

27 February 2026

Development Assessment Team  
Charters Towers Regional Council  
PO Box 189  
CHARTERS TOWERS QLD 4820  
[development@chartersowers.qld.gov.au](mailto:development@chartersowers.qld.gov.au)



Dear Sir/Madam

**DEVELOPMENT APPLICATION FOR A DEVELOPMENT PERMIT FOR MATERIAL CHANGE OF USE FOR WAREHOUSE AND PRELIMINARY APPROVAL FOR BUILDING WORKS (HERITAGE OVERLAY)  
3-9 NORMAN DUNGAVELL DRIVE, QUEENTON (LOT 1 ON RP901157)**

On behalf of Hollimans Pty Ltd, please accept this development application for a Development Permit for a Material Change of Use for a Warehouse and Preliminary Approval for building work assessable against the planning scheme (heritage overlay) at 3-9 Norman Dungavell Drive, Queenton formally known as Lot 1 on RP901157 (the subject site).

**Application fee and request for fee reduction:**

In accordance with Council's fees and charges the applicable fee is calculated below:

- DP - MCU – Warehouse: \$1,560 + (1550+94 x \$5/m<sup>2</sup> GFA) = \$9,780
- PA – Building Works - \$1,145
- **Total application fee: \$10,925**

The proposed warehouse is located within the Industry Zone, where this form of development is considered **accepted development** under the Charters Towers Regional Town Plan (Town Plan). The only reason the proposal requires a development application is the presence of the Regional Infrastructure Overlay, which triggers referral to the State for their assessment (railway and State-controlled Roads). Worth noting, the subject site is also impacted by the Heritage Overlay, which triggers assessment for building works, however this could be dealt with an exemption certificate, however given the circumstances (triggered for the Regional Infrastructure Overlay) this has been included in this application.

As a result, Council's role in the assessment is limited and does not involve consideration of land-use suitability, built-form outcomes, or technical design matters typically associated with warehouse development.



URBAN SPACE CONSULTING  
ABN: 93 676 969 510  
PO Box 5161 WEST END 4101  
[urbanspaceconsulting@outlook.com](mailto:urbanspaceconsulting@outlook.com)  
0404 539 291

Given that:

- the warehouse use itself is accepted development in the zone,
- the application is triggered solely due to the Regional Infrastructure Overlay (noting the Heritage Overlay),
- Council's assessment is confined to administrative processing and coordination of the State referral, and
- no detailed assessment of plans, impacts, or development parameters is required by Council,

We respectfully request that the warehouse application fee does not reflect the actual assessment effort required in this instance. Accordingly, we request that Council apply a reduced fee commensurate with the limited scope of Council's involvement.

We consider that a fee of the base rate for a Warehouse being \$1,560 is appropriate and proportionate to the nature of the assessment required.

Therefore, the requested amended fee is calculated below:

- DP - MCU – Warehouse base fee = \$1,560
- PA – Building Works - \$1,145
- **Requested application fee: \$2,705**

Thank you for your consideration of this request. Should any further information or clarification be required to support this request, please contact the undersigned at your convenience.

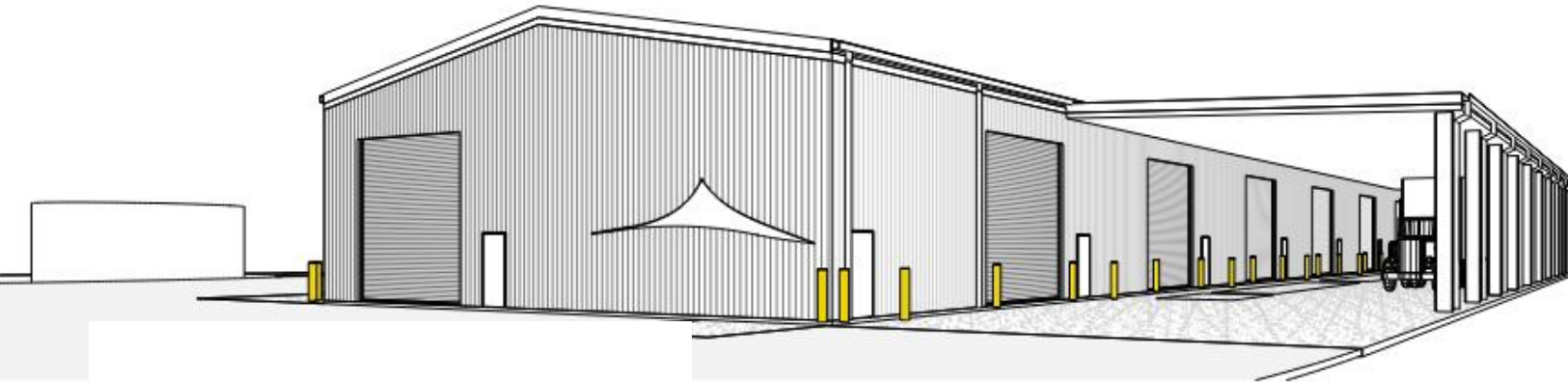
Yours sincerely,



Director

**URBAN SPACE CONSULTING**

Encl: Development Application Package



# TOWN PLANNING REPORT

3-9 NORMAN DUNGAVELL DRIVE  
QUEENTON

LOT 1 ON RP901157

FEBRUARY 2026

PREPARED FOR HOLLIMANS PTY LTD

US  
URBAN SPACE  
CONSULTING

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# Executive Summary

## Proposed Development

Type of Approval	Category of Assessment	Planning Scheme Use
Development Permit	Code Assessment	Warehouse
Preliminary Approval	Code Assessment	Building works assessable against the planning scheme (heritage overlay)

## Subject Site Details

Subject Site Address	3-9 Norman Dungavell Drive, Queenton
Property Description	Lot 1 on RP901157
Site Area	15,300m <sup>2</sup>
Landowner	Northmans QLD Pty Ltd A.C.N 613 265 259
Local Government	Charters Towers Regional Council
Planning Scheme	Charters Towers Town Plan
Zoning	Industry Zone
Relevant Overlays	Cultural Heritage Places (Local Heritage Place) Regional Infrastructure Overlay (State-controlled road and Railway corridor)
State Referrals	Schedule 10, Part 9, Division 4, Subdivision 2, Table 4 <ul style="list-style-type: none"><li>Within 25m of a State transport corridor (State-controlled road and railway)</li></ul> Schedule 10, Part 8, Division 2, Subdivision 1, Table 2 <ul style="list-style-type: none"><li>Shares common boundary with a Queensland Heritage Place (Railway Station)</li></ul>
SPP Mapping	Cultural Heritage <ul style="list-style-type: none"><li>State heritage place (adjoining)</li></ul> Transport Infrastructure <ul style="list-style-type: none"><li>State-controlled road</li><li>Railway corridor</li></ul> Natural Hazards Risk and Resilience <ul style="list-style-type: none"><li>Flood hazard area – local government flood mapping area</li></ul>

## Applicant Details

Applicant	Contact Details	Reference
Hollimans Pty Ltd C/- Urban Space Consulting	<a href="mailto:urbanspaceconsulting@outlook.com">urbanspaceconsulting@outlook.com</a> 0404 539 291 PO Box 5161 West End QLD 4101	USC131

# 1.0 Introduction

Urban Space Consulting has prepared this development application for a proposed development at 3-9 Norman Dungavell Drive, Queenton formally known as Lot 1 on RP901157 (subject site). This development application seeks approval for a Development Permit for a Material Change of Use for a Warehouse and Preliminary Approval for building work assessable against the planning scheme (heritage overlay).

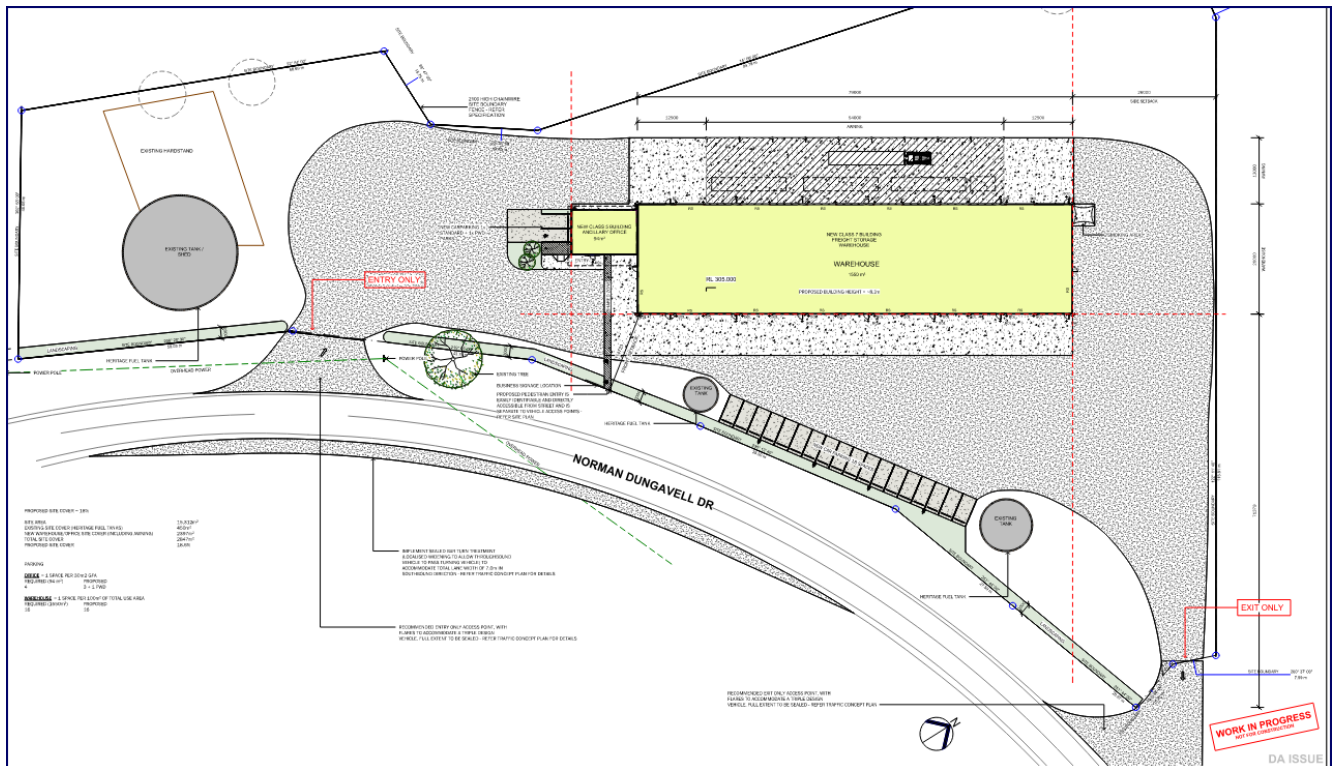


Figure 1: Proposed Development (source: Drawing Works)

This report addresses the merits of the proposed development with regard to the assessment benchmarks under the Charters Towers Regional Town Plan and the relevant sections of the *Planning Act 2016 (Planning Act)*.

This development application should be read in conjunction with the following supporting materials:

- Appendix A – DA Forms
- Appendix B – Smartmap and Title Search
- Appendix C – Land Owner Consent
- Appendix D – Proposal Plan prepared by Drawing Works
- Appendix E – Topographical Survey prepared by GJCM Surveys
- Appendix F – Traffic Impact Assessment prepared by Modus
- Appendix G – Site Based Stormwater Management Plan prepared by STP Consultants
- Appendix H - SPP Mapping Report
- Appendix I – SARA Mapping
- Appendix J – SDAP Response
- Appendix K– Town Plan Assessment Benchmarks, prepared by Urban Space Consulting

# 2.0 Subject Site and Surrounds

## 2.1 Subject Site

The proposed development is located at 3-9 Norman Dungavell Drive, Queenton shown in **Figure 2**. The subject site is located within the Charters Towers township and is surrounded by special purpose (railway) and industrial zoning to the north, east and west and Norman Dungavell Drive (State-controlled road) to the south, as shown in **Figure 3**. The subject site currently has two accesses to Norman Dungavell Drive.



**Figure 2:** Subject Site and Surrounding locality



Figure 3: Planning Scheme Land Use Zoning (source: Charters Towers Regional Town Plan)

## 2.2 Surrounding Context

The subject site is situated within a locality that is predominantly characterised by industrial operations and railway-related land uses. The surrounding area accommodates a mix of workshops, depots, transport yards and service industries, reflecting the long-established industrial function of this part of Queenton. The Queensland Rail corridor lies in close proximity, and associated infrastructure including sidings, maintenance areas and rail-support activities, which forms a defining element of the local urban fabric. As a result, the immediate context presents a distinctly utilitarian and employment-focused environment, with minimal residential presence and a strong emphasis on transport, logistics and industrial activity. This setting provides a clear and consistent backdrop for development that aligns with or responds to the established industrial and rail-oriented character of the precinct, as shown in **Figure 4**.

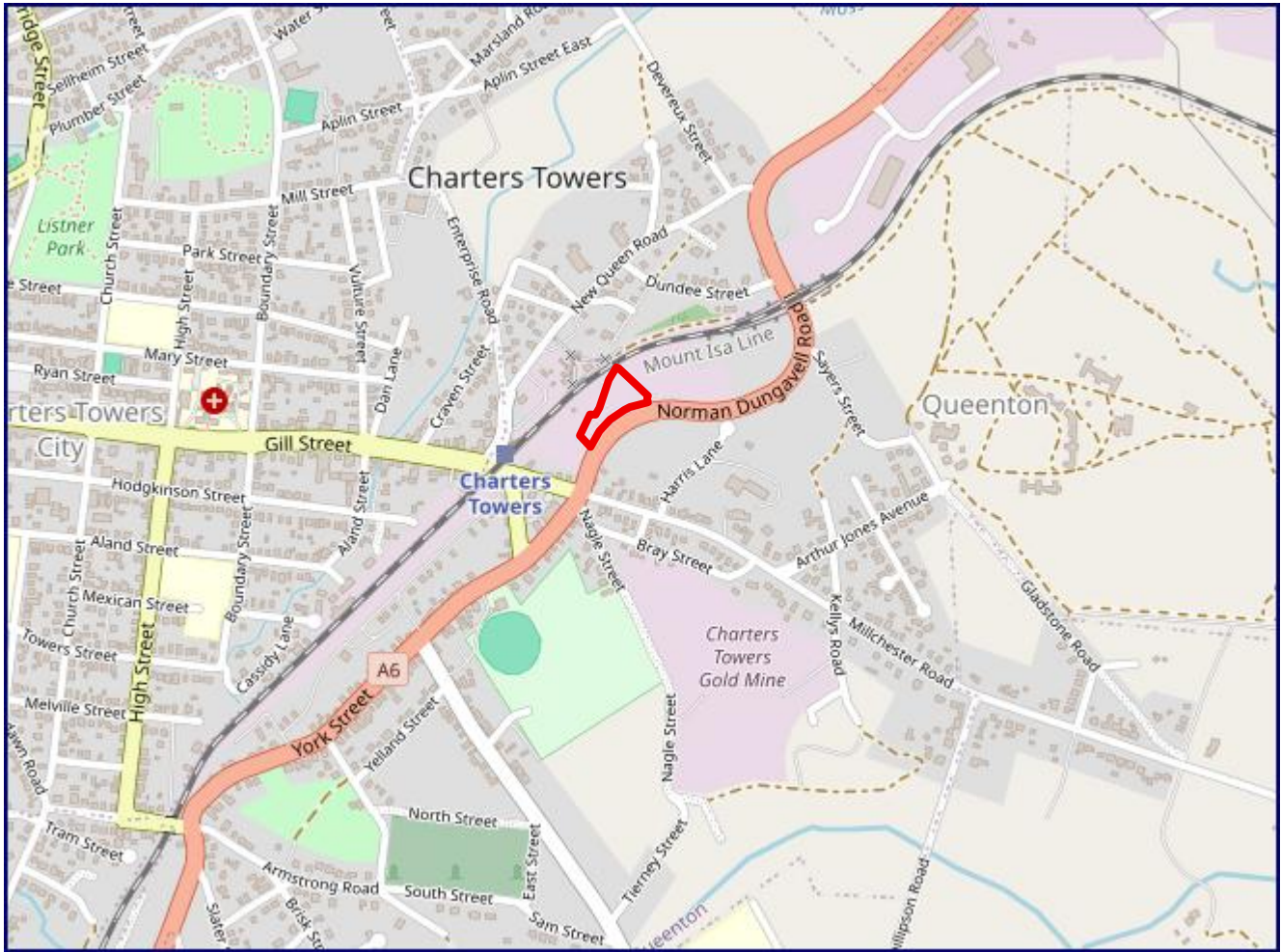


Figure 4: Subject Site and Surrounding locality (source: Open Street Map)

# 2.4 Easements and Encumbrances

There are currently no easements or encumbrances over the subject site, as shown in **Figure 5**.



**Figure 5:** Lot Boundaries and Easements (source: Queensland Globe)

# 3.0 Proposed Development

The proposal seeks a Development Permit for a Material Change of Use for a Warehouse Preliminary Approval for building work assessable against the planning scheme (heritage overlay).

## 3.1 Description of Proposed Development

The proposed development involves the construction of a purpose-built warehouse to accommodate Hollimans' agricultural supply inventory, which is currently stored in open areas across the site. The new warehouse will consolidate these materials into a secure, undercover facility, significantly improving the organisation, safety and weather protection of stored goods. The development also provides an opportunity to formalise and upgrade the site through improved access, circulation, and on-site operations, resulting in a more efficient and visually orderly layout. Overall, the proposal enhances the functionality and presentation of the premises while supporting the ongoing activities undertaken by Hollimans on the subject site currently. Architectural plans of the proposed development have been provided in **Appendix D**.



**Figure 6:** Proposed Development 3D Render (source: Drawing Works)

## 3.2 Development Details

A summary of the key components of the development proposal are summarised below in Table 2.

**Table 2:** Summary of Development

Key Development Parameters	Proposed Development
Defined Land Uses	Warehouse
Staging	The development will be constructed as one stage
Gross Floor Area	Warehouse – 1,550m <sup>2</sup> Ancillary office – 94m <sup>2</sup>
Building Height	Warehouse – 8.255m Ancillary office – 4.133m
Access	Ingress – Norman Dungavell Drive Egress – Norman Dungavell Drive
Car Parking	20 carparking spaces (including 1 PWD space)
Design vehicle	A-triple design vehicle (53.5m long)

## 3.3 Traffic

A Traffic Impact Assessment (TIA) has been prepared for the proposed warehouse development and is included in **Appendix F** of this report. The assessment confirms that the consolidation of Hollimans' agricultural supplies into a purpose-built warehouse will not generate any material increase in traffic volumes beyond the existing on-site operations. Vehicle movements associated with deliveries, staff access and customer pick-ups remain consistent with the established use of the site, and the surrounding road network has sufficient capacity to accommodate these movements without adverse impacts on safety or efficiency. The TIA also identifies opportunities to improve internal circulation and formalise access arrangements, ensuring the upgraded site operates in a safe, orderly and efficient manner.

## 3.3 Stormwater

A Site-Based Stormwater Management Report has been prepared to support the proposed warehouse development and is provided in **Appendix G** of this report. The assessment confirms that the upgraded layout, including the new undercover storage facility and associated site formalisation works, can be appropriately managed to ensure no worsening stormwater impacts on adjoining properties or the broader catchment. The report outlines the required on-site measures to maintain lawful discharge and ensure flows are safely conveyed through the site under both existing and developed conditions. These outcomes demonstrate that the proposal can achieve compliance with stormwater management standards while improving the overall functionality and environmental performance of the site.

# 4.0 State Planning

## 6.1 Legislative Framework

The Planning Act provides a legislative framework for planning and development matters across most areas of Queensland. It is identified that this framework established by the *Planning Act 2016* is relevant to the proposed development. To this end, the proposed development is not located within a Priority Development Area, State Development Area, Infrastructure Designation area, other or specific land use planning jurisdiction.

The Planning Act nominates several types of works within the definition of development.

Specifically, relevant to the proposed development, Schedule 2 of the Planning Act identifies the following types of works as being classified as *development making a material change of use of premises*. A *material change of use, of premises, means any of the following that a regulation made under section 284(2)(a) does not prescribe to be minor change of use—*

- (a) *the start of a new use of the premises;*
- (b) *the re-establishment on the premises of a use that has been abandoned;*
- (c) *a material increase in the intensity or scale of the use of the premises.*

In view of the above definitions, the proposed development reflects a Material Change of Use.

## 6.2 State Planning Policy

The State Planning Policy (SPP) was introduced on 3 July 2017 as part of the new State planning system. The SPP defines the Queensland Government's policies about matters of state interest in land use planning and development and provides direction for the preparation of local planning instruments and assessment of development applications. The SPP also includes assessment benchmarks for some development applications, if a planning scheme does not appropriately integrate the relevant state interest.

The SPP provides supporting mapping to assist in spatially representing policies and requirements contained within the SPP (refer **Appendix H**).

The mapping indicates that the following SPP matters apply to the site:

- Cultural Heritage
  - State heritage place (adjoining)
- Transport Infrastructure
  - State-controlled road
  - Railway corridor
- Natural Hazards Risk and Resilience
  - Flood hazard area – local government flood mapping area

It is noted that the Town Plan has not been prepared to fully reflect the latest SPP, and assessment of any proposed development against the Town Plan will therefore require assessment against SPP.

