File: 22/32
Date: 26 September 2023

EPO Developments Pty Ltd
C/- Town Planning Alliance
PO Box 7657
EAST BRISBANE QLD 4169

Attention: Mr Brendan Ferris

Dear Brendan

Decision Notice – change application – minor change
(Given under section 83 of the *Planning Act 2016*)
Material Change of Use & Reconfiguring a Lot
Lots 1 & 4 on RP850853, 2 & 8 Mill Street, Goondiwindi

Goondiwindi Regional Council received your change application made under section 78 of the *Planning Act 2016* on 24 August 2023 for the development approval dated 28 October 2022.

Decision for change application

Date of decision:	22 September 2023
Decision details:	Make the changes and impose development conditions.

The changes agreed to are:

1. Condition 2 is amended at the applicant's request;
2. Condition 4 is amended at the applicant's request;
3. Condition 10 is amended administratively by Council;
4. Condition 10 is amended administratively by Council;
5. Condition 14 is amended at the applicant's request; and
6. Condition 16 is amended as a result of the applicant's request.

If you require any further information, please contact Council's Manager of Planning Services, Mrs Ronnie McMahon, on (07) 4671 7400 or rmcmahon@grc.qld.gov.au, who will be pleased to assist.

Yours faithfully

Carl Manton
Chief Executive Officer
Goondiwindi Regional Council

Decision Notice approval
***Planning Act 2016* section 63**

Council File Reference: 22/32
Council Contact: Mrs Ronnie McMahon
Council Contact Phone: (07) 4671 7400

26 September 2023

Applicant Details: EPO Developments Pty Ltd
C/- Town Planning Alliance
PO Box 7657
EAST BRISBANE QLD 4169

Attention: Mr Brendan Ferris

The change application described below was properly made to Goondiwindi Regional Council on 24 August 2023.

Applicant details

Applicant name:	EPO Developments Pty Ltd C/- Town Planning Alliance
Applicant contact details:	Attention: Brendan Ferris PO Box 7657, East Brisbane Qld 4169 (07) 3361 9999 eda@tpalliance.com.au

Application details

Application number:	22/32
Approval sought:	Minor Change to Existing Development Permit
Details of proposed development:	Material Change of Use - "Business Activities" – "Food and Drink Outlet" (Drive Through Restaurant) and Reconfiguring a Lot (Boundary Realignment) and Easement Giving Access to a Constructed Road

Location details

Street address:	2 & 8 Mill Street, Goondiwindi
Real property description:	Lots 1 & 4 on RP850853

Decision

Date of decision:	22 September 2023
Decision details:	Approved in full with conditions. These conditions are set out in Attachment 1 and changes are clearly identified. Conditions are identified to indicate whether the assessment manager or a concurrence agency imposed them.

Details of the approval

Development permit	Material Change of Use and Reconfiguring a Lot

Description of changes

Existing Condition 2

Approval is granted for the purpose of Reconfiguring a Lot for:

- Boundary Realignment (2 lots into 2 lots); and
- Easement giving access to a constructed road.

Recommendation: Make proposed change per applicant's request

Existing Condition 4

Except where changed by conditions of this approval, the development shall be in accordance with supporting information supplied by the applicant with the development application including the following plans and reports:

Drawing Number	Title	Date
DA01, Rev. B	Prop. Site Plan	03.08.2022
DA02, Rev. A	Prop. Floor Plan	03.08.2022
DA03, Rev. A	Building Elevations & Perspectives	03.08.2022
DA04, Rev. A	Building Elevations & Perspectives	03.08.2022
DA05, Rev. B	Site Perspectives	03.08.2022
DA08, Rev. B	Subdivision Plan	03.08.2022
2205200 SD-02	Schematic Design – Landscape Plan	11-08-2022
2205200 SD-03	Indicative Planting Palette & Landscape Sections	11-08-2022
22100 Report	Environmental Noise Impact Report	12.08.2022
BE220369-RP-TIA-01	Traffic Impact Assessment	12.08.2022
BE220369-RP-CSMP-00	Conceptual Stormwater Management Plan	11.08.2022

Please note these plans are not approved Building Plans.

Proposed Changes – Condition 2

Approval is granted for the purpose of Reconfiguring a Lot for:

- Boundary Realignment (2 lots into 2 lots); ~~and~~
- ~~Easement giving access to a constructed road.~~

Proposed Changes - Condition 4

Except where changed by conditions of this approval, the development shall be in accordance with supporting information supplied by the applicant with the development application including the following plans and reports:

Drawing Number	Title	Date
DA01, Rev. E	Prop. Site Plan	**06.07.2023**
DA02, Rev. A	Prop. Floor Plan	03.08.2022
DA03, Rev. A	Building Elevations & Perspectives	03.08.2022
DA04, Rev. A	Building Elevations & Perspectives	03.08.2022
DA05, Rev. B	Site Perspectives	03.08.2022
DA08, Rev. C	Subdivision Plan	**21.07.2023**
2205200 LP-01	Schematic Design – Landscape Plan	**26.07.2023**
2205200 CS-01	Indicative Planting Palette & Landscape Sections	**26.07.2023**
22100 Report	Environmental Noise Impact Report	12.08.2022
BE220369-RP-TIA-01	Traffic Impact Assessment	12.08.2022
BE220369-RP-CSMP-00	Conceptual Stormwater Management Plan	11.08.2022

Please note these plans are not approved Building Plans.

Recommendation:	Make proposed change

Existing Condition 10	***Proposed Changes – Condition 10***
Prior to the issue of a building approval or submission to Council of the Plan of Survey, whichever comes first, the development shall be connected to Council's reticulated water supply system, in accordance with Schedule 6.2 Planning Scheme Policy 1 – Land Development Standards in the Goondiwindi Region Planning Scheme 2018, to the satisfaction of and at no cost to Council. The developer shall provide all necessary water infrastructure to enable the development and both lots to be serviced to relevant engineering standards and to the satisfaction of Council.	Prior to the ~~issue of a building approval or~~ submission to Council of the Plan of Survey~~, whichever comes first~~, the development shall be connected to Council's reticulated water supply system, in accordance with Schedule 6.2 Planning Scheme Policy 1 – Land Development Standards in the Goondiwindi Region Planning Scheme 2018, to the satisfaction of and at no cost to Council. The developer shall provide all necessary water infrastructure to enable the development and both lots to be serviced to relevant engineering standards and to the satisfaction of Council.

Recommendation:	Make change per internal Council request.

Existing Condition 11	***Proposed Changes – Condition 11***
Prior to the issue of a building approval or submission to Council of the Plan of Survey, whichever comes first, the development shall be connected to Council's reticulated sewerage system, in accordance with Schedule 6.2 Planning Scheme Policy 1 – Land Development Standards in the Goondiwindi Region Planning Scheme 2018, to the satisfaction of and at no cost to Council. The developer shall provide all necessary sewer infrastructure to enable the development to be serviced to relevant engineering standards and to the satisfaction of Council.	Prior to the ~~issue of a building approval or~~ submission to Council of the Plan of Survey~~, whichever comes first~~, the development shall be connected to Council's reticulated sewerage system, in accordance with Schedule 6.2 Planning Scheme Policy 1 – Land Development Standards in the Goondiwindi Region Planning Scheme 2018, to the satisfaction of and at no cost to Council. The developer shall provide all necessary sewer infrastructure to enable the development to be serviced to relevant engineering standards and to the satisfaction of Council.

Recommendation:	Make change per internal Council request.

Existing Condition 14	***Proposed Changes – Condition 14***
Twenty-one (21) sealed and delineated car parking spaces shall be supplied on site. This area shall be constructed in accordance with Schedule 6.2 – Planning Scheme Policy 1 – Land Development Standards of the Goondiwindi Region Planning Scheme 2018 (Version 2), to the satisfaction of and at no cost to Council.	**Sixteen (16)** sealed and delineated car parking spaces shall be supplied on site. This area shall be constructed in accordance with Schedule 6.2 – Planning Scheme Policy 1 – Land Development Standards of the Goondiwindi Region Planning Scheme 2018 (Version 2), to the satisfaction of and at no cost to Council.
Car parking areas shall be constructed prior to the commencement of the use.	Car parking areas shall be constructed prior to the commencement of the use.
The developer shall contact Council's Engineering Department to ensure the correct specifications are obtained for all civil works prior to commencement of any works onsite.	The developer shall contact Council's Engineering Department to ensure the correct specifications are obtained for all civil works prior to commencement of any works onsite.
A qualified Council Officer may inspect construction works at the request of the developer to ensure compliance with this condition.	A qualified Council Officer may inspect construction works at the request of the developer to ensure compliance with this condition.

Recommendation: Make proposed change per applicant's request

Existing Condition 16	***Proposed Changes – Condition 16***
Landscaping shall be provided in accordance with Schedule 6.3 – Planning Scheme Policy 1 – Land Development Standards of the Goondiwindi Region Planning Scheme 2018, generally in accordance with the Approved Landscape Plan.	Landscaping shall be provided in accordance with Schedule 6.3 – Planning Scheme Policy 1 – Land Development Standards of the Goondiwindi Region Planning Scheme 2018, generally in accordance with the Approved Landscape Plan.
All landscaping and tree plantings are to be planted and maintained to the satisfaction of a qualified Council Officer. A bond for the amount of $9,872 is to be submitted prior to the issue of a building approval for the maintenance of landscaping…	All landscaping and tree plantings are to be planted and maintained to the satisfaction of a qualified Council Officer. A bond for the amount of **$8,720** is to be submitted prior to the issue of a building approval for the maintenance of landscaping…

Recommendation: Make proposed change as a result of applicant's request

Conditions

This approval is subject to the conditions in Attachment 1. The changed conditions are highlighted for clarification in **Attachment 1**.

All conditions other than those approved to be changed from the original Decision Notice remain relevant and enforceable.

All other parts of the original Decision Notice not amended by this Notice remain relevant and enforceable.

Further development permits

Please be advised that the following development permits are required to be obtained before the development can be carried out:

1. Building Approval
2. Plumbing Compliance Permit
3. Survey Plan Approval

Properly made submissions

Not applicable—No part of the application required public notification.

Rights of appeal

The rights of applicants to appeal to a tribunal or the Planning and Environment Court against decisions about a development application are set out in chapter 6, part 1 of the *Planning Act 2016*. For particular applications, there may also be a right to make an application for a declaration by a tribunal (see chapter 6, part 2 of the *Planning Act 2016*).

A copy of the relevant appeal provisions are attached.

Currency period for the approval

This development approval will lapse at the end of the period set out in section 85 of *Planning Act 2016*

Approved plans and specifications

Copies of the following plans are enclosed.

Drawing Number	Title	Date
DA01, Rev. E	Prop. Site Plan	**06.07.2023**
DA02, Rev. A	Prop. Floor Plan	03.08.2022
DA03, Rev. A	Building Elevations & Perspectives	03.08.2022
DA04, Rev. A	Building Elevations & Perspectives	03.08.2022
DA05, Rev. B	Site Perspectives	03.08.2022
DA08, Rev. C	Subdivision Plan	**21.07.2023**
2205200 LP-01	Schematic Design – Landscape Plan	**26.07.2023**
2205200 CS-01	Indicative Planting Palette & Landscape Sections	**26.07.2023**
22100 Report	Environmental Noise Impact Report	12.08.2022
BE220369-RP-TIA-01	Traffic Impact Assessment	12.08.2022
BE220369-RP-CSMP-00	Conceptual Stormwater Management Plan	11.08.2022

Attachment 3 is a Notice about decision - Statement of reasons, in accordance with section 63 (5) of *the Planning Act 2016.*

Attachment 4 includes a Rights of Appeal waiver, which, if completed, will be used to process your request to waive your appeal rights to process your approval without unnecessary delay.

Attachment 5 is an extract from the *Planning Act 2016*, which details the applicant's appeal rights regarding this decision

If you wish to discuss this matter further, please contact Council's Manager of Planning Services, Mrs Ronnie McMahon, on 07 4671 7400.

Yours Sincerely

Carl Manton
Chief Executive Officer
Goondiwindi Regional Council

enc Attachment 1—Amended Assessment manager conditions
Attachment 2—Approved plans
Attachment 3—Notice about decision – Statement of reasons
Attachment 4—Rights of Appeal Waiver
Attachment 5—Planning Act extracts

ATTACHMENTS

Attachment 1 – Amended Assessment Manager's Conditions

Attachment 2 – Approved Plans

Attachment 3– Notice about decision - Statement of reasons

Attachment 4 – Rights of Appeal waiver

Attachment 5 – *Planning Act 2016* Extracts

Planning Act 2016 appeal provisions

Planning Act 2016 lapse dates

Goondiwindi REGIONAL COUNCIL

Attachment 1 – Amended Assessment Manager's Conditions

Assessment Manager's Conditions

Description:	• *"Business Activities" – "Food and Drink Outlet" (Drive Through Restaurant)* and Reconfiguring a Lot (Boundary Realignment) ~~and Easement Giving Access to a Constructed Road~~
Development:	Material Change of Use & Reconfiguring a Lot – Development Permit
Applicant:	EPO Developments Pty Ltd C/- Town Planning Alliance
Address:	2 and 8 Mill Street, Goondiwindi
Real Property Description:	Lots 1 & 4 on RP850853
Council File Reference:	22/32

The amended conditions are highlighted in yellow below.

	GENERAL CONDITIONS
1.	Approval is granted for the purpose of a Material Change of Use for: • *"Business Activities" – "Food and Drink Outlet"* (Drive Through Restaurant) as defined in the *Goondiwindi Region Planning Scheme 2018 (Version 2)*.
2.	Approval is granted for the purpose of Reconfiguring a Lot for: • Boundary Realignment (2 lots into 2 lots).
3.	All conditions must be complied with or bonded prior to the commencement of the use, unless specified in an individual condition.

4. Except where changed by conditions of this approval, the development shall be in accordance with supporting information supplied by the applicant with the development application including the following plans and reports:

Drawing Number	Title	Date
DA01, Rev. E	Prop. Site Plan	**06.07.2023**
DA02, Rev. A	Prop. Floor Plan	03.08.2022
DA03, Rev. A	Building Elevations & Perspectives	03.08.2022
DA04, Rev. A	Building Elevations & Perspectives	03.08.2022
DA05, Rev. B	Site Perspectives	03.08.2022
DA08, Rev. C	Subdivision Plan	**21.07.2023**
2205200 LP-01	Schematic Design – Landscape Plan	**26.07.2023**
2205200 CS-01	Indicative Planting Palette & Landscape Sections	**26.07.2023**
22100 Report	Environmental Noise Impact Report	12.08.2022
BE220369-RP-TIA-01	Traffic Impact Assessment	12.08.2022
BE220369-RP-CSMP-00	Conceptual Stormwater Management Plan	11.08.2022

Please note these plans are not approved Building Plans.

5. Complete and maintain the approved development as follows:

(i) Generally in accordance with development approval documents; and

(ii) Strictly in accordance with those parts of the approved development which have been specified in detail by Council unless Council agrees in writing that those parts will be adequately complied with by amended specifications.

All development shall comply with any relevant provisions in the *Goondiwindi Region Planning Scheme 2018 (Version 2),* Council's standard designs for applicable work and any relevant Australian Standard that applies to that type of work.

The development approval documents are the material contained in the development application, approved plans and supporting documentation including any written and electronic correspondence between applicant, Council or any relevant Agencies during all stages of the development application assessment processes.

6. The developer shall contact Council's Engineering Department to ensure the correct specifications are obtained for all civil works prior to commencement of any works onsite.

7. It is the developer's responsibility to obtain all other statutory approvals required prior to the commencement of the use.

OPERATION OF THE USE

8. The proposed activities shall be operated generally between the hours of:

(a) 10:00am and 10:00pm, Monday to Sunday.

9.	Loading and unloading shall occur between the hours of: (a) 7:00am and 6:00pm, Monday to Friday. No loading and unloading is to occur on Sundays and Public Holidays.
	ESSENTIAL SERVICES
10.	Prior to the ~~issue of a building approval or~~ submission to Council of the Plan of Survey~~, whichever comes first~~, the development shall be connected to Council's reticulated water supply system, in accordance with Schedule 6.2 Planning Scheme Policy 1 – Land Development Standards in the Goondiwindi Region Planning Scheme 2018, to the satisfaction of and at no cost to Council. The developer shall provide all necessary water infrastructure to enable the development and both lots to be serviced to relevant engineering standards and to the satisfaction of Council.
11.	Prior to the ~~issue of a building approval or~~ submission to Council of the Plan of Survey, ~~whichever comes first,~~ the development shall be connected to Council's reticulated sewerage system, in accordance with Schedule 6.2 Planning Scheme Policy 1 – Land Development Standards in the Goondiwindi Region Planning Scheme 2018, to the satisfaction of and at no cost to Council. The developer shall provide all necessary sewer infrastructure to enable the development to be serviced to relevant engineering standards and to the satisfaction of Council.
	PUBLIC UTILITIES
12.	The development shall be connected to an adequate electricity and telecommunications supply system, at no cost to Council.
	ROADS AND VEHICLES
13.	The proposed access to Mill Street, from the edge of the existing bitumen to the property boundary, shall be constructed to a commercial standard generally in the location shown in on the approved plans. The crossover must be constructed in accordance with the approved Traffic Impact Assessment and in accordance with Schedule 6.2.1 – Standard Drawing in Schedule 6.2 – Planning Scheme Policy 1 – Land Development Standards of the Goondiwindi Region Planning Scheme 2018, to the satisfaction of and at no cost to Council. Crossovers shall be constructed prior to the commencement of the use. The developer shall contact Council's Engineering Department to ensure the correct specifications are obtained for all civil works prior to commencement of any works onsite. A qualified Council Officer may inspect construction works at the request of the development to ensure compliance with this condition."

14.	**Sixteen (16)** sealed and delineated car parking spaces shall be supplied on site. This area shall be constructed in accordance with Schedule 6.2 – Planning Scheme Policy 1 – Land Development Standards of the *Goondiwindi Region Planning Scheme 2018 (Version 2)*, to the satisfaction of and at no cost to Council. Car parking areas shall be constructed prior to the commencement of the use. The developer shall contact Council's Engineering Department to ensure the correct specifications are obtained for all civil works prior to commencement of any works onsite. A qualified Council Officer may inspect construction works at the request of the developer to ensure compliance with this condition.
15.	Provide loading bay facilities for a Heavy Rigid Vehicle in the location generally shown on the Approved Plans and in accordance with the approved Traffic Impact Assessment that are designed in accordance with Australian Standard 2890.2 – Off-street Commercial Vehicle Facilities.

	LANDSCAPING

16. Landscaping shall be provided in accordance with Schedule 6.3 – Planning Scheme Policy 1 – Land Development Standards of the Goondiwindi Region Planning Scheme 2018, generally in accordance with the Approved Landscape Plan.

All landscaping and tree plantings are to be planted and maintained to the satisfaction of a qualified Council Officer. A bond for the amount of **$8,720** is to be submitted prior to the issue of a building approval for the maintenance of landscaping.

If the landscaping complies with Schedule 6.3 – Planning Scheme Policy 1 – Land Development Standards of the Goondiwindi Region Planning Scheme 2018, the applicant will be advised in writing that the bond is accepted.

The bond holding time starts from the acceptance of works. Council must be contacted by the applicant to request an inspection of the landscaping as soon as possible after completion of planting and payment of bond. The bond shall be returned in accordance with the following schedule if the landscaping meets the criteria:

Time from acceptance of landscaping works	Criteria	Bond Refund / Reduction
9 months – From acceptance of works	Landscaping conforms to requirements, is established and maintained. Adequate provision for on-going watering and growth. Any/all replacement plants are provided.	50%
18 months – From acceptance of works	Landscaping is well established (as a guide >50% full growth depending on species). All replacement plants are established. The landscaping intent is being achieved.	25%
24 months – From acceptance of works	Landscaping is fully established, or within 80% depending on species.	25%

After the required bond holding time has passed, a refund of bond monies will only be considered upon a written request from the person who paid the bond once the required bond holding time has been completed. A qualified Council Officer may inspect landscaping plantings to ensure compliance with this condition and acceptance of the works.

Council will hold the funds in trust for a maximum of three years, at which time should work not be carried out and maintained to Council's satisfaction, the bond will be used by Council to have the works performed unless an extension of time is requested by the land owner or applicant and approved by Council.

To clarify, bonds can only be refunded upon a written request from the person who paid the bond upon the works being satisfactorily maintained for the required bond holding time."

	STORMWATER
17.	Prior to the commencement of the use, the site shall be adequately drained and all stormwater shall be disposed of generally in accordance with the approved Conceptual Stormwater Management Plan to a legal point of discharge in accordance with Schedule 6.2 – Planning Scheme Policy 1 – Land Development Standards of the *Goondiwindi Region Planning Scheme 2018 (Version 2)*, to the satisfaction of and at no cost to Council. Any increase in volume, concentration or velocity of stormwater from the site shall be channelled to lawful points of discharge or to other storage or dispersal arrangements which all must be agreed to in writing by Council. There shall be no change in direction or increase in the volume, concentration or velocity in any overland flow from the site to any adjoining properties unless agreed in writing by Council and the owners of any adjoining properties affected by these changes. The stormwater disposal system shall be designed to include appropriate pollution control devices or methods to ensure no contamination or silting or waterways.
18.	Stormwater shall not be allowed to pond on the site during the development process and after development has been completed unless the type and size of ponding has been agreed in writing by Council. No ponding, concentration or redirection of stormwater shall occur on adjoining properties unless specifically agreed to in writing by Council and the owners of any adjoining properties affected by these changes.
	EARTHWORKS AND EROSION CONTROL
19.	Any filling or excavation shall be undertaken in accordance with Schedule 6.2 – Planning Scheme Policy 1 – Land Development Standards of the *Goondiwindi Region planning Scheme 2018 (Version 2)* or to other relevant engineering standards to the satisfaction of and at no cost to Council. Excavation or filling within 1.5 metres of any site boundary is battered or retained by a wall that does not exceed 1 metre in height.
20.	All works associated with the development must be carried out in a manner that minimises erosion and controls sediment. Best practice erosion and sediment control measures shall be in place at the location of all works prior to work commencing and remain until work is completed in accordance with Schedule 6.2 – Planning Scheme Policy 1 – Land Development Standards of the *Goondiwindi Region Planning Scheme 2018 (Version 2)* to the satisfaction of and at no cost to Council. Control procedures are to be established to ensure sediment from the site is not deposited off site. The developer shall ensure no increase in any silt loads or contaminants in overland flow from the site during the development process and after development has been completed.

	AVOIDING NUISANCE
21.	At all times while the use continues, the development shall be conducted in accordance with the provisions of the *Environmental Protection Act 1994* (the Act) and all relevant regulations and standards under that Act. All necessary licences under the Act shall be obtained and shall be maintained at all times while the use continues.
22.	At all times while the use continues, lighting of the site, including any security lighting, shall be such that the lighting intensity does not exceed 8.0 lux at a distance of 1.5 metres from the site at any property boundary. All lighting shall be directed or shielded so as to ensure that no glare directly affects nearby properties, motorists or the operational safety of the surrounding road network.
23.	At all times while the use continues it shall be operated in such a manner as to ensure that no nuisance shall arise to adjoining premises as a result of dust, noise, lighting, odour, vibration, rubbish, contaminants, stormwater discharge or siltation or any other potentially detrimental impact.
21.	At all times while the use continues, provision must be made on site for the collection of general refuse in covered waste containers with a capacity sufficient for the use. Waste receptacles shall be placed in a screened area. The site must maintain a general tidy appearance.
22.	The operator shall be responsible for mitigating any complaints arising from on-site operations.
23.	Construction works must occur so they do not cause unreasonable interference with the amenity of adjoining premises. The site must be kept in a clean and tidy state at all times during construction.
24.	At all times while the use continues, any air conditioned equipment shall be acoustically screened to ensure noise levels do not exceed 5 dB(A) above the background noise level measured at the boundaries of the subject site.
	DEVELOPER'S RESPONSIBILITIES
25.	Any alteration or damage to roads and/or public infrastructure that is attributable to the progress of works or vehicles associated with the development of the site shall be repaired to Council's satisfaction or the cost of repairs paid to Council.
26.	All contractors and subcontractors shall hold current, relevant and appropriate qualifications and insurances to carry out the works.

27.	All costs reasonably associated with the approved development, unless there is specific agreement by other parties to meet these costs, shall be met by the developer.
28.	At all times while the use continues, all requirements of the conditions of the development approval must be maintained.
	COMMENCEMENT OF USE
29.	At its discretion, Council may accept bonds or other securities to ensure completion of specified development approval conditions or Council may accept cash payments for Council to undertake the necessary work to ensure completion of specified development approval conditions. It may be necessary for Council to use such bonds for the completion of outstanding works without a specific timeframe agreed. The decision to accept bonds or other securities to satisfy a condition will be that of Council, not the applicant.
30.	Council must be notified in writing of the date of the commencement of the use within 14 days of commencement. This Material Change of Use approval will lapse if the use has not commenced within **six years** of the date the development approval takes effect, in accordance with the provisions contained in sections 85(i)(a) of the *Planning Act 2016.* Section 86 of the *Planning Act 2016* sets out how an extension to the period of approval can be requested.
31.	A letter outlining and demonstrating that conditions have been, or will be, complied with shall be submitted to Council and approved by a relevant Officer of Council prior to commencement of the use at each relevant stage. Council Officers may require a physical inspection to confirm that all conditions have been satisfied to relevant standards.
	BEFORE PLANS WILL BE ENDORSED
32.	The developer shall submit a detailed Plan of Survey, prepared by a licensed surveyor, for the endorsement of Council. In accordance with Schedule 18 of the *Planning Regulations 2017.* The relevant Council Fee for endorsement of the Plan of Survey (currently $195; subject to change). "

33.	All outstanding rates and charges shall be paid to Council prior to the submission to Council of the Plan of Survey. At its discretion, Council may accept bonds or other securities by way of bank guarantee or cash, to ensure completion of specified development approval conditions to expedite the endorsement of the Plan of Survey. It may be necessary for Council to use such bonds for the completion of outstanding works without a specific timeframe agreed. The decision to accept bonds or other securities to satisfy a condition will be that of Council, not the applicant."
34.	The developer shall provide any easements required for the development to the requirements of Council. Easement documents shall be registered with the Plan of Survey or the developer shall give Council an appropriate undertaking in writing that the easement documents shall be lodged as required. A duly executed copy of any title and easement documents shall be submitted to Council once sealed.
35.	A letter outlining and demonstrating that conditions have been complied with shall be submitted to Council prior to the submission to Council of the Plan of Survey. Council officers may require a physical inspection to confirm that all conditions have been satisfied to relevant standards. The approval will lapse if a plan for the reconfiguration is not given to the local government within the following period, in accordance with the provisions contained in section 85(1)(b) of the Planning Act 2016: (a) If no period is stated – 4 years after the approval starts to have effect. Section 86 of the Planning Act 2016 sets out how an extension to the period of approval can be requested.

	PLEASE READ CAREFULLY - NOTES AND ADVICE
	When approval takes effect This approval takes effect in accordance with section 85 of the *Planning Act 2016*. *When approval lapses* This Material Change of Use approval will lapse if the change of use has not occurred within the following period, in accordance with the provisions contained in section 85(i)(a) of the *Planning Act 2016*. (a) If no period stated – 6 years after the approval starts to have effect. The Reconfiguring a Lot approval will lapse if a plan for the reconfiguration is not given to the local government within the following period, in accordance with the provisions contained in section 85(1)(b) of the Planning Act 2016: (a) If no period stated – 4 years after the approval starts to have effect. Section 86 of the *Planning Act 2016* sets out how an extension to the period of approval can be requested.
	Infrastructure charges as outlined in the Infrastructure Charges Notice included in **Attachment 3** shall be paid prior to the commencement of the use.
	This approval in no way removes the duty of care responsibility of the applicant under the *Aboriginal Cultural Heritage Act 2003*. Pursuant to Section 23(1) of the *Aboriginal Cultural Heritage Act 2003*, a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the "cultural heritage duty of care").
	This approval in no way authorises the clearing of native vegetation protected under the *Vegetation Management Act 1999*.
	The approved development does not authorise any deviation from the applicable Australian Standards nor from the application of any laws, including laws covering work place health and safety.

Attachment 2 – Approved Plans

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

RPD:

LOT 1 & 4 on RP850853
PARISH: GOONDIWINDI
COUNTY: MARSH
COUNCIL: GOONDIWINDI REGIONAL

DEVELOPMENT ASSESSMENT

- OVERALL SITE AREA - 6,546m²
- PROP. LOT 1 - 1,991m²
- PROP. LOT 2 - 4,555m²
- LANDSCAPED AREA - 5,025m²
- BLDG SITE COVER - 3.9%
  INCLUDES ALL ROOFED AREAS

IMPERVIOUS AREAS

- PRE SITE DEVELOPMENT - 0m²
  (INCLUDES BUILDING ROOFED AREAS)
- POST SITE DEVELOPMENT - 1,520m²
  (INCLUDES BUILDING ROOFED AREAS)

BUILDING AREAS - (GFA)

- T1 FOOD & DRINK - 225m²
  (INCLUDES REFUSE AREA - 10m²)

CAR PARKING

- PARKING REQUIRED - 15
  (TO BE CONFIRMED)
- PARKING PROVIDED - 16

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 26/09/23
Signed:
Print Name: Karl Manton
(Under Delegation) ASSESSMENT MANAGER

VERVE SCHEDULES DISCLAIMER:

1. ALL SCHEDULES SHOULD BE CHECKED WITH THE REMAINDER OF THE DRAWING SET
2. SCHEDULED RATES AND AREAS ARE INTENDED FOR ASSISTANCE ONLY. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF QUANTITIES
3. ANY DISCREPANCIES IN SCHEDULES SHOULD BE IDENTIFIED TO THE AUTHOR NOTED
4. ALL AREAS ARE GROSS AREAS, UNLESS NOTED OTHERWISE

CONSULTING ENGINEER

VERVE BUILDING DESIGN CO.
imagine create deliver

- commercial / industrial / retail
- fast food restaurant design
- travel centre / service stations
- project concept to completion

Revision and approvals

Rev	Date	Drn	Description	Appr
P3	20.07.2022	JN	ISSUE FOR APPROVAL	
P4	03.08.2022	JN	ISSUE FOR APPROVAL	
A	03.08.2022	JN	ISSUE FOR APPROVAL	
B	03.08.2022	JN	ISSUE FOR APPROVAL	
C	24.04.2023	JN	REVISED ISSUE FOR APPROVAL	
D	24.04.2023	JN	REVISED ISSUE FOR APPROVAL	
E	04.07.2023	JN	REVISED ISSUE FOR APPROVAL	

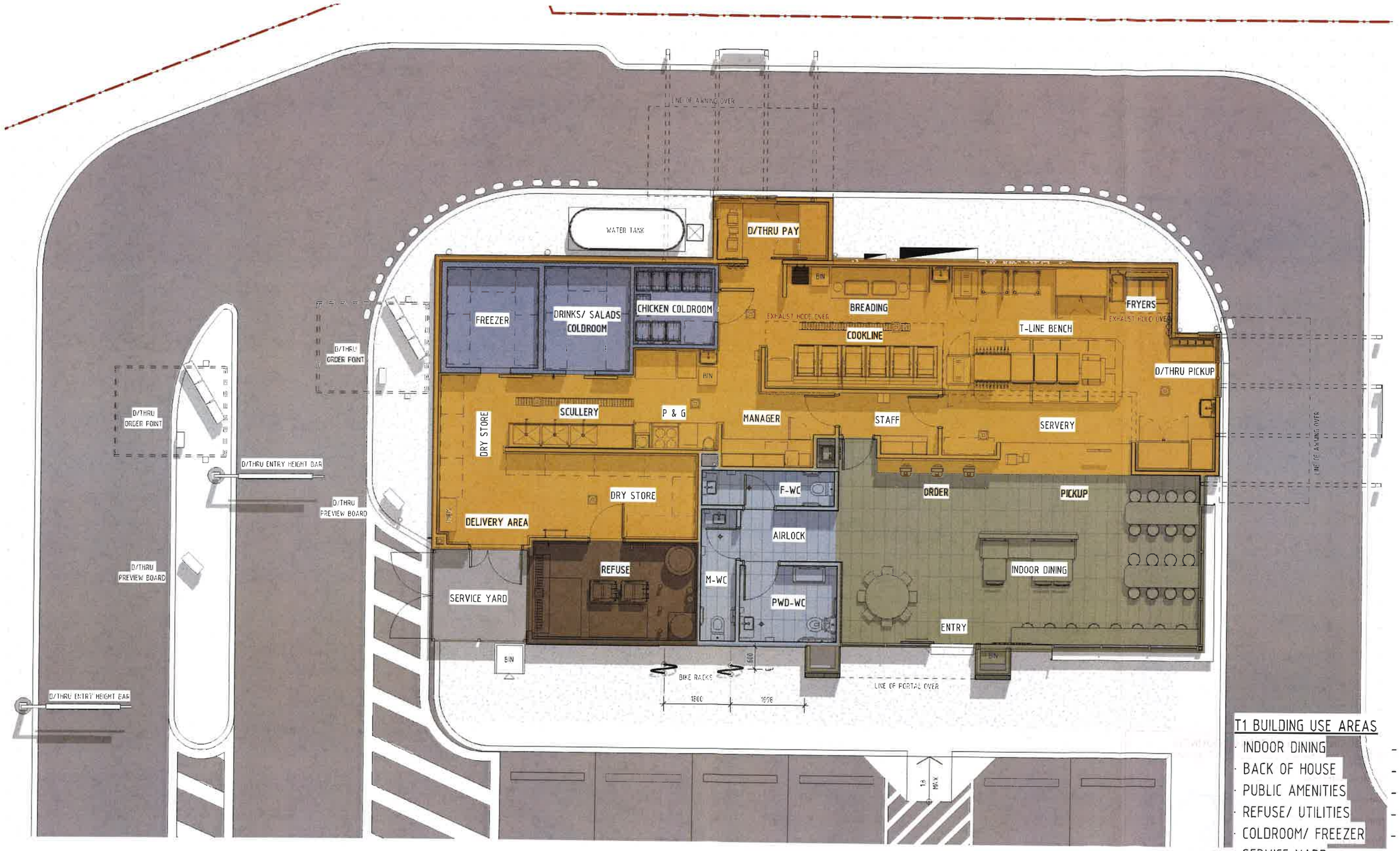
Project Description
PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Scale @ A1: 1 : 250
Date: JUL 2022
Drawn: JN
Approved By: GK

Drawing Title
PROP. SITE PLAN

Job Number - Drawing Number: 22092 DA01
Revision: E

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION



T1 BUILDING USE AREAS

· INDOOR DINING	- 50m²
· BACK OF HOUSE	- 118m²
· PUBLIC AMENITIES	- 18m²
· REFUSE/ UTILITIES	- 14m²
· COLDROOM/ FREEZER	- 20m²
· SERVICE YARD	- 5m²
AREA USE TOTAL	- 225m²

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CONSULTING ENGINEER

VERVE BUILDING DESIGN CO.
imagine = create = deliver

- commercial / industrial / retail
- fast food restaurant design
- travel centre / service stations
- project concept to completion

Revision and approvals

Rev	Date	Drn	Description	Appr
P1	07.07.2022	JN	PRELIMINARY ISSUE	
P2	19.07.2022	JN	ISSUE FOR APPROVAL	
P3	28.07.2022	JN	ISSUE FOR APPROVAL	
P4	02.08.2022	JN	ISSUE FOR APPROVAL	
A	03.08.2022	JN	ISSUE FOR APPROVAL	

Project Description
PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title
PROP. FLOOR PLAN

Scale @ A1: 1 : 50
Date: JUL 2022
Drawn: JN
Approved By: GN

Job Number - Drawing Number: 22092 DA02
Revision: A

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice

Council Reference: 22/32

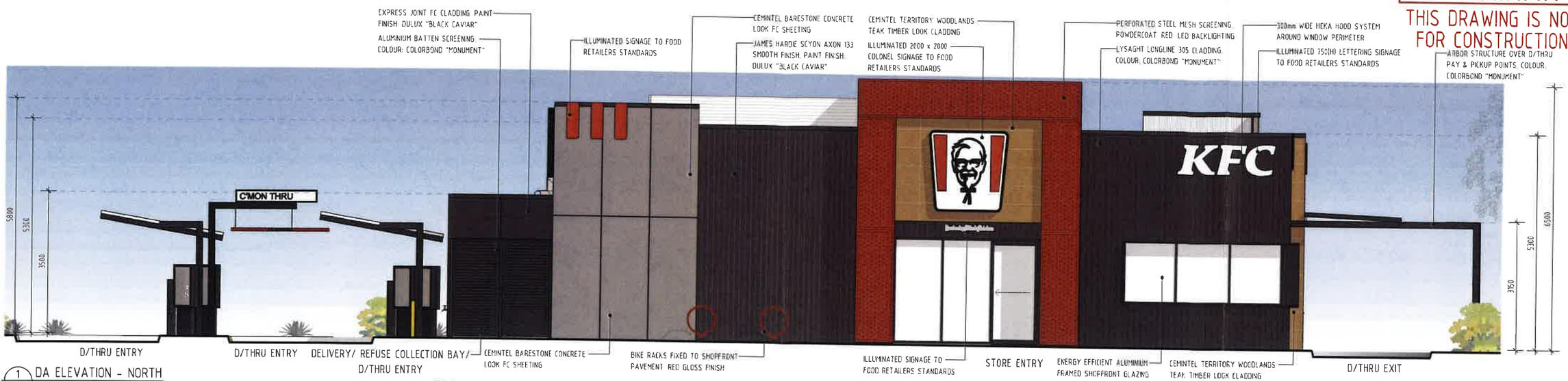
Dated: 28/10/22

Signed:

Print Name: Carl Manton

(Under Delegation) ASSESSMENT MANAGER

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION



1 DA ELEVATION - NORTH
1 : 50

2 DA ELEVATION - EAST
1 : 50

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 28/10/22
Signed:
Print Name: Carl Manton
(Under Delegation) ASSESSMENT MANAGER

ALL EXTERNAL MATERIALS & FINISHES SHOWN INDICATIVE ONLY AND SUBJECT TO FINAL TENANT STANDARDS

ALL DIMENSIONS MEASURED FROM FINISHED GROUND LEVEL UNLESS NOTED OTHERWISE

ALL LANDSCAPING SHOWN INDICATIVE ONLY

3 PERSPECTIVE 1

4 PERSPECTIVE 2

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CONSULTING ENGINEER

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Revision and approvals

Rev	Date	Drn	Description	Appr
P1	07.07.2022	JN	PRELIMINARY ISSUE	
P2	18.07.2022	JN	ISSUE FOR APPROVAL	
P3	26.07.2022	JN	ISSUE FOR APPROVAL	
A	03.08.2022	JN	ISSUE FOR APPROVAL	

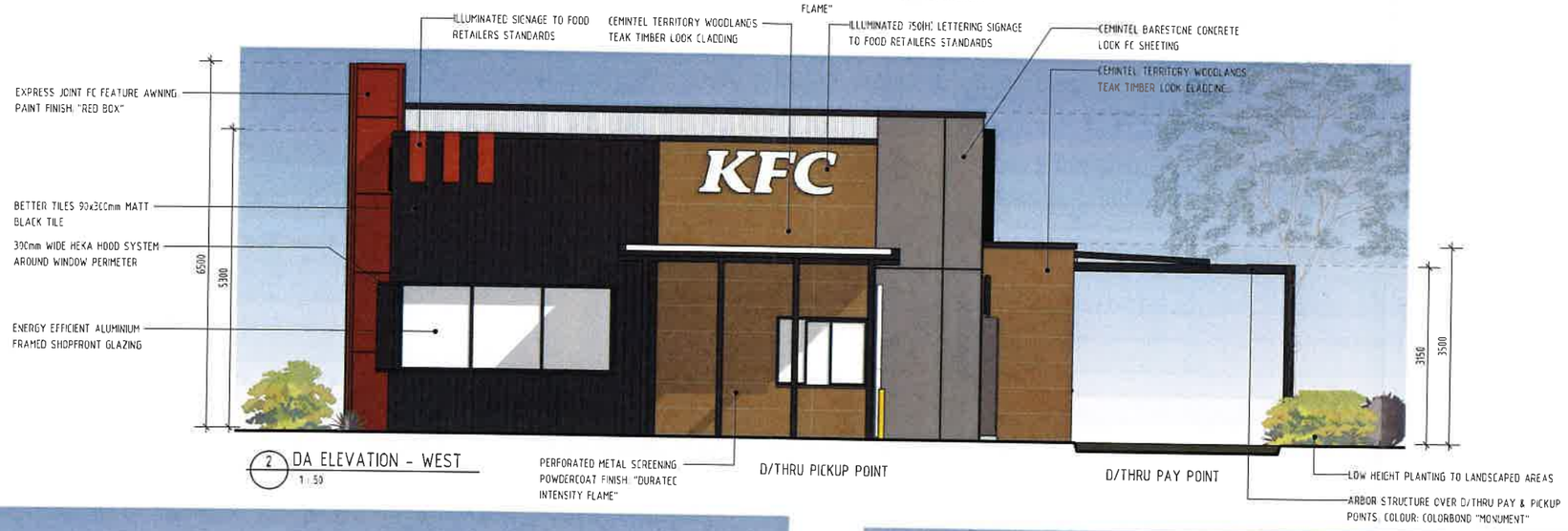
Project Description
PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title
BUILDING ELEVATIONS & PERSPECTIVES

Scale (@A1) 1 : 50
Date JUL 2022
Drawn JN
Approved By GM
Job Number - Drawing Number 22092 DA03
Revision A

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

1 DA ELEVATION - SOUTH
1 : 50



2 DA ELEVATION - WEST
1 : 50

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ALL DIMENSIONS MEASURED FROM FINISHED GROUND LEVEL UNLESS NOTED OTHERWISE

ALL LANDSCAPING SHOWN INDICATIVE ONLY

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 28/10/22
Signed:
Print Name: Carl Wanton
(Under Delegation) ASSESSMENT MANAGER

3 PERSPECTIVE 3

4 PERSPECTIVE 4

VERVE SCHEDULES DISCLAIMER:
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CONSULTING ENGINEER

VERVE BUILDING DESIGN CO.
imagine create deliver
commercial / industrial / retail
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travel centre / service stations
project concept to completion

