



SARA reference: 2105-22413 SRA
 Council reference: MCU193
 Applicant reference: A8-118

22 June 2021

Chief Executive Officer
 Balonne Shire Council
 PO Box 201
 ST GEORGE QLD 4487
 council@balonne.qld.gov.au

Attention: Fiona Macleod

Dear Fiona

SARA response—315 Trackers Crossing Road, St George

(Referral agency response given under section 56 of the *Planning Act 2016*)

The development application described below was confirmed as properly referred by the State Assessment and Referral Agency (SARA) on 14 May 2021.

Response

Outcome:	Referral agency response – with conditions.
Date of response:	22 June 2021
Conditions:	The conditions in Attachment 1 must be attached to any development approval.
Advice:	Advice to the applicant is in Attachment 2 .
Reasons:	The reasons for the referral agency response are in Attachment 3 .

Development details

Description:	Development permit	Material Change of Use for Intensive Animal Industry (10,000 Standard Sheep Units and 50,000 Standard Cattle Units) and Environmentally Relevant Activity 2(1)(c) and 2(2)(a) – Intensive Animal Feedlotting, and Associated Operational Works
SARA role:	Referral Agency.	

SARA trigger:	<p>Schedule 10, Part 19, Division 1, Subdivision 3, Table 1, Item 1—Operational work that involves taking or interfering with water (Planning Regulation 2017)</p> <p>Schedule 10, Part 5, Division 4, Table 2, Item 1—Environmentally relevant activities (Planning Regulation 2017)</p> <p>Schedule 10, Part 9, Division 4, Subdivision 1, Table 1, Item 1—Development impacting on state transport infrastructure (Planning Regulation 2017)</p> <p>Schedule 10, Part 9, Division 4, Subdivision 1, Table 1, Item 1—Material change of use of premises near a state transport corridor or that is a future state transport corridor (Planning Regulation 2017)</p>
SARA reference:	2105-22413 SRA
Assessment Manager:	Balonne Shire Council
Street address:	315 Trackers Crossing Road, St George
Real property description:	Lot 1 on BLM760
Applicant name:	Kooroon Pastoral Pty Ltd
Applicant contact details:	<p>C/- RDC Engineers Pty Ltd PO Box 1223 Toowoomba QLD 4350 rod.davis@rdcengineers.com.au</p>
Environmental Authority:	<p>This referral included an application for an environmental authority under section 115 of the <i>Environmental Protection Act 1994</i>. Below are the details of the decision:</p> <ul style="list-style-type: none"> • Approved • Reference: 2021-10 • Effective date: When the related development application is approved • Prescribed environmentally relevant activity (ERA): ERA 2 (1) (c) and ERA 2 (2) (a) <p>If you are seeking further details about the environmental authority, please contact the Department of Agricultural and Fisheries (DAF) at: livestockregulator@daf.qld.gov.au</p>
State-controlled road access permit:	<p>This referral included an application for a road access location, under section 62A(2) of <i>Transport Infrastructure Act 1994</i>. Below are the details of the decision:</p> <ul style="list-style-type: none"> • Approved • Reference: A8-118 • Date: 16 June 2021 <p>If you are seeking further information on the road access permit, please contact the Department of Transport and Main Roads at Downs.South.West.IDAS@tmr.qld.gov.au</p>

Representations

An applicant may make representations to a concurrence agency, at any time before the application is decided, about changing a matter in the referral agency response (s.30 Development Assessment Rules). Copies of the relevant provisions are in **Attachment 4**.

A copy of this response has been sent to the applicant for their information.

For further information please contact Ian McHugh, Principal Planning Officer, on (07) 4616 7320 or via email ToowoombaSARA@dsmip.qld.gov.au who will be pleased to assist.

Yours sincerely



Darren Cooper
Manager - DDSW (Planning)

cc Kooroon Pastoral Pty Ltd aff Kooroon Trust, C/- RDC Engineers Pty Ltd, rod.davis@rdcengineers.com.au

enc Attachment 1 - Referral agency conditions
Attachment 2 - Advice to the applicant
Attachment 3 - Reasons for referral agency response
Attachment 4 - Representations about a referral agency response
Attachment 5 - Approved plans and specifications

Attachment 1—Referral agency conditions

(Under section 56(1)(b)(i) of the *Planning Act 2016* the following conditions must be attached to any development approval relating to this application) (Copies of the plans and specifications referenced below are found at Attachment 5)

No.	Conditions	Condition timing
Material change of use		
10.9.4.2.4.1 and 10.9.4.1.1.1—The chief executive administering the <i>Planning Act 2016</i> nominates Director-General of the Department of Transport and Main Roads to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following conditions:		
1.	<p>(a) Pay a monetary contribution to the Department of Transport and Main Roads towards protecting and maintaining the pavement structure of the Moonie Highway in accordance with section 146(2)(a) of the <i>Planning Act 2016</i>. The amount of the contribution:</p> <ul style="list-style-type: none"> (i). must be paid in accordance with Table 5-3: Development Pavement Impacts and Contributions of the Traffic Report prepared by HIG, dated 16/04/2021, Ref. P10603, Rev. 4.0. (ii). is to be indexed based on the Road and Bridge Construction Index, Queensland – Class 3101, published quarterly by the Australian Bureau of Statistics (ABS Cat No. 6427, Series ID A2333727L) to the date of payment. <p>(b) Maintain records which document the quantity of stock hauled on the State-controlled road network and submit these records to the Department of Transport and Main Roads' at the time of payment referenced in part (a) of this condition.</p>	<p>(a) Prior to each stage of development.</p> <p>(b) As indicated</p>
2.	<p>(a) The permitted road access location between Lot 1 on BLM760 and the Moonie Highway is to be in accordance with Cadastral Plan prepared by RDC Engineers, dated 15/04/21, ref A8-118-00-02, Revision B, as amended in red by SARA.</p> <p>(b) Road access works comprising of the following must be provided at the permitted access location:</p> <ul style="list-style-type: none"> (i) Construct a Type D Rural Property Access to cater for Type 1 Road Trains in accordance with the Department of Transport and Main Roads Standard Drawing 1807, dated 07/2020; (ii) Provide a 10m seal on driveway approach; and (iii) Provide advanced warning signage for 'trucks turning'. Construct a Basic left and Basic Right turn treatments (BAL and BAR) to cater for Type 1 Road Trains. <p>(c) The road access works must be designed and constructed in accordance with the Department of Transport and Main Roads' Manual of Uniform Traffic Control Devices, Standard Drawing 1807, dated 07/2020 and, Road Planning and Design Manual.</p>	<p>(a) At all times</p> <p>(b) (i) and (c) - Prior to commencement of use</p> <p>(b) (ii), (iii) and (c) - Prior to Stage 3 commencing use</p>
Operational works		
Works reference no: 575716		

10.19.1.3.1.1—The chief executive administering the <i>Planning Act 2016</i> nominates the Director-General of the Department of Regional Development, Manufacturing and Water to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following conditions:		
3.	<p>The contour bunding, effluent pond and sedimentation pond must be constructed generally in accordance with the following plans:</p> <ul style="list-style-type: none"> • Development Application – Material Change of Use Proposed Development – Stage 1, 2, 3, 4, 5, 6 and 7 Layout; Prepared by RDC Engineers, Figure 31, A8-118-00-31, Revision B, dated 15/04/2021 • Development Application – Material Change of Use Subject Land – Cadastral Plan; Prepared by RDC Engineers, Figure 2, A8-118-00-02, Revision B, dated 15/04/2021 • Development Application – Material Change of Use Proposed Development – Waste Utilisation Areas; Prepared by RDC Engineers, Figure 16, A8-118-00-16, Revision B, dated 15/04/2021 • Development Application – Material Change of Use Proposed Development – Sedimentation Basin Section and Control Outlet Details; Prepared by RDC Engineers, Figure 15, A8-118-00-15, Revision B, dated 15/04/2021. 	For the duration of the works.
4.	Any person(s) contracted to construct the works authorised by this development approval, must be provided with a full copy of the development approval and made aware of the conditions.	For the duration of the works.
5.	Notification must be given in writing to the chief executive of the Department of Regional Development, Manufacturing and Water at St George watersouthwest@rdmw.qld.gov.au on completion of the works.	Within 30 business days of the completion of the works.
6.	<p>The ponds must have the maximum dimensions of:</p> <ul style="list-style-type: none"> • Sedimentation pond – volume of 8.75ML; and • Effluent holding pond - volume of 80ML. 	For the duration of the works.

Attachment 2—Advice to the applicant

General advice	
1.	Terms and phrases used in this document are defined in the <i>Planning Act 2016</i> its regulation or the State Development Assessment Provisions (SDAP) v2.6. If a word remains undefined it has its ordinary meaning.
2.	<p>Road access works approval: Under sections 62 and 33 of the <i>Transport Infrastructure Act 1994</i>, written approval is required from the Department of Transport and Main Roads to carry out road works that are road access works (including driveways) on a state-controlled road. Please contact the Department of Transport and Main Roads to make an application for road works approval. This approval must be obtained prior to commencing any works on the state-controlled road reserve. The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). The road access works approval process takes time – please contact Department of Transport and Main Roads as soon as possible to ensure that gaining approval does not delay construction.</p> <p>The applicant should note that reference to the approved plans imply conceptual approval only. Further modifications and inclusions are likely to be required in order for submitted detailed designs to comply with the Department of Transport and Main Roads standards at the roadworks application (s33 TIA) stage. In particular, detailed designs may require, but should not limited to, necessary lane widening for provision of lengthening of turn lanes, installation of lighting, signage and line marking, pavements, utilities and services, and roadsides and roadside furniture.</p>

Attachment 3—Reasons for referral agency response

(Given under section 56(7) of the *Planning Act 2016*)

The reasons for SARA's decision are:

Subject to conditions, the development complies with State code 1: Development in a state-controlled road environment and State code 6: Development impacting on state transport infrastructure of the State Development Assessment Provisions. Specifically, the development:

- does not create a safety hazard for users of a state-controlled road
- does not compromise the structural integrity of state-controlled roads, road transport infrastructure or road works
- does not result in a worsening of the physical condition or operating performance of state-controlled roads and the surrounding road network
- does not compromise the state's ability to construct, or significantly increase the cost to construct state-controlled roads and future state-controlled roads
- does not compromise the state's ability to maintain and operate state-controlled roads, or significantly increase the cost to maintain and operate state-controlled roads.

Subject to conditions, the development complies with State code 10: Taking or interfering with water. Specifically, the development:

- will have no impact on the natural riverine ecosystem
- will not impact other uses ability to access the resource
- take of overland flow water is not more than the volume necessary to satisfy the requirements of an environmental authority authorised under section 97 of the *Water Act 2000*.

The development complies with State code 22: Environmentally relevant activities. Specifically, the development:

- will not cause environmental harm to the acoustic, air, or receiving waters environment
- will not release hazardous contaminants to the environment
- avoids impacts on matters of state environmental significance including Category C and R vegetation.

Material used in the assessment of the application:

- The development application material and submitted plans
- *Planning Act 2016*
- Planning Regulation 2017
- The State Development Assessment Provisions (version 2.6)
- The Development Assessment Rules
- SARA DA Mapping system
- *Human Rights Act 2019*

Attachment 4—Representations about a referral agency response

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Attachment 5—Approved plans and specifications

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Development Assessment Rules—Representations about a referral agency response

The following provisions are those set out in sections 28 and 30 of the Development Assessment Rules¹ regarding **representations about a referral agency response**

Part 6: Changes to the application and referral agency responses

28 Concurrence agency changes its response or gives a late response

- 28.1. Despite part 2, a concurrence agency may, after its referral agency assessment period and any further period agreed ends, change its referral agency response or give a late referral agency response before the application is decided, subject to section 28.2 and 28.3.
- 28.2. A concurrence agency may change its referral agency response at any time before the application is decided if—
- (a) the change is in response to a change which the assessment manager is satisfied is a change under section 26.1; or
 - (b) the Minister has given the concurrence agency a direction under section 99 of the Act; or
 - (c) the applicant has given written agreement to the change to the referral agency response.²
- 28.3. A concurrence agency may give a late referral agency response before the application is decided, if the applicant has given written agreement to the late referral agency response.
- 28.4. If a concurrence agency proposes to change its referral agency response under section 28.2(a), the concurrence agency must—
- (a) give notice of its intention to change its referral agency response to the assessment manager and a copy to the applicant within 5 days of receiving notice of the change under section 25.1; and
 - (b) the concurrence agency has 10 days from the day of giving notice under paragraph (a), or a further period agreed between the applicant and the concurrence agency, to give an amended referral agency response to the assessment manager and a copy to the applicant.

¹ Pursuant to Section 68 of the *Planning Act 2016*

² In the instance an applicant has made representations to the concurrence agency under section 30, and the concurrence agency agrees to make the change included in the representations, section 28.2(c) is taken to have been satisfied.

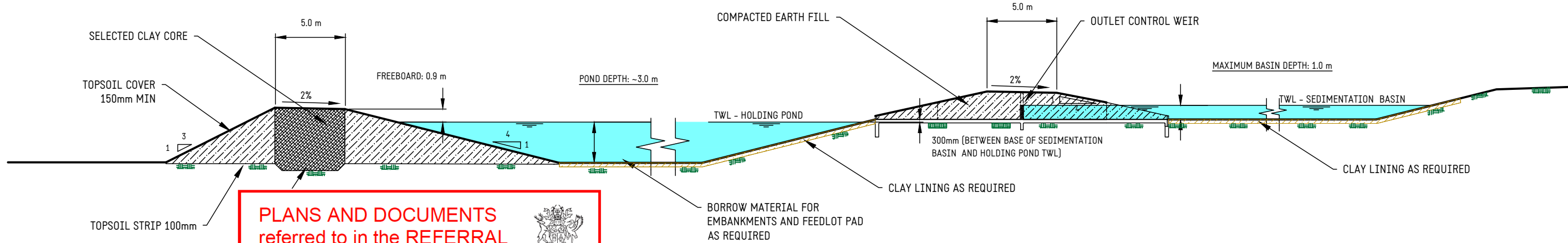
Part 7: Miscellaneous

30 Representations about a referral agency response

30.1. An applicant may make representations to a concurrence agency at any time before the application is decided, about changing a matter in the referral agency response.³

³ An applicant may elect, under section 32, to stop the assessment manager's decision period in which to take this action. If a concurrence agency wishes to amend their response in relation to representations made under this section, they must do so in accordance with section 28.

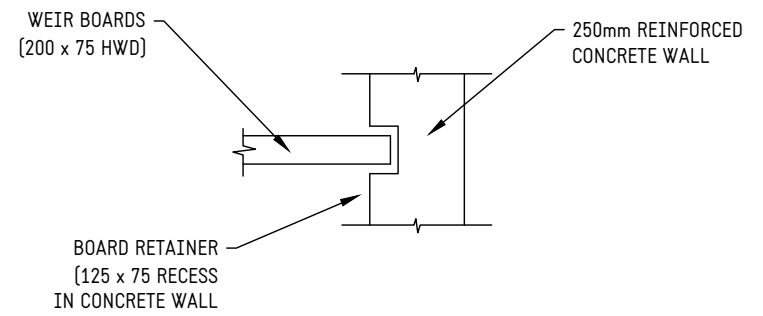
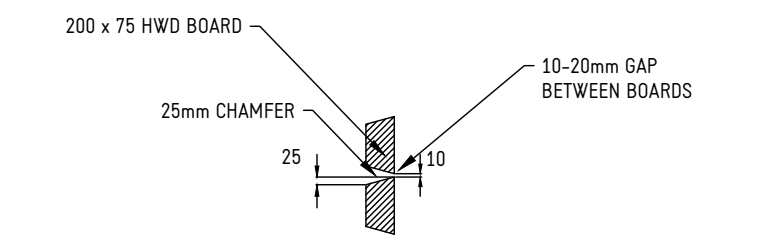
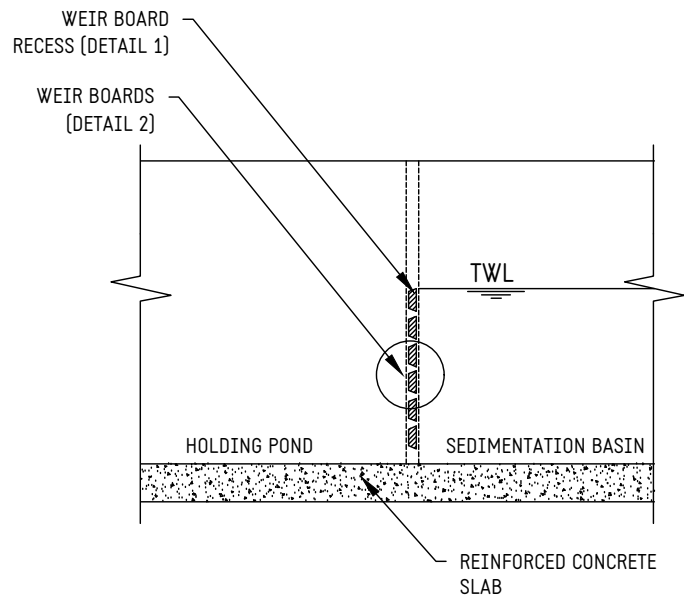
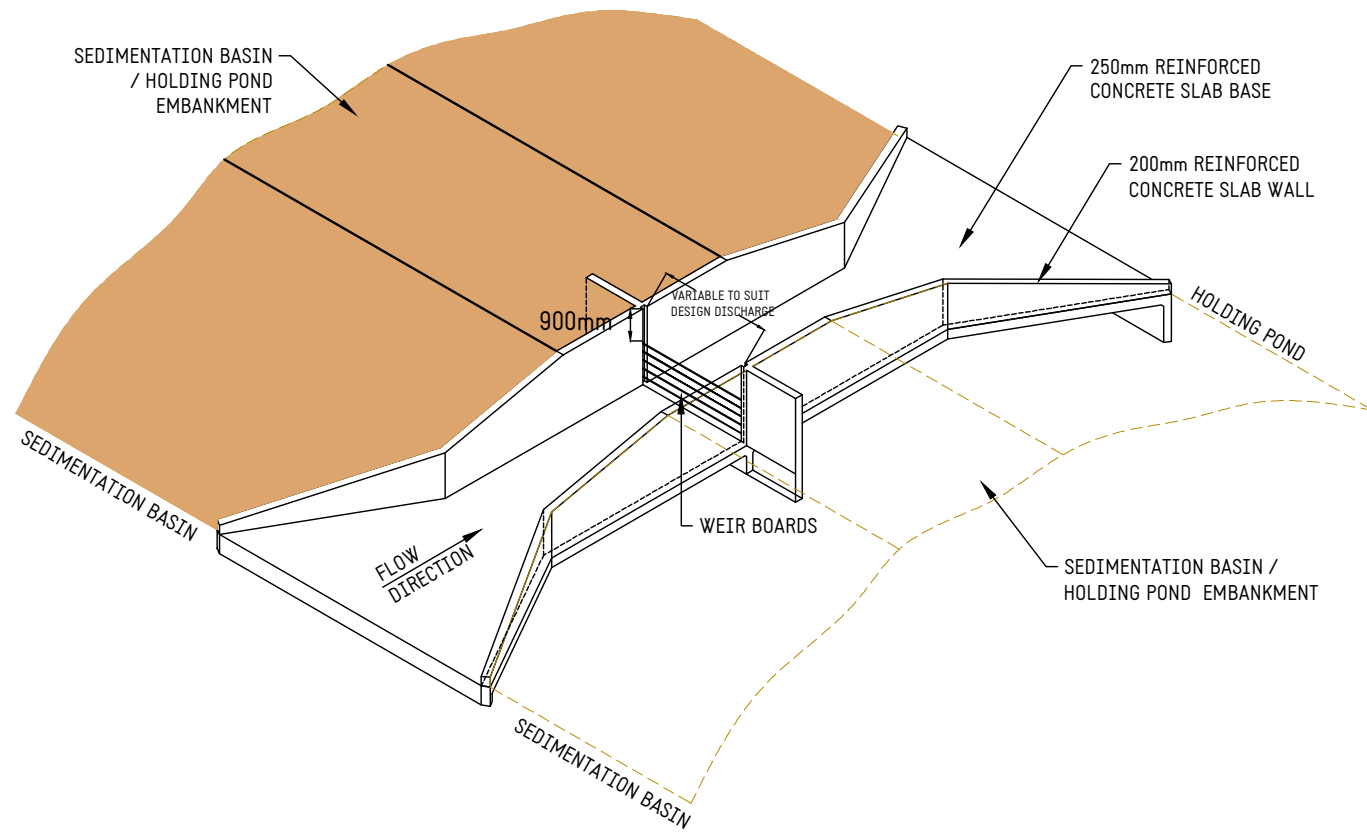
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PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE
 SARA ref: 2105-22413 SRA
 Date: 22 June 2021



