COURT  
 PERTH

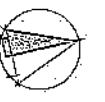
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 date: JANUARY 2016  
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<b>PLANNING</b>	6106
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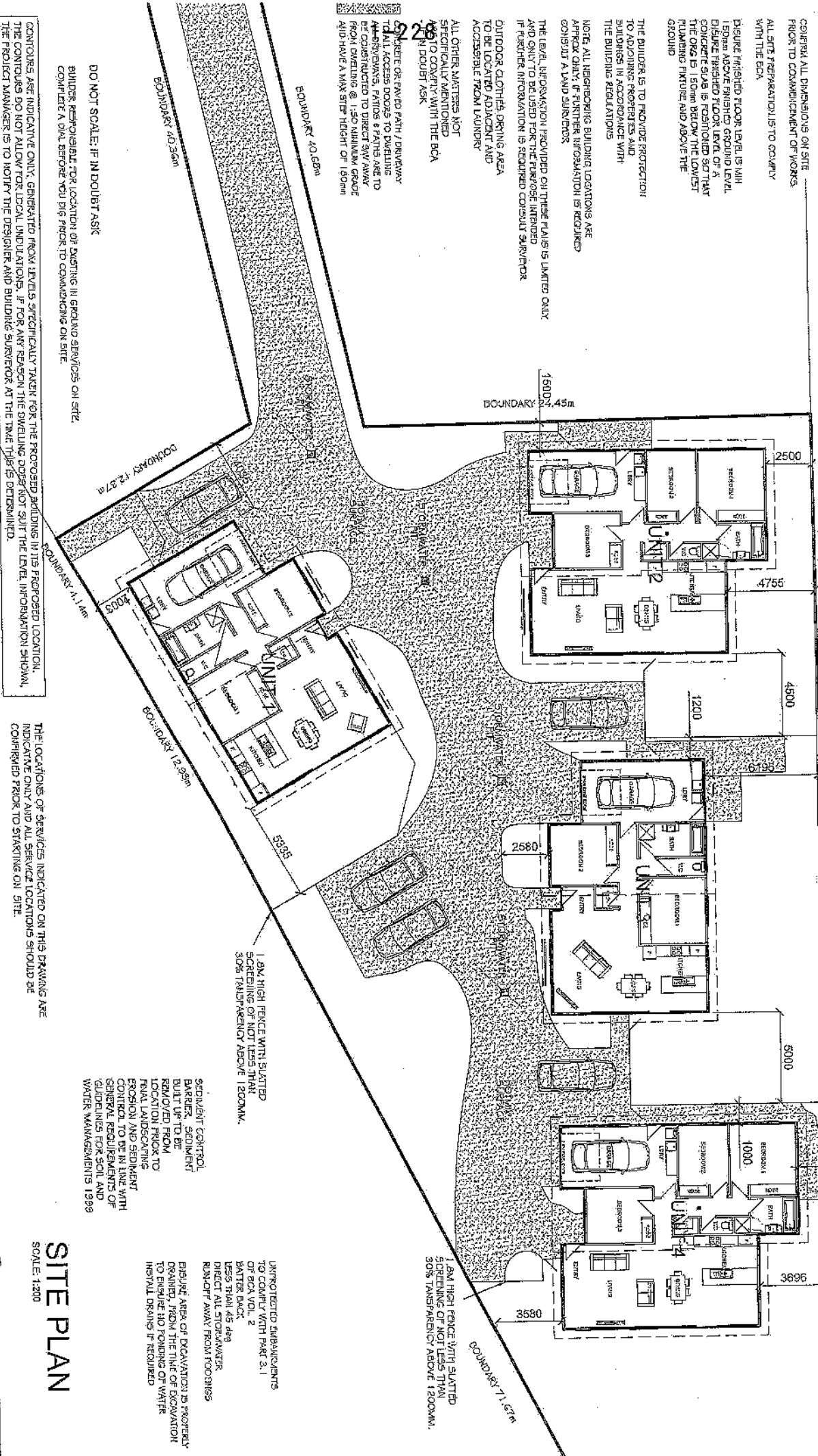
Jason Vain Zaiten Arch 081852x  
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**NOTES**  
 ALL SITE DIMENSIONS ARE TO OUTSIDE CLADDING UNLESS OTHERWISE NOTED  
 CONFORM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORKS  
 ALL SITE PREPARATION IS TO COMPLY WITH THE BCA  
 DISBURF FRIEDGED FLOOR LEVEL IS WITH 150mm ABOVE FINISHED GROUND LEVEL  
 DISBURF FINISHED FLOOR LEVEL OF A CONCRETE SLAB IS POSITIONED SO THAT THE OAC IS 150mm BELOW THE LOWEST PLUMBING FITTING AND ABOVE THE GROUND  
 THE BUILDING IS TO PROVIDE PROTECTION TO ADJOINING PROPERTIES AND BUILDINGS IN ACCORDANCE WITH THE BUILDING REGULATIONS  
 NOTE: ALL NEIGHBOURING BUILDING LOCATIONS ARE APPROX QUAY, IF FURTHER INFORMATION IS REQUIRED CONSULT A LAND SURVEYOR  
 THE LEVEL INFORMATION PROVIDED ON THESE PLANS IS LIMITED ONLY AND ONLY TO BE USED FOR THE PURPOSE INTENDED IF FURTHER INFORMATION IS REQUIRED CONSULT A LAND SURVEYOR  
 OUTDOOR CLOTHES DRYING AREA TO BE LOCATED ADJACENT AND ACCESSIBLE FROM LAUNDRY  
 ALL OTHER MASTERS NOT SPECIFICALLY MENTIONED ARE TO COMPLY WITH THE BCA  
 IN DOUBT ASK  
 CONCRETE OR PAVED PATH / DRIVEWAY TO ALLOW ACCESS DOORS TO DWELING  
 HANDRAILS, PATIOS & PATHS ARE TO BE CONTRIBUTED TO DIRECT S/W AWAY FROM DWELLING @ 1:50 MINIMUM GRADE AND HAVE A MAX S/W HEIGHT OF 150mm



**NOTES**  
 CONTOURS ARE INDICATIVE ONLY, GENERATED FROM LEVELS SPECIFICALLY TAKEN FOR THE PROPOSED BUILDING IN ITS PROPOSED LOCATION. THE CONTROLS DO NOT ALLOW FOR LOCAL UNDULATIONS. IF FOR ANY REASON THE DWELLING DOES NOT SUIT THE LEVEL INFORMATION SHOWN, THE PROJECT MANAGER IS TO NOTIFY THE DESIGNER AND BUILDING SURVEYOR AT THE TIME THIS IS DETERMINED.  
 DO NOT SCALE: IF IN DOUBT ASK  
 BUILDERS RESPONSIBLE FOR LOCATION OF EXISTING 33 GROUND SERVICES ON SITE. CONTACT A DIA BEFORE YOU DIG PRIOR TO COMMENCING ON SITE.

THE LOCATIONS OF SERVICES INDICATED ON THIS DRAWING ARE INDICATIVE ONLY AND ALL SERVICE LOCATIONS SHOULD BE CONFIRMED PRIOR TO STRIKING ON SITE.

1.8M HIGH FENCE WITH SLATED SCREENING OF NOT LESS THAN 30% TRANSPARENCY ABOVE 1200MM.  
 1.8M HIGH FENCE WITH SLATED SCREENING OF NOT LESS THAN 30% TRANSPARENCY ABOVE 1200MM.  
 1.8M HIGH FENCE WITH SLATED SCREENING OF NOT LESS THAN 30% TRANSPARENCY ABOVE 1200MM.  
 1.8M HIGH FENCE WITH SLATED SCREENING OF NOT LESS THAN 30% TRANSPARENCY ABOVE 1200MM.

SEDIMENT CONTROL BARRIER, SEDIMENT BUILT UP TO BE REMOVED FROM LOCATION PRIOR TO FINAL LANDSCAPING EROSION AND SEDIMENT CONTROL TO BE IN LINE WITH GENERAL REQUIREMENTS OF GUIDELINES FOR SOIL AND WATER MANAGEMENTS 1996  
 UNPROTECTED EMBANKMENTS TO COMPLY WITH PART 3.1 OF BCA VOL. 2  
 BATTER BACK  
 LESS THAN 45 DEG DIRECT ALL STORED WATER RUN-OFF AWAY FROM FOOTINGS  
 EXHAUST AREA OF EXCAVATION IS PROPERLY DRAINED, FROM THE TIME OF EXCAVATION TO ENSURE NO FLOWING OF WATER  
 INSTALL DRAINS IF REQUIRED

**SITE PLAN**  
 SCALE: 1:200

**PROPOSED UNIT DEVELOPMENT**  
 LOT: 5, NO: 115  
 ROSE GOLD COURT  
 PERTH

sheet	A.03	OF	49
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12 November 2014

6ty°  
 Tamar Suite 103, The Charles  
 287 Charles Street  
 Launceston 7250

421333-01  
 AJM/BWB

Attn: Ms Heidi Goess

Dear Madam,

RE: Fairtlough St, Perth, subdivision rail noise, ground vibration and air quality assessment

## 1. INTRODUCTION

Vipac was commissioned by 6ty° to undertake a noise, ground vibration and air quality assessment of a proposed residential subdivision at 105 Fairtlough St, Perth, in relation to an adjacent rail corridor. The proposed subdivision bounds northern side of TasRail's Western Line to the east of Fairtlough St and north of Arthur St. This follows a request from the Northern Midlands Council as follows:-

The acceptable solution of clause E4.7.1 A1 has not been met as the building envelopes on the majority of the proposed lot are within 50m the Western Line Railway. As part of compliance with the Performance Criteria, a report addressing clause E4.7.1 P1 (b) of the Road and Railway Assets Code is required.

### Performance Criteria states:

P1 Development including buildings, road works, earthworks, landscaping works and level crossings on or within 50m of a category 1 or 2 road, in an area subject to a speed limit of more than 60km/h, a railway or future road or railway must be sited, designed and landscaped to:

b) mitigate significant transport-related environmental impacts, including noise, air pollution and vibrations in accordance with a report from a suitably qualified person; and"

Vipac proposed the following to address Performance Criteria requirements outlined above:-

- Measure noise levels from rail pass-by events at the site of the proposed subdivision and assess against *NSW Office of Environment and Heritage (2012) Rail Infrastructure Noise Guideline (Draft for Consultation)* criteria. Provide recommendations for mitigation if required.
- Measure ground vibration levels from rail pass-by events at the site of the proposed subdivision and assess against *'NSW Department of Environment and Conservation (2006) Assessing Vibration: a technical guideline'* criteria. Provide recommendations for mitigation if required
- Predict potential air contaminant concentrations at the site from rail pass-by events and assess against *Tasmanian Environmental Protection Policy (EPP) Air 2004* criteria. Provide recommendations for mitigation if required.

Figure 1 presents an aerial view of the proposed subdivision (provided by 6ty°) with the approx. measurement location indicated in yellow.



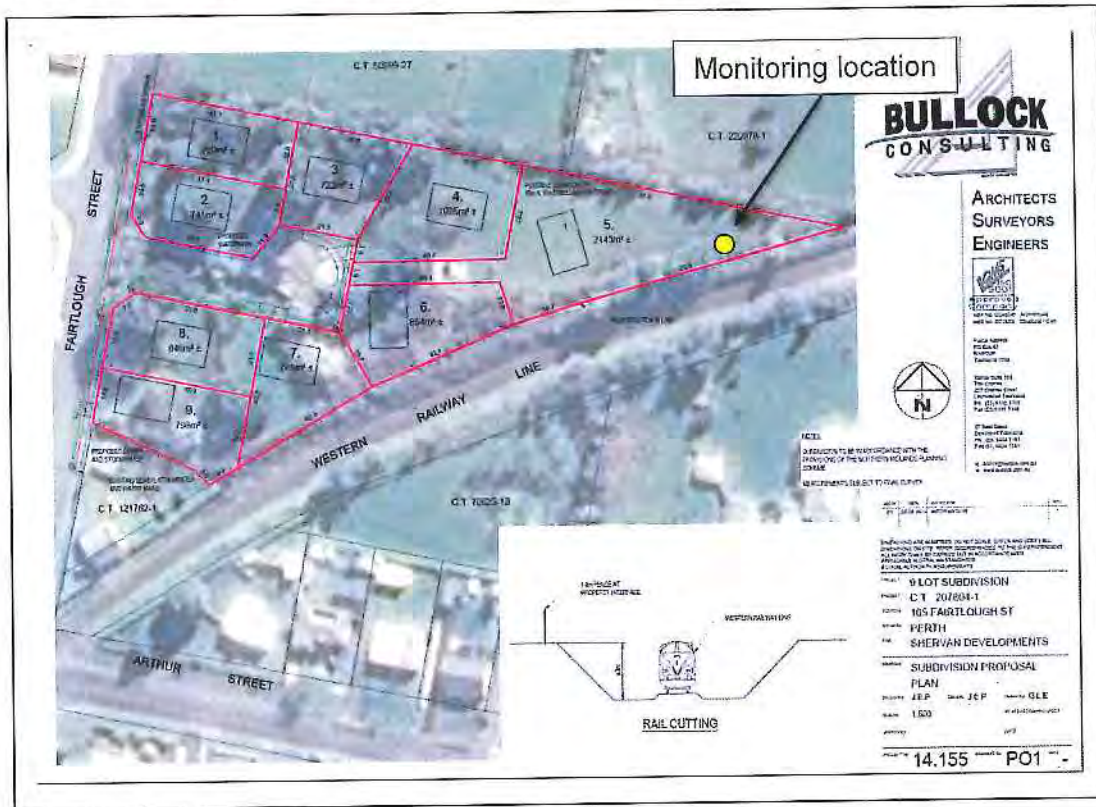


Figure 1 – Aerial view of the proposed Fairtlough St subdivision (Provided by 6ty°).

## 2. MEASUREMENT PROCEDURE

A logging sound level meter (SLM) and two ground vibration levels were located towards the eastern boundary of the Fairtlough St subdivision for a period of approximately one week (see figure 1 for approx. location). The meters were located at the following approx. distances from the rail corridor track centreline:-

- SLM: 14.2 m
- Ground vibration meter: 12.2 m and 22.1 m.

Figure 2 shows the sound level meter and ground vibration meter geophone locations on the eastern boundary of the subdivision. The following instrumentation was utilised:-

- Larson Davis 824 SLM measuring 1/3-octave band A-weighted Ln-statistics over a 15-minute period.
- Instanetl Minimate Plus ground vibration meter measuring peak particle velocity in mm/s.



Figure 2 – Sound level and ground vibration meters located towards eastern boundary.



### 3. NOISE ASSESSMENT

#### 3.1. Assessment criteria

For the assessment of the train pass-by noise measured guidance is taken from *NSW Office of Environment and Heritage (2013) Rail Infrastructure Noise Guideline*. Under this guideline the following trigger level applies for heavy rail noise:-

- 80 L<sub>Amax</sub> (New rail line development)

**NB:** L<sub>Aeq</sub> limits that apply under this guideline are not considered here due to the infrequent nature of train pass-bys on the Western Line.

**NB:** The above guideline states that L<sub>Amax</sub> trigger levels exclude safety warning devices such as warning horns and bells at level crossings and as train pass-by measurements for L<sub>Amax</sub> were controlled by train horn noise, L<sub>A1,15min</sub> measurements have been used for this review to represent maximum noise levels generated by locomotive noise.

#### 3.2. Measured levels

Figure 2 below provides a graph of measured L<sub>A1,15min</sub> levels with the 80 dBA trigger level marked in red.

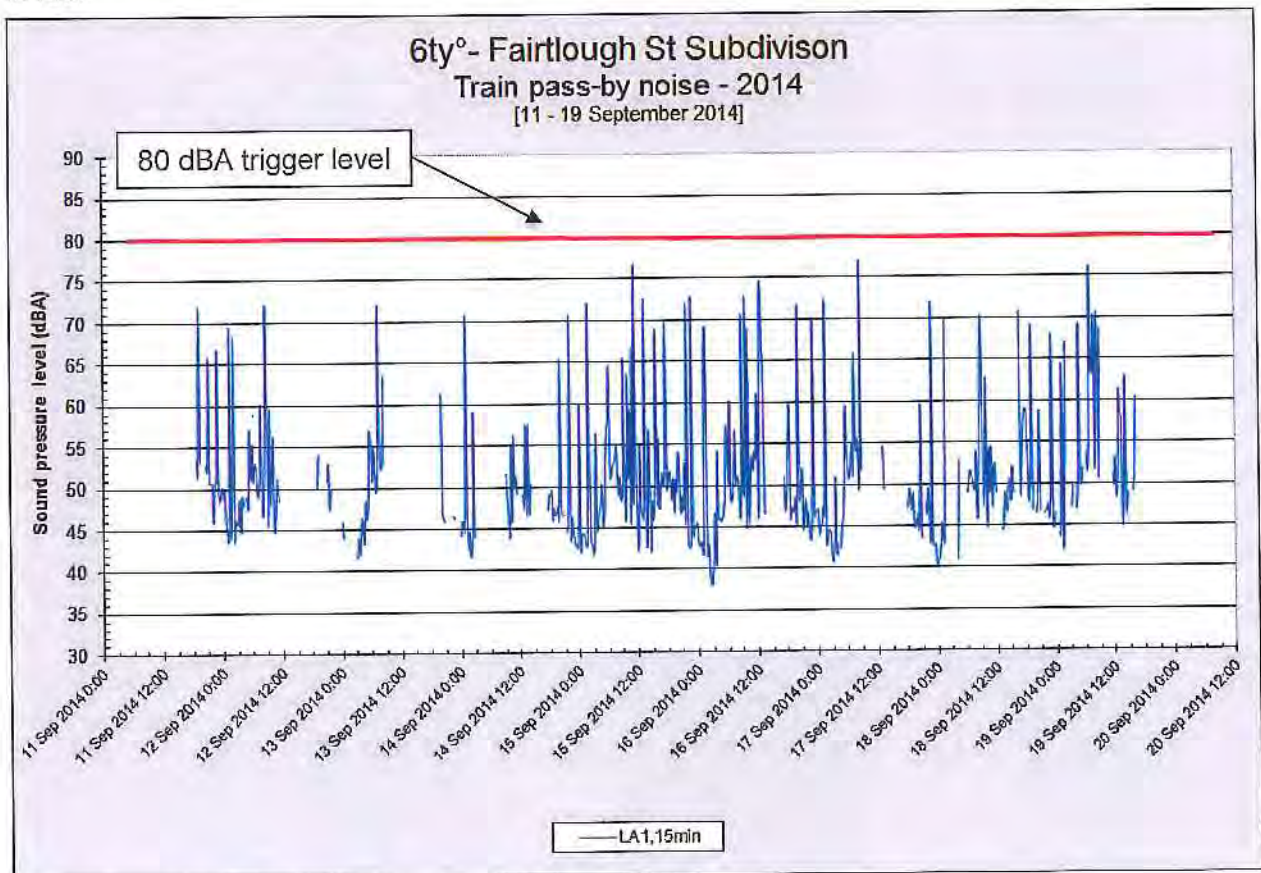


Figure 3 – Measured L<sub>A1,15min</sub> levels with trigger level indicated.

From the above we note the following:-

- The highest L<sub>A1,15min</sub> level measured was 77 dBA, below the assessment criteria.

**NB:** Horn blow noise is not assessed here against the trigger level outlined above. However, L<sub>Amax</sub> horn noise levels measured during this assessment were as high as 116 dBA.



### 3.3. Recommendations

The measured levels  $L_{A1,15min}$  levels were below 80 dBA and therefore an increased sound transmission loss beyond that of a standard building envelope is not required under the assessment criteria adopted here. Standard building envelopes typically have a transmission loss of 20 to 25 dBA (lightweight constructions such as fibre cement cladding or fully glazed facades typically have a lower performance than this). Vipac recommends that in the design of facade building elements for living and sleeping areas, in particular for buildings constructed on lots 5, 6, 7 and 9, the following constructions are considered to further reduce train pass-by noise intrusion:-

- **Walls:** Brick veneer wall of 110mm bricks, 90 X 45 mm studs and 10mm plasterboard with 75 mm fibreglass insulation.
- **Ceiling/roof:** Either of the following constructions:-
  - Concrete tiles and sarking foil over the rafters; 13mm plasterboard ceiling; R 4.0 fibreglass insulation over plasterboard.
  - Colorbond roof; 2 X 13mm plasterboard ceiling (lapped joints between layers); R 4.0 fibreglass insulation over plasterboard.

**NB:** To maintain the performance of the above construction lights should be surface mounted only, no down lights that penetrate the plasterboard ceiling.

- **Windows:** Glazed with 10.38 mm laminated glass (up to  $R_w$  37, value depends on window dimensions with larger panes having lower  $R_w$  values). Equivalent acoustic performance from a double glazed system would require 6 mm thick and 4 mm thick panes and a 15 mm air gap.

**NB:** The glazing must be in frames to suit the glazing weight and thickness with appropriate acoustic seals such that the glazing transmission loss performance is not compromised. The frames must also be well sealed to the brick wall to ensure there is no weak acoustic path between the frames and the wall.

- **Doors:** Solid core doors with appropriate acoustic seals to give the required acoustic performance. Glazed doors and sliding or by-fold patio doors would require specialist acoustic consideration.

**NB:** The above recommendations are only general and performance may vary. The relative surface area of each element is an important factor in determining the overall sound transmission loss performance of a building facade and this can only be done with a specific building design.

## 4. GROUND VIBRATION ASSESSMENT

### 4.1. Assessment criteria

Under the *NSW Office of Environment and Heritage (2013) Rail Infrastructure Noise Guideline* for the assessment of vibration generated by train movements assessors are redirected to the *NSW Department of Environment and Conservation (2006) Assessing Vibration: a technical guideline* and advised to consider rail generated vibration as intermittent.

Under *Assessing Vibration: a technical guideline* exposure criteria apply for impulsive vibration at a residence at night as follows:-

- Preferred: 2.8 mm/s (peak velocity)
- Maximum: 5.6 mm/s (peak velocity)

### 4.2. Measured levels

Figures 4 and 5 below present longitudinal peak particle velocity levels measured by geophones 1 and 2 respectively. The preferred and maximum trigger levels are marked in blue and red respectively on each graph.