Revision and approvals

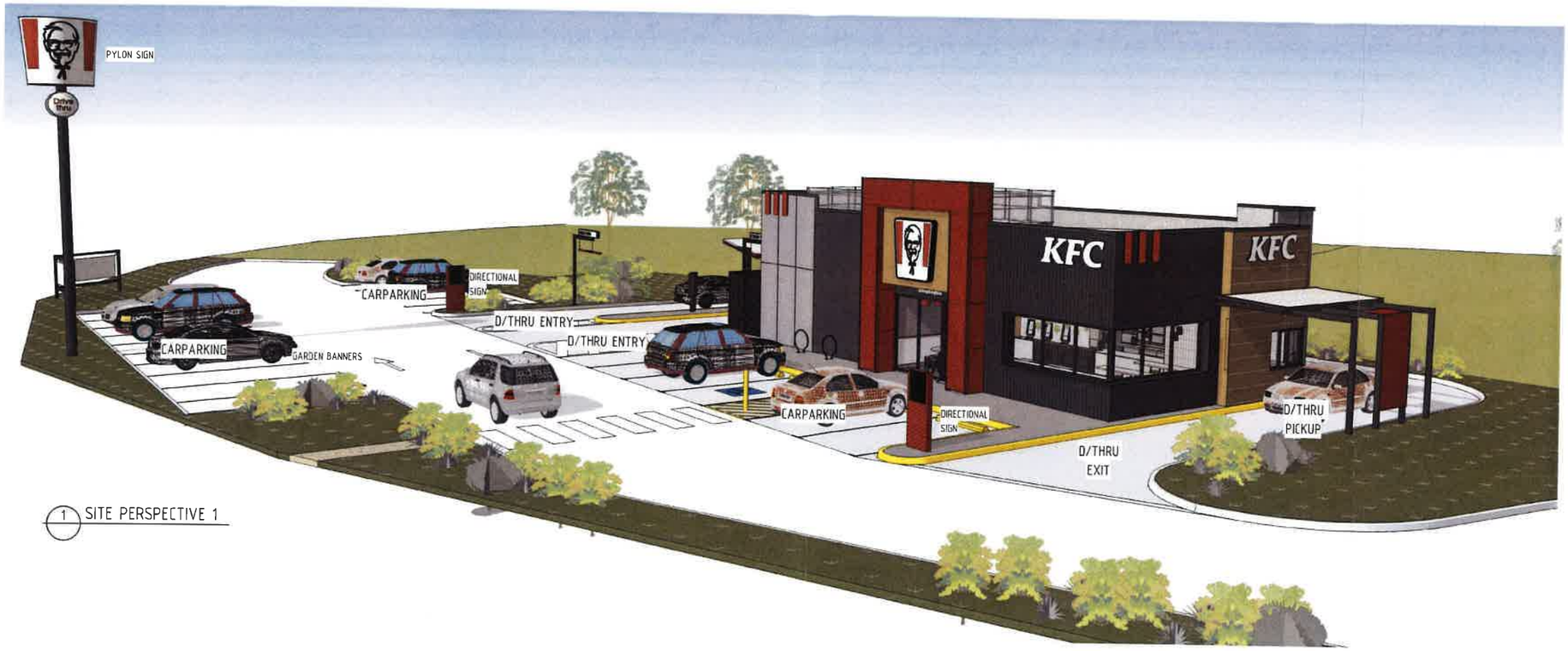
Rev	Date	Drn	Description	Appr
P1	07.07.2022	JN	PRELIMINARY ISSUE	
P2	18.07.2022	JN	ISSUE FOR APPROVAL	
P3	20.07.2022	JN	ISSUE FOR APPROVAL	
A	03.08.2022	JN	ISSUE FOR APPROVAL	

Project Description
PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title
BUILDING ELEVATIONS & PERSPECTIVES

Scale @A3: 1 : 50
Date: JUL 2022
Drawn: JN
Approved By: GH
Job Number - Drawing Number: 22092 DA04
Revision: A

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION



1 SITE PERSPECTIVE 1

2 SITE PERSPECTIVE 2

ALL EXTERNAL MATERIALS & FINISHES SHOWN INDICATIVE ONLY AND SUBJECT TO FINAL TENANT STANDARDS

ALL DIMENSIONS MEASURED FROM FINISHED GROUND LEVEL UNLESS NOTED OTHERWISE

ALL LANDSCAPING SHOWN INDICATIVE ONLY

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 28/10/22
Signed:
Print Name: Carl Manton
(Under Delegation) ASSESSMENT MANAGER

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CONSULTING ENGINEER

VERVE BUILDING DESIGN CO.
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project concept to completion

Revision and approvals

Rev	Date	Drn	Description	Appr
P1	07.07.2022	JN	PRELIMINARY ISSUE	
P2	18.07.2022	JN	ISSUE FOR APPROVAL	
P3	20.07.2022	JN	ISSUE FOR APPROVAL	
A	03.08.2022	JN	ISSUE FOR APPROVAL	
B	03.08.2022	JN	ISSUE FOR APPROVAL	

Project Description
PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title
PROP. SITE PERSPECTIVES

Scale @A1
Date JUL 2022
Drawn JN
Approved By GN
Job Number - Drawing Number 22092 DA05
Revision B

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

RPD:

LOT 1 & 4 on RP850853
PARISH: GOONDIWINDI
COUNTY: MARSH
COUNCIL: GOONDIWINDI REGIONAL

SCHEDULE OF LOT AREAS

- LOT 1 AREA - 1,991m²
- LOT 2 AREA - 4,555m²

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 24/32
Dated: 26/9/23
Signed:
Print Name: Carl Manton
(Under Delegation) ASSESSMENT MANAGER

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CONSULTING ENGINEER

VERVE BUILDING DESIGN CO.
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- commercial / industrial / retail
- fast food restaurant design
- travel centre / service stations
- project concept to completion

Revision and approvals

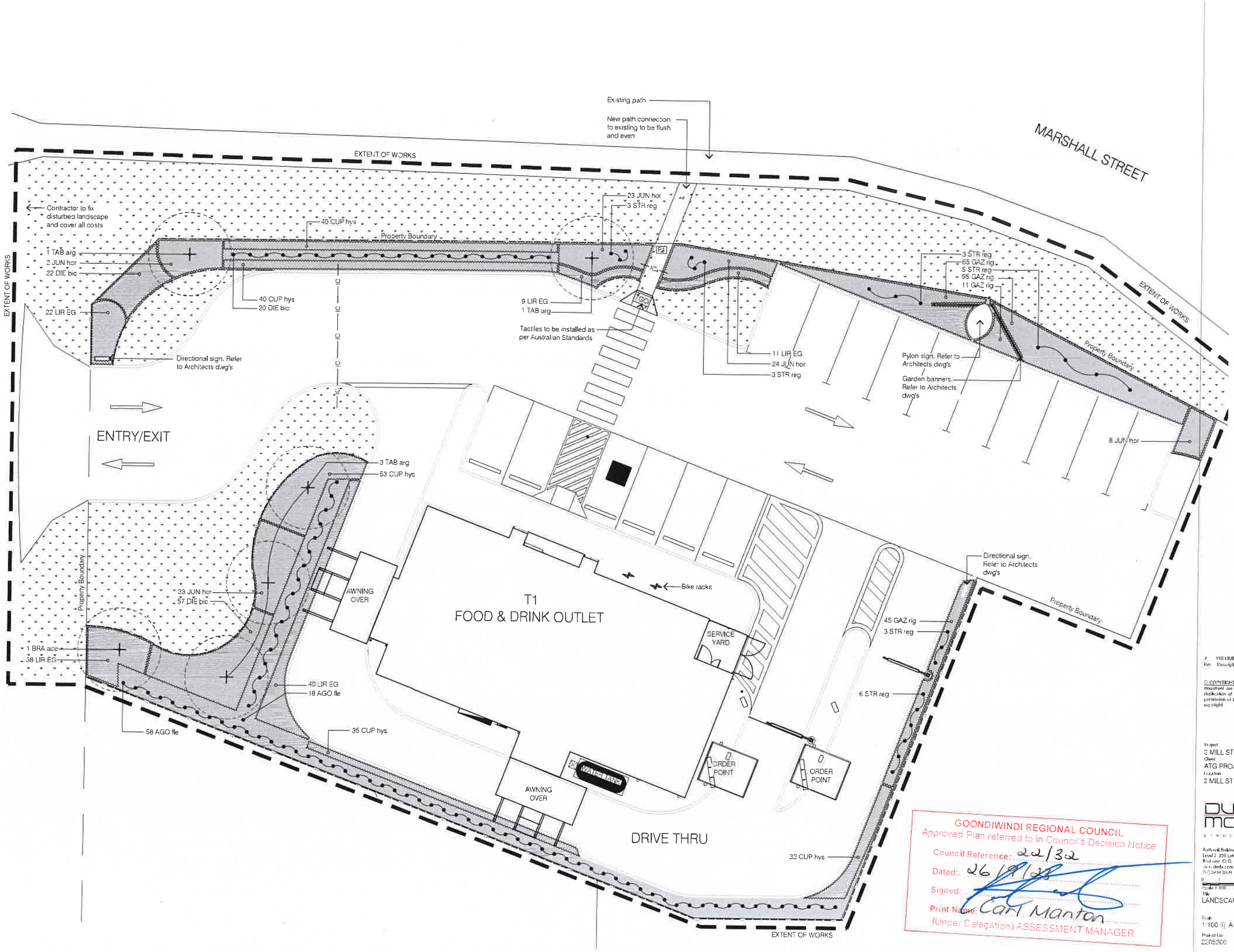
Rev	Date	Drn	Description	Appr
B1	20.07.2022	JN	PRELIMINARY ISSUE	
B2	01.08.2022	JN	SKETCH ISSUE	
A	03.08.2022	JN	ISSUE FOR APPROVAL	
B	17.08.2022	JN	ISSUE FOR APPROVAL	
C	21.07.2023	JN	REVISED ISSUE FOR APPROVAL	

Project Description
PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title
SUBDIVISION PLAN

Scale @A1	Date
1:250	JUL 2022
Drawn JN	**Approved By** BN

Job Number - Drawing Number 22092 DA08
Revision C



LEGEND

- EXTENT OF WORKS
- PLANTING AREA
- TURF
- TREE
- SHRUBS
- MASS PLANTING
- PAVEMENT 1
- CAUTIONAL TACTILE TBC
- IRRIGATION CONDUIT
- SURFACE DRAIN TBC
- TAP TBC

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 26/9/22
Signed:
Print Name: Carl Manton
(Under Delegation) ASSESSMENT MANAGER

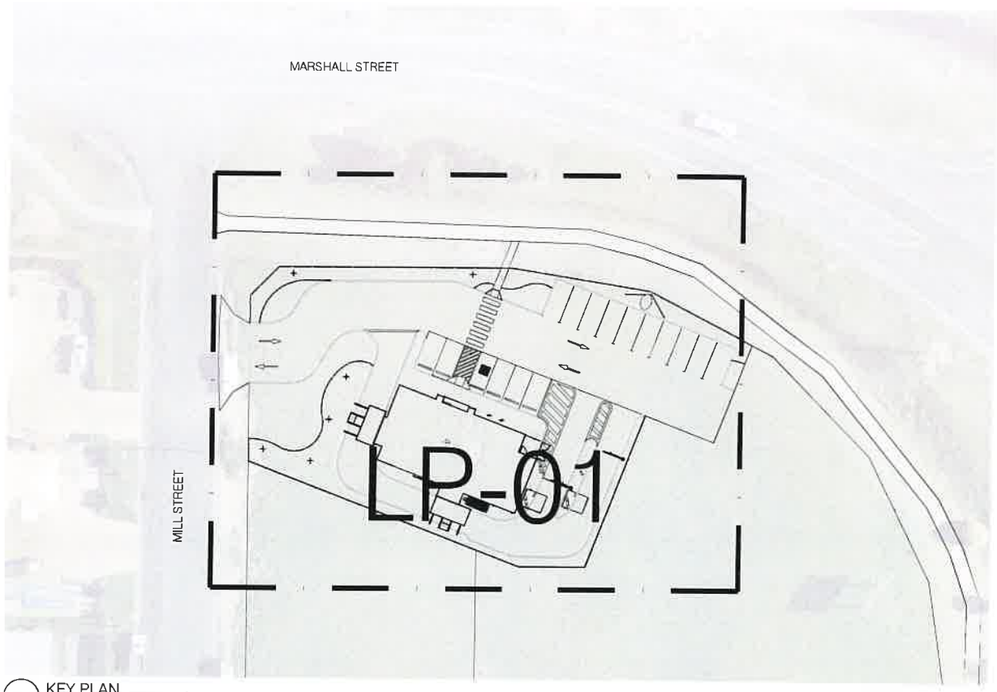
A PRELIMINARY 2020-07-06 ZA DM
Rev. Description Date Drn App.

Project
2 MILL ST GOONDIWINDI
Client
ATG PROJECTS
Location
2 MILL ST GOONDIWINDI

DUNN + MORAN LANDSCAPE ARCHITECTS
Rothwell Building
Level 2 205 Leichhardt Street
Brisbane Q.L.D. 4000
PO Box 5709
West End QLD 4101

Scale 1:100
Title
LANDSCAPE PLAN

Scale
1:100 @ A1, 1:200 @ A3
Project No
2205200
Sheet No
LP-01



KEY PLAN
SCALE 1:175

LANDSCAPE SPECIFICATION NOTES

1. SERVICES: The contractor shall make themselves aware of all underground and overhead services prior to the commencement of works. The contractor shall also responsible for determining the locations of as-built and to be constructed services during the course of the works. The locations of services on these drawings are indicative only as they are designed locations for general information or council approval and may not reflect site conditions.
2. SURFACE LEVELS AND FALLS: Grade all surface finishes evenly away from buildings for a minimum of 1200mm. Set down planting and turfing areas minimum 200mm below finished floor level. If termi-mesh is used planting and turfing areas are to be set down minimum 225mm below finished floor level.
3. PLANTING AND TURFING AREA PREPARATION: Weed growth on sub-grade to receive an application of Glyphosate herbicide (or equivalent frog friendly product) prior to works commencing. Trim sub-grade to desired level, cultivate 150mm deep place 100 g/m2 of Blood and Bone and 100 g/m2 of Gypsum.
4. TURFING AREAS: Prepare as noted, place 100mm of imported topsoil (to AS4419) and lay min 25mm thick A-grade Green Couch. All turf grass and topsoil to be certified weed free.
5. PLANTING AREAS: Prepare as noted, place 200mm deep of imported topsoil (to AS4419) and place 100mm deep of max 25mm grade hoop pine mulch.
6. FERTILISING DURING ESTABLISHMENT: Symptoms of nutrient deficiencies such as 'Nitrogen Draw Down' are unacceptable. Plants and turf shall exhibit signs of growth and good health. The contractor is responsible for fertilising to achieve optimal plant health. The contractor shall allow for further AS4419 testing to assess soil nutrition as required.
7. KERB CHANNEL AND KERB RAMPS: Refer to Engineers drawings for locations of all kerb ramps.
8. MOWING EDGES:

   Type 1 - Extruded concrete. Generally all edging shall be smooth and consistent with the drawings. Edging shall be free from deviations – or - 10mm over a 2m length. Refer to Landscape detail.
9. PEDESTRIAN PAVEMENTS: Refer Architects/Engineering drawings for all pedestrian pavements.
10. VEHICULAR PAVEMENTS: Refer Engineers drawings for all vehicular pavements.
11. IRRIGATION CONDUITS: Provide 1 x 90mm Conduits where required to allow irrigations pipes to connect under pavement areas.
12. LIGHTING: Refer to Electrical Engineers drawings.
13. SIGNAGE: Refer to Architects/Engineers drawings for all signage.
14. TREE INSTALLATION: New trees are to be located clear of underground services. For all adjustments to tree locations to suit site conditions, seek Superintendent approval prior to commencement of work.
15. ADVANCED TREE STOCK: To be in accordance with AS2303:2015. Trees may be rejected if they;

    15.a. have girdled roots;

    15.b. can be moved within the root ball i.e. when the trunk is grasped and moved back and forth it should be firm within the pot causing the whole pot to move firmly within the tree;

    15.c. do not have a single strong central leader with apical bud intact;

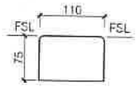
    15.d. have co-dominant trunks i.e. two or more equal branches of equal diameter at the same point;

    15.e. are infected with pests and diseases;

    15.f. show signs of injury;

    15.g. are not clearly labeled;
16. TREE PLANTING: Stakes to be hardwood 50x50x1800mm driven min 600mm into ground, with min 50mm wide hessian webbing ties looped in figure eight pattern. Ties are not to cause damage to the tree trunk. Fertiliser tablets to be slow release 21 gram Agriform tablets.

Notes
- Use edge profile as indicated below.
- Edge radii shall be 20mm.
- Install concrete edge on minimum 150 deep compacted base.
- Finished surface levels shall be as shown on edge profiles.
- Place tool joints at minimum 5m centres.
- Make tool joints at equal distances from both ends. Make joint at points of change in curvature/ direction. Joints to be at right angles to direction of edge.

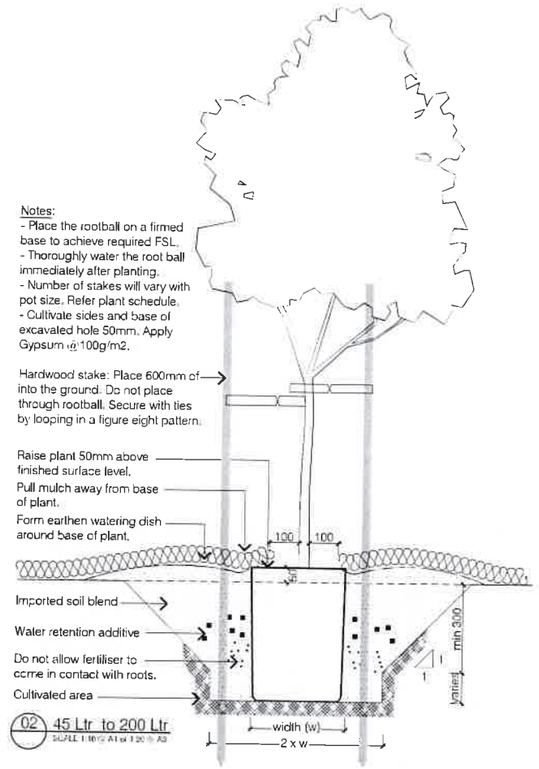


01 EDGE TYPE 1
SCALE 1:5 @ A1 or 1:10 @ A3

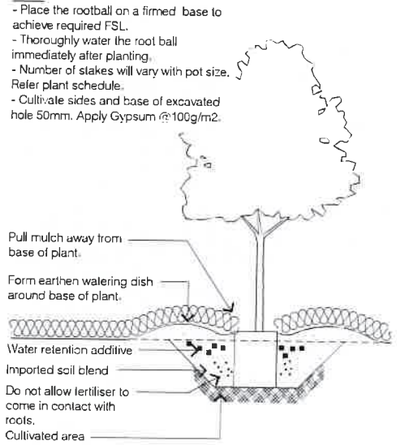
GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 26/9/22
Signed:
Print Name: Carl Manton
(Under Delegation) ASSESSMENT MANAGER

PLANT SCHEDULE

CODE	SPECIES	POT	HGT&SPRD	QTY
TREES				
BRA ace	BRACHYCHITON acerifolius	200L	2.5x1.5m	1
TAB arg	TABEBUIA argentea	200L	3000x2000mm	5
SHRUBS				
AGO fle	AGONIS flexuosa	300mm	1200x800mm	76
STR reg	STRELITZIA reginae	200mm	500x250mm	23
GROUND COVERS & GRASSES				
CUP hys	CUPHEA hyssopifolia	140mm	200x250mm	200
DIE bic	DIETES bicolor	140mm	300x200mm	99
GAZ rig	GAZANIA rigens	140mm	120x150mm	216
JUN hor	JUNIPERUS horizontalis	140mm	150x300mm	90
LIR EG	LIRIOPE muscari 'Evergreen Giant'	200mm	300x250mm	120



02 45 Ltr to 200 Ltr
SCALE 1:10 @ A1 or 1:20 @ A3



03 140mm to 300mm
SCALE 1:10 @ A1 or 1:20 @ A3

Rev.	Description	Date	Drw	App
A	PRELIMINARY	2025-04-24	ZA	DM

Project
2 MILL ST GOONDIWINDI
Client
ATG PROJECTS
Location
2 MILL ST GOONDIWINDI

DUNN + MORAN LANDSCAPE ARCHITECTS
Rothwell Building
Level 2, 205 Leichhardt Street
Brisbane QLD 4000
www.dmla.com.au
07 3844 3224
PO Box 5799
West End QLD 4101

Title
COVER SHEET

Scale
AS SHOWN

Project No.
2205200

Sheet No.
CS-01

CRGACOUSTICS

Postal PO Box 441 Mermaid Beach Qld 4218
Telephone 07 5527 7333
Email jay@crg.net.au
CRG Acoustics Pty Ltd
ACN 151 847 255 ABN 11 708 556 182

Proposed Food and Drink Outlet Development
2 Mill Street, Goondiwindi
(Lot 1 & 4 on RP850853)

ENVIRONMENTAL NOISE IMPACT REPORT

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 28/10/22
Signed:
Print Name: Carl Manton
(Under Delegation) ASSESSMENT MANAGER

Prepared for

EPO Developments Pty Ltd

12 August 2022
crgref: 22100 Report

1.0 INTRODUCTION

This report is in response to a request from EPO Developments Pty Ltd for an environmental noise impact assessment of proposed food and drink outlet development on Mill Street in Goondiwindi.

In undertaking the assessment, background noise measurements were conducted, noise modelling was undertaken, and predictions of onsite commercial activity noise emissions were produced. Based upon the predicted noise impact levels, recommendations regarding acoustic treatment to the development have been provided.

2.0 DESCRIPTION OF THE DEVELOPMENT

The site is described as 2 Mill Street, Goondiwindi (Lots 1 & 4 on RP85053). The site is bounded by Marshall Street to the north (a Main Roads controlled road), Anderson Street to the east, and Mill Street to the south and west. Industrial premises are located across Mill Street to the west, and to the northwest across Marshall Street, and a park to the southeast across Anderson Street. The Jolly Swagman Motor Inn is located across Mill Street to the south, with the Best Western Ascot Lodge Motor Inn on Phar Lap Court to the north of Marshall Street. The subject site and all nearby lots are within the Centre Zone (Highway Commercial Precinct). The topography of the site and surrounding is generally flat. For site location refer to Appendix A.

The proposal is to construct a food and drink outlet (including drive-through facility) to the northwestern corner of the site. Carparking is proposed to the north-north-east and east of the building, with driveway access via two new crossovers off Mill Street to the west and southeast. Delivery / refuse collection bays are located on the eastern side of the building. For the development plan refer to Appendix B.

Proposed onsite commercial activities have been assessed at the nearest potentially affected noise sensitive receivers. The nearest assessed offsite noise sensitive receivers include the Jolly Swagman Motor Inn (1 Anderson Street, Goondiwindi, Lots 5 & 6 on RP850853), and the Best Western Ascot Lodge Motor Inn (2 Phar Lap Court, Goondiwindi, Lot 3 on SP158276).

The Centre Zone (Highway Commercial Precinct) anticipates food and drink outlets, large format stores and showrooms, service and low impact industry. Short term accommodation is anticipated, "*where they are compatible with surrounding land uses and do not interfere with the predominantly commercial intent of the precinct*".

Given the proposed food and drink outlet is an anticipated use in the Centre Zone (Highway Commercial Precinct), and that the Code states short term accommodation is anticipated where it does not interfere with the commercial intent of the precinct, we submit that any future proposed accommodation uses would be designed to allow for operation of the proposed commercial premises. It is also noted that parts of the vacant land are affected by a Transport Noise Corridor, and would require treatment to meet requirements under the Queensland Mandatory Policy 4.4 "*Buildings in a Transport Noise Corridor*". Typically, short term accommodation has air-conditioned habitable space, and a central recreation space that could be shielded to external noise sources, including roads and offsite commercial premises. Given these considerations, we have not assessed noise impacting future potential short term accommodation.

3.0 AMBIENT NOISE SURVEY

3.1 Instrumentation

The following equipment was used to record ambient noise levels in the locale.

- Rion NC 73 Calibrator; and
- BSWA Sound Level Meter Logger.

All instrumentation used in this assessment hold current calibration certificate from a certified NATA calibration laboratory.

3.2 Background Measurement Methodology

A logger was located along the northeastern boundary of the Jolly Swagman Motor Inn. The location was chosen to reflect the acoustical environment of the nearest noise sensitive uses to the subject site, and for equipment security. The microphone was in a free-field location, approximately 1.4m above ground. Refer to Figure 2 in Appendix A for the logger location.

The logger was set to record noise statistics in 15-minute blocks continually between Friday 15/07/2022 and Thursday 21/07/2022. The measurement session was cut short by 24 hours, due to bad weather that occurred on the Thursday and Friday. Daily weather observations were obtained from the Bureau of Meteorology's website at the Stanthorpe and Texas weather stations. Weather conditions during the noise monitoring period were fine. A severe weather warning was issued for Thursday 21/07/2022 afternoon, which was the reason the logger was collected on the Thursday rather than the Friday.

All measurements were conducted generally in accordance with Australian Standard AS 1055 *"Acoustics-Description and measurement of environmental noise"*. The operation of the sound level logging equipment was field calibrated before and after the measurement session with no significant drift from the reference signal recorded.

3.3 Background Measurement Results

Table 1 below presents the Rating Background noise levels (RBLs) calculated from the logger. The RBL for each period was calculated in accordance with the methodology detailed in the QLD EPA guideline "*Planning for noise control*". Graphical presentation of the measured noise levels is presented in the Appendix C.

Time Period	Rating Background Level, SPL dB(A)
7am to 6pm	42
6pm to 10pm	42
10pm to 7am	40

Table 1: Rating Background noise levels calculated from measured background noise levels.

The logger data was affected by distant mechanical plant that was not evident during installation of equipment, therefore, we have applied evening and night background noise levels stated in AS1055.2 – 1997 "*Acoustics-Description and measurement of environmental noise*" for "Noise area category R2 *Areas with low density transportation*", as follows:

Time Period	Applied Background Noise Level dB(A)
7am to 6pm	42
6pm to 10pm	40
10pm to 7am	35

Table 2: Background noise levels applied in this assessment.

4.0 NOISE ASSESSMENT CRITERION

As the Goondiwindi Region Planning Scheme has no specific requirements for acoustical assessment, we have applied the requirements of the Environmental Protection Act 1994, and the subordinate Environmental Protection (Noise) Policy 2019.

Section 6 of the Environmental Protection (Noise) Policy 2019 provides the following framework for environmental values to be enhanced or protected:

> **6 Environmental values**
>
> The environmental values to be enhanced or protected under this policy are—
>
> (a) the qualities of the acoustic environment that are conducive to protecting the health and biodiversity of ecosystems; and
>
> (b) the qualities of the acoustic environment that are conducive to human health and wellbeing, including by ensuring a suitable acoustic environment for individuals to do any of the following—
>
> (i) sleep;
>
> (ii) study or learn;
>
> (iii) be involved in recreation, including relaxation and conversation; and
>
> (c) the qualities of the acoustic environment that are conducive to protecting the amenity of the community.

Section 9 of the Environmental Protection (Noise) Policy 2019 provides the following framework for management intent for noise:

> **9 Management intent for noise**
>
> (1) This section states the management intent for an activity involving noise that affects, or may affect, an environmental value to be enhanced or protected under this policy.
>
> *Note—*
>
> See section 35 of the *Environmental Protection Regulation 2019*.
>
> (2) To the extent it is reasonable to do so, noise must be dealt with in a way that ensures—
>
> (a) the noise does not have any adverse effect, or potential adverse effect, on an environmental value under this policy; and
>
> (b) background creep in an area or place is prevented or minimised.
>
> (3) Despite subsection (2)(b), if the acoustic quality objectives for an area or place are not being achieved or maintained, the noise experienced in the area or place must, to the extent it is reasonable to do so, be dealt with in a way that progressively improves the acoustic environment of the area or place.
>
> (4) In this section—
>
> ***background creep***, for noise in an area or place, means a gradual increase in the total amount of background noise in the area or place as measured under the document called the 'Noise measurement manual' published on the department's website.

Schedule 1 of the Environmental Protection (Noise) Policy 2019 provides the following specific *"Acoustic Quality Objectives"* to ensure that the above is achieved:

Column 1	Column 2	Column 3			Column 4
Sensitive receptor	**Time of day**	**Acoustic quality objectives (measured at the receptor) *dB(A)***			**Environmental value**
		$L_{Aeq,adj,1hr}$	$L_{A10,adj,1hr}$	$L_{A1,adj,1hr}$	
residence (for outdoors)	daytime and evening	50	55	65	health and wellbeing
residence (for indoors)	daytime and evening	35	40	45	health and wellbeing
	night-time	30	35	40	health and wellbeing, in relation to the ability to sleep

Table 3: Criterion from Schedule 1 of the Environmental Protection (Noise) Policy 2019.

Based upon the applied background L_{90} levels presented in Table 2 of Section 3.3, the *"Background Creep"* criterion (as previously defined under the Environmental Protection (Noise) Policy 2008) equates to the following levels at the nearest offsite receivers:

Time Varying Noise Source	**Noise Limit, SPL dB(A) L_{eq}**
Day 7am to 6pm	47 (Background L_{90} level 42 + 5 dB)
Evening 6pm to 10pm	45 (Background L_{90} level 40 + 5 dB)
Night-time 10pm to 6am	40 (Background L_{90} level 35 + 5 dB)
Continuous Noise Source	**Noise Limit, SPL dB(A) L_{90}**
Day 7am to 6pm	42 (Background L_{90} level 42 + 0 dB)
Evening 6pm to 10pm	40 (Background L_{90} level 40 + 0 dB)
Night-time 10pm to 6am	35 (Background L_{90} level 35 + 0 dB)

Table 4: Noise limit criterion for *"Background Creep"*.

5.0 PREDICTED ONSITE ACTIVITY NOISE IMPACTS

Burchills provided traffic generation rates for from the proposed development. Evening peak hour rates of 100 vehicles trips (or 200 movements) are predicted, with 70 trips (140 movements) via the western driveway and the remaining 30 trips (60 movements) via the southeast driveway.

The generation rates have been used for modelling daytime and evening onsite activity noise (as shown in Table 5 and the point calculation sheets presented in Appendix C). For the night-time period we have assumed 30% of the peak hour rates.

All noise source levels used in the assessment have been collected from similar assessments. All noise levels assessed under the *"Acoustic Quality Objectives"* criterion have been corrected for impulsiveness or tonality as per Australian Standard AS 1055 *"Acoustics-Description and measurement of environmental noise"*.

The following noise source levels would typically occur as part of the proposed development and have been assessed within this report.

Activity / Noise Source	Events Per Hour (Day / Even)	Assumed Duration (Secs.)	Event Noise Level, SPL dB(A) @ 1m			
			$L_{eq\ 15\ min}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$
Car door closures	120	1.5	75	80*	82*	85*
Car engine start-ups	40	3	73	73	74	75
Car movements in – Burchills traffic rate	100	Varies	68	68	70	73
Car movements out – Burchills traffic rate	100	Varies	68	68	70	73
Group of people talking outside	Full 60min	900	62	62	70	73
Drive-through speakers	45 x 2	45	70	70	73	75
Truck engine start-ups at loading bays	2	3	78	78	81	83
Truck movements	2	60	85	85	87	88
Truck with refrigeration unit at loading bay	2	900	81	81	82	83
Truck airbrakes	18	2	90	95*	103*	107*
Deliveries at loading bay	6	900	75	75	80	82
Waste collection of metal industrial bin	2	180	92	97*	102*	107*

* Denotes + 5 dB correction for impulsiveness in accordance with AS1055. ** Denotes + 5 dB correction for tonality in accordance with AS1055.

Table 5: Typical noise source levels associated with the proposed development.

Based upon the location of the onsite activities in relation to the surrounding noise sensitive receivers (building façades, inside rooms), we predict the following noise impact levels as presented in Table 6 (Daytime and Evening Periods) and Table 7 (Night-time Period).

With regards to the $L_{A10\ 1hr}$ and $L_{A01\ 1hr}$ levels, in many cases, particularly during the night-time period, noise events such as car door closures may not register as L_{A10} or L_{A01} levels if the events do not occur for 10% or 1% of the time period respectively. For example, a 1 second event would have to occur 360 times during a one hour period to register as an L_{A10}, and 36 times during a one hour period to register as an L_{A01} as these noise descriptors are statistically defined. If the events do not occur for the minimum number of iterations (or time period) we have presented the results as "N/A" in Tables 6 and 7.

For the L_{Aeq} levels we have presented both the adjusted 15 minute duration and also the adjusted one hour duration. For assessment of the *"Background Creep"* criterion we have adopted the $L_{Aeq\ 15\ minute}$ duration levels.

Combined impacts do not include delivery or waste collection activities (including truck movements) given that they are infrequent occurrences and would not occur during every hourly period.

The predicted levels assume that the recommended treatments detailed in Section 6 are incorporated into the development. For point source calculations refer to Appendix C.

For receiver R2, windows and doors are assumed to be closed to the habitable rooms, given that it is a motel use (and air-conditioned). For receiver R1, the motel rooms have bathroom windows fronting the subject site; therefore, we have assumed these windows would be open for modelling purposes, regardless of the fact that the guestrooms are air-conditioned.

DAYTIME AND EVENING PERIODS: 7am to 10pm

Fluctuating Noise Source	Predicted Noise Impact, SPL dB(A)						
	Nearest Façade				Inside Windows OPEN		
	$L_{eq\ 15\ min}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$
R1: Jolly Swagman accommodation due south							
Car door closures spaces NORTH	21	26	N/A	47	16	N/A	37
Car door closures spaces SOUTH	19	24	N/A	48	< 15	N/A	38
Car door closures spaces BUILGING	18	23	N/A	47	< 15	N/A	37
Car engine starts spaces NORTH	17	17	N/A	37	< 15	N/A	27
Car engine starts spaces SOUTH	15	20	N/A	N/A	< 15	N/A	N/A
Car engine starts spaces BUILGING	< 15	19	N/A	N/A	< 15	N/A	N/A
Car movement to site NORTH	28	27	32	35	17	22	25
Car movement to site SOUTH	39	37	44	47	27	34	37
Car movement from site NORTH	30	29	34	37	19	24	27
Car movement from site SOUTH	39	38	44	47	28	34	37
People talking outside	24	24	32	35	< 15	22	25
Drive-through speakers A	32	30	36	38	20	26	28
Drive-through speakers B	32	31	36	38	21	26	28
Truck engine starts loading bay	16	18	N/A	N/A	< 15	N/A	N/A
Truck movement NORTH	35	32	N/A	50	22	N/A	40
Truck movement SOUTH	47	44	N/A	62	34	N/A	52
Trucks with refrigeration unit	39	35	40	41	25	30	31
Truck airbrakes loading bay	26	28	N/A	N/A	18	N/A	N/A
Deliveries at loading bay	38	39	48	50	29	38	40
Waste collection of metal bin	48	46	N/A	70	36	N/A	60
Combined L_{eq} + mech. plant and Highest L_{10} L_{01} impacts	**43**	**42**	**44**	**48**	**32**	**34**	**38**
Applicable Criterion	**B. Creep**	**Acoustic Quality Objectives**					
Daytime / Evening Criterion	**47 / 45**	**50**	**55**	**65**	**35**	**40**	**45**

Fluctuating Noise Source	Predicted Noise Impact, SPL dB(A)						
	Nearest Façade				Inside Windows CLOSED		
	$L_{eq\ 15\ min}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$
R2: Best Western accommodation due north							
Car door closures spaces NORTH	23	28	N/A	49	< 15	N/A	31
Car door closures spaces SOUTH	18	23	N/A	47	< 15	N/A	29
Car door closures spaces BUILGING	19	24	N/A	48	< 15	N/A	30
Car engine starts spaces NORTH	19	19	N/A	39	< 15	N/A	21
Car engine starts spaces SOUTH	< 15	19	N/A	N/A	< 15	N/A	N/A
Car engine starts spaces BUILGING	15	20	N/A	N/A	< 15	N/A	N/A
Car movement to site NORTH	29	28	33	36	< 15	15	18
Car movement to site SOUTH	27	26	32	35	< 15	< 15	17
Car movement from site NORTH	29	28	33	36	< 15	15	18
Car movement from site SOUTH	28	27	32	35	< 15	< 15	17
People talking outside	24	24	32	35	< 15	< 15	17
Drive-through speakers A	30	29	34	36	< 15	16	18
Drive-through speakers B	30	29	34	36	< 15	16	18
Truck engine starts loading bay	16	18	N/A	N/A	< 15	N/A	N/A
Truck movement NORTH	36	33	N/A	51	15	N/A	33
Truck movement SOUTH	35	32	N/A	50	< 15	N/A	32
Trucks with refrigeration unit	38	35	39	40	17	21	22
Truck airbrakes loading bay	26	28	N/A	N/A	< 15	N/A	N/A
Deliveries at loading bay	37	39	47	49	21	29	31
Waste collection of metal bin	47	46	N/A	69	28	N/A	51
Combined L_{eq} + mech. plant and Highest L_{10} L_{01} impacts	**37**	**37**	**34**	**49**	**19**	**16**	**31**
Applicable Criterion	**B. Creep**	**Acoustic Quality Objectives**					
Daytime / Evening Criterion	**47 / 45**	**50**	**55**	**65**	**35**	**40**	**45**

Table 6: DAY / EVENING Predicted onsite short duration noise impact levels at noise sensitive receivers.

NIGHT-TIME PERIOD: 10pm to7am

Fluctuating Noise Source	Predicted Noise Impact, SPL dB(A)						
	Nearest Façade				Inside Windows OPEN		
	$L_{eq\ 15\ min}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$
R1: Jolly Swagman accommodation due south							
Car door closures spaces NORTH	16	21	N/A	N/A	< 15	N/A	N/A
Car door closures spaces SOUTH	< 15	19	N/A	N/A	< 15	N/A	N/A
Car door closures spaces BUILGING	< 15	18	N/A	N/A	< 15	N/A	N/A
Car engine starts spaces NORTH	< 15	< 15	N/A	N/A	< 15	N/A	N/A
Car engine starts spaces SOUTH	< 15	15	N/A	N/A	< 15	N/A	N/A
Car engine starts spaces BUILGING	< 15	< 15	N/A	N/A	< 15	N/A	N/A
Car movement to site NORTH	23	21	32	35	< 15	22	25
Car movement to site SOUTH	33	33	44	47	23	34	37
Car movement from site NORTH	25	24	34	37	< 15	24	27
Car movement from site SOUTH	35	33	44	47	23	34	37
People talking outside	24	24	32	35	< 15	22	25
Drive-through speakers A	27	26	36	38	16	26	28
Drive-through speakers B	27	26	36	38	16	26	28
Truck engine starts loading bay	16	18	N/A	N/A	< 15	N/A	N/A
Truck movement NORTH	35	32	N/A	50	22	N/A	40
Trucks with refrigeration unit	39	35	40	41	25	30	31
Truck airbrakes loading bay	26	28	N/A	N/A	18	N/A	N/A
Deliveries at loading bay	38	39	48	50	29	38	40
Combined L_{eq} + mech. plant and Highest L_{10} L_{01} impacts	**39**	**38**	**44**	**47**	**28**	**34**	**37**
Applicable Criterion	**B. Creep**	**Acoustic Quality Objectives**					
Night-time Criterion	**40**				**30**	**35**	**40**

Fluctuating Noise Source	Predicted Noise Impact, SPL dB(A)						
	Nearest Façade				Inside Windows CLOSED		
	$L_{eq\ 15\ min}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$	$L_{eq\ 1hr}$	$L_{10\ 1hr}$	$L_{01\ 1hr}$
R2: Best Western accommodation due north							
Car door closures spaces NORTH	18	23	N/A	N/A	< 15	N/A	N/A
Car door closures spaces SOUTH	< 15	18	N/A	N/A	< 15	N/A	N/A
Car door closures spaces BUILGING	< 15	19	N/A	N/A	< 15	N/A	N/A
Car engine starts spaces NORTH	15	< 15	N/A	N/A	< 15	N/A	N/A
Car engine starts spaces SOUTH	< 15	< 15	N/A	N/A	< 15	N/A	N/A
Car engine starts spaces BUILGING	< 15	15	N/A	N/A	< 15	N/A	N/A
Car movement to site NORTH	24	23	33	36	< 15	15	18
Car movement to site SOUTH	22	21	32	35	< 15	< 15	17
Car movement from site NORTH	24	23	33	36	< 15	15	18
Car movement from site SOUTH	23	22	32	35	< 15	< 15	17
People talking outside	24	24	32	35	< 15	< 15	17
Drive-through speakers A	25	24	34	36	< 15	16	18
Drive-through speakers B	25	24	34	36	< 15	16	18
Truck engine starts loading bay	16	18	N/A	N/A	< 15	N/A	N/A
Truck movement NORTH	36	33	N/A	51	15	N/A	33
Trucks with refrigeration unit	38	35	39	40	17	21	22
Truck airbrakes loading bay	26	28	N/A	N/A	< 15	N/A	N/A
Deliveries at loading bay	37	39	47	49	21	29	31
Combined L_{eq} + mech. plant and Highest L_{10} L_{01} impacts	**33**	**33**	**34**	**36**	**15**	**16**	**18**
Applicable Criterion	**B. Creep**	**Acoustic Quality Objectives**					
Night-time Criterion	**40**				**30**	**35**	**40**

Table 7: NIGHT-TIME Predicted onsite short duration noise impact levels at noise sensitive receivers.

Continuous activity noise source levels have been compiled from similar previous investigations. All noise levels have been corrected for impulsiveness or tonality as per Australian Standard AS 1055 *"Acoustics-Description and measurement of environmental noise"*.

It should be stressed that mechanical plant selections have yet to be undertaken, for this reason; we have applied noise levels from other similar commercial sites as follows:

- Rooftop kitchen exhaust fans each generating 62 dB(A) at 3m.
- Rooftop toilet exhaust fans each generating 52 dB(A) at 3m.
- Rooftop air conditioner units each generating 60 dB(A) at 3m.
- Rooftop refrigeration compressor units each generating 65 dB(A) at 3m.

Based upon the assumed locations of the onsite mechanical plant in relation to the surrounding noise sensitive receivers (building façades, inside rooms), we predict the following noise impact levels as presented in Table 8.

As a worst case scenario we have assumed that all mechanical plant will be running at the same time.

The predicted levels assume that the recommended treatments detailed in Section 6 are incorporated into the development. For point source calculations refer to Appendix C.