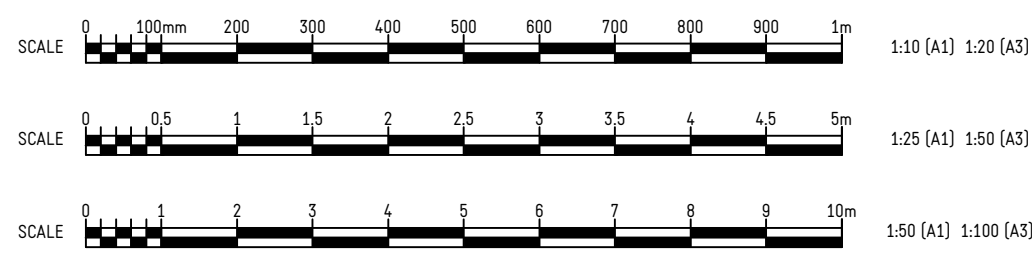
TYPICAL CROSS-SECTION: SEDIMENTATION BASIN AND HOLDING POND
SCALE 1:150



SECTION A - SECTION THROUGH CONTROL STRUCTURE
SCALE 1:25

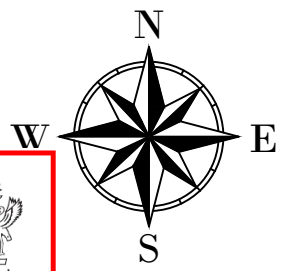
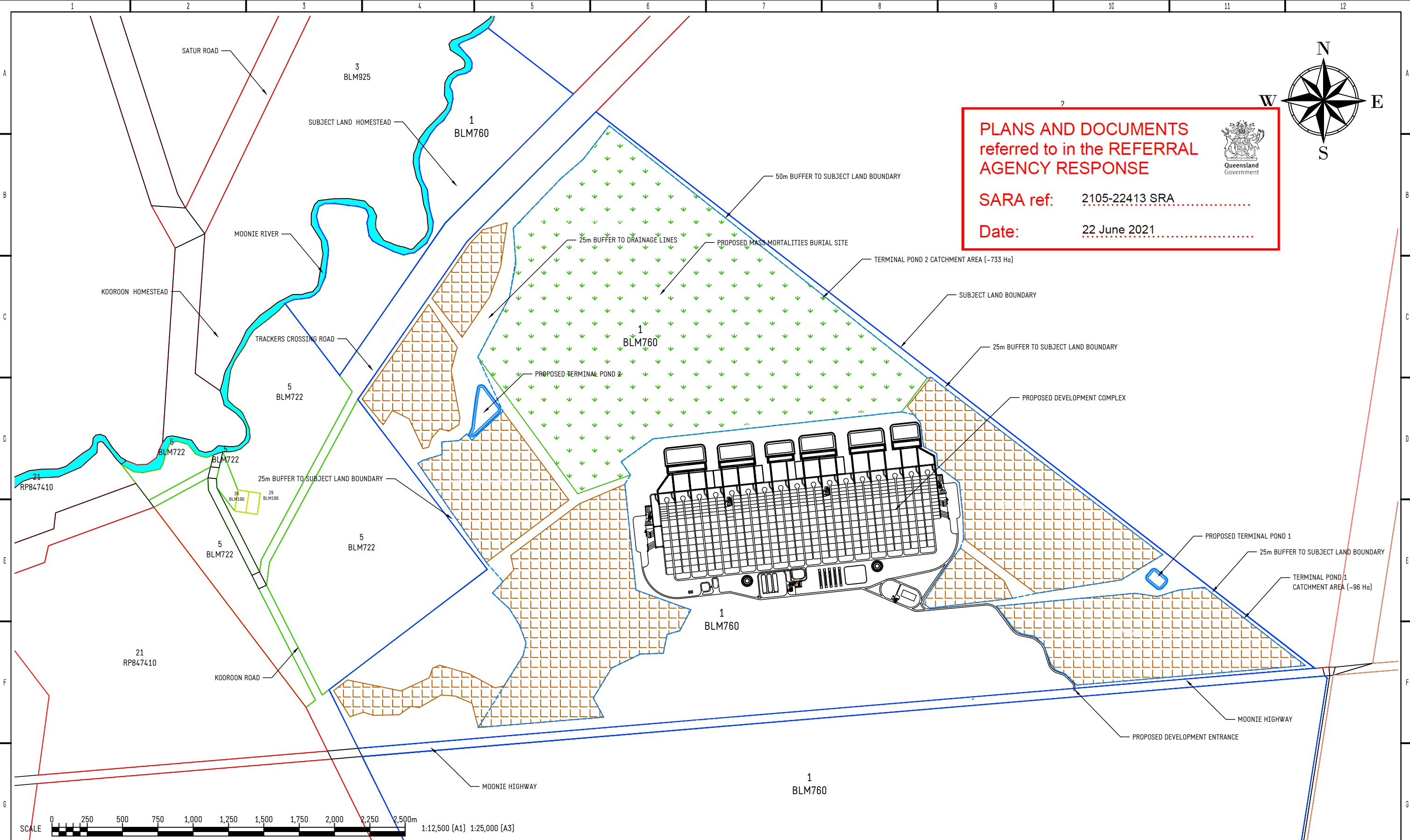
DETAIL 2 - WEIR BOARDS SECTION VIEW
SCALE 1:10

DETAIL 1 - BOARD RETAINERS PLAN VIEW
SCALE 1:10



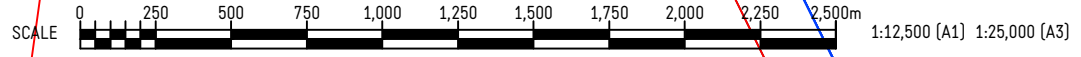
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A	18/03/21	ISSUE TO CLIENT	RJD	RJD	RJD	DRAWN	RJD	KOORON PASTORAL PTY LTD ATF KOORON TRUST	PROPOSED INTENSIVE ANIMAL INDUSTRY DEVELOPMENT
B	15/04/21	FINAL ISSUE FOR DEVELOPMENT APPLICATION	RJD	RJD	RJD	DATE	15/04/2021	DEVELOPMENT APPLICATION - MATERIAL CHANGE OF USE PROPOSED DEVELOPMENT - SEDIMENTATION BASIN SECTION AND CONTROL OUTLET DETAILS	
						CHECKED	RJD		
						DATE	15/04/2021		
						APPROVED	RJD	REPORT REFERENCE	SUPPLIED DRAWING NUMBER
						DATE	15/04/2021	FIGURE 15	A3
								DRAWING NUMBER	REV.
								A8-118-00-15	B

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PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

SARA ref: 2105-22413 SRA.....
 Date: 22 June 2021.....



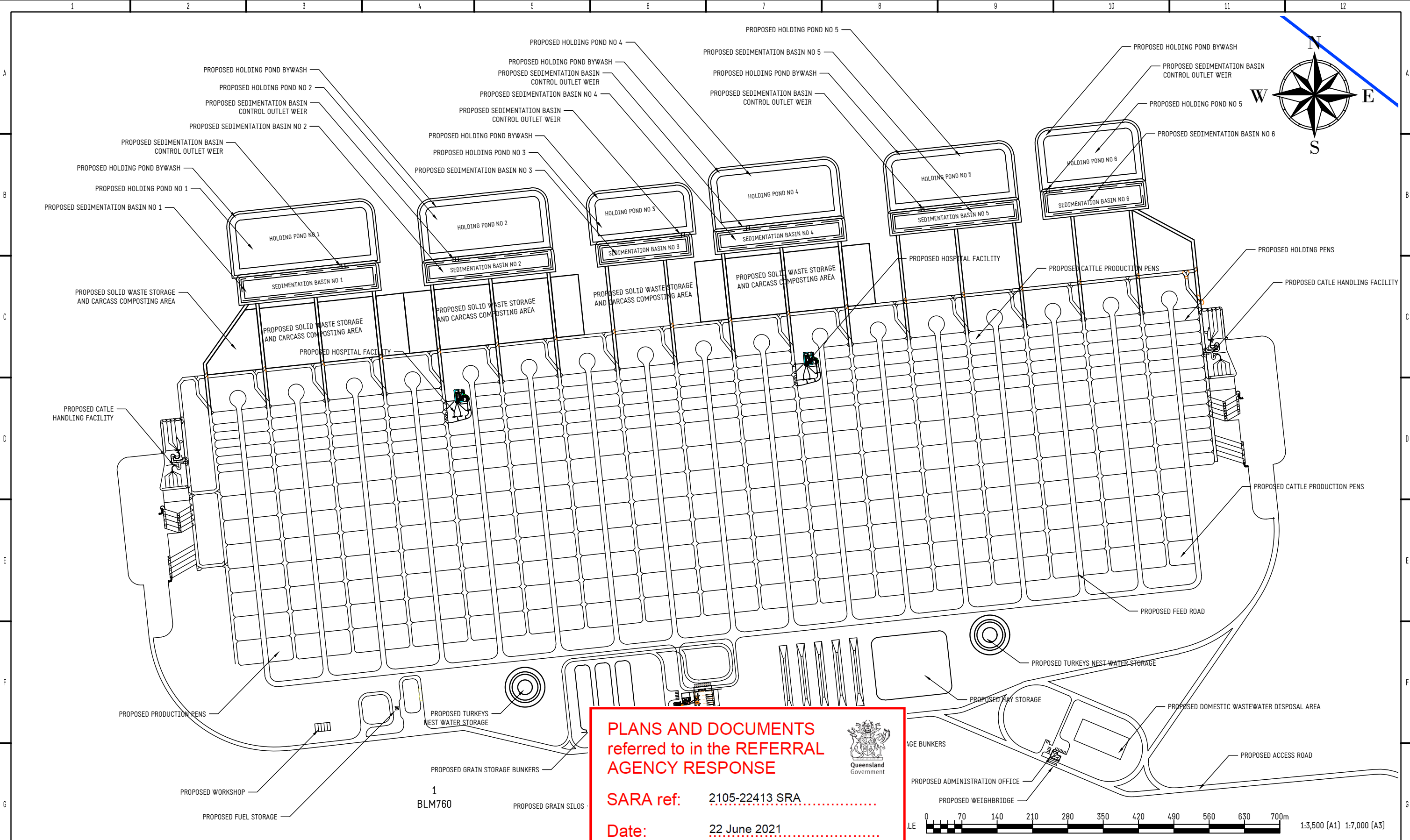
- LEGEND**
- SUBJECT LAND BOUNDARY
 - LAND PARCEL BOUNDARY
 - ▤ EFFLUENT UTILISATION AREA (~426 Ha)
 - ▤ SOLID WASTE UTILISATION AREA (~495 Ha)
 - TERMINAL POND CATCHMENT BOUNDARY

- NOTES**
1. THIS MAP IS BASED ON DIGITAL GIS DATA FROM THE STATE OF QUEENSLAND (DEPARTMENT OF NATURAL RESOURCES, MINES AND ENERGY (DNRM)) 2018 - QUEENSLAND SPATIAL CATALOGUE.
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REV.	DATE	REVISION DESCRIPTION	DRAWN	CHECK	APPROVED	SCALE	1:25,000 (A3)	CLIENT	KOOROON PASTORAL PTY LTD ATF KOOROON TRUST	
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B	15/04/21	FINAL ISSUE FOR DEVELOPMENT APPLICATION	RJD	RJD	RJD	DATE	15/04/2021	TITLE	DEVELOPMENT APPLICATION - MATERIAL CHANGE OF USE PROPOSED DEVELOPMENT - WASTE UTILISATION AREAS	
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						APPROVED	RJD	FIGURE 16		B
						DATE	15/04/2021			

DATE PLOTTED: 17 April 2021 BY: RDC Engineers PTY LTD
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PLANS AND DOCUMENTS
referred to in the REFERRAL
AGENCY RESPONSE

SARA ref: 2105-22413 SRA

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LEGEND
 - SUBJECT LAND BOUNDARY
 - LAND PARCEL BOUNDARY

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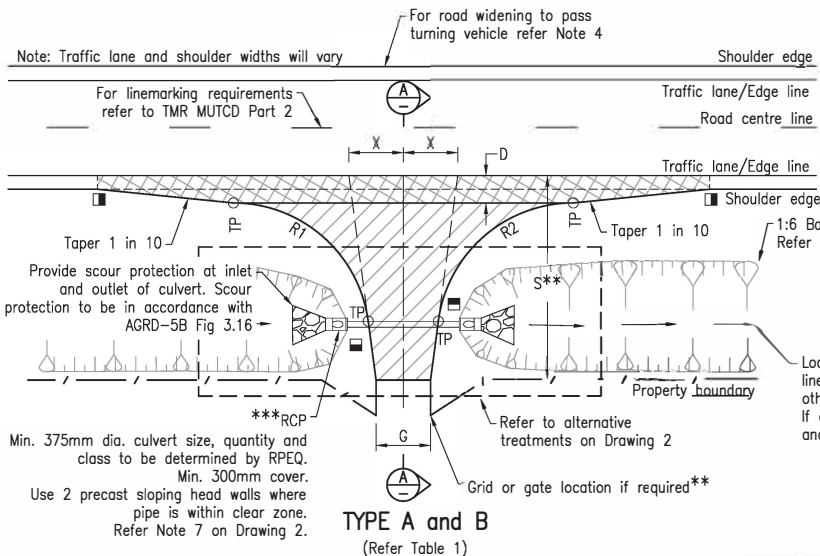
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 TOOWOOMBA QLD 4350
 M: 0427 629 203
 E: info@rdcengineers.com.au

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PROJECT	PROPOSED INTENSIVE ANIMAL INDUSTRY DEVELOPMENT		
TITLE	DEVELOPMENT APPLICATION - MATERIAL CHANGE OF USE PROPOSED DEVELOPMENT - STAGE 1, 2, 3, 4, 5, 6 AND 7 LAYOUT		
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FIGURE 31	A3	A8-118-00-31	B

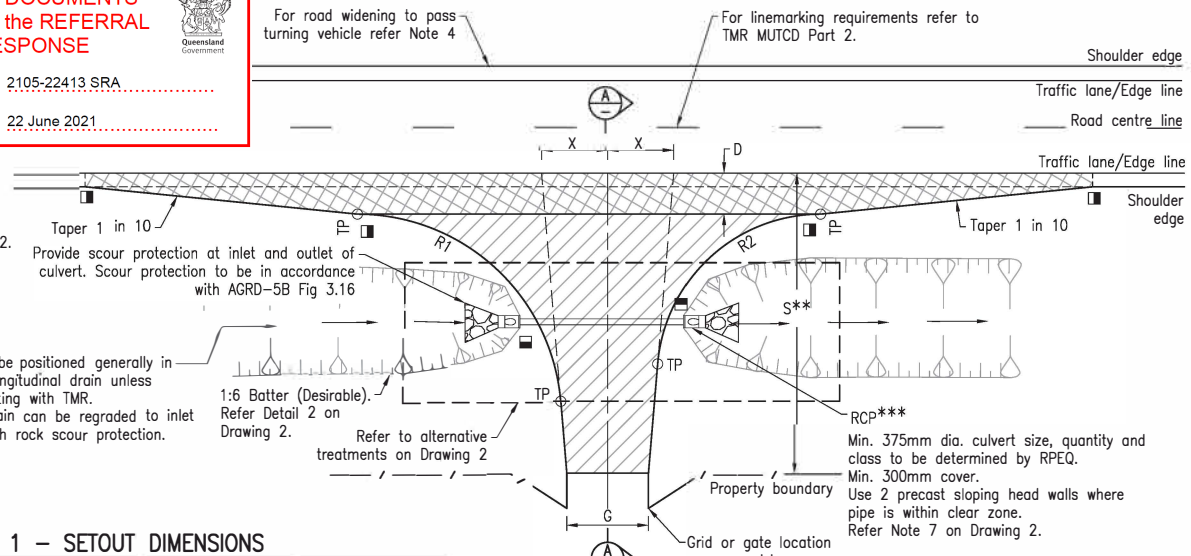
PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE



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TYPE A and B
(Refer Table 1)



TYPE C and D
(Refer Table 1)

LEGEND



Pavement Type 1 – Bitumen surfacing, 2 coat bitumen seal. Pavement depth and type to match existing or proposed through road pavement. Refer to Table 2 for minimum depths.