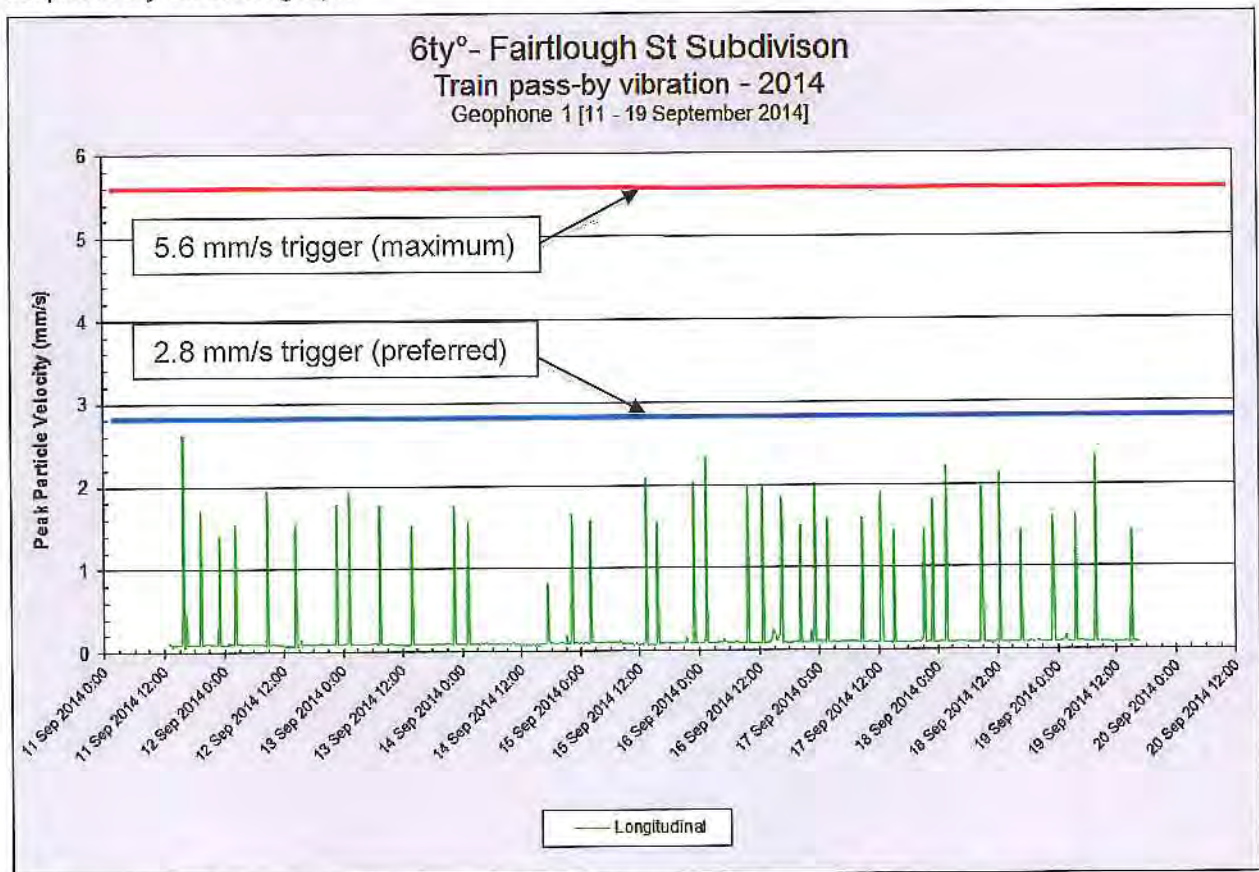


Figure 4 – Geophone 1 measured longitudinal PPV levels with guideline trigger levels.



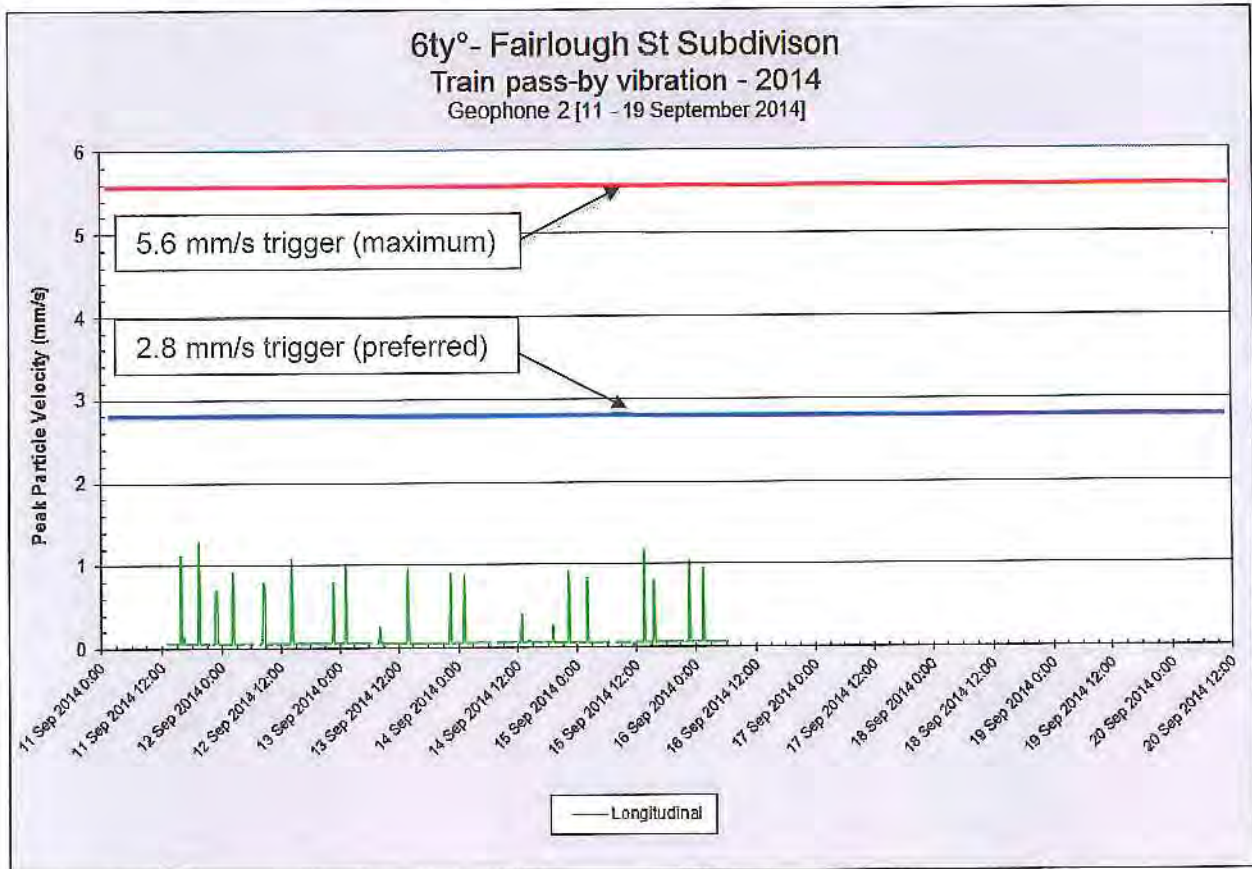


Figure 5 – Geophone 2 measured longitudinal PPV levels with guideline trigger levels.

From the above we note the following:-

- The highest vibration level measured at the site on train pass-by was 2.6 mm/s (peak velocity, longitude direction).
- The average longitudinal attenuation between the two geophone locations was 0.8 mm/s with a standard deviation of 0.3 mm/s.

#### 4.3. Recommendations

The measured ground vibration levels are within the criteria outlined above and therefore no recommendations are given here. At the levels measured vibration may be perceptible but highly unlikely to result in adverse health effects or structural damage to buildings.

## 5. AIR QUALITY ASSESSMENT

Air quality prediction was conducted using AusRoads a Gaussian plume line-source model developed by the Victorian EPA. Contaminants of concern from the combustion of diesel fuel by diesel electric locomotives on the western line were considered in this assessment.

**NB:** Coal dust emissions from rail transport of materials was not predicted in this assessment. No more than one coal train is likely on a given day and previous investigations in other jurisdictions have shown emission of dust from coal trains to be of minimal impact (see *QLD Dept of Science, Information Technology, Innovation and Arts: Tennyson Dust Monitoring Investigation, September 2012 to October 2012*).

### 5.1. Assessment criteria

Contaminants of concern were determined from the Federal Governments *National Pollution Inventory (NPI) - Emissions Estimation Technique Manual for Aggregated Emissions from Railways (EETMAER)*. Criteria for each contaminant were then determined from the *Tasmanian EPP (Air Quality) 2004* (where criteria were not available in the Tasmanian EPP then criteria were determined from the *Victorian State Environment Protection Policy-Air Quality Management [SEPP-AQM] 2001*).

Table 1 provides criteria for the major contaminants listed in the NPI-EETMAER.

Air quality criteria			
Contaminant	Tas EPP Criteria	Averaging time	Comments
Nitrogen dioxide (NO <sub>2</sub> )	0.16 ppm	1-hour	
Sulphur dioxide (SO <sub>2</sub> )	0.2 ppm	1-hour	
Carbon monoxide (CO)	9 ppm	8-hours	
Particulate matter (PM10)	0.15 mg/m <sup>3</sup>	24-hours	
Benzene	0.033 ppm	3-minutes	
Polycyclic Aromatic Hydrocarbons (PAHs)	0.5 µg/m <sup>3</sup>	1-hour	From Vic SEPP-AQM 2001

Table 1 – Air quality criteria.

### 5.2. Predicted concentrations

The model settings were as follows in table 1 below.

Model parameter settings			
Parameter	Setting	Parameter	Setting
<i>Anemometer height</i>	10 m	<i>Horizontal dispersion</i>	Pasquill Gifford
<i>Met. site roughness height</i>	0.3 m	<i>Wind Exponent</i>	Irwin Rural
<i>Sigma theta av. period</i>	60-mins	<i>Land use surface roughness</i>	Flat rural

Table 1 – model parameter settings.

Figure 6 below presents an aerial view of the proposed subdivision with the track length modelled for air emission dispersion marked.





Figure 6 – Aerial view of the proposed subdivision with the track length modelled for air emission dispersion marked.

Weather data (Ausplume Metfile) for the model was predicted using a The Air Pollution Model (TAPM), developed by the CSIRO, with the run centred on the proposed subdivision for 2013. (Vipac can provide this file upon request).

Emission rates for locomotives operating on the Western Line were determined from fuel usage data for the new TasRail TR locomotives (data supplied by TasRail) and emission factors provided in the NPI-EETMAER. Fuel usage data for other locomotive models operating on the Western Line was not made available to Vipac.

The following assumptions were made with regard to locomotive operations along the modelled track length:-

- Three locomotives operating per train.
- All locomotives operating at notch 4.
- Train speed along the track length 35 km/h.
- Max no. trains per hour 1.

Two scenarios were modelled for the prediction of contaminant concentration over a year depending on the averaging time required under the assessment criteria:-

1. **1-hr and 3-min averaging:** 1 locomotive every hour.
2. **8-hr and 24-hr averaging:** 1 locomotive at each of the following times; 10 am, 2 pm; 10 pm and 2 am.

Train scheduling information for the Western Line was not provided to Vipac.

Figure 7 provides an aerial view of the proposed subdivision with receptor locations at which ground level concentrations (glc) of contaminants were predicted for the above scenarios.



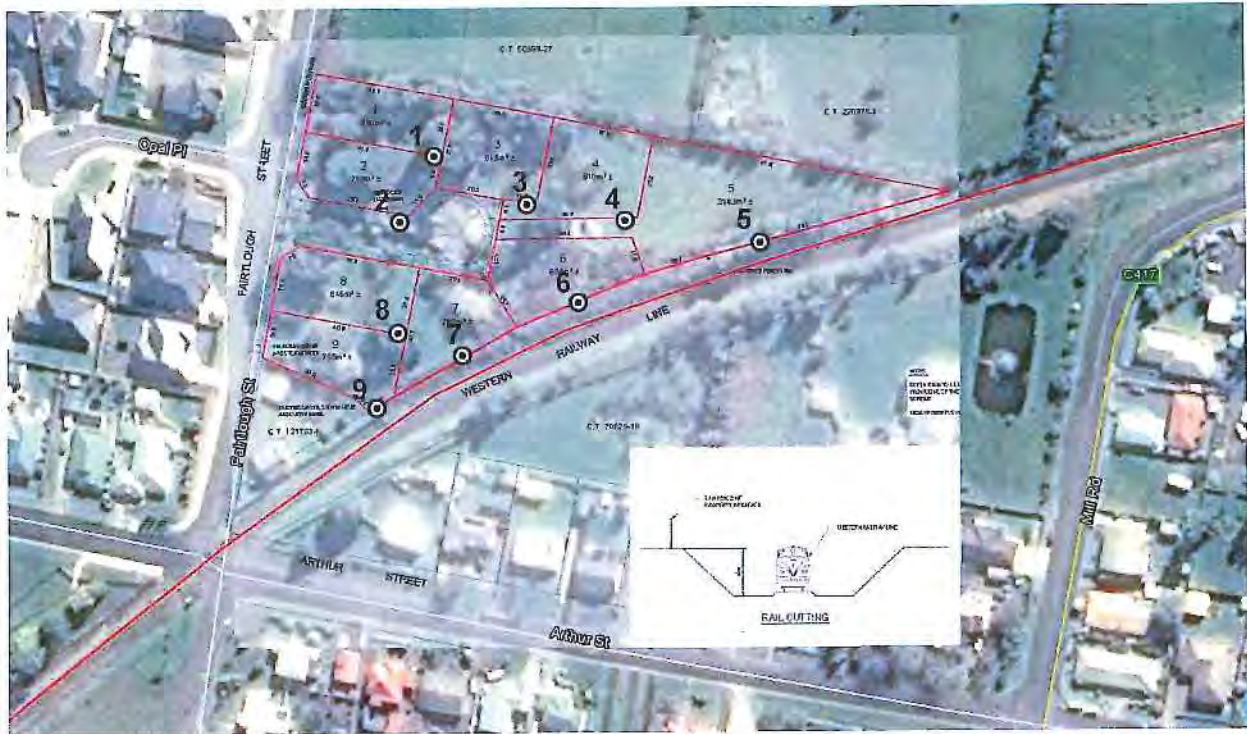


Figure 7 – Aerial view of the proposed subdivision with receptor locations for the prediction of glc's.

Table 2 below provides 100<sup>th</sup> percentile glc's for the major contaminant of concern for each of the receptor locations shown in figure 7.

Air quality prediction results						
Receptor	NO <sub>2</sub> * (1-hr av, ppm)	SO <sub>2</sub> (1-hr av, ppm)	CO (8-hr av, ppm)	PM10 (24-hr av, mg/m <sup>3</sup> )	Benzene (3-min av, ppm)	PAH's (1-hr av, µg/m <sup>3</sup> )
1	0.003	0.001	0.001	0.0001	0.00003	0.021
2	0.004	0.001	0.001	0.0001	0.00003	0.026
3	0.005	0.002	0.001	0.0002	0.00004	0.035
4	0.008	0.003	0.002	0.0002	0.00007	0.055
5	0.017	0.005	0.005	0.0006	0.00013	0.109
6	0.016	0.005	0.005	0.0005	0.00013	0.107
7	0.017	0.005	0.004	0.0005	0.00014	0.111
8	0.008	0.002	0.002	0.0002	0.00006	0.049
9	0.017	0.005	0.004	0.0004	0.00014	0.114

\* NO<sub>2</sub> assumed to be 10% of NO<sub>x</sub>

Table 2 – 100<sup>th</sup> percentile glc's for the major contaminant of concern at each receptor.

From the above we note the following:-

- All glc's are below the assessment criteria.

**NB:** This was also seen for the remaining contaminants listed in the NPI-EETMAER where assessment criteria were available for a contaminant.

### 5.3. Recommendations

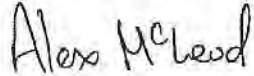
The predicted glc's presented above are well below the assessment criteria and therefore no mitigation recommendations are given here.

6ty° – Fairtlough St subdivision rail noise, ground vibration and air quality assessment.

I hope this information meets your immediate requirements.

Please contact me directly if you have any questions concerning this work.

Yours faithfully,  
VIPAC ENGINEERS & SCIENTISTS LTD



Dr. Alex McLeod  
Senior Consultant – Tasmania  
p. +61 3 6343 2077  
m. +61(0)439 357 297  
f. +61 3 6343 4849  
email: [alex.mcleod@tarkarri.com](mailto:alex.mcleod@tarkarri.com)



PO BOX 7647 Launceston

Phone 6334 4089 | Email [admin@urbantas.com.au](mailto:admin@urbantas.com.au)

[www.urbantas.com.au](http://www.urbantas.com.au)

VZ Designs Pty Ltd ABN 50110377421

13/07/2016

**ATTENTION: Planning Department Midlands Council**

Dear Planning,

Please find attached proposal plans for a four unit development Lot 5 Rose Gold Court PERTH

At this stage we believe there are two discretionary factors associated with our proposal;

**1). The proposal is within 50 metres of a train line.**

*In reference to the rail and asset code, we have referred to recommendations outlined in the Sixty Degrees/VIPAC report associated with the subdivision approval.*

*The proposed units will have fully insulated ceilings and walls and double glazing throughout ensuring minimal noise is transferred through from rail noise.*

*Whilst our proposal does not fully comply with the report, this point is discretionary and we believe the proposal attached will not have any detrimental effect on its occupants*

**2). Front setback for internal lots**

*Unit 1 steps into the setback however there is no loss of amenity or overshadowing on neighbours property*

Please contact us on [admin@urbantas.com.au](mailto:admin@urbantas.com.au) if you require anything further,

A handwritten signature in black ink, appearing to be 'J. Van Zetten', written over a faint horizontal line.

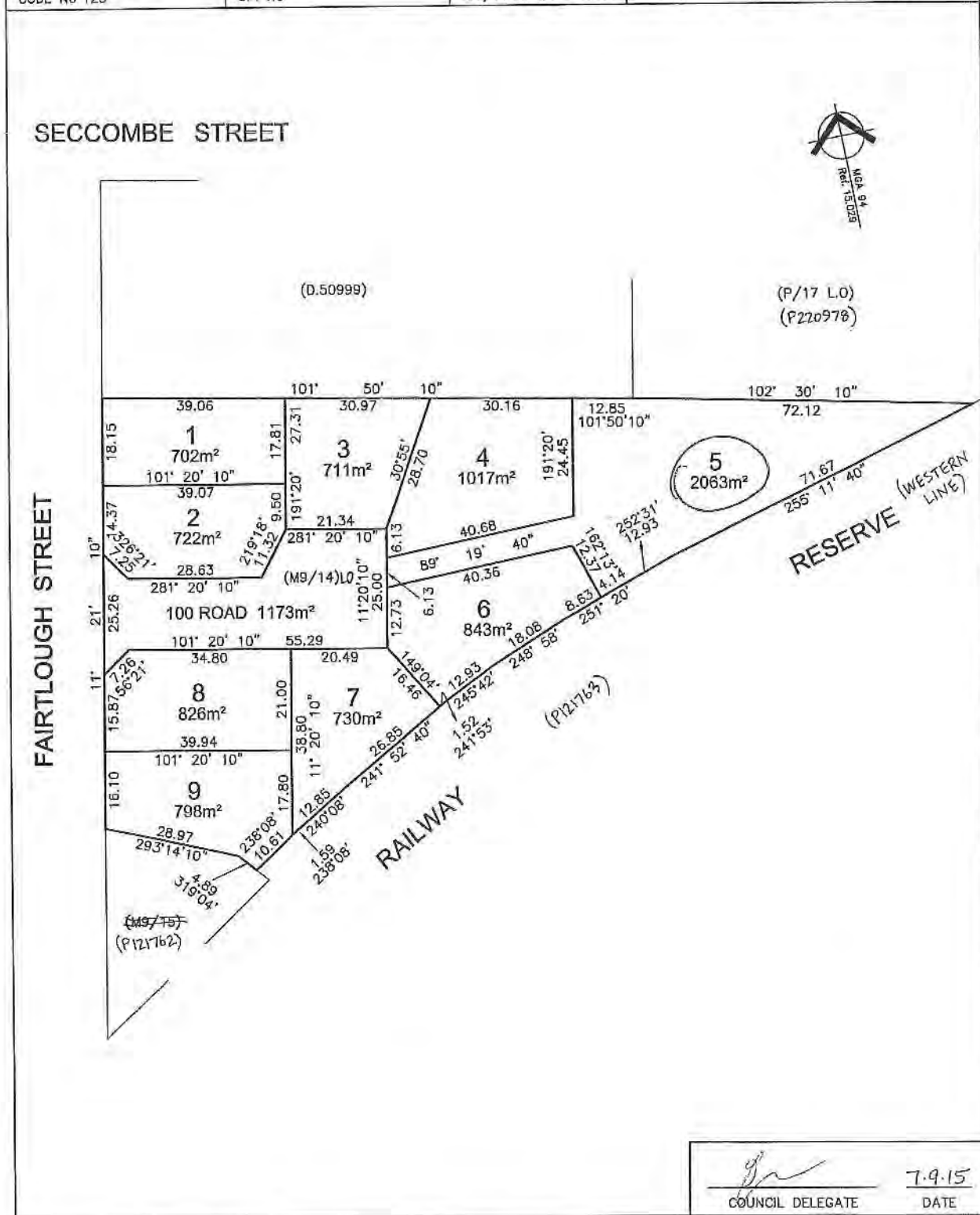
**JASON VAN ZETTEN**

RBP No. CC1952X

EXHIBIT



OWNER SHERVAN DEVELOPMENTS PTY LTD FOLIO REFERENCE C.T. 207804/1 WHOLE OF GRANTEE 2 <sup>A</sup> 01 <sup>R</sup> 16 <sup>P</sup> GRANTED TO C.G. LLOYD.		NEW PLAN OF SURVEY BY SURVEYOR R.M. PECK LOCATION TOWN OF PERTH SECTION L.1. Scale 1:750 LENGTHS IN METRES		Registered Number <b>SP.169991</b> APPROVED EFFECTIVE FROM - 9 SEP 2015 <i>Alice Kavanagh</i> Recorder of Titles
MAPSHEET MUNICIPAL CODE No 123	LAST UPI No	LAST PLAN No. M9/14 & SP. 121762	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN	



*[Signature]* 7.9.15  
 COUNCIL DELEGATE DATE

PLANNING APPLICATION  
Proposal

Description of proposal: .....

Unit Development

(attach additional sheets if necessary)

Site address: Lot 5, 115 Rose Gold Court

Perth

CT no: 169991/5

Estimated cost of project

\$ 550,000

(include cost of landscaping,  
car parks etc for commercial/industrial uses)

Are there any existing buildings on this property? Yes /  No

If yes - main building is used as .....

If variation to Planning Scheme provisions requested, justification to be provided:

See Letter Attached

(attach additional sheets if necessary)

Is any signage required? NO

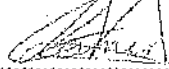
(if yes, provide details)



# PLANNING APPLICATION

## Applicant / owner details

Applicant: URBAN DESIGN SOLUTIONS

Signature of Applicant: 

### Applicant's Details:

Postal address: PO BOX 7647  
LAUNCESTON

Phone: 63344089 Mobile: .....

E-mail: admin@urban-las.com.au

Name of Owner/s of subject site: Sherron Developments Pty Ltd  
(as per certificate of title)

(If the subject site is Crown land, owned by the Council or administered by the Council or the Crown, the application must be signed by either the responsible Minister of the Crown (or the Minister's delegate) or by the General Manager of the Council, and must be accompanied by written permission of that Minister or general manger to the making of the application.)

Owner's postal address: Senator Court 2, Newham 7248


Owner's email address: jason@sherriffcivil.com.au

*As the owner of the land, I consent to the application being submitted,*

Signed: .....

OR

*As the applicant, I declare that I have notified the owner of the application*

Signed: 

### Right of Way:

If the subject site is accessed via a right of way, the owner of the ROW must also be notified of the application.

Name of Owner/s of ROW: .....

ROW Owner's Postal Address: .....

*As the applicant, I have notified the owner of the ROW of the application*

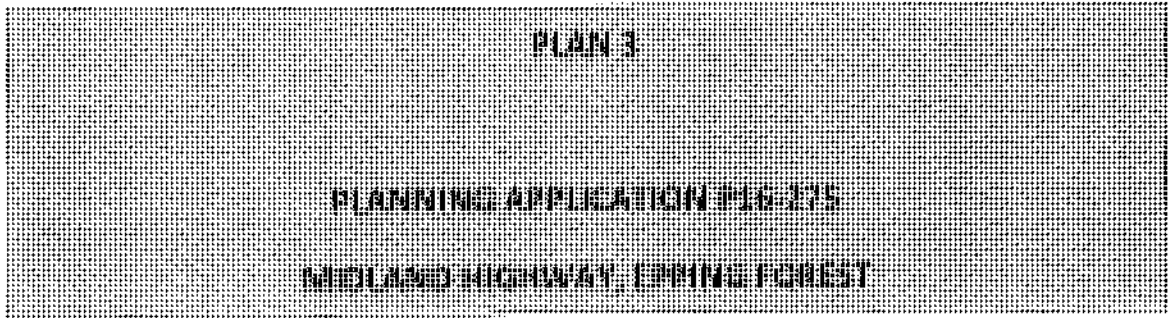
Signed: .....