ALL TIME PERIODS

Continuous Noise Source	**Predicted Noise Impact, SPL L_{90} dB(A)**	
	Nearest Façade	**Inside Windows OPEN**
R1: Jolly Swagman accommodation due south		
Combined mech. plant	27	17
Daytime / Evening Criterion	**42 / 40**	**35**
Night-time Criterion	**35**	**30**

Continuous Noise Source	**Predicted Noise Impact, SPL L_{90} dB(A)**	
	Nearest Façade	**Inside Windows CLOSED**
R2: Best Western accommodation due north		
Combined mech. plant	26	< 15
Daytime / Evening Criterion	**42 / 40**	**35**
Night-time Criterion	**35**	**30**

Table 8: Predicted onsite continuous noise impact levels at noise sensitive receivers.

6.0 RECOMMENDED ACOUSTIC TREATMENTS

We recommend that the following acoustic treatments and management controls be incorporated into the development to mitigate onsite activity noise impacts:

- Hours of operation be 24 hours per day, 7 days per week.
- Waste collection be limited to the daytime period between 7am and 6pm.
- Truck deliveries during the evening and night-time periods after 6pm and before 7am should be limited to using the northwestern driveway crossover to Mill Street only.
- Driveway and car parking areas be finished with surface coatings which prevent tyre squeal (an uncoated unpolished concrete or bitumen surface is acceptable).
- Drainage grating over trafficable areas be well secured to prevent rattling.
- Drive-through speakers be limited to a maximum noise source level of 73 dB(A) L_{10} measured at 1m from the speakers.
- Mechanical plant for the development be designed and installed to comply with the noise criterion presented in Section 4. As final plant selection has not been completed, an assessment of plant should be conducted during the design phase.
    - Based upon the assumed mechanical plant and source levels, outside condenser units and refrigeration compressors may require acoustic screens / enclosures and exhaust fans will likely require acoustic silencers / attenuators.

7.0 DISCUSSION

The proposal is to construct a food and drink outlet (including drive-through facility) at the northwestern corner of the subject site. The site and surrounds are within the Centre Zone (Highway Commercial Precinct) which anticipates food and drink outlets, large format stores and showrooms, service and low impact industry. Short term accommodation is also anticipated, "*where they are compatible with surrounding land uses and do not interfere with the predominantly commercial intent of the precinct*".

The nearest assessed offsite noise sensitive receivers include the Jolly Swagman Motor Inn (1 Anderson Street, Goondiwindi, Lots 5 & 6 on RP850853), and the Best Western Ascot Lodge Motor Inn (2 Phar Lap Court, Goondiwindi, Lot 3 on SP158276). We have not assessed future short term accommodation as they would have acoustical treatments applied, given the Centre Zone (Highway Commercial Precinct) prevents development that would interfere with the predominantly commercial intent of the precinct, and parts of the remaining vacant land are within Transport Noise Corridors.

Based upon the recommended acoustic treatments and management controls, onsite activity noise emissions are predicted to impact the assessed offsite noise sensitive receivers at or below the relevant external *"Background Creep"* and *"Acoustic Quality Objective"* criterion except for waste collection and truck movements along the southern driveway.

To minimise to the potential for annoyance we have recommended that deliveries during the evening and night-time periods after 6pm and before 7am should be limited to using the western driveway crossover to Mill Street only. We have also recommended that waste collection be limited to the daytime period between 7am to 6pm. As waste collection and delivery activities (including truck movements) are typically of short duration and of an infrequent nature such activities are unlikely to cause annoyance.

We have also provided an indication of potential noise impact levels of likely onsite mechanical plant; although the levels are merely a guide as no plant selections have yet been completed. For this reason, additional more detailed assessment/s should be conducted upon determination of plant.

8.0 CONCLUSIONS

This report is in response to a request from EPO Developments Pty Ltd for an environmental noise impact assessment of proposed food and drink outlet development on Mill Street in Goondiwindi.

In undertaking the assessment, background noise measurements were conducted, noise modelling was undertaken, and predictions of proposed commercial activity noise emissions were produced. Based upon the predicted noise impact levels, recommendations regarding acoustic treatment to the development have been provided.

Overall, it is concluded that the proposed use is appropriate for the site, given the zoning, and based upon the layout of the proposed development, onsite activities can be designed to achieve acceptable levels of the adopted criterion subject to acoustic treatments and management controls detailed in Section 6 of this report incorporated into the development.

Report Reviewed By:

JAY CARTER BSc
Director

Report Compiled by:

Matthew Lopez BEng
Consultant

APPENDIX A

Subject Site, Measurement Location and Surrounding Noise Sensitive Receivers

Figure No. 1: Subject Site Location (Google Maps).

Figure No. 2: Subject Site, Logger Location and Surrounding Noise Sensitive Receivers (QLD Globe).

APPENDIX B

Development Plans

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

RPD:
LOT 1 & 4 on RP850853
PARISH: GOONDIWINDI
COUNTY: MARSH
COUNCIL: GOONDIWINDI REGIONAL

DEVELOPMENT ASSESSMENT

· OVERALL SITE AREA	-	6,544m²
· PROP. LOT 1	-	2,599m²
· PROP. LOT 2 (INCLUDES ACCESS EASEMENT)	-	3,945m²
· LANDSCAPED AREA	-	4,270m²
· BLDG SITE COVER (WITHIN ALL ROOFED AREAS)	-	3.5%

IMPERVIOUS AREAS

· PRE SITE DEVELOPMENT (INCLUDES EXISTING ROOFED AREAS)	-	0m²
· POST SITE DEVELOPMENT (INCLUDES EXISTING ROOFED AREAS)	-	2,274m²

BUILDING AREAS - (GFA)

· T1 FOOD & DRINK (INCLUDES REFUSE AREA - 10m²)	-	225m²

CAR PARKING

· PARKING REQUIRED (TO BE CONFIRMED)	-	15
· PARKING PROVIDED	-	21

VERVE SCHEDULE DISCLAIMER:

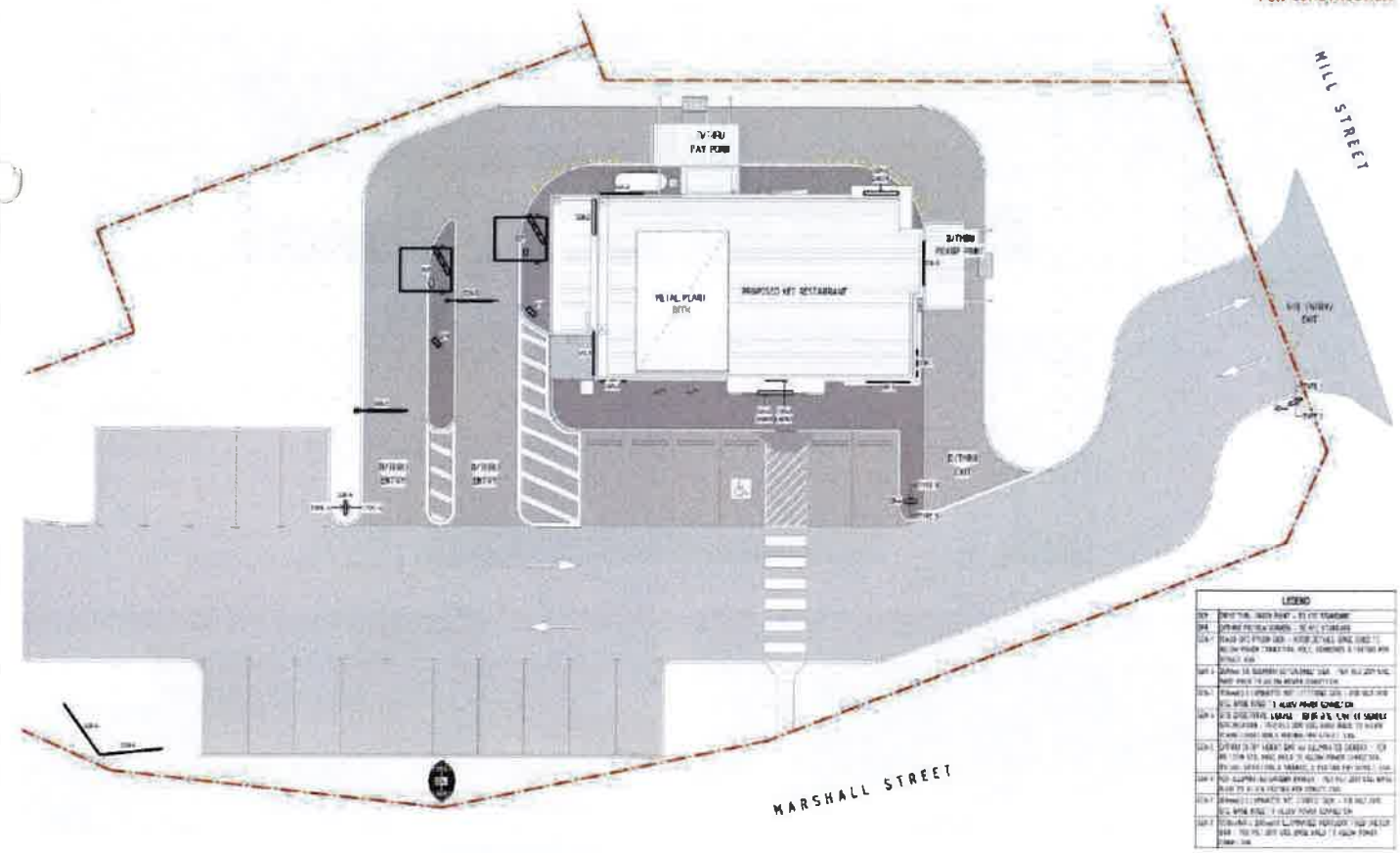
VERVE

PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

PROP. SITE PLAN

22092 DA01 P1

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION



VERVE SCHEDULE DISCLAIMER:

VERVE

PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

PROP. SIGNAGE PLAN

22092 DA06 P1

PRELIMINARY
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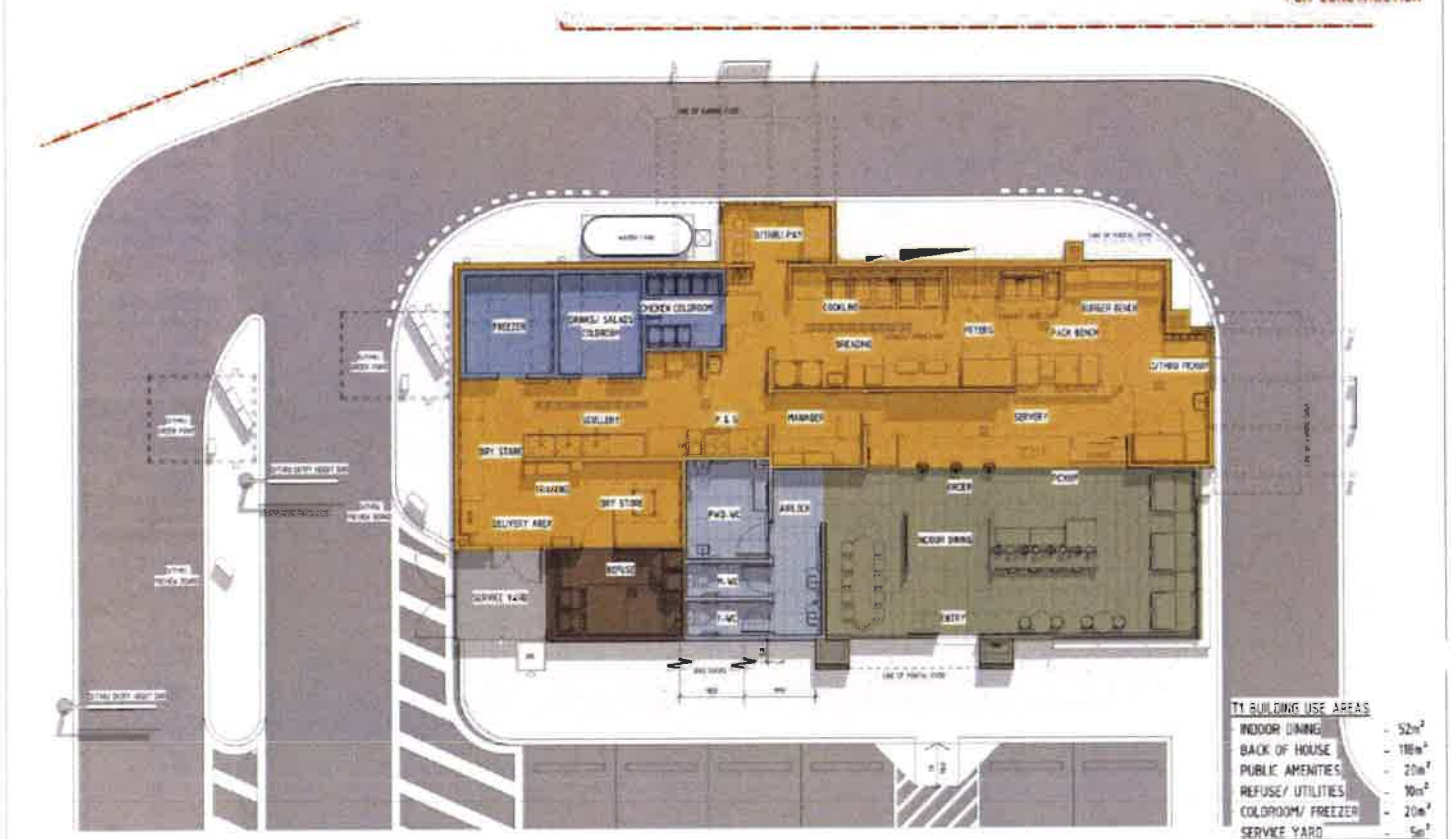

T1 BUILDING USE AREAS

INDOOR DINING	- 52m²
BACK OF HOUSE	- 118m²
PUBLIC AMENITIES	- 20m²
REFUSE/ UTILITIES	- 10m²
COLDROOM/ FREEZER	- 20m²
SERVICE YARD	- 5m²
AREA USE TOTAL	- 225m²

VERVE

PROPOSED QUICK SERVICE RESTAURANT
2 HILL STREET, GOONDIWINDI QLD 4390

PROP. FLOOR PLAN

22092 DA02 P1

PRELIMINARY
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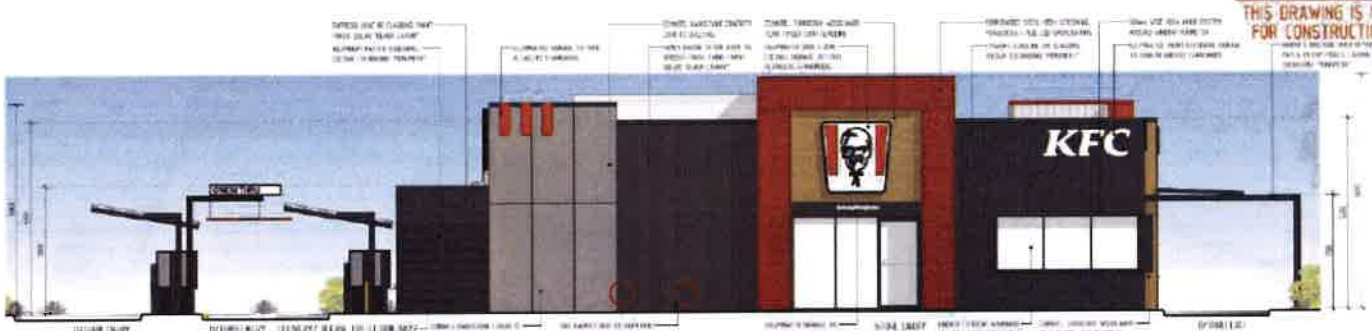


DA ELEVATION - NORTH

DA ELEVATION - EAST

PERSPECTIVE 1

PERSPECTIVE 2

VERVE

PROPOSED QUICK SERVICE RESTAURANT
2 HILL STREET, GOONDIWINDI QLD 4390

BUILDING ELEVATIONS & PERSPECTIVES

22092 DA03 P1

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

1 DA ELEVATION - SOUTH

1 DA ELEVATION - WEST

ALL EXTERNAL MATERIALS & FINISHES SHOWN INDICATIVE ONLY AND SUBJECT TO FINAL TENANT STANDARDS

ALL DIMENSIONS MEASURED FROM FINISHED GROUND LEVEL UNLESS NOTED OTHERWISE

ALL LANDSCAPING SHOWN INDICATIVE ONLY

1 PERSPECTIVE 3

1 PERSPECTIVE 4

VERVE

PROPOSED QUICK SERVICE RESTAURANT
2 HILL STREET, BOONAWARRI QLD 4700

BUILDING ELEVATIONS & PERSPECTIVES

22092 DA04 P1

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

1 SITE PERSPECTIVE 1

2 SITE PERSPECTIVE 2

ALL EXTERNAL MATERIALS & FINISHES SHOWN INDICATIVE ONLY AND SUBJECT TO FINAL TENANT STANDARDS

ALL DIMENSIONS MEASURED FROM FINISHED GROUND LEVEL UNLESS NOTED OTHERWISE

ALL LANDSCAPING SHOWN INDICATIVE ONLY

VERVE

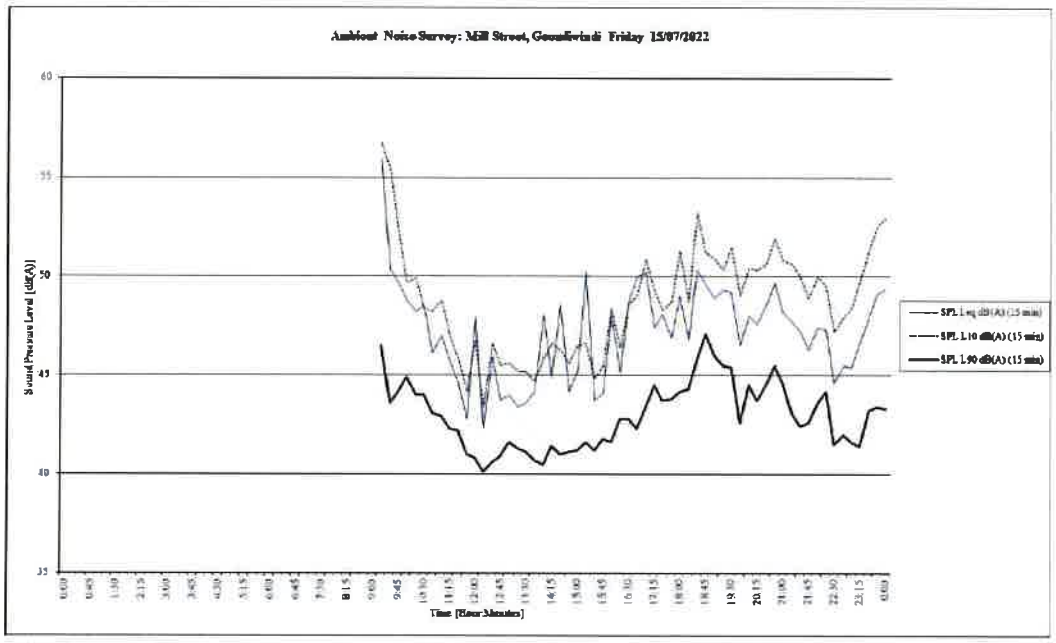
PROPOSED QUICK SERVICE RESTAURANT
2 HILL STREET, BOONAWARRI QLD 4700

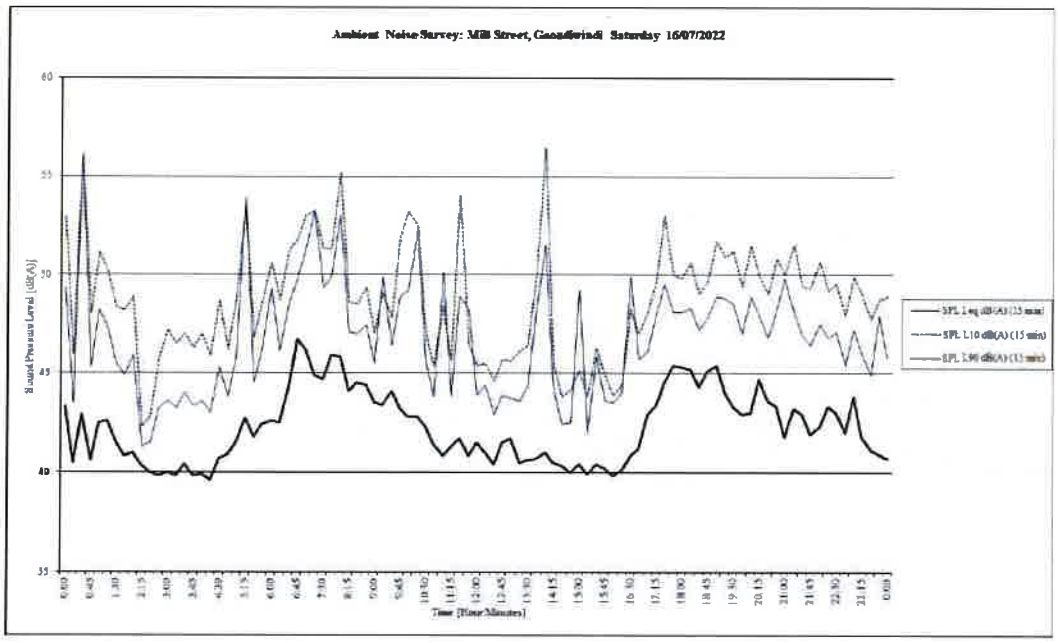
PROP SITE PERSPECTIVES

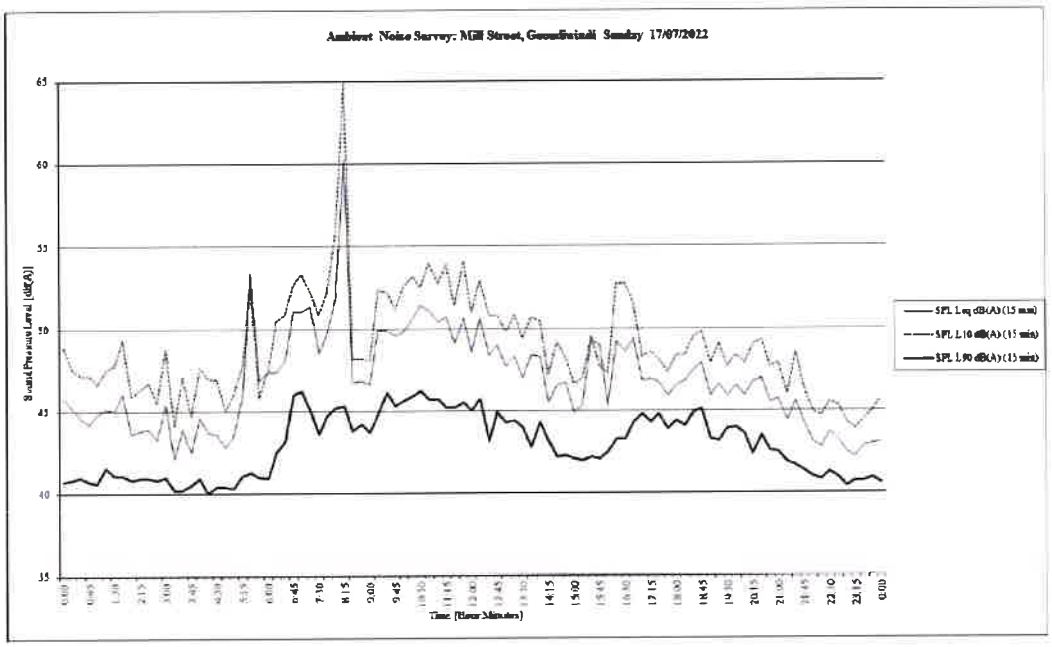
22092 DA05 P1

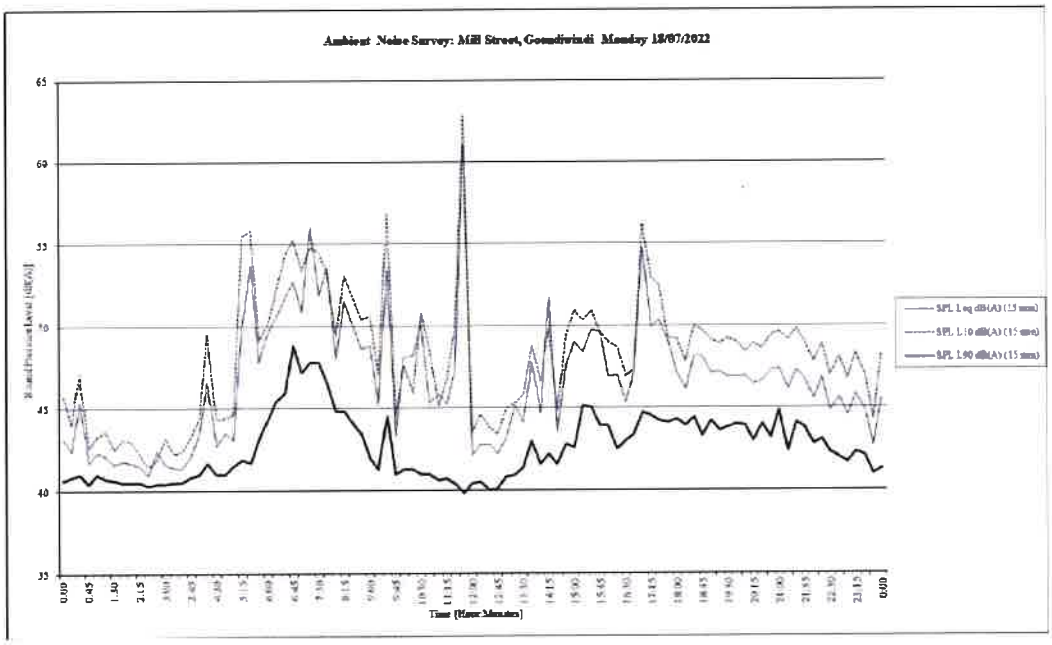
APPENDIX C

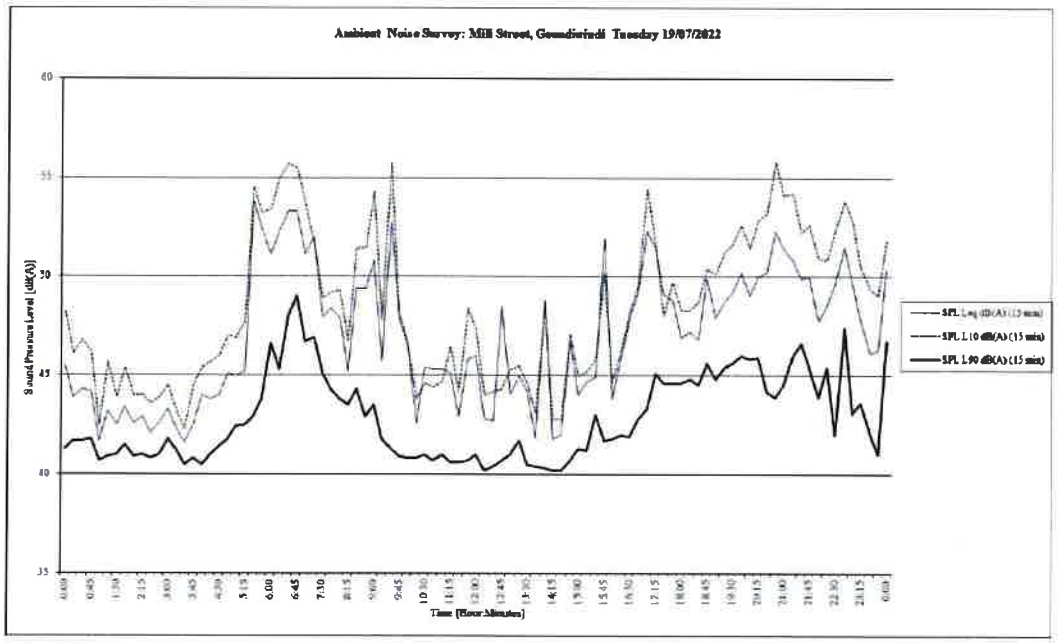
Measurement Results and Model Calculations / Predictions

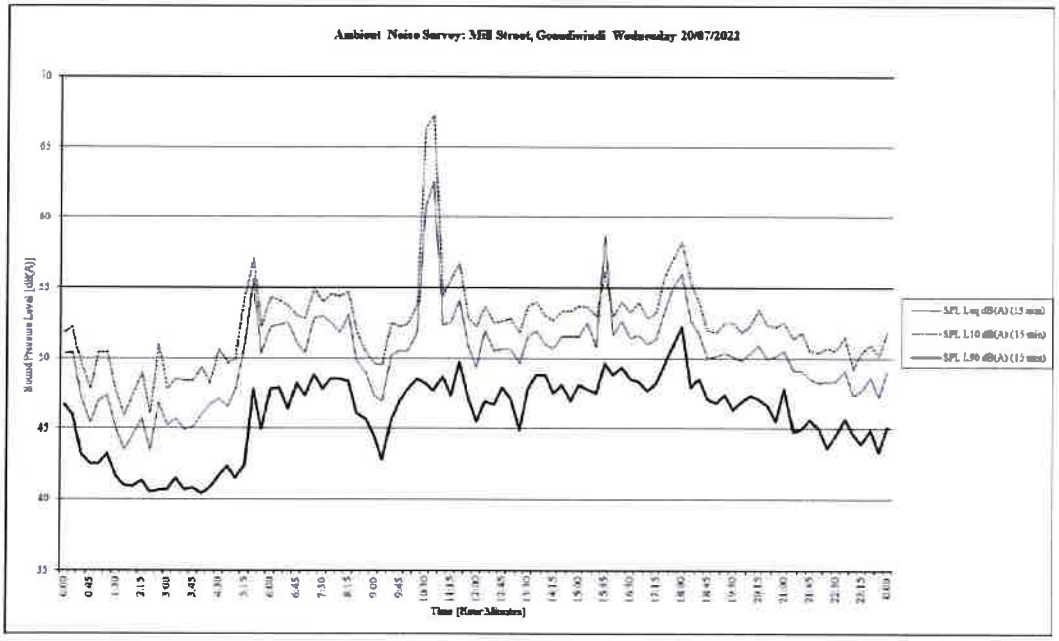

Ambient Noise Survey: Mill Street, Gaoadhvindi Friday 15/07/2022
Sound Pressure Level [dB(A)]
60
55
50
45
40
35
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)

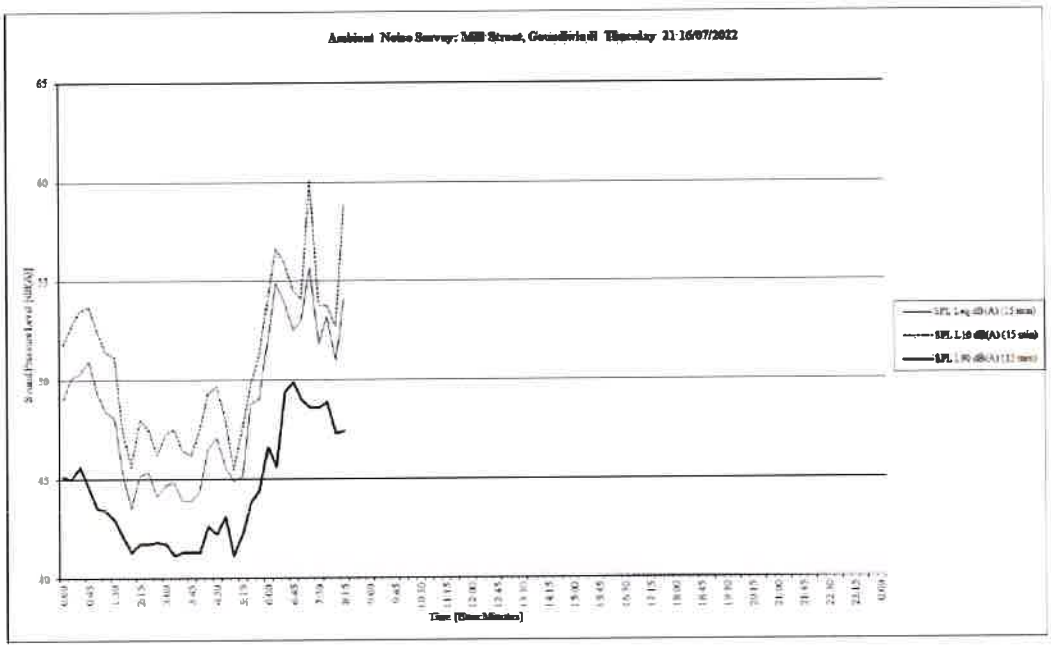

Ambient Noise Survey: Mill Street, Gaoadhvindi Saturday 16/07/2022
Sound Pressure Level [dB(A)]
60
55
50
45
40
35
Time [Hour:Minutes]
SPL Leq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Mill Street, Goondiwindi Sunday 17/07/2022
Sound Pressure Level [dB(A)]
Time [Hour:Minutes]
SPL L eq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Mill Street, Goondiwindi Monday 18/07/2022
Sound Pressure Level [dB(A)]
Time [Hour:Minutes]
SPL L eq dB(A) (15 min)
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Mill Street, Goundwindi Tuesday 19/07/2022
Sound Pressure Level [dB(A)]
Time [Hour:Minutes]
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey: Mill Street, Goundwindi Wednesday 20/07/2022
Sound Pressure Level [dB(A)]
Time [Hour:Minutes]
SPL L10 dB(A) (15 min)
SPL L90 dB(A) (15 min)


Ambient Noise Survey; Mill Street, Gosselwistil Thursday 21-16/07/2022
65
60
55
50
45
40
Sound Pressure Level [dB(A)]
Time [Hour:Minutes]
SPL L10 dB(A) (15 min)

Daytime ACTIVITY NOISE PREDICTION CALCULATIONS: ($L_{A10\ 1hr}$ and $L_{A01\ 1hr}$ are represented as N/A if the duration of events do not occur for 10% or 1% of the 1 hour period)

R1: Jolly Swagman accommodation due south

CAR DOOR CLOSURE north car spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	15	60			Events
Total time duration of combined events	22.5	90.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	59	59	N/A	80	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	109				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**21**	**26**	**N/A**	**47**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	-10	dB
Impact inside		**16**	**N/A**	**37**	**dB(A)**

CAR DOOR CLOSURE south spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	8	30			Events
Total time duration of combined events	11.3	45.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	56	56	N/A	80	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	95				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**19**	**24**	**N/A**	**48**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	-10	dB
Impact inside		**14**	**N/A**	**38**	**dB(A)**

CAR DOOR CLOSURE at building spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	8	30			Events
Total time duration of combined events	11.3	45.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	56	56	N/A	80	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	107.5				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**18**	**23**	**N/A**	**47**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	-10	dB
Impact inside		**13**	**N/A**	**37**	**dB(A)**

CAR ENGINE STARTS north spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	5	20			Events
Total time duration of combined events	15.0	60.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	55	55	N/A	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	109				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**17**	**17**	**N/A**	**37**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	-10	dB
Impact inside		**7**	**N/A**	**27**	**dB(A)**

CAR ENGINE STARTS south spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	7.5	30.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	52	52	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	95				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**15**	**20**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	-10	dB
Impact inside		**10**	**N/A**	**N/A**	**dB(A)**

R2: Best Western accommodation due north

CAR DOOR CLOSURE north car spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	15	60			Events
Total time duration of combined events	22.5	90.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	59	59	N/A	80	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	88				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**23**	**28**	**N/A**	**49**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**10**	**N/A**	**31**	**dB(A)**

CAR DOOR CLOSURE south spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	8	30			Events
Total time duration of combined events	11.3	45.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	56	56	N/A	80	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	106.0				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**18**	**23**	**N/A**	**47**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**5**	**N/A**	**29**	**dB(A)**

CAR DOOR CLOSURE at building spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	8	30			Events
Total time duration of combined events	11.3	45.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	56	56	N/A	80	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	99				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**19**	**24**	**N/A**	**48**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**6**	**N/A**	**30**	**dB(A)**

CAR ENGINE STARTS north spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	5	20			Events
Total time duration of combined events	15.0	60.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	55	55	N/A	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	88				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**19**	**19**	**N/A**	**39**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**1**	**N/A**	**21**	**dB(A)**

CAR ENGINE STARTS south spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	7.5	30.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	52	52	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	106.0				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**14**	**19**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**1**	**N/A**	**N/A**	**dB(A)**

Daytime ACTIVITY NOISE PREDICTION CALCULATIONS: ($L_{A10\ 1hr}$ and $L_{A01\ 1hr}$ are represented as N/A if the duration of events do not occur for 10% or 1% of the 1 hour period)

R1: Jolly Swagman accommodation due south

CAR ENGINE STARTS at building spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	7.5	30.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	52	52	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	107.5				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**14**	**19**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**9**	**N/A**	**N/A**	**dB(A)**

CAR MOVEMENT TO north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	25				Seconds
Number of events in the measurement period	23	70			Events
Total time duration of combined events	900	1750.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	66	65	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	110				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**28**	**27**	**32**	**35**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**17**	**22**	**25**	**dB(A)**

CAR MOVEMENT TO south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	43				Seconds
Number of events in the measurement period	10	30			Events
Total time duration of combined events	430.0	1290.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	65	64	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	27				m
Distance attenuation (-6 dB per doubling of distance)	-29				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**39**	**37**	**44**	**47**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**27**	**34**	**37**	**dB(A)**

CAR MOVEMENT FROM north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	27				Seconds
Number of events in the measurement period	23	70			Events
Total time duration of combined events	630.0	1890.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	66	65	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	85				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**30**	**29**	**34**	**37**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**19**	**24**	**27**	**dB(A)**

CAR MOVEMENT FROM south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	52				Seconds
Number of events in the measurement period	10	30			Events
Total time duration of combined events	520.0	1560.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	66	64	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	27				m
Distance attenuation (-6 dB per doubling of distance)	-29				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**39**	**38**	**44**	**47**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**28**	**34**	**37**	**dB(A)**

R2: Best Western accommodation due north

CAR ENGINE STARTS at building spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	7.5	30.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	52	52	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	99				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**15**	**20**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**2**	**N/A**	**N/A**	**dB(A)**

CAR MOVEMENT TO north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	25				Seconds
Number of events in the measurement period	23	70			Events
Total time duration of combined events	900	1750.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	66	65	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	94				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**29**	**28**	**33**	**36**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**10**	**15**	**18**	**dB(A)**

CAR MOVEMENT TO south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	43				Seconds
Number of events in the measurement period	10	30			Events
Total time duration of combined events	430.0	1290.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	65	64	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**27**	**26**	**32**	**35**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**8**	**14**	**17**	**dB(A)**

CAR MOVEMENT FROM north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	27				Seconds
Number of events in the measurement period	23	70			Events
Total time duration of combined events	630.0	1890.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	66	65	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	94				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**29**	**28**	**33**	**36**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**10**	**15**	**18**	**dB(A)**

CAR MOVEMENT FROM south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	52				Seconds
Number of events in the measurement period	10	30			Events
Total time duration of combined events	520.0	1560.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	66	64	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**28**	**27**	**32**	**35**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**9**	**14**	**17**	**dB(A)**

Daytime ACTIVITY NOISE PREDICTION CALCULATIONS: ($L_{A10\ 1hr}$ and $L_{A01\ 1hr\ levels}$ are represented as N/A if the duration of events do not occur for 10% or 1% of the 1 hour period)

R1: Jolly Swagman accommodation due south

PEOPLE TALKING OUTSIDE	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	62		70	73	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	4			Events
Total time duration of combined events	900.0	3600.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	62	62	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	105				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**24**	**24**	**32**	**35**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**14**	**22**	**25**	**dB(A)**

DRIVE-THROUGH SPEAKER A	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	70		73	75	dB(A)
Duration of single event	45				Seconds
Number of events in the measurement period	15	45			Events
Total time duration of combined events	675.0	2025.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	69	68	73	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	95				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**32**	**30**	**36**	**38**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**20**	**26**	**28**	**dB(A)**

DRIVE-THROUGH SPEAKER B	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	70		73	75	dB(A)
Duration of single event	45				Seconds
Number of events in the measurement period	15	45			Events
Total time duration of combined events	675.0	2025.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	69	68	73	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	93				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**32**	**31**	**36**	**38**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**21**	**26**	**28**	**dB(A)**

TRUCK ENGINE STARTS Loading bay	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	78		81	83	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	3.0	6.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	53	50	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**16**	**18**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**8**	**N/A**	**N/A**	**dB(A)**

TRUCK MOVEMENT FROM north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	85		87	88	dB(A)
Duration of single event	60				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	60.0	120.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	73	70	N/A	88	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	110				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**35**	**32**	**N/A**	**50**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**22**	**N/A**	**40**	**dB(A)**

R2: Best Western accommodation due north

PEOPLE TALKING OUTSIDE	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	62		70	73	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	4			Events
Total time duration of combined events	900.0	3600.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	62	62	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	105				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**24**	**24**	**32**	**35**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**6**	**14**	**17**	**dB(A)**

DRIVE-THROUGH SPEAKER A	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	70		73	75	dB(A)
Duration of single event	45				Seconds
Number of events in the measurement period	15	45			Events
Total time duration of combined events	675.0	2025.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	69	68	73	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	117				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**30**	**29**	**34**	**36**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**11**	**16**	**18**	**dB(A)**

DRIVE-THROUGH SPEAKER B	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	70		73	75	dB(A)
Duration of single event	45				Seconds
Number of events in the measurement period	15	45			Events
Total time duration of combined events	675.0	2025.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	69	68	73	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	117.0				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**30**	**29**	**34**	**36**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**11**	**16**	**18**	**dB(A)**

TRUCK ENGINE STARTS Loading bay	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	78		81	83	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	3.0	6.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	53	50	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**16**	**18**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**0**	**N/A**	**N/A**	**dB(A)**

TRUCK MOVEMENT FROM north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	85		87	88	dB(A)
Duration of single event	60				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	60.0	120.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	73	70	N/A	88	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	94				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**36**	**33**	**N/A**	**51**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**15**	**N/A**	**33**	**dB(A)**

Daytime ACTIVITY NOISE PREDICTION CALCULATIONS: ($L_{A10\ 1hr}$ and $L_{A01\ 1hr}$ levels are represented as N/A if the duration of events do not occur for 10% or 1% of the 1 hour period)

R1: Jolly Swagman accommodation due south

TRUCK MOVEMENT FROM south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	85		87	88	dB(A)
Duration of single event	60				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	60.0	120.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	73	70	N/A	88	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	27				m
Distance attenuation (-6 dB per doubling of distance)	-29				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**47**	**44**	**N/A**	**62**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**34**	**N/A**	**52**	**dB(A)**

TRUCKS WITH REFRIGERATION UNIT	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	81		82	83	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	900.0	1800.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	81	78	82	83	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Refrigeration unit truck directivity / screening	-5				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**39**	**35**	**40**	**41**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**25**	**30**	**31**	**dB(A)**