The SPP contains assessment benchmarks that are expressed as performance outcomes for the purpose of development assessment. Importantly, these assessment benchmarks apply to the extent the SPP has not been identified in the Town Plan as appropriately integrated. The proposed development has been assessed against and demonstrated to comply with the SPP assessment benchmarks.

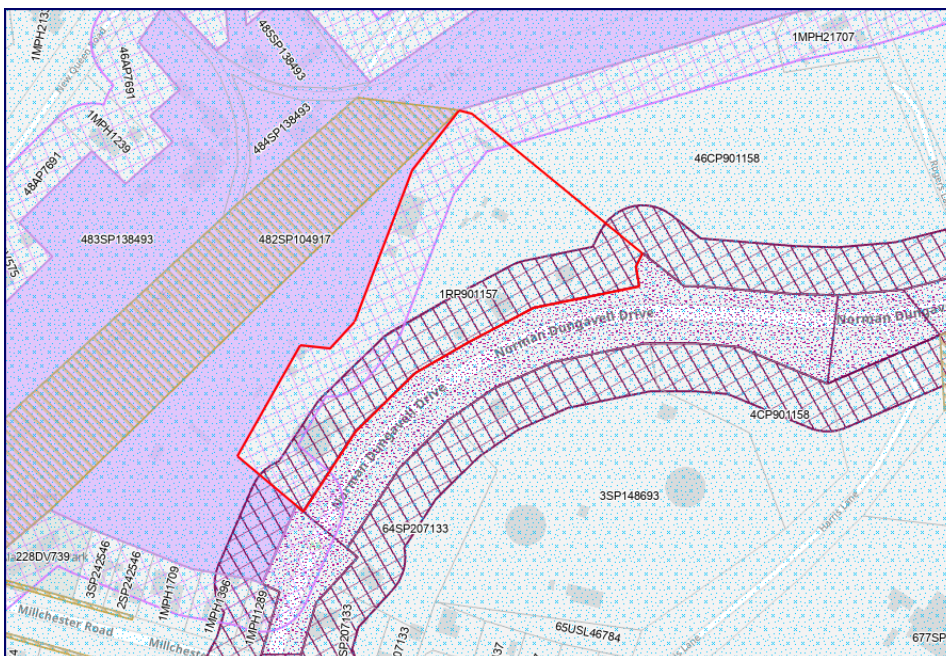
## 6.4 State Assessment Referral Agency

The State Assessment and Referral Agency (SARA), seeks to deliver a coordinated, whole-of-government approach to the state's assessment of development applications. The State Development Assessment Provisions (SDAP) is an outcome of the SARA and a statutory instrument made under the Planning Act which sets out matters of interest of the state for development assessment, where the chief executive of administering the Planning Act is the assessment manager or a referral agency.

Importantly, the SDAP provide assessment benchmarks for the assessment by the chief executive officer or a referral agency and provides applicants with the opportunity to address performance criteria to demonstrate that a development appropriately manages any impacts on a matter of state interest, and/or protects a development from impacts of matters of state interests. An extract from the SDAP Mapping is shown in **Figure 7** below and is attached in **Appendix I**. An assessment of Schedule 10 of the Planning Regulation has identified the application will require referral to SARA. A response to the relevant SDAP codes is provided in **Appendix J**.

Specifically, the proposed development is required to be referred in accordance with the following sections of the Planning Regulation:

- Schedule 10, Part 9, Division 4, Subdivision 2, Table 4
  - Within 25m of a State transport corridor (State-controlled road and Railway corridor)
- Schedule 10, Part 8, Division 2, Subdivision 1, Table 2
  - Shares common boundary with a Queensland Heritage Place (Railway Station)



**Figure 7:** SARA DA Mapping (source: Development Assessment Mapping System)

# 7.0 Local Government Planning

## 7.1 Local Planning Instrument

The Charters Towers Regional Town Plan is the local planning instrument that is used to assess the proposed development. The following sections of this report provide an assessment of the proposed development against the assessment benchmarks under the Charters Towers Regional Town Plan.

## 7.2 Purpose

The proposed development is identified within the Charters Towers Regional Town Plan as Warehouse. The Planning Scheme identifies:

**Warehouse** - *The use of premises for—*

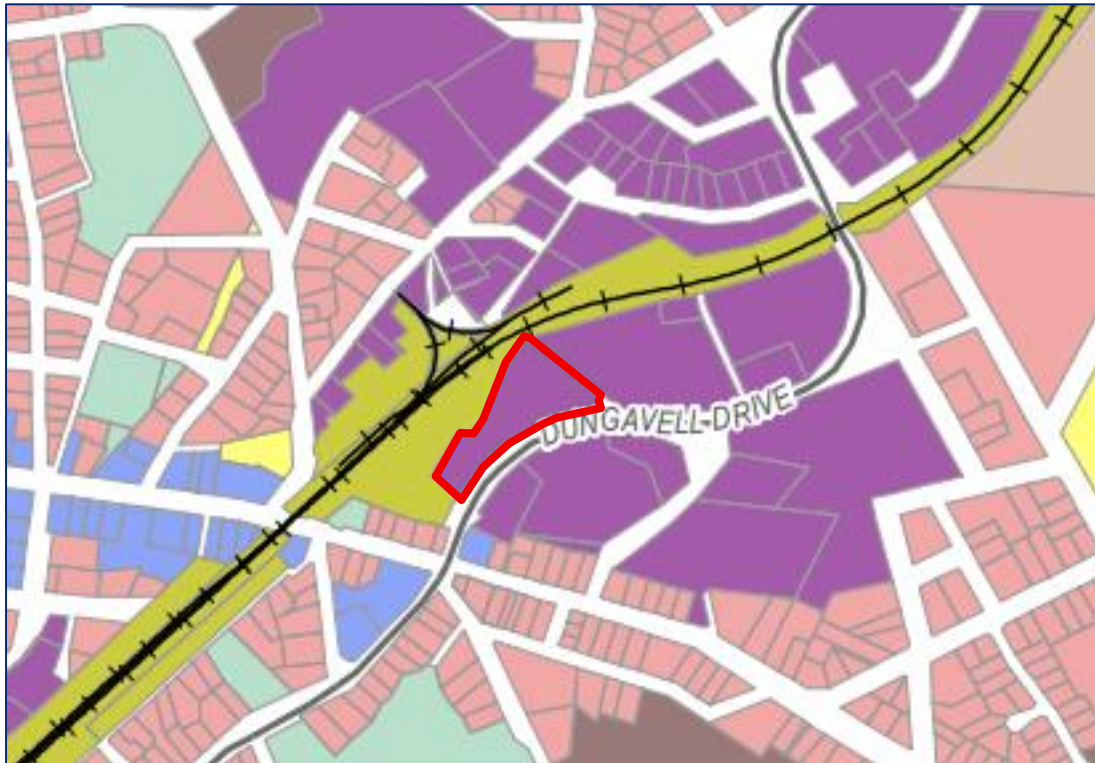
*(a) storing or distributing goods, whether or not carried out in a building; or*

*(b) the wholesale of goods, if the use is ancillary to the use in paragraph*

*Examples of a warehouse— self-storage facility, storage yard.*

## 7.3 Zoning

The subject site is included in the Industry zone of the Town Plan, as shown in **Figure 8** below.



**Figure 8:** Subject Site Zone Mapping (source: Charters Towers Regional Town Plan)

The purpose of the Industry zone is to be achieved through the following overall outcomes:

- a) *industrial activities are located, designed and managed to maintain public safety, avoid significant adverse effects on the natural environment and minimise impacts on adjacent non-industrial land;*
- b) *high impact, noxious and hazardous industrial uses require large development sites with appropriate separation from other land use activities;*
- c) *the zone also accommodates limited activities of wholesale, trade supplies and indoor sport and recreation uses which are difficult to locate in other areas, where these have low levels of potential impacts on surrounding areas;*
- d) *other non-industrial uses that are ancillary to, and directly support, the industrial area are facilitated;*
- e) *the zone does not accommodate uses which are primarily oriented to retail sales and commercial business activities and which are more appropriately located in centres, such as Shops, Shopping centres, showrooms and offices;*
- f) *uses and works for industrial purposes are located, designed and managed to maintain safety to people, avoid significant adverse effects on the natural environment and minimise impacts on adjacent non-industrial land;*
- g) *development maximises the use of existing transport infrastructure and has access to the appropriate level of transport infrastructure (railways, freight routes and motorways) and facilities such as airports;*
- h) *development is supported by transport infrastructure that is designed to provide and promote safe and efficient transport use, walking and cycling;*
- i) *development is designed to incorporate sustainable practices including maximising energy efficiency and water conservation;*
- j) *the scale, character and built form of development contributes to a high standard of amenity and makes a positive contribution to the public domain and streetscape particularly along major roads;*
- k) *the viability of both existing and future industrial uses are protected from the intrusion of incompatible uses;*
- l) *development responds to land constraints, including but not limited to topography, bushfire and flooding, former mining activities and land contamination;*
- m) *adverse impacts on natural features and processes, both on site and from adjoining areas, are minimised through location, design, operation and management of development;*
- n) *development avoids significant adverse effects on water quality and the natural environment; and*
- o) *industrial uses are adequately separated from sensitive land uses to minimise the likelihood of environmental harm or environmental nuisance occurring.*

The proposed development is able to fulfil the intent of the Industry zone by supporting an established industrial activity, improving the efficiency and functionality of on-site operations, and enhancing the overall presentation and performance of the premises. The warehouse consolidates existing storage into a purpose-built facility, strengthens the site's capacity to accommodate industrial uses safely and effectively, and contributes to the ongoing economic and employment role intended for land within the Industry zone.

## 7.4 Category of Assessment

The development application requests a Development Permit for Material Change of Use.

Table 5.4.3.1: Industry zone, identifies a warehouse within the table, as **Accepted Development subject to requirements** where *the land does not adjoin the General residential zone*. The subject site does not adjoin the general residential zone. The proposed development has been designed to meet the accepted development codes. For completeness, the accepted development criteria has been provided in **Appendix K**.

However, the subject site is impacted by the Heritage overlay (local heritage place) and Regional Infrastructure overlay, which require the application to be **assessable development - code assessment**.

## 7.5 Codes of Assessment

The following Assessment Benchmarks are considered relevant to the proposed development:

- Industry zone code (accepted development criteria only)
- Development works code (accepted development criteria only)
- Heritage overlay code
- Regional Infrastructure Overlay code

Please refer to **Appendix K** for a full and detailed response to each code of assessment.

## 8.0 Conclusion

Urban Space Consulting have prepared this town planning report in support of the proposed warehouse development at 3–9 Norman Dungavell Drive, Queenton. This development application seeks approval for a Development Permit for Material Change of Use and Preliminary Approval for building work assessable against the planning scheme to establish a purpose-built warehouse for the storage and handling of Hollimans' agricultural supplies, replacing the existing informal outdoor storage areas and formalising the site's operations. The following points are highlighted in support of the proposal:

- The development will enhance the functionality and efficiency of an established industrial activity within a precinct that is predominantly industrial and railway-oriented.
- The proposal is consistent with the intent and purpose of the Industry zone, supporting economic activity, employment and the ongoing industrial role of the locality.
- The development is able to comply with the relevant assessment benchmarks, or can be conditioned to do so.
- The proposal improves the operational performance, safety and presentation of the site by consolidating storage into a modern warehouse and formalising access, circulation and layout.

This report provides an assessment against all relevant instruments identified under section 45(3) of the Planning Act. From this assessment, it has been determined that the proposed development complies with, or can be conditioned to comply with, all applicable assessment benchmarks and should therefore be approved.

In view of the above information and the assessment carried out within this application, it is recommended that the proposed development be approved, subject to reasonable and relevant conditions.

# APPENDIX A

# DA Form 1 – Development application details

Approved form (version 1.6 effective 2 August 2024) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) and parts 4 to 6 of *DA Form 2 – Building work details*.

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*. For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

**Note:** All terms used in this form have the meaning given under the *Planning Act 2016*, the *Planning Regulation 2017*, or the *Development Assessment Rules (DA Rules)*.

## PART 1 – APPLICANT DETAILS

### 1) Applicant details

Applicant name(s) (individual or company full name)	Hollimans Pty Ltd C/- Urban Space Consulting
Contact name (only applicable for companies)	
Postal address (P.O. Box or street address)	PO Box 5161
Suburb	West End
State	Queensland
Postcode	4101
Country	Australia
Contact number	0404 539 291
Email address (non-mandatory)	urbanspaceconsulting@outlook.com
Mobile number (non-mandatory)	-
Fax number (non-mandatory)	-
Applicant's reference number(s) (if applicable)	USC131

#### 1.1) Home-based business

Personal details to remain private in accordance with section 264(6) of *Planning Act 2016*

### 2) Owner's consent

#### 2.1) Is written consent of the owner required for this development application?

- Yes – the written consent of the owner(s) is attached to this development application  
 No – proceed to 3)

## PART 2 – LOCATION DETAILS

### 3) Location of the premises (complete 3.1) or 3.2), and 3.3) as applicable)

**Note:** Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.

#### 3.1) Street address and lot on plan

- Street address **AND** lot on plan (all lots must be listed), **or**  
 Street address **AND** lot on plan for an adjoining or adjacent property of the premises (appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).

a)	Unit No.	Street No.	Street Name and Type	Suburb
		3-9	Norman Dungavell Drive	Queenton
	Postcode	Lot No.	Plan Type and Number (e.g. RP, SP)	Local Government Area(s)
	4820	1	RP901157	Charters Towers Regional Council
b)	Unit No.	Street No.	Street Name and Type	Suburb
	Postcode	Lot No.	Plan Type and Number (e.g. RP, SP)	Local Government Area(s)

#### 3.2) Coordinates of premises (appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)

**Note:** Place each set of coordinates in a separate row.

- Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) (if applicable)
		<input type="checkbox"/> WGS84 <input type="checkbox"/> GDA94 <input type="checkbox"/> Other: <input type="text"/>	

- Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) (if applicable)
		<input type="checkbox"/> 54 <input type="checkbox"/> 55 <input type="checkbox"/> 56	<input type="checkbox"/> WGS84 <input type="checkbox"/> GDA94 <input type="checkbox"/> Other: <input type="text"/>	

#### 3.3) Additional premises

- Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application  
 Not required

#### 4) Identify any of the following that apply to the premises and provide any relevant details

- In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer:

- On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:

Name of port authority for the lot:

- In a tidal area

Name of local government for the tidal area (if applicable):

Name of port authority for tidal area (if applicable)

<input type="checkbox"/> On airport land under the <i>Airport Assets (Restructuring and Disposal) Act 2008</i>
Name of airport: <input type="text"/>
<input type="checkbox"/> Listed on the Environmental Management Register (EMR) under the <i>Environmental Protection Act 1994</i>
EMR site identification: <input type="text"/>
<input type="checkbox"/> Listed on the Contaminated Land Register (CLR) under the <i>Environmental Protection Act 1994</i>
CLR site identification: <input type="text"/>

**5) Are there any existing easements over the premises?**

*Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see [DA Forms Guide](#).*

- Yes – All easement locations, types and dimensions are included in plans submitted with this development application
- No

## PART 3 – DEVELOPMENT DETAILS

### Section 1 – Aspects of development

**6.1) Provide details about the first development aspect**

a) What is the type of development? *(tick only one box)*

- Material change of use     Reconfiguring a lot     Operational work     Building work

b) What is the approval type? *(tick only one box)*

- Development permit     Preliminary approval     Preliminary approval that includes a variation approval

c) What is the level of assessment?

- Code assessment     Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots):*

Warehouse

e) Relevant plans

**Note:** *Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms guide: Relevant plans](#).*

- Relevant plans of the proposed development are attached to the development application

**6.2) Provide details about the second development aspect**

a) What is the type of development? *(tick only one box)*

- Material change of use     Reconfiguring a lot     Operational work     Building work

b) What is the approval type? *(tick only one box)*

- Development permit     Preliminary approval     Preliminary approval that includes a variation approval

c) What is the level of assessment?

- Code assessment     Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots):*

Building works assessable against the planning scheme (heritage overlay)

e) Relevant plans

**Note:** *Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms Guide: Relevant plans](#).*

- Relevant plans of the proposed development are attached to the development application



**6.3) Additional aspects of development**

- Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application
- Not required

**6.4) Is the application for State facilitated development?**

- Yes - Has a notice of declaration been given by the Minister?
- No

**Section 2 – Further development details****7) Does the proposed development application involve any of the following?**

Material change of use	<input checked="" type="checkbox"/> Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	<input type="checkbox"/> Yes – complete division 2
Operational work	<input type="checkbox"/> Yes – complete division 3
Building work	<input checked="" type="checkbox"/> Yes – complete <i>DA Form 2 – Building work details</i>

**Division 1 – Material change of use**

**Note:** This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.

**8.1) Describe the proposed material change of use**

Provide a general description of the proposed use	Provide the planning scheme definition (include each definition in a new row)	Number of dwelling units (if applicable)	Gross floor area (m <sup>2</sup> ) (if applicable)
Warehouse	Warehouse		1,644m <sup>2</sup>

**8.2) Does the proposed use involve the use of existing buildings on the premises?**

- Yes
- No

**8.3) Does the proposed development relate to temporary accepted development under the Planning Regulation?**

- Yes – provide details below or include details in a schedule to this development application
- No

Provide a general description of the temporary accepted development	Specify the stated period dates under the Planning Regulation

**Division 2 – Reconfiguring a lot**

**Note:** This division is only required to be completed if any part of the development application involves reconfiguring a lot.

**9.1) What is the total number of existing lots making up the premises?**

--

**9.2) What is the nature of the lot reconfiguration? (tick all applicable boxes)**

<input type="checkbox"/> Subdivision (complete 10)	<input type="checkbox"/> Dividing land into parts by agreement (complete 11)
<input type="checkbox"/> Boundary realignment (complete 12)	<input type="checkbox"/> Creating or changing an easement giving access to a lot from a constructed road (complete 13)



14.3) What is the monetary value of the proposed operational work? (include GST, materials and labour)

\$

## PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application

Charters Towers Regional Council

16) Has the local government agreed to apply a superseded planning scheme for this development application?

- Yes – a copy of the decision notice is attached to this development application
- The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
- No

## PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?

**Note:** A development application will require referral if prescribed by the Planning Regulation 2017.

- No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the **Chief Executive of the Planning Act 2016:**

- Clearing native vegetation
- Contaminated land (*unexploded ordnance*)
- Environmentally relevant activities (ERA) (*only if the ERA has not been devolved to a local government*)
- Fisheries – aquaculture
- Fisheries – declared fish habitat area
- Fisheries – marine plants
- Fisheries – waterway barrier works
- Hazardous chemical facilities
- Heritage places – Queensland heritage place (*on or near a Queensland heritage place*)
- Infrastructure-related referrals – designated premises
- Infrastructure-related referrals – state transport infrastructure
- Infrastructure-related referrals – State transport corridor and future State transport corridor
- Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
- Infrastructure-related referrals – near a state-controlled road intersection
- Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
- Koala habitat in SEQ region – key resource areas
- Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
- Ports – Brisbane core port land – environmentally relevant activity (ERA)
- Ports – Brisbane core port land – tidal works or work in a coastal management district
- Ports – Brisbane core port land – hazardous chemical facility
- Ports – Brisbane core port land – taking or interfering with water
- Ports – Brisbane core port land – referable dams
- Ports – Brisbane core port land – fisheries
- Ports – Land within Port of Brisbane's port limits (*below high-water mark*)
- SEQ development area
- SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
- SEQ regional landscape and rural production area or SEQ rural living area – community activity
- SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
- SEQ regional landscape and rural production area or SEQ rural living area – urban activity
- SEQ regional landscape and rural production area or SEQ rural living area – combined use
- SEQ northern inter-urban break – tourist activity or sport and recreation activity



Queensland  
Government

- SEQ northern inter-urban break – community activity
- SEQ northern inter-urban break – indoor recreation
- SEQ northern inter-urban break – urban activity
- SEQ northern inter-urban break – combined use
- Tidal works or works in a coastal management district
- Reconfiguring a lot in a coastal management district or for a canal
- Erosion prone area in a coastal management district
- Urban design
- Water-related development – taking or interfering with water
- Water-related development – removing quarry material (*from a watercourse or lake*)
- Water-related development – referable dams
- Water-related development – levees (*category 3 levees only*)
- Wetland protection area

**Matters requiring referral to the local government:**

- Airport land
- Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government*)
- Heritage places – Local heritage places

**Matters requiring referral to the Chief Executive of the distribution entity or transmission entity:**

- Infrastructure-related referrals – Electricity infrastructure

**Matters requiring referral to:**

- The **Chief Executive of the holder of the licence**, if not an individual
- The **holder of the licence**, if the holder of the licence is an individual
- Infrastructure-related referrals – Oil and gas infrastructure

**Matters requiring referral to the Brisbane City Council:**

- Ports – Brisbane core port land

**Matters requiring referral to the Minister responsible for administering the Transport Infrastructure Act 1994:**

- Ports – Brisbane core port land (*where inconsistent with the Brisbane port LUP for transport reasons*)
- Ports – Strategic port land

**Matters requiring referral to the relevant port operator, if applicant is not port operator:**

- Ports – Land within Port of Brisbane’s port limits (*below high-water mark*)

**Matters requiring referral to the Chief Executive of the relevant port authority:**

- Ports – Land within limits of another port (*below high-water mark*)

**Matters requiring referral to the Gold Coast Waterways Authority:**

- Tidal works or work in a coastal management district (*in Gold Coast waters*)

**Matters requiring referral to the Queensland Fire and Emergency Service:**

- Tidal works or work in a coastal management district (*involving a marina (more than six vessel berths)*)

**18) Has any referral agency provided a referral response for this development application?**

- Yes – referral response(s) received and listed below are attached to this development application
- No

Referral requirement	Referral agency	Date of referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application (*if applicable*).