(attach extra page if required)

### Office use only:

Paid \$ 2,348 Date: 6.9.16 Receipt No: 310624 (Code 01)

Ref: P1 6 / 165 Discretionary / Permitted / No Permit Required (eng + plan)



**ATTACHMENTS**

- A Application & plans
- B Responses from referral agencies (incl. THC)
- C Representation & applicant's response

# ATTACHMENT A

## PLANNING APPLICATION Proposal

Description of proposal: .....

Midland Highway Safety Upgrade - Epping  
Forest to Powranna

[see attached report]

(attach additional sheets if necessary)

Site address: Midland Highway - Epping Forest to Powranna  
& adjacent properties

CT no: (see attached report)

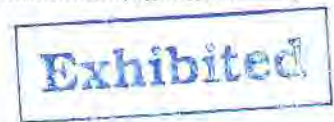
Estimated cost of project \$21,000,000 (include cost of landscaping,  
car parks etc for commercial/industrial uses)

Are there any existing buildings on this property? Yes / No  
if yes - main building is used as .....

If variation to Planning Scheme provisions requested, justification to be provided:

N/A

(attach additional sheets if necessary)



Is any signage required? N/A (if yes, provide details)

## Department of State Growth

STATE ROADS DIVISION

Enquiries Kathryn Fry

Ph 6166 3382 Fax

Email Kathryn.Fry@stategrowth.tas.gov.au Web www.stategrowth.tas.gov.au

Your Ref Our Ref



Tasmania

Mr Des Jennings  
 General Manager  
 Northern Midlands Council  
 13 Smith Street  
 Longford TAS 7301

Dear Des

**MIDLAND HIGHWAY SAFETY UPGRADES – EPPING FOREST TO POWRANNA  
 CONSENT TO THE MAKING OF A DEVELOPMENT APPLICATION PURSUANT TO SECTION  
 52(1B) OF THE LAND USE PLANNING AND APPROVALS ACT 1993**

Pursuant to Section 52(1B) of the *Land Use Planning and Approvals Act 1993*, I hereby give permission to the making of a development application affecting land that forms part of the road reservation of the Midland Highway - Epping Forest to Powranna that is held under authority or ownership of the Department of State Growth.

I am authorised to provide such consent under delegation of the Minister for Infrastructure.

The development site comprises an 11 kilometre section of the Midland Highway from Barton Road at Epping Forest to Powranna Road (Link 80 Chainage 0.00 – 11.19). The objective of the project is to improve safety on the Highway and achieve a minimum 3 Stars AusRAP rating by providing a 2 + 1 and a 1 + 1 lane arrangement combined with widened sealed shoulders. The road cross section is consistent with the cross section being applied to all Midland Highway Upgrade Program projects comprising:

- 3.5m wide lanes;
- 2.1m wide centre median with flexible safety barrier;
- 2.0m wide shoulders;
- 0.5m wide verges; and
- Turning facilities.

Yours sincerely

Shane Gregory

GENERAL MANAGER STATE ROADS

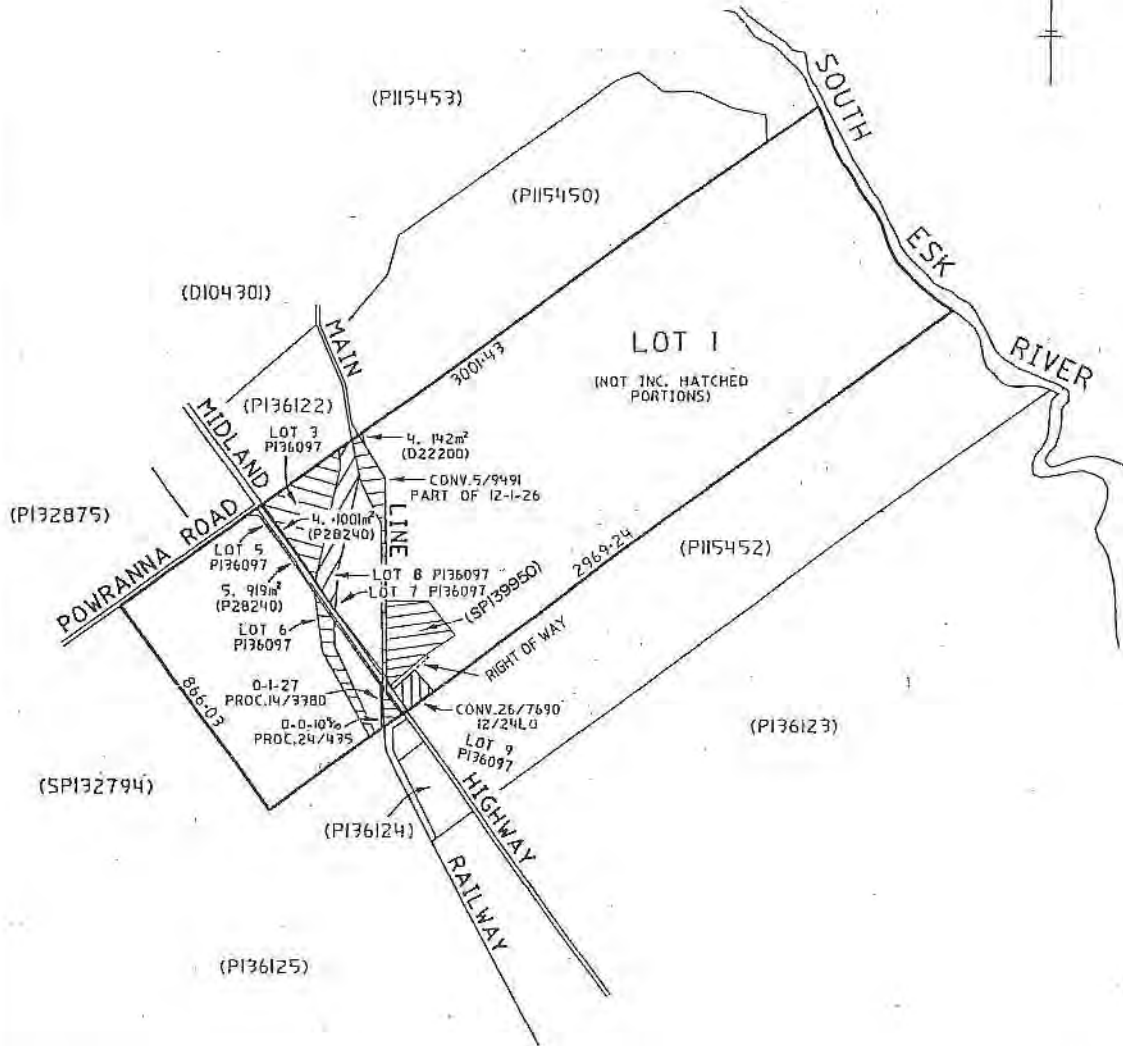
5 September 2016



<b>OWNER</b>  FOLIO REFERENCE C.T. 197815-1  <b>GRANTEE</b> PART OF (634-0-0), GRANTED TO WILLIAM GIBSON	<b>PLAN OF TITLE</b>  LOCATION SOMERSET - ESKDALE  CONVERTED BY PLAN No. P115452 COMPILED BY LDRB  NOT TO SCALE                      LENGTHS IN METRES		REGISTERED NUMBER <b>P 140271</b>
			APPROVED <b>26 NOV 2003</b> <i>Alice Kawa</i> Recorder of Titles
MAPSHEET MUNICIPAL CODE No. 123 (5238)	LAST UPI No 4700290	LAST PLAN No. P136127	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

SKETCH BY WAY OF ILLUSTRATION ONLY

**"EXCEPTED LANDS"**  
 PART OF (12-1-26) CONV.5/9491  
 LOT 4 142m<sup>2</sup> D22200  
 CONV.26/7690 12/24LO  
 LOT 4 & 5, 1001m<sup>2</sup> & 919m<sup>2</sup> P28240  
 LOT 3 6.007ha P136097  
 LOT 5 3813m<sup>2</sup> P136097  
 LOT 6 1.819ha P136097  
 LOT 7 3382m<sup>2</sup> P136097  
 LOT 8 2.979ha P136097  
 LOT 9 284m<sup>2</sup> P136097  
 LOT 1 4.614ha SP139950



DJB

Exhibited



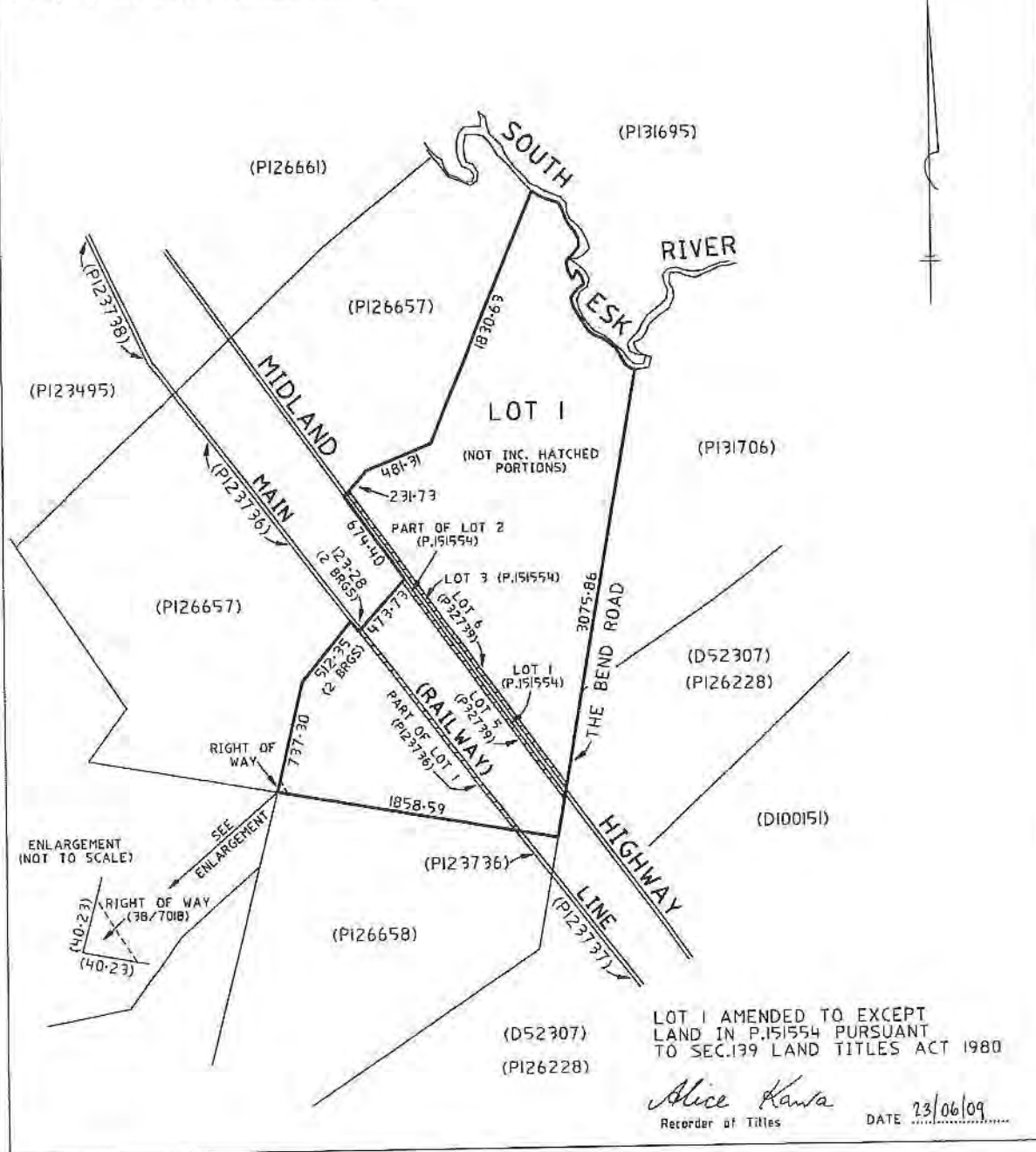
FILE NUMBER A.18240	<b>CONVERSION PLAN</b>	Registered Number <b>P.138371</b>
GRANTEE	LOCATION SOMERSET - EPPING	APPROVED 17 OCT 2002 <i>Alice Kawa</i> Recorder of Titles
PART OF (500-0-0), GRANTED TO EDWARD WEDGE	CONVERTED FROM CONV 57/8848	
	NOT TO SCALE	LENGTHS IN METRES

MAPSHEET MUNICIPAL CODE No. 123 (5237,5238)	LAST UPI No. 4700261	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN	DRAWN DJB
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SKETCH BY WAY OF ILLUSTRATION ONLY

**"EXCEPTED LANDS"**

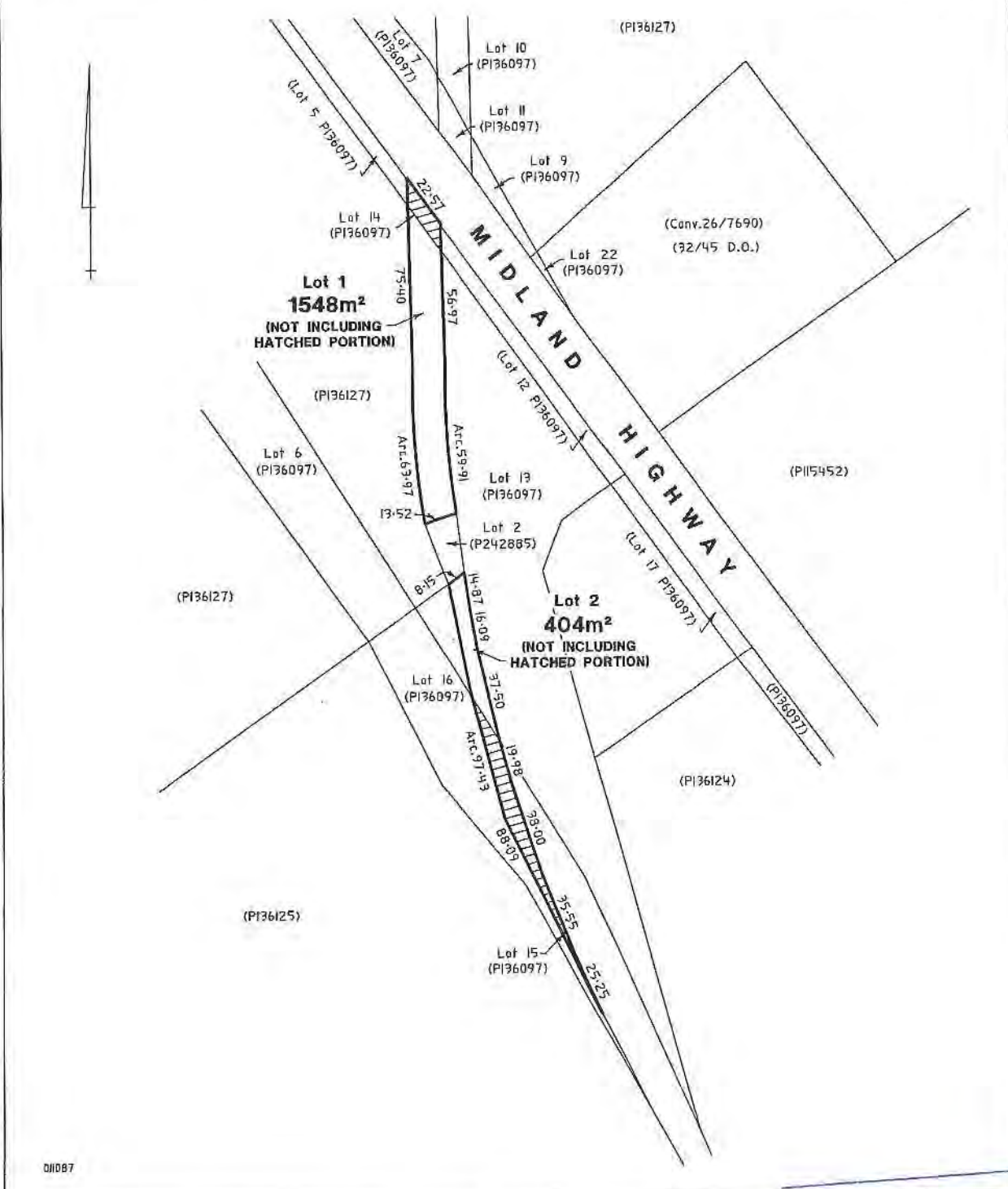
- LOT 5 (P32739) 1.612ha
- LOT 6 (P32739) 2.005ha
- LOTS 1, 3 & PART OF LOT 2 (P.151554) 41/5364 the Crown



**Exhibited**

OWNER:	<b>PLAN OF TITLE</b>	Registered Number
FOLIO REFERENCE: C.T.242885/1 & 242885/3		<b>LAND DISTRICT OF SOMERSET</b>
GRANTEE: Part of 634-0-0 Granted to William Gibson and part of 2205-0-0 Granted to William Wood: Part of Lots 34690 (O.A. 1R. 27P) and 34692 (O.A. OR. 36%) gtd to The Transport Commission.	<b>PARISH OF ESKDALE</b>	APPROVED EFFECTIVE FROM - 6 DEC 2001
	FIRST SURVEY PLAN No. P242885	<i>Alice Kawa</i> Recorder of Titles
	COMPILED BY OFFICE OF THE SURVEYOR-GENERAL	
	SCALE 1:1500 LENGTHS IN METRES	
MAPSHEET MUNICIPAL CODE No 123 (5238)	LAST UPI No FGX50 & FGX53	LAST PLAN No P242885
ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN		

**BALANCE PLAN**



01087

Exhibited



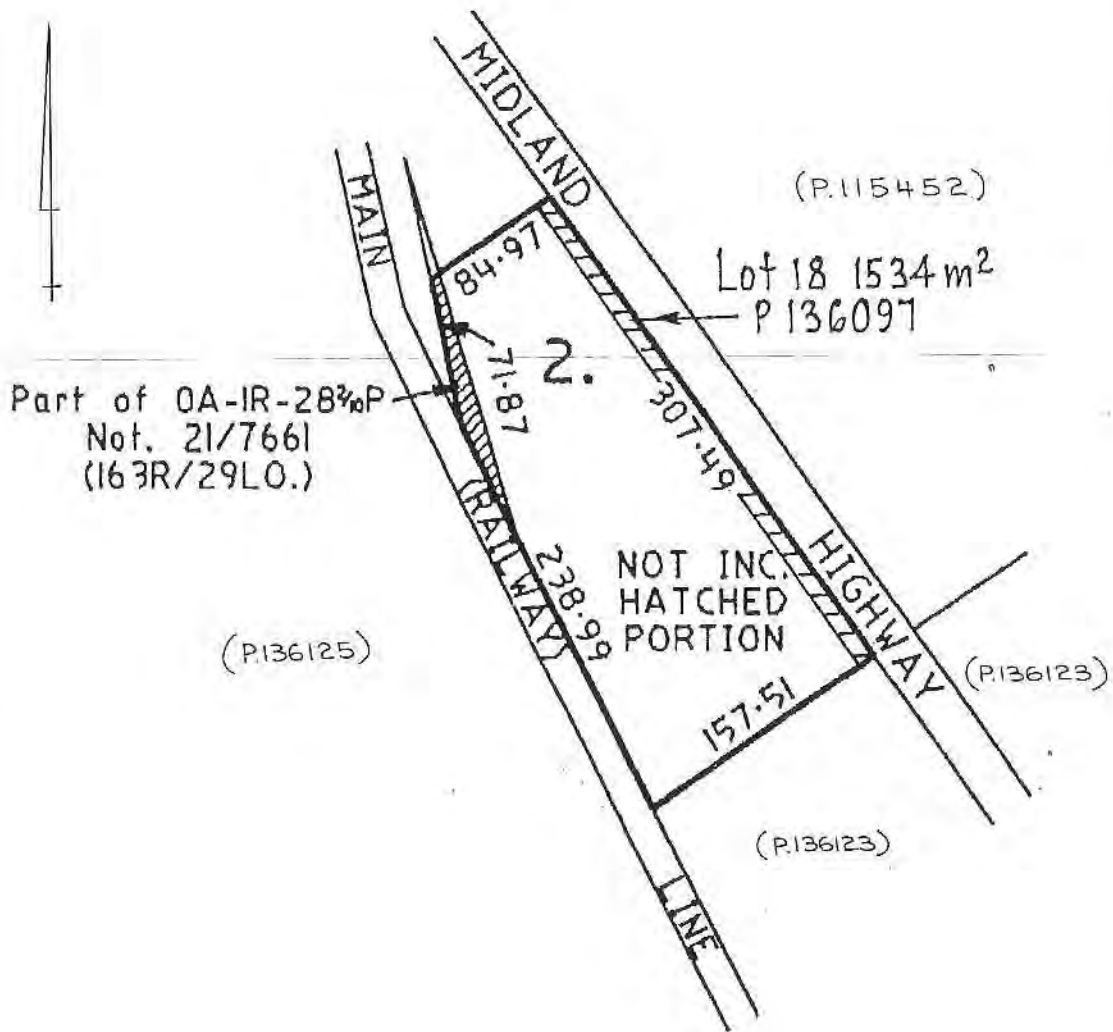
OWNER:		<b>PLAN OF TITLE</b>	REGISTERED NUMBER
FOLIO REFERENCE: C.T.123495/2			<b>P136124</b>
GRANTEE: Part of 4000.0.0, Lot 177 1440.0.0 and 2205.0.0 Granted to William Wood and part of 2000.0.0 Located to Alexander Kenn		LOCATION <b>LAND DISTRICT OF SOMERSET PARISH OF ESKDALE</b>	APPROVED EFFECTIVE FROM 6 DEC 2001 <i>Alice Kawa</i> Recorder of Titles
		FIRST SURVEY PLAN No. P.123495	
		COMPILED BY OFFICE OF THE SURVEYOR-GENERAL	
		SCALE 1:Not to scale LENGTHS IN METRES	
MAPSHEET MUNICIPAL CODE No 123 (5238)	LAST LPI No 4700292	LAST PLAN No P123495	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

**SKETCH BY WAY OF ILLUSTRATION ONLY**

**BALANCE PLAN**

"EXCEPTED LANDS"