Pavement Type 2 – Gravel, unbound pavement. Refer to Table 2 for depths. Access may be required to be sealed for up to 10m width from edge line (to minimise gravel on through road) to be determined by the RPEQ.

* Maintain existing shoulder crossfall and superelevation.

** Length 'S' to property boundary by TMR. Where length 'S' is greater than the road reserve boundary, then fencing and grid/gate shall be recessed at the cost of owner from property boundary to ensure vehicle does not impede through lane.

*** RCBC (min. size 600x300) can be used instead of RCP, or invert option where table drain is of insufficient depth for a culvert.

■ Denotes Road Edge Guide Post
The Filled in portion denotes a red reflector and the open portion a white reflector.

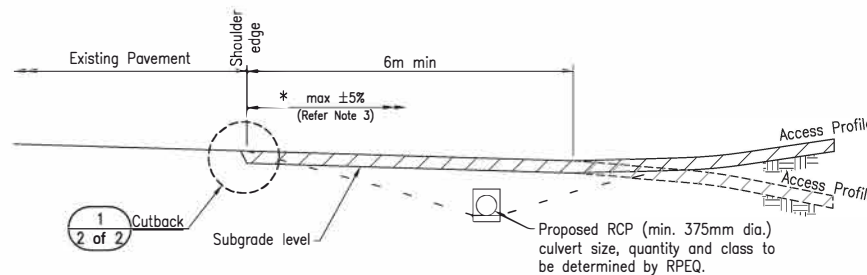
TABLE 2 – MINIMUM PAVEMENT DETAILS AND DEPTH

	TYPE A Residential (Car/Service Vehicle)	TYPE B Commercial (Single Unit Truck/Bus)	TYPE C & D Special (Articulated Vehicles)
Sealed Pavement Base Course	150mm(Min.) Type 2.2 or match existing	200mm(Min.) Type 2.2 or match existing	280mm(Min.) Type 2.2 or match existing
Unsealed Pavement Base Course	150mm(Min.) Type 2.4 or match existing	200mm(Min.) Type 2.4 or match existing	#

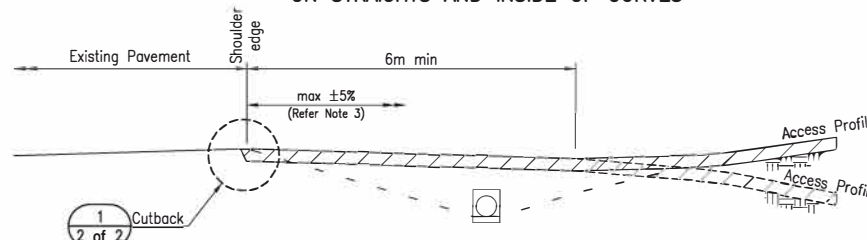
NOTE:
1. Pavement to be sealed if through road is sealed to minimum of width 'D' of Table 1.
2. Where access is located on curves, intersections or is Type C, or excessive screwing motion will occur, pavement seal to extend to property boundary at the owner's cost to the engineer's/designer's discretion.
Bitumen sealed pavement only.
◆ Type 3.1 or 4.3 or match existing is permissible if Type 2.2/2.4 is unable to be used.

TABLE 1 – SETOUT DIMENSIONS

	TYPE A Residential (Car/Service Vehicle)	TYPE B Commercial (Single Unit Truck/Bus)	TYPE C Special (Articulated Vehicles)	TYPE D Special (Road Trains)
R1	10m	10m	15m	20m
R2	10m	10m	12m	12m
D	2m	2m	3m	3m
X	3m	5m	4m	5m
S	12m	15m	22m	30m**
G	4–6m ∅	4–6m ∅	6m	6m
∅ 6m Minimum width for two-way two-lane access.				



ON STRAIGHTS AND INSIDE OF CURVES



ON OUTSIDE OF SUPERELEVATED CURVES

SECTION A

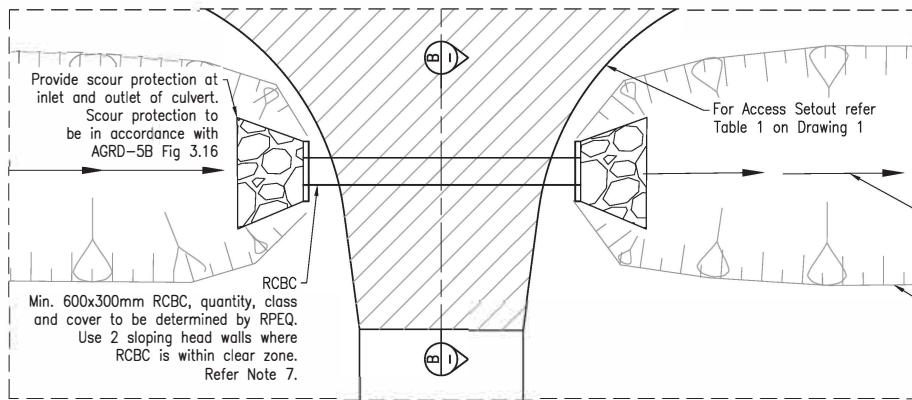
NOTES:

- Details shown on this drawing are the minimum layout requirements for a private rural property access. For additional requirements and other design considerations refer to Sections 7.2.1 and 7.2.3 of the AGRD-4 (2009).
- For sight distance requirements refer to Section 3.4 of the RPD (2nd Edition) Volume 3 Supplement to AGRD-4A, and Section 3 of the AGRD-4A (2010).
- Vertical clearance checks to be carried out for proposed vehicle in accordance with AS 2890.2 – Parking Facilities Off-Street Commercial Vehicle Facilities.
- RPEQ or designer to conduct traffic impact assessment to determine if turning treatments are required. Urban right-turn treatments may be appropriate, refer to Section 7.5 of the AGRD-4A (2010) for pavement widening requirements. Pavement type to match existing or minimums specified in Table 2 of this drawing.
- This drawing is to be read in conjunction with Drawing 2 of 2.
- All dimensions in metres and are minimum unless specified.

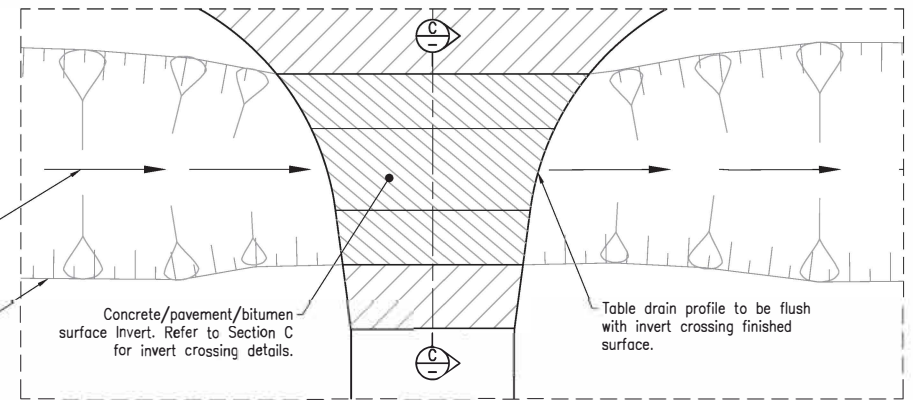
REFERENCED DOCUMENTS:

- Departmental Standard Drawings:**
1243 Precast Culvert Headwalls – Headwall Connections for Culverts
1305 Pipe Culverts – Headwall and Apron for Pipe Diameter 375 to 675
1359 Culverts – Installation, Bedding and Filling/Backfilling Against/Over Culverts
- Departmental Documents:**
RPDM Road Planning and Design Manual (2nd Edition)
MRTS03 Drainage, Retaining Structures and Protective Treatment
- Austrroads Guide to Road Design:**
AGRD-4 (2009) Part 4: Intersections and Crossings – General (2009)
AGRD-4A (2010) Part 4A: Unsignalised and Signalised Intersections (2010)
AGRD-5B (2013) Part 5B: Drainage – Open Channels, Culverts and Floodways (2013)

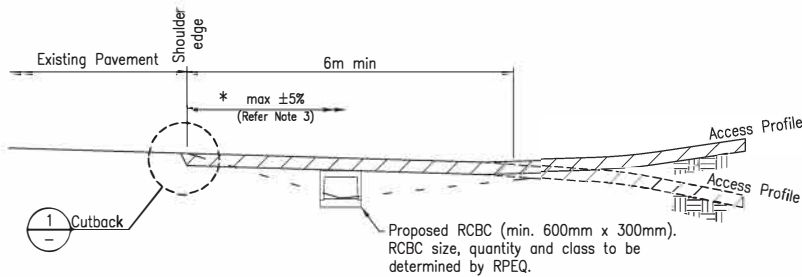
Department of Transport and Main Roads			
PROPERTY ACCESS			
RURAL PROPERTY ACCESS		A3	Standard Drawing No
DRAWING 1 OF 2		Not to Scale	1807
		A	Date 07/2020



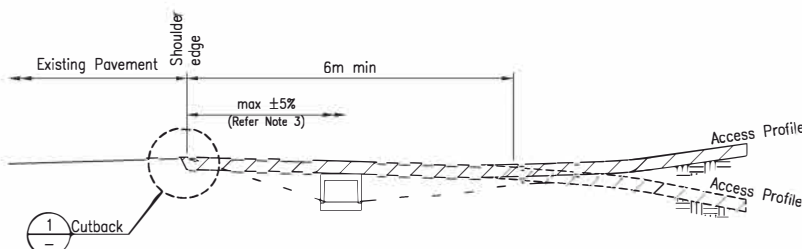
RC BOX CULVERT PLAN VIEW



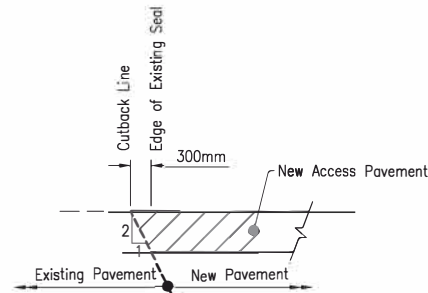
INVERT CROSSING PLAN VIEW



ON STRAIGHTS AND INSIDE OF CURVES



ON OUTSIDE OF SUPERELEVATED CURVES




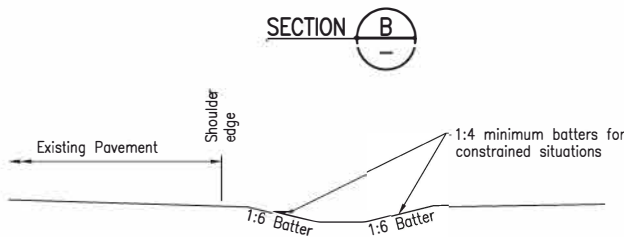
CUTBACK DETAIL



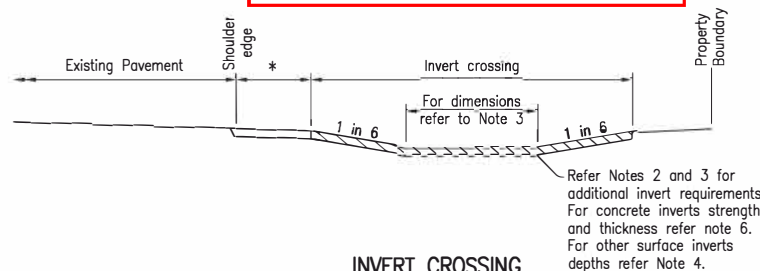
PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

SARA ref: 2105-22413 SRA

Date: 22 June 2021



BATTER DETAIL



INVERT CROSSING



LEGEND



-  Pavement Type 2 – Gravel, unbound pavement. Refer to Table 2 of Drawing 1 for depths. Access may be required to be sealed for up to 10m width from edge line (to minimize gravel on through road) to be determined by the RPEQ.
-  Invert crossing surface
- * Maintain existing shoulder crossfall and superelevation.

NOTES:

1. This drawing is to be read in conjunction with Drawing 1 of 2.
2. Minimum longitudinal fall for concrete or bitumen invert is 0.3%.
3. 1 in 6 grade can be further levelled for larger design vehicles. Ensure sufficient area for drainage remains. Dimensions to be based on stormwater flow rate for appropriate design ARI event to ensure invert crossing can meet required capacity. Type 22 and type 28 inverts can be used if drainage design criteria is met.
4. Vertical clearance checks to be carried out for small rigid vehicle to ensure adequate transition between change in grade. Refer to AS 2890.2.
5. For pavement or bitumen surfacing inverts, refer Table 2 on Drawing 1 for minimum depths.
6. Concrete access to have minimum N32 concrete, 100mm thick on 100mm thick sub-base gravel. Concrete access to be reinforced with SL72 mesh with minimum 40mm top cover.
7. Culvert clear zone varies with location and speed environment. Refer to TMR Road Planning and Design Manual – Supplement to AGRD Part 6, and Austroads Guide to Road Design – Part 6.

REFERENCED DOCUMENTS:

- Departmental Standard Drawings:
- 1260 R C Box Culverts and Slab Link Box Culverts – Culverts Height = 375 To 600
 - 1033 Kerb and Channel – Profiles
- Australian Standards Documents:
- AS2890.2 Parking Facilities – Off-Street Commercial Vehicle Facilities

Department of Transport and Main Roads			
PROPERTY ACCESS			
RURAL PROPERTY ACCESS DRAWING 2 OF 2		A3 Not to Scale	Standard Drawing No 1807 Date 07/2020
		A	

Traffic Impact Assessment

Proposed Sheep and Cattle Feedlot

East Kooroon Feedlot, Westmar

Client: Kooroon Pastoral Pty Ltd

April 2021

**PLANS AND DOCUMENTS
referred to in the REFERRAL
AGENCY RESPONSE**



SARA ref: 2105-22413 SRA

Date: 22 June 2021

Document control sheet

If you have any questions regarding this document, please contact:

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Project No. P10603

Version history

Version No.	Date	Changed By	Details
1.0	24/02/2021	Caroline Smith	Initial Draft
2.0	31/03/2021	Caroline Smith	Pavement Impact Assessment
3.0	6/04/2021	Caroline Smith	Peer review Chris Wright and Cameron Currie & review by RDC Engineers
4.0	16/04/2021	Caroline Smith	Finalisation

Final Report

Approved by: Cameron Currie

RPEQ # 6860

Reference Material

In preparing this report, reference has been made to the following:

- *Guideline for Assessment of Road Impacts of Development*, Department of Main Roads, 2006
- *Guidelines to Traffic Engineering Practice – Part 5 – Intersections at Grade*; Austroads 2009
- *RPDM – Interim Guide to Road Planning and Design Practice* – Department of Main Roads, 2010
- *Road Planning and Design Manual – Chapter 13*, Department of Main Roads, 2006
- *Transport Assessment Guide*, Queensland Transport
- *Queensland Streets* – The Institute of Municipal Engineering Australia, Queensland Division
- *Manual of Uniform Traffic Control Devices- Part 2 Traffic Control Devices for General Use* – Department of Main Roads, 2003
- *Guide to Traffic Generating Developments*, Versions 2.2, RTA, 2002
- *The Guide to Traffic Impact Assessment (TMR, 2017)*.
- *The Guide to Traffic Impact Assessment Practice Note: Pavement Impact Assessment (TMR, 2018)*

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1 INTRODUCTION

Harrison Infrastructure Group Pty Ltd (HIG) has been engaged by Kooroon Pastoral Pty Ltd to undertake an assessment of the traffic impacts on the surrounding road network of the proposed 50,000 (SCU) feedlot at Lot 1 on BLM670 which fronts on to the Moonie Highway. The site is currently used for grazing, with no current traffic generation of significance. There are no dwellings on-site.

The proposed staging of the development is detailed in Table 1-1. As shown, the development will initially commence as a sheep and beef feedlot, however from Stage 2 onwards, the development will only be a beef feedlot, increasing to 50,000 SCUs at Stage 7.

Stage	Sheep feedlot	Beef feedlot	Adopted Opening Year of Stage
1	10,000 SSUs	6,245 SCUs	2021
2	-	14,045 SCUs	2023
3	-	17,750 SCUs	2025
4	-	28,595 SCUs	2026
5	-	33,430 SCUs	2028
6	-	39,670 SCUs	2030
7	-	50,000 SCUs	2032

Table 1-1: Proposed Feedlot Staging

The years for assessment were adopted as per TMR's Guide to Traffic Impact Assessment (Dec 2018):

- Access and frontage (Moonie Highway): Opening year of each stage and 10 years hence post the final stage (2042).
- Intersections and streets/roads with a 5% increase in traffic further afield than the access and frontage: Opening year of each stage (2021-2032).



Figure 2-2: Site location - Lot 1 on BLM670 (QldGlobe, 2021)

2.2 Existing Road Network

The locality of the proposed development is shown in Figure 2-1 and 2-2. All traffic to/from the site via the Moonie Highway from the east or west and enter the site using the proposed access on to the Moonie Highway. Local roads will not be regularly used by development traffic. On this basis, the extent of the existing road network components that may be impacted by the development is limited to the Moonie Highway. Further afield, the development will not increase traffic volumes by greater than 5%.

2.2.1 Moonie Highway

The Moonie Highway within the frontage of the site (7km between Td 212 and 219) currently has the following properties:

- Posted speed 110km/h.
- The highway is sealed, generally 8m wide, with 3.5m wide lanes, 0.5-0.7m wide sealed shoulders, centre linemarking and edge linemarking.
- The road is currently in good condition, with no significant signs of wear within the vicinity of the site.
- Existing volumes:
 - TMR site 51382 at Td 292.2 1.5km east of the Carnarvon Highway (TMR nominate this site as representative between Td 211.96 and Td 293.75) recorded an average annual daily traffic (AADT) of 397 in 2019, including a significant but brief drop in volumes in 2015. Considering aside from the drop in volumes in 2015 there has been fairly consistent volumes since 2012, a linear growth rate of 1% has been adopted for the highway.
 - TMR site 51367 at Td 185.58km recorded an average annual daily traffic (AADT) of 358 in 2019, including a significant but brief drop in volumes in 2015. Considering aside from the drop in volumes in 2015 there has been fairly consistent volumes since 2012, a linear growth rate of 1% has been adopted for the highway.