TRUCK AIRBRAKES at loading bay	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	90		98	102	dB(A)
Duration of single event	2				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	2.0	4.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	63	60	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**26**	**28**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**18**	**N/A**	**N/A**	**dB(A)**

TRUCK UNLOADING	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		80	82	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	900.0	1800.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	75	72	80	82	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Rear of truck unload, truck screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**38**	**34**	**43**	**45**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**24**	**33**	**35**	**dB(A)**

WASTE COLLECTION	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	92		97	102	dB(A)
Duration of single event	180				Seconds
Number of events in the measurement period	1	1			Events
Total time duration of combined events	180.0	180.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	85	79	N/A	102	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**48**	**46**	**N/A**	**70**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**36**	**N/A**	**60**	**dB(A)**

Combined impact at façade DAY	43	42	44	48	dB(A)
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**32**	**34**	**38**	**dB(A)**

R2: Best Western accommodation due north

TRUCK MOVEMENT FROM south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	85		87	88	dB(A)
Duration of single event	60				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	60.0	120.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	73	70	N/A	88	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	105				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**35**	**32**	**N/A**	**50**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**14**	**N/A**	**32**	**dB(A)**

TRUCKS WITH REFRIGERATION UNIT	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	81		82	83	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	900.0	1800.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	81	78	82	83	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Refrigeration unit truck directivity / screening	-5				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**38**	**35**	**39**	**40**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**17**	**21**	**22**	**dB(A)**

TRUCK AIRBRAKES at loading bay	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	90		98	102	dB(A)
Duration of single event	2				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	2.0	4.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	63	60	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**26**	**28**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**10**	**N/A**	**N/A**	**dB(A)**

TRUCK UNLOADING	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		80	82	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	900.0	1800.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	75	72	80	82	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Rear of truck unload, truck screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**37**	**34**	**42**	**44**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**16**	**24**	**26**	**dB(A)**

WASTE COLLECTION	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	92		97	102	dB(A)
Duration of single event	180				Seconds
Number of events in the measurement period	1	1			Events
Total time duration of combined events	180.0	180.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	85	79	N/A	102	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**47**	**46**	**N/A**	**69**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**28**	**N/A**	**51**	**dB(A)**

Combined impact at façade DAY	37	37	34	49	dB(A)
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**19**	**16**	**31**	**dB(A)**

Night-time ACTIVITY NOISE PREDICTION CALCULATIONS: ($L_{A10\,1hr}$ and $L_{A01\,1hr}$ levels are represented as N/A if the duration of events do not occur for 10% or 1% of the 1 hour period)

R1: Jolly Swagman accommodation due south

CAR DOOR CLOSURE north car spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	5	20			Events
Total time duration of combined events	7.5	30.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	54	54	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	109				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**16**	**21**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**11**	**N/A**	**N/A**	**dB(A)**

CAR DOOR CLOSURE south spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	3.8	15.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	51	51	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	95				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**14**	**19**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**9**	**N/A**	**N/A**	**dB(A)**

CAR DOOR CLOSURE at building spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	3.8	15.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	51	51	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	107.5				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**13**	**18**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**8**	**N/A**	**N/A**	**dB(A)**

CAR ENGINE STARTS north spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	2	7			Events
Total time duration of combined events	6.0	21.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	51	51	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	109				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**13**	**12**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**2**	**N/A**	**N/A**	**dB(A)**

CAR ENGINE STARTS south spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	1	3			Events
Total time duration of combined events	3.0	9.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	48	47	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	95				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**11**	**15**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**5**	**N/A**	**N/A**	**dB(A)**

R2: Best Western accommodation due north

CAR DOOR CLOSURE north car spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	5	20			Events
Total time duration of combined events	7.5	30.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	54	54	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	88				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**18**	**23**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**5**	**N/A**	**N/A**	**dB(A)**

CAR DOOR CLOSURE south spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	3.8	15.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	51	51	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	106.0				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**13**	**18**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**0**	**N/A**	**N/A**	**dB(A)**

CAR DOOR CLOSURE at building spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		77	80	dB(A)
Duration of single event	1.5				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	3.8	15.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	51	51	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	99				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**14**	**19**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**1**	**N/A**	**N/A**	**dB(A)**

CAR ENGINE STARTS north spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	2	7			Events
Total time duration of combined events	6.0	21.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	51	51	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	88				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**15**	**14**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**-4**	**N/A**	**N/A**	**dB(A)**

CAR ENGINE STARTS south spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	1	3			Events
Total time duration of combined events	3.0	9.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	48	47	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	106.0				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**10**	**14**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**-4**	**N/A**	**N/A**	**dB(A)**

Night-time ACTIVITY NOISE PREDICTION CALCULATIONS: ($L_{A10\ 1hr}$ and $L_{A01\ 1hr}$ levels are represented as N/A if the duration of events do not occur for 10% or 1% of the 1 hour period)

R1: Jolly Swagman accommodation due south

CAR ENGINE STARTS at building spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	1	3			Events
Total time duration of combined events	3.0	9.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	48	47	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	107.5				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**10**	**14**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	dB	
Impact inside		**4**	**N/A**	**N/A**	**dB(A)**

CAR MOVEMENT TO north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	25				Seconds
Number of events in the measurement period	7	21			Events
Total time duration of combined events	900	525.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	61	60	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	110				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**23**	**21**	**32**	**35**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	dB	
Impact inside		**11**	**22**	**25**	**dB(A)**

CAR MOVEMENT TO south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	43				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	129.0	430.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	60	59	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	27				m
Distance attenuation (-6 dB per doubling of distance)	-29				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**33**	**33**	**44**	**47**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	dB	
Impact inside		**23**	**34**	**37**	**dB(A)**

CAR MOVEMENT FROM north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	27				Seconds
Number of events in the measurement period	7	21			Events
Total time duration of combined events	189.0	567.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	61	60	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	85				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**25**	**24**	**34**	**37**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	dB	
Impact inside		**14**	**24**	**27**	**dB(A)**

CAR MOVEMENT FROM south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	52				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	173.3	520.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	61	60	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	27				m
Distance attenuation (-6 dB per doubling of distance)	-29				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**35**	**33**	**44**	**47**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)	-10	-10	-10	dB	
Impact inside		**23**	**34**	**37**	**dB(A)**

R2: Best Western accommodation due north

CAR ENGINE STARTS at building spaces	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	73		74	75	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	1	3			Events
Total time duration of combined events	3.0	9.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	48	47	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	99				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**11**	**15**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)	-18	-18	-18	dB	
Impact inside		**-3**	**N/A**	**N/A**	**dB(A)**

CAR MOVEMENT TO north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	25				Seconds
Number of events in the measurement period	7	21			Events
Total time duration of combined events	900	525.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	61	60	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	94				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**24**	**23**	**33**	**36**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)	-18	-18	-18	dB	
Impact inside		**5**	**15**	**18**	**dB(A)**

CAR MOVEMENT TO south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	43				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	129.0	430.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	60	59	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**22**	**21**	**32**	**35**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)	-18	-18	-18	dB	
Impact inside		**3**	**14**	**17**	**dB(A)**

CAR MOVEMENT FROM north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	27				Seconds
Number of events in the measurement period	7	21			Events
Total time duration of combined events	189.0	567.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	61	60	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	94				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**24**	**23**	**33**	**36**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)	-18	-18	-18	dB	
Impact inside		**5**	**15**	**18**	**dB(A)**

CAR MOVEMENT FROM south	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	68		70	73	dB(A)
Duration of single event	52				Seconds
Number of events in the measurement period	3	10			Events
Total time duration of combined events	173.3	520.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	61	60	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**23**	**22**	**32**	**35**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)	-18	-18	-18	dB	
Impact inside		**4**	**14**	**17**	**dB(A)**

Night-time ACTIVITY NOISE PREDICTION CALCULATIONS: ($L_{A10\,1hr}$ and $L_{A01\,1hr}$ levels are represented as N/A if the duration of events do not occur for 10% or 1% of the 1 hour period)

R1: Jolly Swagman accommodation due south

PEOPLE TALKING OUTSIDE	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	62		70	73	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	4			Events
Total time duration of combined events	900.0	3600.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	62	62	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	105				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**24**	**24**	**32**	**35**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**14**	**22**	**25**	**dB(A)**

DRIVE-THROUGH SPEAKER A	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	70		73	75	dB(A)
Duration of single event	45				Seconds
Number of events in the measurement period	5	15			Events
Total time duration of combined events	225.0	675.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	64	63	73	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	95				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**27**	**26**	**36**	**38**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**16**	**26**	**28**	**dB(A)**

DRIVE-THROUGH SPEAKER B	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	70		73	75	dB(A)
Duration of single event	45				Seconds
Number of events in the measurement period	5	15			Events
Total time duration of combined events	225.0	675.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	64	63	73	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	93				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**27**	**26**	**36**	**38**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**16**	**26**	**28**	**dB(A)**

TRUCK ENGINE STARTS Loading bay	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	78		81	83	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	1	1			Events
Total time duration of combined events	3.0	3.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	53	47	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**16**	**15**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**5**	**N/A**	**N/A**	**dB(A)**

TRUCK MOVEMENT FROM north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	85		87	88	dB(A)
Duration of single event	60				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	60.0	120.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	73	70	N/A	88	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	110				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**35**	**32**	**N/A**	**50**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**22**	**N/A**	**40**	**dB(A)**

R2: Best Western accommodation due north

PEOPLE TALKING OUTSIDE	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	62		70	73	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	4			Events
Total time duration of combined events	900.0	3600.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	62	62	70	73	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	105				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**24**	**24**	**32**	**35**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**6**	**14**	**17**	**dB(A)**

DRIVE-THROUGH SPEAKER A	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	70		73	75	dB(A)
Duration of single event	45				Seconds
Number of events in the measurement period	5	15			Events
Total time duration of combined events	225.0	675.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	64	63	73	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	117				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**25**	**24**	**34**	**36**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**6**	**16**	**18**	**dB(A)**

DRIVE-THROUGH SPEAKER B	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	70		73	75	dB(A)
Duration of single event	45				Seconds
Number of events in the measurement period	5	15			Events
Total time duration of combined events	225.0	675.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	64	63	73	75	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	117.0				m
Distance attenuation (-6 dB per doubling of distance)	-41				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**25**	**24**	**34**	**36**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**6**	**16**	**18**	**dB(A)**

TRUCK ENGINE STARTS Loading bay	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	78		81	83	dB(A)
Duration of single event	3				Seconds
Number of events in the measurement period	1	1			Events
Total time duration of combined events	3.0	3.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	53	47	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**16**	**15**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**-3**	**N/A**	**N/A**	**dB(A)**

TRUCK MOVEMENT FROM north	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	85		87	88	dB(A)
Duration of single event	60				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	60.0	120.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	73	70	N/A	88	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	94				m
Distance attenuation (-6 dB per doubling of distance)	-39				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**36**	**33**	**N/A**	**51**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**15**	**N/A**	**33**	**dB(A)**

Night-time ACTIVITY NOISE PREDICTION CALCULATIONS: ($L_{A10\ 1hr}$ and $L_{A01\ 1hr}$ levels are represented as N/A if the duration of events do not occur for 10% or 1% of the 1 hour period)

R1: Jolly Swagman accommodation due south

TRUCKS WITH REFRIGERATION UNIT	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	81		82	83	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	900.0	1800.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	81	78	82	83	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Refrigeration unit truck directivity / screening	-5				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**39**	**35**	**40**	**41**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**25**	**30**	**31**	**dB(A)**

TRUCK AIRBRAKES at loading bay	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	93		98	102	dB(A)
Duration of single event	2				Seconds
Number of events in the measurement period	1	1			Events
Total time duration of combined events	2.0	2.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	63	57	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**26**	**25**	**N/A**	**N/A**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**15**	**N/A**	**N/A**	**dB(A)**

TRUCK UNLOADING	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		80	82	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	900.0	1800.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	75	72	80	82	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	100				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Rear of truck unload, truck screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**38**	**34**	**43**	**45**	**dB(A)**
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**24**	**33**	**35**	**dB(A)**

Combined impact at façade NIGHT	**39**	**38**	**44**	**47**	dB(A)
Reduction through open BATH window (also minus 2.5 dB façade)		-10	-10	-10	dB
Impact inside		**28**	**34**	**37**	**dB(A)**

R2: Best Western accommodation due north

TRUCKS WITH REFRIGERATION UNIT	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	81		82	83	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	900.0	1800.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	81	78	82	83	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Refrigeration unit truck directivity / screening	-5				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**38**	**35**	**39**	**40**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**17**	**21**	**22**	**dB(A)**

TRUCK AIRBRAKES at loading bay	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	90		98	102	dB(A)
Duration of single event	2				Seconds
Number of events in the measurement period	1	1			Events
Total time duration of combined events	2.0	2.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	63	57	N/A	N/A	dB(A)
Tonality / Impulsiveness correction	0	5			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**26**	**25**	**N/A**	**N/A**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**7**	**N/A**	**N/A**	**dB(A)**

TRUCK UNLOADING	Creep	Acoustic Quality Objectives			
	LAeq	LAeq	LA10	LA01	
Noise source level for single event	75		80	82	dB(A)
Duration of single event	900				Seconds
Number of events in the measurement period	1	2			Events
Total time duration of combined events	900.0	1800.0			Seconds
	LAeq	LAeq 1hr	LA10 1hr	LA01 1hr	
Noise source level for assessment time period	75	72	80	82	dB(A)
Tonality / Impulsiveness correction	0	0			dB
Minimum distance to receiver	102				m
Distance attenuation (-6 dB per doubling of distance)	-40				dB
Barrier screening	0				dB
Rear of truck unload, truck screening	0				dB
Façade reflection	2.5				dB
Impact at nearest façade	**37**	**34**	**42**	**44**	**dB(A)**
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**16**	**24**	**26**	**dB(A)**

Combined impact at façade NIGHT	**33**	**33**	**34**	**36**	dB(A)
Reduction through CLOSED window (also minus 2.5 dB façade)		-18	-18	-18	dB
Impact inside		**15**	**16**	**18**	**dB(A)**

ONSITE MECH PLANT NOISE PREDICTION CALCULATIONS:

R1: Jolly Swagman accommodation due south

Kitchen exhaust fan units	62	dB(A) @ 3m
Number of units	2	units
Toilet Exhaust Units	52	dB(A) @ 3m
Number of units	2	units
Total noise level	65	dB(A) @ 3m
Distance to receiver	95	m
Distance attenuation (-6 dB per doubling of distance)	-30	dB(A)
Acoustic attenuators	-20	dB(A)
Roof screening	0	dB(A)
Façade reflection	2.5	dB(A)
Impact at façade	18	dB(A)
Reduction through open BATHROOM window (also minus 2.5 dB façade)	-10	dB(A)
Impact inside open window	8	dB(A)

A/C Units	60	dB(A) @ 3m
Number of units	2	units
Refrig Units	65	dB(A) @ 3m
Number of units	2	units
Total noise level	69	dB(A) @ 3m
Distance to receiver	95	m
Distance attenuation (-6 dB per doubling of distance)	-30	dB(A)
Rooftop screen attenuation	-15	dB(A)
Barrier screening	0.0	dB(A)
Façade reflection	2.5	dB(A)
Impact at façade	27	dB(A)
Reduction through open BATHROOM window (also minus 2.5 dB façade)	-10	dB(A)
Impact inside open window	17	dB(A)

Combined impact at façade	27	dB(A)
Reduction through open BATHROOM window (also minus 2.5 dB façade)	-10	dB(A)
Impact inside open window	17	dB(A)

R2: Best Western accommodation due north

Kitchen exhaust fan units	62	dB(A) @ 3m
Number of units	2	units
Toilet Exhaust Units	52	dB(A) @ 3m
Number of units	2	units
Total noise level	65	dB(A) @ 3m
Distance to receiver	115	m
Distance attenuation (-6 dB per doubling of distance)	-32	dB(A)
Acoustic attenuators	-20	dB(A)
Roof screening	0	dB(A)
Façade reflection	2.5	dB(A)
Impact at façade	16	dB(A)
Reduction through CLOSED window (also minus 2.5 dB façade)	-18	dB(A)
Impact inside open window	-2	dB(A)

A/C Units	60	dB(A) @ 3m
Number of units	2	units
Refrig Units	65	dB(A) @ 3m
Number of units	2	units
Total noise level	69	dB(A) @ 3m
Distance to receiver	115	m
Distance attenuation (-6 dB per doubling of distance)	-32	dB(A)
Rooftop screen attenuation	-15	dB(A)
Barrier screening	0.0	dB(A)
Façade reflection	2.5	dB(A)
Impact at façade	25	dB(A)
Reduction through CLOSED window (also minus 2.5 dB façade)	-18	dB(A)
Impact inside open window	7	dB(A)

Combined impact at façade	26	dB(A)
Reduction through CLOSED window (also minus 2.5 dB façade)	-18	dB(A)
Impact inside open window	8	dB(A)

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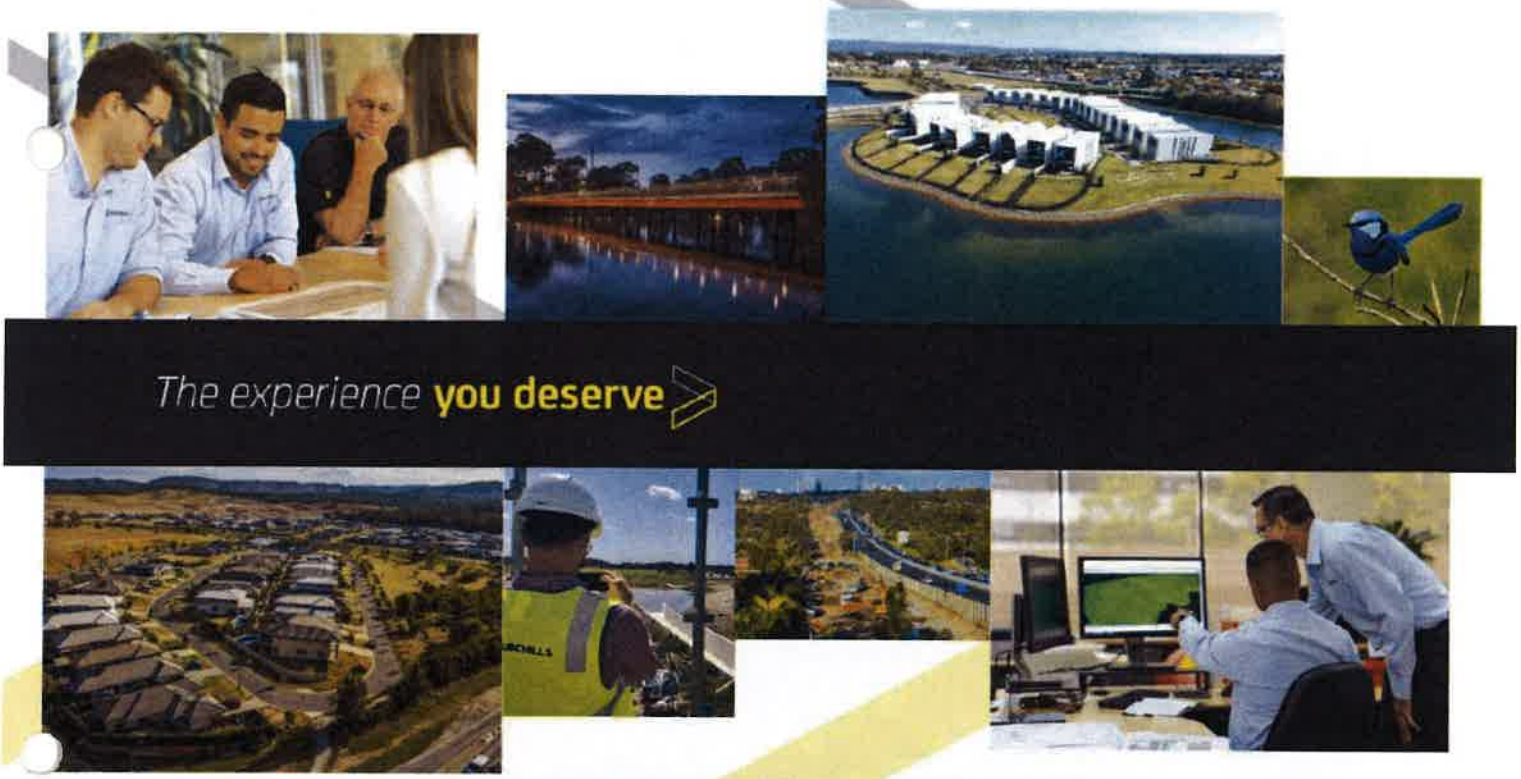

2 Mill Street, Goondiwindi
KFC Proposed Development

Traffic Impact Assessment

Client: EPO Development Pty Ltd
Project No: BE220369
Document No: BE220369-RP-TIA-01

August 2022

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 28/10/22
Signed:
Print Name: Carl Manton
(Under Delegation) ASSESSMENT MANAGER

Document Control Record

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Position:	Traffic Engineer
Signed:	
Date:	12 August 2022

Approved by:	Dale Kleimeyer
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01	TIA Issue	12 August 2022	AK	DK

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Executive Summary

EPO Development Pty Ltd has engaged Burchills Engineering Solutions to prepare a Traffic Impact Assessment Report (TIA) to be considered as part of a Development Application for a fast-food development located at 2 Mill Street, Goondiwindi (Lots 1 on RP850853).

The proposed means of ingress to or egress from the development are adequate and located appropriately according to the road hierarchy. The development provides for a safe and convenient movement to, from and within the site. The proposed access arrangements do not impede the traffic performance of the existing roads.

The development will incorporate a drive-thru KFC restaurant with site access points from Mill Street. The development will generate up to 100 vehicles per hour during the evening peak hour. Capacity analysis by using SIDRA has been done as part of this Traffic Report Assessment due to the close proximity of the State-controlled Road (Marshall Street) which runs adjacent to the north-east boundary of the subject site. Mill Street is a low-traffic volume road that mainly serves 4 small industrial developments and a motel.

HRV vehicles manoeuvre the site satisfactorily. Lane 2 of the Drive-Thru will be used for all deliveries to the site and for loading and unloading purposes, deliveries to be made outside of the operational hours. Lane 2 will be closed by using traffic cones and only removed once the delivery is completed and it's safe to open the lane for the customers.

The subject site provides 6 additional parking spaces and a wide access aisle to allow faster and safer traffic movement, site is well accessible via the pedestrian network on Marshall Street.

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1. Introduction

1.1 Background

Burchills Engineering Solutions Ltd has been engaged by EPO Development Pty Ltd to prepare a Traffic Assessment Report to be considered as a part of the development application for commercial development (KFC Restaurant) at Lots 1 on RP850853. The proposed development layout is attached as Appendix A to this report.

The subject site will be accessed via Mill Street near the intersection with Marshal Street in Goondiwindi. The site provides 21 car spaces which is designed in line with AS2890.1 standards. Parking bays are 2.6m and are accessible by a 7.5m wide aisle.

This report considers the transportation aspects of the development proposal, in particular, site access, parking traffic generation and service vehicle on-site movement. It concludes that the proposed site access arrangement is adequate to service the site and that there will be no material impacts associated with the development of the site as the traffic generated is low and does not impact the local road network.

1.2 Scope

This report provides an audit of the existing transport conditions in the vicinity of the site including a description of the local road network and its operation. It also determines the anticipated level of trip generation, the distribution of these trips and the impact of this development traffic on the local road network. In addition, the report addresses the key issues in relation to the provisions made for the loading, unloading and manoeuvring of service vehicles.

The structure of this report is summarised below:

Section 2: Describes the site location and the existing road network in the vicinity of the site;

Section 3 Outlines the relevant characteristics of the proposed development including access and parking arrangements; Swept path analysis include servicing, loading and waste collection;

Section 4: Estimate the increase in traffic generated by the proposed development;

Section 5: Assess the operation of key intersections in the vicinity of the site;

Section 6: Presents a summary of the report and identifies the main conclusions that can be drawn from the Traffic Assessment Report.

2. Existing Conditions

Section 2 of this report details the baseline conditions in the vicinity of the site, including the existing development site, the local road infrastructure, existing traffic conditions etc.

2.1 Subject Site

The subject site is located at 2 Mill Street in Goondiwindi (Lot 1 RP850853).

As shown in Figure 2.1 below, the subject site is bordered by Marshall Street to the east, to the south by Mill Street and south by vacant land.

Figure 2.1 Subject Site Location

Goondiwindi is a rural town with approx. 830 km² area, and locality in the Goondiwindi Regional Council, it is on the border of Queensland and New South Wales. As per the 2016 Census, there were 6,355 people in Goondiwindi.

The proposed site is located within a Highway Commercial Precinct of the Goondiwindi Regional Council. Figure 2.4 shows the zone plan for the subject site extracted from the council's planning scheme.

Figure 2.2 Subject Site Zone Plan

2.2 Local Road Network

2.2.1 Marshal Street

Marshal Street is a two-lane state-controlled road subject to a 50km/h speed limit in the vicinity other Mills Street intersection. It has a 64m road reserve and a total paved surface of 7.6m, which includes a 3.5m wide lanes in each direction. Marshal Street also has a 2m wide footpath which runs near the north-east boundary of the subject site.

Figure 2.3 shows the cross-section of Marshall Street near the subject site.

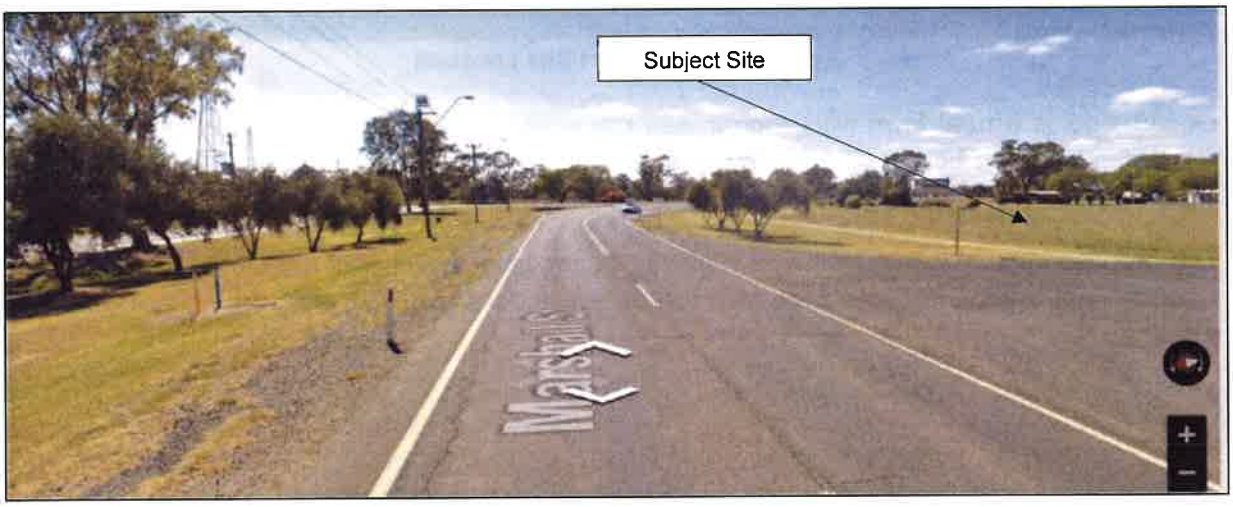


Figure 2.3 Marshall St Southern Approach to Site Access

2.2.2 Mill Street

Mill Street is a two-way, two-lane Council controlled road subject to 50km/h speed limit. It has a 20m wide road reserve along with an 11.5m wide paved surface and connects with Marshall Street in the north and Andersen Street in the south. Mill Street runs adjacent to the southwest boundary of the subject site. The proposed site entrance to the subject site is located near the intersection of Marshal Street and Mill Street. Figure 2.4 below shows the Mill Street cross-section facing toward the intersection with Marshall Street.

Figure 2.4 Mill Street (Subject Site to the Right)

2.3 Traffic Data

The traffic impact of the proposed development will be assessed within the development's 'area of influence'. The implications of the proposed development on the operation of the Marshall St/ Mill St unsignalized intersection were considered as part of the Traffic Impact Assessment.

2.3.1 AADT along Marshall St

The proposed development site is located adjacent to Mill Street which connects with Marshal Street to the northwest. The wider road network is accessible via Marshal Street. Marshal Street Annual Average Daily Traffic (AADT) data was provided by TMR (2004-2018 AATDs traffic Census data) and is presented in Table 2.1 below.

Table 2.1 Historical AADT Flows along Marshall Street

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2014	2016	2018
AADT	3,228	3,051	3,224	3,200	3,332	3,450	3,563	3,513	3,632	3,558	3,720	3,838

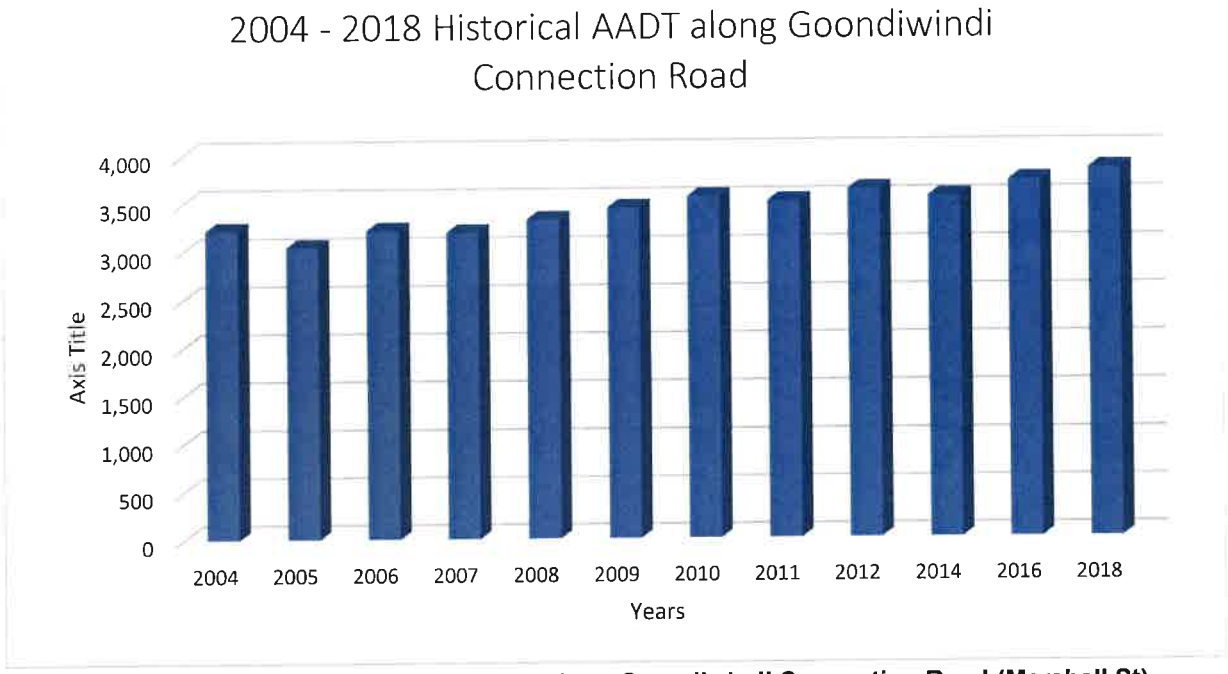


Figure 2.5 2004-2018 Historical AADT along Goondiwindi Connection Road (Marshall St)

As shown in Figure 2.5, the traffic along Marshall Street in the last 12 years grew at an inconsistent level. For robust assessment, the Queensland Population Forecast data has been adopted for the traffic volume projections

3. Proposed Development

Figure 3.1 below shows the proposed development layout. For further details regarding the proposed layout, refer to the proposed site plan prepared by Verve Building Design attached within Figure 3.1.

Figure 3.1 Proposed Development Layout

The proposed development is a KFC drive-through facility which provide single access to the site for Mill Street near the intersection with Marshal Street. Proposed development comprises of 225m² "food and drink" area along with a drive-thru area and 21 vehicle parking spaces.

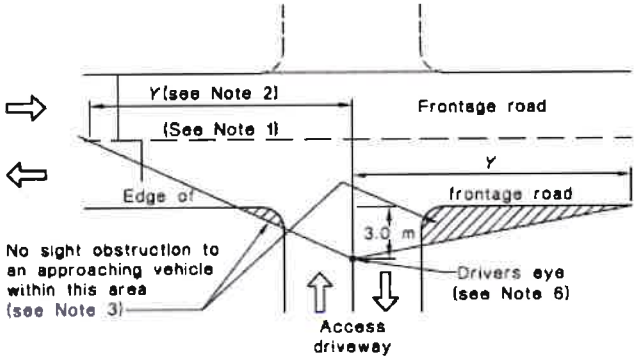
3.1 Development Access

Assess to the proposed development is provided via Access Facility Category 2. According to AS2890.1 Figure 3.1 a minimum of a Category 2 access facility is required. The proposed driveway is 8m wide, which is within the minimum requirement of the Australian Standards.

3.1.2 Visibility requirement

The proposed development vehicular access arrangements to the wider road network are via a new access driveway with Mill Street to the north-west boundary of the site.

The proposed access driveway is designed in line with AS2890.2 standards for heavy vehicles. In summary, 3.0m x 69m visibility triangle to the left due to the straight alignment of Mill Street. The right, Mill Street benefits from an intersection (approximately 30m) resulting in lower speeds. The above requires 3.0m x 55m visibility splays associated with reduced 40km/h road speed at the intersection. Sightlines are achieved and to increase the safety at the intersection of driveway and Mill Street, A give way sign will be installed at the driveway.



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road (Note 5) m	
	5 s gap	8 s gap
40	55	89
50	69	111
60	83	133
70	97	156
80	111	178
90	125	200
100	139	222
110	153	244

Figure 3.2 Visibility Requirements at Access Driveway (Source:2890.2)

3.2 Parking Requirements

The proposed development's car parking rate are determined by the Goondiwindi Regional Council Planning Scheme, car parking rates food and drink facility are shown in Table 3.1 below.

Table 3.1 Goondiwindi Regional Council Parking Requirements

Land Use	Car Parking Rates	Car Parking Requirements
Food and Drink (225m²)	1 space per 15m² of gross floor area; plus queuing for 10 vehicles associated with any drive-through	15 car parking space

Based on the Goondiwindi Regional Council car parking requirements the proposed development is required to provide minimum 15 car parking spaces for visitors and queuing area for 10 vehicles for drive through facility from the collection point as well as accommodate onsite movement for an MRV service vehicle.

3.3 Car Parking Spaces Supplied

The proposed development benefits from 21 car parking spaces which 6 spaces above the minimum GCR requirement. Figure 3.3 shows the proposed car parking and pedestrian crossing area for the site.

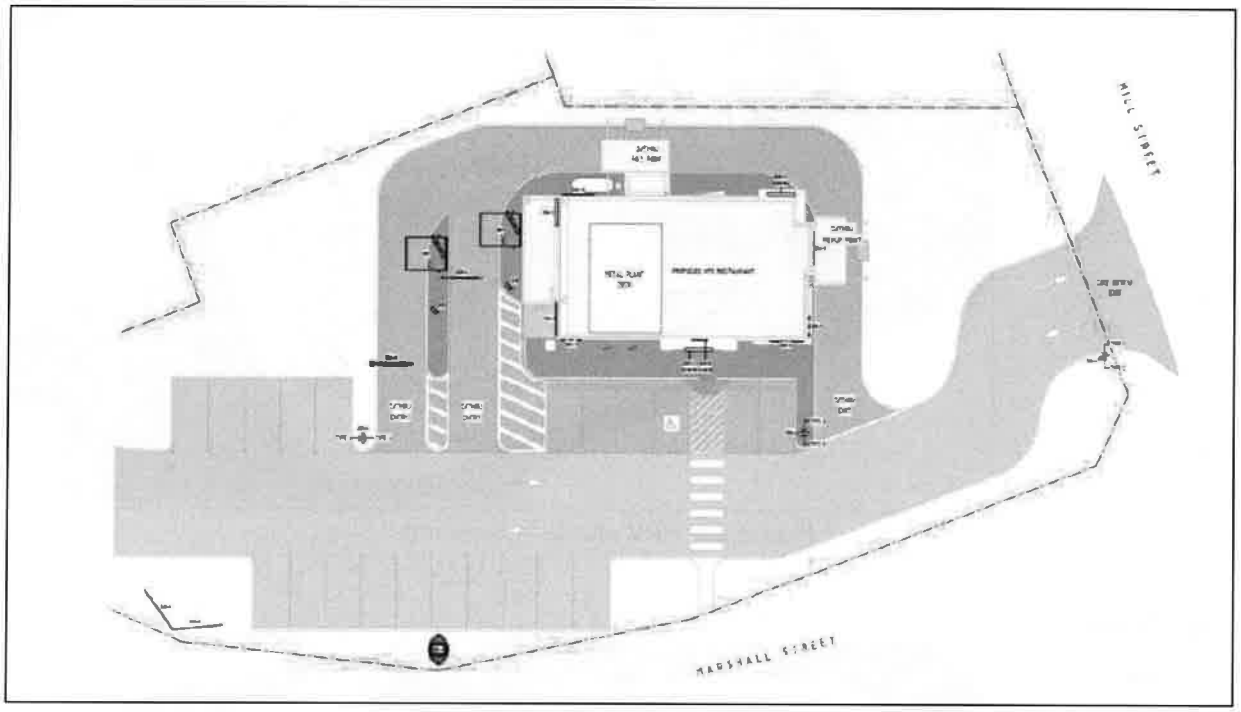


Figure 3.3 Proposed Car Parking Area

3.3.1 Design of car parking areas

The proposed car parking area is designed in line with Australian Standards AS/NZ2890.1. The following

- Visitor Car Parking (User Class 3*) - 2.6m x 5.4m parking bays and min 6.6m wide aisles.

A 7.5m width is adopted for aisle, allowing a safe and quick maneuver in the parking area.

3.3.2 Loading/unloading Area

To providing a safe loading and unloading bay close to the restaurant, Lane 2 of the Drive-Thru will be used for deliveries purposes. All deliveries will be made outside of the operational hours and for safety precaution, traffic cones will be used while the deliveries are in progress and only to be removed once the delivery is completed. A statement with details about the loading bay operation is also provided in Appendix A. As per the Goondiwindi Regional Council's Development codes Part 9, Table 9.4.4.2. the service vehicle for a food and drink outlet is an MRV vehicle, however, deliveries to site will be made by a HRV vehicle, detail swept paths HRV vehicles are provided in Appendix B.

The figure 3.4 shows the swept path movement for the HRV service vehicle in and out of the Lane 2 of the Drive-Thru.

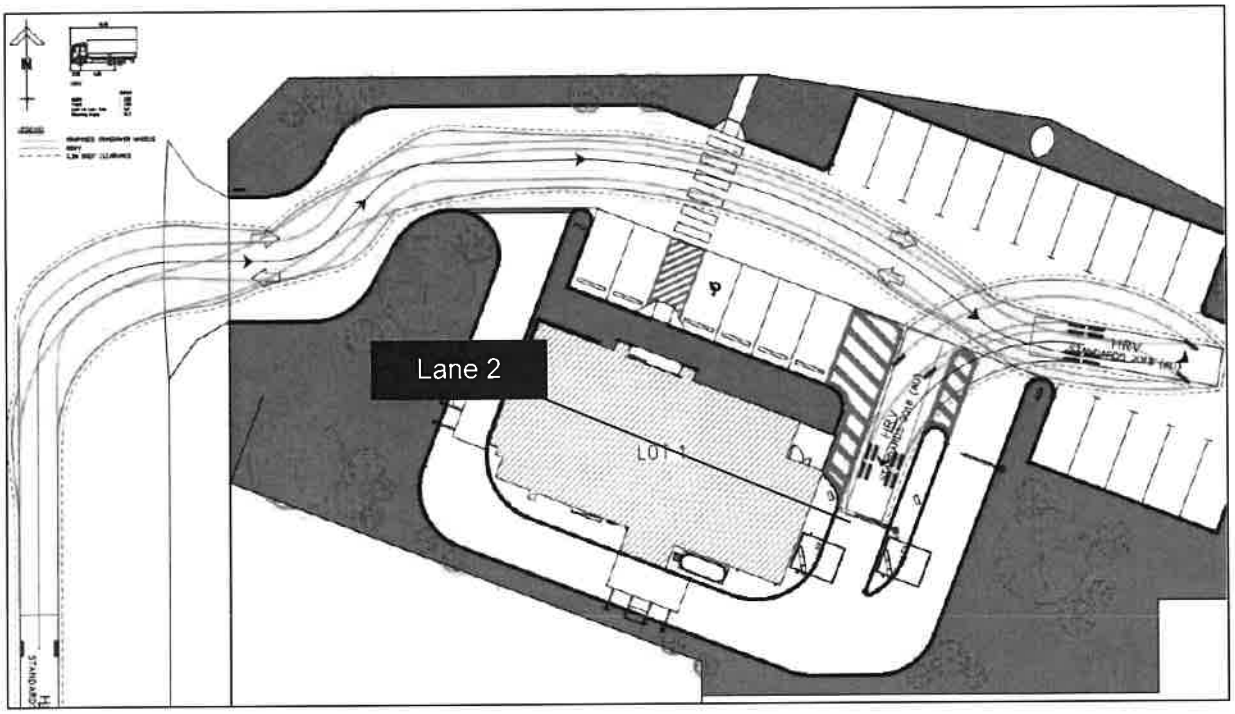


Figure 3.4 HRV on-site movement

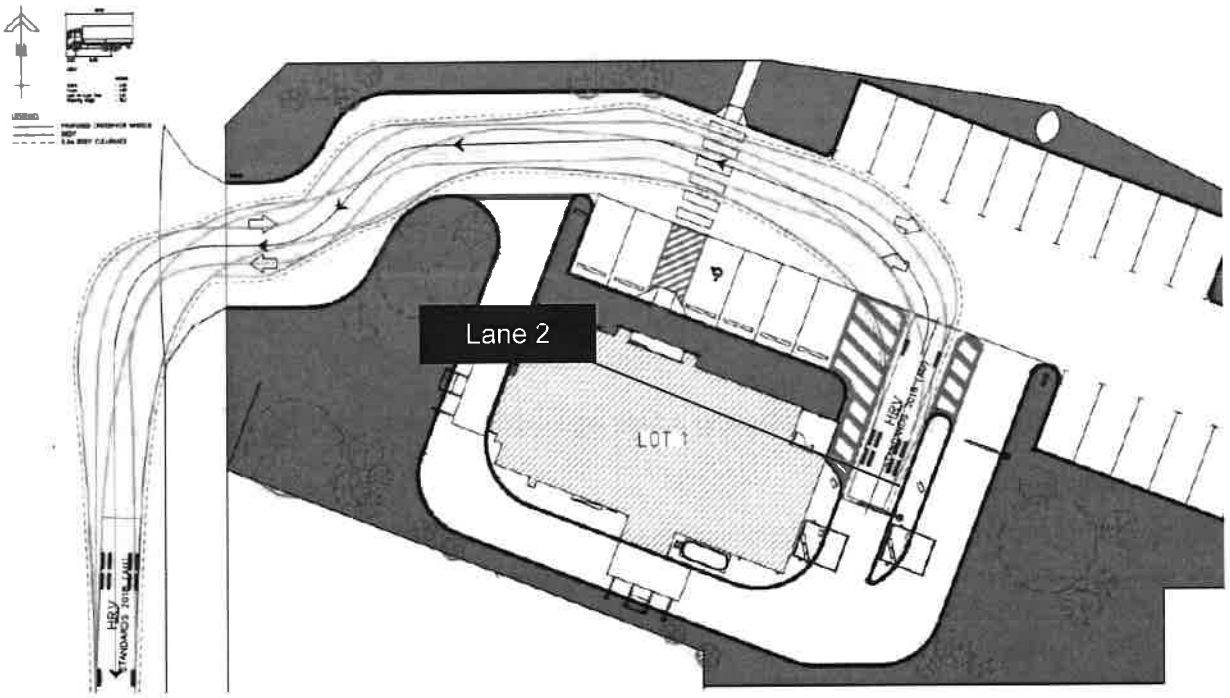


Figure 3.5 HRV on-site movement

As seen in above Figure 3.4 and Figure 3.5, a service vehicle can easily manoeuvre in and out of the Lane 2.