Lot 18 1534m<sup>2</sup> P136097



**Exhibited**



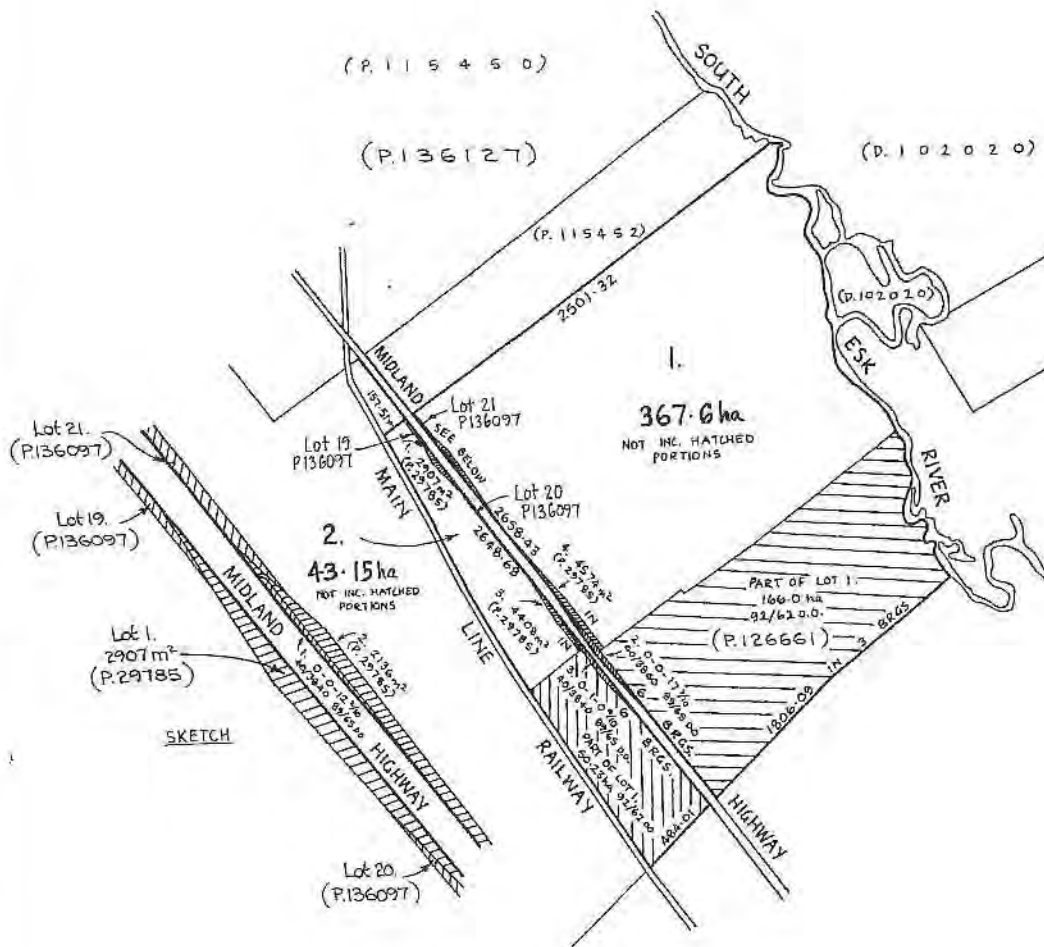
OWNER:  FOLIO REFERENCE: C.T.115451/1 & 115451/2  GRANTEE: Part of 2205.0.0 Granted to William Wood, & Part of 2000.0.0 Granted to Alexander Kenn.	<b>PLAN OF TITLE</b>		REGISTERED NUMBER <b>P136123</b>
	LOCATION <b>LAND DISTRICT OF SOMERSET PARISH OF ESKDALE</b>		APPROVED EFFECTIVE FROM - 6 DEC 2001 <i>Alice Kawa</i> Recorder of Titles
FIRST SURVEY PLAN No. P.115451 COMPILED BY OFFICE OF THE SURVEYOR-GENERAL SCALE 1:Not to scale LENGTHS IN METRES		LAST UPI No 4700293 & 4700294	LAST PLAN No P115451
MAPSHEET MUNICIPAL CODE No 123 (5238)	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN		

**SKETCH BY WAY OF ILLUSTRATION ONLY**

**BALANCE PLAN**

"EXCEPTED LANDS"

Lots 1, 2, 3, 0.0.12<sup>8</sup>, 0.0.17<sup>7</sup> and 0.1.0<sup>8</sup> 89/65 D.O.  
Lots 1, 2, 3 & 4 2907m<sup>2</sup>, 2176m<sup>2</sup>, 4408m<sup>2</sup>, &  
4574m<sup>2</sup> P29785  
Lots 19, 20 & 21 537m<sup>2</sup>, 1276m<sup>2</sup> and 1022m<sup>2</sup> P136097



011090

**Exhibited**

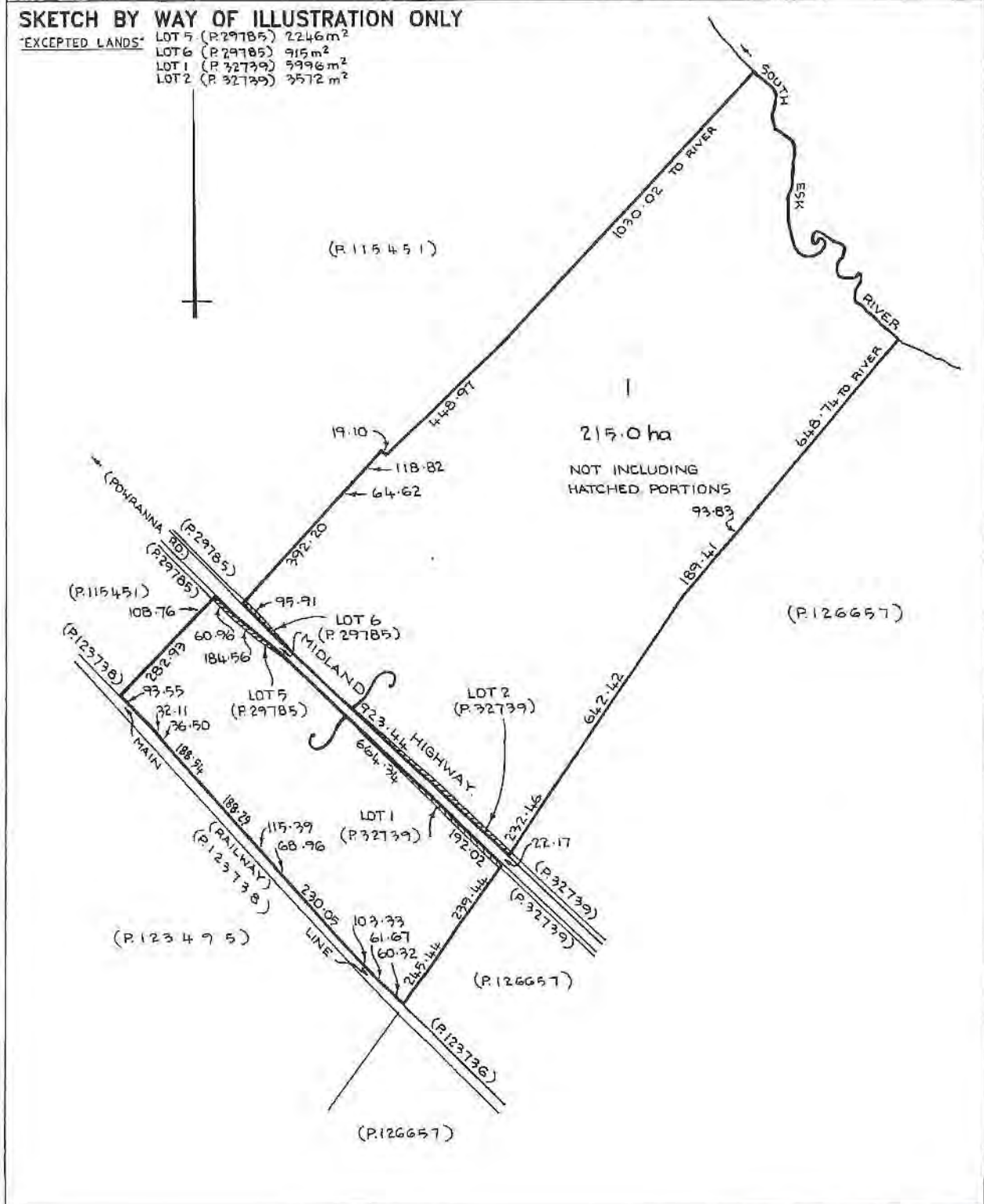
FILE NUMBER W. 4495	CONVERSION PLAN	REGISTERED NUMBER <b>P.126661</b>
GRANTEE PART OF 2000-0-0 STD. TO ALEXANDER KENN		LOCATION SOMERSET - ESKDALE
	CONVERTED FROM 41/9651 (92/62)00.	
	NOT TO SCALE	LENGTHS IN METRES

MAPSHEET MUNICIPAL CODE No. 123 (5238)	LAST UPI No. 4700295	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN	DRAWN C.L.
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SKETCH BY WAY OF ILLUSTRATION ONLY

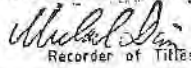
EXCEPTED LANDS

- LOT 5 (P.29785) 2246 m<sup>2</sup>
- LOT 6 (P.29785) 915 m<sup>2</sup>
- LOT 1 (P.32739) 5996 m<sup>2</sup>
- LOT 2 (P.32739) 3572 m<sup>2</sup>



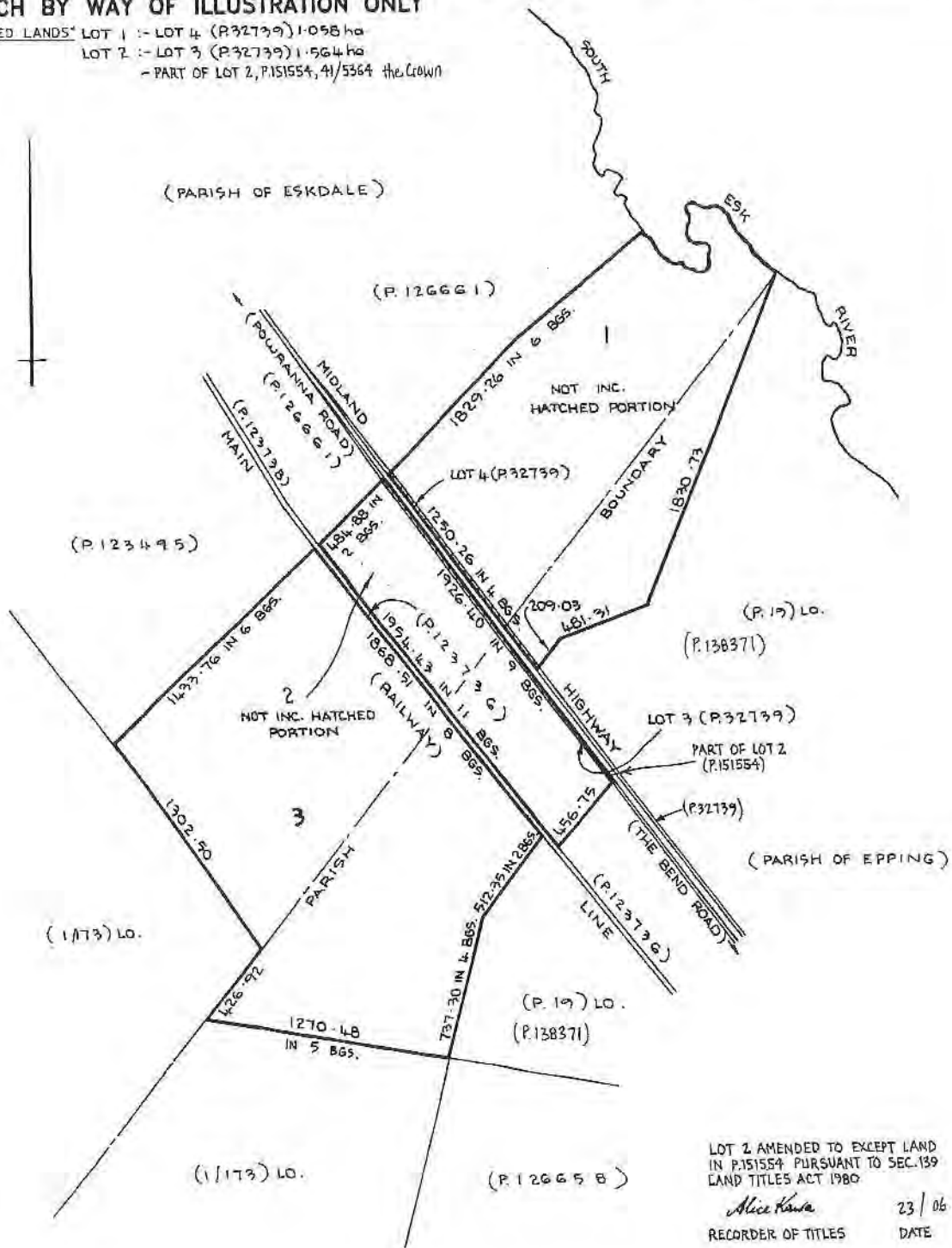
Exhibited




FILE NUMBER W.4494  GRANTEE PART OF 1013-0-0 STD TO JAMES ARNELL YOUL PART OF 1500-0-0 STD TO EDWARD WEDGE	<b>CONVERSION PLAN</b> LOCATION SOMERSET - ESKDALE & EPPING  CONVERTED FROM 32/6487  NOT TO SCALE LENGTHS IN METRES	REGISTERED NUMBER <b>P126657</b>  APPROVED 28 JAN 1997  Recorder of Titles
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**SKETCH BY WAY OF ILLUSTRATION ONLY**

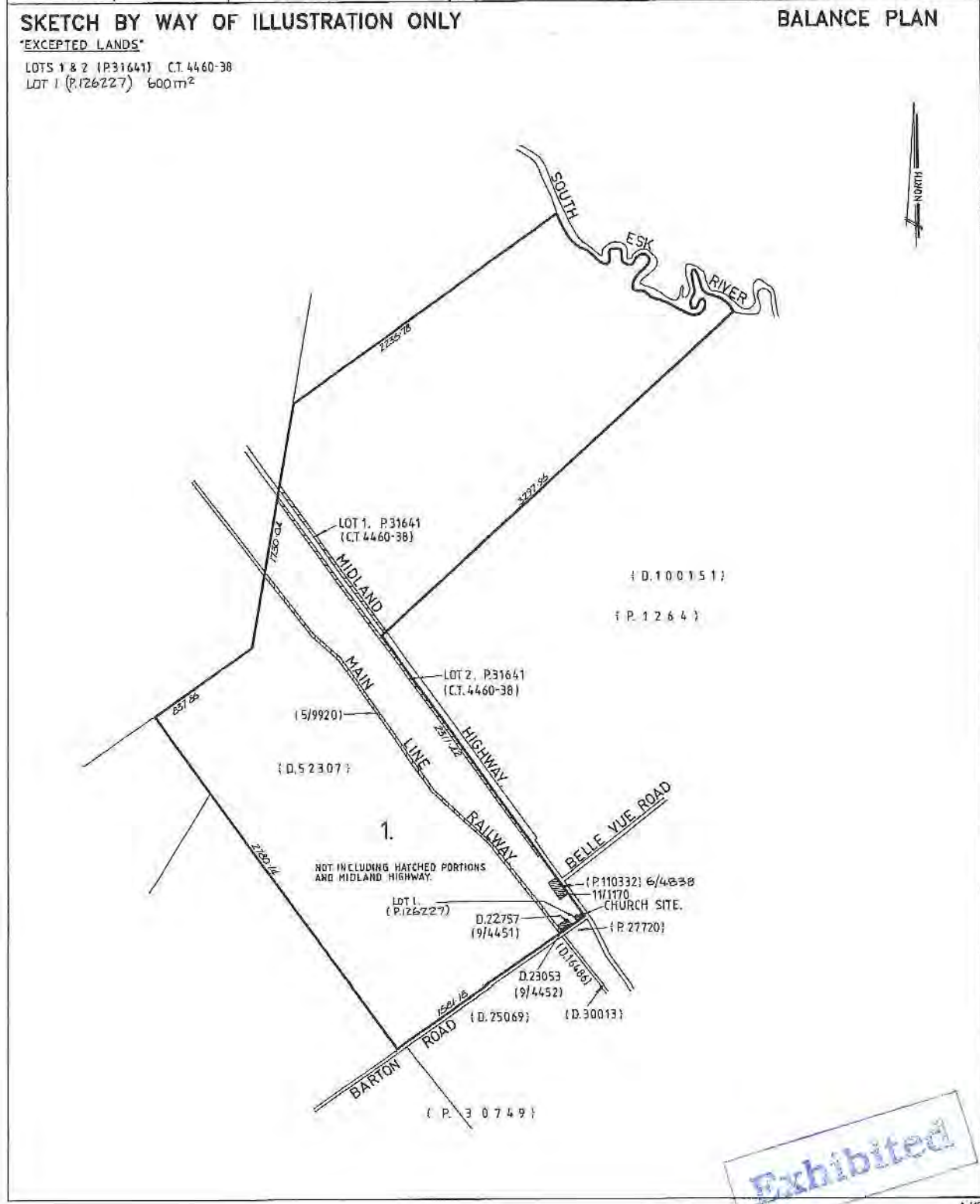
'EXCEPTED LANDS' LOT 1 :- LOT 4 (P32739) 1.058 ha  
 LOT 2 :- LOT 3 (P32739) 1.564 ha  
 - PART OF LOT 2, P.151554, 41/5364 the Crown

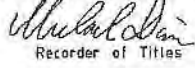




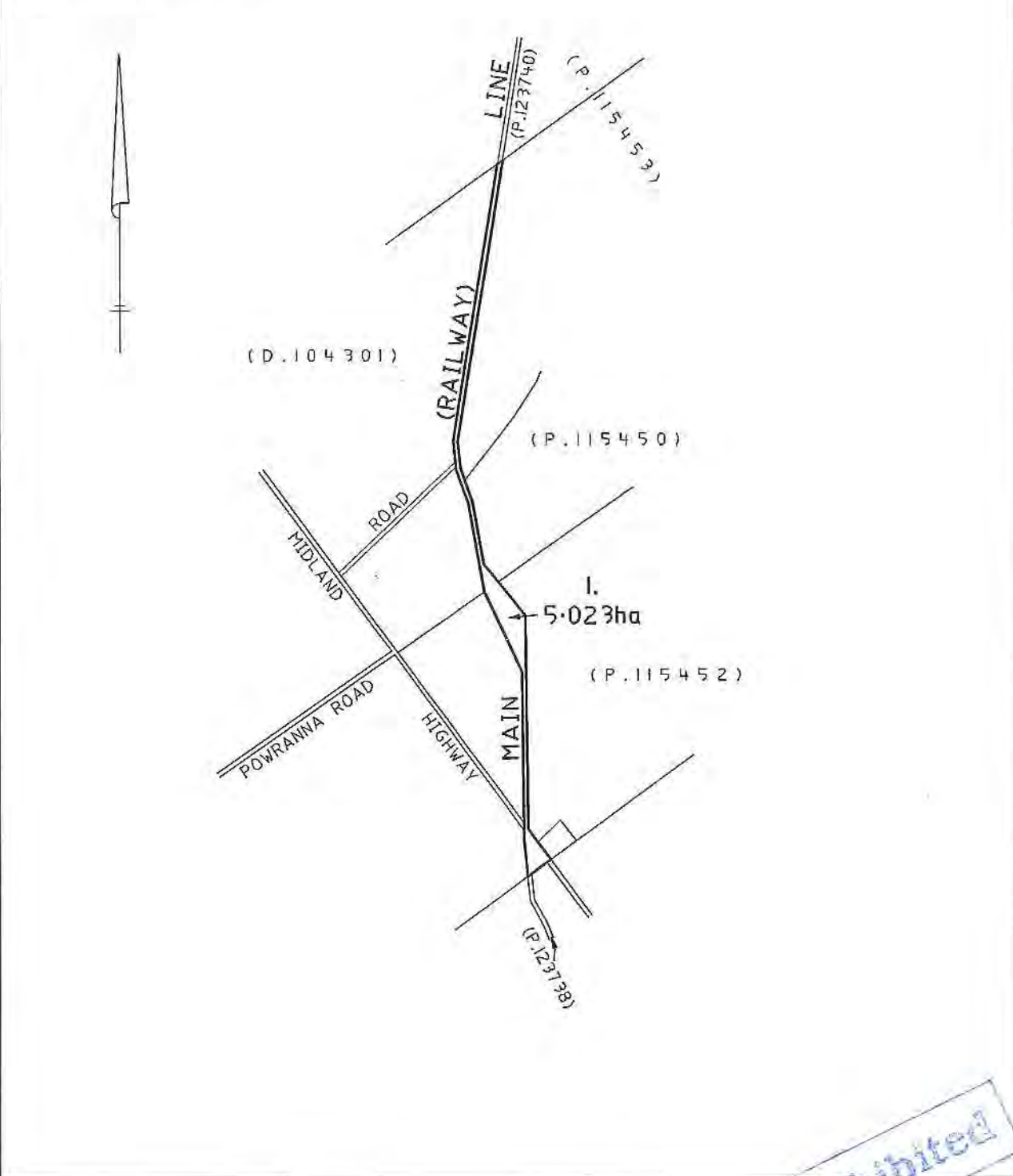
OWNER <i>J. M. M. Yaul (Fairfield) Pty. Ltd.</i>  FOLIO REFERENCE <i>c.T. 52307-1.</i>  GRANTEE <i>Parts of 1,015 Acres, 979 Acres, Lot 616, 967 Acres and 1,260 Acres Gtd. to David Gibson, and Whols of 257 Acres Gtd. to John Gibson.</i>	<b>PLAN OF TITLE</b>  LOCATION LAND DISTRICT OF SOMERSET, PARISH OF EPPING.  CONVERTED BY PLAN No D.52307  COMPILED BY G. J. WALKEM & CO.  NOT TO SCALE                      LENGTHS IN METRES	REGISTERED NUMBER  <b>P 126228</b>  APPROVED <b>27 NOV 1996</b>   Recorder of Titles
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MAPSHEET MUNICIPAL CODE No. 123 / 5237	LAST UPI No 4300060	LAST PLAN No D.52307.	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN
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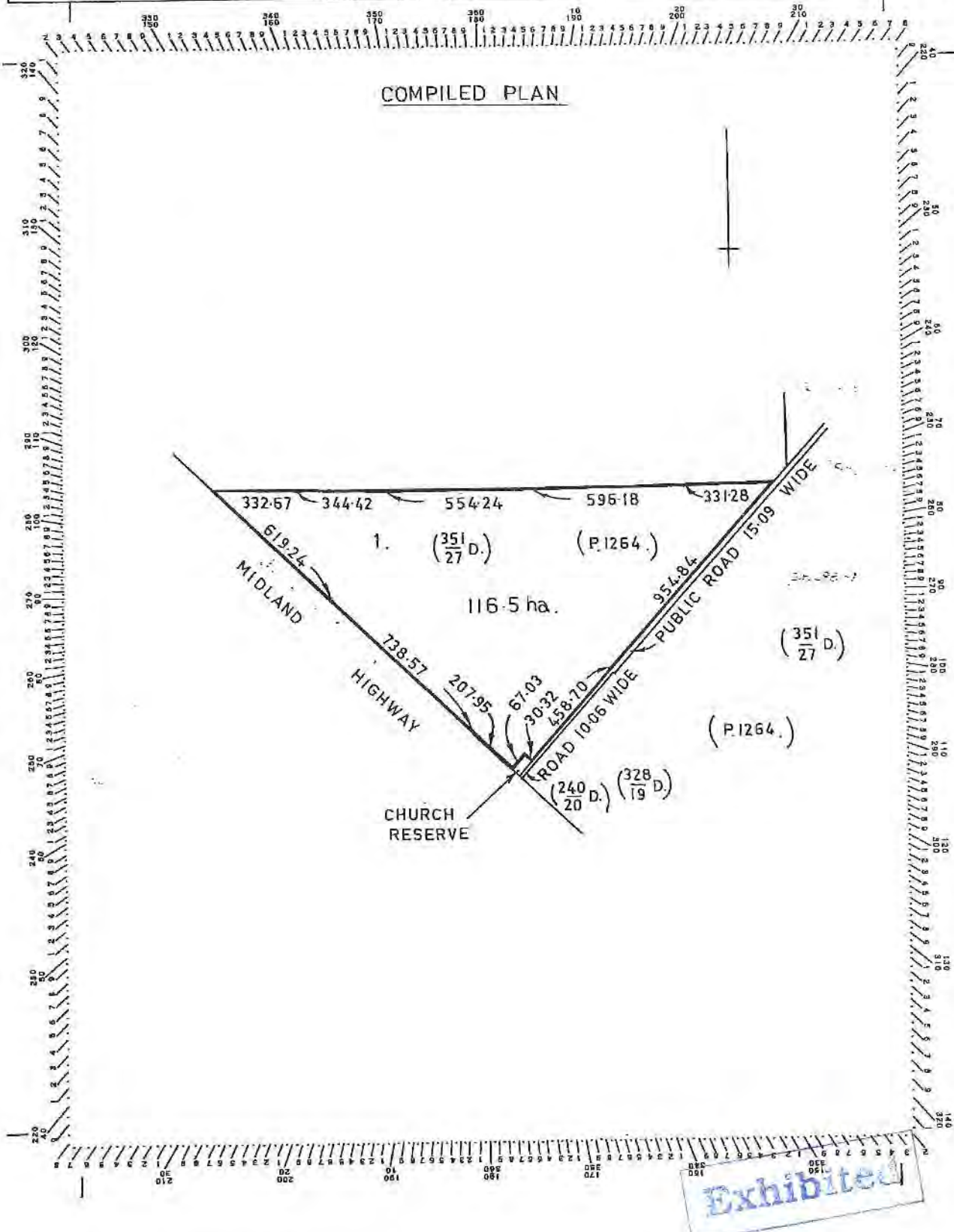
FILE NUMBER A.14512  GRANTEE WHOLE OF LOT 1 (5.023ha) VESTED IN THE AUSTRALIAN NATIONAL RAILWAYS COMMISSION		<b>CONVERSION PLAN</b>  LOCATION SOMERSET - ESKDALE  CONVERTED FROM CONV. 5/9491  NOT TO SCALE                      LENGTHS IN METRES	Registered Number <b>P.123739</b>  APPROVED 01 MAY 1996  Recorder of Titles
MAPSHEET MUNICIPAL CODE No. 123	LAST UPI No.	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN	DRAWN ASM