## PART 6 – INFORMATION REQUEST

### 19) Information request under the DA Rules

- I agree to receive an information request if determined necessary for this development application  
 I do not agree to accept an information request for this development application

**Note:** By not agreeing to accept an information request I, the applicant, acknowledge:

- that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties
- Part 3 under Chapter 1 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules or
- Part 2 under Chapter 2 of the DA Rules will still apply if the application is for state facilitated development

Further advice about information requests is contained in the [DA Forms Guide](#).

## PART 7 – FURTHER DETAILS

### 20) Are there any associated development applications or current approvals? (e.g. a preliminary approval)

- Yes – provide details below or include details in a schedule to this development application  
 No

List of approval/development application references	Reference number	Date	Assessment manager
<input type="checkbox"/> Approval <input type="checkbox"/> Development application			
<input type="checkbox"/> Approval <input type="checkbox"/> Development application			

### 21) Has the portable long service leave levy been paid? (only applicable to development applications involving building work or operational work)

- Yes – a copy of the receipted QLeave form is attached to this development application  
 No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid  
 Not applicable (e.g. building and construction work is less than \$150,000 excluding GST)

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
\$		

### 22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

- Yes – show cause or enforcement notice is attached  
 No

## 23) Further legislative requirements

### Environmentally relevant activities

23.1) Is this development application also taken to be an application for an environmental authority for an **Environmentally Relevant Activity (ERA)** under section 115 of the *Environmental Protection Act 1994*?

- Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below
- No

**Note:** Application for an environmental authority can be found by searching “ESR/2015/1791” as a search term at [www.qld.gov.au](http://www.qld.gov.au). An ERA requires an environmental authority to operate. See [www.business.qld.gov.au](http://www.business.qld.gov.au) for further information.

Proposed ERA number:		Proposed ERA threshold:	
Proposed ERA name:			

- Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

### Hazardous chemical facilities

23.2) Is this development application for a **hazardous chemical facility**?

- Yes – *Form 536: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application
- No

**Note:** See [www.business.qld.gov.au](http://www.business.qld.gov.au) for further information about hazardous chemical notifications.

### Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

- Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)
- No

**Note:** 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.  
2. See <https://www.qld.gov.au/environment/land/vegetation/applying> for further information on how to obtain a s22A determination.

### Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

- Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter
- No

**Note:** The environmental offset section of the Queensland Government’s website can be accessed at [www.qld.gov.au](http://www.qld.gov.au) for further information on environmental offsets.

### Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

- Yes – the development application involves premises in the koala habitat area in the koala priority area
- Yes – the development application involves premises in the koala habitat area outside the koala priority area
- No

**Note:** If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at [www.desi.qld.gov.au](http://www.desi.qld.gov.au) for further information.

### Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the *Water Act 2000***?

Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

No

**Note:** Contact the Department of Resources at [www.resources.qld.gov.au](http://www.resources.qld.gov.au) for further information.

DA templates are available from [planning.statedevelopment.qld.gov.au](http://planning.statedevelopment.qld.gov.au). If the development application involves:

- Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1
- Taking or interfering with water in a watercourse, lake or spring: complete DA Form 1 Template 2
- Taking overland flow water: complete DA Form 1 Template 3.

### Waterway barrier works

23.7) Does this application involve **waterway barrier works**?

Yes – the relevant template is completed and attached to this development application

No

DA templates are available from [planning.statedevelopment.qld.gov.au](http://planning.statedevelopment.qld.gov.au). For a development application involving waterway barrier works, complete DA Form 1 Template 4.

### Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants**?

Yes – an associated resource allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

No

**Note:** See guidance materials at [www.daf.qld.gov.au](http://www.daf.qld.gov.au) for further information.

### Quarry materials from a watercourse or lake

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake under the *Water Act 2000***?

Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

No

**Note:** Contact the Department of Resources at [www.resources.qld.gov.au](http://www.resources.qld.gov.au) and [www.business.qld.gov.au](http://www.business.qld.gov.au) for further information.

### Quarry materials from land under tidal waters

23.10) Does this development application involve the **removal of quarry materials from land under tidal water under the *Coastal Protection and Management Act 1995***?

Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

No

**Note:** Contact the Department of Environment, Science and Innovation at [www.desi.qld.gov.au](http://www.desi.qld.gov.au) for further information.

### Referable dams

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the *Water Supply Act*)?

Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the *Water Supply Act* is attached to this development application

No

**Note:** See guidance materials at [www.resources.qld.gov.au](http://www.resources.qld.gov.au) for further information.



### **Tidal work or development within a coastal management district**

23.12) Does this development application involve **tidal work or development in a coastal management district**?

- Yes – the following is included with this development application:
- Evidence the proposal meets the code for assessable development that is prescribed tidal work (*only required if application involves prescribed tidal work*)
  - A certificate of title

No

**Note:** See guidance materials at [www.desi.qld.gov.au](http://www.desi.qld.gov.au) for further information.

### **Queensland and local heritage places**

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

Yes – details of the heritage place are provided in the table below

No

**Note:** See guidance materials at [www.desi.qld.gov.au](http://www.desi.qld.gov.au) for information requirements regarding development of Queensland heritage places.

For a heritage place that has cultural heritage significance as a local heritage place and a Queensland heritage place, provisions are in place under the Planning Act 2016 that limit a local categorising instrument from including an assessment benchmark about the effect or impact of, development on the stated cultural heritage significance of that place. See guidance materials at [www.planning.statedevelopment.qld.gov.au](http://www.planning.statedevelopment.qld.gov.au) for information regarding assessment of Queensland heritage places.

Name of the heritage place:	Signals, Crane and Subway; Charters Towers Railway Station	Place ID:	602627
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### **Decision under section 62 of the Transport Infrastructure Act 1994**

23.14) Does this development application involve new or changed access to a state-controlled road?

Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)

No

### **Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation**

23.15) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered

No

**Note:** See guidance materials at [www.planning.statedevelopment.qld.gov.au](http://www.planning.statedevelopment.qld.gov.au) for further information.

## PART 8 – CHECKLIST AND APPLICANT DECLARATION

### 24) Development application checklist

I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17

Yes

**Note:** See the *Planning Regulation 2017* for referral requirements

If building work is associated with the proposed development, Parts 4 to 6 of [DA Form 2 – Building work details](#) have been completed and attached to this development application

Yes

Not applicable

Supporting information addressing any applicable assessment benchmarks is with the development application

**Note:** This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see [DA Forms Guide: Planning Report Template](#).

Yes

Relevant plans of the development are attached to this development application

**Note:** Relevant plans are required to be submitted for all aspects of this development application. For further information, see [DA Forms Guide: Relevant plans](#).

Yes



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The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued (see 21)  Yes  Not applicable

**25) Applicant declaration**

- By making this development application, I declare that all information in this development application is true and correct
- Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001*

**Note:** It is unlawful to intentionally provide false or misleading information.

**Privacy** – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager’s and/or referral agency’s website. Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where:

- such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or
- required by other legislation (including the *Right to Information Act 2009*); or
- otherwise required by law.

This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002*.

**PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY**

Date received:  Reference number(s):

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment			
<i>Note: For completion by assessment manager if applicable</i>			
Description of the work			
QLeave project number			
Amount paid (\$)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

# DA Form 2 – Building work details

Approved form (version 1.2 effective 7 February 2020) made under Section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving building work**.

For a development application involving **building work only**, use this form (DA Form 2) only. The DA Forms Guide provides advice about how to complete this form.

For a development application involving **building work associated and any other type of assessable development** (i.e. material change of use, operational work or reconfiguring a lot), use *DA Form 1 – Development application details* and parts 4 to 6 of this form (DA Form 2).

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*. For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

**Note:** All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).

## PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (individual or company full name)	Hollimans Pty Ltd C/- Urban Space Consulting
Contact name (only applicable for companies)	
Postal address (PO Box or street address)	PO Box 5161
Suburb	West End
State	Queensland
Postcode	4101
Country	Australia
Contact number	0404 539 291
Email address (non-mandatory)	urbanspaceconsulting@outlook.com
Mobile number (non-mandatory)	-
Fax number (non-mandatory)	-
Applicant's reference number(s) (if applicable)	USC131

## PART 2 – LOCATION DETAILS

### 2) Location of the premises (complete 2.1 and 2.2 if applicable)

**Note:** Provide details below and attach a site plan for any or all premises part of the development application. For further information, see [DA Forms Guide: Relevant plans](#).

#### 2.1) Street address and lot on plan

- Street address **AND** lot on plan (all lots must be listed), **or**  
 Street address **AND** lot on plan for an adjoining or adjacent property of the premises (appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).

Unit No.	Street No.	Street Name and Type	Suburb
	3-9	Norman Dungavell Drive	Queenton
Postcode	Lot No.	Plan Type and Number (e.g. RP, SP)	Local Government Area(s)
4820	1	RP901157	Charters Towers Regional Council

### 2.2) Additional premises

- Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application
- Not required

### 3) Are there any existing easements over the premises?

**Note:** Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see the [DA Forms Guide](#)

- Yes – All easement locations, types and dimensions are included in plans submitted with this development application
- No

## PART 3 – FURTHER DETAILS

### 4) Is the application only for building work assessable against the building assessment provisions?

- Yes – proceed to 8)
- No

### 5) Identify the assessment manager(s) who will be assessing this development application

Charters Towers Regional Council

### 6) Has the local government agreed to apply a superseded planning scheme for this development application?

- Yes – a copy of the decision notice is attached to this development application
- The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
- No

### 7) Information request under Part 3 of the DA Rules

- I agree to receive an information request if determined necessary for this development application
- I do not agree to accept an information request for this development application

**Note:** By not agreeing to accept an information request I, the applicant, acknowledge:

- that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties.
- Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.

Further advice about information requests is contained in the [DA Forms Guide](#).

### 8) Are there any associated development applications or current approvals?

- Yes – provide details below or include details in a schedule to this development application
- No

List of approval/development application	Reference	Date	Assessment manager
<input type="checkbox"/> Approval			
<input type="checkbox"/> Development application			
<input type="checkbox"/> Approval			
<input type="checkbox"/> Development application			

**9) Has the portable long service leave levy been paid?**

- Yes – a copy of the receipted QLeave form is attached to this development application
- No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid
- Not applicable (e.g. building and construction work is less than \$150,000 excluding GST)

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
\$		

**10) Is this development application in response to a show cause notice or required as a result of an enforcement notice?**

- Yes – show cause or enforcement notice is attached
- No

**11) Identify any of the following further legislative requirements that apply to any aspect of this development application**

- The proposed development is on a place entered in the **Queensland Heritage Register** or in a local government's **Local Heritage Register**. See the guidance provided at [www.des.qld.gov.au](http://www.des.qld.gov.au) about the requirements in relation to the development of a Queensland heritage place

Name of the heritage place:	Adjoining State heritage: Signals, Crane and Subway, Charters Towers Railway Station	Place ID:	602627
Name of the heritage place:	Local heritage: Inland Fuel Depot	Place ID:	

## PART 4 – REFERRAL DETAILS

**12) Does this development application include any building work aspects that have any referral requirements?**

- Yes – the *Referral checklist for building work* is attached to this development application
- No – proceed to Part 5

**13) Has any referral agency provided a referral response for this development application?**

- Yes – referral response(s) received and listed below are attached to this development application
- No

Referral requirement	Referral agency	Date referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application (if applicable)

## PART 5 – BUILDING WORK DETAILS

**14) Owner's details**

- Tick if the applicant is also the owner and proceed to 15). Otherwise, provide the following information.

Name(s) (individual or company full name)	Hollimans Pty Ltd C/- Urban Space Consulting
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Contact name <i>(applicable for companies)</i>	
Postal address <i>(P.O. Box or street address)</i>	PO Box 5161
Suburb	West End
State	Queensland
Postcode	4101
Country	Australia
Contact number	0404 539 291
Email address <i>(non-mandatory)</i>	urbanspaceconsulting@outlook.com
Mobile number <i>(non-mandatory)</i>	-
Fax number <i>(non-mandatory)</i>	-

### 15) Builder's details

Tick if a builder has not yet been engaged to undertake the work and proceed to 16). Otherwise provide the following information.

Name(s) <i>(individual or company full name)</i>	
Contact name <i>(applicable for companies)</i>	
QBCC licence or owner – builder number	
Postal address <i>(P.O. Box or street address)</i>	
Suburb	
State	
Postcode	
Contact number	
Email address <i>(non-mandatory)</i>	
Mobile number <i>(non-mandatory)</i>	
Fax number <i>(non-mandatory)</i>	

### 16) Provide details about the proposed building work

What type of approval is being sought?

- Development permit  
 Preliminary approval

b) What is the level of assessment?

- Code assessment  
 Impact assessment *(requires public notification)*

c) Nature of the proposed building work (tick all applicable boxes)

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> New building or structure                               | <input type="checkbox"/> Repairs, alterations or additions |
| <input type="checkbox"/> Change of building classification <i>(involving building work)</i> | <input type="checkbox"/> Swimming pool and/or pool fence   |
| <input type="checkbox"/> Demolition   | <input type="checkbox"/> Relocation or removal             |

d) Provide a description of the work below or in an attached schedule.

building work assessable against the planning scheme (heritage overlay)

e) Proposed construction materials

External walls	<input type="checkbox"/> Double brick	<input type="checkbox"/> Steel	<input type="checkbox"/> Curtain glass
	<input type="checkbox"/> Brick veneer	<input type="checkbox"/> Timber	<input checked="" type="checkbox"/> Aluminium
	<input type="checkbox"/> Stone/concrete	<input type="checkbox"/> Fibre cement	<input type="checkbox"/> Other
Frame	<input type="checkbox"/> Timber	<input checked="" type="checkbox"/> Steel	<input type="checkbox"/> Aluminium
	<input type="checkbox"/> Other		

Floor	<input type="checkbox"/> Concrete	<input type="checkbox"/> Timber	<input type="checkbox"/> Other
Roof covering	<input type="checkbox"/> Slate/concrete <input type="checkbox"/> Aluminium	<input type="checkbox"/> Tiles <input type="checkbox"/> Steel	<input type="checkbox"/> Fibre cement <input type="checkbox"/> Other
f) Existing building use/classification? (if applicable)			
g) New building use/classification? (if applicable)			
h) Relevant plans <i>Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see <a href="#">DA Forms Guide: Relevant plans</a>.</i>			
<input checked="" type="checkbox"/> Relevant plans of the proposed works are attached to the development application			

**17) What is the monetary value of the proposed building work?**

\$

**18) Has Queensland Home Warranty Scheme Insurance been paid?**

Yes – provide details below  
 No

Amount paid	Date paid (dd/mm/yy)	Reference number
\$		

## PART 6 – CHECKLIST AND APPLICANT DECLARATION

**19) Development application checklist**

The relevant parts of <i>Form 2 – Building work details</i> have been completed	<input checked="" type="checkbox"/> Yes
This development application includes a material change of use, reconfiguring a lot or operational work and is accompanied by a completed <i>Form 1 – Development application details</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable
Relevant plans of the development are attached to this development application <i>Note: Relevant plans are required to be submitted for all aspects of this development application. For further information, see <a href="#">DA Forms Guide: Relevant plans</a>.</i>	<input type="checkbox"/> Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued (see 9)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable

**20) Applicant declaration**

By making this development application, I declare that all information in this development application is true and correct

Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001*

*Note: It is unlawful to intentionally provide false or misleading information.*

**Privacy** – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website. Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, *Planning Regulation 2017* and the DA Rules except where:

- such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the *Planning Regulation 2017*, and the access rules made under the *Planning Act 2016* and *Planning Regulation 2017*; or

- required by other legislation (including the *Right to Information Act 2009*); or
- otherwise required by law.

This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002*.

## PART 7 – FOR COMPLETION BY THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received:  Reference numbers:

### For completion by the building certifier

Classification(s) of approved building work

Name	QBCC Certification Licence number	QBCC Insurance receipt number

### Notification of engagement of alternative assessment manager

Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

### Additional information required by the local government

Confirm proposed construction materials:

External walls	<input type="checkbox"/> Double brick	<input type="checkbox"/> Steel	<input type="checkbox"/> Curtain glass
	<input type="checkbox"/> Brick veneer	<input type="checkbox"/> Timber	<input type="checkbox"/> Aluminium
	<input type="checkbox"/> Stone/concrete	<input type="checkbox"/> Fibre cement	<input type="checkbox"/> Other
Frame	<input type="checkbox"/> Timber	<input type="checkbox"/> Steel	<input type="checkbox"/> Aluminium
	<input type="checkbox"/> Other		
Floor	<input type="checkbox"/> Concrete	<input type="checkbox"/> Timber	<input type="checkbox"/> Other
Roof covering	<input type="checkbox"/> Slate/concrete	<input type="checkbox"/> Tiles	<input type="checkbox"/> Fibre cement
	<input type="checkbox"/> Aluminium	<input type="checkbox"/> Steel	<input type="checkbox"/> Other

### QLeave notification and payment

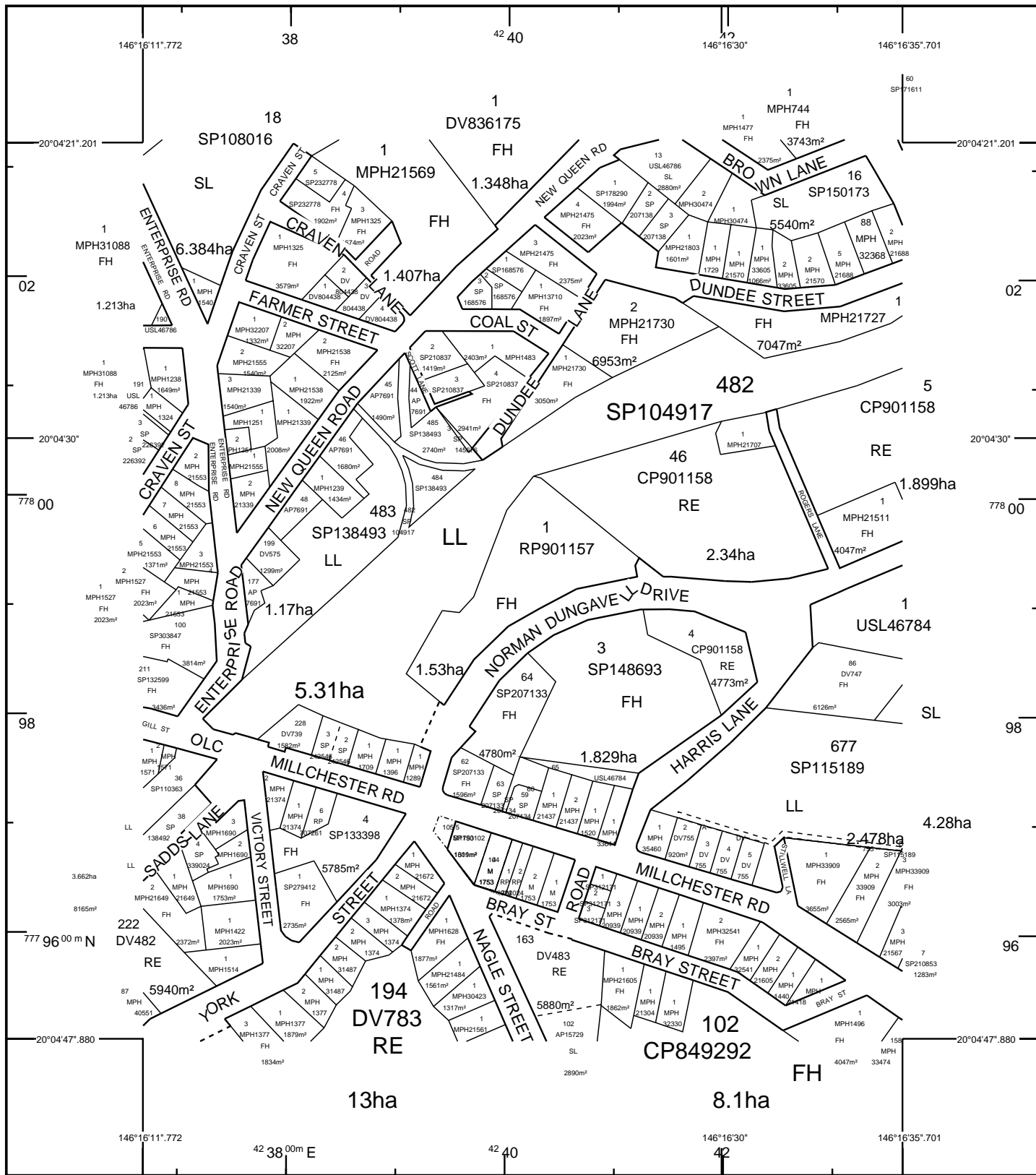
*Note: For completion by assessment manager if applicable*