4. Trip Generation

In order to assess the relative impact of the proposal on the surrounding road network, it is necessary to define the existing traffic demands on the road network and estimate future traffic demands on key intersections.

The existing traffic demands as defined in traffic surveys are forecast to the future assessment years. These volumes represent the "Pre-Development" scenario.

The traffic generated by the proposed development is estimated, along with its distribution across the surrounding road network. These volumes are added to the "Pre-Development" scenario to provide the "Post Development" traffic scenario.

4.1 Pre-Development Traffic

4.1.1 Background Traffic Growth Rates

The development is expected to be completed by 2023 and the 10-year design horizon in accordance with the Department of Main Roads, *Guide to Traffic Impact Assessment,* is 2033.

The review of the historical AADT traffic data along Marshal Street shows traffic growth between 2004 and 2018. Traffic data was recorded at the site 50090 (Road Section 360 – Goondiwindi Connection Road) was 3,834 in both directions.

The growth factor is shown in Table 4.1 below.

Table 4.1 Traffic Growth Factors

	2018 to 2023	2017 to 2033
Marshal Street	1.019 (1.9%)	1.022 (2.2%)

4.1.2 Future Year Traffic Volume (Marshall Street)

Growth factors summarised in Figure 4.1 has been applied to the 2018 traffic Volume (Fig 2.5) to identify the future traffic flows in 2023 and 2033. The resultant future traffic flow for the year 2023 and 2033 AM and PM peak hours is shown in Figure 4.1.

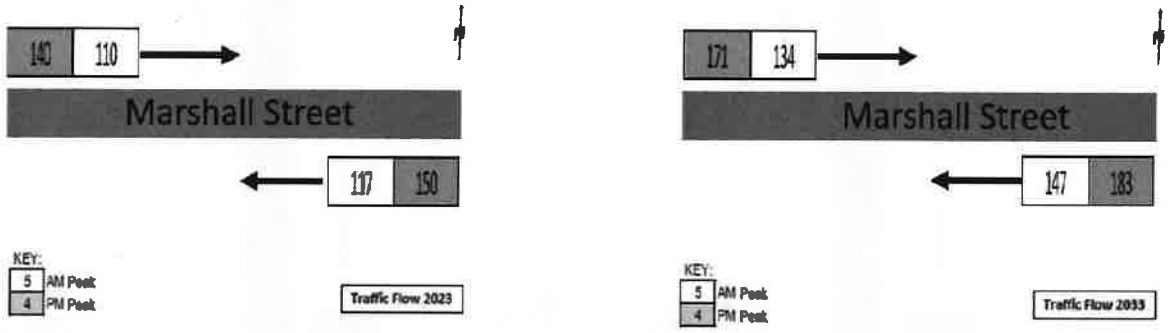


Figure 4.1 2023 and 2033 Pre-Development Traffic Flow

4.1.3 Future Year Traffic Volume (Mill Street)

Growth factors summarised in Table 4.1 have been used to assume the future traffic volume of Mill Street. The current estimation of peak hour traffic flow for Mill Street is based on the area of the industrial development and motel.

The trip rates for developments on Mill Street have been extracted from the RTA *"Guide to Traffic Generating Development"*.

Table 4.2 Trip Generation for Mill Street

Development	Total gross warehouse area	Trip generation rate	Trips (peak hour)
Warehouse 1	452m²	1 per 100m²	5
Warehouse 2	539m²	1 per 100m²	6
Warehouse 3	211m²	1 per 100m²	2
Warehouse 4	202m²	1 per 100m²	2
Motel	52 Unit/Room	0.4 per unit	21
Total Trips			36

It is also to be noted that most of the traffic toward the motel will be coming from state highway via Andersen Road that why only 50% of traffic will be using the Mill St and Marshall St intersection. Based on the trip generation in Table 4.2, the resultant future traffic flow for Mill Street and Marshall St intersection for the year 2023 and 2033 AM and PM peak hours is shown in Figure 4.2, with 70% traffic coming in and 30% going out in AM peak and 80% going out and 20% in.

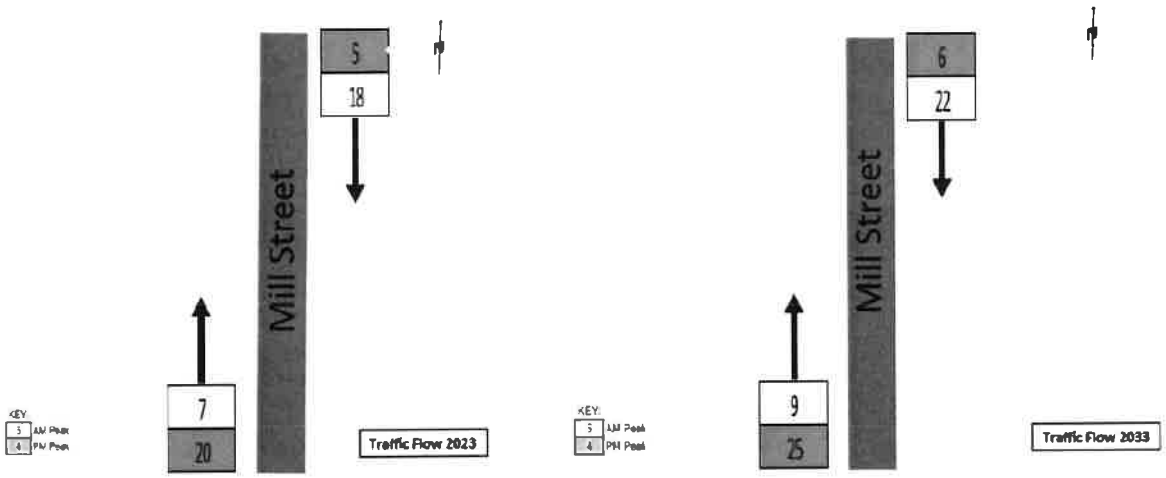


Figure 4.2 2023 and 2033 Pre-Development Traffic Flow

4.2 Development Traffic

The trip rates are based on the RMS published Guide to Traffic Generating Developments updated traffic surveys (TDT 2013/04a). The proposed development trip generation rate is shown in Figure 4.3 below.

Rates - Kentucky Fried Chicken.

Evening peak hour vehicle trips:

- assume 100 veh/hr for average development (mean of survey results).

Figure 4.3 Trip Generation Rate for KFC

The proposed development Trip rates and in/out trip distribution used in the Traffic Impact Assessment are summarised in Table 4.3 below:

Table 4.3 Proposed Development Trip Rates and In/Out Distribution Split

Land Use	GFA (m²)	PM Peak		
		Total Trip	In	Out
Food & Drink	225m²	100	50%	50%
Trip Generation			50	50

The above table identifies that the proposed development is likely to generate approximately 100 additional vehicle trip movements in the PM peak hour. The RMS Guide only provides the afternoon peak rate for Drive-in take away food outlets as these businesses are usually open after the morning peak hours and doesn't impact the AM peak traffic volume.

4.2.1 Trip distribution

The trip distribution for the subject site is assumed to be 60-40, where 60% of the traffic is believed to be coming from the west of subject site from the Goondiwindi town and 40% coming from the state highway Cunningham Highway. Figure 4.4 shows the trip distribution to/from the site.

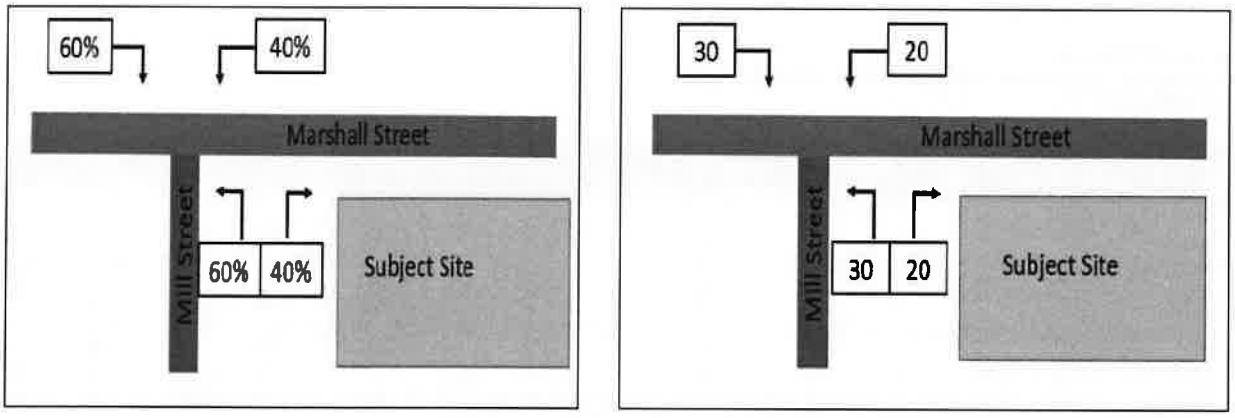


Figure 4.4 Proposed Development Trip Distribution

4.2.2 Post Development Traffic

The development traffic has been added to the future basic traffic flow to provide the Post Development Traffic for the interim scenario and are shown in Figure 4.5 below. As mentioned in section 4.2 the development traffic only affects the afternoon traffic flow.

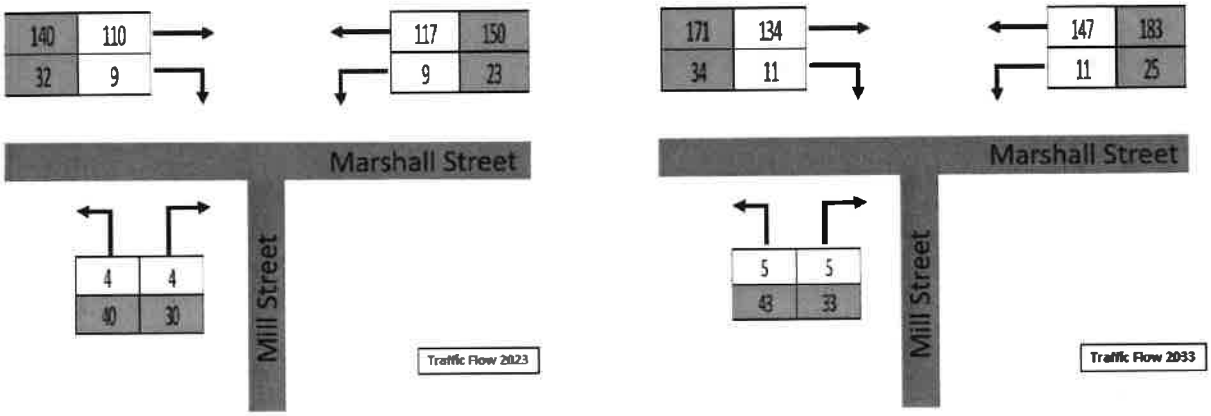


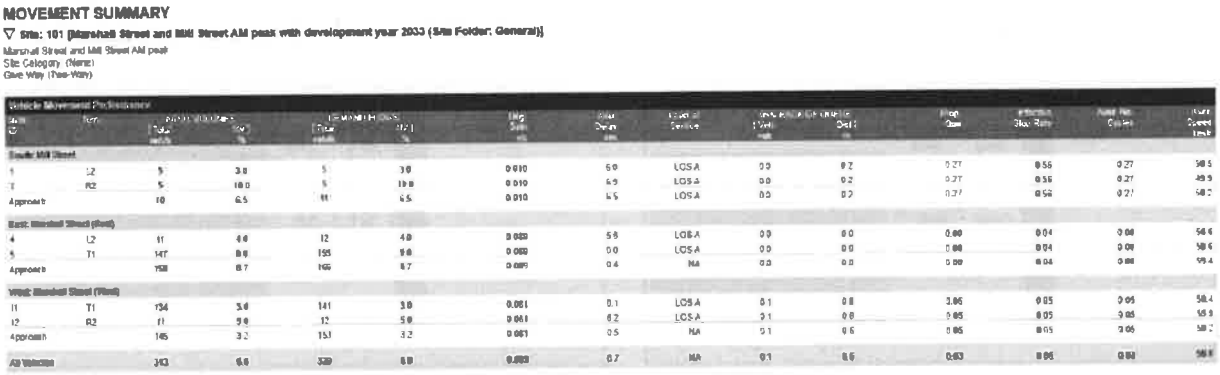
Figure 4.5 2023 and 2033 with Proposed Development Traffic Flows

The overall sustainability of the traffic operations is maintained due to the following:

- The insignificant traffic increase resulting from the proposed development;
- Maintained safe and efficient operation of the existing Mill Street and Marshall Street.
- Safe and convenient vehicle movement to, from and within the site is provided with one access roadway;
- Available sight distances and the location and design of access point which meets with Austroads requirements;
- Linkage to the existing walking and cycling facilities.

4.3 Sidra Analysis

The forecast background traffic was combined with the development traffic to determine the site's impact on Mill Street and Marshall Street. The SIDRA output summary is provided in Figure 4.6 and Figure 4.7 below, with full output attached at Appendix C.



MOVEMENT SUMMARY

Site: 101 [Marshall Street and Mill Street AM peak with development year 2033 (Site Folder: General)]

Marshall Street and Mill Street AM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	Demand Flows (veh/h)		Arrival Flows (veh/h)		Deg. Satn (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue Vehicles (veh)	Distance (m)	Prop. Queued	Effective Stop Rate	Average No. Stops per veh	Average Speed (km/h)
		(veh/h)	%	(veh/h)	%									
South: Mill Street														
1	L2	5	3.0	5	3.0	0.010	6.0	LOS A	0.0	0.2	0.27	0.56	0.27	50.5
3	R2	5	10.0	5	10.0	0.010	6.9	LOS A	0.0	0.2	0.27	0.56	0.27	49.9
Approach		10	6.5	11	6.5	0.010	6.5	LOS A	0.0	0.2	0.27	0.56	0.27	50.2
East: Marshall Street (Flat)														
4	L2	11	4.0	12	4.0	0.009	5.8	LOS A	0.0	0.0	0.00	0.04	0.00	50.6
5	T1	147	8.0	155	8.0	0.089	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	50.6
Approach		158	8.7	166	8.7	0.089	0.4	NA	0.0	0.0	0.00	0.04	0.00	99.4
West: Marshall Street (Flat)														
11	T1	134	3.0	141	3.0	0.081	0.1	LOS A	0.1	0.8	0.06	0.05	0.06	50.4
12	R2	11	5.0	12	5.0	0.081	6.2	LOS A	0.1	0.8	0.06	0.05	0.06	49.9
Approach		145	3.2	153	3.2	0.081	0.5	NA	0.1	0.8	0.06	0.05	0.06	50.2
All Vehicles		313	6.0	329	6.0	0.089	0.7	NA	0.1	0.8	0.03	0.06	0.04	50.6

Figure 4.6 2023 PM peak movement summary with development

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street PM peak with development year 2033 (Site Folder: General)]

Marshall Street and Mill Street PM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h]	HV %	DEMAND FLOWS [Total veh/h]	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh]	[Dist m]	Prop. Que	Effective Stop Rate	Average No. Cycles	Average Speed km/h
South Mill Street														
1	L2	43	4.0	45	4.0	0.077	6.2	LOS A	0.3	2.1	0.33	0.61	0.33	50.3
3	R2	33	10.0	35	10.0	0.077	7.7	LOS A	0.3	2.1	0.33	0.61	0.33	49.7
Approach		76	6.6	80	6.6	0.077	6.9	LOS A	0.3	2.1	0.33	0.61	0.33	50.0
East: Marshall Street (East)														
4	L2	25	4.0	26	4.0	0.118	5.6	LOS A	0.0	0.0	0.00	0.07	0.06	56.2
5	T1	183	9.0	193	9.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.07	0.06	59.3
Approach		208	8.4	219	8.4	0.118	0.7	NA	0.0	0.0	0.00	0.07	0.06	59.0
West: Marshall Street (West)														
11	T1	171	8.4	180	8.4	0.122	0.2	LOS A	0.3	2.0	0.13	0.16	0.13	58.5
12	R2	34	5.0	36	5.0	0.122	6.4	LOS A	0.3	2.0	0.13	0.16	0.13	54.9
Approach		205	7.8	216	7.8	0.122	1.2	NA	0.3	2.0	0.13	0.16	0.13	58.0
All Vehicles		489	7.9	515	7.9	0.122	1.9	NA	0.3	2.1	0.11	0.17	0.11	57.5

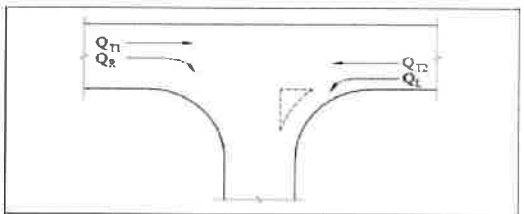
Figure 4.7 2033 PM peak movement summary with development

As observed in Figure 4.6 and Figure 4.7 above the Level of Service A (LoS) for the intersection post development. Based on the insignificant traffic increase, SIDRA analysis demonstrates that the traffic from subject site does not affect the serviceability of the local road network.

4.4 Turn Warrant

Turn warrants have been developed in relation to safety. The warrants have been developed around the relationship between traffic volumes, speed environments and accident statistics, employing a Benefit Cost Ratio (BCR) across an assumed design life.

Figure 4A-2 - Calculation of the major road traffic volume parameter 'Q_M'



Road Type	Turn Type	Splitter Island	Q_M (veh/h)
2 Lane 2 Way	Right	No	$= Q_{T1} + Q_{T2} + Q_L$
		Yes	$= Q_{T1} + Q_{T2}$
	Left	Yes/No	$= Q_{T2}$
4 Lane 2 Way	Right	No	$= 50\% \times Q_{T1} + Q_{T2} + Q_L$
		Yes	$= 50\% \times Q_{T1} + Q_{T2}$
	Left	Yes/No	$= 50\% \times Q_{T2}$

Figure 4.8 Turn Warrants Qm Traffic Flow Calculation

The warrants are based on the construction of intersections on new roads. For existing intersections, Marshall Street and Mill Street intersection is used as reference point, however, are not strictly applied as the BCRs in established locations often do not support upgrades, due to the existing physical constraints (e.g. services, road reserve, drainage structures, etc). A summary of turn treatments is provided in Table 4.4.

Table 4.4 Turn Lane Descriptions

Turn Treatment	Description
BAL	Basic Left Turn Lane
CHL	Channelised Left Turn Lane
AUL (s)	Shortened Auxiliary Left Turn Lane
AUL	Full Length Auxiliary Left Turn Lane
BAR	Basic Right Turn Lane
CHR (s)	Shortened Channelised Right Turn Lane
CHR	Channelised Right Turn Lane

Turn Warrant assessment is based on Department of Transport and Main Roads (DTMR) Road Planning and Design Manual Edition 2: Volume 3 Supplement to Austroads Guide to Road Design Part 4A: Unsignalised Intersections August 2014. Table 4.5 shows the calculation of the major road traffic volume parameters 'Qm' and turning warrants assessment based on Figure 4A -1 Warrants – major road turn treatments – normal design domain from the DTMR - RPDM.

An estimate of the peak hour traffic passing the site is shown in the following Table 4.5:

Table 4.5 Site Access Trips Peak Hours (Left Turn)

Traffic Volume	AM peak hour	PM peak hour
Q_{T1} (northbound)	0	0
Q_{T2} (southbound)	147	185
Q_L (from south)	11	25
Q_R (from north)	0	0

Turn Type	AM peak Hour			PM peak Hour		
	Q_M	Turning Volume	Turning Warrant.	Q_M	Turning Volume	Turning Warrant.
Left	147	Q_L = 11	BAL	185	Q_L = 25	BAL
Right	N/A					

Table 4.6 shows Traffic Volume adopted for the calculation of Qm and the turning warrants based on Figure 4.9 as extracted from the DTMR – RPDM.

Table 4.6 Site Development Trips Peak Hours

Turn Type	AM peak Hour			PM peak Hour		
	Q_M	Turning Volume	Turning Warrant.	Q_M	Turning Volume	Turning Warrant.
Left	147	Q_L = 11	BAL	185	Q_L = 25	BAL
Right	N/A					

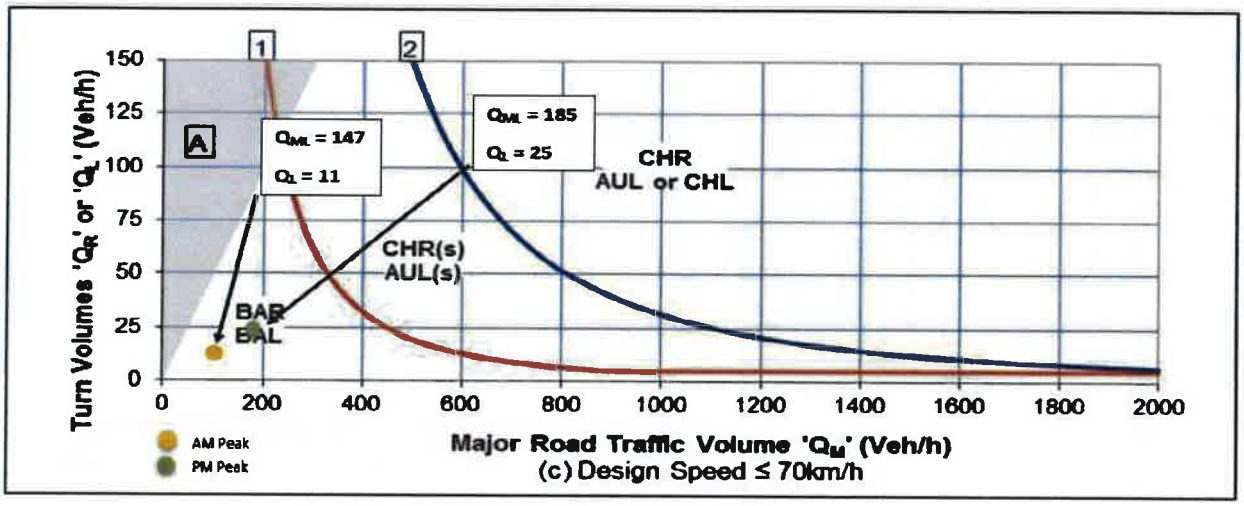


Figure 4.9 Left Turn Warrant Assessment

An estimate of the peak hour traffic passing the site for Right Turn is shown in the following Table 4.7.

Table 4.7 Site Access Trips Peak Hours (Right Turn)

Traffic Volume	AM peak hour	PM peak hour
Q_{T1} (northbound)	134	177
Q_{T2} (southbound)	147	183
Q_L (from south)	11	25
Q_R (from north)	11	34

Table 4.7 shows Traffic Volume adopted for the calculation of Qm for Right Turn and the turning warrants based on Figure 3.3 as extracted from the DTMR – RPDM.

Table 4.8 Site Development Trips Peak Hours

Turn Type	AM peak Hour			PM peak Hour		
	$Q_{T1} + Q_{T2} + Q_L = Q_M$	Turning Volume	Turning Warrant.	$Q_{T1} + Q_{T2} + Q_L = Q_M$	Turning Volume	Turning Warrant.
Right	134 + 147+ 11 = 292	Q_R = 11	BAL	177 + 183 + 25 = 385	Q_R = 34	BAL

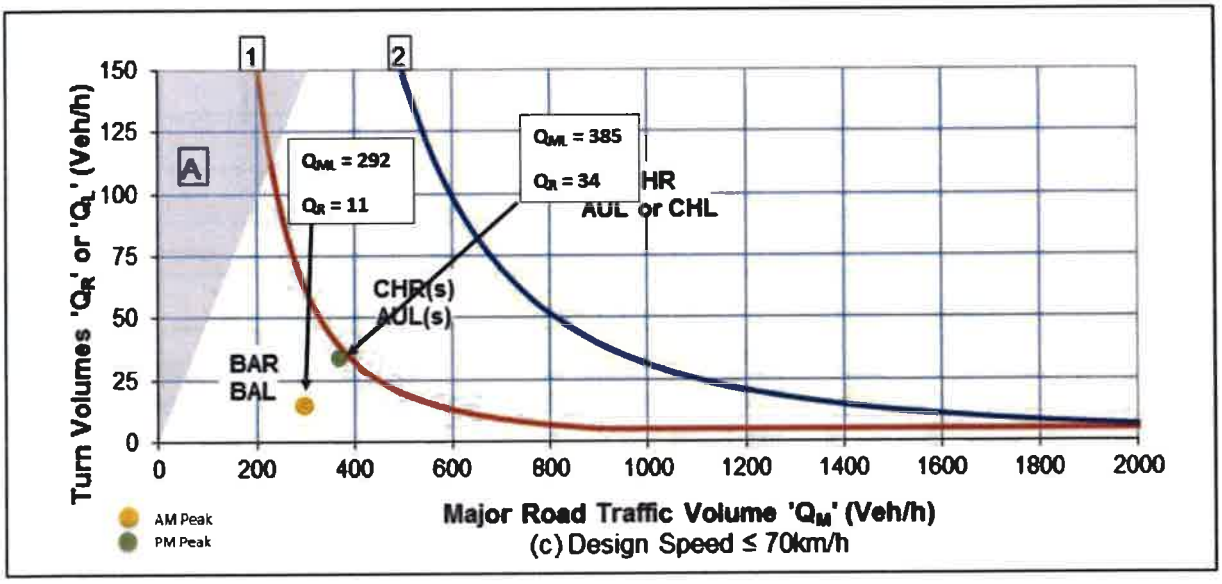


Figure 4.10 Right Turn Warrant Assessment

As demonstrated, due to the addition of development trips, a CHR(s) turning treatment for the right lane is warranted at the intersection. The volume of the BAL Left Turn is not required as the volume of traffic making Left Turn is very low.

5. Conclusions

EPO Development Pty Ltd has engaged Burchills Engineering Solutions to prepare a Traffic Impact Assessment Report (TIA) to be considered as part of a Development Application for a fast-food development located at 2 Mill Street, Goondiwindi (Lots 1 on RP850853).

The proposed means of ingress to or egress from the development are adequate and located appropriately according to the road hierarchy. The development provides for a safe and convenient movement to, from and within the site. The proposed access arrangements do not impede the traffic performance of the existing roads.

The development will incorporate a drive-thru KFC restaurant with site access points from Mill Street. The development will generate up to 100 vehicles per hour during the evening peak hour. Capacity analysis by using SIDRA has been done as part of this Traffic Report Assessment due to the close proximity of the State-controlled Road (Marshall Street) which runs adjacent to the north-east boundary of the subject site. Mill Street is a low-traffic volume road that mainly serves 4 small industrial developments and a motel. The SIDRA analysis for post development shows the intersection level of service as A and both left and right turns with the development traffic are not warranted as the traffic volume are low.

HRV vehicles manoeuvre the site satisfactorily. Swept path for Lane 2 shows that the combination of the Drive-Thru Lane and loading bay can be easily managed and doesn't not affect the traffic movement in Lane 1 of the Drive-Thru or the access aisle.

The subject site provides 6 additional parking spaces and a wide access aisle to allow faster and safer traffic movement, site is well accessible via the pedestrian network on Marshall Street.

6. References

Australian / New Zealand Standard 2004, Parking Facilities Part 1: *Off-Street Car Parking*, Standards Australia, Sydney.

Standards Australia 2002, AS 2890.2 Parking Facilities Part 2: *Off-Street Commercial Vehicle*.

Department of Main Roads 2004, Road Planning and Design Manual Chapter 5: *Traffic Parameters and Human Factors*, Queensland Government, Brisbane.

Department of Main Roads 2005, Road Planning and Design Manual Chapter 3: *Road Planning and Design Fundamentals*, Queensland Government, Brisbane.

Department of Main Roads 2006, Road Planning and Design Manual: Supplement to Austroads Guide to Road Design Part 4A: *Unsignalised and Signalised Intersections*.

Department of Main Roads 2006, *Guidelines for Assessment of Road Impacts of Development*, Queensland Government, Brisbane.

Roads and Traffic Authority (RTA) 2002, *Guide to Traffic Generating Developments*, Roads and Traffic Authority, Sydney.

Austroads 2009, Guide to Road Design – Part 4A: *Unsignalised and Signalised Intersections*, Austroads Incorporated, Sydney.

Appendix A – Site Layout

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

ARCHITECTURAL DRAWINGS

PROPOSED KFC RESTAURANT

2 MILL STREET, GOONDIWINDI QLD 4390

LOCATION MAP

3D PERSPECTIVE
3D PERSPECTIVES FOR ILLUSTRATION ONLY

DEVELOPMENT APPLICATION DRAWINGS	
DRG No.	DRAWING TITLE
DA00	COVER PAGE
DA01	PROP. SITE PLAN
DA02	PROP. FLOOR PLAN
DA03	BUILDING ELEVATIONS & PERSPECTIVES
DA04	BUILDING ELEVATIONS & PERSPECTIVES
DA05	PROP. SITE PERSPECTIVES
DA06	PROP. SIGNAGE PLAN
DA07	PROP. SIGNAGE DETAILS
DA08	SUBDIVISION PLAN

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CONSULTING ENGINEER

VERVE
imagine | site | deliver
commercial / industrial / retail
fast food restaurant design
travel centre / service stations
project concept to completion

Revisions and approvals				
Rev	Date	Drn	Description	Appr
P1	11/11/2022	JN	PRELIMINARY ISSUE	
P2	16/11/2022	JN	ISSUE FOR APPROVAL	
P3	12/12/2022	JN	ISSUES FOR APPROVAL	
A	11/04/2023	JN	ISSUE FOR APPROVAL	

Project Description: PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title: COVER PAGE

Scale @A1: | Date: JUL 2022 | Drawn: JN | Approved By: GN

Job Number - Drawing Number: 22092 DA00 | Revision: A

PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

RPD:

LOT 1 & 4 on RP850853
PARISH: GOONDIWINDI
COUNTY: MARSH
COUNCIL: GOONDIWINDI REGIONAL

DEVELOPMENT ASSESSMENT

- OVERALL SITE AREA - 6,544m²
- PROP. LOT 1 - 2,599m²
- PROP. LOT 2 - 3,945m²
  INCLUDES ACCESS EASEMENT
- LANDSCAPED AREA - 4,793m²
- BLDG SITE COVER - 3.5%
  INCLUDES ALL ROOFED AREAS

IMPERVIOUS AREAS

- PRE SITE DEVELOPMENT - 0m²
  (INCLUDES BUILDING ROOFED AREAS)
- POST SITE DEVELOPMENT - 1,751m²
  (INCLUDES BUILDING ROOFED AREAS)

BUILDING AREAS - (GFA)

- T1 FOOD & DRINK - 225m²
  (INCLUDES REFUSE AREA - 10m²)

CAR PARKING

- PARKING REQUIRED - 15
  (TO BE CONFIRMED)
- PARKING PROVIDED - 21

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CONSULTING ENGINEER

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- commercial / industrial / retail
- fast food restaurant design
- travel centre / service stations
- project concept to completion

Revisions and approvals

Rev	Date	Drn	Description	Appr
P1	07.07.2022	JH	PRELIMINARY ISSUE	
P2	08.07.2022	JH	ISSUE FOR APPROVAL	
P3	13.07.2022	JH	ISSUE FOR APPROVAL	
P4	15.08.2022	JH	ISSUE FOR APPROVAL	
A	22.08.2022	JH	ISSUE FOR APPROVAL	
B	22.08.2022	JH	ISSUE FOR APPROVAL	

Project Description: PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title: PROP. SITE PLAN

Scale @A1: 1:250
Drawn: JH
Date: JUL 2022
Approved By: GH

Job Number - Drawing Number: 22092 DA01
Revision: B

PRELIMINARY
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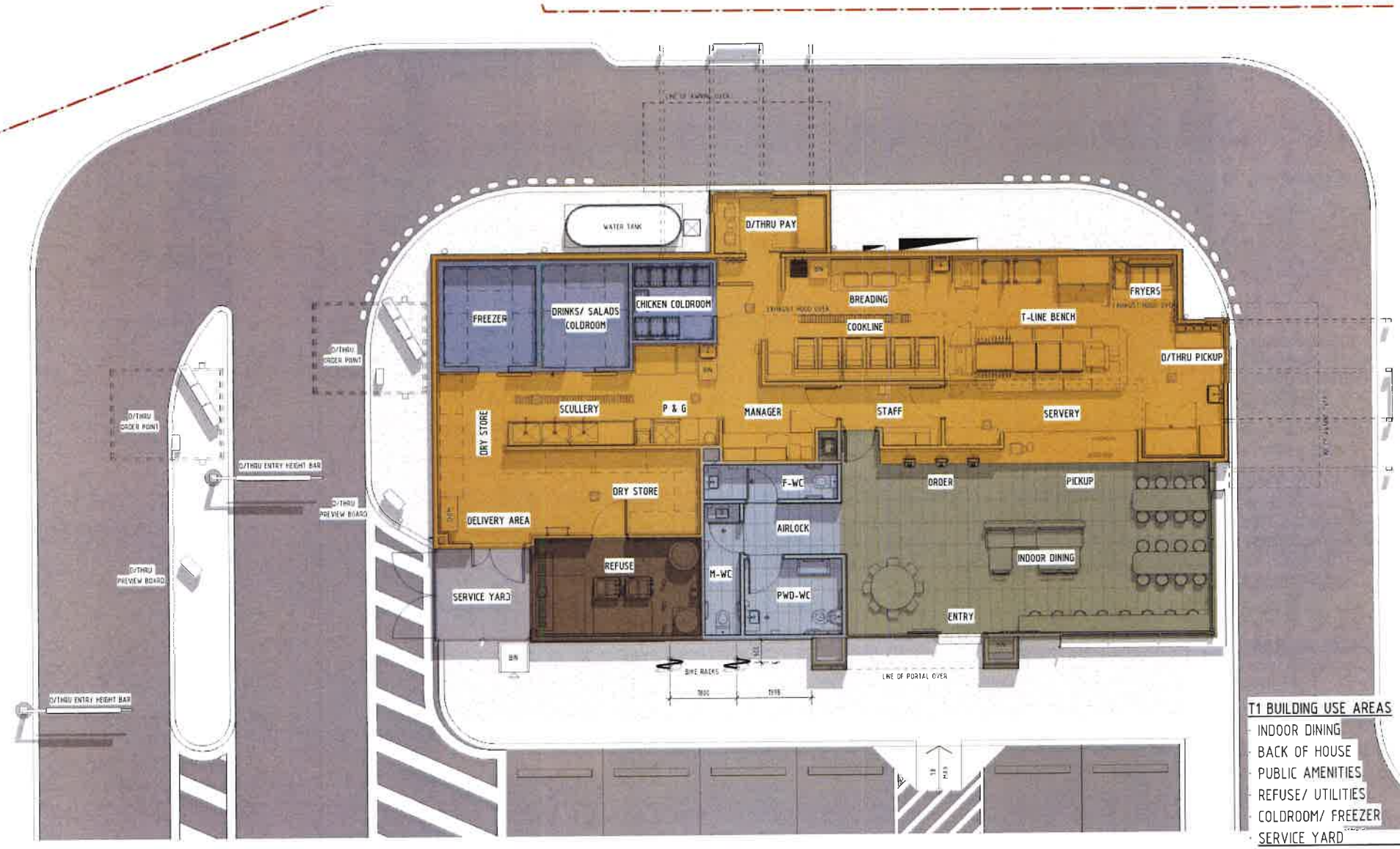

T1 BUILDING USE AREAS

INDOOR DINING	- 50m²
BACK OF HOUSE	- 118m²
PUBLIC AMENITIES	- 18m²
REFUSE/ UTILITIES	- 14m²
COLDROOM/ FREEZER	- 20m²
SERVICE YARD	- 5m²
AREA USE TOTAL	- 225m²

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Revision and approvals			
Rev	Date	Drn	Description
P1	07.07.2022	JM	PRELIMINARY ISSUE
P2	18.07.2022	JM	ISSUE FOR APPROVAL
P3	28.07.2022	JM	ISSUE FOR APPROVAL
P4	03.08.2022	JM	ISSUE FOR APPROVAL
A	03.08.2022	JM	ISSUE FOR APPROVAL

Project Description: PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title: PROP. FLOOR PLAN

Scale @A1: 1:50 | Date: JUL 2022 | Drawn: JM | Approved By: LN

Job Number - Drawing Number: 22092 DA02 | Revision: A

PRELIMINARY
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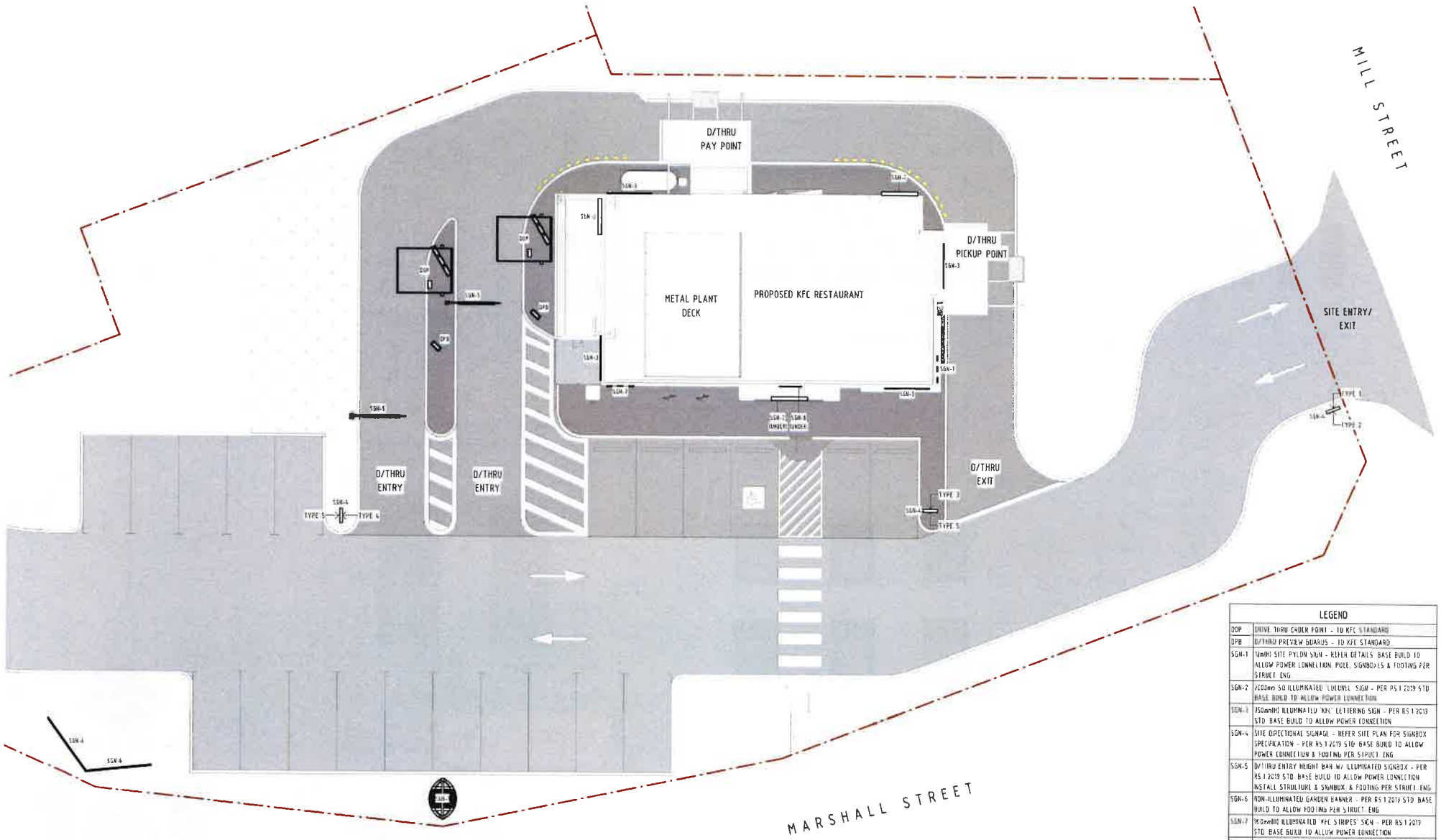