SKETCH BY WAY OF ILLUSTRATION ONLY  
 "EXCEPTED LANDS"



Exhibited

Owner: E.C. & P. HAZELL - CLOSER SETTLEMENT BOARD.	<b>PLAN OF SURVEY</b> by Surveyor..... of land situated in the	Registered Number: <b>D. 24230.</b>
Title Reference: C.T. 3088-60 C.T. 3088-59	<b>LAND DISTRICT OF SOMERSET</b> <b>PARISH OF EPPING</b>	Approved - 4 OCT 1984 Effective from..... <i>E. A. Thorpe</i> Recorder of Titles
Grantee: PART OF 1054 <sup>A, R, P</sup> AND 2852 <sup>A, R, P</sup> VESTED IN THE CLOSER SETTLEMENT BOARD.	SCALE 1: 15000 MEASUREMENTS IN METRES	



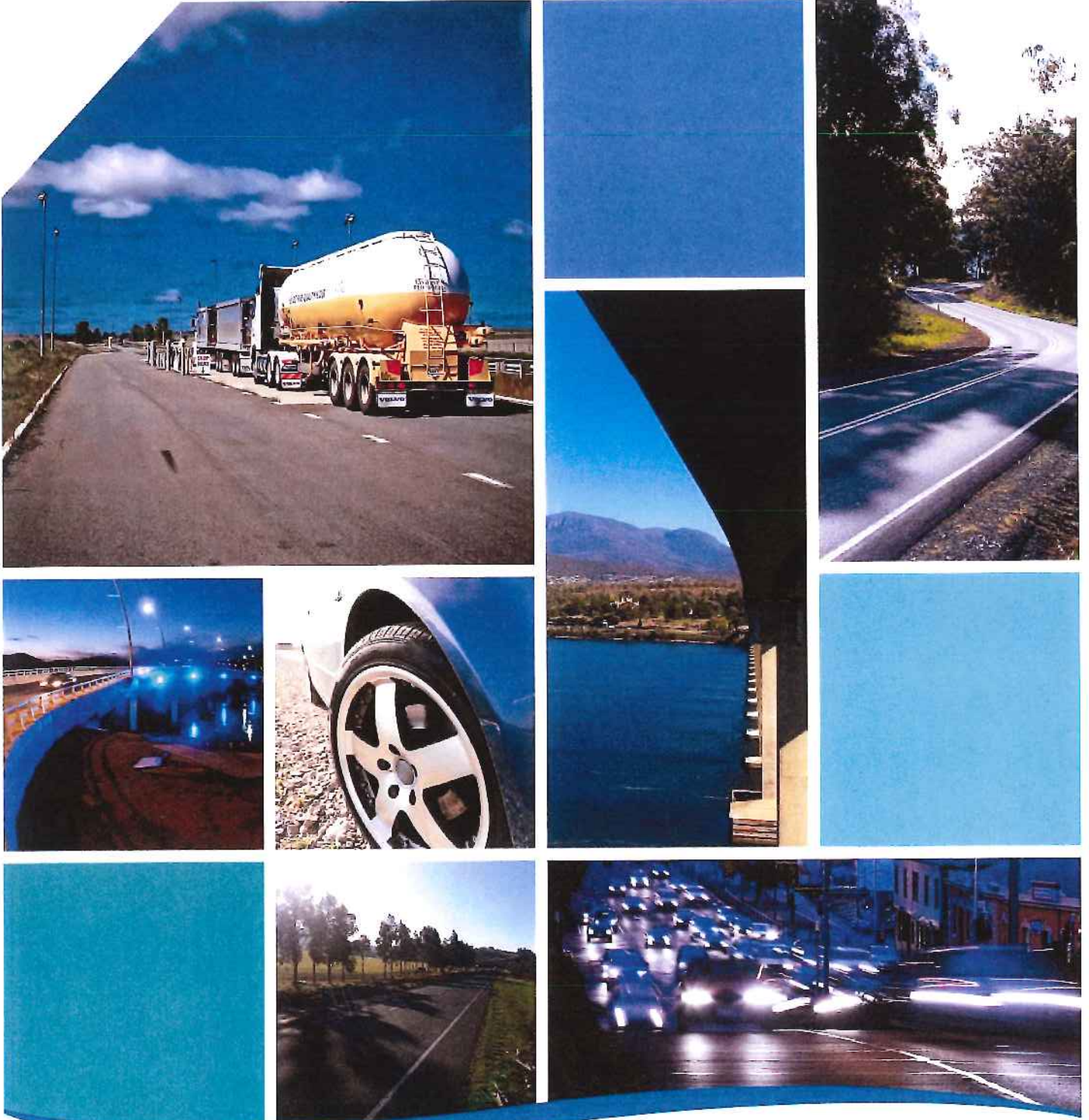
Exhibited



# Midland Highway Safety Upgrade Epping Forest to Powranna

Development Application Supporting Report

November 2016





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## 1. Introduction

The Midland Highway Safety Upgrade Epping Forest to Powranna Project is a component of the Midland Highway Action Plan, a 10 year plan with a commitment of a total of \$500 million from the Australian and State Governments to make safety improvements along the Midland Highway (the Highway). The Department of State Growth (State Growth) is progressively upgrading the Midland Highway as part of this joint initiative, to reflect its importance within the State Road network.

This report supports a development application for the works from Link 80 Chainage 0.31km (Bellevue Road) to Link 80 Chainage 11.19km (Powranna Road).

The existing cross section generally consists of a single traffic lane in each direction, approximately 3.7m wide with sealed shoulders approximately 1.0m wide and gravel verges nominally 1.0m wide on either side of the Highway. Between chainages 5.72 and 7.22 there are two lanes in each direction. The project aims to undertake safety improvements including provision of additional safe overtaking facilities and central medians incorporating a flexible safety barrier and will comprise:

- 3.5m wide lanes
- A central 2.1m wide median (with flexible safety barrier)
- 2.0m sealed shoulders, and
- 0.5m unsealed verges.

Where a roadside safety barrier is required the verges are to be widened to 1.0m.

## 2. Strategic Rationale

The Epping Forest to Powranna section is a key section of the Midland Highway, Tasmania's major north-south transport corridor and a key link in Tasmania's State Road network. The Highway is both a critical freight connection facilitating access from the southern region to the State's northern ports and the major transport link for passengers travelling between the northern and southern regions. This section of the Highway acts as both a State significant arterial corridor and as a local collector road linking rural activities and commuters.

A 110km/h speed limit applies to the Midland Highway between Epping Forest and Powranna. Approximately 7,300 vehicles per day would be expected to travel along this section of the Highway in 2016<sup>1</sup>.

The predominant crash type recorded for the majority of the Midland Highway is loss of control, mostly single vehicle crashes with some resulting in head-on crashes and fatalities. 60% of the fatalities on the highway have been due to head-on crashes. There were 17 accidents on this particular section of the highway in the five and a half years from 1 January 2010, including one fatality. Examination of crash data found no commonality in the location or likely cause of these accidents.

The proposed improvements are intended to reduce the incidence of head on collision and enhance overtaking opportunities.

---

<sup>1</sup> Based on Data supplied by the Department of State Growth for traffic counts undertaken in 2011.



### 3. Proposal

#### 3.1 General

The works proposed cover a distance of 11km and will include:

- Three north bound overtaking lanes (2 + 1)
- Three south bound overtaking lanes (2 + 1)
- Four U-turn facilities which accommodate PBS L2A (B Double) vehicles
- Modification of an additional property access to accommodate general vehicle U-turns
- Widening of four stock underpasses to accommodate the desired cross section arrangement
- Separation of the existing north and south bound overtaking arrangement
- Installation of roadside safety barriers
- Modified version of the desired Highway cross section arrangement at Powranna Rail Underpass to accommodate existing width.
- Internal farm access track linking existing farm access tracks.

The horizontal alignment is relatively straight and is appropriate for the operating speed of 110 km/h on the Highway. However there are several locations where the safe sight distance is not appropriate due to the presence of crests.

Specific elements of the proposed works are discussed in the following sections. A full set of design drawings is attached. A typical cross-section of a 2 + 1 section is shown in tion

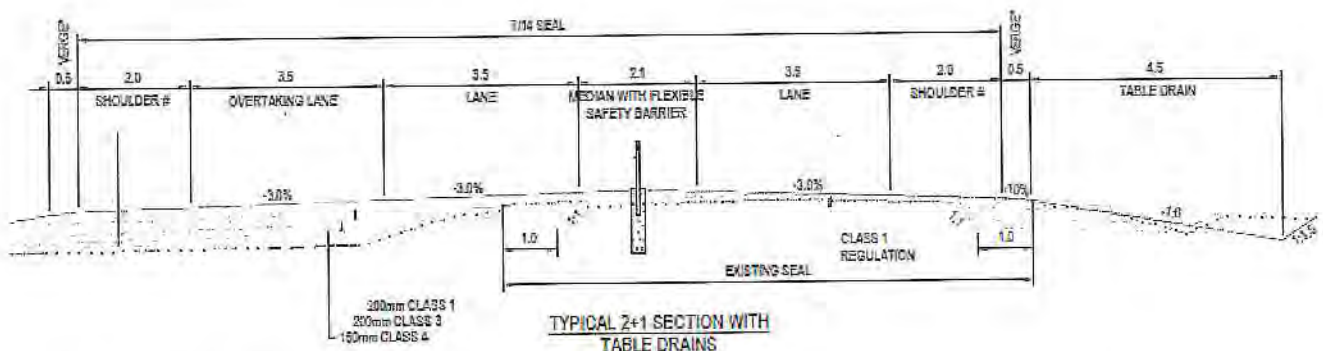


FIGURE 1: TYPICAL CROSS SECTION

#### 3.2 Widening Works and Overtaking Lanes

The Highway will be widened to accommodate the central median and safety barrier as well as overtaking lanes (as shown on the attached plans). The safety barrier will commence at Chainage 400 and ends at Chainage 11150 (with breaks in between as required for turn facilities). There are three north-bound and three south-bound overtaking lanes proposed between Epping Forest and Powranna as shown in Table 1.

TABLE 1 OVERTAKING LANES PROPOSED

Directional Identifier	Start Chainage	End Chainage	Total Length (km)
N1	CH600	CH2050	1.45
N2	CH4790	CH6160	1.37
N3	CH7980	CH9450	1.40
S1	CH3230	CH4470	1.24
S2	CH6350	CH7940	1.59
S3	CH8900	CH10300	1.40

The lengths proposed are have been developed to accommodate site constraints and are consistent with the Austroads Guide to Road Design Part 3: Geometric Design. The length of the overtaking lanes are generally slightly shorter than the Department of State Growth, Design Guidelines for Category One Roads December 2015 of 1.5km however, it is considered an overall safety improvement as the number of dedicated opportunities has increased from one in each direction to three.

### 3.3 Turning facilities

The installation of centre safety barriers can increase travel times for local and other road users as they are forced to travel beyond their access to a safe turning location then return. To minimise inconvenience, formal median openings are proposed at intervals that comply with the State Growth Design Guidelines.

The maximum distance between pairs of P-turns is 4.19 km which is slightly greater than State Growth Design Guideline requirements of 3 – 4km however this has been assessed as being acceptable. The P-turn facilities proposed between Epping Forest and Powranna, for both north and south bound traffic are at the following locations:

- Bellevue Road (Link 80, Chainage 0.31)
- Forton Main Property Access (Link 80, Chainage 4.50)
- Forton Minor Property Access (Link 80, Chainage 8.00)
- Powranna Road (Link 80, Chainage 11.19)

An additional G-turn for general vehicles is proposed at the Fairfield Estate property access at Link 80, Chainage 3.00. All turning locations are identified on the attached plans.

### 3.4 Side road connections and property accesses

The side roads that connect to the Midland Highway within the extent of the project are:

- Bellevue Road (Midland Highway Link 80, Chainage 0.31)
- Bend Road (Link 80, Chainage 3.58)
- Powranna Road (Link 80, Chainage 11.19).

Right and left turns will be facilitated at Bellevue Road and Powranna Road. Bend Road will be left in, left out only.



There will be a break in the median at the access to the Tasmanian Feed Lot (Link 80, Chainage 10.4). There will be no turning facility at this location but all turning movements will be permitted as per the existing arrangement.

An internal farm access track will be constructed on private land parallel to the Highway on the eastern side between Link 80m Chainage 0.31 - 0.36, to enable movement of farm vehicles between existing internal access tracks without needing to enter the road reserve.

### 3.5 Stock Underpass

There are four stock underpasses between Epping Forest and Powranna that will be required to be widened:

- Fairfield stock underpass
- Forton North stock underpass
- Forton South stock underpass
- Powranna stock underpass.

Analysis of the culverts to determine strength and stability was undertaken against AS5100:2004 Bridge Design in July 2016. It was determined that the existing culverts are adequate to sustain the projected loading as outlined in AS5100.2:2004.

### 3.6 Rail underpass

There is one rail underpass located just south of Powranna that was constructed 15 years ago. It was determined that the existing structure is adequate to sustain the projected loading as outlined in AS5100.2:2004 Bridge Design however the width of the existing structure is insufficient to incorporate the proposed cross section, including the centre median and the required shoulder widths.

A modified cross section has been adopted for this crossing including:

- 0.95m wide shoulders (compared with 2m elsewhere)
- 3.5m travelling lanes (same as elsewhere)
- 2.1m painted median (with no flexible safety barrier).

The removal of the safety barrier will provide a clear width of 6.5m for wide vehicles without the need to encroach into the other lane. This can be accommodated without the need to widen the railway underpass. Alteration of the guard fences on approach to the overpass will be required.

### 3.7 Culverts

Seventeen storm water pipes pass under the Highway, ranging in diameter from 300mm to 1500mm. These will be extended as required and suitable end walls (driveable or otherwise) will be installed. Longitudinal drainage has been included in the design at the toe of new embankments. This is generally a 300mm deep table drain at the batter interface or a 500mm wide trapezoidal drain where required. The location and extent of these is shown on the attached plans.



### 3.8 Temporary Works

No temporary road bypass is required in order to complete the proposed works. There will however be traffic disruptions during construction involving reduced speed limits, driving on unsealed surfaces and intermittent land changes.

### 3.9 Construction Timing

Construction of the project is expected to commence in July 2017.

## 4. Site Description

### 4.1 Location

The project is located on the Midland Highway between Bellevue Rd, Epping Forest and Powranna Rd, Powranna (approximately 15 km south of Perth). The general locality is shown in Figure 2. Land to the east of the highway is mostly cleared for rural uses (feedlot, irrigation area and improved pasture) with three areas of native vegetation located adjacent the highway located:

- approximately 385m from Bellevue Road (extending for about 1000m)
- 2.58km from Bellevue Road (approx. 200m wide)
- 3.18km Bellevue Road (approx. 350m wide).

Land immediately west of the highway is mostly cleared however there are patches of remnant vegetation within 500 m of the road and larger areas of forest beyond that, including areas zoned for Environmental Management.

The South Esk River is located approximately 1800m to the east and generally runs parallel to the highway. A number of watercourses identified as drains pass under the highway eventually entering water storages and in some instances the South Esk. The railway runs parallel to the highway for most of the length of the upgrade section passing under the highway just south of Powranna.

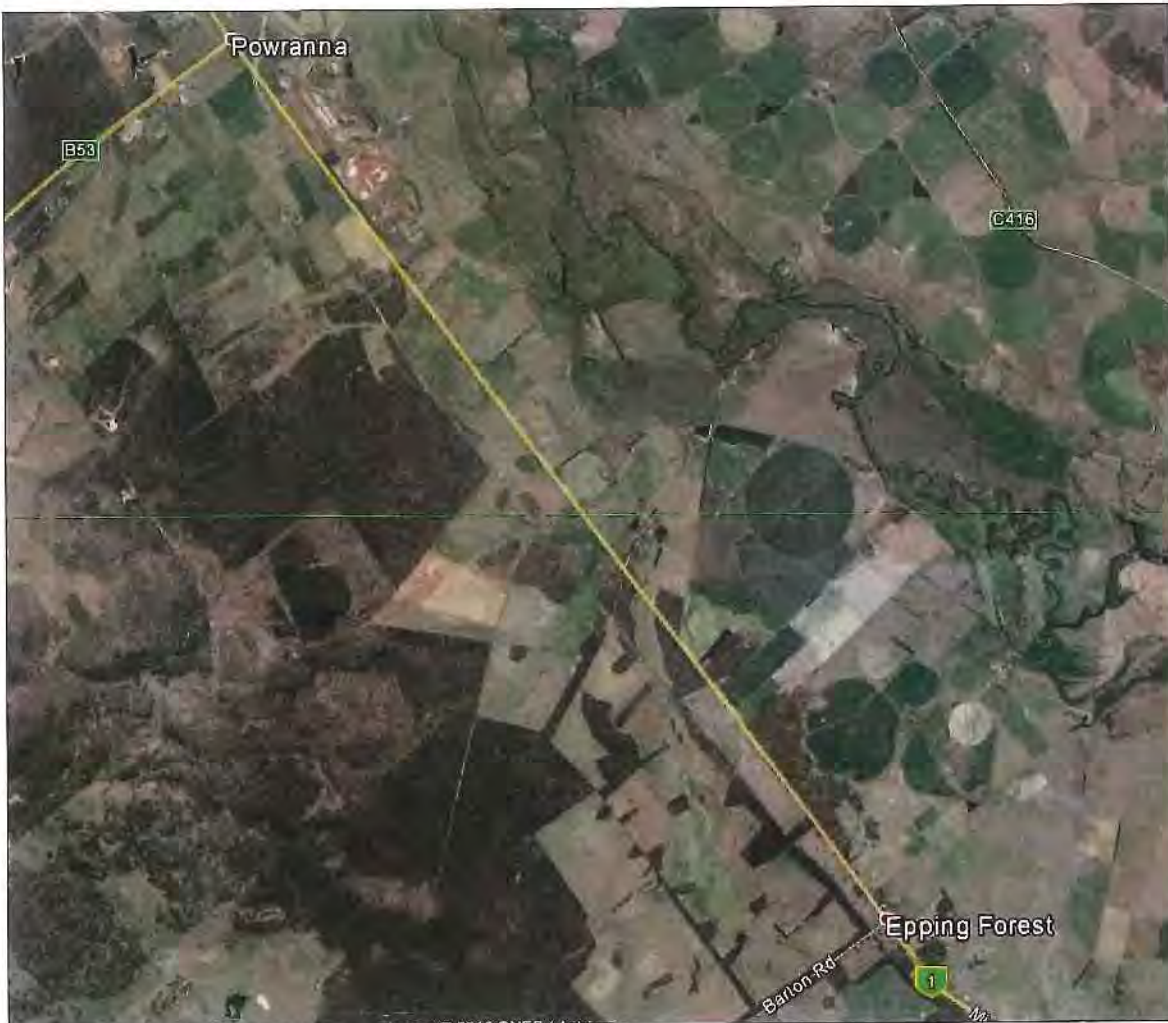


FIGURE 2: SUBJECT SITE LOCATION

## 4.2 Flora

Two ecological assessments by North Barker Ecosystem Services<sup>2</sup> (attached) determined that the highway alignment and adjoining areas predominantly consist of weedy roadside vegetation and adjoining paddocks containing some native grass species. The surveys identified areas of *Eucalyptus amygdalina* inland forest and woodland on Cainozoic deposits (DAZ), on land adjacent to the highway. This community is listed as a threatened vegetation community under the *Nature Conservation Act 2002*. It is estimated that the maximum impact to this community is 2.9 ha. Based on an estimated extent of over 17,300 ha of DAZ within the Northern Midlands Council area, this equates to a loss of less than 0.017 per cent. As such, the road upgrades will not compromise the integrity of this threatened vegetation community to any significant degree.

Two State-listed species<sup>3</sup> were identified during survey:

- *Caesia calliantha* (blue grass lily) – listed as rare under state legislation (25 plants found in one location).
- *Scleranthus fasciculatus* (spreading knawel) – listed as vulnerable under state legislation (6 plants found in one location).

<sup>2</sup> The assessments were undertaken in three separate surveys in undertaken in November 2014 to April 2015 (detailed in the first report) and November 2016 (detailed in the addendum report).

<sup>3</sup> *Arthropodium strictum* (chocolate lily) was listed as rare under state legislation at the time of survey, but is longer listed under the *Threatened Species Protection Act 1995*.



Approval will be required under the State *Threatened Species Protection Act 1995* and an application for a 'Permit to Take' for threatened flora will be prepared by State Growth. No species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* were identified in surveys.

There are a number of properties within the project extent that are subject to Conservation Covenants pursuant to Section 37B of the *National Parks & Wildlife Act 1970*. The purpose of the Covenant is to ensure the protection in perpetuity of the comprehensive, adequate and representative values (CAR Values) and to establish and maintain the Reserve as part of the CAR Reserve System in accordance with Clause 59 and Attachment 8 of the Regional Forest Agreement. The CAR values in this instance are inland black peppermint (*Eucalyptus amygdalina*)

Three properties subject to acquisition have conservation agreements:

- CT 126228/1 (P.C. & L. Osborne)
- CT 138371/1 (A.M.R. Gunn)
- CT 126657/2 (A.M.R. Gunn)

State Growth is working with the Department of Primary Industries, Parks, Water and Environment (DPIPWE) and landowners to ensure that relevant requirements for these covenants are met as part of the proposed works.

A Compliance Statement titled *Compliance Statement under Northern Midlands Interim Planning Scheme 2013, November 2016* has been prepared by North Barker to comply with the requirements of the Biodiversity Code under the Northern Midlands Interim Planning Scheme 1995 (the Scheme).

### 4.3 Fauna

The ecological assessment presents the results of detailed assessment of potential habitat and an analysis of potential impacts. The Compliance Statement contains an assessment against the Scheme's Biodiversity Code requirements. Recommendations to minimise and mitigate impacts will be adopted by State Growth and its contractors. The additional ecological survey titled *Addendum to Flora and Fauna Habitat Survey Including Additional Turning Facilities, November 2016* was undertaken to determine existence of habitat for masked owls and spotted tailed quolls in the form of mature tree hollows. It was estimated that three potential habitat trees would be impacted as part of the road upgrades. Out of the potential habitat trees recorded, none contain suitable hollows for masked owls or spotted tailed quolls. One masked owl call was recorded within the project area over a two week period, however there is no evidence of current occupation of either species.

In summary, the road upgrades will not compromise the integrity of the threatened flora, vegetation and fauna values to any significant degree.

### 4.4 Weeds

Six species listed as 'declared weeds' on the *Weed Management Act 1999* and other significant environmental weeds were recorded during the field survey. Prior to the construction phase, State Growth will require the construction contractor to prepare and implement a Weed Management Plan for the full extent of the project, which must:

- Be undertaken by a suitably qualified and experienced weed contractor.
- Provide for the effective management of declared weeds from site construction completion through until the end of the Defects Liability period.



- Include project specific washdown procedure and a site plan that indicates the location, inspection and maintenance of washdown facilities-each washdown event is to be recorded, as are vehicles, plant and equipment assessed and classed 'clean'.