Description of the work			
QLeave project number			
Amount paid (\$)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

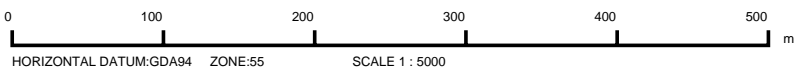
### Additional building details required for the Australian Bureau of Statistics

Existing building use/classification? <i>(if applicable)</i>			
New building use/classification?			
Site area (m <sup>2</sup> )		Floor area (m <sup>2</sup> )	

# APPENDIX B



STANDARD MAP NUMBER  
8157-14341



**SmartMap**

An External Product of  
SmartMap Information Services  
Based upon an extraction from the  
Digital Cadastral Data Base

MAP WINDOW POSITION &  
NEAREST LOCATION  
146°16'23".737  
20°04'34".540  
QUEENTON  
0.99 KM

SUBJECT PARCEL DESCRIPTION	
DCDB	1/RP901157
Lot/Plan	1.53ha
Area/Volume	FREEHOLD
Tenure	CHARTERS TOWERS REGIONAL
Local Government	QUEENTON
Locality	46784/181
Segment/Parcel	

CLIENT SERVICE STANDARDS	
PRINTED	14/03/2025
DCDB	13/03/2025
Users of the information recorded in this document (the Information) accept all responsibility and risk associated with the use of the Information and should seek independent professional advice in relation to dealings with property.	
Despite Department of Resources best efforts, RESOURCES makes no representations or warranties in relation to the Information, and, to the extent permitted by law, exclude or limit all warranties relating to correctness, accuracy, reliability, completeness or currency and all liability for any direct, indirect and consequential costs, losses, damages and expenses incurred in any way (including but not limited to that arising from negligence) in connection with any use of or reliance on the Information	
For further information on SmartMap products visit <a href="https://www.qld.gov.au/housing/buying-owning-home/property-land-valuations/smartmaps">https://www.qld.gov.au/housing/buying-owning-home/property-land-valuations/smartmaps</a>	



**Queensland Government**  
(c) The State of Queensland,  
(Department of Resources) 2025.



Queensland Titles Registry Pty Ltd  
ABN 23 648 568 101

<b>Title Reference:</b> 50213972	<b>Search Date:</b> 18/02/2026 13:45
<b>Date Title Created:</b> 14/04/1998	<b>Request No:</b> 55107625
<b>Previous Title:</b> 21058044	

### ESTATE AND LAND

Estate in Fee Simple

LOT 1 REGISTERED PLAN 901157

Local Government: CHARTERS TOWERS

### REGISTERED OWNER

Dealing No: 724159701 27/06/2025

NORTHMANS QLD PTY LTD A.C.N. 613 265 259

### EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by  
Conveyance No. 602584035 (N874787) (POR 30)
2. MORTGAGE No 724159702 27/06/2025 at 13:36  
WESTPAC BANKING CORPORATION A.C.N. 007 457 141

### ADMINISTRATIVE ADVICES

NIL

### UNREGISTERED DEALINGS

NIL

Caution - Charges do not necessarily appear in order of priority

\*\* End of Current Title Search \*\*

# APPENDIX C

**Company owner's consent to the making of a development application under the *Planning Act 2016***

**NORTHMANS QLD PTY LTD A.C.N. 613 265 259**

being the owner/s of the premises identified as follows:

**3-9 NORMAN DUNGAVELL DRIVE, QUEENTON  
LOT 1 ON RP901157**

consent to the making of a development application under the *Planning Act 2016* by:


**URBAN SPACE CONSULTING**

on the premises described above for:

**DEVELOPMENT APPLICATIONS AND DEALING WITH ANY ASSOCIATED MATTERS THAT MAY ARISE**

Company Name and ACN:

**NORTHMANS QLD PTY LTD A.C.N. 613 265 259**

 ..... Signature  Ben North ..... Name of signatory  <b>SOLE DIRECTOR*</b> DIRECTOR / SECRETARY Position of signatory (please circle)  18/02/2026 ..... Date	 ..... Signature  ..... Name of signatory  SOLE DIRECTOR* / DIRECTOR / SECRETARY Position of signatory (please circle)  ..... Date
--	---

*\*Where a Sole Director, only one signature is required*

*The Planning Act 2016* is administered by the Department of Local Government, Infrastructure and Planning, Queensland Government.

# APPENDIX D

Project No.  
2025053

Project Title  
**PROPOSED OFFICE AND WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollimans Pty Ltd

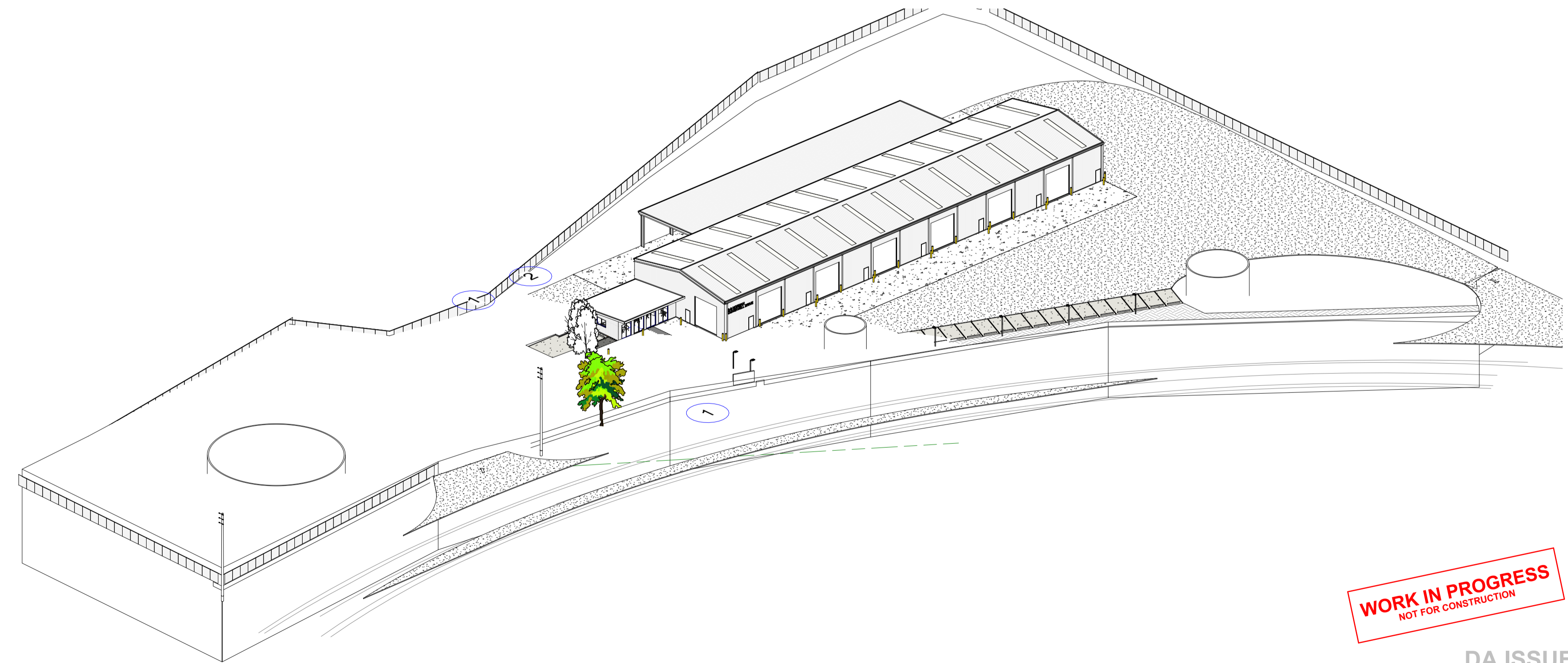
Contractor  
**LOT 1 ON RP 901157  
PARISH: CHARTERS TOWERS  
COUNTY: DAVENPORT**

- GENERAL NOTES**
- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANT'S DOCUMENTATION.
  - FLOOR COVERINGS TO BE NOMINATED ON THE PLANS OR AS OTHERWISE SPECIFIED.
  - ANY DISCREPANCIES BETWEEN THE DRAWINGS ARE TO BE IMMEDIATELY VERIFIED.
  - WC DOORS THAT OPEN IN ARE TO HAVE LIFT OFF HINGES.
  - REFER TO SELECTIONS SCHEDULE FOR COLOUR SCHEME.
  - DRIVEWAYS AND CROSSOVERS WITHIN THE ROAD VERGE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY STANDARD SPECIFICATIONS AND DRAWINGS - REFER TO LOCAL AUTHORITY FOR REQUIREMENTS.



SITE

LOCALITY PLAN  
1:10000



**WORK IN PROGRESS  
NOT FOR CONSTRUCTION**

DA ISSUE

Sheet List

Sheet Number	Sheet Name	Current Revision	Current Revision Date
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Revision Schedule		
Rev.	Description	Date
A	PRELIMINARY CONCEPT ISSUE	13/06/2025
B	DEVELOPMENT APPLICATION	28/07/2025
C	DRIVEWAY AMENDMENTS	24/02/2026

**drawing works**

USE SPACE BETTER PTY LTD. T/A  
DRAWING WORKS  
ABN 53611765956  
QBCC 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark@drawingworks.com.au

DESIGNED  
REVIEWED  
DRAWN  
MRN  
SIGNED:

Project Title  
**PROPOSED OFFICE AND WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollimans Pty Ltd

Sheet Title  
**TITLE SHEET**

Project No.  
2025053

Sheet No.  
**A001**

Scale (A1)  
As indicated

REVISION  
**C**



EXISTING SITE PLAN  
1:1000

**RELEVANT PLANNING CRITERIA & NOTES**

ADDRESS: 3-9 NORMAN DUNGAVELL DRIVE, QUEENTON, QLD, 4820  
 PROPERTY DESCRIPTION: LOT 1 ON RP901157  
 SITE AREA: 15300HA  
 LOCAL AUTHORITY: CHARTERS TOWERS REGIONAL COUNCIL  
 PLANNING SCHEME: CHARTERS TOWERS REGIONAL TOWN PLAN  
 ZONE: INDUSTRY ZONE  
 RELEVANT CODES: INDUSTRY ZONE CODE

ACCEPTABLE OUTCOMES PER THE INDUSTRY ZONE CODE:	AS PROPOSED:
AO1.1 MAX. BUILDING HEIGHT 12M	AO1.1 PROPOSED BUILDING HEIGHT = 8.25m
AO1.2 MAX. SITE COVER 75%	AO1.2 PROPOSED SITE COVER = 18% SITE AREA = 15,312m <sup>2</sup> EXISTING SITE COVER (HERITAGE FUEL TANKS) = 450m <sup>2</sup> NEW BUILDING SITE COVER = 2497m <sup>2</sup> TOTAL SITE COVER = 2947m <sup>2</sup>
AO2 MIN. 6M SETBACK FROM ROAD FRONTAGE	AO2 PROPOSED MINIMUM FRONT SETBACK = 14.7m
AO3.1 MAIN ENTRY IS EASILY IDENTIFIABLE AND DIRECTLY ACCESSIBLE FROM STREET, AND IS SEPARATE TO VEHICLE ACCESS POINTS	AO3.1 PROPOSED MAIN ENTRY IS EASILY IDENTIFIABLE AND DIRECTLY ACCESSIBLE FROM STREET, AND IS SEPARATE TO VEHICLE ACCESS POINTS - REFER SITE PLAN
AO3.2 EACH BUILDING OR TENANCY IS PROVIDED WITH A HIGHLY VISIBLE STREET AND UNIT NUMBER	AO3.2 EACH BUILDING OR TENANCY IS PROVIDED WITH A HIGHLY VISIBLE STREET AND UNIT NUMBER - REFER ELEVATIONS
AO3.3 PREMISES ARE PROVIDED WITH EXTERNAL LIGHTING	AO3.3 PREMISES ARE PROVIDED WITH EXTERNAL LIGHTING
AO3.4 ANCILLARY OFFICE SPACE IS SITED AND ORIENTED TOWARDS THE PRINCIPAL ROAD FRONTAGE	AO3.4 PROPOSED ANCILLARY OFFICE SPACE IS SITED AND ORIENTED TOWARDS THE PRINCIPAL ROAD FRONTAGE - REFER SITE PLAN
AO4.1 MIN. 5M SETBACK WHERE ADJOINING RESIDENTIAL WHERE ADJOINING RESIDENTIAL - PROVIDE 1.8M SOLID BOUNDARY FENCE AND 3M LANDSCAPE STRIP	AO4.1 N/A
AO4.2 BOUNDARY FENCE AND 3M LANDSCAPE STRIP	AO4.2 N/A
AO4.3 WHERE ADJOINING RESIDENTIAL - WINDOWS ARE SCREENED	AO4.3 N/A
AO5 UTILITY ELEMENTS ARE LOCATED WITHIN OR BEHIND THE BUILDING OR SCREENED.	AO5 NO UTILITY ELEMENTS VISIBLE FROM STREET
AO7 MIN. 2M LANDSCAPING ALONG ENTIRE ROAD FRONTAGE EXCLUDING DRIVEWAY	AO7 PROPOSED INCLUDES MIN. 2M LANDSCAPING ALONG ENTIRE ROAD FRONTAGE - REFER SITE PLAN
AO8.1 DEVELOPMENT TO MEET AIR QUALITY DEIGN OBJECTIVES STORAGE OF MATERIAL CAPABLE OF GENERATING AIR CONTAMINANTS IS MANAGED SO MATERIAL CANNOT BECOME AIRBORNE	AO8.1 DEVELOPMENT TO MEET AIR QUALITY DEIGN OBJECTIVES STORAGE OF MATERIAL CAPABLE OF GENERATING AIR CONTAMINANTS IS MANAGED SO MATERIAL CANNOT BECOME AIRBORNE
AO8.2 STORAGE OF POTENTIALLY CONTAMINATING SUBSTANCES ARE ROOFED AND SEALED AND LOCATED ABOVE THE DEFINED FLOOD LEVEL	AO8.2 STORAGE OF POTENTIALLY CONTAMINATING SUBSTANCES ARE ROOFED AND SEALED AND LOCATED ABOVE THE DEFINED FLOOD LEVEL
AO9 DEVELOPMENT ACHIEVES SET NOISE GENERATION LEVELS	AO9 DEVELOPMENT ACHIEVES SET NOISE GENERATION LEVELS
AO10.1 LIGHTING COMPLIES WITH AS4282	AO10.1 LIGHTING COMPLIES WITH AS4282
AO10.2 OUTDOOR LIGHTING IS PROVIDED PER AS1158.1	AO10.2 OUTDOOR LIGHTING IS PROVIDED PER AS1158.1
AO11.1 STORAGE OF POTENTIALLY CONTAMINATING SUBSTANCES ARE ROOFED AND SEALED AND LOCATED ABOVE THE DEFINED FLOOD LEVEL	AO11.1 STORAGE OF POTENTIALLY CONTAMINATING SUBSTANCES ARE ROOFED AND SEALED AND LOCATED ABOVE THE DEFINED FLOOD LEVEL
AO11.2 PROVISION FOR SPILLS WITH BUNDED AREAS AND APPROVED DISPOSAL MEANS	AO11.2 PROVISION FOR SPILLS WITH BUNDED AREAS AND APPROVED DISPOSAL MEANS
AO11.3 ROOF WATER IS PIPED AWAY FROM AREAS OF POTENTIAL CONTAMINATION	AO11.3 ROOF WATER IS PIPED AWAY FROM AREAS OF POTENTIAL CONTAMINATION
AO12 WHERE WITHIN 150M OF A SENSITIVE LAND USE OR RESIDENTIAL ZONE, HOURS OF OPERATION ARE LIMITED TO 7:00 TO 18:00 DAILY	AO12 OPERATIONAL HOURS TO CONFORM TO AO12
AO13.1 MAX. 1 NO. CARETAKER'S ACCOMM.	AO13.1 N/A
AO13.2 MAX. 50M <sup>2</sup> GFA FOR CARETAKER ACCOMM.	AO13.2 N/A
AO14 MAX 100M <sup>2</sup> AREA USED FOR ANCILLARY OFFICE	AO14 94M <sup>2</sup> OFFICE AREA PROPOSED
AO15 MAX 250M <sup>2</sup> FOR ANY AGRICULTURAL SUPPLIES STORE, GARDEN CENTRE AND HARDWARE AND TRADE SUPPLIES	AO15 N/A
AO19 FOOD AND DRINK OUTLET	AO19 N/A
AO21 SERVICE STATION USE	AO21 N/A

**DEVELOPMENT APPROVAL**

PROPOSAL: TBC  
 APPLICATION NUMBER: TBC  
 ADDRESS: 3-9 NORMAN DUNGAVELL DRIVE  
 PROPERTY DESCRIPTION: LOT 1 ON RP901157

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DA ISSUE

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 NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED

Rev.	Description	Date
A	PRELIMINARY CONCEPT ISSUE	19/06/2025
B	DEVELOPMENT APPLICATION	28/07/2025
C	DRIVEWAY AMENDMENTS	24/02/2026

**drawing works**

USE SPACE BETTER PTY LTD. T/A DRAWING WORKS  
 ABN 53617765956  
 QBCC 15212911  
 Suite 2, 197 Flinders Street  
 Townsville City QLD 4810  
 www.drawingworks.com.au  
 PHONE: 0438 473 982  
 EMAIL: mark.norton@spacecourts.com

DESIGNED  
 REVIEWED  
 DRAWN MRN  
 SIGNED:

Project Title  
**PROPOSED OFFICE AND WAREHOUSE COMPLEX**

Site Address  
 3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
 Hollimans Pty Ltd

Sheet Title  
**EXISTING SITE PLAN AND TOWN PLANNING NOTES**

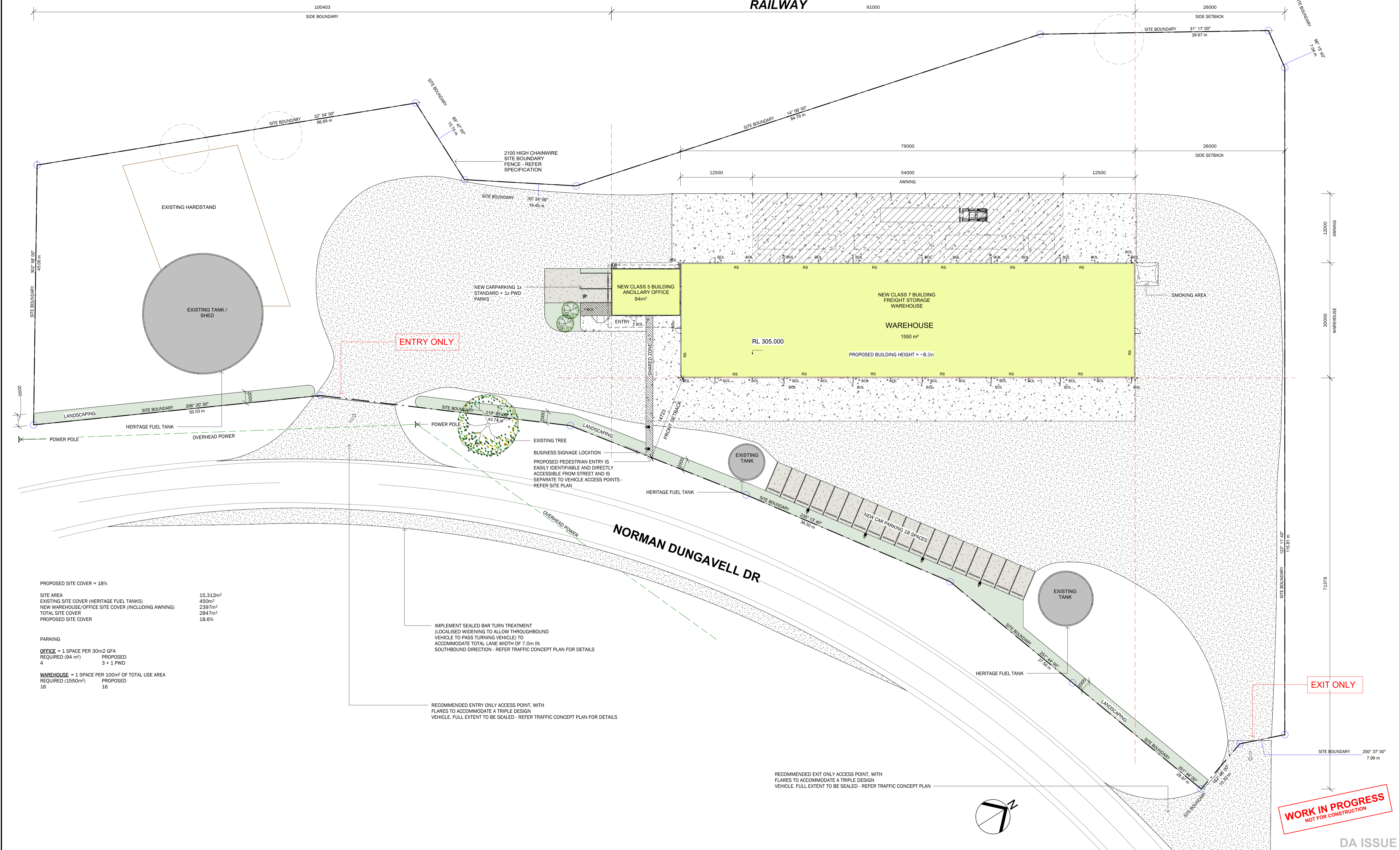
Project No.  
 2025053

Sheet No.  
**A102**

Scale (A1)  
 As indicated

REVISION  
**C**

**GREAT  
NORTHERN  
RAILWAY**



PROPOSED SITE COVER = 18%

SITE AREA	15,312m <sup>2</sup>
EXISTING SITE COVER (HERITAGE FUEL TANKS)	450m <sup>2</sup>
NEW WAREHOUSE/OFFICE SITE COVER (INCLUDING AWNING)	2397m <sup>2</sup>
TOTAL SITE COVER	2847m <sup>2</sup>
PROPOSED SITE COVER	18.6%