- Design horizon volumes:
 - Site 51382: Assuming 1% linear growth, the highway is expected to cater 488vpd at the design horizon of the final stage of the development (2042). These volumes remain within the capacity of the existing 8m sealed pavement.
 - Site 51367: Assuming 1% linear growth, the highway is expected to cater 440vpd at the design horizon of the final stage of the development (2042). These volumes remain within the capacity of the existing 8m sealed pavement.
- Within the frontage of the site (Td 212.5) there is an unsigned widening that appears to be a pull over area.

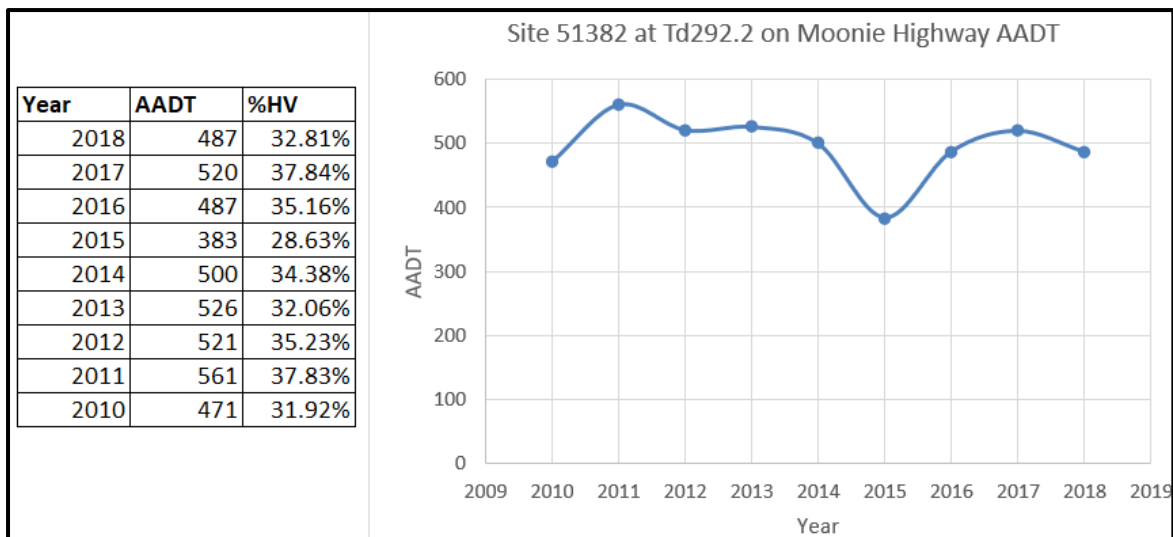


Figure 3-1: AADT on Moonie Highway (site 51382)

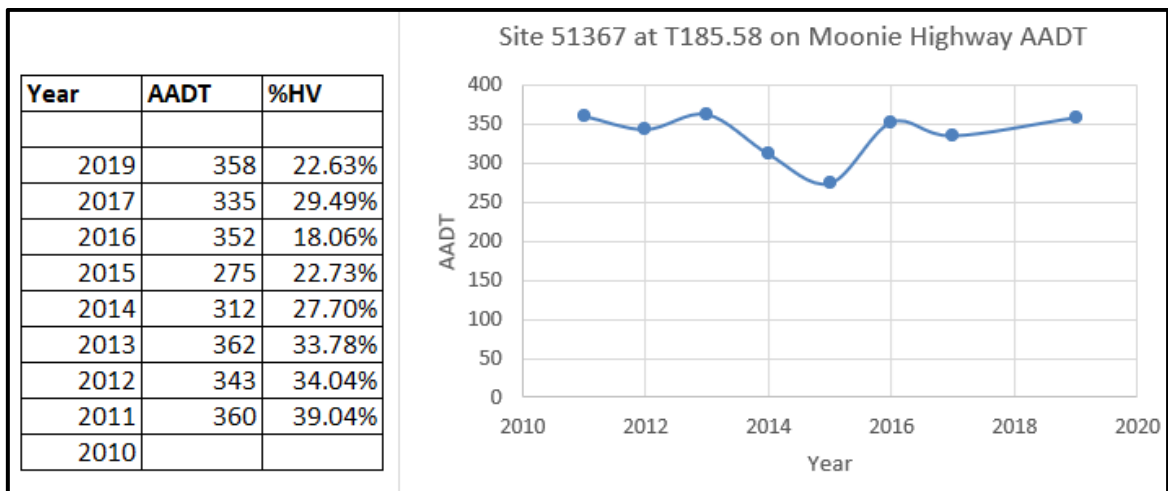


Figure 3-2: AADT on Moonie Highway (site 51367)



Figure 3-3: Unsigned pull over area (~ Td 214.5)

3 TRAFFIC GENERATION AND DISTRIBUTION

To establish the impact of the development on the adjacent road network and assess the need for improvements to accommodate traffic generated by the proposed development, traffic generation and trip distribution have been determined.

3.1 Traffic generation

The traffic generation for the site comprises of the following:

- Existing traffic is negligible. The site is currently used for grazing and has no residential dwellings or traffic generating buildings.
- Additional traffic due to proposed feedlot.

HIG were provided with anticipated yearly and weekly trip movements by RDC Engineers. The traffic generated by the development comprises of the following:

- Light Vehicles:
 - Owner/Employee trips:
 - 5 staff will live on-site in all stages of the development.
 - Refer to Table 3-1 for staff numbers, which will increase for each stage of the development, starting with just the 5 staff living on-site in Stage 1 (corresponding to 10,000 SCU of sheep, and 6,245 SCU of cattle), and increasing to 67 staff at stage 7 (corresponding to 50,000 SCU), including the 5 staff living on-site.
 - Due to the remote location, staff living on-site are not expected to regularly leave the site during the work day.
 - There will be staff on-site 7 days a week, with slightly less staff on the weekends. Hours of work vary, with staff generally working between 7am and 5pm.
 - The numbers of staff in each stage are included in Table 3-1.
 - Not all staff work every day, thus the yearly volume is less than 365 multiplied by two movements per staff per day.
 - Support services: less than 1 support service trip is expected per day.
- Heavy Vehicles:
 - Heavy vehicle traffic generation is summarised in Table 3-2 and Table 3-3 for stages 1 and 7. More detail is provided in Appendix C for traffic generation of all seven stages.
 - The table includes all inbound and outbound loaded and unloaded vehicles. A vehicle entering and exit the site is two movements.
 - As road trains are approved for all roads on the haulage routes to/from the site, Type 1 road trains will be utilised.
 - The heavy vehicle movements are comprised of cattle and sheep movements, as well as movements for grain, protein, roughage, liquids, supplements. Solid waste will stay on-site.
 - Heavy vehicle movements will occur 7 days a week, except cattle/sheep movements do not generally occur on the weekend.
 - Peaking was accounted for as follows:

- Peak cattle and sheep movements were based on 2.5 times average weekly movements spread across five days.
- Peak commodities movements were based on 2.5 times average weekly movements spread across seven days.

Stages Operational	Total staff	Notes
1	5 staff	All living on-site
1-2	19 staff	Including 5 staff living on-site
1-3	28 staff	
1-4	38 staff	
1-5	45 staff	
1-6	53 staff	
1-7	67 staff	

Table 3-1: Staff numbers

Stages Operational	Vehicle Type & (Distribution)	GVM t	Capacity	Movements 10,000 SCU sheep feedlot and 6,245 SCU cattle feedlot					
				Peak Hour	AADT	Peak Day	Average per week	Peak Week	Per Year
Incoming Sheep	Type 1 Road Train (4 deck)		1,010 head	<1	0.37	1.305	2.61	6.5	136
Outgoing Sheep	Type 1 Road Train (4 deck)		805 head	<1	0.46	1.635	3.27	8.2	170
Incoming Sheep Feed Commodities									
Grain	Type 1 Road Train	84.5 t	63 t	0	0	0.00	0	0.0	0
Protein	Type 1 Road Train	81.0 t	50 t	0	0	0.00	0	0.0	0
Roughage	On-farm truck/Type 1 Road train	81.0 t	49 t	<1	0.15	0.36	1.02	2.6	53
Liquids (Oil)	Type 1 Road Train (tanker)	81.0 t	55 t	0	0	0.00	0	0.0	0
Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.02	0.05	0.15	0.4	8
Outgoing solid waste*	On-farm truck	42.5 t	23 t	0	0	0.00	0	0.0	0
Employees (all five live on-site in Stage 1)	Light vehicles	< 4.5t	-	0	0	0.00	0	0	0
Support services	Light vehicles	< 4.5t	-	<1	0.26	0.78	1.85	5.55	96
Incoming Cattle	Type 1 Road Train (4 deck)		128 head	<1	0.02	0.09	0.18	0.5	9
	Type 1 AB Triple (4 1/2 deck)		160 head	<1	0.02	0.08	0.15	0.4	8
Outgoing Cattle	B-double (3 deck)		48 head	<1	0.66	2.31	4.62	11.5	240
Incoming Cattle Feed Commodities									
Grain	Type 1 Road Train	84.5 t	63 t	<1	0.27	0.68	1.91	5.73	99
Protein	Type 1 Road Train	81.0 t	50 t	<1	0.17	0.42	1.17	3.51	61
Roughage (straw)	On-farm truck	81.0 t	49 t	<1	0.03	0.08	0.23	0.69	12
Liquids (Oil)	Type 1 Road Train (tanker)	81.0 t	55 t		0.02	0.04	0.12	0.36	6
Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.13	0.39	0.91	2.73	47
Outgoing solid waste*	On-farm truck	42.5 t	23.4 t	-	0	0	0	0	0
Employees (all five live on-site in Stage 1)	Light vehicles	< 4.5t	-	-	0	0	0	0	0
Support services	Light vehicles	< 4.5t	-	<1	0.28	0.84	2	6	104
Total HV				1 vph	2.3 vpd	7.4 vpd	16.3 v/week	43.0 v/week	849.0 v/year
Total LV				1 vph	0.5 vpd	1.6 vpd	3.9 v/week	11.6 v/week	200.0 v/year
Total (HV + LV)				2 vph	2.9 vpd	9.1 vpd	20.2 v/week	54.6 v/week	1,049.0 v/year

Table 3-2: Traffic generated for Stage 1 (10,000SCU sheep feedlot and 6,245 SCU cattle feedlot)

Stages Operational		1-7		Movements					
Activity	Vehicle Type & (Distribution)	GVM	Capacity	50,000 SCU cattle feedlot					
		t		Peak Hour	AADT	Peak Day	Average per week	Peak Week	Per Year
Incoming Cattle	Type 1 Road Train (4 deck)		128 head	<1	0.89	3.23	6.46	16.15	336
	Type 1 AB Triple (4 1/2 deck)		160 head	<1	0.71	2.88	5.76	14.4	300
Outgoing Cattle	B-double (3 deck)		48 head	4	5.27	19.72	39.44	98.6	2051
Incoming Cattle Feed Commodities									
Grain	Type 1 Road Train	84.5 t	63 t	5	9.43	23.6	66.2	165.5	3442
Protein	Type 1 Road Train	81.0 t	50 t	<1	1.41	3.5	9.9	24.75	515
Roughage (straw)	On-farm truck	81.0 t	49 t	<1	1.59	4.0	11.17	27.925	581
Liquids (Oil)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.15	0.4	1.07	2.675	56
Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	1.08	2.7	7.59	18.975	395
Outgoing solid waste*	On-farm truck	42.5 t	23.4 t	-	0	0.0	0	0	0
Employees (67 incl 5 living on-site)	Light vehicles	< 4.5t	-	62	110.4	124	866	866	45017
Support services	Light vehicles	< 4.5t	-	<1	1.71	5.13	12	36	624
Total HV				11 vph	20.5 vpd	60.1 vpd	147.6 v/week	369.0 v/week	7,676.0 v/year
Total LV				62 vph	112.1 vpd	129.1 vpd	877.7 v/week	901.7 v/week	45,641.0 v/year
Total (HV + LV)				73 vph	132.7 vpd	189.2 vpd	1,025.3 v/week	1,270.7 v/week	53,317.0 v/year

Table 3-3: Traffic generated for Stages 1-7 (10,000SCU sheep feedlot and 6,245 SCU cattle feedlot)

Summary of Traffic Generation at Stages 1 and 7

(refer to Table 3-2 and 3-3 for details, and Appendix D)

Peak traffic generated by development:

- Stage 1:
 - 9.2vpd peak daily including 8 heavy vehicles
 - 2vph in peak hour including 1 heavy vehicle
- Stage 7:
 - 189.2vpd daily including 60 heavy vehicles
 - 73vph in peak hour including 11vph heavy vehicles

The AADT for the development is also included in Tables 3-2 and 3-3.

- Stage 1: 2.9vpd including 2.3vpd heavy vehicles
- Stage 7: 128.5vpd including 20.5vpd heavy vehicles

3.2 Traffic Distribution

The following details were provided to HIG regarding the distribution of heavy vehicle traffic to/from the site:

- Incoming commodities
 - Protein (whole cottonseed) – 100% from the west from cotton gins at St George and Dirranbandi via the Moonie Hwy
 - Grains:
 - 75% from the west via the Carnarvon Highway and Moonie Highway from St George and Roma
 - 25% from the east via the Moonie Highway from Dalby and Moonie
 - Roughages and supplements:

- 75% from the west via the Carnarvon Highway and Moonie Highway from St George and Roma
 - 25% from the east via the Moonie Highway from Dalby and Moonie
- Liquids (oil):
 - 100% from the east on the Moonie Highway
- Sheep:
 - Incoming sheep:
 - 100% from the west from St George via Moonie Highway
 - Outgoing sheep:
 - 50% via Moonie Highway east to Moonie and Goondiwindi to Tamworth
 - 50% via Moonie Highway west to St George and the Castlereagh Highway to Dubbo
- Cattle:
 - Incoming cattle:
 - 50% via Moonie Highway from St George (50%) and Roma (50%)
 - 50% from the east via Moonie Highway from Dalby
 - Outgoing cattle:
 - 100% via Moonie Highway to the east to Dalby and Oakey abattoir
- Employees:
 - It is understood employees will come mainly from farms in the area. HIG were advised employees were expected to be evenly distributed, with 50% from the east, and 50% from the west on the Moonie Highway.
- Local government roads will not be regularly used to gain access to the site (for example, Trackers Crossing Road, Kooroon Road, Ula Ula Road).
- The development will not add heavy vehicle traffic to Meandarra-Talwood Road.
- Only infrequent heavy vehicle trips will use the Leichhardt Highway.

4 TRAFFIC IMPACTS

4.1 Moonie Highway

When fully operational (all 7 stages), on the peak day (refer to Section 3 for discussion of peaking) the feedlot will add:

- 126vpd (49% heavy vehicles) to the east of the site, and
- 129vpd (46% heavy vehicles) to the west of the site.

By comparison, the AADT to the east and west of the site will increase by:

- 63vpd (15% heavy vehicles) to the east of the site, and
- 66vpd (17% heavy vehicles) to the west of the site.

Background traffic volumes on the Moonie Highway east of the site are expected to be 488vpd at site 51385 at Td292.2km to the west of the site, and 440vpd at site 51367 at Td185.58km to the east of the site.

With the addition of the development volumes, the Moonie Highway volumes will increase the AADT to 778vpd west of the site, and 728vpd east of the site. These volumes remain within the capacity of the existing 8m wide pavement, with no upgrades triggered by the development.

4.2 Other Streets and Intersections

The development will only be accessed by the Moonie Highway, and as a result it will not add traffic to Trackers Crossing Road or Kooroon Road (which the development also fronts on to).

Further afield, the development is not expected to add more to traffic volumes by more than 5%.

Whilst the development will add 12.5% of the grain traffic to Meandarra-Talwood Road, however this amounts to less than 2vpd AADT, which is negligible and has not been assessed further. It is noted however that the Meandarra-Talwood Road is able to be used by road-trains.

5 PAVEMENT IMPACT ASSESSMENT

A pavement impact assessment was undertaken of the impacts on the Moonie Highway in accordance with the requirements of the *Guide to Traffic Impact Assessment Practice Note: Pavement Impact Assessment (December 2018)* including:

- Determination of existing Standard Axle Repetitions (SARs) on the state-controlled roads, and obtaining data from TMR on existing marginal cost rates for the roads.
- Determination of additional SARs due to the development.
- Establishing whether the increase in SARs due to the development is greater than 5%.
- Determining an appropriate contribution for the increase in pavement wear due to the feedlot traffic (refer to Table 5-3).

The following assumptions were made:

- As per Step 2 of the Practice Note, road asset data was sourced from TMR. The road asset data included AADT, % heavy vehicles, marginal cost and annual (linear) growth rates.
- The road asset data provided by TMR indicated the following five year growth rates for the Moonie Highway and Meandarra-Talwood Road in the section under review:
 - Dalby to St George Td 211.96-293.75 (the site is at Td 212-219km):
 - Gazettal -6.63%
 - Against Gazettal -1.49%
 - Dalby to St George Td 113.53-211.96:
 - Gazettal -0.89%
 - Against Gazettal -0.96%
 - Meandarra-Talwood road Td 71.71 to 128.04:
 - Gazettal 5.55%
 - Against Gazettal 8.63%

Given the length of the assessment period (20 years beyond the opening of the final stage, which opens in 2036), it is not realistic to assume negative growth rates across this period. A more reasonable 1% linear growth rate has been adopted for the Moonie Highway, as per the traffic impact assessment. A growth rate of 4% linear was adopted for Meandarra-Talwood Road.

- For simplicity, given the location of the access (and potential for the access to relocate further east) relative to the count section to the east (which ends 400m east of the site), it was assumed that all volumes east of the access are within the section Td113.53-211.96.
- The existing SARs provided by TMR adopted SAR = 3.2, as per the standard SARs nominated in the Practice Note.
- The existing marginal cost rate for the Moonie Highway based on the data provided by TMR is:
 - \$0.079/SAR/km. at Td 113.53 to 211.96
 - \$0.033/SAR/km. at Td 50.37 to 113.53
 - \$0.067/SAR/km. at Td 211.96 to 293.75
- The existing marginal cost rate for Meandarra-Talwood Road based on the data provided by TMR is \$0.079/SAR/km.