#### 4.5 Historic Heritage

There is one property located near the Epping Forest end of the proposed road works that is listed as an item of heritage significance under a number of provisions. This is:

- Fairfield, 13790 Midland Highway, Epping Forest – listed on the Tasmanian Heritage Register (THR), and in the Scheme.

The approximate location of this building relative to the highway is shown in Figure 3. The Fairfield residence and outbuildings are located 2 km from the highway reservation and will not be impacted.



**FIGURE 3 LOCATION OF HERITAGE LISTED PROPERTY**

The Pioneer Avenue is a series of roadside plantings that began in the 1930s, extending between Launceston and Hobart. It was originally intended to be a memorial to early pioneers of Tasmania, and evolved into a carefully planned series of plantings along the Midland Highway to beautify the countryside and encourage tourism. The Pioneer Avenue has been nominated for inclusion on the THR, and this nomination is still being assessed by the Tasmanian Heritage Council (THC).

State Growth recognises the significance of the Pioneer Avenue, and is committed to retaining the Pioneer Avenue into the future. Some of the original Pioneer Avenue plantings will be impacted by the footprint of Midland Highway upgrade works. Removal of hazards, including trees, from the road reserve, where possible is an important part of the safety upgrade to reduce the severity of road crashes.



State Growth has developed a strategy for Pioneer Avenue plantings. The strategy is based on the following principles:

- Maintain the Pioneer Avenue where practicable and aim for no net loss of trees.
- Consult with relevant local Councils, Heritage Tasmania and affected landowners about appropriate replanting's to retain intent of the Pioneer Avenue.
- Replantings to occur outside the road reservation to maintain the safety of the Midland Highway.
- Establishment and management of new plantings must be cost-effective, meet community expectations and maintain the integrity of the Pioneer Avenue.

An historic plantings assessment by Biosis Pty Ltd determined there are 12 historic plantings between Epping Forest and Powranna associated with the Pioneer Avenue. The assessment determined that the surviving Pioneer Avenue plantings in the study area are comparable to, or in better condition than, other surviving plantings of the wider Pioneer Avenue. The assessment recommends the surviving plantings should be conserved wherever possible and accounted for in any future highway upgrade works.

The required relocation of services, and the associated clearances required by providers, will require the removal of a number of these trees. The extent of trees required for removal is shown in the plans accompanying this report. The contractor will be required to avoid direct (i.e. clearance) and indirect (root pruning or compaction) of the remaining plantings during construction works. The details and timing of any replacement plantings will be finalised in consultation between State Growth and landowners in the Detailed Design stage.

#### 4.6 Indigenous Heritage

Aboriginal Heritage Tasmania (AHT) has completed a search of the Aboriginal Heritage Register over the project area. AHT indicated that a survey was not required for the entirety of the study area but that one would be required for Powranna Road junction area. A survey was undertaken in September 2015 by Cultural Heritage Management Australia. One artefact was found in the project area on the eastern side of the junction, 6m from the Highway verge. This area will be protected during construction with site preservation fencing (to be installed by the contractor). As part of a Construction Management Plan, the contractor will be required to implement an Unanticipated Discovery Plan (UDP) should any unexpected finds be encountered during construction.

#### 4.7 Land Capability

The land capability mapping provided on the iplan website indicates that almost all the land within the project area is Class 4. This is land well suited to grazing but only occasionally used for cropping. A small area is Class 5 land which is unsuitable for cropping. There is no Prime Agricultural Land (Class 1, 2 or 3 land as defined by the Tasmanian State Policy on the Protection of Agricultural Land 2009) in the road corridor or immediately adjacent to it, so road works within the corridor will have no effect on Prime Agricultural Land.

#### 4.8 Utilities

The following services were identified within the highway reservation:

- Overhead electricity, owned by TasNetworks
- Underground telecommunication cables, owned by Telstra, and
- Water mains, owned by TasWater.



Overhead TasNetworks services are located on both sides of the highway, running parallel to the highway, as well as crossing the highway to service private properties or connecting to other overhead lines extending along side roads. These overhead services are generally located close to fence lines along the highway reservation boundary. A number of poles will require relocation where the highway is to be widened or where earthworks are proposed. New power line easements and pole relocations will occur on the western side of the Highway between Chainage 4940 and 6020 and between Chainage 7140 and 10570.

Telecommunication cables appear to be mainly located parallel to the Highway, on the western side of the reservation and close to fence lines. There are multiple crossings of the highway reservation as well. All cables will be located for inclusion on detailed drawings.

Water mains were identified (from TasWater GIS) on the western side of the Highway reservation between Barton Rd and Bellevue Rd (Epping Forest end). This section of the Highway is not included in the works. There are also a number of mains crossing the highway in that area, likely to be domestic services. All mains will be located for inclusion on detailed drawings.

#### 4.9 Construction Management

State Growth requires all contractors to submit a Construction Management Plan (CMP) that demonstrates compliance with best practice guidelines and relevant legislation and regulation. The CMP must be compliant with the State Growth's Road Construction Specifications. CMPs are reviewed and approved by State Growth prior to commencement of works to ensure the contractor has effectively identified and attributed construction-related environmental risks, and has the systems and processes in place to effectively mitigate risk and respond to and report environmental incidents and emergency scenarios. In addition, all construction contractors working for State Growth must have ISO 14001 certification. State Growth also requires that the contractor's construction methodology and management of potential environmental impacts be guided by the following documents:

- DPIPWE Wetlands and Waterways Works Manual;
- A Soil and Water Management Plan
- The requirements covering Dangerous Goods / Bulk Hydrocarbon Storage adjacent to natural water courses; and
- A Site Rehabilitation Plan (that the contractor must submit for State Growth approval within three months of commencement of construction).

#### 4.10 Noise

Under the Tasmanian State Road Traffic Noise Management Guidelines 2015, safety upgrades are not eligible for noise mitigation. Notwithstanding this, the nature of the proposed works, in particular the operational noise generated once construction is completed, is not considered likely to generate a significant increase in noise levels. Existing noise levels will remain largely unchanged post construction however there will be short term noise associated with construction generated by machinery and safety requirements (reverse beepers or squawkers).



### 5. Site Photographs



FIGURE 4: SOUTHERN END LOOKING NORTH FROM BELLEVUE RD



FIGURE 5: NORTHERN END LOOKING SOUTH FROM POWRANNA RD

## 6. Titles and Acquisition

The following titles (Table 2) are affected by the acquisition to facilitate the proposed works and a copy of these titles is attached. All other works are within the highway reservation. A total of 4.8 ha of land is to be acquired to facilitate the works which will intrude very minimally into the adjoining rural zone.

**TABLE 2: LIST OF TITLES IMPACTED BY AQUISITION**

Side of highway	Chainage	Title Reference	Owner	Area (m2)
East	320	216211/1	G.I Davidson	2033
East	320	24230/1	V.L. & L.M. Johnson	2322
West	440	126228/1	P.C. & L. Osborne	5803
East	3560	138371/1	A.M.R. Gunn	8146
West	5920	126657/2	A.M.R. Gunn	2149
East	7420	126661/1	A.M.R. Gunn	10060
West	7440	126661/1	A.M.R. Gunn	
West	8320	136123/2	Tasmania Feedlot Pty Ltd	12205
West	9900	136124/2	Tasmania Feedlot Pty Ltd	2693
West	10200	2655/15	T Strickland	658
West	10400	123739/1	The Crown	730
West	10420	136126/1	Tasmania Feedlot Pty Ltd	129
West	11140	140271/1	Tasmania Feedlot Pty Ltd	1022
			<b>Total</b>	<b>47,950</b>



## 7. Stakeholder Engagement

State Growth has undertaken significant engagement with affected stakeholders. State Growth representatives have met with landowners adjacent to this section of the Midland Highway and explained the project objectives and the impacts on their properties. Landowners were provided the opportunity to explain current farm operations and communicate definite and potential future farm ideas. Preliminary design drawings were presented to landowners to assist discussions and describe the impacts on roadside vegetation and to existing accesses due to the need to minimise gaps in the central flexible safety barrier.

The key concerns raised by landowners primarily relate to property access. State Growth is working with affected landowners to address these issues while not compromising the safety improvement objectives of the project.

A public display of the design plans was held on 23 September 2016 at the Epping Forest Roadhouse. Feedback from the display indicated support for the design and general safety concept with a small number of people requesting a more consistent roll out of the safety design across the State. A public notice advertising the public display was placed in the Mercury and Examiner newspapers on Saturday 17 September 2016 which included an address for the State Growth road project webpage <http://www.transport.tas.gov.au/road/projects> where the plans can be viewed online. A flyer explaining the project and advertising the public display was provided to adjacent landowners and businesses on 9 September 2016. The flyer includes the webpage address and an 1800 phone number is on the website. This enables the public to contact the Department throughout the life of the project.



## 8. Planning Scheme

### 8.1 Planning Scheme

The proposed works are located within the Northern Midlands Council municipality and is subject to the provisions of the Northern Midlands Interim Planning Scheme 2013 (the Scheme). The following sections address the relevant provisions of the Scheme relating to zone, development standard and code requirements.

### 8.2 Exemptions

The Scheme contains a number of general and limited exemptions for certain developments. Maintenance and repair of roads is exempt from requiring approval. Minor upgrades by or on behalf of the State government, a Council, or a statutory authority do not require approval. This includes infrastructure works such as roads, rail lines, footpaths, cycle paths, drains, sewers, power lines and pipelines including:

- minor widening or narrowing of existing carriageways; or
- making, placing or upgrading kerbs, gutters, footpaths, roadsides, traffic control devices and markings, street lighting and landscaping.

The proposed works are not considered to fall within either of these exemptions.

### 8.3 Use Definition

Within the Scheme at Table 8.2, there are definitions of Use Classes which must be applied to use and development.

Utilities are defined in the Scheme as the use of land for utilities and infrastructure which includes item (d) transport networks. Examples of Utilities provided in the scheme include roads.

Given the scope of the works previously described, the “best fit” Use Class is Utilities.

### 8.4 Zoning

The existing highway reserve is zoned Utilities under the Scheme as shown in Figure 6. Land to be acquired either side of the existing road reserve is zoned Rural Resource. At some points (e.g. u-turn bays) the works will extend into the Rural Resource zone.

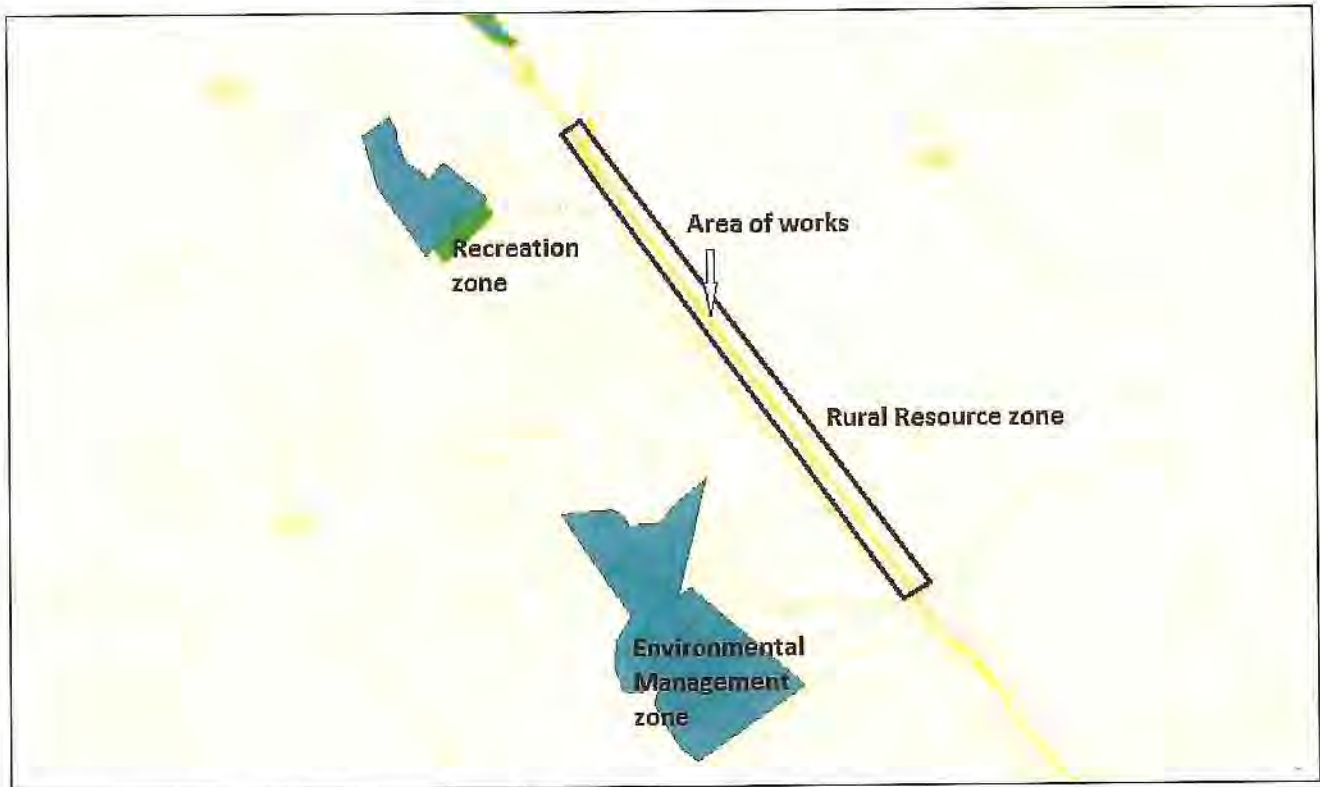


FIGURE 6 ZONE EXTRACT

### 8.5 Use Tables and Level of Assessment

Utilities are a Permitted development in the Utilities zone. Within the Rural Resource zone, Utilities are allowed without a permit only where related to an existing use and where the curtilage does not increase by more than 30% (at the date of effect of the Scheme), and where not located on prime agricultural land. These qualifications do not apply to the proposed works (which will increase the area of the road footprint in most places) and accordingly, any works which extend beyond the extent of the Utilities zone will be Discretionary.

The level of assessment required for the proposed works is discretionary and the proposal is required to be assessed under the provisions of both zones.

None of the subdivision standards apply to the use and development as the land is to be acquired under the *Land Acquisition Act 1993*, under section 102 of the *Local Government (Building & Miscellaneous Provisions) Act 1993*.

One of the allotments involved in the roadworks on the THR-listed property, Fairfield located at 13790 Midland Highway. The THR listing applies a Heritage Precinct around the main farm house and garden, which excludes activities (including subdivision) outside the Heritage Precinct from being of interest to the THC.

Council has confirmed however that under the current Scheme, the listing applies to the entire property (regardless of any THC exclusion area) and as such the proposal is discretionary and assessment is required under the relevant provisions.



## 8.6 Provisions within the Rural Resource Zone

### Zone Purpose

#### 26.1.1 Zone purpose statements

The purpose statements of the Rural Resource zone are:

26.1.1.1 To provide for the sustainable use or development of resources for agriculture, aquaculture, forestry, mining and other primary industries, including opportunities for resource processing.

26.1.1.2 To provide for other use or development that does not constrain or conflict with resource development uses.

26.1.1.3 To provide for economic development that is compatible with primary industry, environmental and landscape values.

26.1.1.4 To provide for tourism-related use and development where the sustainable development of rural resources will not be compromised.

The proposed highway upgrade is consistent with the purpose of the zone. It will facilitate the continuation of rural activities, including industries, and ensure safe and suitable access is available for new developments in the area. Provision of safe access between northern and southern regions of the state is a key part of the continued success of tourism and other industries.

#### 26.1.2 Local Area Objectives

Local area objectives relate to primary industries, tourism and services within rural communities. The provision of safe, efficient road access is integral to ensuring these objectives are met. The proposed upgrade will facilitate development of rural industries and other uses within rural communities and the rural environment. The proposed highway upgrade is consistent with these objectives.

#### 26.1.3 Desired Future Character Statements

The future character statement applicable to the Rural Resource zone is that the visual impacts of use and development within the rural landscape are to be minimised such that the effect is not obtrusive.

The proposed works involve upgrades to the existing highway within the current alignment. This includes the provision of U-turn facilities however these are generally sited at existing road junctions. The only change to the current visual impact of the highway will be the flexible safety barrier in the median and increased width in some locations to accommodate passing lanes. These changes are not considered to be visually obtrusive and are consistent with the current appearance of the highway.



**Use Standards**

**26.3.1 Discretionary Uses if not a single dwelling**

<p>Objective</p> <p>a) To provide for an appropriate mix of uses that support the Local Area Objectives and the location of discretionary uses in the rural resources zone does not unnecessarily compromise the consolidation of commercial and industrial uses to identified nodes of settlement or purpose built precincts.</p> <p>b) To protect the long term productive capacity of prime agricultural land by minimising conversion of the land to non-agricultural uses or uses not dependent on the soil as a growth medium, unless an overriding benefit to the region can be demonstrated.</p> <p>c) To minimise the conversion of non-prime land to a non-primary industry use except where that land cannot be practically utilised for primary industry purposes.</p> <p>d) Uses are located such that they do not unreasonably confine or restrain the operation of primary industry uses.</p> <p>e) Uses are suitable within the context of the locality and do not create an unreasonable adverse impact on existing sensitive uses or local infrastructure.</p> <p>f) The visual impacts of use are appropriately managed to integrate with the surrounding rural landscape.</p>	
Acceptable Solutions	Comment
<p>A1 Discretionary use - Relies on performance criteria:</p> <p>P1.1 It must be demonstrated that the use is consistent with local area objectives for the provision of non-primary industry uses in the zone, if applicable; and</p> <p>P1.2 Business and professional services and general retail and hire must not exceed a combined gross floor area of 250m<sup>2</sup> over the site.</p>	<p>Complies - the proposed upgrade will facilitate development of rural industries and other uses within rural communities and the rural environment. The proposed highway upgrade is consistent with the local area objectives.</p>
<p>A2 Discretionary use - Relies on performance criteria:</p> <p>P2.1 Utilities, extractive industries and controlled environment agriculture located on prime agricultural land must demonstrate that the:</p> <ul style="list-style-type: none"> <li>i) amount of land alienated/converted is minimised; and</li> <li>ii) location is reasonably required for operational efficiency; and</li> </ul> <p>P2.2 Uses other than utilities, extractive industries or controlled environment agriculture located on prime agricultural land, must demonstrate that the conversion of prime agricultural land to that use will result in a significant benefit to the region having regard to the economic, social and environmental costs and benefits.</p>	<p>Not applicable – not located on prime agricultural land (refer to Section 4.7).</p>
<p>A3 Discretionary use - Relies on performance criteria:</p> <p>P3 The conversion of non-prime agricultural to non-agricultural use must demonstrate that:</p> <p>a) the amount of land converted is minimised having regard to:</p>	<p>The amount of land to be acquired for road construction is minor in comparison to the length of the project area and the area of adjoining land available for rural uses. The land is located adjacent the highway and in the largest areas incorporates existing property accesses. These areas offer limited potential for rural production</p>



<p>Objective</p> <p>a) To provide for an appropriate mix of uses that support the Local Area Objectives and the location of discretionary uses in the rural resources zone does not unnecessarily compromise the consolidation of commercial and industrial uses to identified nodes of settlement or purpose built precincts.</p> <p>b) To protect the long term productive capacity of prime agricultural land by minimising conversion of the land to non-agricultural uses or uses not dependent on the soil as a growth medium, unless an overriding benefit to the region can be demonstrated.</p> <p>c) To minimise the conversion of non-prime land to a non-primary industry use except where that land cannot be practically utilised for primary industry purposes.</p> <p>d) Uses are located such that they do not unreasonably confine or restrain the operation of primary industry uses.</p> <p>e) Uses are suitable within the context of the locality and do not create an unreasonable adverse impact on existing sensitive uses or local infrastructure.</p> <p>f) The visual impacts of use are appropriately managed to integrate with the surrounding rural landscape.</p>	
Acceptable Solutions	Comment
<p>i) existing use and development on the land; and</p> <p>ii) surrounding use and development; and</p> <p>iii) topographical constraints; or</p> <p>b) the site is practically incapable of supporting an agricultural use or being included with other land for agricultural or other primary industry use, due to factors such as:</p> <p>i) limitations created by any existing use and/or development surrounding the site; and</p> <p>ii) topographical features; and</p> <p>iii) poor capability of the land for primary industry; or required for operational efficiency.</p> <p>c) the location of the use on the site is reasonably</p>	<p>and in most cases are not used for rural activities due to the presence of fence lines, weeds and roadside vegetation of limited grazing value.</p>
<p>A4 Discretionary use - Relies on performance criteria:</p> <p>P4 It must demonstrated that:</p> <p>a) emissions are not likely to cause an environmental nuisance; and</p> <p>b) primary industry uses will not be unreasonably confined or restrained from conducting normal operations; and</p> <p>c) the capacity of the local road network can accommodate the traffic generated by the use.</p>	<p>Complies – emissions from the use of the highway will not change as a consequence of the upgrade. Primary industries will benefit from improved access and turning facilities within the upgrade area. The access to the Powranna feedlot will be maintained and upgraded as part of the works which will improve the capacity and safety of this section of the highway.</p>
<p>A5 The use must:</p> <p>a) be permitted or no permit required; or</p> <p>b) be located in an existing building.</p> <p>Discretionary use - Relies on performance criteria:</p> <p>P5 It must be demonstrated that the visual appearance of the use is consistent with the local area having regard to:</p> <p>a) the impacts on skylines and ridgelines; and</p> <p>b) visibility from public roads; and</p>	<p>The appearance of the highway will change very little as a result of the upgrade. The most noticeable difference will be the presence of the centre median, which is low level, and safety barriers in certain locations.</p>



Objective	
<p>a) To provide for an appropriate mix of uses that support the Local Area Objectives and the location of discretionary uses in the rural resources zone does not unnecessarily compromise the consolidation of commercial and industrial uses to identified nodes of settlement or purpose built precincts.</p> <p>b) To protect the long term productive capacity of prime agricultural land by minimising conversion of the land to non-agricultural uses or uses not dependent on the soil as a growth medium, unless an overriding benefit to the region can be demonstrated.</p> <p>c) To minimise the conversion of non-prime land to a non-primary industry use except where that land cannot be practically utilised for primary industry purposes.</p> <p>d) Uses are located such that they do not unreasonably confine or restrain the operation of primary industry uses.</p> <p>e) Uses are suitable within the context of the locality and do not create an unreasonable adverse impact on existing sensitive uses or local infrastructure.</p> <p>f) The visual impacts of use are appropriately managed to integrate with the surrounding rural landscape.</p>	
<b>Acceptable Solutions</b>	<b>Comment</b>
<p>c) the visual impacts of storage of materials or equipment; and</p> <p>d) the visual impacts of vegetation clearance or retention; and</p> <p>e) the desired future character statements.</p>	

### 26.3.2 Dwellings

Not applicable

### 26.3.3 Irrigation districts

The site is within the South Esk Irrigation District which extends from south of Perth to just north of Campbelltown.

Objective	
To ensure that land within irrigation districts proclaimed under Part 9 of the <i>Water Management Act 1999</i> is not converted to uses that will compromise the utilisation of water resources.	
<b>Acceptable Solutions</b>	<b>Comment</b>
<p>A1 Non-agricultural uses are not located within an irrigation district proclaimed under Part 9 of the <i>Water Management Act 1999</i>.</p> <p>Relies on performance criteria:</p> <p>P1 Non-agricultural uses within an irrigation district proclaimed under Part 9 of the <i>Water Management Act 1999</i> must demonstrate that the current and future irrigation potential of the land is not unreasonably reduced having regard to:</p> <p>a) the location and amount of land to be used; and</p> <p>b) the operational practicalities of irrigation systems as they relate to the land; and</p> <p>c) any management or conservation plans for the land.</p>	<p>Approximately 4.59 ha of land outside the highway reservation is involved in the upgrade works. This, along with the road reservation, is described in the ecological assessment as weedy roadside vegetation, Black peppermint forest and lowland grassland. No reduction in the area of irrigated land will occur and there will be no impact on operation of irrigation infrastructure.</p>



**Development Standards**

There are no relevant development standards within this zone for the application. None of the subdivision standards apply to the use and development as the land is to be acquired under the *Land Acquisition Act 1993*, under section 102 of the *Local Government (Building & Miscellaneous Provisions) Act 1993*.