LEGEND	
DOP	DRIVE THRU ORDER POINT - TO KFC STANDARD
DPB	D/THRU PREVIEW BOARDS - TO KFC STANDARD
SGN-1	12mHI SITE PYLON SIGN - REFER DETAILS. BASE BUILD TO ALLOW POWER CONNECTION. POLE, SIGNBOXES & FOOTING PER STRUCT. ENG.
SGN-2	7000mm SQ ILLUMINATED 'LOBSHILL' SIGN - PER RS 1 2019 STD BASE BUILD TO ALLOW POWER CONNECTION
SGN-3	750mmHI ILLUMINATED 'KFC' LETTERING SIGN - PER RS 1 2019 STD. BASE BUILD TO ALLOW POWER CONNECTION
SGN-4	SITE DIRECTIONAL SIGNAGE - REFER SITE PLAN FOR SIGNBOX SPECIFICATION - PER RS 1 2019 STD. BASE BUILD TO ALLOW POWER CONNECTION & FOOTING PER STRUCT. ENG.
SGN-5	D/THRU ENTRY HEIGHT BAR W/ ILLUMINATED SIGNBOX - PER RS 1 2019 STD. BASE BUILD TO ALLOW POWER CONNECTION INSTALL STRUCTURE & SIGNBOX & FOOTING PER STRUCT. ENG.
SGN-6	NON-ILLUMINATED GARDEN BANNER - PER RS 1 2019 STD BASE BUILD TO ALLOW FOOTING PER STRUCT. ENG.
SGN-7	7000mHI ILLUMINATED 'KFC STRIPES' SIGN - PER RS 1 2019 STD. BASE BUILD TO ALLOW POWER CONNECTION
SGN-8	9500mmW x 2550mHI ILLUMINATED 'KENTUCKY FRIED CHICKEN' SIGN - PER RS 1 2019 STD. BASE BUILD TO ALLOW POWER CONNECTION

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CONSULTING ENGINEER

VERVE
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commercial / industrial / retail
fast food restaurant design
travel centre / service stations
project concept to completion

Revision and approvals				
Rev	Date	Drn	Description	Appr
P1	07.07.2022	JM	PRELIMINARY ISSUE	
P2	18.07.2022	JM	ISSUE FOR APPROVAL	
P3	22.07.2022	JM	ISSUE FOR APPROVAL	
A	02.08.2022	JM	ISSUE FOR APPROVAL	

Project Description
PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title
PROP. SIGNAGE PLAN

Scale @ A1: 1:100
Date: JUL 2022
Drawn: JM
Approved By: GM
Job Number - Drawing Number: 22092 DA06
Revision: A

PRELIMINARY
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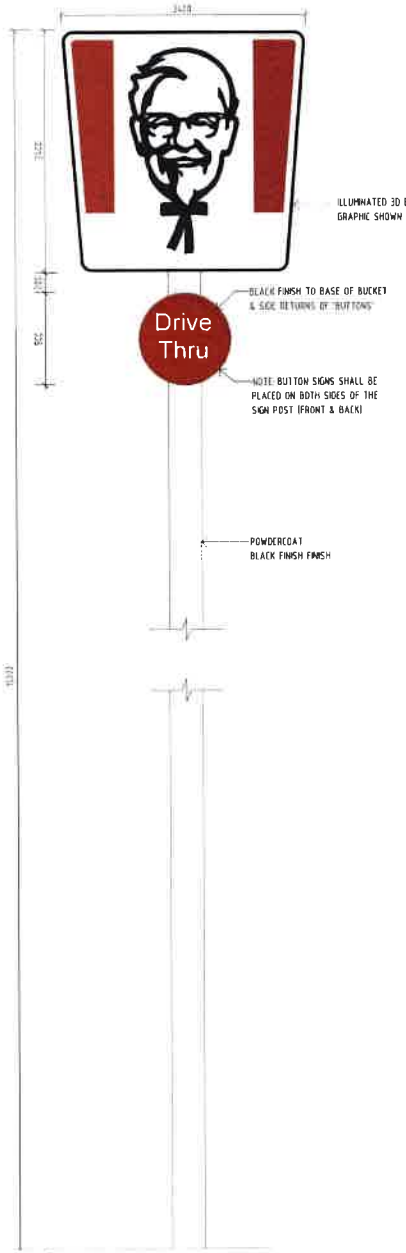

SGN-1. PYLON SIGN - BUCKET ILLUMINATED
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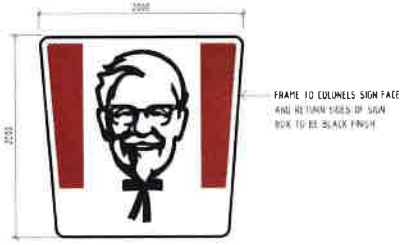
1 OFF



SGN-2. COLONEL SIGN - ILLUMINATED
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SGN-3. KFC LETTERING SIGN - ILLUMINATED WHITE
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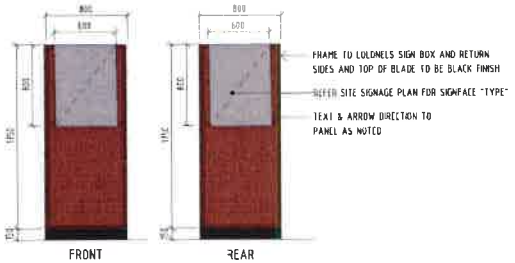

SGN-4. DIRECTIONAL SIGN
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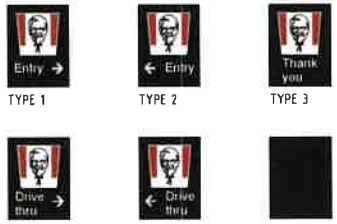
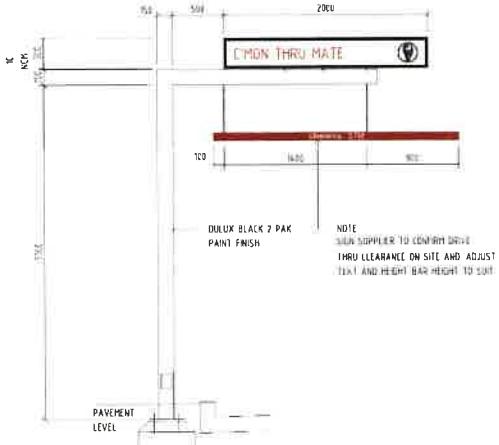


TYPE 1 TYPE 2 TYPE 3
TYPE 4 TYPE 5 TYPE 6 (BLANK)



SGN-5. HEIGHT BAR - ILLUMINATED SIGN PANEL
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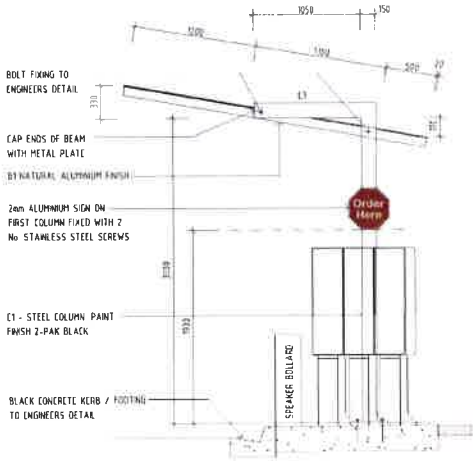
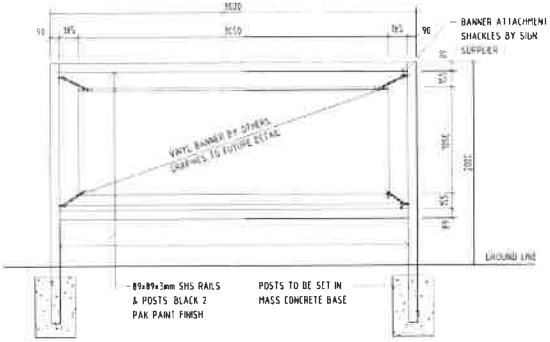
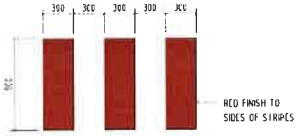
2 OFF



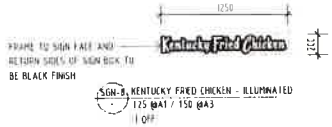
DOP - DRIVE THRU ORDER POINT
125 @A1 / 150 @A3
2 OFF



SGN-6. GARDEN BANNER
125 @A1 / 150 @A3
2 OFF



SGN-7. KFC STRIPES SIGN - ILLUMINATED RED
125 @A1 / 150 @A3
2 OFF



SGN-8. KENTUCKY FRIED CHICKEN - ILLUMINATED
125 @A1 / 150 @A3
1 OFF

VERVE SCHEDULES DISCLAIMER:
1. ALL SCHEDULES SHOULD BE CHECKED WITH THE REMAINDER OF THE DRAWING SET
2. SCHEDULED RATES AND AREAS ARE INTENDED FOR ASSISTANCE ONLY. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF QUANTITIES
3. ANY DISCREPANCIES IN SCHEDULES SHOULD BE IDENTIFIED TO THE AUTHOR NOTED
4. ALL FIGURES ARE GIVEN AREAS, UNLESS NOTED OTHERWISE

CONSULTING ENGINEER

VERVE
imagine to deliver
commercial / industrial / retail
fast food restaurant design
travel centre / service stations
project concept to completion

Revision and approvals

Rev	Date	Drn	Description	App
P1	07/07/2022	JH	PRELIMINARY ISSUE	
P2	18/07/2022	JH	ISSUE FOR APPROVAL	
P3	25/07/2022	JH	ISSUE FOR APPROVAL	
P4	01/08/2022	JH	ISSUE FOR APPROVAL	

Project Description
PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title
PROP. SIGNAGE DETAILS

Scale @A1: 1 : 25
Drawn: JH
Date: JUL 2022
Approved By: GK
Job Number - Drawing Number: 22092 DA07
Revision: A

27 July 2022

COLLINS FOODS LIMITED

ACN 151 420 781 | ABN 13 151 420 781

PO Box 286 Lutwyche QLD 4030
Level 3, KSD1, 485 Kingsford Smith Drive
Hamilton QLD 4007 Australia
T +61 7 3352 0800 | F +61 7 3352 0894

KFC Goondiwindi – 2 Mill Street, Goondiwindi
Combo Drive Thru / Loading Bay Statement

To whom it may concern,

I am writing to you about the proposed KFC restaurant at 2 Mill Street, Goondiwindi. We intend to operate this store with a combined loading bay and second drive thru lane. We have experience operating this configuration on a number of other stores throughout our portfolio, the most recent store being KFC Bundamba opening on 21 December 2021.

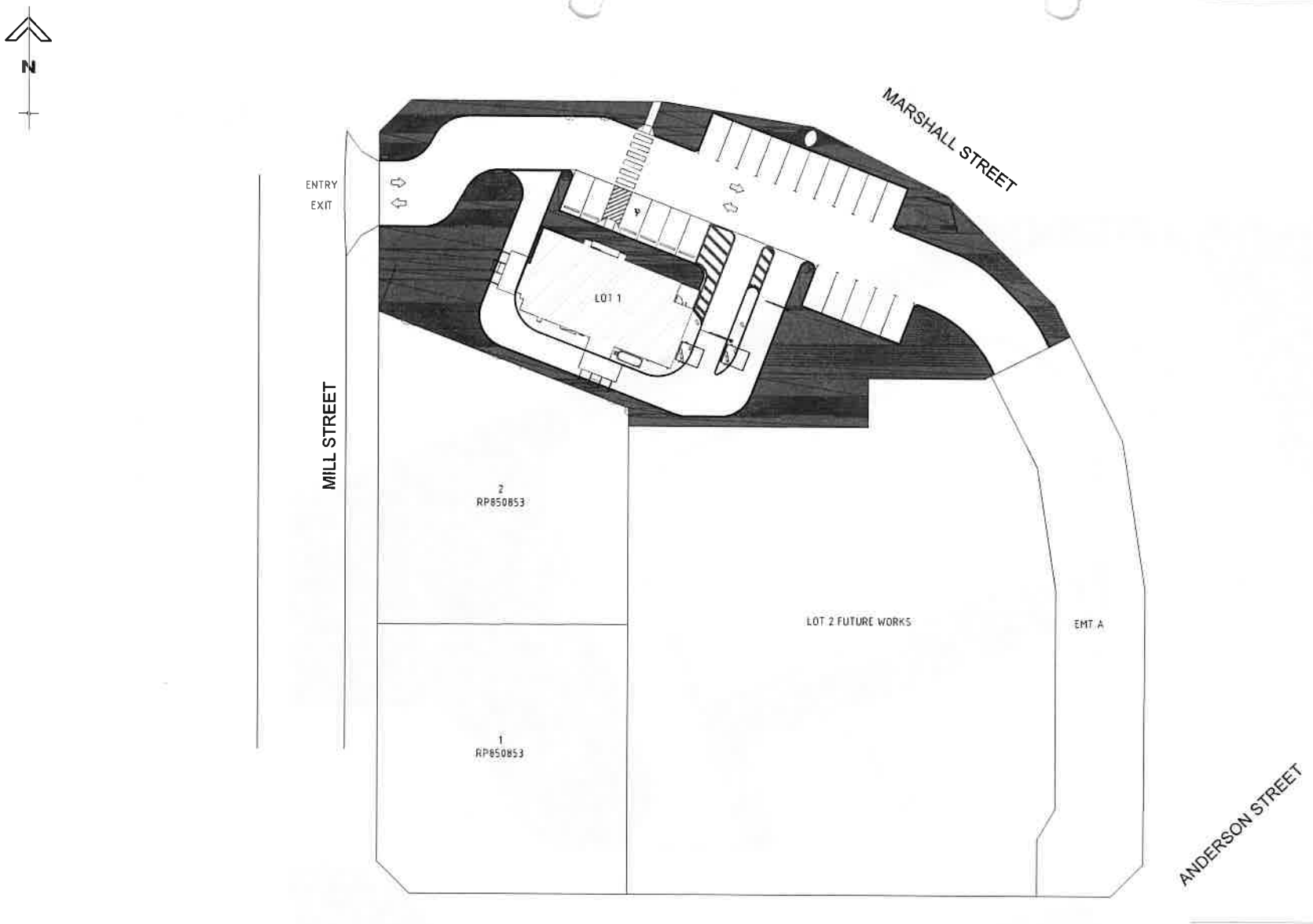
Typically, deliveries are completed outside of operational hours, prior to our 10am open. Staff will use traffic cones to close the lane prior to delivery. The traffic cones are not removed until the delivery is complete, and the lane can then be re-opened to customers. We have found this arrangement to work well, enabling us the efficiency of operating a second drive thru lane in peak times but still have a dedicated lane acting as a loading bay out of operational hours.

Yours faithfully,

R. McKnight

Ryan McKnight
QLD / NT Development Manager

Appendix B – Swept paths analysis



NOTE:
LAYOUT SHOWN IS FOR INFORMATION PURPOSES ONLY- LAYOUT IS SUBJECT TO TRAFFIC ASSESSMENT, SURVEY AND APPROVALS FROM COUNCIL AND OTHER REGULATORY BODIES

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

Prepared for: EPO DEVELOPMENTS

KFC - 2 MILL STREET, GOONDIWINDI
PROPOSED DEVELOPMENT LAYOUT

SCALE 5 0 5 10 (metres)
1 250 (FULL SIZE)

BE220369-SK01

Designer: CARL KRUGER
Checked: DALE KLEIMEYER
Date: 11-08-2022

BURCHILLS ENGINEERING SOLUTIONS
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Phone +61 7 5509 6400
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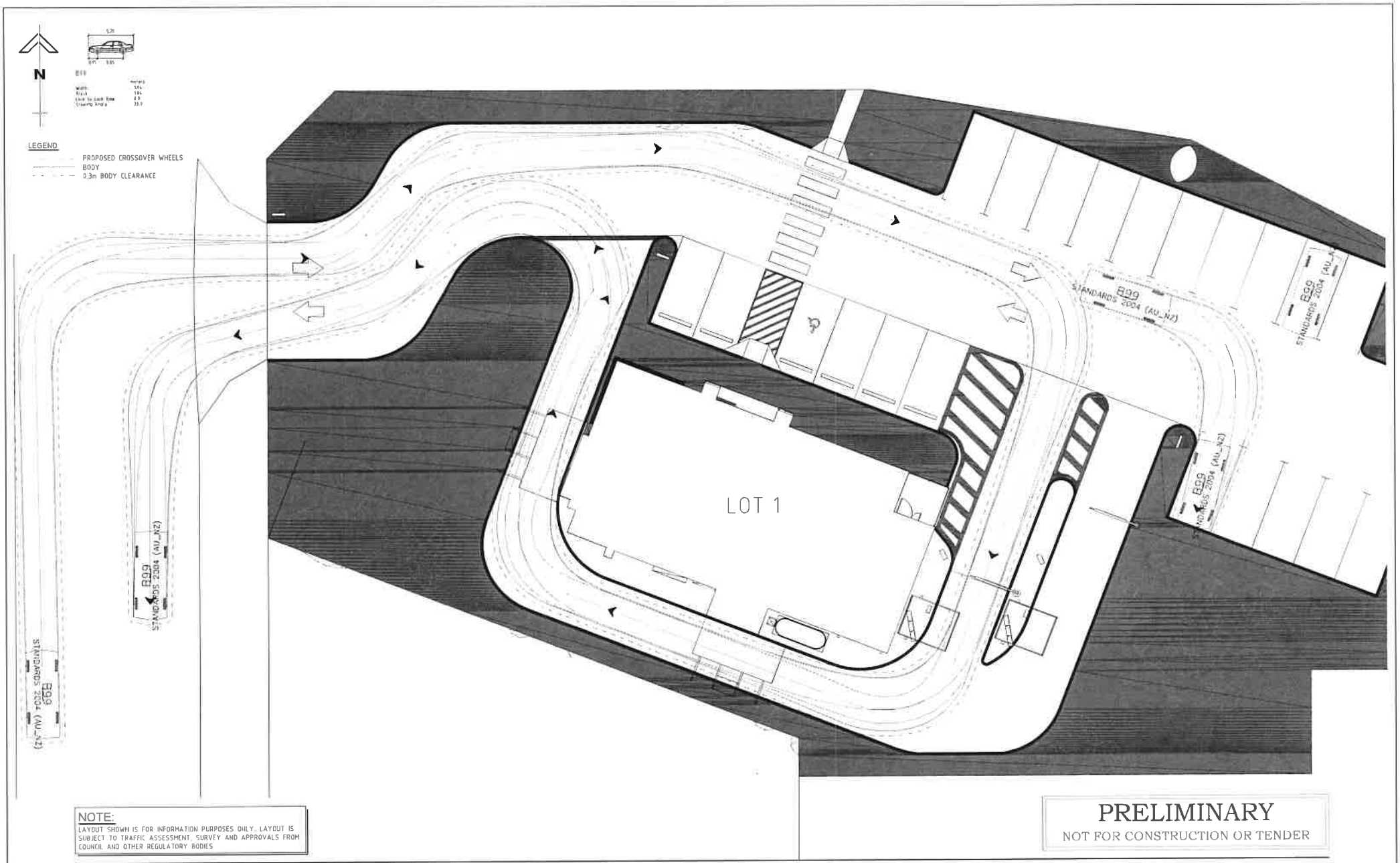
Email admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365



NOTE:
LAYOUT SHOWN IS FOR INFORMATION PURPOSES ONLY. LAYOUT IS SUBJECT TO TRAFFIC ASSESSMENT, SURVEY AND APPROVALS FROM COUNCIL AND OTHER REGULATORY BODIES

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

Prepared for: EPO DEVELOPMENTS

KFC - 2 MILL STREET, GOONDIWINDI
PROPOSED DEVELOPMENT LAYOUT - B99 SWEPTPATH

SCALE 1 0 1 2 3 4 5 1 100 (FULL SIZE) (metres)

BE220369-SK02

Designer: CARL KRUGER
Checked: DALE KLEIMEYER
Date: 11-08-2022

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Gold Coast | Brisbane | Toowoomba
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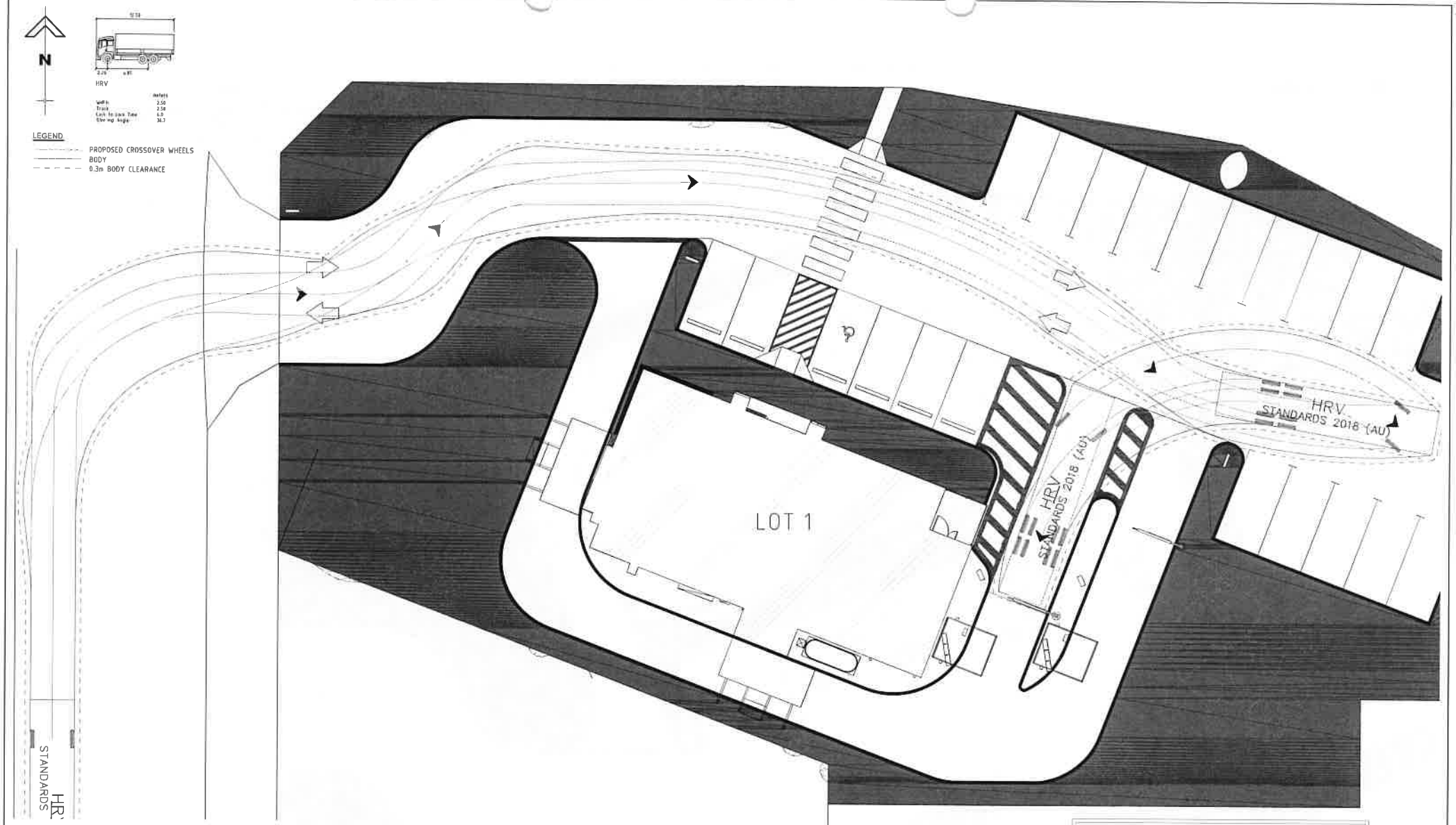
Fax +61 7 5508 6411
Email admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 842 365



NOTE:
LAYOUT SHOWN IS FOR INFORMATION PURPOSES ONLY. LAYOUT IS SUBJECT TO TRAFFIC ASSESSMENT, SURVEY AND APPROVALS FROM COUNCIL AND OTHER REGULATORY BODIES

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

Prepared for: EPO DEVELOPMENTS

KFC - 2 MILL STREET, GOONDIWINDI
PROPOSED DEVELOPMENT LAYOUT - HRV SWEPTPATH

SCALE 1 0 1 2 3 4 5 (metres)
1 100 (FULL SIZE)

BE220369-SK05

Designer: CARL KRUGER
Checked: DALE KLEIMEYER
Date: 11-08-2022

BURCHILLS ENGINEERING SOLUTIONS
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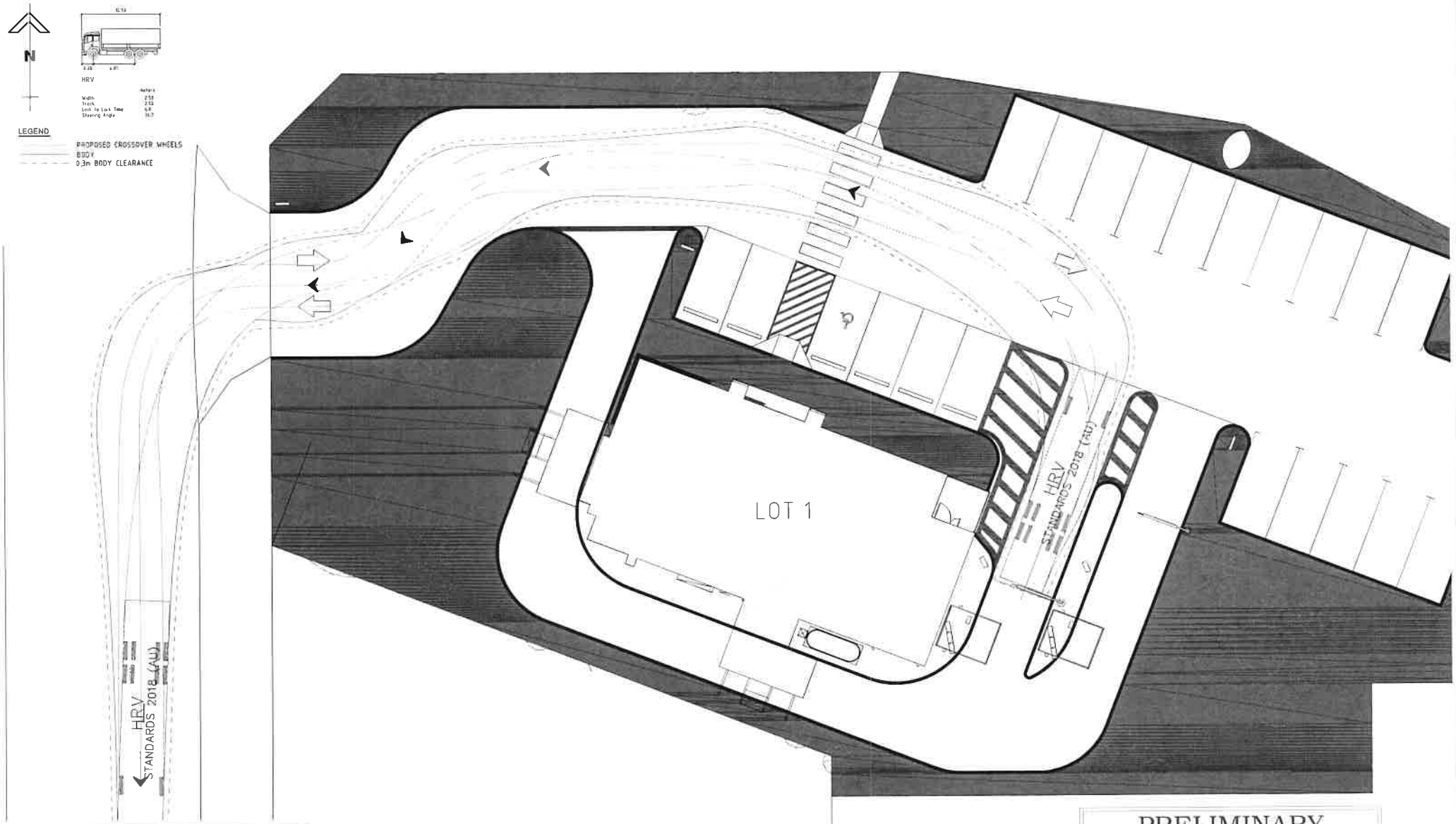
Ipswich | Moreton Bay
Phone +61 7 5509 6400
Fax +61 7 5508 6411
Email admin@burchills.com.au
Coota Burchills Engineering Pty Ltd
ABN 76 166 942 365



NOTE:
LAYOUT SHOWN IS FOR INFORMATION PURPOSES ONLY. LAYOUT IS SUBJECT TO TRAFFIC ASSESSMENT, SURVEY AND APPROVALS FROM COUNCIL AND OTHER REGULATORY BODIES

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

Prepared for: EPO DEVELOPMENTS

KFC - 2 MILL STREET, GOONDIWINDI
PROPOSED DEVELOPMENT LAYOUT - HRV SWEPTPATH

SCALE 1 0 1 2 3 4 5 (metres)
1 100 (FULL SIZE)

BE220369-SK06

Designer: CARL KRUGER
Checked: DALE KLEIMEYER
Date: 11-08-2022

BURCHILLS
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Coote Burchills Engineering Pty Ltd
ABN 76 166 842 365

Appendix C – Sidra Analysis

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street AM peak (Site Folder: General)]

Marshall Street and Mill Street AM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	4	3.0	4	3.0	0.007	5.9	LOS A	0.0	0.2	0.24	0.55	0.24	50.7
3	R2	4	10.0	4	10.0	0.007	6.6	LOS A	0.0	0.2	0.24	0.55	0.24	50.0
Approach		8	6.5	8	6.5	0.007	6.3	LOS A	0.0	0.2	0.24	0.55	0.24	50.4
East: Marshall Street (East)														
4	L2	9	4.0	9	4.0	0.071	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.6
5	T1	117	9.0	123	9.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach		126	8.6	133	8.6	0.071	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Marshall Street (West)														
11	T1	110	3.0	116	3.0	0.066	0.0	LOS A	0.1	0.5	0.05	0.05	0.05	59.4
12	R2	9	5.0	9	5.0	0.066	6.0	LOS A	0.1	0.5	0.05	0.05	0.05	55.9
Approach		119	3.2	125	3.2	0.066	0.5	NA	0.1	0.5	0.05	0.05	0.05	59.2
All Vehicles		**253**	**6.0**	**266**	**6.0**	**0.071**	**0.6**	**NA**	**0.1**	**0.5**	**0.03**	**0.06**	**0.03**	**59.0**

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street PM peak (Site Folder: General)]

Marshall Street and Mill Street PM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	10	4.0	11	4.0	0.019	6.1	LOS A	0.1	0.5	0.28	0.57	0.28	50.5
3	R2	10	10.0	11	10.0	0.019	6.9	LOS A	0.1	0.5	0.28	0.57	0.28	49.9
Approach		20	7.0	21	7.0	0.019	6.5	LOS A	0.1	0.5	0.28	0.57	0.28	50.2
East: Marshall Street (East)														
4	L2	3	4.0	3	4.0	0.087	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	56.9
5	T1	150	9.0	158	9.0	0.087	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.8
Approach		153	8.9	161	8.9	0.087	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.8
West: Marshall Street (West)														
11	T1	140	8.4	147	8.4	0.081	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.8
12	R2	3	5.0	3	5.0	0.081	6.1	LOS A	0.0	0.2	0.01	0.01	0.01	56.4
Approach		143	8.3	151	8.3	0.081	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
All Vehicles		316	8.5	333	8.5	0.087	0.5	NA	0.1	0.5	0.02	0.05	0.02	59.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street AM peak year 2023 (Site Folder: General)]

Marshall Street and Mill Street AM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	4	3.0	4	3.0	0.006	5.9	LOS A	0.0	0.2	0.23	0.54	0.23	50.7
3	R2	3	10.0	3	10.0	0.006	6.6	LOS A	0.0	0.2	0.23	0.54	0.23	50.1
Approach		7	6.0	7	6.0	0.006	6.2	LOS A	0.0	0.2	0.23	0.54	0.23	50.4
East: Marshall Street (East)														
4	L2	9	4.0	9	4.0	0.071	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.6
5	T1	117	9.0	123	9.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach		126	8.6	133	8.6	0.071	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Marshall Street (West)														
11	T1	110	3.0	116	3.0	0.066	0.0	LOS A	0.1	0.5	0.05	0.05	0.05	59.4
12	R2	9	5.0	9	5.0	0.066	6.0	LOS A	0.1	0.5	0.05	0.05	0.05	55.9
Approach		119	3.2	125	3.2	0.066	0.5	NA	0.1	0.5	0.05	0.05	0.05	59.2
All Vehicles		**252**	**6.0**	**265**	**6.0**	**0.071**	**0.6**	**NA**	**0.1**	**0.5**	**0.03**	**0.06**	**0.03**	**59.1**

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street PM peak year 2023 (Site Folder: General)]

Marshall Street and Mill Street PM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	9	4.0	9	4.0	0.017	6.1	LOS A	0.1	0.4	0.28	0.57	0.28	50.5
3	R2	9	10.0	9	10.0	0.017	6.9	LOS A	0.1	0.4	0.28	0.57	0.28	49.9
Approach		18	7.0	19	7.0	0.017	6.5	LOS A	0.1	0.4	0.28	0.57	0.28	50.2
East: Marshall Street (East)														
4	L2	4	4.0	4	4.0	0.087	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	56.9
5	T1	150	9.0	158	9.0	0.087	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		154	8.9	162	8.9	0.087	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
West: Marshall Street (West)														
11	T1	140	8.4	147	8.4	0.081	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.8
12	R2	3	5.0	3	5.0	0.081	6.1	LOS A	0.0	0.2	0.01	0.01	0.01	56.4
Approach		143	8.3	151	8.3	0.081	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
All Vehicles		315	8.5	332	8.5	0.087	0.5	NA	0.1	0.4	0.02	0.05	0.02	59.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street AM peak year 2033 (Site Folder: General)]

Marshall Street and Mill Street AM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	5	3.0	5	3.0	0.010	6.0	LOS A	0.0	0.2	0.27	0.56	0.27	50.5
3	R2	5	10.0	5	10.0	0.010	6.9	LOS A	0.0	0.2	0.27	0.56	0.27	49.9
Approach		10	6.5	11	6.5	0.010	6.5	LOS A	0.0	0.2	0.27	0.56	0.27	50.2
East: Marshall Street (East)														
4	L2	11	4.0	12	4.0	0.089	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.6
5	T1	147	9.0	155	9.0	0.089	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach		158	8.7	166	8.7	0.089	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Marshall Street (West)														
11	T1	134	3.0	141	3.0	0.081	0.1	LOS A	0.1	0.6	0.05	0.05	0.05	59.4
12	R2	11	5.0	12	5.0	0.081	6.2	LOS A	0.1	0.6	0.05	0.05	0.05	55.9
Approach		145	3.2	153	3.2	0.081	0.5	NA	0.1	0.6	0.05	0.05	0.05	59.2
All Vehicles		**313**	**6.0**	**329**	**6.0**	**0.089**	**0.7**	**NA**	**0.1**	**0.6**	**0.03**	**0.06**	**0.03**	**59.0**

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street PM peak year 2033 (Site Folder: General)]

Marshall Street and Mill Street PM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	11	4.0	12	4.0	0.022	6.2	LOS A	0.1	0.6	0.32	0.58	0.32	50.3
3	R2	11	10.0	12	10.0	0.022	7.3	LOS A	0.1	0.6	0.32	0.58	0.32	49.8
Approach		22	7.0	23	7.0	0.022	6.8	LOS A	0.1	0.6	0.32	0.58	0.32	50.0
East: Marshall Street (East)														
4	L2	5	4.0	5	4.0	0.106	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	56.9
5	T1	183	9.0	193	9.0	0.106	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		188	8.9	198	8.9	0.106	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
West: Marshall Street (West)														
11	T1	171	8.4	180	8.4	0.099	0.0	LOS A	0.0	0.2	0.02	0.01	0.02	59.8
12	R2	4	5.0	4	5.0	0.099	6.3	LOS A	0.0	0.2	0.02	0.01	0.02	56.4
Approach		175	8.3	184	8.3	0.099	0.2	NA	0.0	0.2	0.02	0.01	0.02	59.7
All Vehicles		**385**	**8.5**	**405**	**8.5**	**0.106**	**0.5**	**NA**	**0.1**	**0.6**	**0.03**	**0.05**	**0.03**	**59.2**

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▽ Site: 101 [Marshall Street and Mill Street AM peak with development year 2023 (Site Folder: General)]

Marshall Street and Mill Street AM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	4	3.0	4	3.0	0.007	5.9	LOS A	0.0	0.2	0.24	0.55	0.24	50.7
3	R2	4	10.0	4	10.0	0.007	6.6	LOS A	0.0	0.2	0.24	0.55	0.24	50.0
Approach		8	6.5	8	6.5	0.007	6.3	LOS A	0.0	0.2	0.24	0.55	0.24	50.4
East: Marshall Street (East)														
4	L2	9	4.0	9	4.0	0.071	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.6
5	T1	117	9.0	123	9.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach		126	8.6	133	8.6	0.071	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Marshall Street (West)														
11	T1	110	3.0	116	3.0	0.066	0.0	LOS A	0.1	0.5	0.05	0.05	0.05	59.4
12	R2	9	5.0	9	5.0	0.066	6.0	LOS A	0.1	0.5	0.05	0.05	0.05	55.9
Approach		119	3.2	125	3.2	0.066	0.5	NA	0.1	0.5	0.05	0.05	0.05	59.2
All Vehicles		**253**	**6.0**	**266**	**6.0**	**0.071**	**0.6**	**NA**	**0.1**	**0.5**	**0.03**	**0.06**	**0.03**	**59.0**

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street PM peak with development year 2023 (Site Folder: General)]

Marshall Street and Mill Street PM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	40	4.0	42	4.0	0.067	6.1	LOS A	0.2	1.8	0.29	0.59	0.29	50.4
3	R2	30	10.0	32	10.0	0.067	7.2	LOS A	0.2	1.8	0.29	0.59	0.29	49.9
Approach		70	6.6	74	6.6	0.067	6.6	LOS A	0.2	1.8	0.29	0.59	0.29	50.2
East: Marshall Street (East)														
4	L2	23	4.0	24	4.0	0.098	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	56.2
5	T1	150	9.0	158	9.0	0.098	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	59.2
Approach		173	8.3	182	8.3	0.098	0.8	NA	0.0	0.0	0.00	0.08	0.00	58.9
West: Marshall Street (West)														
11	T1	140	8.4	147	8.4	0.102	0.2	LOS A	0.2	1.8	0.13	0.11	0.13	58.4
12	R2	32	5.0	34	5.0	0.102	6.2	LOS A	0.2	1.8	0.13	0.11	0.13	54.7
Approach		172	7.8	181	7.8	0.102	1.3	NA	0.2	1.8	0.13	0.11	0.13	57.9
All Vehicles		**415**	**7.8**	**437**	**7.8**	**0.102**	**2.0**	**NA**	**0.2**	**1.8**	**0.10**	**0.18**	**0.10**	**57.1**

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street AM peak with development year 2033 (Site Folder: General)]

Marshall Street and Mill Street AM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	5	3.0	5	3.0	0.010	6.0	LOS A	0.0	0.2	0.27	0.56	0.27	50.5
3	R2	5	10.0	5	10.0	0.010	6.9	LOS A	0.0	0.2	0.27	0.56	0.27	49.9
Approach		10	6.5	11	6.5	0.010	6.5	LOS A	0.0	0.2	0.27	0.56	0.27	50.2
East: Marshall Street (East)														
4	L2	11	4.0	12	4.0	0.089	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.6
5	T1	147	9.0	155	9.0	0.089	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
Approach		158	8.7	166	8.7	0.089	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.4
West: Marshall Street (West)														
11	T1	134	3.0	141	3.0	0.081	0.1	LOS A	0.1	0.6	0.05	0.05	0.05	59.4
12	R2	11	5.0	12	5.0	0.081	6.2	LOS A	0.1	0.6	0.05	0.05	0.05	55.9
Approach		145	3.2	153	3.2	0.081	0.5	NA	0.1	0.6	0.05	0.05	0.05	59.2
All Vehicles		**313**	**6.0**	**329**	**6.0**	**0.089**	**0.7**	**NA**	**0.1**	**0.6**	**0.03**	**0.06**	**0.03**	**59.0**

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

∇ Site: 101 [Marshall Street and Mill Street PM peak with development year 2033 (Site Folder: General)]

Marshall Street and Mill Street PM peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Mill Street														
1	L2	43	4.0	45	4.0	0.077	6.2	LOS A	0.3	2.1	0.33	0.61	0.33	50.3
3	R2	33	10.0	35	10.0	0.077	7.7	LOS A	0.3	2.1	0.33	0.61	0.33	49.7
Approach		76	6.6	80	6.6	0.077	6.9	LOS A	0.3	2.1	0.33	0.61	0.33	50.0
East: Marshall Street (East)														
4	L2	25	4.0	26	4.0	0.118	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	56.2
5	T1	183	9.0	193	9.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.3
Approach		208	8.4	219	8.4	0.118	0.7	NA	0.0	0.0	0.00	0.07	0.00	59.0
West: Marshall Street (West)														
11	T1	171	8.4	180	8.4	0.122	0.2	LOS A	0.3	2.0	0.13	0.10	0.13	58.5
12	R2	34	5.0	36	5.0	0.122	6.4	LOS A	0.3	2.0	0.13	0.10	0.13	54.9
Approach		205	7.8	216	7.8	0.122	1.2	NA	0.3	2.0	0.13	0.10	0.13	58.0
All Vehicles		**489**	**7.9**	**515**	**7.9**	**0.122**	**1.9**	**NA**	**0.3**	**2.1**	**0.11**	**0.17**	**0.11**	**57.3**

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Traffic Analysis and Reporting System

AADT Segment Report

Area 402 - Darling Downs District Road Section 360 - GOONDIWINDI CONNECTION ROAD

Road Segment from 0.000km to 1.575km Segment Site 50090 Traffic Year 2019 Data Collection Year 2018

TARS

Traffic Analysis and Reporting System

AADT Segment Report

Area 402 - Darling Downs District Road Section 360 - GOONDIWINDI CONNECTION ROAD
Road Segment from 0.000km to 1.575km Segment Site 50090 Traffic Year 2019 Data Collection Year 2018

Site 50090. Point 250000111. At Serpentine Creek.
0.54 km

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

0.00 km
Start Point 250000105. Marshall St @ Goondiwindi roundabout.

1.57 km
End Point 250015421. END - West of McLean St Roundabout @ end of median for Rd 362.

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.