The pavement impact assessment determined the following:

- Detailed calculations of base and development AADT volumes, SARs and development contributions are included in Appendix D.
- The pavement impact assessment determined that the feedlot will increase volumes on several road segments on the Moonie Highway, but will not increase SARs on the Meandarra-Talwood Road by greater than 5%. Pavement calculations for the fully operational development are in Table 5-1 and Table 5-2. Refer to Appendix D for all other stages.
- The pavement impact assessment determined that the development volumes warrant contributions from the start of Stage 4. Table 5-3 details the contribution required yearly at each stage.

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stages 1-7)			Marginal Cost			
			Td start	Td end	AADT (2019)	AADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-7	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Moonie Hwy	Between Access and Meandarra-Talwood Rd	Westbound	Gazettal	184.5	211.96	176	41	3.2	131.2	47888	54113.44	5,870.5	10.8%	No	\$ 0.079	27.5	\$ 12,777.75
		Eastbound	A Gazettal	184.5	211.96	182	40	3.2	128	46720	52793.6	3,018.7	5.7%	No	\$ 0.079	27.5	\$ 6,570.45
	East of access	Westbound	Gazettal	50.37	113.53	317	101	3.2	323.2	117968	133303.84	5,870.5	4.4%	No	\$ 0.033	63.2	\$ -
		Eastbound	A Gazettal	50.37	113.53	311	94	3.2	300.8	109792	124064.96	3,018.7	2.4%	No	\$ 0.033	63.2	\$ -
	East of access	Westbound	Gazettal	11	50.37	820	160	3.2	512	186880	211174.4	5,870.5	2.8%	No	\$ 0.033	39.4	\$ -
		Eastbound	A Gazettal	11	50.37	813	146	3.2	467.2	170528	192696.64	3,018.7	1.6%	No	\$ 0.033	39.4	\$ -
	West of access	Westbound	Gazettal	211.96	293.75	194	92	3.2	294.4	107456	121425.28	2,016.5	1.7%	No	\$ 0.067	81.8	\$ -
		Eastbound	A Gazettal	211.96	293.75	203	79	3.2	252.8	92272	104267.36	15,870.3	15.2%	No	\$ 0.067	81.8	\$ 86,412.53
East of Meandarra-Talwood Road	Westbound	Gazettal	113.53	184.5	176	41	3.2	131.2	47888	54113.44	2,775.6	5.1%	No	\$ 0.079	71.0	\$ 15,613.77	
	Eastbound	A Gazettal	113.53	184.5	182	40	3.2	128	46720	52793.6	4,076.4	7.7%	No	\$ 0.079	71.0	\$ 22,931.27	
Total																\$	144,305.76

Table 5-1: Pavement impact assessment calculations for Moonie Highway when fully operational (Stages 1-7)

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stages 1-7)			Marginal Cost			
			Td start	Td end	AADT (2019)	AADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-7	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Meandarra-Talwood Rd	Between Access and Meandarra-Talwood Rd	Southbound	Gazettal	71.71	128.04	59	23	3.2	73.6	26864	40833.28	1,794.1	4.4%	No	\$ 0.079	56.3	\$ -
	Northbound	A Gazettal	71.71	128.04	56	16	3.2	51.2	18688	28405.76	243.1	0.9%	No	\$ 0.079	56.3	\$ -	
Total																\$	-

Table 5-2 Pavement impact assessment calculations for Meandarra-Talwood Road when fully operational (Stages 1-7)

	Yearly Contribution		
	Contribution for Moonie Hwy	Contribution for Meandarra-Talwood Rd	Total Contribution Per Year When Stage is Operational
Stage 1	\$ -	\$ -	\$ -
Stage 2	\$ -	\$ -	\$ -
Stage 3	\$ -	\$ -	\$ -
Stage 4	\$ 53,265.08	\$ -	\$ 53,265.08
Stage 5	\$ 99,819.51	\$ -	\$ 99,819.51
Stage 6	\$ 120,506.87	\$ -	\$ 120,506.87
Stage 7	\$ 144,305.76	\$ -	\$ 144,305.76

Table 5-3: Development Pavement Impacts and Contributions

6 LAYOUT REVIEW

6.1 Internal Site Layout

The car park geometry and layout has not been reviewed as part of this assessment, however it is noted that the site area is substantial, and able to provide sufficient manoeuvring and carparking areas as required.

6.2 Access on to Moonie Highway

The proposed site access on the Moonie Highway has been reviewed as follows:

- Refer to plan in Appendix A for site access location.
- The Moonie Highway has a posted speed of 110km/h at the access location.
- In peak hour when the development is fully operational, volumes at the access are as 73vpd in peak hour (including 62 light vehicle movements, 32vph from the east and west), and 189vpd on a peak day (128.5vpd AADT).
- The proposed access location has sufficient visibility, with over 500m visibility in either direction.
- Highway peak hour volumes will remain minimal to the design horizon (2036), with in the order of 60vph in peak hour (based on 14% of daily traffic).
- The traffic volumes at the will warrant the minimum standard basic right turn treatment and basic left turn treatment (BAL) and (BAR).

The following is recommended:

- It is recommended that the access be constructed with BAL and BAR. It is recommended that the construction of the BAL and BAR be undertaken prior to commencement of Stage 3 of the development, when volumes at the access are over 50vpd on a peak day (74vpd).
- The standard of access required for Stages 1 and 2 is a simple rural access suitable for the swept paths of the design vehicle (AB triple road train) with a minimum 10m seal on the driveway approach to limit tracking gravel onto the highway.
- It is recommended that advance warning signs be provided on the approach to alert drivers to trucks turning at the access.

7 CONCLUSION AND RECOMENDATIONS

Moonie Highway Access

The following is recommended:

- It is recommended that the access be constructed with a basic left turn treatment (BAL) and basic right turn treatment (BAR). It is recommended that the construction of the BAL and BAR be undertaken prior to commencement of Stage 3 of the development.
- The standard of access required for Stages 1 and 2 is a simple rural access suitable for the swept paths of the design vehicle (AB triple road train) with a minimum 10m seal on the driveway approach to limit tracking gravel onto the highway.
- It is recommended that advance warning signs be provided on the approach to alert drivers to trucks turning at the access.

Traffic Impacts - Moonie Highway

The assessment determined the development will not trigger the need for upgrades to the Moonie Highway within the development design horizon.

Pavement Impacts – Moonie Highway

The pavement impact assessment determined:

- the development would increase SARs on several segments of the Moonie Highway by greater than 5%.
- The increase in SARs warrant yearly contributions commencing when Stage 4 open (refer to Table 5-3 for contributions at each stage).

APPENDIX A PLANS OF PROPOSED DEVELOPMENT

APPENDIX B DTMR COUNT DATA

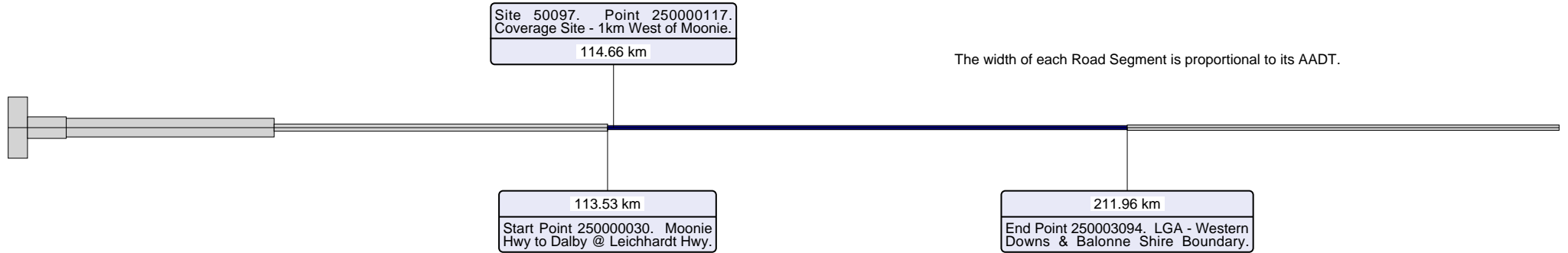
AADT Segment Analysis Report (Complete)

Area 402 - Darling Downs District Road Section 35A - MOONIE HIGHWAY (DALBY - ST. GEORGE)
Traffic Year 2019 - Data Collection Year 2019



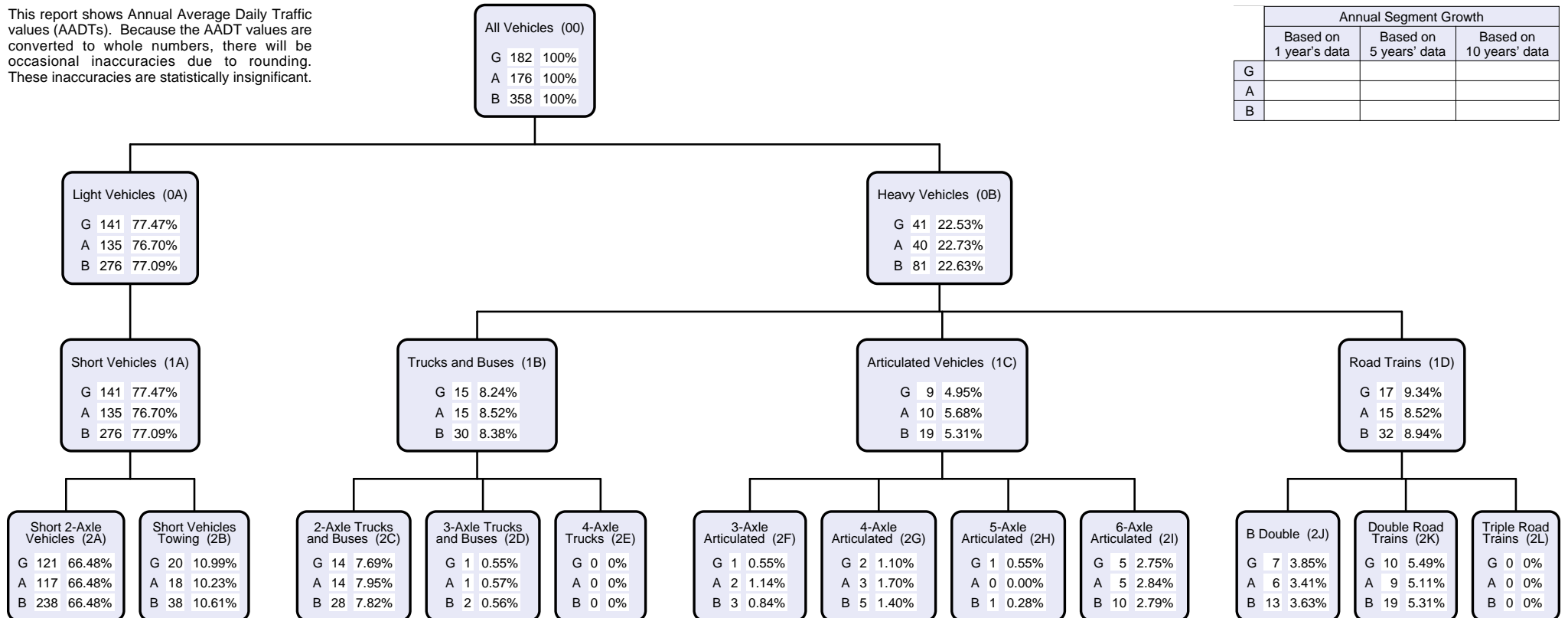
AADT Segment Analysis Report (Complete)

Area 402 - Darling Downs District Road Section 35A - MOONIE HIGHWAY (DALBY - ST. GEORGE)
Traffic Year 2019 - Data Collection Year 2019



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

Annual Segment Growth			
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G			
A			
B			





Site 51382. Point 250000637.
 1.5km East of Carnarvon Hwy.

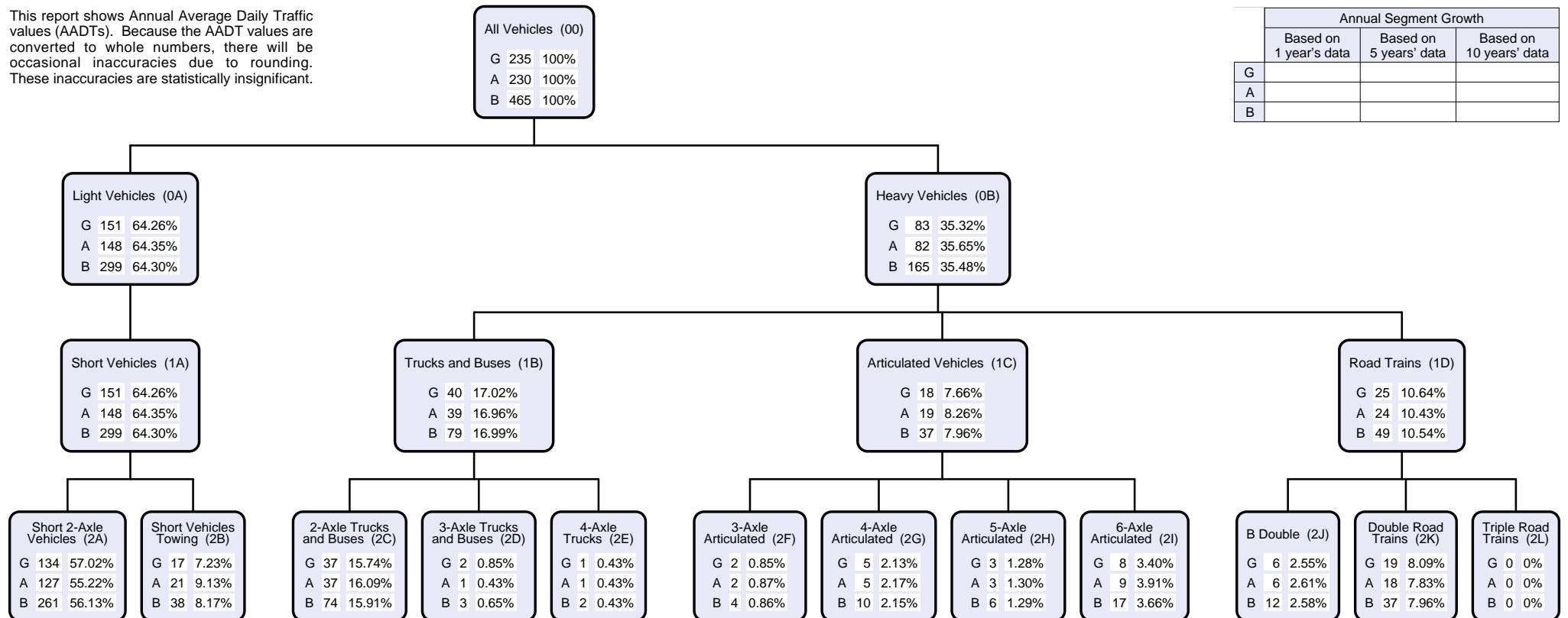
292.20 km

The width of each Road Segment is proportional to its AADT.



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

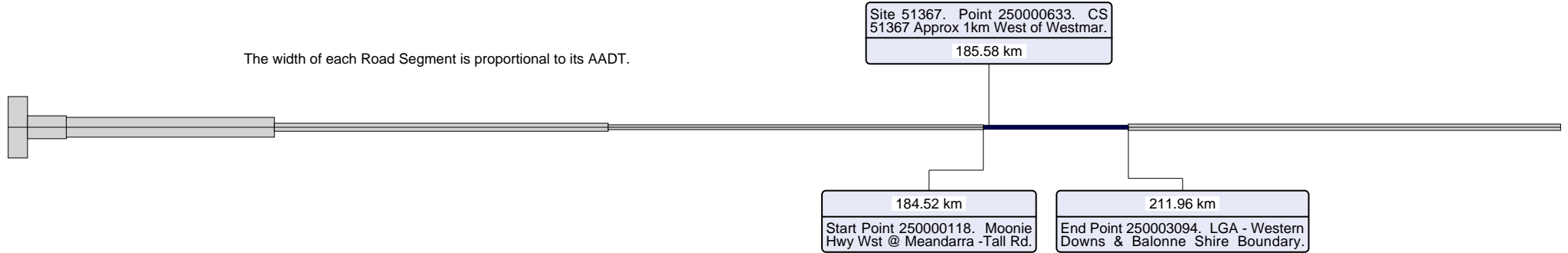
Annual Segment Growth			
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G			
A			
B			



AADT Segment Analysis Report (Complete)

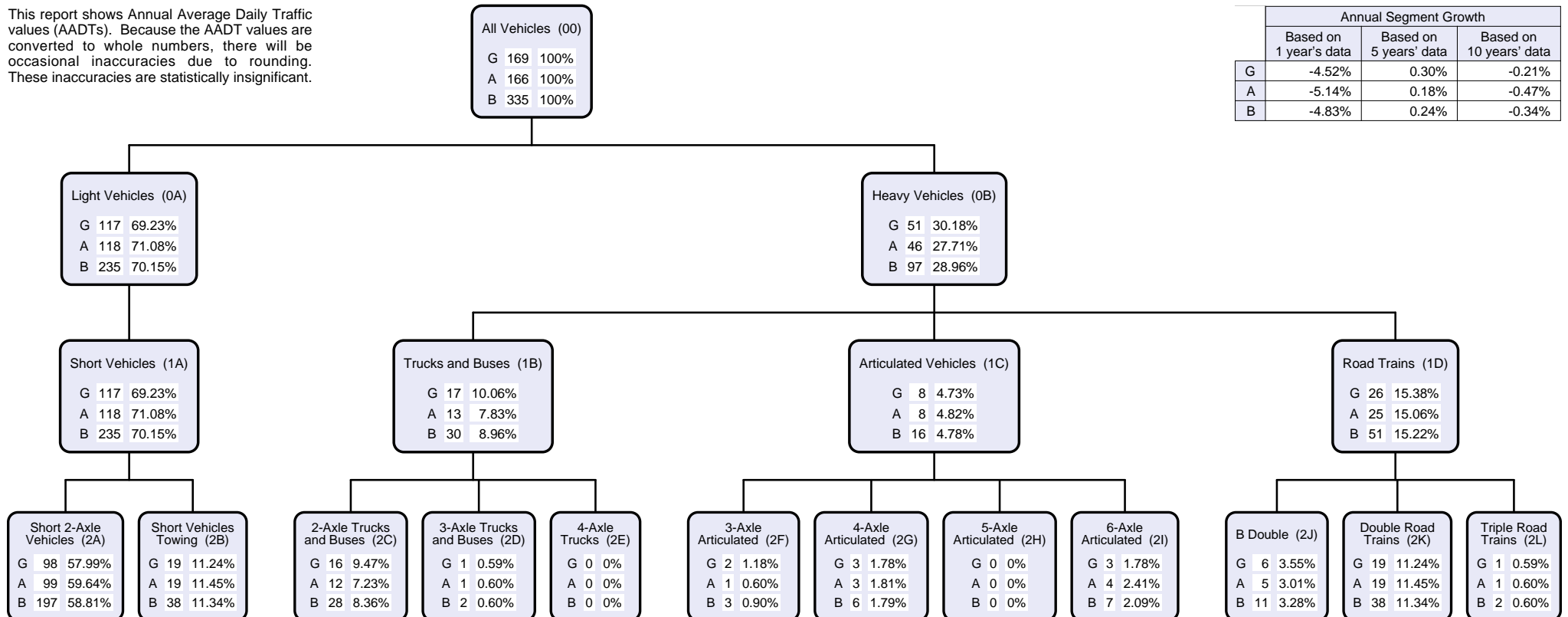
Area 402 - Darling Downs District Road Section 35A - MOONIE HIGHWAY (DALBY - ST. GEORGE)
Traffic Year 2017 - Data Collection Year 2017

The width of each Road Segment is proportional to its AADT.