**8.7 Provisions within the Utilities zone**

**Zone purpose**

**28.1.1 Zone purpose statements**

The purpose statements of the Utilities zone are:

28.1.1.1 To provide land for major utilities installations and corridors.

28.1.1.2 To provide for other compatible uses where they do not adversely impact on the utility.

The Utilities zone in this instance contains the Midland Highway reservation and is intended to allow for the functioning and upgrade of the highway as required. The proposed works are consistent with the purpose of the zone.

**28.1.2 Local Area Objectives**

There are no desired local area objectives.

**28.1.3 Desired Future Character Statements**

There are no desired future character statements.

**Use Standards**

**28.3.1 Capacity of existing utilities**

Objective To ensure that uses do not compromise the capacity of utility services	
<b>Acceptable Solutions</b>	<b>Comment</b>
A1 If for permitted or no permit required uses.	Complies – the proposed works are permitted in the Utilities zone.

**Development Standards**

There are no relevant development standards applicable to roads within this zone.

**8.8 Overlays**

The site of the works is affected by the Biodiversity Protection Area overlay as shown in Figure 7 which triggers assessment against the Biodiversity Code. The highway is also impacted by the Scenic Corridor which triggers the Scenic Management Code.



Figure 7 Planning scheme Overlay map

## 8.9 Codes

Within the Scheme, there are a number of codes which relate to the proposed works and use and the applicable overlay. Only those which may have application to the proposal are considered.

### E4 Road and Railway Assets Code

This code applies to all use and development and aims to ensure development or land uses do not compromise or conflict with the safety or efficiency of the road network and will maintain the potential for upgrade or operation of existing roads. The code applies to development involving new access or junctions with a road, or which intensifies the level of use of an access or junction or which proposes sensitive uses or subdivisions near railways or certain roads. It does not specifically apply to upgrades of the highway itself however such works are not excluded.

The code requires the provision of a traffic impact assessment (TIA) which must be considered by Council and the relevant authority when assessing applications relying on performance criteria. There are no applicable development standards (as the application does not propose any uses requiring access to the highway) and no reliance on performance criteria. The proponent in this case is the State Growth – the relevant authority for consideration of a TIA however Council has in the past requested a TIA for highway upgrade works. A TIA and TIA acceptance letter from State Growth as the road authority is attached to this report which demonstrates the need for the project and confirms that the proposed construction is in accordance with all relevant design requirements.

It is considered that the purpose of the code is met by the proposed works.



### **E6 Car Parking and Sustainable Transport Code**

This code applies to all use and development. However, there are no standards set for utilities and all works will be constructed in accordance with State Growth Design Guidelines of Austroads standards.

All employees associated with the works will be required to park their vehicles in designated areas in accordance with site safety and management requirements.

### **E7 Scenic Management Code**

This code applies in areas within the scenic management – tourist road corridor and local scenic management areas. This includes land within 200 m of the frontage of the Midland Highway and is within the former corridor.

The purpose of the code is to:

- a) ensure that siting and design of development protects and complements the visual amenity of defined tourist road corridors; and
- b) ensure that siting and design of development in designated scenic management areas is unobtrusive and complements the visual amenity of the locality and landscape.

The proposed works involve safety upgrades to the existing highway which will result in an increase in the pavement width. 4.59 ha of land is to be acquired to facilitate widening and construction of turning areas. Turning facilities are to be located at existing intersections but will involve the removal of some vegetation. Similarly the widening works will result in the loss of mature trees currently located within the road reserve although substantial tracts of forest will be remain on adjoining land. The resultant development will be consistent with the current use and the current appearance of the majority of the highway. Views from the road will be maintained, which is the intent of the corridor. The reduction in tree numbers will open up additional vistas to the travelling public however will not obstruct any views from within or adjacent the road reserve. The only change above the current surface level is the installation of a flexible safety barrier which is consistent with all new works and safety upgrades along the highway. No other structures are proposed which could impact on views or outlooks from the highway. The proposed works are consistent with the purpose of the code.

## E7.6 Development Standards

### E7.6.1 Scenic Management – Tourist Road Corridor

Objective	
<p>(a) To enhance the visual amenity of the identified tourist road corridors through appropriate:</p> <ul style="list-style-type: none"> <li>i) setbacks of development to the road to provide for views that are significant to the traveller experience and to mitigate the bulk of development; and</li> <li>ii) location of development to avoid obtrusive visual impacts on skylines, ridgelines and prominent locations within the corridor; and</li> <li>iii) design and/or treatment of the form of buildings and earthworks to minimise the visual impact of development in its surroundings; and</li> <li>iv) retention or establishment of vegetation (native or exotic) that mitigates the bulk or form of use or development; and</li> <li>v) retention of vegetation (native or exotic) that provides amenity value to the road corridor due to being in a natural condition, such as native forest, or of cultural landscape interest such as hedgerows and significant, exotic feature trees; and</li> </ul> <p>(b) To ensure subdivision provides for a pattern of development that is consistent with the visual amenity objectives described in (a)..</p>	
Acceptable Solutions	Comment
<p>A1 Development (not including subdivision) must be fully screened by existing vegetation or other features when viewed from the road within the tourist road corridor.</p>	<p>Complies</p> <p>Visual impacts are consistent with the nature of the existing highway and the works will not detract from scenic values of the landscapes visible from the highway.</p> <p>No screening is proposed as there is no development other than extension of the road pavement. Some existing vegetation will be removed however substantive areas of land will remain on adjacent land. No structures or other development are proposed as part of the works which will intrude into views from the road. The only visible aspects of the highway, such as the safety barrier and batters are consistent with the existing nature of the highway throughout its length.</p> <p>There will be no impact on ridges or skylines as a consequence of the road works.</p> <p>The proposed works cannot be located outside the corridor as they are part of the existing road. They must be done within the existing corridor and vegetation must be removed to allow construction and to remove potential collision hazards.</p>
<p>A2 – not applicable as it relates to subdivision</p>	

## E8 Biodiversity Code

This code applies as small areas either side of the alignment are impacted by the Priority Habitat overlay. The requirements of the code are addressed in the attached ecological assessment and Biodiversity Code Compliance Statement.



**E9 Water Quality Code**

This code applies to development within 50 m of a wetland or watercourse. The proposed works will be within 50 m of several drains and watercourses that ultimately connect with the South Esk River.

The purpose of this code is to:

- a) consider the impacts of development to limit adverse effects on the following:
  - i) wetland and watercourse ecosystems; and
  - ii) flow regimes, water levels, biological activity and physical characteristics; and
  - iii) the variety of flora and fauna; and
  - iv) the role of wetlands and watercourses for water supply, flood mitigation, environmental protection, water regulation and nutrient filtering, as resources for recreational activities and as attractive features in the landscape; and
- b) improve the sustainable management of surface water through development.

The proposed works satisfy the purpose of this code. The proposed works are located within the existing highway reservation and 4.59 ha of adjoining areas of land to be acquired. These areas are generally cleared as they accommodate the existing highway and side roads. No riparian vegetation was identified in the ecological assessment and current water flows will be maintained by the extension of existing stormwater pipes under the highway. Water quality during construction will be managed under the construction contractor's CMP, which will include a soil and water management plan, detailing erosion and sediment control measures.

**9.6 Development Standards**

**E9.6.1 Development and Construction Practices and Riparian Vegetation**

Objective	
To protect the hydrological and biological roles of wetlands and watercourses from the effects of development.	
<b>Acceptable Solutions</b>	<b>Comment</b>
<p>A1 Native vegetation is retained within:</p> <ul style="list-style-type: none"> <li>a) 40m of a wetland, watercourse or mean high water mark; and</li> <li>b) a Ben Lomond Water catchment area - inner buffer.</li> </ul> <p>Vegetation will be cleared within 40 m of a watercourse – relies on performance criteria.</p> <p>P1 Native vegetation removal must submit a soil and water management plan to demonstrate:</p> <ul style="list-style-type: none"> <li>a) revegetation and weed control of areas of bare soil; and</li> <li>b) the management of runoff so that impacts from storm events up to at least the 1 in 5 year storm are not increased; and</li> <li>c) that disturbance to vegetation and the ecological values of riparian vegetation will not detrimentally affect hydrological features and</li> </ul>	<p>The watercourses crossing under the highway are part of a network of drainage that includes the feedlot detention system. Only two of these (which merge) eventually connect with the South Esk River. There is little overlap between these watercourses and the Priority Habitat areas or mapped native vegetation.</p> <p>State Growth requires that the contractors' construction methodology and management of potential environmental impacts be guided by the following documents:</p> <ul style="list-style-type: none"> <li>• DPIPWE Wetlands and Waterways Works Manual;</li> <li>• A Soil and Water Management Plan</li> <li>• A Site Rehabilitation Plan (that the contractor must submit for Department approval within three months of commencement of construction).</li> </ul>



<b>Objective</b> To protect the hydrological and biological roles of wetlands and watercourses from the effects of development.	
<b>Acceptable Solutions</b> functions.	<b>Comment</b> There is approximately 1260 m <sup>2</sup> of redundant road likely to be created as a consequence of road alignment straightening. These areas will be ripped and graded to ensure no ponding then covered with 50 mm of topsoil and hydro-mulched.
A2 and A3	Not applicable – no wetlands or watercourses will be filled. Existing pipes will be extending to ensure flows under the highway are maintained.

### E9.6.2 Water Quality Management

<b>Objective</b> To maintain water quality at a level which will not affect aquatic habitats, recreational assets, or sources of supply for domestic, industrial and agricultural uses.	
<b>Acceptable Solutions</b>	<b>Comment</b>
A1 All stormwater must be: a) connected to a reticulated stormwater system; or b) where ground surface runoff is collected, diverted through a sediment and grease trap or artificial wetlands prior to being discharged into a natural wetland or watercourse; or c) diverted to an on-site system that contains stormwater within the site.	Complies. During construction, the construction contractor will be required to implement erosion and sediment control measures as part of its CMP. Surface run off from the completed road pavement will discharge as sheet flow – as occurs currently. Table drains 300 mm deep or 500 mm wide trapezoidal drains will be installed as appropriate.
A2.1 No new point source discharge directly into a wetland or watercourse. A2.2 For existing point source discharges into a wetland or watercourse there is to be no more than 10% increase over the discharge which existed at the effective date.	Complies. No new point sources are proposed and no significant increases in discharges from existing pipes are expected.

### E9.6.3 Construction of Roads

<b>Objective</b> To ensure that roads, private roads or private tracks do not result in erosion, siltation or affect water quality.	
<b>Acceptable Solutions</b>	<b>Comment</b>
No acceptable solution. Performance criteria must be used. P1 Road and private tracks constructed within 50m of a wetland or watercourse must comply with the requirements of the Wetlands and Waterways Works Manual, particularly the guidelines for siting and designing stream	State Growth requires that the contractors' construction methodology and management of potential environmental impacts be guided by the following documents: <ul style="list-style-type: none"> <li>• DPIPWE Wetlands and Waterways Works Manual;</li> <li>• A Soil and Water Management Plan</li> </ul>



Objective To ensure that roads, private roads or private tracks do not result in erosion, siltation or affect water quality.	
Acceptable Solutions	Comment
crossings.	<ul style="list-style-type: none"> <li>A Site Rehabilitation Plan (that the contractor must submit for Department approval within three months of commencement of construction).</li> </ul>

## E9.6.4 Access

Objective To facilitate appropriate access at suitable locations whilst maintaining the ecological, scenic and hydrological values of watercourses and wetlands	
Acceptable Solutions	Comment
No acceptable solution. Performance criteria must be used. P1 New access points to wetlands and watercourses are provided in a way that minimises: a) their occurrence; and b) the disturbance to vegetation and hydrological features from use or development.	No new access points to a wetland or watercourse are proposed.
No acceptable solution. Performance criteria must be used. P2 Accesses and pathways are constructed to prevent erosion, sedimentation and siltation as a result of runoff or degradation of path materials.	No new access points to a wetland or watercourse are proposed.

## E9.6.5 Sediment and Erosion Control

Not applicable as it relates only to works associated with the subdivision of land.

**E13 Local Historic Heritage Code**

One property, Fairfield located at 13790 Midland Highway, Epping Forest is subject to these provisions as it is listed in the Code and on the THR. The registered area in the THR listing is limited to the main house and the landscape garden setting, which is located approximately 2 km from the highway. The location of this building is shown in Figure 3 in Section 4.5. Under the Scheme however the entire property must be assessed under the listing (regardless of any THC exclusions).

5,803 m<sup>2</sup> is to be acquired from the Fairfield property to accommodate a turning facility being split equally on either side of the highway. The existing entrance gates and fencing are not considered to be of any heritage significance, and will be reinstated on all new boundaries created as a result of land acquisition. Any reinstated gates or fencing is addressed in accordance with the development standards.

No change to the use or the appearance of the buildings at Fairfield is proposed and many of the development standards are therefore not applicable. The area of interest, as per the THR listing, is sufficiently far from the project site that no impacts on heritage values of the property will occur. The relevant development standards are discussed in the following sections.



## E13.6 Development Standards

### E13.6.5 Fences

<b>Objective</b> To ensure that fences are designed to be sympathetic to, and not detract from the historic heritage significance of local heritage places and the ability to achieve management objectives within identified heritage precincts.	
<b>Acceptable Solutions</b>	<b>Comment</b>
A1 New fences must be in accordance with the acceptable development criteria for fence type and materials within a precinct identified in Table E13.1: Heritage Precincts, if any.	No heritage precinct is identified at this site. Fencing at the site is rural in nature and will be reinstated in the same format.

### E13.6.12 Tree and Vegetation Removal

<b>Objective</b> To ensure that the removal, destruction or lopping of trees or the removal of vegetation does not detract from the historic heritage significance of local heritage places and the ability to achieve management objectives within identified heritage precincts.	
<b>Acceptable Solutions</b>	<b>Comment</b>
No acceptable solution. Performance criteria must be used. P1 The removal of vegetation must not: a) unreasonably impact on the historic cultural significance of the place; and b) detract from meeting the management objectives of a precinct identified in Table E13.1: Heritage Precincts, if any.	Complies. The Fairfield buildings and gardens are located 2 km from the highway and will not be impacted by any vegetation removal adjacent to the highway.

## 8.10 Specific Area Plans

No specific area plans are relevant to the proposed works.

## 9. Tasmanian Heritage Register

The proposal includes road upgrade works on the THR-listed Fairfield property. The THR datasheet for listing states that the registered area is limited to the main house and landscape garden setting, both of which are located some 2km from the Midland Highway. The listing is subject to a Statement of Heritage Interest which applies a Heritage Precinct around the main farm house and garden, being some 2km from the roadworks.

Based on the Heritage Precinct (rural exclusions), a exemption is available from the THC which may avoid the need for a discretionary permit on this basis.

The Fairfield Heritage Precinct is located approximately 2km from the highway and there is no significant entry feature which relates to the heritage values of the property. It is considered that an exemption can be requested for the proposed boundary adjustment for the acquisition avoiding the need for THC approval.



## 10. Other Planning Provisions

### 10.1 State Policies

State policies have been prepared in relation to coastal protection, protection of agricultural land and water quality management. The site of the works is not within a coastal location and is not located on prime agricultural land. The policies related to the coast and agricultural land are not applicable.

No use of groundwater or point source water discharges are proposed. State Growth contractors are required to develop a CMP, including a soil and water management plan, and the State Policy on Water Quality Management is not considered to be applicable in this instance.

## 11. Conclusion

The Midland Highway Safety Upgrades Epping Forest to Powranna Project is a component of the Midland Highway 10 Year Action Plan.

The project is located predominantly within the Utilities zone with minor extensions into the Rural Resource zone. The development is classed as Utilities, which is a Permitted use class within the Utilities zone but a Discretionary use class in the Rural Resource zone. One property within the area of works is listed as being of heritage significance however buildings that are within the area of interest will not be impacted by the proposed works. Some land will be acquired to accommodate road widening and a turn facility however an exemption can be granted by the THC.

The site of the works is also impacted to a small degree by the Priority Habitat overlay. The ecological values within the upgrade area have been assessed and it is considered that there will be no significant impact to ecological values as a consequence of the works. The adoption of best practice soil and erosion management techniques will ensure water quality is not detrimentally impacted during construction. Visual impacts are consistent with the nature of the existing highway and the works will not detract from scenic values of the landscapes visible from the highway.

The proposed works comply with the intent and standards applicable to each zone as outlined in the scheme. In addition to codes related to overlays, the proposed works have been assessed against other relevant codes within the scheme. The proposed works comply with all relevant code requirements.

This report includes specialist assessments as attachments to provide an environmental and heritage context for Council.

It is considered that the proposed roadworks meet the relevant provisions of the Scheme as discussed and are recommended for approval.





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Exhibited

# Midland Highway Upgrade Program Epping Forest to Powranna Traffic Impact Assessment



**Prepared for:**

**Department of State Growth**

**Client representative:**

**Stefano Conforti**

**Date:**

**26 October 2016**

**Rev01**

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### Appendices

- Appendix A: Link Map  
Appendix B: Site Plans

Prepared by: Rebekah Giana Date: 26 October 2016

Reviewed by: Bob Given Date: 26 October 2016

Authorised by: Nicholas Dwyer Date: 26 October 2016

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00	Traffic Impact Assessment	R. Giana	B. Given	N. Dwyer	07/10/2016
01	Traffic Impact Assessment	R. Giana	B. Given	N. Dwyer	26/10/2016



## 1. Introduction

Midland Highway – Epping Forest to Powranna Safety Improvements project is a component of the Midland Highway Upgrade Program, a 10 year plan with a total commitment of \$500 million from the Australian and State Governments to make safety improvements along the Midland Highway. The project which involves the upgrading of 11km of the Midland Highway from Bellevue Road at Epping Forest to Powranna Road (Midland Highway Link 80, Chainage 0.31 to 11.19). It is intended that this project will deliver safety improvements and additional overtaking opportunities on the existing highway.

As the project is on a major highway, the Northern Midlands Council require a Traffic Impact Assessment (TIA) to be completed to ensure traffic volumes do not impact the operation of the Midland Highway and intersections of Council roads with the Highway. The Department of State Growth has engaged **pitt&sherry** to undertake a TIA for the upgrade to accompany the Development Application for the Midland Highway Upgrade from Epping Forest to Powranna.

This report has been prepared in accordance with the Department of State Growth's *Framework for Undertaking Traffic Impact Assessments* and details the findings of the traffic assessment undertaken for the proposed development.

## 2. Site Location

Figure 1 shows the extent of the project in the local context with the Department of State Growth link map attached in Appendix A.

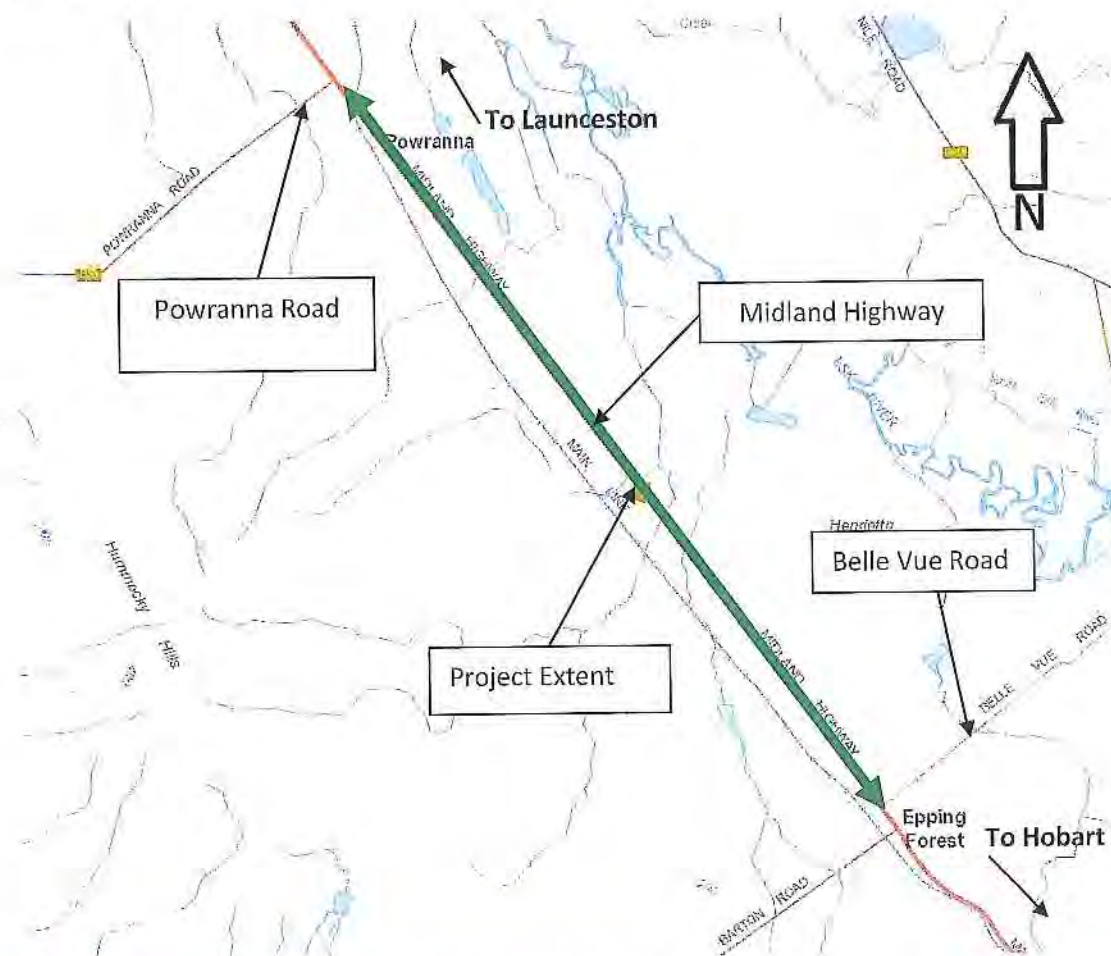


Figure 1: Locality Plan (Basemap source: [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au))

### 3. Development Proposal

The safety improvements will include the following:

- Separation of northbound and southbound lanes through provision of a 2.1m wide median with a central flexible safety barrier
- Construction of northbound and southbound overtaking lanes ranging in length from 1.2km to 1.5km
- Removal (or protection with flexible safety barrier) of road side hazards such as steep side slopes and drains to provide a safer road environment
- Design of verges to ensure a minimum of 2.0m sealed verges and 0.5m unsealed verges
- Design of the road width to ensure a minimum of 3.5m wide traffic lanes.

These works will:

- Reduce the likelihood and severity of head-on collisions by separating opposing streams of traffic
- Reduce the severity of run-off road crashes by removing roadside hazards and ensuring wide verges
- Provide additional overtaking opportunities
- Provide a strengthened pavement with improved rideability.

This will result in widening of the existing sealed pavement (including shoulders) from 9.4m to 13.1m in 2 lane sections and to 16.1m where overtaking lanes are provided. Existing 1.0m wide sealed shoulders will be widened to 2.0m and property accesses will be sealed and provided with turning aprons that meet current design standards. Where accesses are used by heavy vehicles, appropriate pavement widths will be provided and suitable set-backs will also be included so that vehicles that are required to stop at accesses are completely clear of the highway.