All Vehicles (00)

G	1,851	100%
A	1,983	100%
B	3,834	100%

Light Vehicles (0A)

G	1,666	90.01%
A	1,777	89.61%
B	3,443	89.80%

Heavy Vehicles (0B)

G	184	9.94%
A	207	10.44%
B	391	10.20%

Short Vehicles (1A)

G	1,666	90.01%
A	1,777	89.61%
B	3,443	89.80%

Trucks and Buses (1B)

G	169	9.13%
A	191	9.63%
B	360	9.39%

Articulated Vehicles (1C)

G	15	0.81%
A	15	0.76%
B	30	0.78%

Road Trains (1D)

G	0	0.00%
A	1	0.05%
B	1	0.03%

Short 2-Axle Vehicles (2A)

G	1,596	86.22%
A	1,710	86.23%
B	3,306	86.23%

Short Vehicles Towing (2B)

G	70	3.78%
A	67	3.38%
B	137	3.57%

2-Axle Trucks and Buses (2C)

G	161	8.70%
A	183	9.23%
B	344	8.97%

3-Axle Trucks and Buses (2D)

G	5	0.27%
A	5	0.25%
B	10	0.26%

4-Axle Trucks (2E)

G	3	0.16%
A	3	0.15%
B	6	0.16%

3-Axle Articulated (2F)

G	5	0.27%
A	4	0.20%
B	9	0.23%

4-Axle Articulated (2G)

G	9	0.49%
A	9	0.45%
B	18	0.47%

5-Axle Articulated (2H)

G	0	0%
A	0	0%
B	0	0%

6-Axle Articulated (2I)

G	1	0.05%
A	2	0.10%
B	3	0.08%

B Double (2J)

G	0	0.00%
A	1	0.05%
B	1	0.03%

Double Road Trains (2K)

G	0	0%
A	0	0%
B	0	0%

Triple Road Trains (2L)

G	0	0%
A	0	0%
B	0	0%

Report Notes for AADT Segment Report

AADT Segment Annual Volume Report
Provides summary data for the selected AADT Segment of a Road Section. Summary data is presented as both directional information and a combined bi-directional figure. The data is then broken down by Traffic Class, when available. The report also includes maps displaying the location of both the AADT Segment and the traffic count site.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segments
The State declared road network is broken into Road Sections and then further broken down into AADT Segments. An AADT Segment is a sub-section of the declared road network where traffic volume is similar along the entire AADT Segment.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

AADT Values
AADT values are displayed by direction of travel as:

G Traffic flow in gazettal direction
A Traffic flow against gazettal direction
B Traffic flow in both directions

Data Collection Year
Is the most recent year that data was collected at the data collection site.

Please Note:
Due to location and/or departmental policy, some sites are not counted every year.

Gazettal Direction
Is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

Maps
Display the selected location from a range of viewing levels, the start and end position details for the AADT Segment and the location of the traffic count site.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Segment Site
Is the unique identifier for the traffic count site representing the traffic flow within the AADT Segment.

Site
The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site Description
The description of the physical location of the traffic counting device.

Start and End Point
The unique identifier for the Through Distance along a Road Section.

Vehicle Class
Traffic is categorised as per the Austroads Vehicle Classification scheme. Traffic classes are in the following hierarchical format:

Volume or All Vehicles
00 = 0A + 0B

Light Vehicles
0A = 1A
1A = 2A + 2B

Heavy Vehicles
0B = 1B + 1C + 1D
1B = 2C + 2D + 2E
1C = 2F + 2G + 2H + 2I
1D = 2J + 2K + 2L

The following classes are the categories for which data can be captured:

Volume
00 All vehicles

2-Bin
0A Light vehicles
0B Heavy vehicles

4-Bin
1A Short vehicles
1B Truck or bus
1C Articulated vehicles
1D Road train

12-Bin
2A Short 2 axle vehicles
2B Short vehicles towing
2C 2 axle truck or bus
2D 3 axle truck or bus
2E 4 axle truck
2F 3 axle articulated vehicle
2G 4 axle articulated vehicle
2H 5 axle articulated vehicle
2I 6 axle articulated vehicle
2J B double
2K Double road train
2L Triple road train

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Traffic Analysis and Reporting System

Annual Volume Report

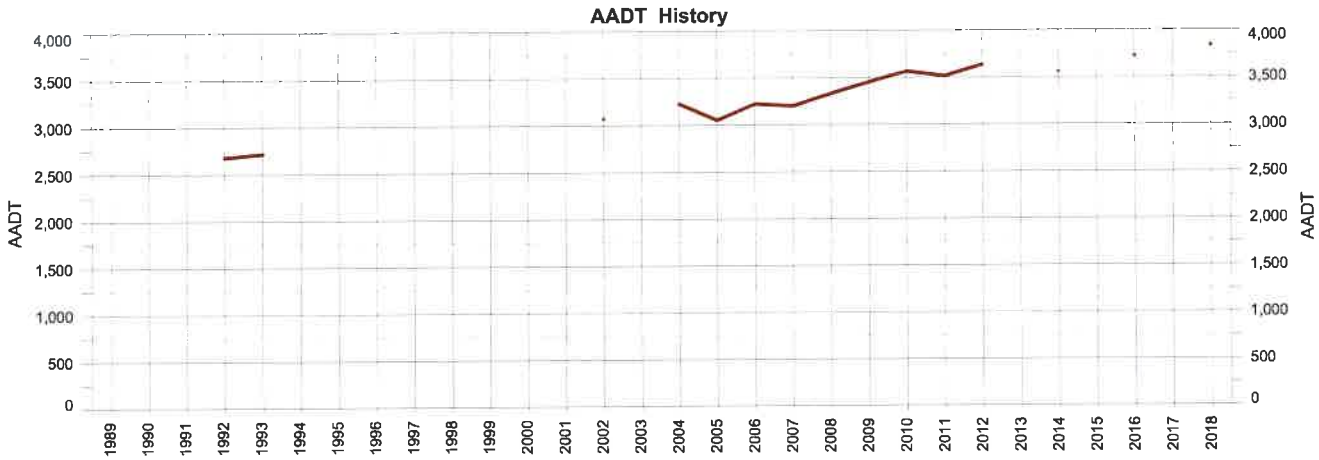
Area 402 - Darling Downs District Road Section 360 - GOONDIWINDI CONNECTION ROAD

Site 50090 - 360-60m East of Pfingst St (Goondiwindi) TDist 0.540km Speed Limit 60

TARS

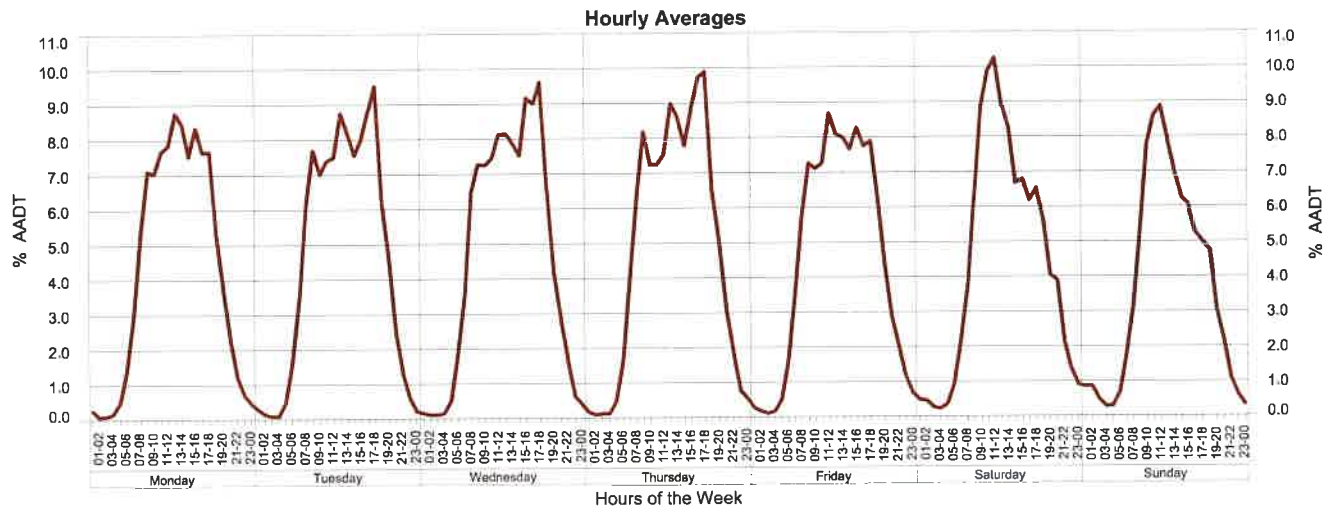
Area	402 - Darling Downs District
Road Section	360 - GOONDIWINDI CONNECTION ROAD
Site	50090 - 360-60m East of Pfingst St (Goondiwindi)
Thru Dist	0.54
Type	C - Coverage
Stream	TB - Bi-directional traffic flow

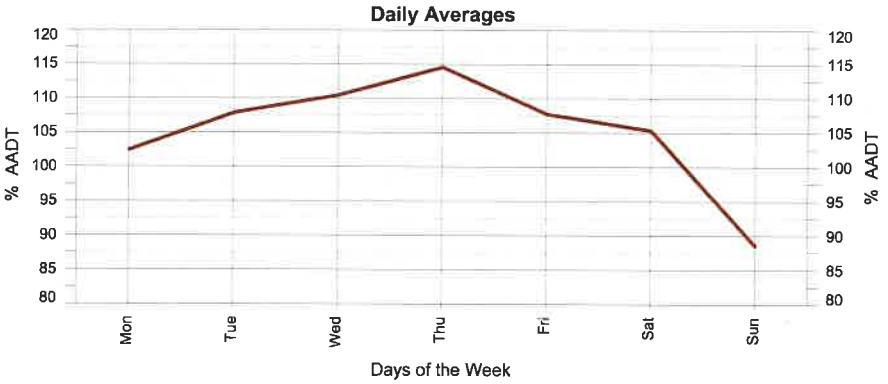
Year	2018	Growth last Year	
AADT	3,834	Growth last 5 Yrs	
Avg Week Day	4,140	Growth last 10 Yrs	1.22%
Avg Weekend Day	3,680		

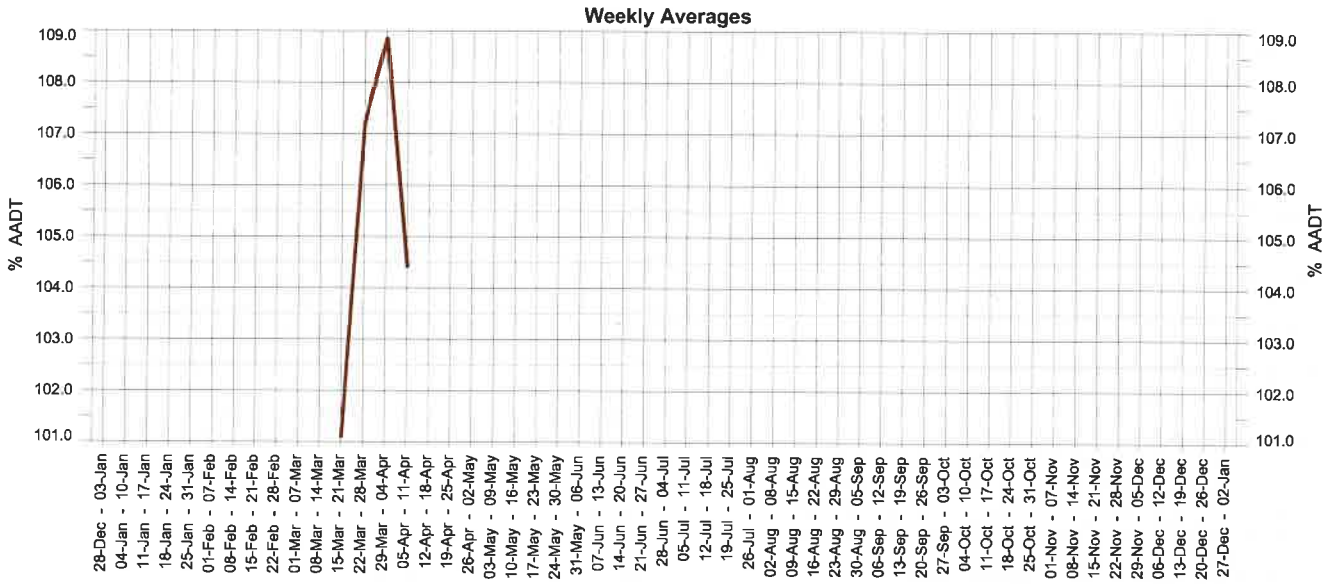


Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2018	3,834			1.22%
2017				
2016	3,720		1.05%	1.32%
2015				
2014	3,558		0.27%	1.16%
2013				
2012	3,632	3.39%	2.21%	1.91%
2011	3,513	-1.40%	1.80%	
2010	3,563	3.28%	3.07%	
2009	3,450	3.54%	2.23%	
2008	3,332	4.12%		
2007	3,200	-0.74%	0.68%	
2006	3,224	5.67%		
2005	3,051	-5.48%		
2004	3,228			

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2003				
2002	3,073			1.39%
2001				
2000				
1999				
1998				
1997				
1996				
1995				
1994				
1993	2,716	1.46%		
1992	2,677			
1991				
1990				
1989				







2018 Calendar

January

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

April

M	T	W	T	F	S	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

May

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

August

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December

M	T	W	T	F	S	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Days on which traffic data was collected.

Report Notes for Annual Volume Report

Annual Volume Report
Displays AADT history with hourly, daily and weekly patterns by Stream in addition to annual data for AADT figures with 1 year, 5 year and 10 year growth rates.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT History
Displays the years when traffic data was collected at this count site.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

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South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Avg Week Day
Average daily traffic volume during the week days, Monday to Friday.

Avg Weekend Day
Average daily traffic volume during the weekend, Saturday and Sunday.

Calendar
Days on which traffic data was collected are highlighted in green.

Gazettal Direction
The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Growth Percentage
Represents the increase or decrease in AADT, using a exponential fit over the previous 1, 5 or 10 year period.

Hour, Day & Week Averages
The amount of traffic on the road network will vary depending on the time of day, the day of the week and the week of the year. The ebb and flow of traffic travelling through a site over a period of time forms a pattern. The Hour, Day and Week Averages are then used in the calculation of AADT.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site
The unique identifier and description of the physical location of a traffic counting device. Sites are located at a Through Distance along a Road Section.

Stream
The lane in which the traffic is travelling in. This report provides data for the combined flow of traffic in both directions.

Thru Dist or TDist
The distance from the beginning of the Road Section, in kilometres.

Type
There are two types of traffic counting sites, Permanent and Coverage. Permanent means the traffic counting device is in place 24/7. Coverage means the traffic counting device is in place for a specified period of time.

Year
Is the current year for the report. Where an AADT Year record is missing a traffic count has not been conducted, for that year.

BURCHILLS
ENGINEERING SOLUTIONS

2 Mill Street, Goondiwindi

Conceptual Stormwater Management Plan

Client: EPO Developments Pty Ltd
Project No: BE220369
Document No: BE220369-RP-CSMP-00

August 2022

GOONDIWINDI REGIONAL COUNCIL
Approved Plan referred to in Council's Decision Notice
Council Reference: 22/32
Dated: 28/10/22
Signed:
Print Name: Carl Manton
(Under Delegation) ASSESSMENT MANAGER

Document Control Record

Prepared by:	Samuel Huddy
Position:	Senior Civil and Water Engineer
Signed:	
Date:	11/08/2022

Approved by:	Rodney Barry
Position:	Principal Civil Engineer RPEQ
Signed:	
Date:	11/08/2022

Version No.	Description	Date	Prepared	Approved
00	Initial Issue	11/08/2022	SH	RB

Recipients are responsible for eliminating all superseded documents in their possession

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Executive Summary

This Conceptual Stormwater Management Plan (CSMP) has been prepared for EPO Developments Pty Ltd in accordance with the Goondiwindi Regional Council Planning Scheme Version 2 (2018), and is to accompany the development application for a Material Change of Use (MCU) at 2 Mill Street, Goondiwindi, properly described as Lots 1 and 4 on RP850853 (the subject site).

This report provides a summary of the mitigation methods required to meet Goondiwindi Regional Council's (GRC) stormwater quality and quantity objectives during the operational and construction phases of the development.

This CSMP has referenced relevant guidelines relating to stormwater management to form the conceptual basis of the stormwater plan. The following conclusions have been made because of this study.

Stormwater Quantity

- As a result of the proposed development, the magnitude of peak runoff from the site has increased, a detention system has been incorporated into the development to limit peak flows to pre-development levels.
- In the existing case, two (2) Lawful Points of Discharge (LPD) have been prescribed for the site, the existing culvert to the north of the development area (LPD A) and the combination of the southern and south-western site boundaries (LPD B).
- In the developed case, flows from the northern catchment will be conveyed to a detention system where they will be released in a controlled manner to ensure that there is non-worsening peak flow at LPD A. The proposed detention system will have a total volume of $67m^3$.
- The proposed stormwater system is to be owned and maintained by the property owner.

Stormwater Quality

- The town of Goondiwindi has a population centre of less than 25,000 and is situated within the Western Queensland Climatic region hence, the development does not trigger the State Planning Policy criterion for stormwater quality management and is considered to be a low-risk development with respect to the quality of stormwater discharge.
- The development will provide some form of stormwater quality treatment through the use of vegetated swales and landscaping, however, no MUSIC modelling has been undertaken to specifically quantify the stormwater quality mitigation.

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Tables

Figures

Appendices

1. Introduction

1.1 Background

This Conceptual Stormwater Management Plan (CSMP) has been prepared for EPO Developments Pty Ltd in accordance with the Goondiwindi Regional Council Planning Scheme Version 2 (2018), and is to accompany the development application for a Material Change of Use (MCU) at 2 Mill Street, Goondiwindi, properly described as Lots 1 and 4 on RP850853 (the subject site).

The subject site is situated within the Goondiwindi Regional Council (GRC) Local Government Area (LGA) and is zoned by the Goondiwindi Regional Council Planning Scheme Version 2 (2018) as 'Centre Zone – Highway Commercial Precinct'.

1.2 Regulatory Requirements and Technical Guidelines

The strategies proposed in this CSMP have been developed to address the requirements of the Goondiwindi Regional Council Planning Scheme Version 2, and have also been prepared in accordance with the following guidelines:

- *State Planning Policy July 2014* (DSPIP, 2014);
- Queensland Urban Drainage Manual (QUDM) Fourth Edition (IPWEAQ, 2017);
- Australian Rainfall & Runoff: A Guide to Flood Estimation (Ball J, 2016);
- Australian Government – Bureau of Meteorology (Bureau of Meteorology, n.d.);
- Urban Stormwater Quality Planning Guidelines 2010 (DERM, 2010); and

1.2.1 State Planning Policy – Water Quality

As outlined in the SPP Appendix 2 – Water Quality, stormwater runoff treatment is not applicable to development areas in the Western Queensland climatic region with population centers less than 25,000 persons. As such no treatment devices (i.e. bioretention or filter cartridge) are proposed for the development. However, the development will provide some form of unquantified stormwater quality treatment through the use of vegetated swales and landscaping.

1.3 Purpose

The main objectives of this CSMP have been established from the criteria set out in the GRC Planning Scheme (2018) and are summarised as follows:

- Stormwater drainage is designed and managed during the construction and operation of development to avoid adverse impacts on surrounding development or compromise the natural health and functioning of adjoining waterway systems.

1.4 Scope

To achieve the above-mentioned objectives, this CSMP details the following:

- Site description including:
  - Topography;
  - Land Use; and
  - Vegetation.
- Stormwater Quantity:
  - Control measures to ensure no net increase in peak discharge from the subject site (up to the 1% Average Exceedance Probability (AEP)).

To minimise the impact of the proposed development on the external environment and to avoid significant and / or sustained deterioration in downstream water quality the proponent shall implement this CSMP. This CSMP may be amended as required, in response to a monitoring and maintenance program.

2. Site Details

2.1 Location

The subject site is located at 2 Mill Street, Goondiwindi which is properly described as Lots 1 and 4 on RP850853 and has a total site area of 0.655 ha. The site is identified by the Goondiwindi Regional Council Planning Scheme Version 2 as being located within a Centre Zone – Highway Commercial Precinct. Figure 2.1 below identifies the location of the subject site.

Figure 2.1 Locality Plan (Courtesy: DAMS)

2.2 Existing Land Uses and Vegetation

The subject site is currently a vacant lot with poor grass cover. The site is bound to the south by Mill Street and to the west by both Mill Street and two (2) similar vacant lots. The northern and eastern site boundaries adjoin the Marshall Street and Anderson Street reserves, respectively. Figure 2.2 (below) provides an aerial photograph of the site in its current state.

Figure 2.2 Site Aerial Photograph (Courtesy: MetroMap)

2.3 Existing Topography

The subject site is relatively flat, with a maximum vertical crossfall of 0.88m. The highest point is located in the approximate centre of the site, dividing the area into two catchments. The north-eastern catchment grades at approximately 2% towards both the northern and eastern site boundaries. Flows from this catchment discharge to an existing table drain, which conveys stormwater runoff to an existing culvert crossing on Marshall Street to the sites north. The south-western catchment is flatter by comparison, grading at approximately 1% to the south-east. Flows from this catchment discharge the site at the southern and south-eastern boundaries via overland sheet flow.

2.4 Downstream Environment

Stormwater originating from the site's north-eastern portion will discharge from the site via the northern and eastern boundaries as sheet flow into the adjoining table drain. From the drain, flows are conveyed to a culvert crossing on Marshall Street, ultimately discharging to Serpentine Lagoon, which is a tributary of the Macintyre River. Stormwater discharging from the site's south-western extents also eventually enter Serpentine Lagoon, via overland flow.

2.5 Rainfall

The mean annual rainfall for the site has been estimated at 657.5 mm from the data set obtained from the nearest Bureau of Meteorology (BOM) station number 041100 at the Texas Post Office station.

2.6 Regional Flooding

A detailed assessment of regional flooding has not been included in this CSMP however, the subject site is protected up to a 0.5% AEP flood event as per the Flood Hazard Overlay included as Figure 2.3.

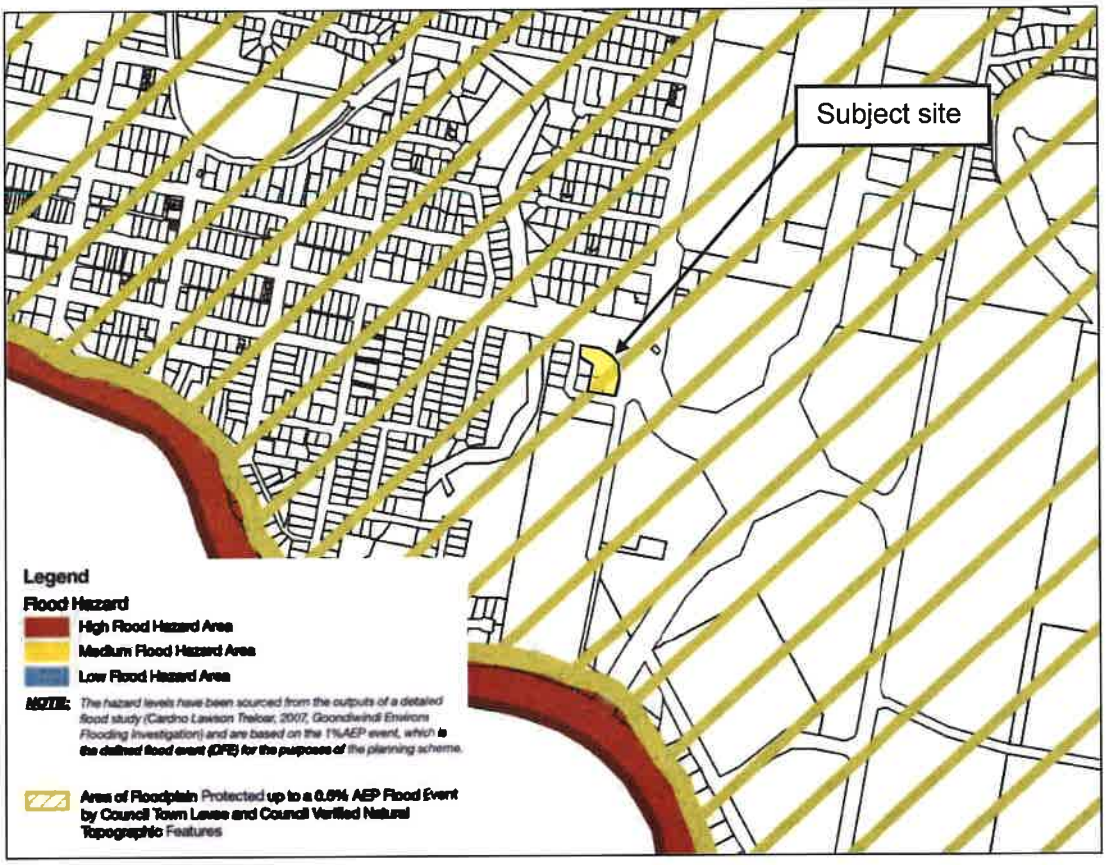


Figure 2.3 GRC Flood Hazard Overlay Map Extract (Source: GRC, 2018)

2.7 Proposed Development

The proposal seeks to establish a food and drink outlet over the site's northern extents, while the southern portion of the site has been allocated to future development. The commercial development will include the construction of an internal road network with carparking and drive-thru facilities. Access will be gained from Mill Street.

Figure 2.4 below details the proposed development site plan. For further details regarding the proposed layout, please refer to the complete site layout plan attached within Appendix A.

Figure 2.4 Proposed Site Plan (Courtesy: Verve Building Design)

3. Stormwater Quantity Management Plan

3.1 Overview

The following section of this report outlines the measures required to meet the above-mentioned objective in regard to stormwater quantity. In order to meet these objectives, it is necessary to ensure that post development discharge from the site will not create a worse situation for downstream property owners than that which existed prior to the development (i.e. non-worsening) (IPWEAQ, 2017).

Due to the increase of impervious surfaces within the proposed development, peak stormwater flow rates will increase. In order to mitigate these flow rates from the developed site it is proposed to implement an On-Site Detention (OSD) system. OSD systems temporarily store stormwater runoff and release flows at a controlled rate that is no greater than the pre-developed peak rate.

3.2 Drainage Catchment Parameters

Drainage catchments have been delineated using site survey, aerial imagery and development plans in the post developed scenario. Pre and post development catchment parameters have been summarised in Table 3.1. Catchment plans are provided in Appendix C.

Table 3.1 Catchment Parameters

Scenario	Catchment ID	Total Area (ha)	Impervious %
Pre-Developed	A	0.421	0
	B	0.237	0
Post-Developed	A1	0.261	67
	A2	0.163	0
	B	0.235	0

3.2.1 Conveyance of Flows

Important information about the conveyance of flows for the pre-development and post-development scenarios are included in Table 3.2 below.

Table 3.2 Conveyance of Flows

Subject	Description
Lawful Points of Discharge (LPD)	Two (2) Lawful Points of Discharge (LPD) are proposed for the development, defined as the point where runoff from the existing site is discharged. LPD A is located at the outlet of the Marshall Street culvert crossing immediately to the north of the proposed development. LPD B has been defined as the southern and south-eastern site boundaries. Further detail is provided in Appendix C.
Pre-development	Runoff from the northern portion of the existing vacant lot sheet flows to the existing table drain, which then conveys runoff to the Marshall Street culvert (LPD A) located immediately to the north of the subject site. Runoff produced over the site's south-western extents is conveyed overland to the southern and south-western boundaries (LPD B). A pre-development catchment plan is shown in Drawing N200 in Appendix C.
Post-development	In the post-developed scenario, flows (up to the 1 in 100 AEP event) from the northern catchment (Catchment A1) will be conveyed to a depressed area which will provide the required attenuation of flows. From the detention area, stormwater will be laterally discharged to the existing table drain via eight (8) evenly distributed 100mm PVC pipes. Runoff will then be directed towards LPD A as per the existing scenario. Flows to LPD B will remained unchanged in the post-development scenario. A post-development catchment plan is shown in Drawing N201 in Appendix C.

3.3 Rational Method Analysis

3.3.1 Peak Flow Assessment

In accordance with QUDM, the Rational Method has been used to gain an understanding of the relative impact of the proposed development on peak flow rates at the site's LPDs. The Rational Method is a basic method for assessing peak flow rates and is considered suitable given the catchment area is less than 500 ha and the time of concentration within the contributing catchments is less than 30 minutes (IPWEAQ, 2017).

A summary of key inputs of the Rational Method and the generated 1% AEP flows have been included in Table 3.3 below.

Table 3.3 Rational Method Calculation Inputs and Peak Discharges

Scenario	Catchment ID	Area (ha)	t_c (mins)	C_{10}	1% AEP Flow (m^3/s)
Pre-developed	A	0.421	12.0	0.49	0.128
	B	0.237	12.0	0.49	0.072
Post-developed	A1	0.261	7.0	0.73	0.146
	A2	0.163	10.0	0.49	0.054
	B	0.235	12.0	0.49	0.071

The peak discharges at from catchment A1 have increased in the post-developed scenario compared with the pre-development scenario as shown in Table 3.3. This is caused by an increase in impervious surfaces. To mitigate this increase, it is proposed to implement an OSD system in the Catchment A1. Catchment optimisation has been utilised to ensure the post-development peak discharges at LPD B are non-worsening post-development.

3.3.2 Site Runoff Volume

To determine the detention volume required of the proposed OSD system, the post-development runoff volume has been computed based on the peak flow shown above. The maximum runoff volume has been defined as the product of the 1% AEP peak discharge and the time of concentration. A summary of the volume calculations is contained in Table 3.4.

Table 3.4 1% AEP Runoff Volume Summary

Catchment ID	1% AEP Peak Discharge (m3/s)	tc (mins)	Runoff Volume (m3)
A1	0.146	7.0	61.12

To ensure the post-development peak discharges at LPD A are non-worsening, the proposed OSD system for Catchment A1 will require a minimum of 61.1m^3.

3.4 On Site Detention (OSD) Details

The proposed OSD system is to be implemented to ensure a non-worsening of peak discharges at LPD A. An irregular area of approximately 270 m^2 along the northern site boundary will be depressed by 250mm to provide attenuation of flows up to that of the 1% AEP event. A series of evenly distributed 100mm PVC outlet pipes are proposed to discharge detained stormwater to the existing table drain at a rate equal to that of the existing 0.5EY event. Figure 3.1 below shows the proposed location and footprint of the detention system.

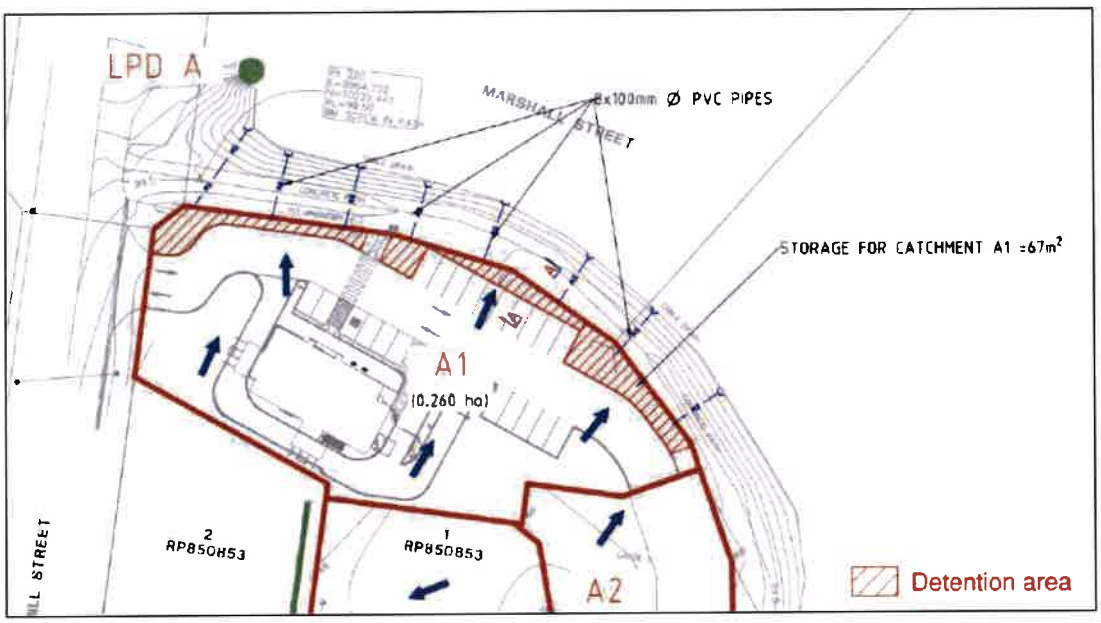


Figure 3.1 Proposed On-Site Detention System

Table 3.5 below contains the details of the proposed detention system within the subject site.

Table 3.5 OSD Details

Catchment ID	Outlet Pipes	1% AEP Detention Volume (m^3)
A1	8 x 100mm Ø PVC, 0.5% grade	67

3.5 Performance of OSD

To determine the required outlet configuration for the OSD system, Manning's equation for pipe flow was adopted. It was determined that 8 x 100mm PVC pipes would have the capacity of the 0.5EY event, and as the total detention volume is equal to the 1% AEP storm peak flow can be controlled without overtop of the OSD system.

A summary Manning's pipe flow calculation is shown in Figure 3.2. The peak discharges at LPD A for different AEP events is contained in Table 3.6. Results of the calculations indicate the proposed system is capable of maintaining the 0.5EY pre-development peak discharge for all storm events up to the 1% AEP event at LPD A.

Inputs		
Pipe diameter, d_0	0.1	m
Manning roughness, n	0.013	
Pressure slope (possibly ? equal to pipe slope), S_0	0.01	rise/run
Percent of (or ratio to) full depth (100% or 1 if flowing full)	1	fraction

Results		
Flow, Q (See notes)	0.0052	m^3/s
Velocity, v	0.6577	m/s
Velocity head, h_v	0.0221	m H2O
Flow area	0.0079	m^2
Wetted perimeter	0.3142	m
Hydraulic radius	0.0250	m
Top width, T	0.0000	m
Froude number, F	0.00	
Average shear stress (tractive force), tau	2.4515	N/m^2

Figure 3.2 Manning's Pipe Flow Computation

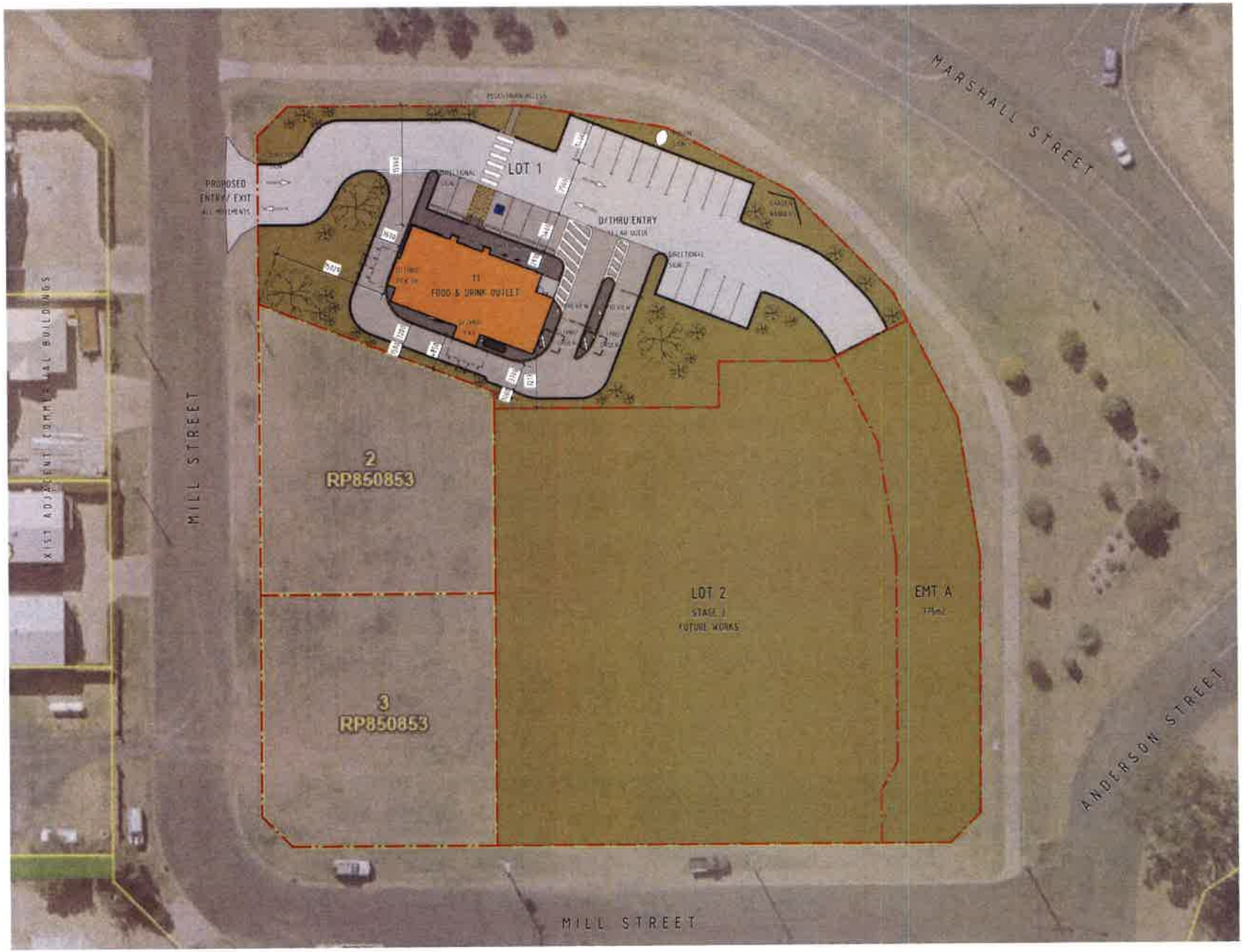
Table 3.6 Pre-Development vs Post-Development (Mitigated) Peak Discharges at LPD A

AEP Event (%)	Pre-Development (m^3/s)	Post-Development (m^3/s)
1%	0.13	0.04
2%	0.11	0.04
5%	0.08	0.04
10%	0.07	0.04
0.2 EY	0.06	0.04
0.5 EY	0.04	0.04

4. Conclusion

The stormwater management outlined in this report has addressed the objectives set by the Goondiwindi Regional Council with respect to the control of runoff quantity. Peak runoff at the proposed development's LPDs has been maintained in all AEP events through catchment optimisation and the implementation of an On-Site Detention system with a total volume of 67 m^3. All stormwater infrastructure associated with the development is to be owned and maintained by the property owner.

Appendix A Proposed Plans of Development



PRELIMINARY
THIS DRAWING IS NOT FOR CONSTRUCTION

RPD:
LOT 1 & 4 on RP850853
PARISH: GOONDIWINDI
COUNTY: MARSH
COUNCIL: GOONDIWINDI REGIONAL

DEVELOPMENT ASSESSMENT

- OVERALL SITE AREA - 6,544m²
- PROP. LOT 1 - 2,599m²
- PROP. LOT 2 - 3,945m²
  INCLUDES ACCESS EASEMENT
- LANDSCAPED AREA - 4,793m²
- BLDG SITE COVER - 3.5%
  INCLUDES ALL ROOFED AREAS

IMPERVIOUS AREAS

- PRE SITE DEVELOPMENT - 0m²
  (INCLUDES BUILDING ROOFED AREAS)
- POST SITE DEVELOPMENT - 1,751m²
  (INCLUDES BUILDING ROOFED AREAS)

BUILDING AREAS - (GFA)

- T1 FOOD & DRINK - 225m²
  (INCLUDES REFUSE AREA - 10m²)

CAR PARKING

- PARKING REQUIRED - 15
  (TO BE CONFIRMED)
- PARKING PROVIDED - 21

VERVE SCHEDULES DISCLAIMER
1 ALL SCHEDULES SHOULD BE CHECKED WITH THE REMAINDER OF THE DRAWING SET
2 SCHEDULED RATES AND AREAS ARE INTENDED FOR ASSISTANCE ONLY. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF QUANTITIES
3 ANY DISCREPANCIES IN SCHEDULES SHOULD BE IDENTIFIED TO THE AUTHOR NOTED
4 ALL AREAS ARE GROSS AREAS, UNLESS NOTED OTHERWISE

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magine
commercial / industrial / retail
fast food / restaurant design
travel centre / service stations
project concept to completion

Revisions and approvals

Rev	Date	Drn	Description	Appr
P1	07.07.22	JN	PRELIMINARY ISSUE	
P2	14.07.22	JN	ISSUE FOR APPROVAL	
P3	18.07.22	JN	ISSUE FOR APPROVAL	
P4	03.08.22	JN	ISSUE FOR APPROVAL	
A	03.08.22		FOR APPROVAL	
B	03.08.22		FOR APPROVAL	

Project Description: PROPOSED QUICK SERVICE RESTAURANT
2 MILL STREET, GOONDIWINDI QLD 4390

Drawing Title: PROP. SITE PLAN

Scale @A1: 1 : 750
Drawn: JN
Date: JUL 2022
Approved By: GB

Job Number - Drawing Number: 22092 DA01
Revision: B

Appendix B Time of Concentration and Rational Method Calculations

Pre-Development Hydrology

The natural hydrology of the site has been assessed in accordance with QUDM (IPWEAQ, 2017) Section 4.1. The time of concentration for all catchments has been determined using Friend's Equation as per QUDM Section 4.6.6, combined with a channel time flow calculation.

$$\textit{Friend's Equation } tc = (107nL^{0.333})/S^{0.2}$$

Table B.4.1 presents a summary of the catchment parameters used within Friend's Equation and the calculated time of concentration for the pre-development scenario.

Table B.4.1 Time of Concentration for Pre-Development Scenario

Catchment ID	A	B
Overland Flow		
Estimated Length of Sheet Flow	50	50
Hortons Roughness Value	0.035	0.035
Slope (%)	2	2
tc (minutes)	12.00	12.00
TOTAL tc (minutes)	**12**	**12**

Post-Development Hydrology – Unmitigated

Table B.4.2 presents a summary of the catchment parameters used for the calculated time of concentration for the post-development scenario. The time of concentration for the external catchment is presented in Table B.4.1 above.

Table B.4.2 Time of Concentration for Post-Development Scenario

Catchment ID	A1	A2	B
Standard Inlet Time	5		
Pipe Flow			
Slope (%)	1		
Length of Pipe Flow (m)	100		
Velocity (m/s)	1		
tc (minutes)	1.67		
Overland Flow			
Estimated Length of Sheet Flow		30	50
Hortons Roughness Value		0.035	0.035
Slope (%)		2	2
tc (minutes)		10.12	12.00
TOTAL tc (minutes)	**7**	**10**	**12**

Design storm event flows across the site were derived using the Rational Method as per the above-mentioned manuals. This involved:

- Determination of a C10 value (derived n accordance with QUDM Table 4.05.3(b) and Council guidelines). A value of 0.7 was applied to the pre-development catchment and 0.83 was applied to the post-development catchment;
- Adoption of design rainfall using BoM IFD data; and
- Calculation of design flows through the site for Q100, Q50, Q20, Q10, Q5, Q2, Q1 and $Q3_{month}$, where $Q3_{month}$ is deemed to be 50% of Q1.