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

Annual Segment Growth			
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	-4.52%	0.30%	-0.21%
A	-5.14%	0.18%	-0.47%
B	-4.83%	0.24%	-0.34%





AADT Segment Analysis Report (Complete)

Area 411 - South West District Road Section 35A - MOONIE HIGHWAY (DALBY - ST. GEORGE)
Traffic Year 2017 - Data Collection Year 2017

Site 51382. Point 250000637.
1.5km East of Carnarvon Hwy.

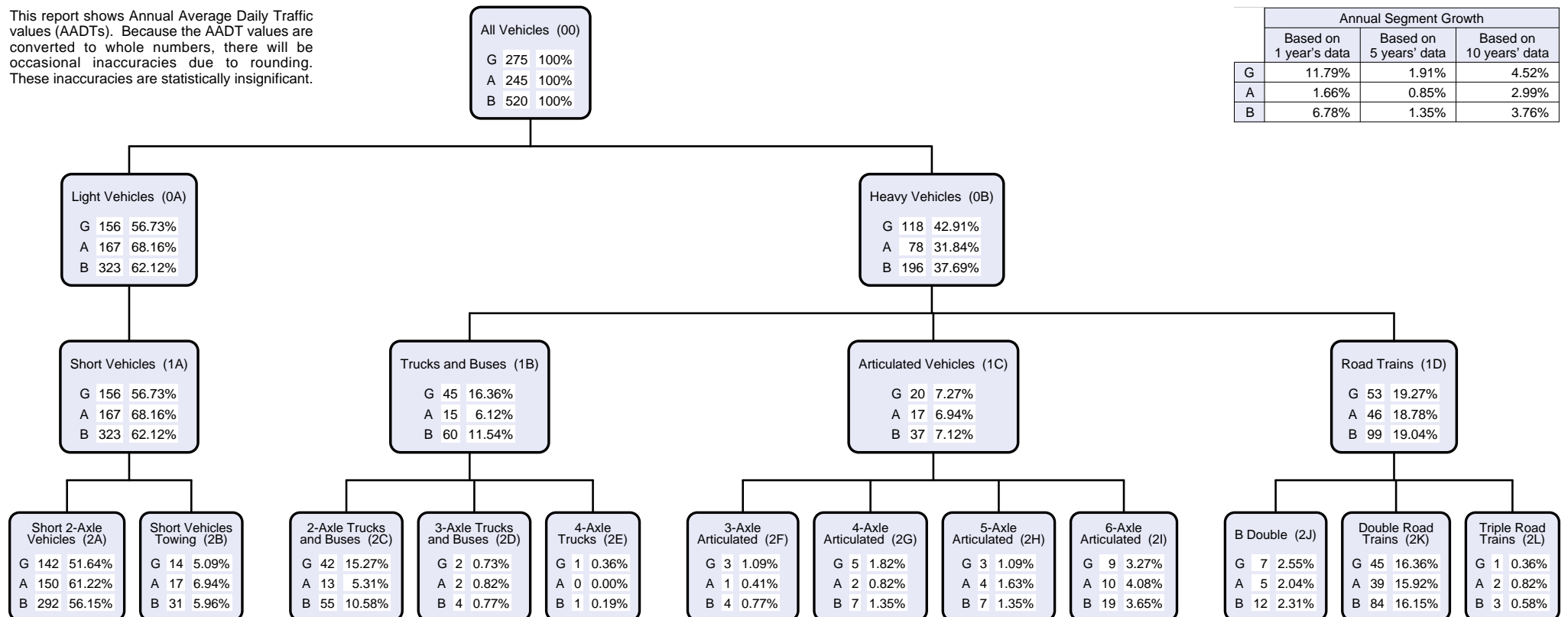
292.20 km

The width of each Road Segment is proportional to its AADT.



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.

Annual Segment Growth			
	Based on 1 year's data	Based on 5 years' data	Based on 10 years' data
G	11.79%	1.91%	4.52%
A	1.66%	0.85%	2.99%
B	6.78%	1.35%	3.76%



APPENDIX C TRAFFIC VOLUMES

P10603 Traffic Impact Assessment
East Kooroon Feedlot, Westmar



STAGE 1

Stages Operational	Activity	Vehicle Type & (Distribution)	GVM t	Capacity	Movements					Distribution										AADT										
					10,000 SCU sheep feedlot and 6,245 SCU cattle feedlot					Loaded			Unloaded							Loaded			Unloaded							
					Peak Hour	AADT	Peak Day	Average per week	Peak Week	Per Year	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood
	Incoming Sheep	Type 1 Road Train (4 deck)		1,010 head	<1	0.37	1.305	2.61	6.5	136	0%	50%	0%	50%	0%	50%	0%	50%	0%	0%	-	0.1	-	0.1	-	-	0.1	-	0.1	-
	Outgoing Sheep	Type 1 Road Train (4 deck)		805 head	<1	0.46	1.635	3.27	8.2	170	0%	50%	0%	50%	0%	50%	0%	50%	0%	0%	-	0.1	-	0.1	-	-	0.1	-	0.1	-
	Incoming Sheep Feed Commodities																													
	Grain	Type 1 Road Train	84.5 t	63 t	0	0	0.00	0	0.0	0	0%	25%	0%	75%	12.5%	25%	0%	75%	0%	12.5%	-	-	-	-	-	-	-	-	-	-
	Protein	Type 1 Road Train	81.0 t	50 t	0	0	0.00	0	0.0	0	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	-	-	-	-	-	-	-	-	-	-
	Roughage	On-farm truck/Type 1 Road train	81.0 t	49 t	<1	0.15	0.36	1.02	2.6	53	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.0	-	0.1	-	0.0	-	0.1	-	-
	Liquids (Oil)	Type 1 Road Train (tanker)	81.0 t	55 t	0	0	0.00	0	0.0	0	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	-	-	-	-	-	-	-	-	-	
	Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.02	0.05	0.15	0.4	8	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Outgoing solid waste*	On-farm truck	42.5 t	23 t	0	0	0.00	0	0.0	0	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	-	-	-	-	-	-	-	-	
	Employees (all five live on-site in Stage 1)	Light vehicles	< 4.5t	-	0	0	0.00	0	0	0																				
	Support services	Light vehicles	< 4.5t	-	<1	0.26	0.78	1.85	5.55	96	20%	20%	80%	80%	0%	20%	20%	80%	80%	0%	0.0	0.0	0.1	0.1	-	0.0	0.0	0.1	0.1	
	Incoming Cattle	Type 1 Road Train (4 deck)		128 head	<1	0.02	0.09	0.18	0.5	9	0%	50%	0%	50%	0%	50%	0%	50%	0%	0%	-	0.0	-	0.0	-	0.0	-	0.0	-	
		Type 1 AB Triple (4 1/2 deck)		160 head	<1	0.02	0.08	0.15	0.4	8	0%	50%	0%	50%	0%	50%	0%	50%	0%	0%	-	0.0	-	0.0	-	0.0	-	0.0	-	
	Outgoing Cattle	B-double (3 deck)		48 head	<1	0.66	2.31	4.62	11.5	240	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0.3	-	-	-	-	0.3	-	-	-	
	Incoming Cattle Feed Commodities																													
	Grain	Type 1 Road Train	84.5 t	63 t	<1	0.27	0.68	1.91	5.73	99	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.0	-	0.1	-	0.0	-	0.1	-	
	Protein	Type 1 Road Train	81.0 t	50 t	<1	0.17	0.42	1.17	3.51	61	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	-	-	-	0.1	-	-	0.1	-	0.1	
	Roughage (straw)	On-farm truck	81.0 t	49 t	<1	0.03	0.08	0.23	0.69	12	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.0	-	0.0	-	0.0	-	0.0	-	
	Liquids (Oil)	Type 1 Road Train (tanker)	81.0 t	55 t	0	0.02	0.04	0.12	0.36	6	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	-	0.0	-	-	-	0.0	-	-	-	
	Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.13	0.39	0.91	2.73	47	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.0	-	0.0	-	0.0	-	0.0	-	
	Outgoing solid waste*	On-farm truck	42.5 t	23.4 t	-	0	0	0	0	0																				
	Employees (all five live on-site in Stage 1)	Light vehicles	< 4.5t	-	-	0	0	0	0	0																				
	Support services	Light vehicles	< 4.5t	-	<1	0.28	0.84	2	6	104																				
	Total HV				1 vph	2.3 vpd	7.4 vpd	16.3 v/week	43.0 v/week	849.0 v/year																				
	Total LV				1 vph	0.5 vpd	1.6 vpd	3.9 v/week	11.6 v/week	200.0 v/year																				
	Total (HV + LV)				2 vph	2.9 vpd	9.1 vpd	20.2 v/week	54.6 v/week	1,049.0 v/year																				

STAGE 2

Stages Operational	Vehicle Type & (Distribution)	1-2	GVM	Capacity	Movements					Distribution										AADT										
					14,045 SCU cattle feedlot					Loaded					Unloaded					Loaded					Unloaded					
					Peak Hour	AADT	Peak Day	Average per week	Peak Week	Per Year	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood
Incoming Cattle	Type 1 Road Train (4 deck)		128 head	<1	0.19	0.705	1.41	4.23	73	0%	50%	0%	50%	0%	0%	50%	0%	50%	0%	0%	0.05	-	0.05	-	-	0.05	-	0.05	-	
	Type 1 AB Triple (4 1/2 deck)		160 head	<1	0.16	0.63	1.26	3.78	65	0%	50%	0%	50%	0%	0%	50%	0%	50%	0%	0%	-	0.04	-	0.04	-	-	0.04	-	0.04	-
Outgoing Cattle	B-double (3 deck)		48 head	1	1.56	5.83	11.66	34.98	606	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0.78	-	-	-	-	-	0.78	-	-	
Incoming Cattle Feed Commodities																														
Grain	Type 1 Road Train		84.5 t	63 t	1	2.11	5.3	14.84	44.52	772	0%	25%	0%	75%	12.5%	25%	0%	75%	0%	12.5%	-	0.26	-	0.79	0.13	0.26	-	0.79	-	0.13
Protein	Type 1 Road Train		81.0 t	50 t	<1	0.42	1.0	2.93	8.79	152	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	-	-	-	0.21	-	-	-	0.21	-	-
Roughage (straw)	On-farm truck		81.0 t	49 t	<1	0.33	0.8	2.34	7.02	122	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.04	-	0.12	-	0.04	-	0.12	-	-
Liquids (Oil)	Type 1 Road Train (tanker)		81.0 t	55 t	<1	0.04	0.1	0.32	0.96	16	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	-	0.02	-	-	-	0.02	-	-	-	-
Supplements (liquid)	Type 1 Road Train (tanker)		81.0 t	55 t	<1	0.32	0.8	2.24	6.72	117	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.04	-	0.12	-	0.04	-	0.12	-	-
Outgoing solid waste*	On-farm truck		42.5 t	23.4 t	-	0	0	0	0	0																				
Employees (19 staff including 5 living on-site)	Light vehicles		< 4.5t	-	14	24.9	28	192.7	578.1	10020	50%	50%	50%	50%	0%					0%	6.23	6.23	6.23	6.23	12.5	-	-	-	-	
Support services	Light vehicles		< 4.5t	-	<1	1.14	3.42	8	24	416	20%	20%	80%	80%	0%					0%	0.11	0.11	0.46	0.46	0.9	-	-	-	-	
Total HV					3 vph	5.1 vpd	15.3 vpd	37.0 v/week		1,923.0 v/y																				
Total LV					14 vph	26.1 vpd	31.4 vpd	200.7 v/week		10,436.0 v/y																				
Total (HV + LV)					17 vph	31.2 vpd	46.7 vpd	237.7 v/week		12,359.0 v/y																				

STAGE 3

Stages Operational	Vehicle Type & (Distribution)	1-3		Movements						Distribution										AADT									
		GVM	Capacity	17,750 SCU cattle feedlot						Loaded					Unloaded					Loaded			Unloaded						
				Peak Hour	AADT	Peak Day	Average per week	Peak Week	Per Year	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood
Incoming Cattle	Type 1 Road Train (4 deck)		128 head	<1	0.3	0.9	1.8	5.48	95.0	0%	50%	0%	50%	0%	0%	50%	0%	50%	0%	-	0.1	-	0.1	-	-	0.1	-	0.1	-
	Type 1 AB Triple (4 1/2 deck)		160 head	<1	0.2	0.7	1.5	4.44	77.0	0%	50%	0%	50%	0%	0%	50%	0%	50%	0%	-	0.1	-	0.1	-	-	0.1	-	0.1	-
Outgoing Cattle	B-double (3 deck)		48 head	1	1.9	6.6	13.1	39.40	683.0	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0.9	-	-	-	-	-	0.9	-	-	
Incoming Cattle Feed Commodities																													
Grain	Type 1 Road Train	84.5 t	63 t	1	2.7	6.8	19.1	57.3	994.0	0%	25%	0%	75%	12.5%	25%	0%	75%	0%	12.5%	-	0.3	-	1.0	0.2	0.3	-	1.0	-	0.2
Protein	Type 1 Road Train	81.0 t	50 t	<1	0.5	1.3	3.5	10.6	183.0	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	-	-	-	0.3	-	-	-	0.3	-	-
Roughage (straw)	On-farm truck	81.0 t	49 t	<1	0.4	1.1	3.1	9.2	160.0	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.1	-	0.2	-	0.1	-	0.2	-	-
Liquids (Oil)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.1	0.1	0.4	1.2	20.0	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	-	0.03	-	-	-	0.03	-	-	-	-
Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.4	1.0	2.7	8.1	140.0	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.0	-	0.1	-	0.0	-	0.1	-	-
Outgoing solid waste*	On-farm truck	42.5 t	23.4 t	-		0.0		0	0																				
Employees (28 staff including 5 living on-site)	Light vehicles	< 4.5t	-	23	24.9	28	319.0	957.1	16590.0	50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	6.2	6.2	6.2	6.2						
Support services	Light vehicles	< 4.5t	-	<1	1.71	5.13	8.0	24	416	20%	20%	80%	80%	0%	0%	0%	0%	0%	0%	0.2	0.3	1.4	1.4						
Total HV				3 vph	6.4 vpd	18.5 vpd	45.2 v/week		2,352.0 v/y																				
Total LV				23 vph	26.6 vpd	33.1 vpd	327.0 v/week		17,006.0 v/y																				
Total (HV + LV)				26 vph	33.1 vpd	51.6 vpd	372.3 v/week		19,358.0 v/y																				

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STAGE 5

Stages Operational	Vehicle Type & (Distribution)	1-5		86.8																												
		GVM	Capacity	Movements							Distribution										AADT											
				50,000 SCU cattle feedlot							Loaded					Unloaded					Loaded				Unloaded							
				Peak Hour	AADT	Peak Day	Average per week	Peak Week	Per Year	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood			
Incoming Cattle	Type 1 Road Train (4 deck)	128 head	<1	0.56	1.68	4.08	12.24	212	0%	50%	0%	50%	0%	0%	0%	50%	0%	50%	0%	0%	0.1	-	-	-	-	0.1	-	-	-	-	0.1	-
	Type 1 AB Triple (4 1/2 deck)	160 head	<1	0.45	1.35	3.64	10.92	189	0%	50%	0%	50%	0%	0%	0%	50%	0%	50%	0%	0%	0.1	-	-	-	-	0.1	-	-	-	-	0.1	-
Outgoing Cattle	B-double (3 deck)	48 head	2	3.52	10.56	26.37	79.11	1371	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	1.8	-	-	-	-	-	-	-	-	-	-	-	
Incoming Cattle Feed Commodities																																
Grain	Type 1 Road Train	84.5 t	63 t	4	5.99	17.97	42.07	126.21	2188	0%	25%	0%	75%	12.5%	25%	0%	75%	0%	12.5%	-	0.7	-	2.2	0.4	0.7	-	2.2	-	0.4	-		
Protein	Type 1 Road Train	81.0 t	50 t	<1	0.94	2.82	6.62	19.86	344	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	-	-	-	0.5	-	-	-	0.5	-	-	-		
Roughage (straw)	On-farm truck	81.0 t	49 t	<1	1	3	0.05	0.15	367	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.1	-	0.4	-	0.1	-	0.4	-	-	-		
Liquids (Oil)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.1	0.3	0.71	2.13	37	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	-	0.1	-	-	-	0.1	-	-	-	-	-		
Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.72	2.16	5.07	15.21	264	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.1	-	0.3	-	0.1	-	0.3	-	-	-		
Outgoing solid waste*	On-farm truck	42.5 t	23.4 t	-	0	0	0	0	0											-	0.1	-	0.3	-	0.1	-	0.3	-	-	-		
Employees	Light vehicles	<4.5t	-	40	24.9	28	555.55	1666.65	28889	20%	20%	80%	80%	0%	0%	0%	0%	0%	0%	5.0	5.0	19.9	19.9	-	-	-	-	-	-	-		
Support services	Light vehicles	<4.5t	-	<1	1.71	5.13	12	36	624	20%	20%	80%	80%	0%	0%	0%	0%	0%	0%	0.3	0.3	1.4	1.4	-	-	-	-	-	-	-		
Residential Dwelling (housing employees living on-site)	Light vehicles	<4.5t	-	<1	0.5	1	3.5	7	182.5	20%	20%	80%	80%	0%	0%	0%	0%	0%	0%	0.1	0.1	0.4	0.4	-	-	-	-	-	-	-		
Total HV				7 vph	13.3 vpd	39.8 vpd	88.6 v/week	265.8 v/week	4,972.0 v/year																							
Total LV				40 vph	27.1 vpd	34.1 vpd	571.1 v/week	1,709.7 v/week	29,695.5 v/year																							
Total (HV + LV)				47 vph	40.4 vpd	74.0 vpd	659.7 v/week	1,975.5 v/week	34,667.5 v/year																							