PARKING

OFFICE = 1 SPACE PER 30m <sup>2</sup> GFA	PROPOSED
REQUIRED (94 m <sup>2</sup> )	3 + 1 PWD
4	
WAREHOUSE = 1 SPACE PER 100m <sup>2</sup> OF TOTAL USE AREA	PROPOSED
REQUIRED (1550m <sup>2</sup> )	16
16	

IMPLEMENT SEALED BAR TURN TREATMENT (LOCALISED WIDENING TO ALLOW THROUGHBOUND VEHICLE TO PASS TURNING VEHICLE) TO ACCOMMODATE TOTAL LANE WIDTH OF 7.0m IN SOUTHBOUND DIRECTION - REFER TRAFFIC CONCEPT PLAN FOR DETAILS

RECOMMENDED ENTRY ONLY ACCESS POINT, WITH FLARES TO ACCOMMODATE A TRIPLE DESIGN VEHICLE. FULL EXTENT TO BE SEALED - REFER TRAFFIC CONCEPT PLAN FOR DETAILS

RECOMMENDED EXIT ONLY ACCESS POINT, WITH FLARES TO ACCOMMODATE A TRIPLE DESIGN VEHICLE. FULL EXTENT TO BE SEALED - REFER TRAFFIC CONCEPT PLAN

**EXIT ONLY**

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NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED

Rev.	Description	Date
A	PRELIMINARY CONCEPT ISSUE	13/06/2025
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**drawing works**

USE SPACE BETTER PTY LTD. T/A DRAWING WORKS  
 ABN 53617765956  
 QBCC 15212911  
 Suite 2, 197 Flinders Street  
 Townsville City QLD 4810  
 www.drawingworks.com.au  
 PHONE: 0438 473 982  
 EMAIL: mark.norton@spacecourts.com

DESIGNED  
 REVIEWED  
 DRAWN  
 MRN  
 SIGNED:

Project Title  
**PROPOSED OFFICE AND WAREHOUSE COMPLEX**

Site Address  
 3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
 Hollimans Pty Ltd

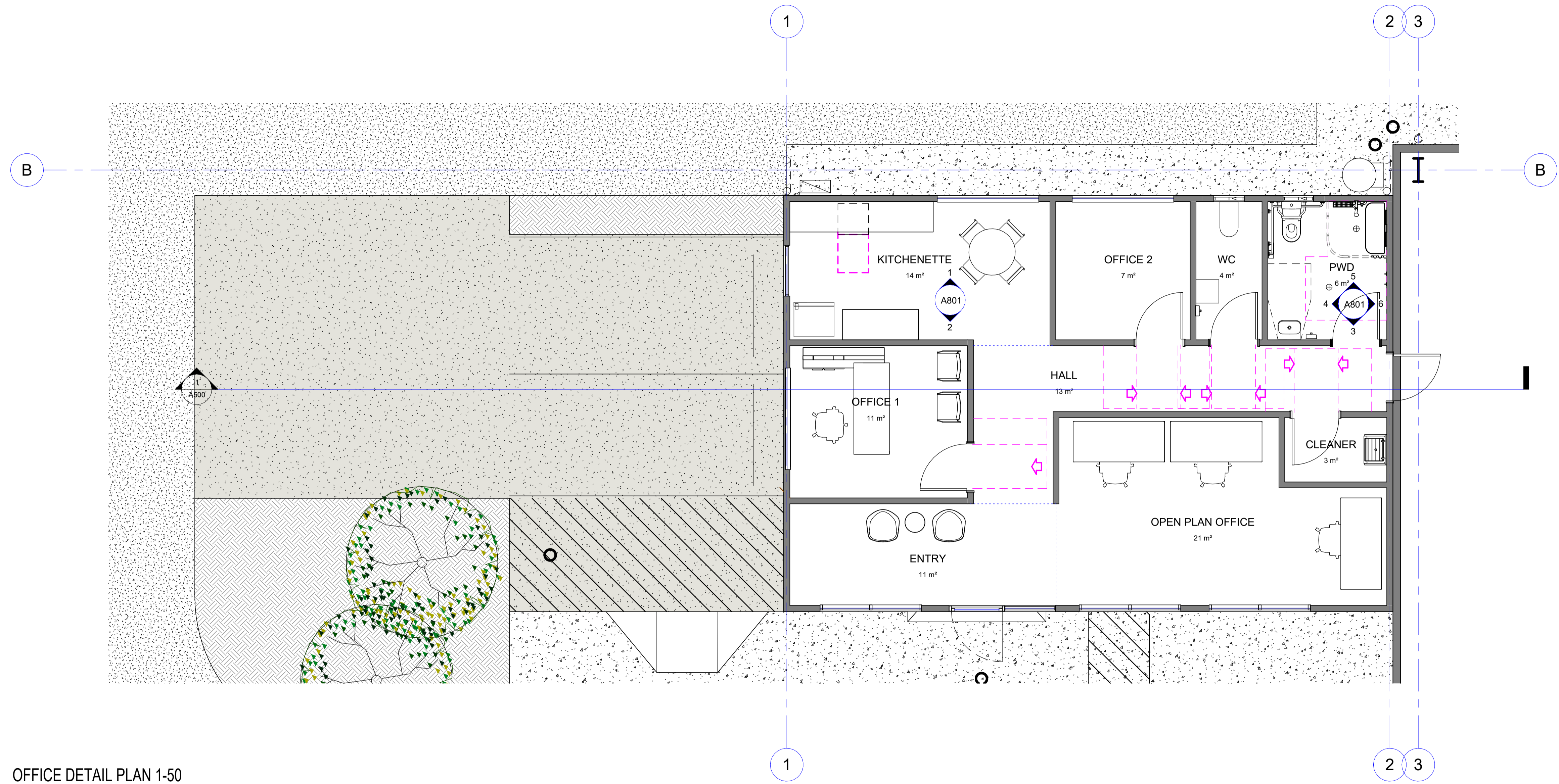
Sheet Title  
**PROPOSED SITE PLAN**

Project No.  
 2025053

Sheet No.  
**A103**

Scale (A1)  
 1:300

REVISION  
**C**



OFFICE DETAIL PLAN 1-50  
1:50

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CURRENT MANUFACTURER'S SPECIFICATIONS & INSTALLATION DETAILS  
FOR MATERIALS USED

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Revision Schedule		
Rev.	Description	Date
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**drawing works**

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QBCC 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark.norton@spacecourts.com

DESIGNED:  
REVIEWED:  
DRAWN:  
MRN  
SIGNED:

Project Title  
**PROPOSED OFFICE AND  
WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollmans Pty Ltd

Sheet Title  
**PROPOSED OFFICE FLOOR PLAN**

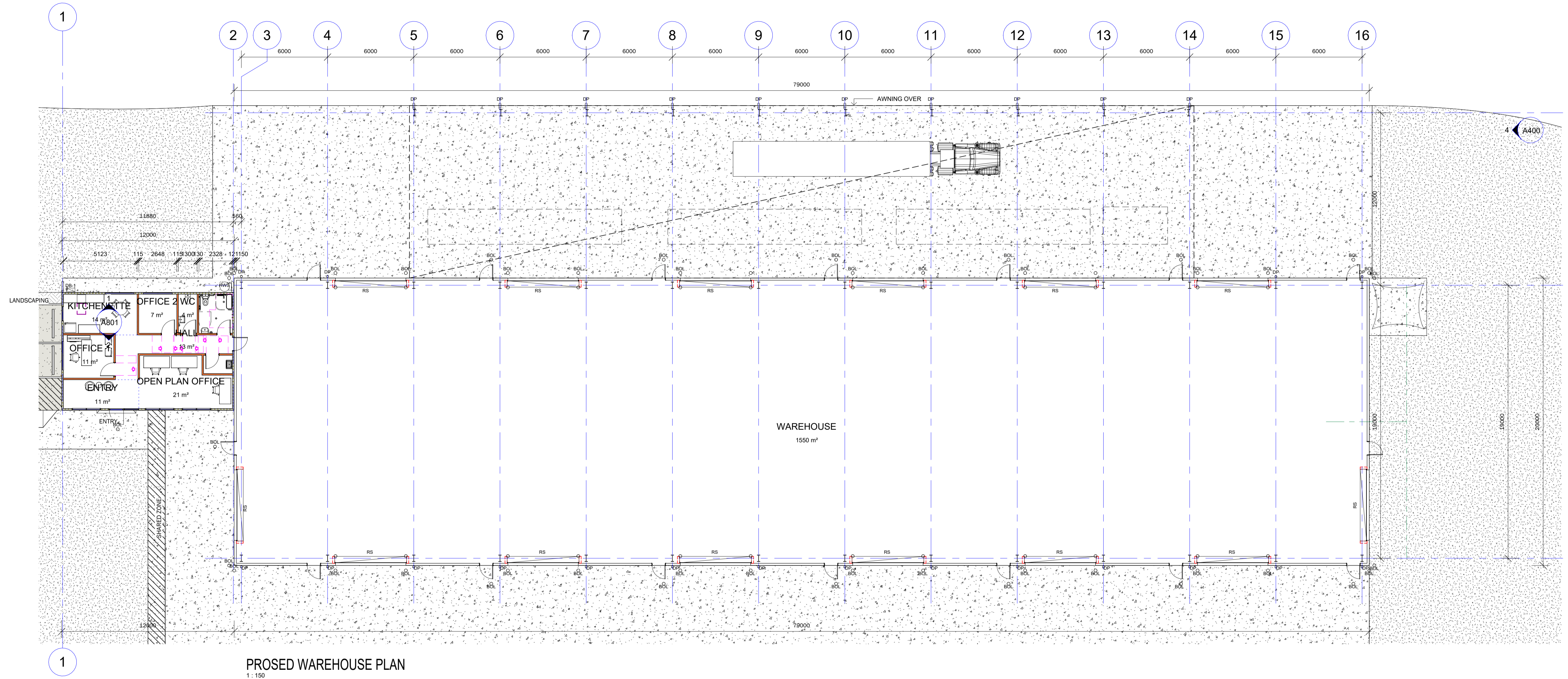
Project No.  
2025053

Sheet No.  
**A201a**

Scale (A1)  
1:50

REVISION  
**C**

KEYNOTE LEGEND	
BOL	225MM CAST-IN BOLLARD, GALVANISED WITH PAINT FINISH 'SAFETY YELLOW'
DB-1	DISTRIBUTION BOARD 1 - REFER ELECTRICAL
DP	150mm DIA RAINWATER DOWNPIPE
HWS	
RS	ROLLER SHUTTER



PROSED WAREHOUSE PLAN  
1:150

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BUILDING REGULATIONS & LOCAL GOVERNMENT PLANS & POLICIES  
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FOR MATERIALS USED

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Revision Schedule		
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**drawing works**

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Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark.norton@spacecourts.com

DESIGNED  
REVIEWED  
DRAWN  
MRR  
SIGNED:

Project Title  
**PROPOSED OFFICE AND  
WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollmans Pty Ltd

Sheet Title  
**PROPOSED FLOOR PLAN**

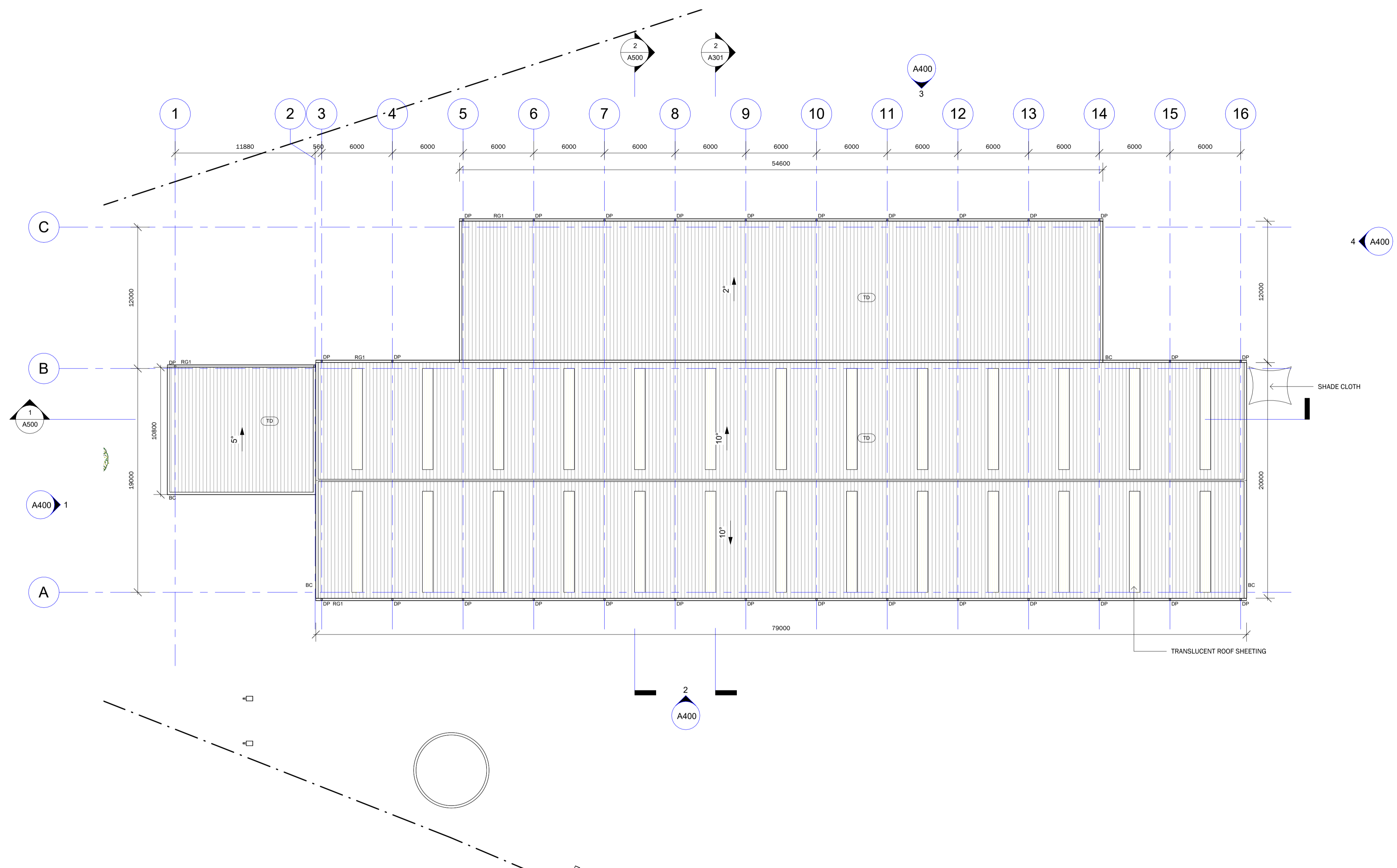
Project No.  
2025053

Sheet No.  
**A201b**

Scale (A1)  
1:150

REVISION  
**C**

KEYNOTE LEGEND	
BC	BARGE CAPPING
DP	150mm DIA RAINWATER DOWNPIPE
RG1	COLORBOND QUAD GUTTER & FASCIA - REFER HYDRAULIC ENG'S DETAILS
TD	TRIMDEK WALL/ROOF SHEETING 0.48 BMT COLORBOND STEEL - TO SPECIFICATION. SURFMIST



**ROOF PLAN**  
1 : 200

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C	DRIVEWAY AMENDMENTS	24/02/2026

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USE SPACE BETTER PTY LTD. T/A  
DRAWING WORKS  
ABN 53617765956  
QBC 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark.norton@spacecourts.com

DESIGNED  
REVIEWED  
DRAWN  
MRN  
SIGNED:

Project Title  
**PROPOSED OFFICE AND  
WAREHOUSE COMPLEX**

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3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollmans Pty Ltd

Sheet Title  
**PROPOSED ROOF PLAN**

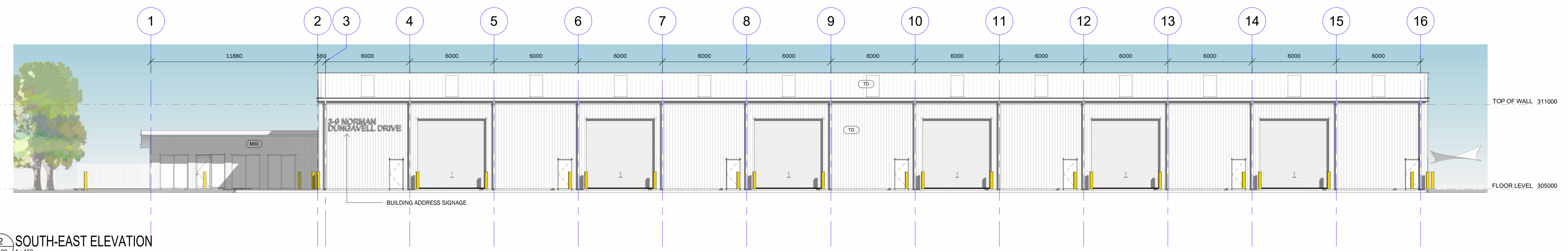
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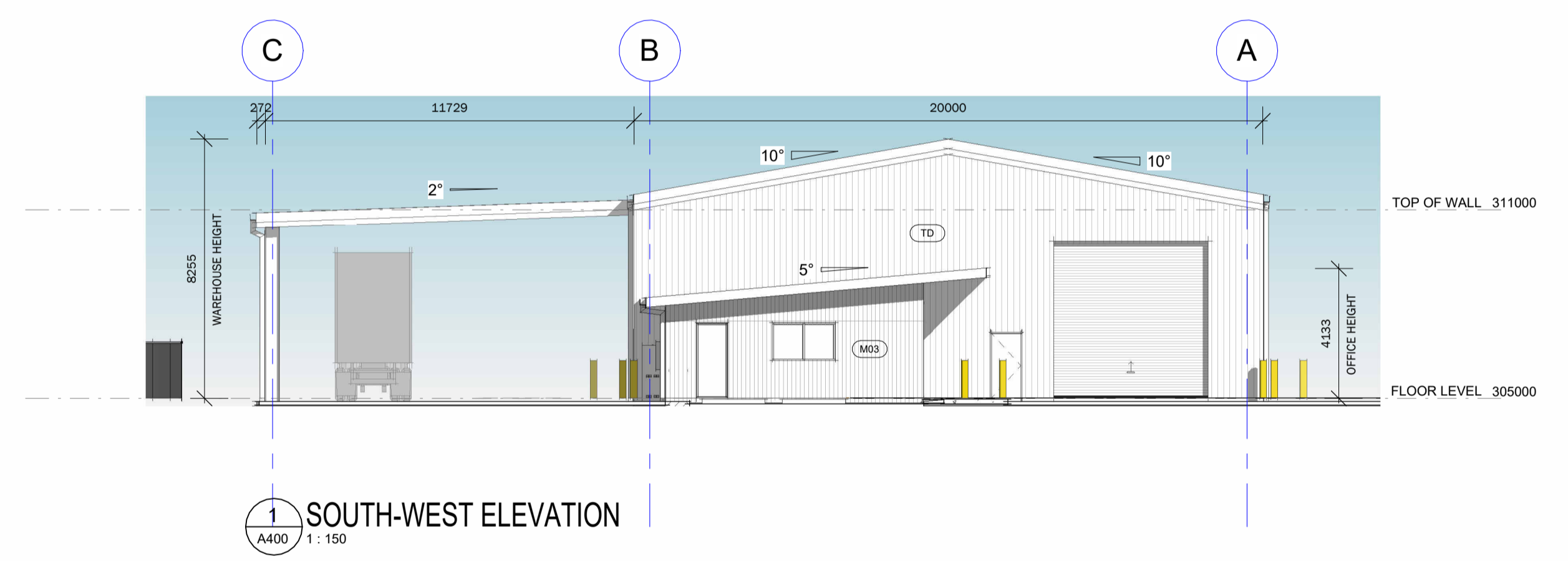
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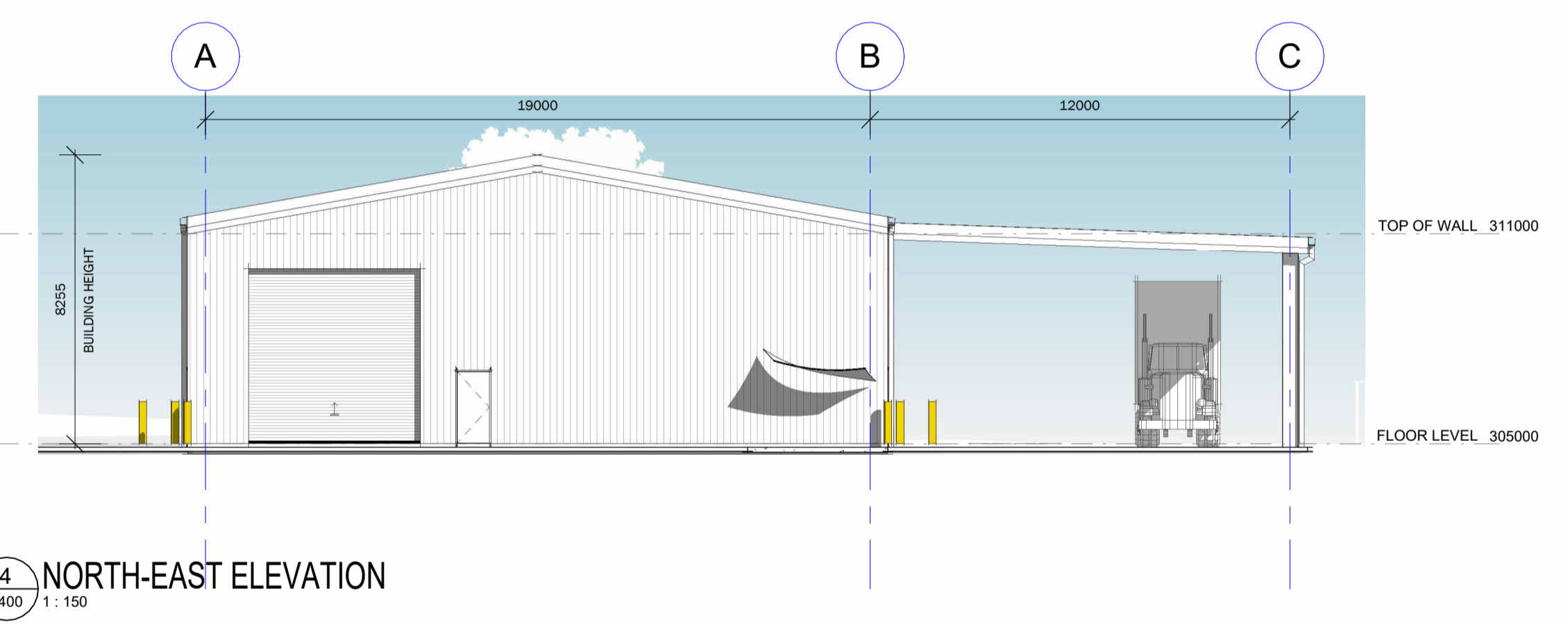
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M03	JAMES HARDIE AXION
R1	PURLIN ROOF WITH STEEL ROOF SHEETING, 10deg PITCH
TD	TRIMDEK WALL/ROOF SHEETING 0.48 BMT COLORBOND STEEL - TO SPECIFICATION, SURFMIST
WT1	EXTERNAL WAREHOUSE WALL - REFER WALL SCHEDULE