The flexible safety barrier will restrict access to left turn in and left turn out for all properties. Suitable turning facilities will be provided at the following locations:

- i. Bellevue Road (Midland Highway Link 80, Chainage 0.31)
- ii. Fairfield Estate Property Access (Link 80, Chainage 3.00)
- iii. Forton Main Property Access (Link 80, Chainage 4.50)
- iv. Forton Minor Property Access (Link 80, Chainage 8.00)
- v. Powranna Road (Link 80, Chainage 11.19).

Each of the above turning facilities can be used by vehicles up to the size of a B-double truck.

In addition there will be a break in the median at the access to the Tasmanian Feed Lot (Link 80, Chainage 10.4). There will be no turning facility at this location but all turning movements will be permitted.

The Bend Road intersection (Link 80, Chainage 3.57) will become a left in/ left out intersection.

The location of the side roads and proposed turning facilities are shown in the plans attached in Appendix B.



## 4. Existing Conditions

### 4.1 Midland Highway

The Midland Highway is a State Owned Category 1 Road under the Department of State Growth State Road Hierarchy. It is aligned in a north-south direction in the vicinity of the site and has a posted speed limit of 110km/h.

In the extent of the project the Midland Highway generally has a single lane in each direction, except for locations with overtaking lanes.

### 4.2 Existing Traffic Operation

Traffic data for the Midland Highway was requested from the Department of State Growth. Data was available for counts undertaken in 2011 at Bend Road and Powranna Road. A growth rate of approximately 3% has been recorded at these locations.

The 2016 traffic volumes for all major roads and accesses are summarised in Table 1.

Table 1: Existing Midland Highway Traffic Volumes

Location	2016 AADT (vpd)	AM Peak Hour (vph) <sup>(1)</sup>	PM Peak Hour (vph) <sup>(2)</sup>	% Heavy Vehicles
At Bend Road	7215	722	722	16.1%
At Powranna Road	7360	736	736	18.6%

<sup>(1)</sup>AM and PM peak hour traffic volumes assumed as 10% of daily traffic

### 4.3 Crash History

The Department of State Growth has provided crash history information for the most recent 5 year period on the Midland Highway within the project extent.

A total of 17 crashes occurred within the project extent in the last 5 years with varying levels of severity as shown in Table 1. The location of each of the crashes is shown in Figure 2.

Table 2: Midland Highway Crash History

Crash Type	Number
Fatal	1
Serious	3
First aid	1
Minor	2
Property	10
<b>Total</b>	<b>17</b>



Figure 2: Midland Highway Crash History

There appears to be no significant correlation between the road condition and the recorded crash history as the crashes occurred at various times throughout the day and in different weather conditions. The majority of crashes were rear end crashes or involved vehicles running off the road.

In particular, the fatal crash involved a vehicle veering off the carriageway to the right, and the serious injury crashes were caused by vehicles travelling on the wrong side of the road or veering left off the carriageway.

It is expected that the safety upgrades to the Midland Highway will reduce the prevalence of these crashes, particularly through the implementation of flexible safety barrier and removal of roadside hazards.

## 5. Construction Impacts

### 5.1 Access

Access to the site will be via the existing Midland Highway. The works will be controlled by a comprehensive traffic management plan that must be prepared by the Contractor undertaking the works. The traffic management plan must comply with Department of State Growth Specification Requirements that include limits on delay times.



## 5.2 Parking

Parking for construction workers' vehicles will be provided at a site compound on property adjacent to the highway. A number of light vehicles will need to park near work activities and the Contractor's Traffic Management Plan will outline these parking arrangements and the safety procedures with respect to parking clear of highway traffic.

## 5.3 Traffic Generation

Based on preliminary information, the traffic movements that are expected to be generated from the construction of the highway upgrade are shown in Table 3.

**Table 3: Additional Traffic During Construction**

Activity	Number of trips
Mobilisation	Up to 20 truck trips per day – 2 to 4 weeks duration
Construction workers	20 trips per day in light vehicles – duration of project, approximately 24 months
Earthworks	Up to 150 truck trips per day generally operating on new formation or clear of traffic lanes - duration approximately 10 months
Pavement materials	Up to 60 truck trips per day. Expected to be sourced from major quarries and delivered via the Midland Highway – duration approximately 12 months
Delivery of general construction materials	Up to 10 truck trips per day – duration approximately 24 months
Demobilisation	Up to 20 truck trips – 1 to 2 weeks duration

The information in Table 3 shows that traffic volumes on the Midland Highway are expected to increase by no more than 200 vehicles per day or 25 vehicles per hour and these additional traffic movements will predominately be heavy vehicles. The Northern Midlands Council state that the increase in AADT traffic movements must not be more than 10%. These figures above represent an increase of approximately 3% on current traffic volumes and are within the Council requirement.

The site will be under the control of the Contractor and will operate under a reduced speed limit during working hours and may at times operate under reduced speed limits during non working times.

The predominant impact on traffic operations on the Midland Highway will be delays due to construction activity as distinct from delays due to the increased traffic generated from material deliveries and workers travelling to and from the site. As indicated above the Department of State Growth impose strict performance requirements with respect to traffic control and delays on its worksites that include:

- Maximum delay of 8 minutes without prior notice to the travelling public
- Maximum delay of 15 minutes where prior notice is given to the travelling public
- Restrictions on lane closures
- Minimum standards for side tracks and detours
- Daily surveillance of Contractors activities and monitoring of traffic operation.

Construction activity will inevitably result in some reduction on level of service on the Midland Highway for the expected 24 month duration of the works; however, the measures indicated above will ensure that any reduction is within tolerable levels.

The impact on the local road network controlled by the Northern Midlands Council is expected to be negligible as almost all additional traffic generated as a result of the works will travel on the Midland Highway.

## 5.4 Turning Movements

The site will be controlled by appropriate signing in Accordance with AS1742.3 *Manual of uniform traffic control devices - Traffic control for works on roads*. In addition, where required, traffic controllers will assist trucks to turn into or out of designated work areas.

## 5.5 Road Safety

The Traffic Management Plan prepared by the Contractor will describe the traffic management measures that will be implemented by the Contractor to ensure the safety of both the travelling public and construction workers. This Traffic Management Plan will be monitored on a daily basis and will also be the subject of audits to ensure its effectiveness.

# 6. Post Development Traffic Impacts

## 6.1.1 Traffic Impacts

The impact on the local road network controlled by the Northern Midlands Council is expected to be negligible as all major traffic generating properties and roads will have a turning facility or full turning movement.

Based on this, the additional traffic generated to side roads would be very low and would be expected to be much less than the Council maximum requirement of a 10% increase in AADT traffic movements at each of the side road junctions with the Midland Highway.

# 7. Sight Distances

The Safe Intersection Sight Distance (SISD) has been assessed for vehicles at the following locations:

- Bellevue Road (Midland Highway Link 80, Chainage 0.31)
- Fairfield Estate Property Access (Link 80, Chainage 3.00)
- Forton Main Property Access (Link 80, Chainage 4.50)
- Forton Minor Property Access (Link 80, Chainage 8.00)
- Tasmanian Feed Lot (Link 80, Chainage 10.4)
- Powranna Road (Link 80, Chainage 11.19).

The SISD has been assessed against the *AUSTROADS Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections*.

As discussed, the speed limit on the Midland Highway in the vicinity of Roseneath Road is 110km/h. The SISD for a 110km/h road is 300m (with a reaction time of 2.5s). Based on the road design for this project, the SISD is expected to be well in excess of the AUSTROADS requirement in both directions at each of these locations.



## 8. Summary

An assessment of the traffic impacts associated with the construction of the Midland Highway Safety Upgrades between Epping Forest and Powranna has been undertaken in accordance with Department of State Growth's *Framework for Undertaking Traffic Impact Assessments*. This assessment includes examination of construction impacts, safe intersection sight distances, traffic operations and road safety. The analysis and discussions presented in the report can be summarised as follows:

- The additional traffic volumes generated by the construction of the facility are expected to have some impact on the level of service on the highway, however the implementation of required traffic control measures will ensure that this impact is kept within tolerable limits
- The additional traffic movements generated post development by the addition of the wire rope and turning facilities are expected to have a minimal impact on the safety and operation of the surrounding road network
- The available sight distances at the side roads and turning facilities are in excess of the AUSTRROADS requirements for a speed limit of 110km/h
- A total of 17 reported crashes have occurred on this section of the Midland Highway over the most recent 5 year period. There appears to be no significant correlation between the road condition and the recorded crash history.

## Appendix A

### Link Map





# MIDLAND HIGHWAY

A0087

	DESCRIPTION	FEAT. No.	DIST. km.	LINK No.
11.19	POWRANNA ROAD	F6963	11.19	85
10.87	POWRANNA RAIL U/PASS	5937	10.78	<b>80</b>
10.05	POWRANNA STOCK U/PASS	5936	9.98	74
	KILOMETRE POST	L35	9.43	NE REGION
				SURVEY 1287
				REVISED 4/13
8.72	FORTON NORTH STOCK U/PASS	5817	8.30	
7.51				
7.03				
	KILOMETRE POST	H160	6.15	
5.91				
	FORTON STOCK UNDRPASS	5899	4.75	
	KILOMETRE POST	L40	4.58	
3.63	BEND ROAD	F9041	3.57	
	UNKNOWN ROAD		3.03	
	FAIRFIELD STOCK UNDERPASS	5806	2.48	
	PERMANENT TRAFFIC COUNTER	WIM		
1.83				
	BELLEVUE ROAD	F8945	0.31	
0.00	BARTON ROAD	F8987	0.00	

SCALE 1:50 000

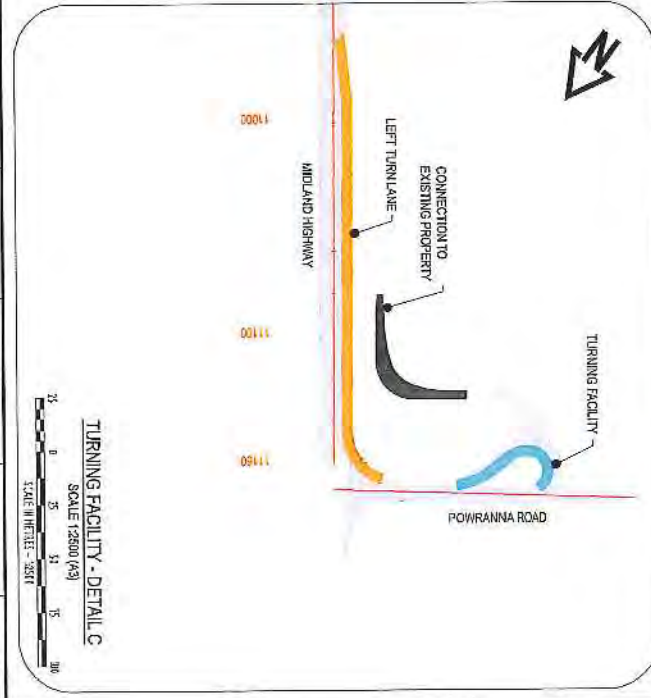
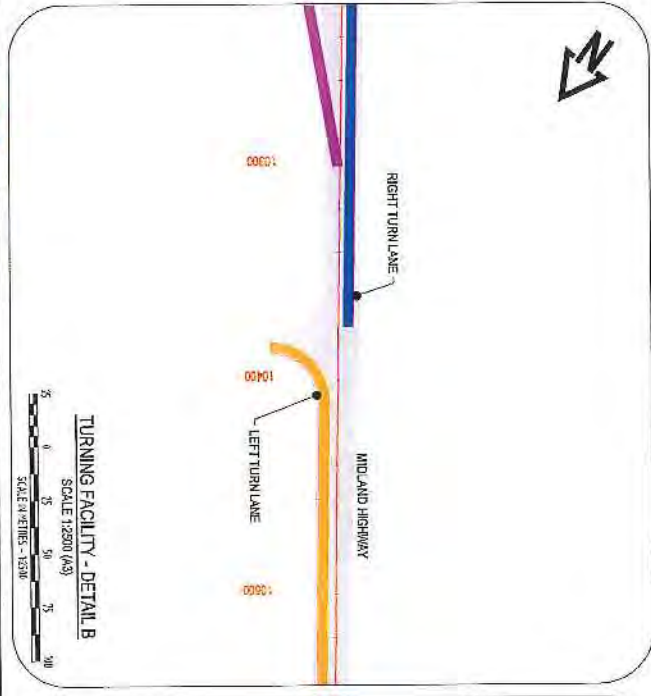
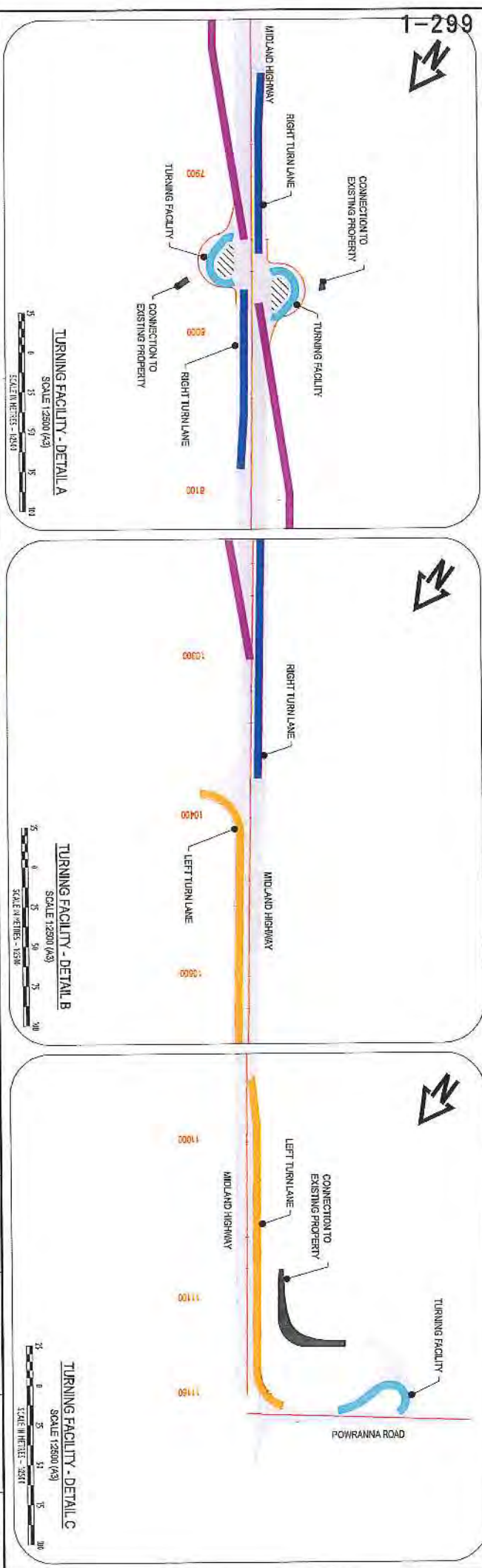
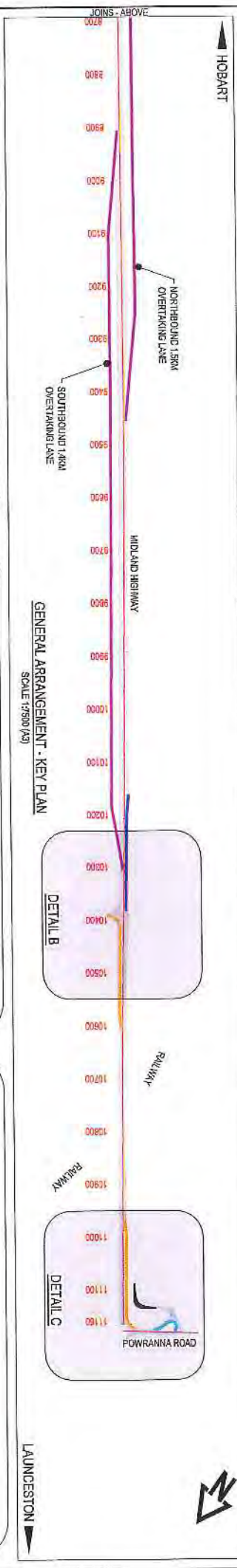
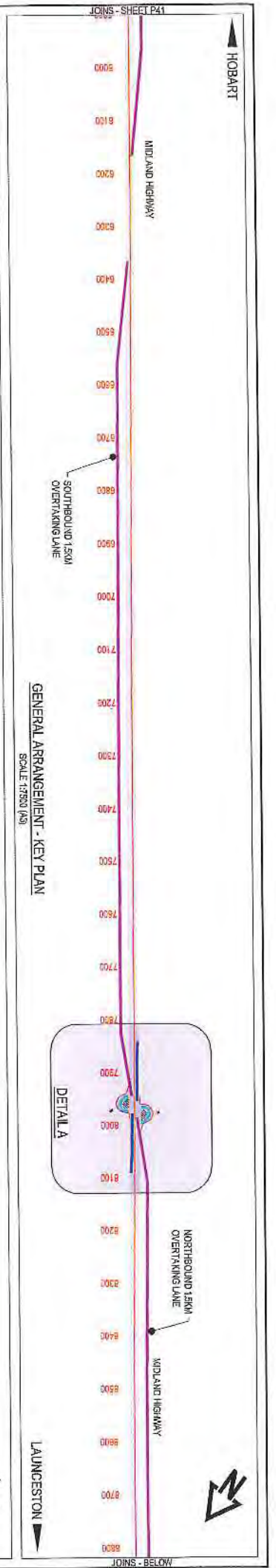


## Appendix B

### Site Plans

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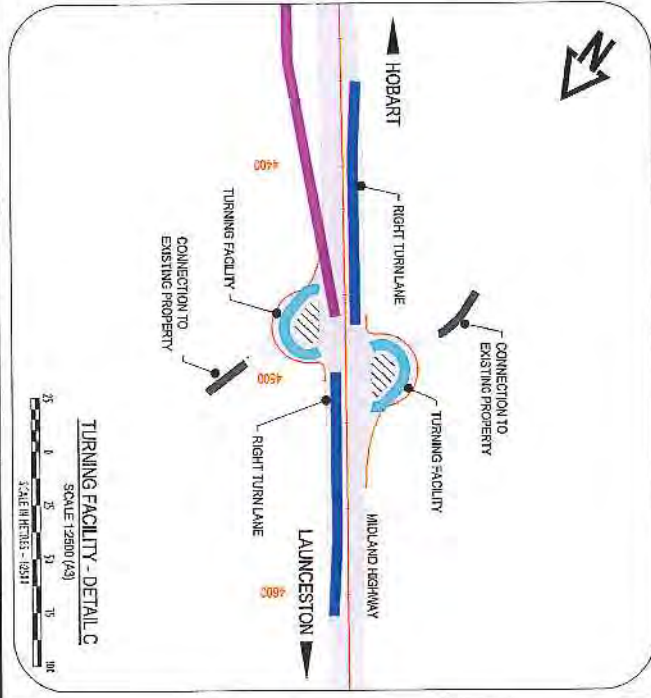
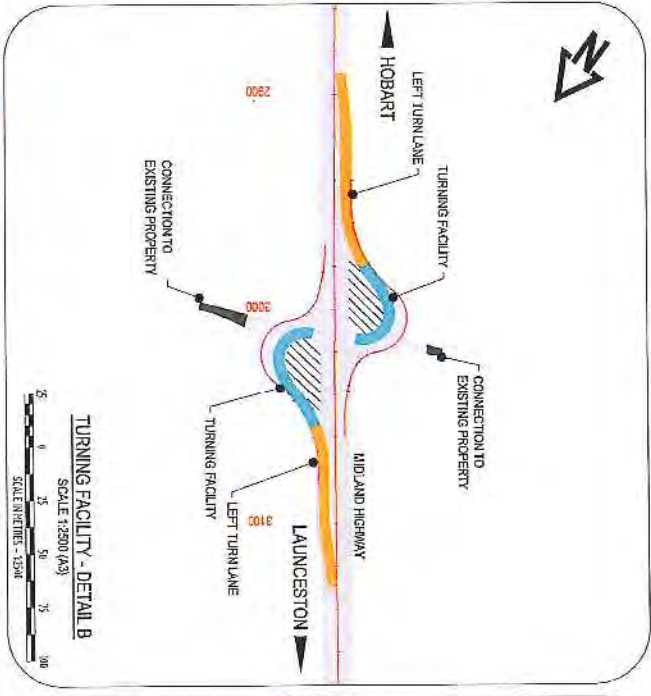
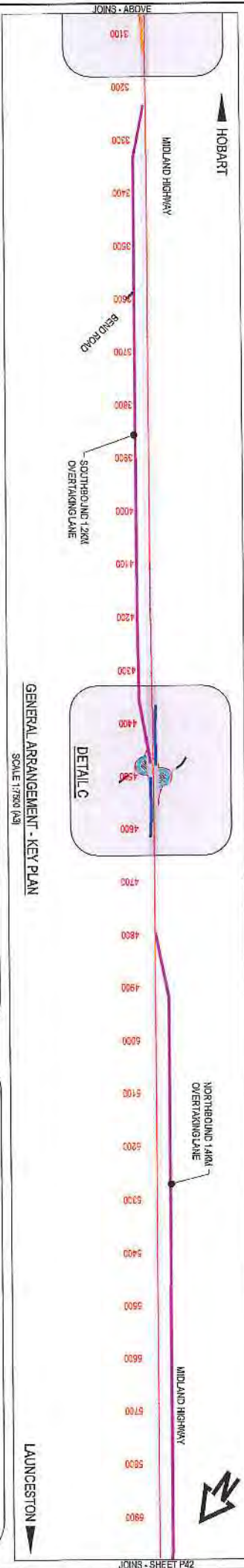
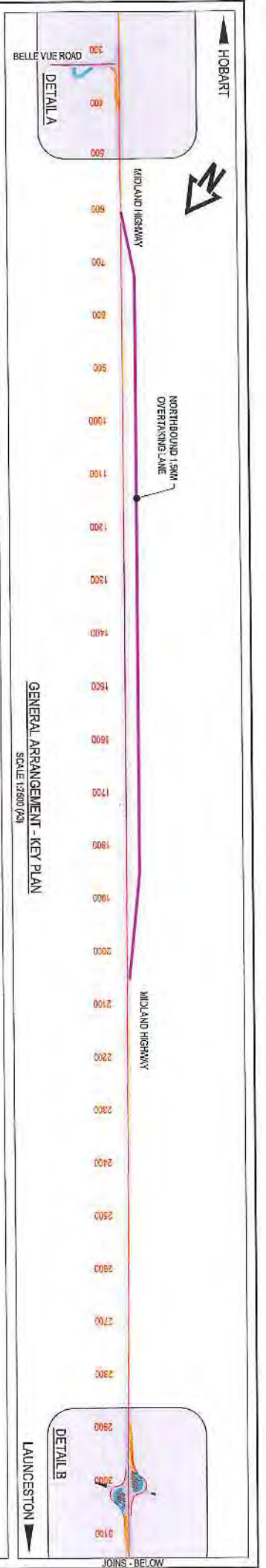




No.	Amendment Description	Initials	Date

DESIGNED	LALLEN	REVIEWED	MADWYER
Department of State Growth			
MIDLAND HIGHWAY (A0087)			
EPPING FOREST TO POWRANNA			
SAFETY UPGRADES			
GENERAL ARRANGEMENT - KEY PLAN			
CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
	H816193-1422	13-Sep-16, 4:00 PM	P42
REGISTRATIONAL NUMBER	A0087	REVISION	



No.	Amendment Description	Initials	Date	Co-ordinate system: MGA Zone 56	Height datum: A.M.S.L.	DESIGNED BY LAILEN	REVIEWED BY NADYVER	Department of State Growth MIDLAND HIGHWAY (A0087) EPPING FOREST TO POWRANNA SAFETY UPGRADES	CONTRACT NO.	DRAWING H91619441	PRINTED DATE 13-Sep-16, 3:29 PM	SHEET NO. P41						
													AD original	This sheet may be prepared using colour and may be incomplete if coded	GENERAL ARRANGEMENT - KEY PLAN		REGISTRATION NUMBER A0087	REVISION /
															GENERAL ARRANGEMENT - KEY PLAN			