STAGE 6

Stages Operational	Vehicle Type & (Distribution)	1-6		Movements						Distribution										AADT									
		GVM	Capacity	39,670 SCU cattle feedlot						Loaded					Unloaded					Loaded			Unloaded						
				Peak Hour	AADT	Peak Day	Average per week	Peak Week	Per Year	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood
Incoming Cattle	Type 1 Road Train (4 deck)		128 head	<1	0.69	2.07	4.97	14.91	258	0%	50%	0%	50%	0%	0%	50%	0%	50%	0%	-	0.2	-	0.2	-	-	0.2	-	0.2	-
	Type 1 AB Triple (4 1/2 deck)		160 head	<1	0.55	1.65	4.43	13.29	230	0%	50%	0%	50%	0%	0%	50%	0%	50%	0%	-	0.1	-	0.1	-	-	0.1	-	0.1	-
Outgoing Cattle	B-double (3 deck)		48 head	3	4.18	12.54	31.29	93.87	1627	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	2.1	-	-	-	-	-	2.1	-	-	
Incoming Cattle Feed Commodities																													
Grain	Type 1 Road Train	84.5 t	63 t	2	7.28	21.84	51.08	153.24	2656	0%	25%	0%	75%	12.5%	25%	0%	75%	0%	12.5%	-	0.9	-	2.7	0.5	0.9	-	2.7	-	0.5
Protein	Type 1 Road Train	81.0 t	50 t	<1	1.12	3.36	7.85	23.55	408	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	-	-	-	0.6	-	-	-	0.6	-	-
Roughage (straw)	On-farm truck	81.0 t	49 t	<1	1.23	3.69	8.62	25.86	448	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.2	-	0.5	-	0.2	-	0.5	-	-
Liquids (Oil)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.12	0.36	0.85	2.55	44	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	-	0.1	-	-	-	0.1	-	-	-	
Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.86	2.58	6.02	18.06	313	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	0.1	-	0.3	-	0.1	-	0.3	-	-
Outgoing solid waste*	On-farm truck	42.5 t	23.4 t	-	0	0	0	0	0											-	-	-	-	-	-	-	-	-	-
Employees	Light vehicles	<4.5t	-	48	24.9	28	672.35	2017.05	34962	50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	6.2	6.2	6.2	6.2	-	-	-	-	-	-
Support services	Light vehicles	<4.5t	-	<1	1.71	5.13	12	36	624	20%	20%	80%	80%	0%	0%	0%	0%	0%	0%	0.2	0.2	0.7	0.7	-	-	-	-	-	-
Total HV			6 vph	16.0 vpd			115.1 v/week		5,984.0 v/y																				
Total LV			48 vph	26.6 vpd			684.4 v/week		35,586.0 v/y																				
Total (HV + LV)			54 vph	42.7 vpd			799.5 v/week		41,570.0 v/y																				

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STAGE 7

Stages Operational	Activity	Vehicle Type & (Distribution)	1-7		Movements										Distribution										Peak Hour										AADT									
			GVM	Capacity	50,000 SCU cattle feedlot					Loaded					Unloaded					Loaded					Unloaded					Loaded					Unloaded									
					t	Peak Hour	AADT	Peak Day	Average per week	Peak Week	Per Year	To east	From East	To west	From west	From Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood	To east	From East	To west	From west	To east	From East	To west	From west	To east	From East	To west	From west	To Meandarra-Talwood	To east	From East	To west	From west	To Meandarra-Talwood					
																																								Peak Hour	AADT	Peak Day	Average per week	Peak Week
Incoming Cattle	Type 1 Road Train (4 deck)	128 head	<1	0.89	3.23	6.46	16.15	236	0%	50%	0%	50%	0%	0%	50%	0%	50%	0%	0%	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2	-	
Outgoing Cattle	Type 1 AB Triple (4 1/2 deck)	160 head	<1	0.71	2.88	5.76	14.4	300	0%	50%	0%	50%	0%	0%	50%	0%	50%	0%	0%	0.3	-	0.3	-	0.3	-	0.3	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2	-			
Incoming Cattle Feed	B-double (3 deck)	48 head	4	5.27	19.72	39.44	98.6	2051	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	2.0	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Commodities																																												
Grain	Type 1 Road Train	84.5 t	63 t	5	9.43	23.6	66.2	165.5	3442	0%	25%	0%	75%	12.5%	25%	0%	75%	0%	12.5%	-	0.5	-	1.9	0.5	-	1.5	-	-	1.2	-	3.5	0.6	1.2	-	3.5	-	0.6	-						
Protein	Type 1 Road Train	81.0 t	50 t	<1	1.41	3.5	9.9	24.75	515	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	0.7	-	-							
Roughage (straw)	On-farm truck	81.0 t	49 t	<1	1.59	4.0	11.17	27.925	581	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	-	-	-	-	-	-	-	-	0.2	-	0.6	-	0.2	-	0.6	-	-							
Liquids (oil)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	0.15	0.4	1.07	2.675	56	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	-	-	-	-	-	-	-	-	-	0.1	-	0.1	-	0.1	-	0.1	-	-							
Supplements (liquid)	Type 1 Road Train (tanker)	81.0 t	55 t	<1	1.08	2.7	7.59	18.975	395	0%	25%	0%	75%	0%	25%	0%	75%	0%	0%	-	-	-	-	-	-	-	-	-	0.1	-	0.4	-	0.1	-	0.4	-	-							
Outgoing solid waste*	On-farm truck	42.5 t	23.4 t	-	0	0.0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
Employees (67 incl 5 living on-site)	Light vehicles	< 4.5t	-	62	110.4	124	866	45017	50%	50%	50%	50%	0%	0%	0%	0%	0%	0%	0%	31.0	-	31.0	-	-	-	-	-	-	55.2	-	55.2	-	-	-	-	-	-							
Support services	Light vehicles	< 4.5t	-	12	1.71	5.13	12	36	20%	20%	80%	80%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-	-	-	-	-	0.3	-	1.4	-	-	-	-	-	-								
Total HV		11 vph	20.5 vpd	60.1 vpd	147.6 v/week	369.0 v/week	7,676.0 v/year																																					
Total LV		62 vph	112.1 vpd	329.3 vpd	877.7 v/week	901.7 v/week	45,641.0 v/year																																					
Total (HV + LV)		73 vph	132.7 vpd	189.2 vpd	1,025.3 v/week	1,270.7 v/week	53,317.0 v/year																																					

APPENDIX D PAVEMENT IMPACT ASSESSMENT

P10603 Traffic Impact Assessment
East Kooroon Feedlot, Westmar



STAGE 1

Growth Rate Moonie 1% linear
Growth Rate Meandarra-Talwood 4% linear

Road Name		Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stage 1)				Marginal Cost		
				Td start	Td end	AAADT (2019)	AAADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Moonie Hwy	Between Access and Meandarra-Talwood Rd	Westbound	Gazettal	184.5	211.96	176	41	3.2	131.2	47888	48845.76	436.3	1%	No	\$ 0.079	27.5	\$ -	
		Eastbound	A Gazettal	184.5	211.96	182	40	3.2	128	46720	47654.4	591.5	1%	No	\$ 0.079	27.5	\$ -	
	East of access	Westbound	Gazettal	50.37	113.53	317	101	3.2	323.2	117968	120327.36	436.3	0%	No	\$ 0.033	63.2	\$ -	
		Eastbound	A Gazettal	50.37	113.53	311	94	3.2	300.8	109792	111987.84	591.5	1%	No	\$ 0.033	63.2	\$ -	
	East of access	Westbound	Gazettal	11	50.37	820	160	3.2	512	186880	190617.6	436.3	0%	No	\$ 0.033	39.4	\$ -	
		Eastbound	A Gazettal	11	50.37	813	146	3.2	467.2	170528	173938.56	591.5	0%	No	\$ 0.033	39.4	\$ -	
	West of access	Westbound	Gazettal	211.96	293.75	194	92	3.2	294.4	107456	109605.12	394.6	0%	No	\$ 0.067	81.8	\$ -	
		Eastbound	A Gazettal	211.96	293.75	203	79	3.2	252.8	92272	94117.44	1,156.0	1%	No	\$ 0.067	81.8	\$ -	
	East of Meandarra-Talwood Road	Westbound	Gazettal	113.53	184.5	176	41	3.2	131.2	47888	48845.76	436.3	1%	No	\$ 0.079	71.0	\$ -	
		Eastbound	A Gazettal	113.53	184.5	182	40	3.2	128	46720	47654.4	591.5	1%	No	\$ 0.079	71.0	\$ -	
	Total																\$	-

Road Name		Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stage 1)				Marginal Cost		
				Td start	Td end	AAADT (2019)	AAADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Meandarra-Talwood Rd	Between Access and Meandarra-Talwood Rd	Southbound	Gazettal	71.71	128.04	59	23	3.2	73.6	26864	29013.12	-	0%	No	\$ 0.079	56.3	\$ -	
		Northbound	A Gazettal	71.71	128.04	56	16	3.2	51.2	18688	20183.04	-	0%	No	\$ 0.079	56.3	\$ -	
Total																\$	-	

STAGE 2

Growth Rate Moonie 1% linear
Growth Rate Meandarra-Talwood 4% linear

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes					Development Volumes (Stages 1-2)			Marginal Cost					
			Td start	Td end	AADT (2019)	AADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-2	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution		
Moonie Hwy	Between Access and Meandarra-Talwood Rd	Westbound	Gazettal	184.5	211.96	176	41	3.2	131.2	47888	49803.52	1,389.7	3%	No	\$ 0.079	27.5	\$ -	
		Eastbound	A Gazettal	184.5	211.96	182	40	3.2	128	46720	48588.8	1,169.0	2%	No	\$ 0.079	27.5	\$ -	
	East of access	Westbound	Gazettal	50.37	113.53	317	101	3.2	323.2	117968	122686.72	1,389.7	1%	No	\$ 0.033	63.2	\$ -	
		Eastbound	A Gazettal	50.37	113.53	311	94	3.2	300.8	109792	114183.68	1,169.0	1%	No	\$ 0.033	63.2	\$ -	
	East of access	Westbound	Gazettal	11	50.37	820	160	3.2	512	186880	194355.2	1,389.7	1%	No	\$ 0.033	39.4	\$ -	
		Eastbound	A Gazettal	11	50.37	813	146	3.2	467.2	170528	177349.12	1,169.0	1%	No	\$ 0.033	39.4	\$ -	
	West of access	Westbound	Gazettal	211.96	293.75	194	92	3.2	294.4	107456	111754.24	245.9	0%	No	\$ 0.067	81.8	\$ -	
		Eastbound	A Gazettal	211.96	293.75	203	79	3.2	252.8	92272	95962.88	3,789.6	4%	No	\$ 0.067	81.8	\$ -	
	East of Meandarra-Talwood Road	Westbound	Gazettal	113.53	184.5	176	41	3.2	131.2	47888	49803.52	988.2	2%	No	\$ -	71.0	\$ -	
		Eastbound	A Gazettal	113.53	184.5	182	40	3.2	128	46720	48588.8	1,142.5	2%	No	\$ -	71.0	\$ -	
																Total	\$	-

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes					Development Volumes (Stages 1-2)			Marginal Cost				
			Td start	Td end	AADT (2019)	AADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-2	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Meandarra-Talwood Rd	Southbound	Gazettal	71.71	128.04	59	23	3.2	73.6	26864	31162.24	401.4	1%	No	\$ 0.079	56.3	\$ -	
	Northbound	A Gazettal	71.71	128.04	56	16	3.2	51.2	18688	21678.08	26.5	0%	No	\$ 0.079	56.3	\$ -	
															Total	\$	-

STAGE 3

Growth Rate Moonie 1% linear
Growth Rate Meandarra-Talwood 4% linear

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stages 1-3)			Marginal Cost			
			Td start	Td end	AAADT (2019)	AAADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-3	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Moonie Hwy	Between Access and Meandarra-Talwood Rd	Westbound	Gazettal	184.5	211.96	176	41	3.2	131.2	47888	50761.28	1,786.0	3.5%	No	\$ 0.079	27.5	\$ -
		Eastbound	A Gazettal	184.5	211.96	182	40	3.2	128	46720	49523.2	1,408.6	2.8%	No	\$ 0.079	27.5	\$ -
	East of access	Westbound	Gazettal	50.37	113.53	317	101	3.2	323.2	117968	125046.08	1,786.0	1.4%	No	\$ 0.033	63.2	\$ -
		Eastbound	A Gazettal	50.37	113.53	311	94	3.2	300.8	109792	116379.52	1,408.6	1.2%	No	\$ 0.033	63.2	\$ -
	East of access	Westbound	Gazettal	11	50.37	820	160	3.2	512	186880	198092.8	1,786.0	0.9%	No	\$ 0.033	39.4	\$ -
		Eastbound	A Gazettal	11	50.37	813	146	3.2	467.2	170528	180759.68	1,408.6	0.8%	No	\$ 0.033	39.4	\$ -
	West of access	Westbound	Gazettal	211.96	293.75	194	92	3.2	294.4	107456	113903.36	311.8	0.3%	No	\$ 0.067	81.8	\$ -
		Eastbound	A Gazettal	211.96	293.75	203	79	3.2	252.8	92272	97808.32	4,812.7	4.92%	No	\$ 0.067	81.8	\$ -
	East of Meandarra- Talwood Road	Westbound	Gazettal	113.53	184.5	176	41	3.2	131.2	47888	50761.28	1,267.9	2.5%	No	\$ 0.079	71.0	\$ -
		Eastbound	A Gazettal	113.53	184.5	182	40	3.2	128	46720	49523.2	1,374.5	2.8%	No	\$ 0.079	71.0	\$ -
															Total	\$	-

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stages 1-3)			Marginal Cost			
			Td start	Td end	AAADT (2019)	AAADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-3	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Meandarra-Talwood Rd	Southbound	Gazettal	71.71	128.04	59	23	3.2	73.6	26864	33311.36	518.1	1.6%	No	\$ 0.079	56.3	\$ -	
	Northbound	A Gazettal	71.71	128.04	56	16	3.2	51.2	18688	23173.12	34.2	0.1%	No	\$ 0.079	56.3	\$ -	
															Total	\$	-

STAGE 4

Growth Rate Moonie 1% linear
Growth Rate Meandarra-Talwood 4% linear

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes					Development Volumes (Stages 1-4)				Marginal Cost				
			Td start	Td end	AADT (2019)	AADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-4	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution		
Moonie Hwy	Between Access and Meandarra-Talwood Rd	Westbound	Gazettal	184.5	211.96	176	41	3.2	131.2	47888	51240.16	3,147.9	6.1%	No	\$ 0.079	27.5	\$ 6,851.77	
		Eastbound	A Gazettal	184.5	211.96	182	40	3.2	128	46720	49990.4	2,441.5	4.9%	No	\$ 0.079	27.5		
	East of access	Westbound	Gazettal	50.37	113.53	317	101	3.2	323.2	117968	126225.76	3,147.9	2.5%	No	\$ 0.033	63.2		
		Eastbound	A Gazettal	50.37	113.53	311	94	3.2	300.8	109792	117477.44	2,441.5	2.1%	No	\$ 0.033	63.2		
	East of access	Westbound	Gazettal	11	50.37	820	160	3.2	512	186880	199961.6	3,147.9	1.6%	No	\$ 0.033	39.4		
		Eastbound	A Gazettal	11	50.37	813	146	3.2	467.2	170528	182464.96	2,441.5	1.3%	No	\$ 0.033	39.4		
	West of access	Westbound	Gazettal	211.96	293.75	194	92	3.2	294.4	107456	114977.92	1,085.4	0.9%	No	\$ 0.067	81.8		
		Eastbound	A Gazettal	211.96	293.75	203	79	3.2	252.8	92272	98731.04	8,524.2	8.6%	No	\$ 0.067	81.8	\$ 46,413.31	
	East of Meandarra-Talwood Road	Westbound	Gazettal	113.53	184.5	176	41	3.2	131.2	47888	51240.16	2,200.4	4.3%	No	\$ 0.079	71.0		
		Eastbound	A Gazettal	113.53	184.5	182	40	3.2	128	46720	49990.4	2,313.2	4.6%	No	\$ 0.079	71.0		
	Total																\$	53,265.08

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes					Development Volumes (Stages 1-4)				Marginal Cost			
			Td start	Td end	AADT (2019)	AADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-4	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Meandarra-Talwood Rd	Southbound	Gazettal	71.71	128.04	59	23	3.2	73.6	26864	34385.92	947.5	3%	No	\$ 0.079	56.3	\$ -	
	Northbound	A Gazettal	71.71	128.04	56	16	3.2	51.2	18688	23920.64	128.4	1%	No	\$ 0.079	56.3	\$ -	
Total																\$	-