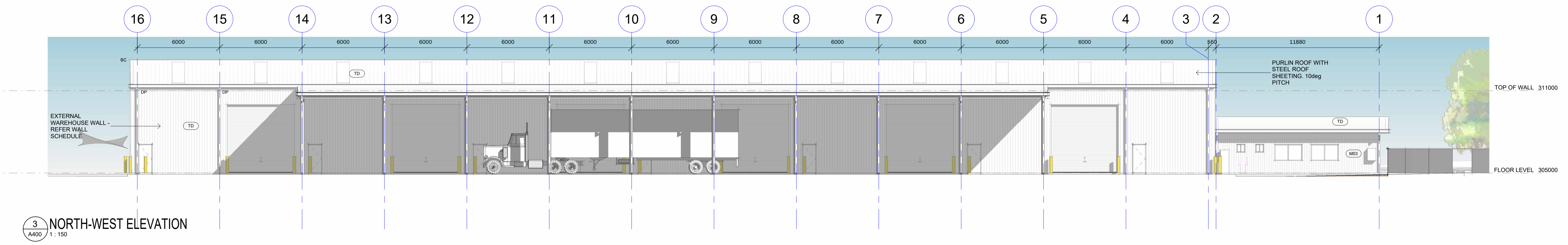
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A400 1:150



1 SOUTH-WEST ELEVATION  
A400 1:150



4 NORTH-EAST ELEVATION  
A400 1:150



3 NORTH-WEST ELEVATION  
A400 1:150

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QBCC 15212911  
Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au  
PHONE: 0438 473 982  
EMAIL: mark.norton@spacecourts.com

DESIGNED:  
REVIEWED:  
DRAWN: MRN  
SIGNED:

Project Title  
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Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollmans Pty Ltd

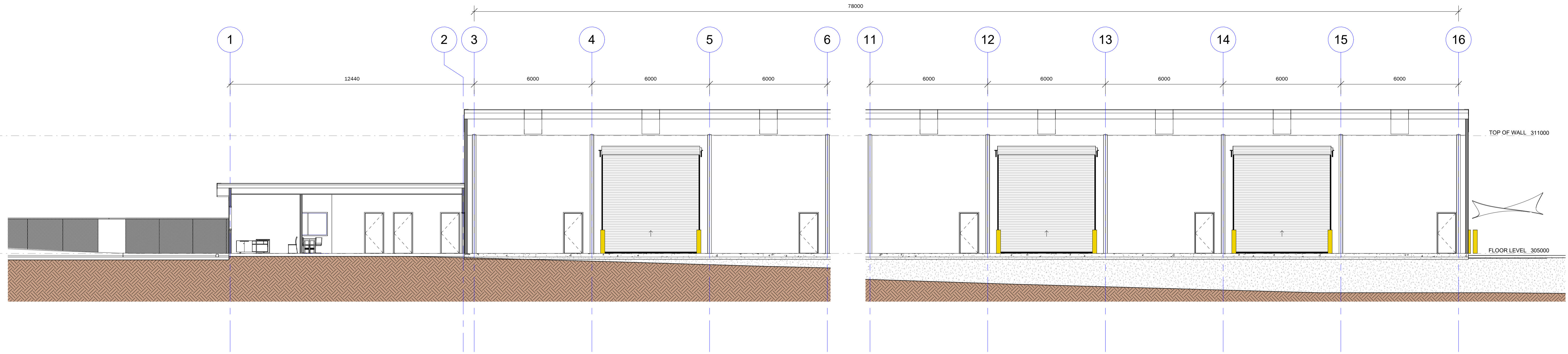
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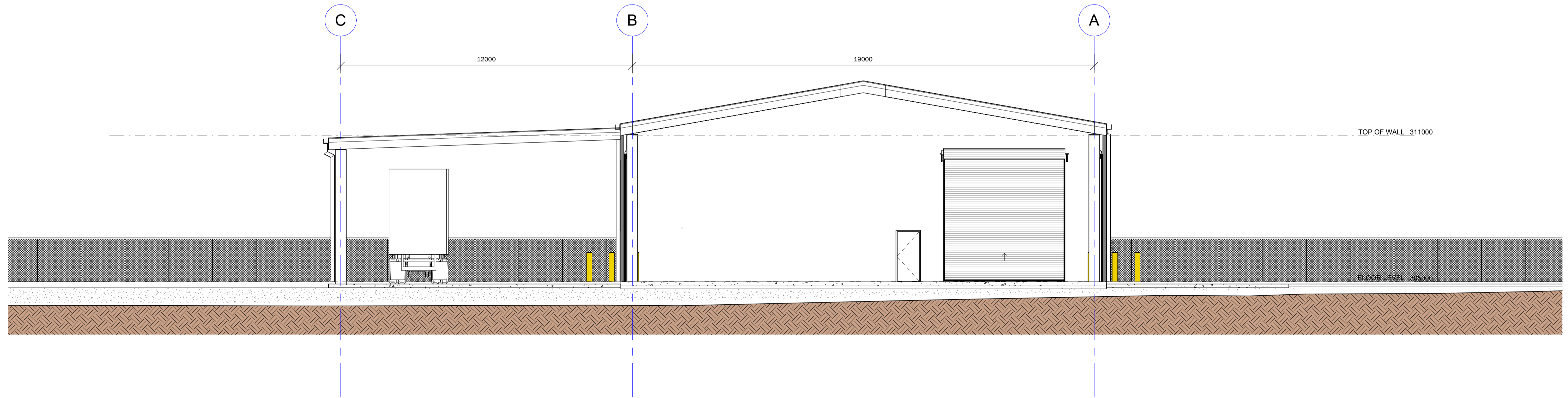
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2 Section 3  
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DRAWING WORKS  
ABN 53617765956  
QBCC 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark.norton@spacecounts.com

DESIGNED  
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DRAWN  
MRN  
SIGNED:

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Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
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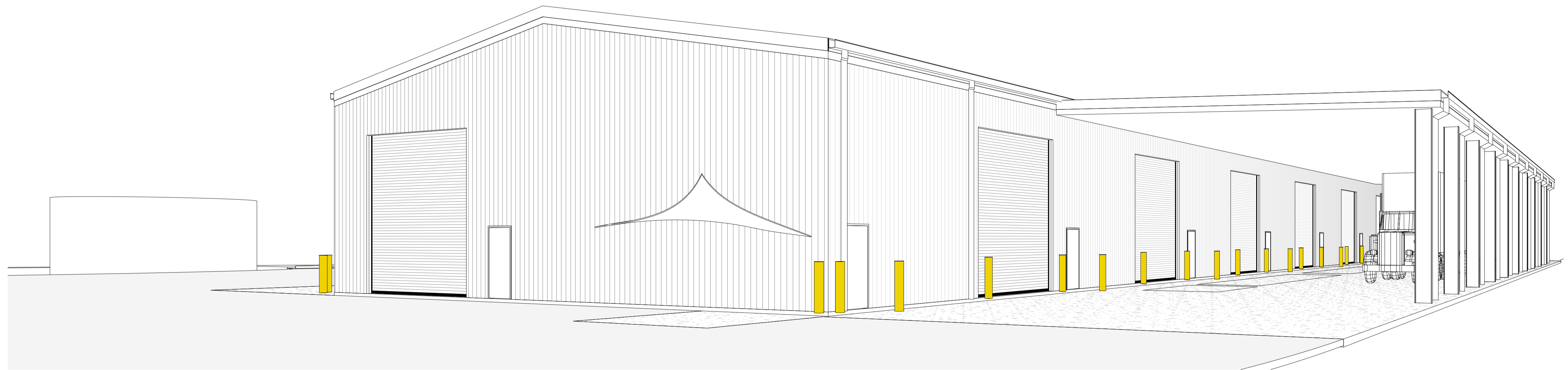
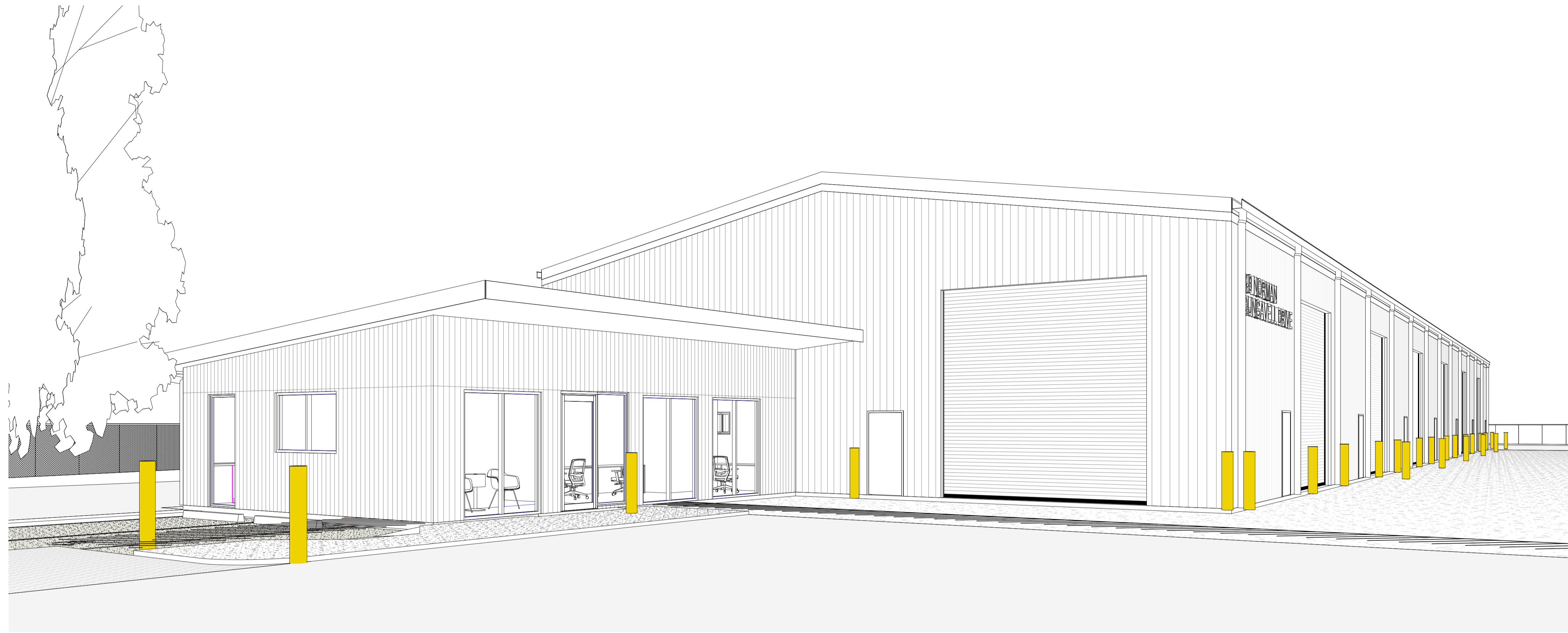
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USE SPACE BETTER PTY LTD. T/A  
DRAWING WORKS  
ABN 53611765956  
QBCC 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark.norton@spacecourts.com

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**PROPOSED OFFICE AND  
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Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

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# APPENDIX E



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REFERENCE DRAWINGS :

NOTES :  
1. PROPERTY BOUNDARIES ARE INDICATE ONLY AND NOT BEEN IDENTIFIED

GENERAL KEY PLAN

DETAIL KEY PLAN

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Client's Comment :			
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Not Approved			

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 2 SURESH COURT 4B18  
 BUS STOP 488 877 015  
 ARI 70 569 449 702

HOLLIKANS TRANSPORT YARD

TOPOGRAPHICAL SURVEY  
 Lot 1 Req01157

Name	Date	Signature
6. LITTLE	22/7/2025	
Checked	D5	22/7/2025
Size	Drawing No.	
A 3	P604-TOPO-001	
SCALE:	PLOT FILE:	
1 : 1,000	P604-TOPO-001-1	
JOB REF:	FILE REF:	
P604	Z50721 RP901157 Topo.P604	

CONTROL POINT TABLE - MGA2020 ZONE55 (AHD Derived)

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104	7779950.632	424113.546	302.509	SPRIKE
105	7779927.018	424090.686	303.785	SSBOL.TINCONCRETE
151	7779915.893	423940.632	307.951	GINWAIL
152	7779840.946	423916.181	305.710	GINWAIL
153	7779894.971	424019.878	304.169	GINWAIL
154	7779937.347	424022.830	303.199	GINWAIL
155	7778005.292	424079.172	302.658	GINWAIL
1008	7779897.195	423941.582		Land parcel
1030	7779897.195	423941.582		Land parcel
P620875	7779749.726	423776.485		P620875
STN100	7779538.787	424115.786	308.770	SPRIKE
			302.935	

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# APPENDIX F

# Traffic Impact Assessment

3-9 Norman Dungavell Drive, Queenton  
Proposed Warehouse Development



## Document Information

Prepared for Hollimans Pty Ltd	Job Reference MOD25169QLD
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## Document Control

Version	Date	Description of Revision	Prepared by	Approved By
A	18/02/2026	Final	Afaf El Harda	Harj Singh

## RPEQ Certification

Harj Singh  
Executive Director  
RPEQ 22364



### MODUS TRANSPORT & TRAFFIC ENGINEERING

ABN 49 668 863 269

310 Edward Street  
Brisbane City QLD 4000

P 1300 606 408  
E [info@moduseng.com.au](mailto:info@moduseng.com.au)

Modus has expanded its capabilities and assembled its systems, capital, and resources to drive value for customers via the delivery of a full suite of traffic engineering services.

Here at Modus, we are a team of engineers with extensive knowledge and experience providing quality service to both public and private sectors, from large contractors and developers to state and local governments.

Whether your project is a small residential development, mixed use development, a large commercial precinct or anything in between, our experienced traffic engineers will apply sound and practical traffic engineering principles to achieve an outstanding outcome for your project.

For more information about our company and the services we provide, please visit [www.modusengineering.com.au](http://www.modusengineering.com.au)

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# 1 Introduction

## 1.1 Overview

Modus has been commissioned by Hollimans Pty Ltd, care of Urban Space Consulting, to provide traffic and transport advice in relation to the proposed Warehouse development located at 3-9 Norman Dungavell Drive, Queenton.

This Traffic Impact Assessment has been produced by Modus to assess the traffic and transport engineering items in support of the proposed development. A copy of the development plans is provided at **Appendix A**.

Modus has completed this Traffic Impact Assessment in accordance with the usual care and thoroughness of the consulting profession. The assessment is based on accepted traffic engineering practices and standards applicable at the time of undertaking the assessment. Modus disclaims responsibility for any changes to project planning or road conditions that may occur after completion of the assessment.

# 2 Existing Conditions

## 2.1 Site Location

The development site is located at 3-9 Norman Dungavell Drive, Queenton and is bounded by vacant land to the north, west and south, with Norman Dungavell Drive to the east. Furthermore, the development site is currently zoned Industry within the Charters Towers Regional Council (CTRC) Local Government Area.

Additionally, the development site currently accommodates an Industrial use with two (2) crossovers provided onto Norman Dungavell Drive.

Figure 2-1 illustrates the development site location.

Figure 2-1 Development Site Location



## 2.2 Existing Road Network

Table 2-1 outlines characteristics of the existing road network in proximity to the development site.

Table 2-1 Key Road Characteristics

Road	Authority	Hierarchy	Speed Limit	Typical Form
Norman Dungavell Drive	TMR	Main Road	60 km/hr	Two lanes, undivided

## 2.3 Active and Public Transport Facilities

A dedicated pedestrian footpath is not provided along the frontage of the site to connect to the wider pedestrian network. Additionally, there are not dedicated bicycle lanes provided along the frontage of the site.

There are no bus stops within a 400m radius (a comfortable 5-minute walk) of the development site. Furthermore, Charter Towers Train station is situated approximately 300m south-west of the development site.

## 2.4 Historic TMR Crash Data

To understand whether there are any underlying safety concerns along the external road network, Modus has reviewed historic TMR crash data over the previous five (5) year period along the external road network.

This crash review confirms that zero (0) crashes have been reported near the development site within the previous five (5) year period.



## 4 Traffic and Transport Review

### 4.1 Access Design

#### 4.1.1 Driveway Design

In accordance with Australian Standards 2890.1, the minimum driveway requirements for the proposed development are outlined in Table 4-1.

Table 4-1 Driveway Design Compliance

Road Frontage	AS2890.1 Driveway Design Compliance	Access Conditions
Norman Dungavell Drive	Site Conditions	Minor Road Frontage User Class 2 <25 Spaces
	Access Facility Category	1
	Required Driveway Widths	Minimum 3.0m – 5.5m
	<b>Proposed Driveway Width</b>	<b>12.7m</b>
Norman Dungavell Drive	Site Conditions	Minor Road Frontage User Class 2 <25 Spaces
	Access Facility Category	1
	Required Driveway Widths	Minimum 3.0m – 5.5m
	<b>Proposed Driveway Width</b>	<b>7.2m</b>

Therefore, the proposed driveway widths comply with Australian Standards 2890.1.

#### 4.1.2 Driveway Location

In accordance with Australian Standards 2890.1, development accesses with a Class 2 Access Facility Category are to achieve a 6.0m separation to any formal intersections. Provided that the proposed access location is not located within a 6.0m distance to any formal intersections, the proposed access location is considered acceptable.

#### 4.1.3 Pedestrian Sight Splays

In accordance with Australian Standards 2890.1, pedestrian sight splays should be provided at the egress point of a driveway and measure 2.5m in depth and 2.0m in width from the property boundary.

The proposed development does not accommodate pedestrian sight splay provisions on northern side of the egress crossover in accordance with Australian Standards 2890.1.

The absence of a northern pedestrian sight splay is considered acceptable for the following reasons:

- ▶ There is no formal footpath provided along the site frontage, therefore low to no pedestrian movement along the site frontage is expected.
- ▶ The crossover services a Warehouse use with low traffic generation, resulting in infrequent vehicle movements and limited potential interaction with pedestrians.
- ▶ Good visibility is available to the north and south, and clear sight lines are provided across the carriageway, allowing drivers exiting the site to readily observe pedestrian and vehicular movements.
- ▶ The crossover is an existing access arrangement being maintained, and its continued operation does not materially alter existing conditions.