Summaries of the hydrologic calculations are contained in Table B.4.3 and Table B.4.4 for pre and post-development (un-mitigated) scenarios respectively.

Table B.4.3 Pre-Development Hydrology

Catch.	Area (ha)	tc (min)	I_{100} (mm/hr)	C	Q_{100} (m^3/s)	I_{50} (mm/hr)	C	Q_{50} (m^3/s)	I_{20} (mm/hr)	C	Q_{20} (m^3/s)	I_{10} (mm/hr)	C	Q_{10} (m^3/s)	I_5 (mm/hr)	C	Q_5 (m^3/s)	I_2 (mm/hr)	C	Q_2 (m^3/s)	I_1 (mm/hr)	C	Q_{3month} (m^3/s)
A	0.42	12.00	186.00	0.59	0.128	165.00	0.56	0.109	139.00	0.51	0.084	120.00	0.49	0.069	103.00	0.47	0.056	81.50	0.42	0.040	64.90	0.39	0.015
B	0.24	12.00	186.00	0.59	0.072	165.00	0.56	0.061	139.00	0.51	0.047	120.00	0.49	0.039	103.00	0.47	0.032	81.50	0.42	0.022	64.90	0.39	0.008

Table B.4.4 Un-Mitigated Post-Development Hydrology

Catch.	Area (ha)	tc (min)	I_{100} (mm/hr)	C	Q_{100} (m^3/s)	I_{50} (mm/hr)	C	Q_{50} (m^3/s)	I_{20} (mm/hr)	C	Q_{20} (m^3/s)	I_{10} (mm/hr)	C	Q_{10} (m^3/s)	I_5 (mm/hr)	C	Q_5 (m^3/s)	I_2 (mm/hr)	C	Q_2 (m^3/s)	I_1 (mm/hr)	C	Q_{3month} (m^3/s)
A1	0.2600	7.00	230.00	0.88	0.146	205.00	0.84	0.124	173.00	0.7665	0.096	149.00	0.73	0.079	128.00	0.69	0.064	101.00	0.62	0.045	80.60	0.58	0.017
A2	0.1630	10.00	201.00	0.59	0.054	178.00	0.56	0.045	150.00	0.5145	0.035	130.00	0.49	0.029	111.00	0.47	0.023	88.30	0.42	0.017	70.30	0.39	0.006
B	0.2350	12.00	186.00	0.59	0.071	165.00	0.56	0.061	139.00	0.5145	0.047	120.00	0.49	0.038	103.00	0.47	0.031	81.50	0.42	0.022	64.90	0.39	0.008

Appendix C Burchills Engineering Solutions Conceptual Stormwater Management Drawings

PROJECT No.	DRAWING No.	VERSION
BE220369	N000	A

DATE

PROPOSED QUICK SERVICE RESTAURANT

2 MILL STREET, GOONDIWIDI QLD 4390

CONCEPTUAL STORMWATER MANAGEMENT DRAWINGS

LOCALITY PLAN

SCHEDULE OF DRAWINGS	
Drawing No.	Drawing Title
N000	LOCALITY AND DRAWING INDEX PLAN
N200	PRE-DEVELOPMENT CATCHMENT PLAN
N201	POST-DEVELOPMENT CATCHMENT PLAN
N400	OPERATIONAL CONTROL PLAN

PREPARED FOR

-

PREPARED BY

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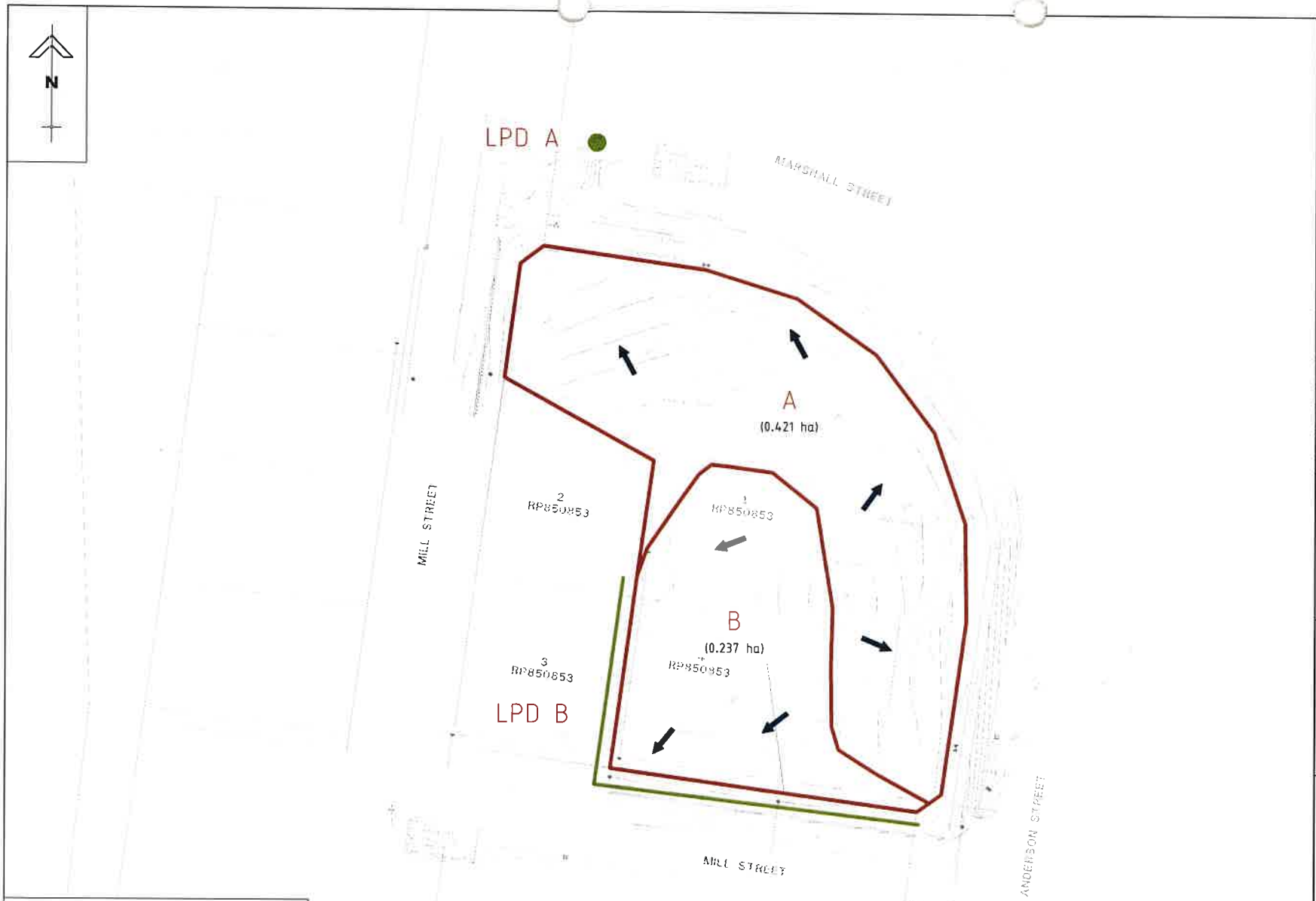
ABN 76 166 942 365



LEGEND

- PRE-DEVELOPMENT CATCHMENT
- OVERLAND FLOW DIRECTION
- LINE OF DISCHARGE
- DISCHARGE LOCATION

SCALE 10 0 10 20 30 40 50 (metres)
1 : 750 (FULL SIZE)

PROPOSED QUICK SERVICE RESTAURANT

2 MILL STREET, GOONDIWINDI

FOR

ORIGINAL SCALE BEFORE REDUCTION
A3 0 10 20 30 40mm

VER.	DESCRIPTION	APPR.	DATE
A	ORIGINAL ISSUE		29.07.22

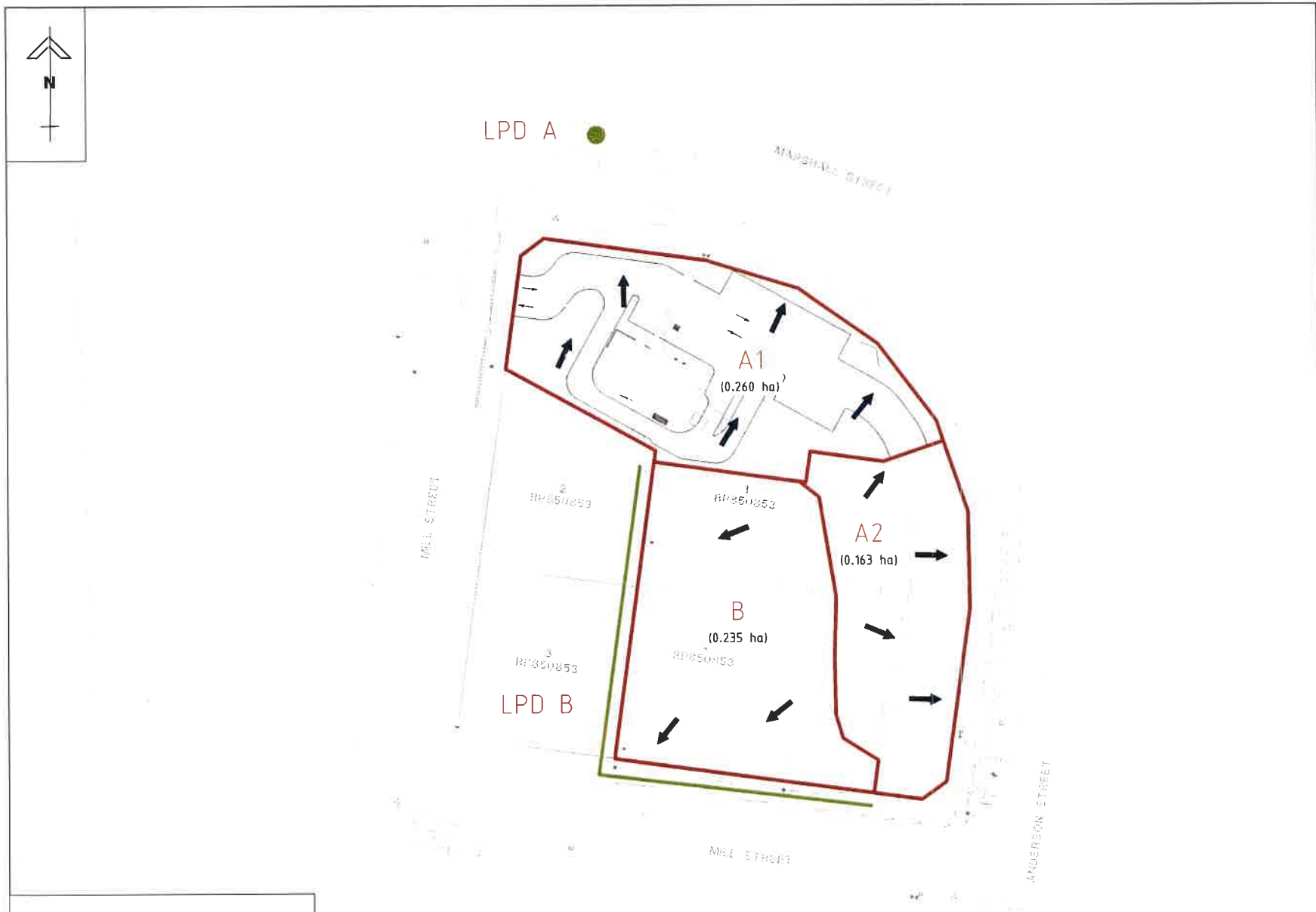
REVISIONS

BURCHILLS ENGINEERING SOLUTIONS
Level 2, The Connaught Centre
26 Marine Parade, Southport QLD 4215
PO Box 3766, Australia Fair, Southport QLD 4215
Phone: +61 7 5509 6400
Fax: +61 7 5509 6411
Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

DRAWING TITLE :

PRE-DEVELOPMENT CATCHMENT PLAN

DEVEL. APPLIC. No.	DATE : 29.07.22
PROJECT LEADER : SH	
DESIGNER : SH	
DRAFTSPERSON : TP /	
CHECKED : SH	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	RPEQ No. :
SCALE : 1:750	DATUM : / FULL SIZE : A3
PROJECT No.: BE220369	DRAWING No. : N200 / VERSION: A



LEGEND

- POST-DEVELOPMENT CATCHMENT
- OVERLAND FLOW DIRECTION
- LINE OF DISCHARGE
- DISCHARGE LOCATION

SCALE 10 0 10 20 30 40 50 (metres)
1 : 750 (FULL SIZE)

PROPOSED QUICK SERVICE RESTAURANT

2 MILL STREET, GOONDIWINDI

FOR

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ORIGINAL SCALE BEFORE REDUCTION
A3

VER	DESCRIPTION	APPR	DATE
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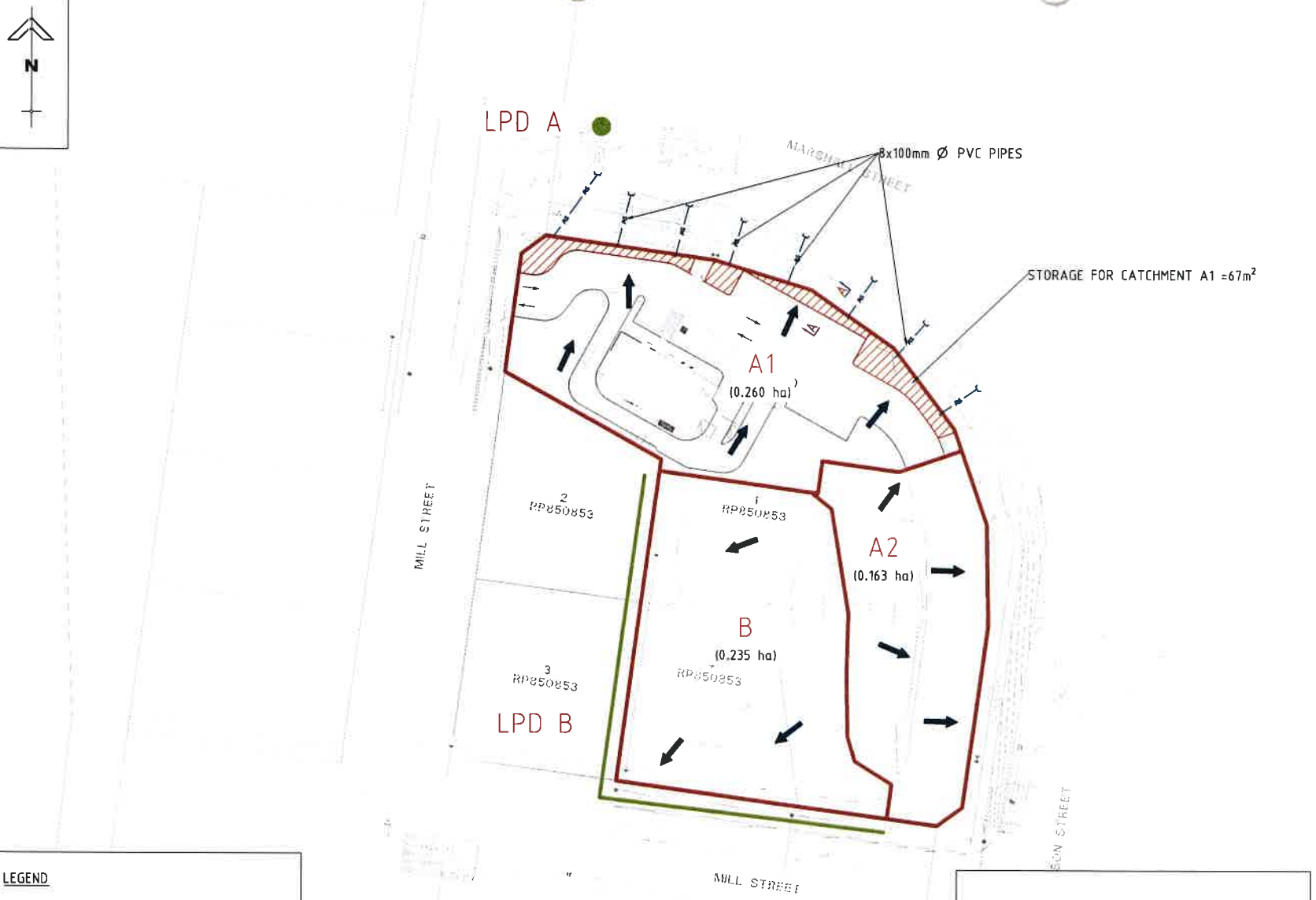
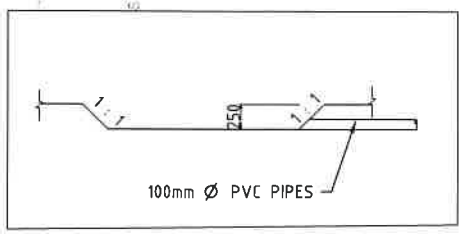
DRAWING TITLE

POST-DEVELOPMENT CATCHMENT PLAN

DEVEL. APPLIC. No.	DATE 29.07.22
PROJECT LEADER : SH	
DESIGNER : SH	
DRAFTSPERSON : TP /	
CHECKED : SH	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No.	
SCALE : 1:750	DATUM / FULL SIZE : A3
PROJECT No. BE220369	DRAWING No. N201 / VERSION: A





SECTION A - A

SCALE: 1/50

PROPOSED QUICK SERVICE RESTAURANT

2 MILL STREET, GOONDIWINDI

FOR

...

ORIGINAL SCALE BEFORE REDUCTION

A3

VER	DESCRIPTION	APPR	DATE
A	ORIGINAL ISSUE		29.07.22

REVISIONS

NOTE

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BURCHILLS ENGINEERING SOLUTIONS

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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

DRAWING TITLE :

OPERATIONAL CONTROL PLAN

DEVEL. APPLIC. No. :	DATE : 29.07.22
PROJECT LEADER : SH	
DESIGNER : SH	
DRAFTSPERSON : TP	
CHECKED : SH	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. :	

SCALE : 1:750	DATUM :	FULL SIZE : A3
PROJECT No.: BE220369	DRAWING No. : N400	VERSION A

Goondiwindi REGIONAL COUNCIL

Attachment 3 – Notice about decision - Statement of reasons

Notice about decision - Statement of reasons

The following information is provided in accordance with section 63 (5) of *the Planning Act 2016* and must be published on the assessment managers website.

The development application for a Minor Change to the existing Development Permit for a Material Change of Use - "Business Activities" – "Food and Drink Outlet" (Drive Through Restaurant) and Reconfiguring a Lot (Boundary Realignment) and Easement Giving Access to a Constructed Road

22/32

2 & 8 Mill Street, Goondiwindi

Lots 1 & 4 on RP850853

On 22/09/2023, the above development application was:

☐ approved in full or

☐ approved in part for _____ or

☒ approved in full with conditions or

☐ approved in part for _____, with conditions or

☐ refused.

1. Reasons for the decision

The reasons for this decision are:

- Having regard to the relevant criteria in the Goondiwindi Region Planning Scheme 2018, the proposed development satisfied all relevant criteria, and was approved subject to appropriate, relevant and reasonable conditions.

2. Assessment benchmarks

The following are the benchmarks applying for this development:

Benchmarks applying for the development	Benchmark reference
Centre Zone Code	PO1-PO10
Reconfiguring a Lot Code	PO1-PO12
Transport and Infrastructure Code	PO1-PO15
Natural Resources Overlay Code	PO5-PO8
Flood Hazard Overlay Code	PO1-PO4

3. Compliance with benchmarks

The minor change did not create any new areas of non-compliance with the Planning Scheme.

Goondiwindi REGIONAL COUNCIL

Attachment 4 – Rights of Appeal Waiver

Attachment 4: Rights of Appeal Waiver

Planning Act 2016

Rights of Appeal Waiver

Purpose of this form: *This form will be used to process your request to waive your appeal rights to process your approval without unnecessary delay.*

Applicant:	
File Number:	
Property Address:	

This is to confirm that I/We have received the above approval and agree to the conditions contained therein. I/We hereby waive my/our appeal rights available under the *Planning Act 2016*.

Name		**Name**	
Signature		**Signature**	
Date		**Date**	

Please return this form to:

Fax: (07) 4671 7433

Post: LMB 7, Inglewood QLD 4387

Email: mail@grc.qld.gov.au

In person: Council Chambers, 4 McLean Street, Goondiwindi QLD 4390
Goondiwindi Civic Centre, 100 Marshall Street, Goondiwindi QLD 4390
Inglewood Customer Service Centre, 18 Elizabeth Street, Inglewood QLD 4387
Texas Customer Service Centre, High Street, Texas QLD 4385

Privacy Statement

This information collected on this Form will be used by the Goondiwindi Regional Council in accordance with the processing and assessment of your application. Your personal details will not be disclosed for a purpose outside of Council policy, except where required by legislation (including the *Information Privacy Act 2009*) or as required by the Queensland State Government. This information may be stored in the Council database.

Attachment 5 – *Planning Act 2016* Extracts

EXTRACT FROM *PLANNING ACT 2016* RELATING TO APPEAL RIGHTS

Chapter 6 Dispute Resolution, Part 1 Appeal Rights

229 Appeals to tribunal or P&E Court

(1) Schedule 1 states—

(a) matters that may be appealed to—

(i) either a tribunal or the P&E Court; or

(ii) only a tribunal; or

(iii) only the P&E Court; and

(b) the person—

*(i) who may appeal a matter (the **appellant**); and*

(ii) who is a respondent in an appeal of the matter; and

(iii) who is a co-respondent in an appeal of the matter; and

(iv) who may elect to be a co-respondent in an appeal of the matter.

(2) An appellant may start an appeal within the appeal period.

*(3) The **appeal period** is—*

(a) for an appeal by a building advisory agency—10 business days after a decision notice for the decision is given to the agency; or

(b) for an appeal against a deemed refusal—at any time after the deemed refusal happens; or

(c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises—20 business days after a notice is published under section 269(3)(a) or (4); or

(d) for an appeal against an infrastructure charges notice—20 business days after the infrastructure charges notice is given to the person; or

(e) for an appeal about a deemed approval of a development application for which a decision notice has not been given—30 business days after the applicant gives the deemed approval notice to the assessment manager; or

(f) for any other appeal—20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person.

Note—

See the P&E Court Act for the court's power to extend the appeal period.

(4) Each respondent and co-respondent for an appeal may be heard in the appeal.

(5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.

(6) To remove any doubt, it is declared that an appeal against an infrastructure charges notice must not be about—

(a) the adopted charge itself; or

(b) for a decision about an offset or refund—

(i) the establishment cost of trunk infrastructure identified in a LGIP; or

(ii) the cost of infrastructure decided using the method included in the local government's charges resolution.

230 Notice of appeal

(1) An appellant starts an appeal by lodging, with the registrar of the tribunal or P&E Court, a notice of appeal that—

(a) is in the approved form; and

(b) succinctly states the grounds of the appeal.

(2) The notice of appeal must be accompanied by the required fee.

(3) The appellant or, for an appeal to a tribunal, the registrar must, within the service period, give a copy of the notice of appeal to—

(a) the respondent for the appeal; and

(b) each co-respondent for the appeal; and

(c) for an appeal about a development application under schedule 1, table 1, item 1—each

principal submitter for the development application; and

(d) for an appeal about a change application under schedule 1, table 1, item 2—each principal submitter for the change application; and

(e) each person who may elect to become a co-respondent for the appeal, other than an eligible submitter who is not a principal submitter in an appeal under paragraph (c) or (d); and

(f) for an appeal to the P&E Court—the chief executive; and

(g) for an appeal to a tribunal under another Act—any other person who the registrar considers appropriate.

(4) The ***service period*** *is—*

(a) if a submitter or advice agency started the appeal in the P&E Court—2 business days after the appeal is started; or

(b) otherwise—10 business days after the appeal is started.

(5) A notice of appeal given to a person who may elect to be a co-respondent must state the effect of subsection (6).

(6) A person elects to be a co-respondent by filing a notice of election, in the approved form, within 10 business days after the notice of appeal is given to the person.

231 Other appeals

(1) Subject to this chapter, schedule 1 and the P&E Court Act, unless the Supreme Court decides a decision or other matter under this Act is affected by jurisdictional error, the decision or matter is non-appealable.

(2) The Judicial Review Act 1991, part 5 applies to the decision or matter to the extent it is affected by jurisdictional error.

(3) A person who, but for subsection (1) could have made an application under the Judicial Review Act 1991 in relation to the decision or matter, may apply under part 4 of that Act for a statement of reasons in relation to the decision or matter.

(4) In this section—

decision *includes—*

(a) conduct engaged in for the purpose of making a decision; and

(b) other conduct that relates to the making of a decision; and

(c) the making of a decision or the failure to make a decision; and

(d) a purported decision; and

(e) a deemed refusal.

non-appealable*, for a decision or matter, means the decision or matter—*

(a) is final and conclusive; and

(b) may not be challenged, appealed against, reviewed, quashed, set aside or called into question in any other way under the Judicial Review Act 1991 or otherwise, whether by the Supreme Court, another court, a tribunal or another entity; and

(c) is not subject to any declaratory, injunctive or other order of the Supreme Court, another court, a tribunal or another entity on any ground.

232 Rules of the P&E Court

(1) A person who is appealing to the P&E Court must comply with the rules of the court that apply to the appeal.

(2) However, the P&E Court may hear and decide an appeal even if the person has not complied with rules of the P&E Court.

Part 2 Development tribunal

Division 1 General

233 Appointment of referees

(1) The Minister, or chief executive, (the appointer) may appoint a person to be a referee, by an appointment notice, if the appointer considers the person—

(a) has the qualifications or experience prescribed by regulation; and

(b) has demonstrated an ability—

(i) to negotiate and mediate outcomes between parties to a proceeding; and

(ii) to apply the principles of natural justice; and

(iii) to analyse complex technical issues; and

(iv) to communicate effectively, including, for example, to write informed succinct and well-organised decisions, reports, submissions or other documents.

(2) The appointer may—

(a) appoint a referee for the term, of not more than 3 years, stated in the appointment notice; and

(b) reappoint a referee, by notice, for further terms of not more than 3 years.

(3) If an appointer appoints a public service officer as a referee, the officer holds the appointment concurrently with any other appointment that the officer holds in the public service.

(4) A referee must not sit on a tribunal unless the referee has given a declaration, in the approved form and signed by the referee, to the chief executive.

(5) The appointer may cancel a referee's appointment at any time by giving a notice, signed by the appointer, to the referee.

(6) A referee may resign the referee's appointment at any time by giving a notice, signed by the referee, to the appointer.

(7) In this section—

***appointment notice** means—*

(a) if the Minister gives the notice—a gazette notice; or

(b) if the chief executive gives the notice—a notice given to the person appointed as a referee.

234 Referee with conflict of interest

(1) This section applies if the chief executive informs a referee that the chief executive proposes to appoint the referee as a tribunal member, and either or both of the following apply—

(a) the tribunal is to hear a matter about premises—

(i) the referee owns; or

(ii) for which the referee was, is, or is to be, an architect, builder, drainer, engineer, planner, plumber, plumbing inspector, certifier, site evaluator or soil assessor; or

(iii) for which the referee has been, is, or will be, engaged by any party in the referee's capacity as an accountant, lawyer or other professional; or

(iv) situated or to be situated in the area of a local government of which the referee is an officer, employee or councillor;

(b) the referee has a direct or indirect personal interest in a matter to be considered by the tribunal, and the interest could conflict with the proper performance of the referee's functions for the tribunal's consideration of the matter.

(2) However, this section does not apply to a referee only because the referee previously acted in relation to the preparation of a relevant local planning instrument.

(3) The referee must notify the chief executive that this section applies to the referee, and on doing so, the chief executive must not appoint the referee to the tribunal.

(4) If a tribunal member is, or becomes, aware the member should not have been appointed to the tribunal, the member must not act, or continue to act, as a member of the tribunal.

235 Establishing development tribunal

(1) The chief executive may at any time establish a tribunal, consisting of up to 5 referees, for tribunal proceedings.

(2) The chief executive may appoint a referee for tribunal proceedings if the chief executive considers the referee has the qualifications or experience for the proceedings.

(3) The chief executive must appoint a referee as the chairperson for each tribunal.

(4) A regulation may specify the qualifications or experience required for particular proceedings.

(5) After a tribunal is established, the tribunal's membership must not be changed.

236 Remuneration

A tribunal member must be paid the remuneration the Governor in Council decides.

237 Tribunal proceedings

(1) A tribunal must ensure all persons before the tribunal are afforded natural justice.

(2) A tribunal must make its decisions in a timely way.

(3) A tribunal may—

(a) conduct its business as the tribunal considers appropriate, subject to a regulation made for this section; and

(b) sit at the times and places the tribunal decides; and

(c) hear an appeal and application for a declaration together; and

(d) hear 2 or more appeals or applications for a declaration together.

(4) A regulation may provide for—

(a) the way in which a tribunal is to operate, including the qualifications of the chairperson of the tribunal for particular proceedings; or

(b) the required fee for tribunal proceedings.

238 Registrar and other officers

(1) The chief executive may, by gazette notice, appoint—

(a) a registrar; and

(b) other officers (including persons who are public service officers) as the chief executive considers appropriate to help a tribunal perform its functions.

(2) A person may hold the appointment or assist concurrently with any other public service appointment that the person holds.

Division 2 Applications for declarations

239 Starting proceedings for declarations

(1) A person may start proceedings for a declaration by a tribunal by filing an application, in the approved form, with the registrar.

(2) The application must be accompanied by the required fee.

240 Application for declaration about making of development application

(1) The following persons may start proceedings for a declaration about whether a development application is properly made—

(a) the applicant;

(b) the assessment manager.

(2) However, a person may not seek a declaration under this section about whether a development application is accompanied by the written consent of the owner of the premises to the application.

(3) The proceedings must be started by—

(a) the applicant within 20 business days after receiving notice from the assessment manager, under the development assessment rules, that the development application is not properly made; or

(b) the assessment manager within 10 business days after receiving the development application.

(4) The registrar must, within 10 business days after the proceedings start, give notice of the proceedings to the respondent as a party to the proceedings.

(5) In this section—

***respondent** means—*

(a) if the applicant started the proceedings—the assessment manager; or

(b) if the assessment manager started the proceedings—the applicant.

241 Application for declaration about change to development approval

(1) This section applies to a change application for a development approval if—

(a) the approval is for a material change of use of premises that involves the use of a classified building; and

(b) the responsible entity for the change application is not the P&E Court.

(2) The applicant, or responsible entity, for the change application may start proceedings for a

declaration about whether the proposed change to the approval is a minor change.

(3) The registrar must, within 10 business days after the proceedings start, give notice of the proceedings to the respondent as a party to the proceedings.

(4) In this section—

***respondent** means—*

(a) if the applicant started the proceedings—the responsible entity; or

(b) if the responsible entity started the proceedings—the applicant.

Division 3 Tribunal proceedings for appeals and declarations

242 Action when proceedings start

If a document starting tribunal proceedings is filed with the registrar within the period required under this Act, and is accompanied by the required fee, the chief executive must—

(a) establish a tribunal for the proceedings; and

(b) appoint 1 of the referees for the tribunal as the tribunal's chairperson, in the way required under a regulation; and

(c) give notice of the establishment of the tribunal to each party to the proceedings.

243 Chief executive excusing noncompliance

(1) This section applies if—

(a) the registrar receives a document purporting to start tribunal proceedings, accompanied by the required fee; and

(b) the document does not comply with any requirement under this Act for validly starting the proceedings.

(2) The chief executive must consider the document and decide whether or not it is reasonable in the circumstances to excuse the noncompliance (because it would not cause substantial injustice in the proceedings, for example).

(3) If the chief executive decides not to excuse the noncompliance, the chief executive must give a notice stating that the document is of no effect, because of the noncompliance, to the person who filed the document.

(4) The chief executive must give the notice within 10 business days after the document is given to the chief executive.

(5) If the chief executive does excuse the noncompliance, the chief executive may act under section 242 as if the noncompliance had not happened.

244 Ending tribunal proceedings or establishing new tribunal

(1) The chief executive may decide not to establish a tribunal when a document starting tribunal proceedings is filed, if the chief executive considers it is not reasonably practicable to establish a tribunal.

Examples of when it is not reasonably practicable to establish a tribunal—

• there are no qualified referees or insufficient qualified referees because of a conflict of interest

• the referees who are available will not be able to decide the proceedings in a timely way

(2) If the chief executive considers a tribunal established for tribunal proceedings—

(a) does not have the expertise to hear or decide the proceedings; or

(b) is not able to make a decision for proceedings (because of a tribunal member's conflict of interest, for example); the chief executive may decide to suspend the proceedings and establish another tribunal, complying with section 242(c), to hear or re-hear the proceedings.

(3) However, the chief executive may instead decide to end the proceedings if the chief executive considers it is not reasonably practicable to establish another tribunal to hear or re-hear the proceedings.

(4) If the chief executive makes a decision under subsection (1) or (3), the chief executive must give a decision notice about the decision to the parties to the proceedings.

(5) Any period for starting proceedings in the P&E Court, for the matter that is the subject of the tribunal proceedings, starts again when the chief

executive gives the decision notice to the party who started the proceedings.

(6) The decision notice must state the effect of subsection (5).

245 Refunding fees

The chief executive may, but need not, refund all or part of the fee paid to start proceedings if the chief executive decides under section 244—

(a) not to establish a tribunal; or

(b) to end the proceedings.

246 Further material for tribunal proceedings

(1) The registrar may, at any time, ask a person to give the registrar any information that the registrar reasonably requires for the proceedings.

Examples of information that the registrar may require—

• material about the proceedings (plans, for example)

• information to help the chief executive decide whether to excuse noncompliance under section 243

• for a deemed refusal—a statement of the reasons why the entity responsible for deciding the application had not decided the application during the period for deciding the application.

(2) The person must give the information to the registrar within 10 business days after the registrar asks for the information.

247 Representation of Minister if State interest involved

If, before tribunal proceedings are decided, the Minister decides the proceedings involve a State interest, the Minister may be represented in the proceedings.

248 Representation of parties at hearing

A party to tribunal proceedings may appear—

(a) in person; or

(b) by an agent who is not a lawyer.

249 Conduct of tribunal proceedings

(1) Subject to section 237, the chairperson of a tribunal must decide how tribunal proceedings are to be conducted.

(2) The tribunal may decide the proceedings on submissions if the parties agree.

(3) If the proceedings are to be decided on submissions, the tribunal must give all parties a notice asking for the submissions to be made to the tribunal within a stated reasonable period.

(4) Otherwise, the tribunal must give notice of the time and place of the hearing to all parties.

(5) The tribunal may decide the proceedings without a party's submission (written or oral) if—

(a) for proceedings to be decided on submissions—the party's submission is not received within the time stated in the notice given under subsection (3); or

(b) for proceedings to be decided by hearing—the person, or the person's agent, does not appear at the hearing.

(6) When hearing proceedings, the tribunal—

(a) need not proceed in a formal way; and

(b) is not bound by the rules of evidence; and

(c) may inform itself in the way it considers appropriate; and

(d) may seek the views of any person; and

(e) must ensure all persons appearing before the tribunal have a reasonable opportunity to be heard; and

(f) may prohibit or regulate questioning in the hearing.

(7) If, because of the time available for the proceedings, a person does not have an opportunity to be heard, or fully heard, the person may make a submission to the tribunal.

250 Tribunal directions or orders

A tribunal may, at any time during tribunal proceedings, make any direction or order that the tribunal considers appropriate.

Examples of directions—

• *a direction to an applicant about how to make their development application comply with this Act*

• *a direction to an assessment manager to assess a development application, even though the referral agency's response to the assessment manager was to refuse the application*

251 Matters tribunal may consider

(1) This section applies to tribunal proceedings about—

(a) a development application or change application; or

(b) an application or request (however called) under the Building Act or the Plumbing and Drainage Act.

(2) The tribunal must decide the proceedings based on the laws in effect when—

(a) the application or request was properly made; or

(b) if the application or request was not required to be properly made—the application or request was made.

(3) However, the tribunal may give the weight that the tribunal considers appropriate, in the circumstances, to any new laws.

252 Deciding no jurisdiction for tribunal proceedings

(1) A tribunal may decide that the tribunal has no jurisdiction for tribunal proceedings, at any time before the proceedings are decided—

(a) on the tribunal's initiative; or

(b) on the application of a party.

(2) If the tribunal decides that the tribunal has no jurisdiction, the tribunal must give a decision notice about the decision to all parties to the proceedings.

(3) Any period for starting proceedings in the P&E Court, for the matter that is the subject of the tribunal proceedings, starts again when the tribunal gives the decision notice to the party who started the proceedings.

(4) The decision notice must state the effect of subsection (3).

(5) If the tribunal decides to end the proceedings, the fee paid to start the proceedings is not refundable.

253 Conduct of appeals

(1) This section applies to an appeal to a tribunal.

(2) Generally, the appellant must establish the appeal should be upheld.

(3) However, for an appeal by the recipient of an enforcement notice, the enforcement authority that gave the notice must establish the appeal should be dismissed.

(4) The tribunal must hear and decide the appeal by way of a reconsideration of the evidence that was before the person who made the decision appealed against.

(5) However, the tribunal may, but need not, consider—

(a) other evidence presented by a party to the appeal with leave of the tribunal; or

(b) any information provided under section 246.

254 Deciding appeals to tribunal

(1) This section applies to an appeal to a tribunal against a decision.

(2) The tribunal must decide the appeal by—

(a) confirming the decision; or

(b) changing the decision; or

(c) replacing the decision with another decision; or

(d) setting the decision aside, and ordering the person who made the decision to remake the decision by a stated time; or

(e) for a deemed refusal of an application—

(i) ordering the entity responsible for deciding the application to decide the application by a stated time and, if the entity does not comply with the order, deciding the application; or

(ii) deciding the application.

(3) However, the tribunal must not make a change, other than a minor change, to a development application.

(4) The tribunal's decision takes the place of the decision appealed against.

(5) The tribunal's decision starts to have effect—

(a) if a party does not appeal the decision—at the end of the appeal period for the decision; or

(b) if a party appeals against the decision to the P&E Court—subject to the decision of the court, when the appeal ends.

255 Notice of tribunal's decision

A tribunal must give a decision notice about the tribunal's decision for tribunal proceedings, other than for any directions or interim orders given by the tribunal, to all parties to proceedings.

256 No costs orders

A tribunal must not make any order as to costs.

257 Recipient's notice of compliance with direction or order

If a tribunal directs or orders a party to do something, the party must notify the registrar when the thing is done.

258 Tribunal may extend period to take action

(1) This section applies if, under this chapter, an action for tribunal proceedings must be taken within a stated period or before a stated time, even if the period has ended or the time has passed.

(2) The tribunal may allow a longer period or a different time to take the action if the tribunal considers there are sufficient grounds for the extension.

259 Publication of tribunal decisions

The registrar must publish tribunal decisions under the arrangements, and in the way, that the chief executive decides.

Schedule 1 Appeals

section 229

Appeal rights and parties to appeals

(1) Table 1 states the matters that may be appealed to—

(a) the P&E court; or

(b) a tribunal.

(2) However, table 1 applies to a tribunal only if the matter involves—

(a) the refusal, or deemed refusal of a development application, for—

(i) a material change of use for a classified building; or

(ii) operational work associated with building work, a retaining wall, or a tennis court; or

(b) a provision of a development approval for—

(i) a material change of use for a classified building; or

(ii) operational work associated with building work, a retaining wall, or a tennis court; or

(c) if a development permit was applied for—the decision to give a preliminary approval for—

(i) a material change of use for a classified building; or

(ii) operational work associated with building work, a retaining wall, or a tennis court; or

(d) a development condition if—

(i) the development approval is only for a material change of use that involves the use of a building classified under the Building Code as a class 2 building; and

(ii) the building is, or is proposed to be, not more than 3 storeys; and

(iii) the proposed development is for not more than 60 sole-occupancy units; or

(e) a decision for, or a deemed refusal of, an extension application for a development approval that is only for a material change of use of a classified building; or

(f) a decision for, or a deemed refusal of, a change

application for a development approval that is only for a material change of use of a classified building; or

(g) a matter under this Act, to the extent the matter relates to the Building Act, other than a matter under that Act that may or must be decided by the Queensland Building and Construction Commission; or

(h) a decision to give an enforcement notice—

(i) in relation to a matter under paragraphs (a) to (g); or

(ii) under the Plumbing and Drainage Act; or

(i) an infrastructure charges notice; or

(j) the refusal, or deemed refusal, of a conversion application; or

(l) a matter prescribed by regulation.

(3) Also, table 1 does not apply to a tribunal if the matter involves—

(a) for a matter in subsection (2)(a) to (d)—

(i) a development approval for which the development application required impact assessment; and

(ii) a development approval in relation to which the assessment manager received a properly made submission for the development application; or

(b) a provision of a development approval about the identification or inclusion, under a variation approval, of a matter for the development.

(4) Table 2 states the matters that may be appealed only to the P&E Court.

(5) Table 3 states the matters that may be appealed only to the tribunal.

(6) In each table—

(a) column 1 states the appellant in the appeal; and

(b) column 2 states the respondent in the appeal; and

(c) column 3 states the co-respondent (if any) in the appeal; and

(d) column 4 states the co-respondents by election (if any) in the appeal.

(7) If the chief executive receives a notice of appeal under section 230(3)(f), the chief executive may elect to be a co-respondent in the appeal.

(8) In this section—

***storey** see the Building Code, part A1.1.*

Table 1
Appeals to the P&E Court and, for certain matters, to a tribunal
1. Development applications *For a development application other than a development application called in by the* *Minister, an appeal may be made against—* *(a) the refusal of all or part of the development application; or* *(b) the deemed refusal of the development application; or* *(c) a provision of the development approval; or* *(d) if a development permit was applied for—the decision to give a preliminary approval.*

EXTRACT FROM THE *PLANNING ACT 2016* RELATING TO LAPSE DATES

Division 4 Lapsing of and extending development approvals

85 Lapsing of approval at end of current period

*(1) A part of a development approval lapses at the end of the following period (the **currency period**)—*

(a) for any part of the development approval relating to a material change of use—if the first change of use does not happen within—

(i) the period stated for that part of the approval; or

(ii) if no period is stated—6 years after the approval starts to have effect;

(b) for any part of the development approval relating to reconfiguring a lot—if a plan for the reconfiguration that, under the Land Title Act, is required to be given to a local government for approval is not given to the local government within—

(i) the period stated for that part of the approval; or

(ii) if no period is stated—4 years after the approval starts to have effect;

(c) for any other part of the development approval if the development does not substantially start within—

(i) the period stated for that part of the approval; or

(ii) if no period is stated—2 years after the approval starts to take effect.

(2) If part of a development approval lapses, any monetary security given for that part of the approval must be released.