STAGE 5

Growth Rate Moonie 1% linear
Growth Rate Meandarra-Talwood 4% linear

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stages 1-5.)			Marginal Cost			
			Td start	Td end	AAADT (2019)	AAADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-3	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Moonie Hwy	Between Access and Meandarra-Talwood Rd	Westbound	Gazettal	184.5	211.96	176	41	3.2	131.2	47888	52197.92	3,760.7	7.2%	No	\$ 0.079	27.5	\$ 8,185.51
		Eastbound	A Gazettal	184.5	211.96	182	40	3.2	128	46720	50924.8	2,863.1	5.6%	No	\$ 0.079	27.5	\$ 6,231.74
	East of access	Westbound	Gazettal	50.37	113.53	317	101	3.2	323.2	117968	128585.12	3,760.7	2.9%	No	\$ 0.033	63.2	\$ -
		Eastbound	A Gazettal	50.37	113.53	311	94	3.2	300.8	109792	119673.28	2,863.1	2.4%	No	\$ 0.033	63.2	\$ -
	East of access	Westbound	Gazettal	11	50.37	820	160	3.2	512	186880	203699.2	3,760.7	1.8%	No	\$ 0.033	39.4	\$ -
		Eastbound	A Gazettal	11	50.37	813	146	3.2	467.2	170528	185875.52	2,863.1	1.5%	No	\$ 0.033	39.4	\$ -
	West of access	Westbound	Gazettal	211.96	293.75	194	92	3.2	294.4	107456	117127.04	1,294.6	1.1%	No	\$ 0.067	81.8	\$ -
		Eastbound	A Gazettal	211.96	293.75	203	79	3.2	252.8	92272	100576.48	10,178.4	10.1%	No	\$ 0.067	81.8	\$ 55,420.62
	East of Meandarra-Talwood Road	Westbound	Gazettal	113.53	184.5	176	41	3.2	131.2	47888	52197.92	2,621.0	5.0%	No	\$ 0.079	71.0	\$ 14,744.42
		Eastbound	A Gazettal	113.53	184.5	182	40	3.2	128	46720	50924.8	2,708.6	5.3%	No	\$ 0.079	71.0	\$ 15,237.23
Total																\$	99,819.51

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stages 1-5.)			Marginal Cost			
			Td start	Td end	AAADT (2019)	AAADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-3	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Meandarra-Talwood Rd	Southbound	Gazettal	71.71	128.04	59	23	3.2	73.6	26864	36535.04	1,139.6	3.1%	No	\$ 0.079	56.3	\$ -	
	Northbound	A Gazettal	71.71	128.04	56	16	3.2	51.2	18688	25415.68	154.4	0.6%	No	\$ 0.079	56.3	\$ -	
Total																\$	-

STAGE 6

Growth Rate Moonie 1% linear
Growth Rate Meandarra-Talwood 4% linear

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes					Development Volumes (Stages 1-6)				Marginal Cost				
			Td start	Td end	AADT (2019)	AADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-6	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution		
Moonie Hwy	Between Access and Meandarra-Talwood Rd	Westbound	Gazettal	184.5	211.96	176	41	3.2	131.2	47888	53155.68	4,562.2	8.6%	No	\$ 0.079	27.5	\$ 9,930.05	
		Eastbound	A Gazettal	184.5	211.96	182	40	3.2	128	46720	51859.2	3,409.9	6.6%	No	\$ 0.079	27.5	\$ 7,421.98	
	East of access	Westbound	Gazettal	50.37	113.53	317	101	3.2	323.2	117968	130944.48	4,562.2	3.5%	No	\$ 0.033	63.2	\$ -	
		Eastbound	A Gazettal	50.37	113.53	311	94	3.2	300.8	109792	121869.12	3,409.9	2.8%	No	\$ 0.033	63.2	\$ -	
	East of access	Westbound	Gazettal	11	50.37	820	160	3.2	512	186880	207436.8	4,562.2	2.2%	No	\$ 0.033	39.4	\$ -	
		Eastbound	A Gazettal	11	50.37	813	146	3.2	467.2	170528	189286.08	3,409.9	1.8%	No	\$ 0.033	39.4	\$ -	
	West of access	Westbound	Gazettal	211.96	293.75	194	92	3.2	294.4	107456	119276.16	1,567.4	1.3%	No	\$ 0.067	81.8	\$ -	
		Eastbound	A Gazettal	211.96	293.75	203	79	3.2	252.8	92272	102421.92	12,333.7	12.0%	No	\$ 0.067	81.8	\$ 67,155.99	
	East of Meandarra-Talwood Road	Westbound	Gazettal	113.53	184.5	176	41	3.2	131.2	47888	53155.68	3,177.1	6.0%	No	\$ 0.079	71.0	\$ 17,872.51	
		Eastbound	A Gazettal	113.53	184.5	182	40	3.2	128	46720	51859.2	3,222.2	6.2%	No	\$ 0.079	71.0	\$ 18,126.33	
	Total																\$	120,506.87

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes					Development Volumes (Stages 1-6)				Marginal Cost			
			Td start	Td end	AADT (2019)	AADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-6	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Meandarra-Talwood Rd	Southbound	Gazettal	71.71	128.04	59	23	3.2	73.6	26864	38684.16	1,385.1	3.6%	No	\$ 0.079	56.3	\$ -	
	Northbound	A Gazettal	71.71	128.04	56	16	3.2	51.2	18688	26910.72	187.7	0.7%	No	\$ 0.079	56.3	\$ -	
Total																\$	-

STAGE 7

Growth Rate Moonie 1% linear
Growth Rate Meandarra-Talwood 4% linear

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stages 1-7)			Marginal Cost			
			Td start	Td end	AAADT (2019)	AAADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-7	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Moonie Hwy	Between Access and Meandarra-Talwood Rd	Westbound	Gazettal	184.5	211.96	176	41	3.2	131.2	47888	54113.44	5,870.5	10.8%	No	\$ 0.079	27.5	\$ 12,777.75
		Eastbound	A Gazettal	184.5	211.96	182	40	3.2	128	46720	52793.6	3,018.7	5.7%	No	\$ 0.079	27.5	\$ 6,570.45
	East of access	Westbound	Gazettal	50.37	113.53	317	101	3.2	323.2	117968	133303.84	5,870.5	4.4%	No	\$ 0.033	63.2	\$ -
		Eastbound	A Gazettal	50.37	113.53	311	94	3.2	300.8	109792	124064.96	3,018.7	2.4%	No	\$ 0.033	63.2	\$ -
	East of access	Westbound	Gazettal	11	50.37	820	160	3.2	512	186880	211174.4	5,870.5	2.8%	No	\$ 0.033	39.4	\$ -
		Eastbound	A Gazettal	11	50.37	813	146	3.2	467.2	170528	192696.64	3,018.7	1.6%	No	\$ 0.033	39.4	\$ -
	West of access	Westbound	Gazettal	211.96	293.75	194	92	3.2	294.4	107456	121425.28	2,016.5	1.7%	No	\$ 0.067	81.8	\$ -
		Eastbound	A Gazettal	211.96	293.75	203	79	3.2	252.8	92272	104267.36	15,870.3	15.2%	No	\$ 0.067	81.8	\$ 86,412.53
	East of Meandarra-Talwood Road	Westbound	Gazettal	113.53	184.5	176	41	3.2	131.2	47888	54113.44	4,076.4	7.5%	No	\$ 0.079	71.0	\$ 22,931.27
		Eastbound	A Gazettal	113.53	184.5	182	40	3.2	128	46720	52793.6	2,775.6	5.3%	No	\$ 0.079	71.0	\$ 15,613.77
Total																\$	144,305.76

Road Name	Direction	Gazettal/ Against Gazettal	Section		Base Volumes						Development Volumes (Stages 1-7)			Marginal Cost			
			Td start	Td end	AAADT (2019)	AAADT HV	SAR4 per HV	SAR4_Per day	SAR4_Per Year 2019	SAR4_Per Year Opening year of Stage	SAR4_Per year Stage 1-7	% Increase Over Background	> 5%	Marginal Cost	Section length	Development Contribution	
Meandarra-Talwood Rd	Between Access and Meandarra-Talwood Rd	Southbound	Gazettal	71.71	128.04	59	23	3.2	73.6	26864	40833.28	1,794.1	4.4%	No	\$ 0.079	56.3	\$ -
	Northbound	A Gazettal	71.71	128.04	56	16	3.2	51.2	18688	28405.76	243.1	0.9%	No	\$ 0.079	56.3	\$ -	
Total																\$	-

Our ref TMR21-033027
Your ref A8-118
Enquiries Lachlan Jones



Department of
Transport and Main Roads

16 June 2021

Decision Notice – Permitted Road Access Location (s62(1) *Transport Infrastructure Act 1994*)

This is not an authorisation to commence work on a state-controlled road¹

Development application reference number MCU193, lodged with Balonne Shire Council involves constructing or changing a vehicular access between Lot 1BLM760, the land the subject of the application, and the Moonie Highway (a state-controlled road).

In accordance with section 62A(2) of the *Transport Infrastructure Act 1994* (TIA), this development application is also taken to be an application for a decision under section 62(1) of TIA.

Applicant Details

Name and address Kooroon Pastoral Pty Ltd atf Kooroon Trust c/- RDC Engineers
290 Kooroon Road
St George QLD 4487

Application Details

Address of Property 315 Trackers Crossing Road, St George QLD 4487
Real Property Description 1BLM760
Aspect/s of Development Development Permit for a Material Change of Use - Intensive Animal Industry

Decision (given under section 67 of TIA)

It has been decided to approve the application, subject to the following conditions:

No.	Conditions of Approval	Condition Timing
1	The permitted road access location between Lot 1BLM760 and the Moonie Highway is to be in accordance with: 1.Cadastral Plan prepared by RDC Engineers, dated 15/04/21, ref A8-118-00-02, Rev B.	At all times.
2	Road access works comprising of the following must be provided at the permitted access location: a) Construct a Type D Rural Property Access to cater for Type 1 Road Trains in accordance with TMR's Standard Drawing 1807, dated 07/2020; • Provide a 10m seal on driveway approach; and	(a) Prior to commencement of use (b) Prior to Stage 3 commencing use

¹ Please refer to the further approvals required under the heading 'Further approvals'

No.	Conditions of Approval	Condition Timing
	<ul style="list-style-type: none"> • Provide advanced warning signage for 'trucks turning'. <p>b) Construct a Basic left and Basic Right turn treatments (BAL and BAR) to cater for Type 1 Road Trains.</p> <p>Road access works are to be constructed in accordance with:</p> <ul style="list-style-type: none"> • Manual of Uniform Traffic Control Devices; • TMR's Standard Drawing 1807, dated 07/2020; • Road Planning and Design Manual 	

Reasons for the decision

The reasons for this decision are as follows:

- a) Recommendations from the Traffic Report prepared by HIG, dated 16/04/2021, ref P10603, Rev 4.0 outlined the requirements for mitigating development traffic on the Moonie Highway;
- b) Constructing a property access to Transport and Main Roads requirements will maintain a safe and efficient state-controlled road network.

Please refer to **Attachment A** for the findings on material questions of fact and the evidence or other material on which those findings were based.

Information about the Decision required to be given under section 67(2) of TIA

1. There is no guarantee of the continuation of road access arrangements, as this depends on future traffic safety and efficiency circumstances.
2. In accordance with section 70 of the TIA, the applicant for the planning application is bound by this decision. A copy of section 70 is attached as **Attachment B**, as required, for information.

Further information about the decision

1. In accordance with section 67(7) of TIA, this decision notice:
 - a) starts to have effect when the development approval has effect; and
 - b) stops having effect if the development approval lapses or is cancelled; and
 - c) replaces any earlier decision made under section 62(1) in relation to the land.
2. In accordance with section 485 of the TIA and section 31 of the *Transport Planning and Coordination Act 1994* (TPCA), a person whose interests are affected by this decision may apply for a review of this decision only within 28 days after notice of the decision was given under the TIA. A copy of the review provisions under TIA and TPCA are attached in **Attachment C** for information.
3. In accordance with section 485B of the TIA and section 35 of TPCA a person may appeal against a reviewed decision. The person must have applied to have the decision reviewed

before an appeal about the decision can be lodged in the Planning and Environment Court. A copy of the Appeal Provisions under TIA and TPCA is attached in **Attachment C** for information.

Further approvals

The Department of Transport and Main Roads also provides the following information in relation to this approval:

1. Road Access Works Approval Required – Written approval is required from the department to carry out road works that are road access works (including driveways) on a state-controlled road in accordance with section 33 of the TIA. This approval must be obtained prior to commencing any works on the state-controlled road. The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). Please contact the department to make an application.

If further information about this approval or any other related query is required, Mr Lachlan Jones, Planning Officer should be contacted on (07) 4639 0759.

Yours sincerely



Jason McGuire
Senior Town Planner

Attachments: Attachment A – Decision evidence and findings
Attachment B - Section 70 of TIA
Attachment C - Appeal Provisions
Attachment D - Cadastral Plan prepared by RDC Engineers, dated 15/04/21, ref
A8-118-00-02, Rev B

Attachment A

Decision Evidence and Findings

Findings on material questions of fact:

- Section 62 of the TIA allows the Chief Executive of the Department of Transport and Main Roads (the department) to make decisions about permitted road access locations between particular land and a state-controlled road;
- Acceptable Outcome, PO16 in State code 1 of the State Development Assessment Provisions (v2.1) states the location and design of vehicular access to a state-controlled road (including access to a limited access road) does not create a safety hazard for users of a state-controlled road or result in a worsening of operating conditions on a state-controlled road.
- The Traffic Report prepared by HIG, dated 16/04/2021, Ref P10603, Rev 4.0 demonstrates that the development will operate safely on the Moonie Highway with the recommended road access works implemented.

Evidence or other material on which findings were based:

- Traffic Report prepared by HIG, dated 16/04/2021, ref P10603, Rev 4.0
- Cadastral Plan prepared by RDC Engineers, dated 15/04/21, ref A8-118-00-02, Rev B
- TMR's Manual of Uniform Traffic Control Devices
- TMR's Standard Drawing 1807, dated 07/2020
- TMR's Road Planning and Design Manual

Attachment B

Section 70 of TIA

Transport Infrastructure Act 1994

Chapter 6 Road transport infrastructure

Part 5 Management of State-controlled roads

70 Offences about road access locations and road access works, relating to decisions under s 62(1)

- (1) This section applies to a person who has been given notice under section 67 or 68 of a decision under section 62(1) about access between a State-controlled road and adjacent land.
- (2) A person to whom this section applies must not—
 - (a) obtain access between the land and the State-controlled road other than at a location at which access is permitted under the decision; or
 - (b) obtain access using road access works to which the decision applies, if the works do not comply with the decision and the noncompliance was within the person's control; or
 - (c) obtain any other access between the land and the road contrary to the decision; or
 - (d) use a road access location or road access works contrary to the decision; or
 - (e) contravene a condition stated in the decision; or
 - (f) permit another person to do a thing mentioned in paragraphs (a) to (e); or
 - (g) fail to remove road access works in accordance with the decision.

Maximum penalty—200 penalty units.

- (3) However, subsection (2)(g) does not apply to a person who is bound by the decision because of section 68.

Attachment C
Appeal Provisions

Transport Infrastructure Act 1994
Chapter 16 General provisions

485 Internal review of decisions

- (1) A person whose interests are affected by a decision described in schedule 3 (the *original decision*) may ask the chief executive to review the decision.
- (2) The person is entitled to receive a statement of reasons for the original decision whether or not the provision under which the decision is made requires that the person be given a statement of reasons for the decision.
- (3) The *Transport Planning and Coordination Act 1994*, part 5, division 2—
 - (a) applies to the review; and
 - (b) provides—
 - (i) for the procedure for applying for the review and the way it is to be carried out; and
 - (ii) that the person may apply to QCAT to have the original decision stayed.

485B Appeals against decisions

- (1) This section applies in relation to an original decision if a court (the appeal court) is stated in schedule 3 for the decision.
- (2) If the reviewed decision is not the decision sought by the applicant for the review, the applicant may appeal against the reviewed decision to the appeal court.
- (3) The *Transport Planning and Coordination Act 1994*, part 5, division 3—
 - (a) applies to the appeal; and
 - (b) provides—
 - (i) for the procedure for the appeal and the way it is to be disposed of; and
 - (ii) that the person may apply to the appeal court to have the original decision stayed.
- (4) Subsection (5) applies if—
 - (a) a person appeals to the Planning and Environment Court against a decision under section 62(1) on a planning application that is taken, under section 62A(2), to also be an application for a decision under section 62(1); and

(b) a person appeals to the Planning and Environment Court against a decision under the Planning Act on the planning application.

(5) The court may order—

(a) the appeals to be heard together or 1 immediately after the other; or

(b) 1 appeal to be stayed until the other is decided.

(6) Subsection (5) applies even if all or any of the parties to the appeals are not the same.

(7) In this section—

original decision means a decision described in schedule 3.

reviewed decision means the chief executive's decision on a review under section 485.

31 Applying for review

- (1) A person may apply for a review of an original decision only within 28 days after notice of the original decision was given to the person under the transport Act.
- (2) However, if—
 - (a) the notice did not state the reasons for the original decision; and
 - (b) the person asked for a statement of the reasons within the 28 days mentioned in subsection (1)the person may apply within 28 days after the person is given the statement of the reasons.
- (3) In addition, the chief executive may extend the period for applying.
- (4) An application must be written and state in detail the grounds on which the person wants the original decision to be reviewed.

32 Stay of operation of original decision

- (1) If a person applies for review of an original decision, the person may immediately apply for a stay of the decision to the relevant entity.
- (2) The relevant entity may stay the original decision to secure the effectiveness of the review and any later appeal to or review by the relevant entity.
- (3) In setting the time for hearing the application, the relevant entity must allow at least 3 business days between the day the application is filed with it and the hearing day.
- (4) The chief executive is a party to the application.
- (5) The person must serve a copy of the application showing the time and place of the hearing and any document filed in the relevant entity with it on the chief executive at least 2 business days before the hearing.
- (6) The stay—
 - (a) may be given on conditions the relevant entity considers appropriate; and
 - (b) operates for the period specified by the relevant entity; and
 - (c) may be revoked or amended by the relevant entity.
- (7) The period of a stay under this section must not extend past the time when the chief executive reviews the original decision and any later period the relevant entity allows the applicant to enable the applicant to appeal against the decision or apply for a review of the decision as provided under the QCAT Act.

(8) The making of an application does not affect the original decision, or the carrying out of the original decision, unless it is stayed.

(9) In this section—

relevant entity means—

(a) if the reviewed decision may be reviewed by QCAT—QCAT; or

(b) if the reviewed decision may be appealed to the appeal court—the appeal court.

35 Time for making appeals

(1) A person may appeal against a reviewed decision only within—

(a) if a decision notice is given to the person—28 days after the notice was given to the person; or

(b) if the chief executive is taken to have confirmed the decision under section 34(5)—56 days after the application was made.

(2) However, if—

(a) the decision notice did not state the reasons for the decision; and

(b) the person asked for a statement of the reasons within the 28 days mentioned in subsection (1)(a);

the person may apply within 28 days after the person is given a statement of the reasons.

(3) Also, the appeal court may extend the period for appealing.