Therefore, the proposed pedestrian sight provisions are considered acceptable.

#### 4.1.4 Safe Intersection Sight Distance

To ensure the proposed access location accommodates sufficient sight distance, Modus has determined the required Safe Intersection Sight Distance (SISD) in accordance with the Austroads Guide to Road Design series.

For ease of reference, the SISD requirement is determined by the equation illustrated on Figure 4-2.

Figure 4-2 Austroads SISD Requirement

Equation 2 provides the formula for SISD:

$$SISD = \frac{D_T \times V}{3.6} + \frac{V^2}{254 \times (d + 0.01 \times a)} \quad 2$$

where

SISD = safe intersection sight distance (m)

$D_T$  = decision time (sec) = observation time (3 sec) + reaction time (sec) – refer to *AGRD Part 3* (Austroads 2016a) for a guide to values

$V$  = operating (85<sup>th</sup> percentile) speed (km/h)

$d$  = coefficient of deceleration – refer to Table 3.3 and *AGRD Part 3* for a guide to values

$a$  = longitudinal grade in % (in direction of travel: positive for uphill grade, negative for downhill grade)

Designers should note that SISD:

- is measured along the carriageway from the approaching vehicle to the conflict point; the line of sight having to be clear to a point 7.0 m (5.0 m minimum) back along the side road from the conflict point

Therefore, the minimum SISD requirement for the northern and southern approach to the site access is outlined in Table 4-2, as well as the corresponding parameters adopted to inform the SISD requirements.

Table 4-2 Minimum SISD Requirements

Approach Direction to Site Access	SISD Requirement Parameter Adopted				SISD Requirement
	Decision Time	Design Speed	Coefficient of Deceleration	Longitudinal Grade	
Northern Approach	5.0 seconds	70 km/hr	0.36	1%	150.0m
Southern Approach	5.0 seconds	70 km/hr	0.36	1%	150.0m

Therefore, the site access location is to accommodate a minimum SISD of 150.0m in both directions.

The proposed access arrangements are able to accommodate the minimum SISD requirements as illustrated on the sight distance drawings provided at **Appendix B**.

Therefore, the minimum sight distance provisions are considered acceptable.

## 4.2 Car Parking Provisions

In accordance with the CTRC Planning Scheme, the minimum car parking requirements are outlined in Table 4-3.

Table 4-3 Minimum Car Parking Requirements

Land use	Car Parking Rate	Yield	Car Parking Required	Car Parking Provided
Warehouse	1 space per 100.0 sq.m of total use area	1,550.0 sq.m	15.5 (16) spaces	16 spaces
Office	1 space per 30.0 sq.m GFA	94.0 sq.m	3.1 (4) spaces	4 spaces

Therefore, the proposed car parking provisions are in accordance with the CTRC Planning Scheme.

Furthermore, the proposed development accommodates a total of one (1) PWD car parking spaces in accordance with the National Construction Code.

## 4.3 Bicycle Parking Provisions

The CTRC Planning Scheme does not outline any bicycle parking provision requirements for the proposed use. Accordingly, bicycle parking is not required, and the absence of bicycle parking provision is considered acceptable.

## 4.4 Car Parking Design

### 4.4.1 Car Parking Layout

Modus has conducted a design review of the car parking layout against the design guidelines within Australian Standards 2890.1, of which is summarised below in Table 4-4.

Table 4-4 Car Parking Layout Design Review

Design Criteria	AS2890 Requirement	Proposed Design	Compliant
<b>Parking Spaces</b>			
Car Space Length - General	Min 5.4m	5.4m	✓
Car Space Length - PWD Space	Min 5.4m	5.4m	✓
Car Space Width - Employee	Min 2.4m	2.6m	✓
Car Space Width - Visitors	Min 2.5m	2.6m	✓
Car Space Width - PWD Space	Min 2.4m plus adjacent 2.4m shared zone	2.4m plus adjacent 2.4m shared zone	✓
Car Parking Door Opening Clearances	Min 0.3m	>0.3m	✓
<b>Roadways and Parking Aisles</b>			
Minimum Car Parking Aisle Width	Min 5.8m	> 5.8m	✓
Maximum Car Parking Length	Max 100.0m	< 100.0m	✓
<b>Height Clearances</b>			
General Parking	Min 2.2m	unrestricted	✓
PWD Parking Space	Min 2.5m	unrestricted	✓

Therefore, the proposed car parking layout is designed in accordance with Australian Standards 2890.1.

As such, the proposed car parking layout is considered acceptable.

### 4.4.2 Queueing Provisions

In accordance with Australian Standards 2890.1, the minimum vehicle queueing requirement from the property boundary to the first parking space is two (2) vehicles, equivalent to a length of 12.0m.

The proposed parking layout accommodates a minimum length of over 12.0m and hence is considered acceptable.

As such, the proposed queueing provisions are considered acceptable.

## 4.5 Servicing Requirements

As informed by client, the largest servicing vehicle expected on site is a 53.5m long A-Triple design vehicle. Additionally, the client has advised that the development will require servicing by an A-Triple on an occasional basis (i.e at most one vehicle trip per day).

Therefore, Modus has undertaken a swept path assessment (provided at **Appendix C**) which confirms the following:

- ▶ An A-Triple is able to safely and efficiently manoeuvre to, within and from the site ensuring a minimum 0.6m to any permanent obstructions, ensuring a forward-in / forward-out arrangement occurs.

Therefore, the proposed development servicing arrangements are considered acceptable.

## 5 Traffic Impact Assessment Assumptions

### 5.1 Study Intersections

The study intersections for the assessment herein are outlined on Figure 5-1 and are detailed in Table 5-1.

Figure 5-1 Study Intersections

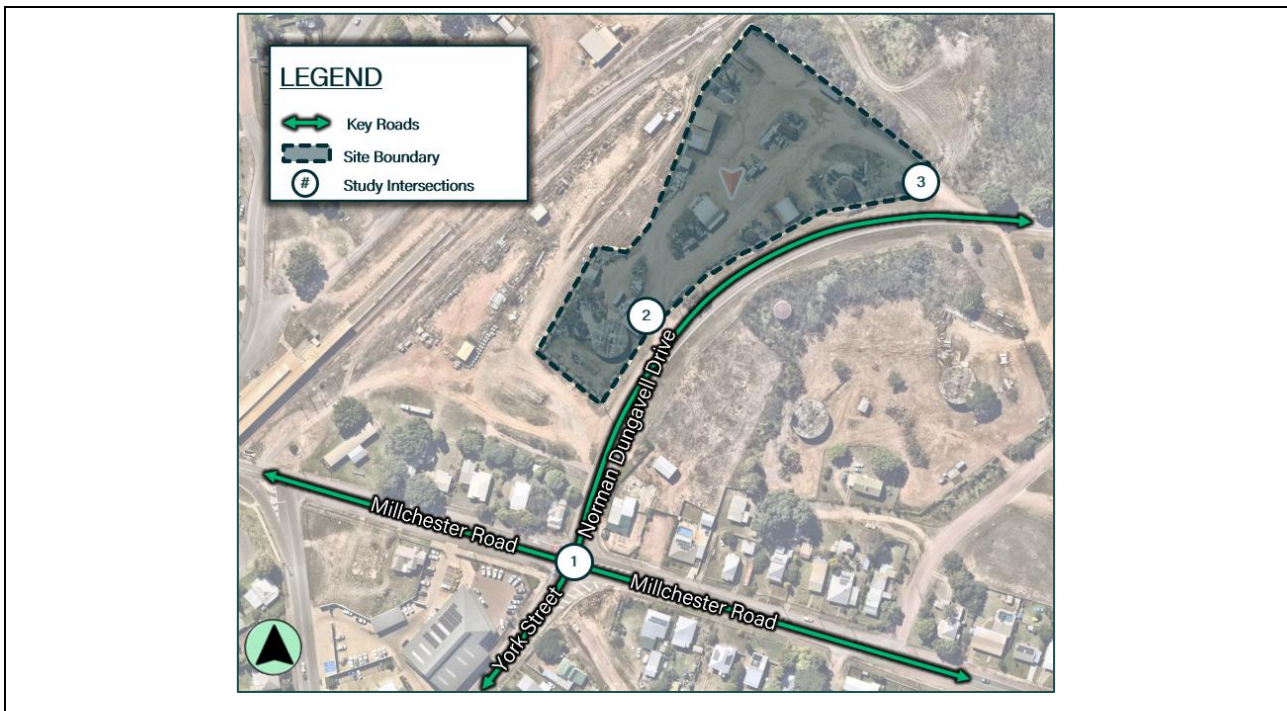


Table 5-1 Study Intersections

Intersection ID	Intersection	Formation
1	Millchester Road / York Street / Norman Dungavell Drive	Priority Controlled
2	Site Ingress / Norman Dungavell Drive	Priority Controlled
3	Site Egress / Norman Dungavell Drive	Priority Controlled

## 5.2 Background Traffic Volumes

To understand the background traffic conditions at the study intersections, traffic volume surveys were obtained from Trans Traffic on Tuesday, 16th September 2025 at the Millchester Road / York Street / Dungavell Drive intersection.

Furthermore, the observed network peak hour periods are summarised in Table 5-2.

Table 5-2 Network Peak Hour Periods

Network Peak Hour Periods	
AM Peak	PM Peak
7:45 AM – 8:45 AM	3:00 PM – 4:00 PM

A copy of the background traffic volume surveys are provided at **Appendix D**.

## 5.3 Traffic Growth

To inform the future background volumes along the external road network, Modus has referenced historic TMR Annual Average Daily Traffic (AADT) volumes for the following TMR road segments:

- ▶ Flinders Highway (91328),
- ▶ Flinders Highway (91329).

Based on a review of the AADT volumes at the abovementioned TMR road segments, an average linear growth rate of 2.6% p.a was observed.

On this basis, Modus has applied an average linear growth rate of 2.6% p.a to inform the theoretical future background volumes on the surrounding external road network.

## 5.4 Development Traffic Volumes (Construction Stage)

Modus notes that the light and heavy vehicle traffic generation volumes associated with the construction stage of the proposed development may vary based on the future construction project team, project timeline and associated personnel required.

Nevertheless, Modus has made general assumptions pertaining to the light and heavy vehicle traffic generation during the construction stage to inform the assessment herein. These assumptions are outlined in Table 5-3.

Table 5-3 Construction Traffic Generation Volumes Assumptions

Light Vehicle Traffic Volumes	Heavy Vehicle Traffic Volumes
5 – 10 Personnel	1 x Excavator, 1 x Dump Truck, 1 x Grader, 1 x Concrete Truck Mixer, 1 x Compactor
<b>TOTAL: 10 Light Vehicles</b>	<b>TOTAL: 5 Heavy Vehicles</b>

Therefore, for the purposes of the assessment herein, Modus has assumed a total of 15 vehicles per day for the construction stage.

## 5.5 Development Traffic Generation (Operational Stage)

In accordance with the TfNSW Guide to Transport Impact Assessment, 2024 the peak hour traffic generating potential of the proposed development is outlined in Table 5-4.

Table 5-4 Existing Use and Proposed Development Traffic Generation Volumes

Land Use	Yield	Peak Hour Traffic Generation Rates	Peak Hour Traffic Generation Volumes
<b>Warehouse</b>	1,550 sq.m	0.5 trips per 100.0 sq.m	7.75 (8) vehicles per hour

Therefore, the proposed development will generate eight (8) vehicles per hour.

On average across the peak hour period, this corresponds to one (1) new vehicle on the external road network every 7 minutes and 30 seconds.

## 5.6 Inbound / Outbound Directional Movements

Table 5-4 outlines the peak hour traffic directional splits for the proposed development land use.

Table 5-4 Inbound / Outbound Development Traffic Generation Distributions

Land Use	AM Peak Hour		PM Peak Hour	
	IN	OUT	IN	OUT
<b>Warehouse</b>	80%	20%	20%	80%

## 5.7 External Directional Distributions

The surrounding road network and attractors have been assessed, in conjunction with the observed directional distributions within the traffic survey data, to determine the external distributions for development traffic.

The external distributions are illustrated on the Traffic Network Flow Diagrams provided at **Appendix E**.

## 6 Traffic Impact Assessment Criteria

### 6.1 Assessment Scenarios

To determine the impact of the development on the existing road network, each study intersection has been analysed for the AM and PM peak periods, assessing the development related traffic outlined in the previous report section.

In accordance with the TMR Guide to Traffic Impact Assessments (GTIA), the impact assessment year for the site access should be the year of opening and 10 years after the year of opening. All other intersections are only to consider the year of opening impact assessment year.

For the assessment herein, Modus has assumed that the proposed development will be operational in Year 2028 and therefore indicates a 10 year design horizon in Year 2038.

Table 6-1 summarises the impact assessment scenarios.

Table 6-1 Assessment Scenarios

Assessment Year	Study Intersection ID
Background 2028	1, 2, 3
Background 2028 + Development Volumes	1, 2, 3
Background 2038 (Design Horizon)	1, 2, 3
Background 2038 (Design Horizon) + Development Volumes	1, 2, 3

### 6.2 Assessment Intersection Performance Thresholds

The performance of each study intersection has been analysed using SIDRA Intersection 10.0 (SIDRA). SIDRA is the primary industry modelling software that estimates the capacity and performance of intersections SIDRA analyses an intersection's Degree of Saturation (DOS), queues and delays. DOS is a measure of the proportion of traffic entering an intersection relative to the intersection's capacity.

The GTIA also recognises the intersection delay as a greater indicator of intersection performance in comparison to DOS for priority controlled and roundabout intersections. Where the average peak hour delays for any movement exceed 42 seconds, as outlined in the GTIA, a priority controlled or roundabout intersection should be upgraded for safety reasons.

Table 6-2 provides the intersection performance thresholds used in this assessment herein.

Table 6-2 Adopted Intersection Performance Thresholds

Intersection Formation	Intersection Performance Threshold
Priority Controlled	DOS less than 0.80, Average Delay less than 42.0 seconds
Roundabout	DOS less than 0.85, Average Delay less than 42.0 seconds
Signalised	DOS less than 0.90

## 7 Turn Warrant Assessment

Modus has conducted a turn warrant assessment to confirm the required turn treatments most suitable at the study intersections.

The turn warrant assessment has been conducted in accordance with Austroads 'Guide to Road Design' Part 4A for the following conditions:

- ▶ Background 2028,
- ▶ Background 2028 + Development Volumes,
- ▶ Design speed of 70 km/hr along Norman Dungavell Drive,
- ▶ No splitter island at the intersection.

Therefore, the turn warrant assessment for the background and proposed development scenarios at the study intersections are detailed in Table 7-1.

Full copies of the turn warrant assessments are provided at **Appendix F**.

Table 7-1 Site Access Turn Warrant Assessment

Study Intersection	Turn Warrant Assessment (Background)		Turn Warrant Assessment (Proposed Dev)	
	LEFT	RIGHT	LEFT	RIGHT
	Site Ingress	BAL	BAR	BAL

Therefore, the turn warrant assessment indicates that the following intersections require turn treatment upgrades:

- ▶ **Site Ingress** – Upgrade to BAL/BAR turn treatment.

On this basis, Modus recommends the abovementioned turn treatment upgrades be implemented. This is illustrated on the Modus Traffic Concept Plan provided at **Appendix B**.

## 8 Traffic Impact Operational Assessment

### 8.1 Millchester Road / York Street / Norman Dungavell Drive Intersection

The Millchester Road / York Street / Norman Dungavell Drive intersection comprises a Priority Controlled formation, where Norman Dungavell Drive is the Major Road. Figure 8-1 illustrates the existing intersection formation and SIDRA layout for this study intersection.

Figure 8-1 Millchester Road / York Street / Norman Dungavell Drive Intersection Aerial and SIDRA Layout

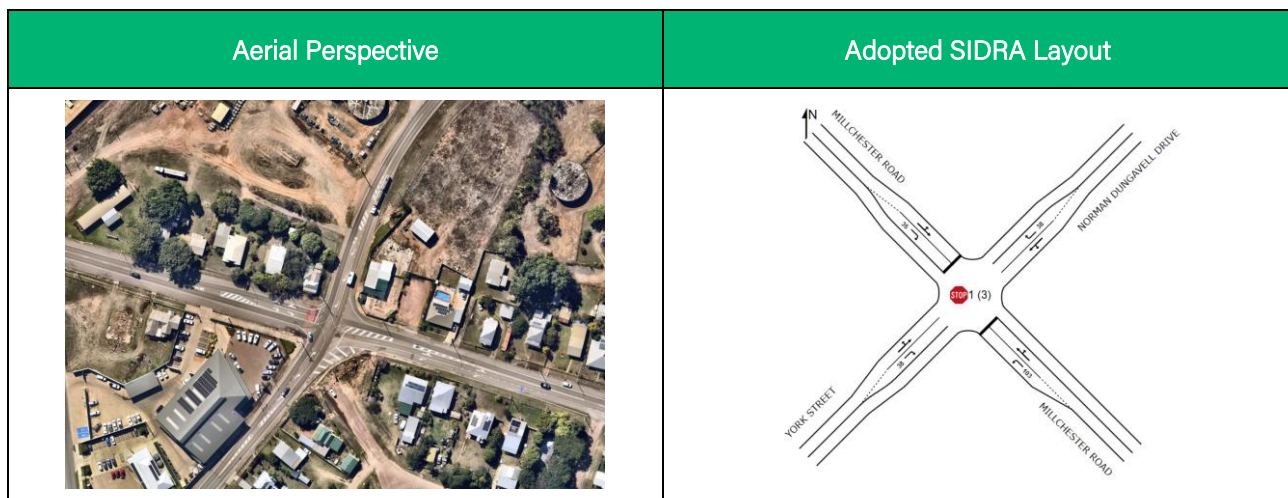


Table 8-1 outlines the SIDRA Assessment results for this study intersection. The SIDRA results and layouts are provided in **Appendix G**.

Table 8-1 Millchester Road / York Street / Norman Dungavell Drive Intersection - SIDRA Results

Scenario	DOS	Average Delay	95th %ile Queue	Critical Movement
<b>AM Peak Period</b>				
2028 BG	0.253	13.1 sec	8.5 m	Millchester Road (SE)
2028 BG + DEV	0.257	13.1 sec	8.6 m	Millchester Road (SE)
2038 BG	0.346	15.6 sec	13.8 m	Millchester Road (SE)
2038 BG + DEV	0.353	15.9 sec	14.3 m	Millchester Road (SE)
<b>PM Peak Period</b>				
2028 BG	0.236	14.7 sec	13.6 m	Millchester Road (NW)
2028 BG + DEV	0.252	15.6 sec	13.6 m	Millchester Road (NW)
2038 BG	0.323	17.9 sec	13.6 m	Millchester Road (NW)
2038 BG + DEV	0.345	19.2 sec	13.6 m	Millchester Road (NW)

Therefore, the Millchester Road / York Street / Norman Dungavell Drive intersection will operate within acceptable performance thresholds for the assessment scenarios.

## 8.2 Site Ingress / Norman Dungavell Drive Intersection

The Site Ingress intersection comprises a Priority Controlled formation, where Norman Dungavell Drive is the Major Road. Figure 8-2 illustrates the existing intersection formation and SIDRA layout for this study intersection.

Figure 8-2 Site Ingress / Norman Dungavell Drive Intersection Aerial and SIDRA Layout

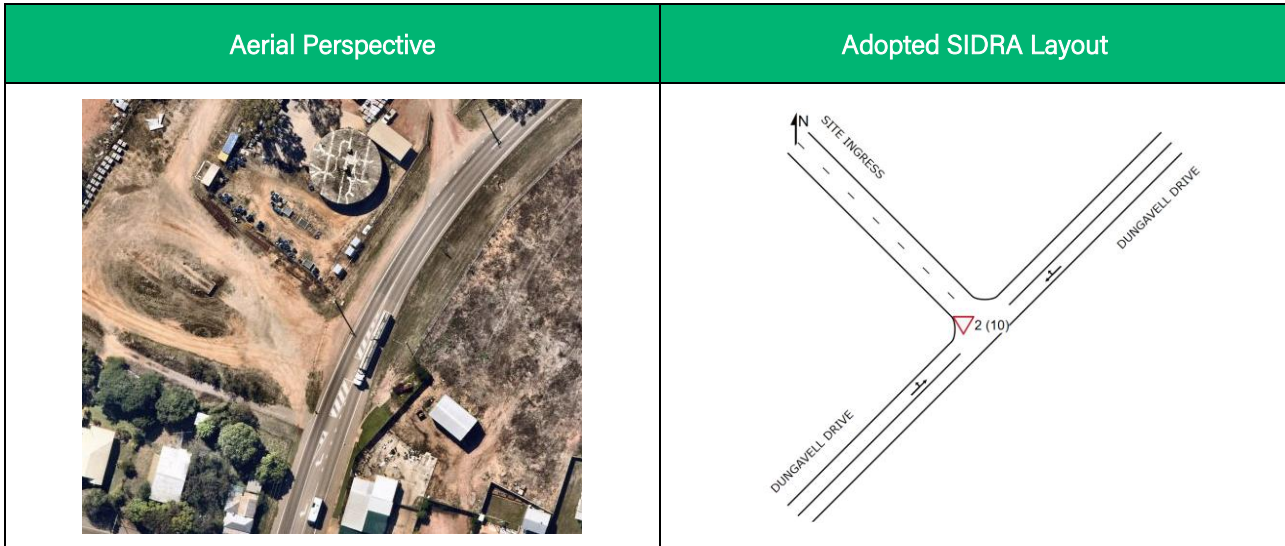


Table 8-2 outlines the SIDRA Assessment results for this study intersection. The SIDRA results and layouts are provided in **Appendix G**.

Table 8-2 Site Ingress / Norman Dungavell Drive Intersection - SIDRA Results

Scenario	DOS	Average Delay	95th %ile Queue	Critical Movement
<b>AM Peak Period</b>				
2028 BG	0.087	5.8 sec	0.1 m	Norman Dungavell Drive (SW)
2028 BG + DEV	0.089	5.8 sec	0.1 m	Norman Dungavell Drive (SW)
2038 BG	0.108	5.8 sec	0.1 m	Norman Dungavell Drive (SW)
2038 BG + DEV	0.111	5.8 sec	0.1 m	Norman Dungavell Drive (SW)
<b>PM Peak Period</b>				
2028 BG	0.091	5.8 sec	0.1 m	Norman Dungavell Drive (SW)
2028 BG + DEV	0.099	5.9 sec	0.2 m	Norman Dungavell Drive (NE)
2038 BG	0.113	5.8 sec	0.1 m	Norman Dungavell Drive (SW)
2038 BG + DEV	0.118	6.0 sec	0.2 m	Norman Dungavell Drive (SW)

Therefore, the Site Ingress / Norman Dungavell Drive intersection will operate within acceptable performance thresholds for the assessment scenarios.

### 8.3 Site Egress / Norman Dungavell Drive Intersection

The Site Egress / Norman Dungavell Drive intersection comprises a Priority Controlled formation, where Norman Dungavell Drive is the Major Road. Figure 8-3 illustrates the existing intersection formation and SIDRA layout for this study intersection.

Figure 8-3 Site Egress / Norman Dungavell Drive Intersection Aerial and SIDRA Layout

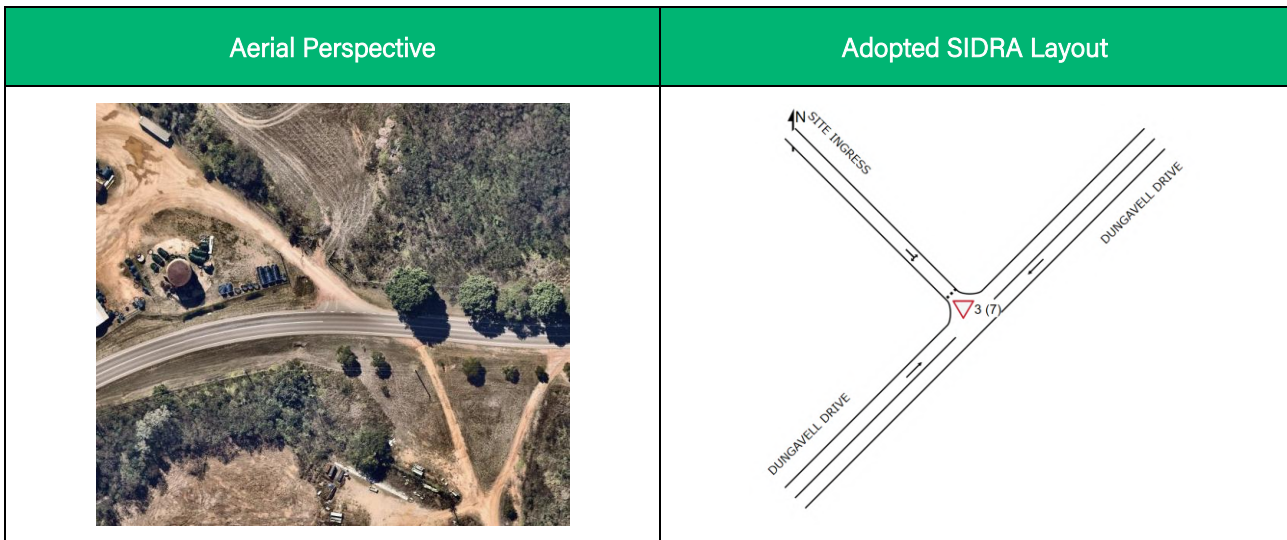


Table 8-3 outlines the SIDRA Assessment results for this study intersection. The SIDRA results and layouts are provided in **Appendix G**.

Table 8-3 Site Egress / Norman Dungavell Drive Intersection - SIDRA Results

Scenario	DOS	Average Delay	95th %ile Queue	Critical Movement
<b>AM Peak Period</b>				
2028 BG	0.086	6.9 sec	0.0 m	Norman Dungavell Drive (SW)
2028 BG + DEV	0.086	6.9 sec	0.0 m	Norman Dungavell Drive (SW)
2038 BG	0.108	7.2 sec	0.0 m	Norman Dungavell Drive (SW)
2038 BG + DEV	0.108	7.2 sec	0.0 m	Norman Dungavell Drive (SW)
<b>PM Peak Period</b>				
2028 BG	0.091	7.0 sec	0.0 m	Norman Dungavell Drive (SW)
2028 BG + DEV	0.091	7.1 sec	1.2 m	Norman Dungavell Drive (SW)
2038 BG	0.113	7.2 sec	0.0 m	Norman Dungavell Drive (SW)
2038 BG + DEV	0.113	7.5 sec	1.3 m	Norman Dungavell Drive (SW)

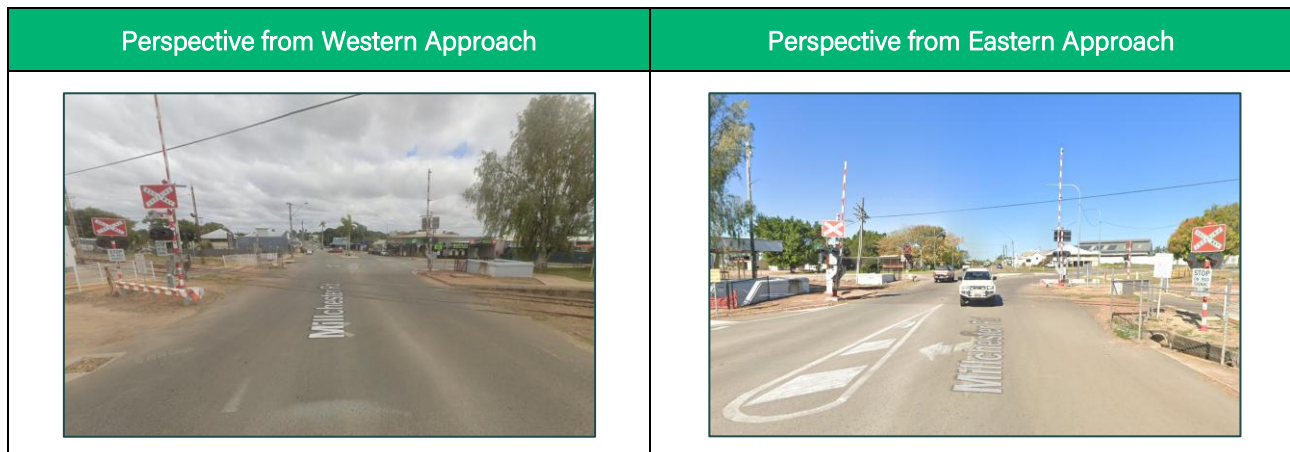
Therefore, the Site Egress / Norman Dungavell Drive intersection will operate within acceptable performance thresholds for the assessment scenarios.

## 9 Railway Level Crossing Assessment

### 9.1 Overview

The development site is only located on close proximity to one (1) level railway crossing, of which is located along Millchester Road. A streetview perspective of the Millchester Road railway crossing is illustrated on Figure 9-1.

Figure 9-1 Millchester Road Level Railway Crossing Streetview Perspective



Furthermore, the New Millchester Road level railway crossing accommodates a storage capacity in excess of 150.0m in both the eastern and western approaches to the level railway crossing.

### 9.2 Background and Proposed Development Volumes

As informed by the background traffic volumes surveyed at the Millchester Road / York Street / Dungavell Drive intersection, Millchester Road accommodates at most 166 vehicles per hour travelling in both directions of travel. Additionally, the peak heavy vehicle percentage observed was approximately 9%, corresponding to no more than 15 heavy vehicles per hour travelling in both directions of travel.

Based on the assumption that daily volumes are approximately 10 times greater than peak hour volumes, the anticipated background daily volumes across the New Millchester Road level railway crossing are as follows:

- ▶ 1,660 total vehicles travelling eastbound and 1,660 total vehicles travelling westbound,
- ▶ Of these total volumes, 150 heavy vehicles travelling eastbound and 150 heavy vehicles travelling westbound.

Therefore, the background and proposed developments volumes travelling across the Millchester Road level railway is detailed within Table 9-1.

Table 9-1 Background and Proposed Development Volumes Across the Millchester Road Level Railway Crossing

Year	Without Development	With Development	Number of Heavy Vehicles
Background Scenario (Year 2025)	3,320 vehicles per day	-	300 vehicles per day
Commencement of Construction (Year 2027)	3,492 vehicles per day	3,507 vehicles per day	320 vehicles per day*
Commencement of Operational Phase (Year 2028)	3,579 vehicles per day	3,586 vehicles per day	323 vehicles per day
10 Year Design Horizon of Operational Phase (Year 2038)	4,422 vehicles per day	4,429 vehicles per day	401 vehicles per day

\*Inclusive of 5 heavy vehicles per day due to Development Construction Stage

Therefore, the proposed development volumes in the construction and operational stages will have an insignificant impact on the Millchester Road Level Railway Crossing.

### 9.2.3 Maximum Design Vehicle

It is noted that the National Heavy Vehicle Regulator does not allow vehicles larger than an AV to traverse along Millchester Road, and hence the maximum design vehicle for both the construction and operational stages of the development is anticipated to be similar in scale to a HRV.

Provided that Millchester Road currently accommodates HRV movements, this is considered acceptable.

## 10 Safety Assessment

Based on the findings of this Traffic Impact Assessment, Modus is of the professional opinion that the proposed development will not result in any significant safety concerns with consideration of the following:

- ▶ A review of historic TMR Crash Data confirms that zero (0) crashes have been reported near the development site within the previous five (5) year period.
- ▶ Norman Dungavell Drive in the background scenario only accommodates up to 150 vehicles per hour travelling in both the northbound and southbound directions (corresponding to a throughbound vehicle travelling either northbound or southbound every 24 seconds on average across the peak hour),
- ▶ This corresponds to an approximate AADT of 2,700 vehicles per day along Norman Dungavell Drive, which represents a Medium Risk zone as per the TMR GTIA,
- ▶ The proposed development accommodates sufficient SISD provisions in line with Austroads Standards,
- ▶ The proposed development accommodates BAL / BAR turn treatments to ensure that sufficient passing provisions for throughbound vehicles are provided at the site frontage,
- ▶ During the operational stage of the proposed development, a total of eight (8) vehicles per hour will be generated which is considered insignificant,
- ▶ During the operational stage of the proposed development, an A Triple will only access the site on an occasional basis (i.e at most one vehicle trip per day) and hence A Triple movements do not occur at a high frequency.

On this basis, the proposed development is considered acceptable from a traffic engineering perspective.

## 11 Summary

Therefore, Modus is of the opinion that the proposed development is acceptable from a traffic engineering perspective and will not have a substantial impact on the safety or efficiency of the external road network.

Should there be any issue with the above, please contact the undersigned.

Yours sincerely,

*HSingh*

**MODUS TRANSPORT AND TRAFFIC ENGINEERING**

Harj Singh  
Executive Director (RPEQ 22364)

# APPENDIX A

## Development Plans

Project No.  
2025053

Project Title  
**PROPOSED OFFICE AND WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollimans Pty Ltd

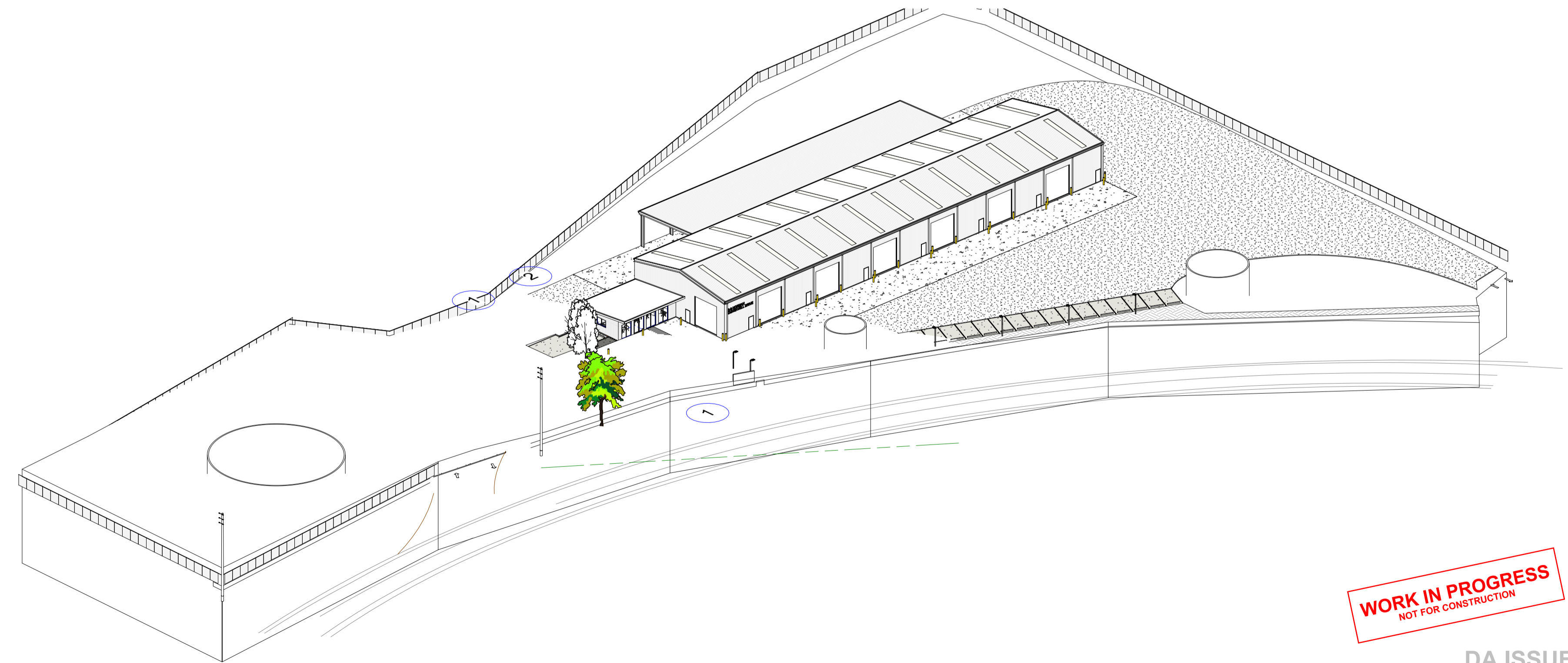
Contractor  
**LOT 1 ON RP 901157  
PARISH: CHARTERS TOWERS  
COUNTY: DAVENPORT**

- GENERAL NOTES**
- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANT'S DOCUMENTATION.
  - FLOOR COVERINGS TO BE NOMINATED ON THE PLANS OR AS OTHERWISE SPECIFIED.
  - ANY DISCREPANCIES BETWEEN THE DRAWINGS ARE TO BE IMMEDIATELY VERIFIED.
  - WC DOORS THAT OPEN IN ARE TO HAVE LIFT OFF HINGES.
  - REFER TO SELECTIONS SCHEDULE FOR COLOUR SCHEME.
  - DRIVEWAYS AND CROSSOVERS WITHIN THE ROAD VERGE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY STANDARD SPECIFICATIONS AND DRAWINGS - REFER TO LOCAL AUTHORITY FOR REQUIREMENTS.



SITE

LOCALITY PLAN  
1:10000



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DA ISSUE

Sheet List			
Sheet Number	Sheet Name	Current Revision	Current Revision Date
A001	TITLE SHEET	B	28/07/2025
A102	EXISTING SITE PLAN AND TOWN PLANNING NOTES	B	28/07/2025
A103	PROPOSED SITE PLAN	B	28/07/2025
A201a	PROPOSED OFFICE FLOOR PLAN	B	28/07/2025
A201b	PROPOSED FLOOR PLAN	B	28/07/2025
A202	PROPOSED ROOF PLAN	B	28/07/2025
A400	ELEVATIONS	B	28/07/2025
A500	SECTIONS	B	28/07/2025
A900	PERSPECTIVES	B	28/07/2025

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CURRENT MANUFACTURER'S SPECIFICATIONS & INSTALLATION DETAILS FOR MATERIALS USED

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Revision Schedule		
Rev.	Description	Date
A	PRELIMINARY CONCEPT ISSUE	18/06/2025
B	DEVELOPMENT APPLICATION	28/07/2025

**drawing works**

USE SPACE BETTER PTY LTD. T/A  
DRAWING WORKS  
ABN 53611765956  
QBCC 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark@drawingworks.com.au

DESIGNED  
REVIEWED  
DRAWN  
MRN  
SIGNED:

Project Title  
**PROPOSED OFFICE AND WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollimans Pty Ltd

Sheet Title  
**TITLE SHEET**

Project No.  
2025053

Sheet No.  
**A001**

Scale (A1)  
As indicated

REVISION  
**B**

Version: 1, Version Date: 05/03/2026



EXISTING SITE PLAN  
1:1000

**RELEVANT PLANNING CRITERIA & NOTES**

ADDRESS: 3-9 NORMAN DUNGAVELL DRIVE, QUEENTON, QLD, 4820  
 PROPERTY DESCRIPTION: LOT 1 ON RP901157  
 SITE AREA: 15300HA  
 LOCAL AUTHORITY: CHARTERS TOWERS REGIONAL COUNCIL  
 PLANNING SCHEME: CHARTERS TOWERS REGIONAL TOWN PLAN  
 ZONE: INDUSTRY ZONE  
 RELEVANT CODES: INDUSTRY ZONE CODE

ACCEPTABLE OUTCOMES PER THE INDUSTRY ZONE CODE:	AS PROPOSED:
AO1.1 MAX. BUILDING HEIGHT 12M	AO1.1 PROPOSED BUILDING HEIGHT = 8.25m
AO1.2 MAX. SITE COVER 75%	AO1.2 PROPOSED SITE COVER = 18% SITE AREA = 15,312m <sup>2</sup> EXISTING SITE COVER (HERITAGE FUEL TANKS) = 450m <sup>2</sup> NEW BUILDING SITE COVER = 2497m <sup>2</sup> TOTAL SITE COVER = 2947m <sup>2</sup>
AO2 MIN. 6M SETBACK FROM ROAD FRONTAGE	AO2 PROPOSED MINIMUM FRONT SETBACK = 14.7m
AO3.1 MAIN ENTRY IS EASILY IDENTIFIABLE AND DIRECTLY ACCESSIBLE FROM STREET, AND IS SEPARATE TO VEHICLE ACCESS POINTS	AO3.1 PROPOSED MAIN ENTRY IS EASILY IDENTIFIABLE AND DIRECTLY ACCESSIBLE FROM STREET, AND IS SEPARATE TO VEHICLE ACCESS POINTS - REFER SITE PLAN
AO3.2 EACH BUILDING OR TENANCY IS PROVIDED WITH A HIGHLY VISIBLE STREET AND UNIT NUMBER	AO3.2 EACH BUILDING OR TENANCY IS PROVIDED WITH A HIGHLY VISIBLE STREET AND UNIT NUMBER - REFER ELEVATIONS
AO3.3 PREMISES ARE PROVIDED WITH EXTERNAL LIGHTING	AO3.3 PREMISES ARE PROVIDED WITH EXTERNAL LIGHTING
AO3.4 ANCILLARY OFFICE SPACE IS SITED AND ORIENTED TOWARDS THE PRINCIPAL ROAD FRONTAGE	AO3.4 PROPOSED ANCILLARY OFFICE SPACE IS SITED AND ORIENTED TOWARDS THE PRINCIPAL ROAD FRONTAGE - REFER SITE PLAN
AO4.1 MIN. 5M SETBACK WHERE ADJOINING RESIDENTIAL WHERE ADJOINING RESIDENTIAL - PROVIDE 1.8M SOLID BOUNDARY FENCE AND 3M LANDSCAPE STRIP	AO4.1 N/A
AO4.2 BOUNDARY FENCE AND 3M LANDSCAPE STRIP	AO4.2 N/A
AO4.3 WHERE ADJOINING RESIDENTIAL - WINDOWS ARE SCREENED	AO4.3 N/A
AO5 UTILITY ELEMENTS ARE LOCATED WITHIN OR BEHIND THE BUILDING OR SCREENED.	AO5 NO UTILITY ELEMENTS VISIBLE FROM STREET
AO7 MIN. 2M LANDSCAPING ALONG ENTIRE ROAD FRONTAGE EXCLUDING DRIVEWAY	AO7 PROPOSED INCLUDES MIN. 2M LANDSCAPING ALONG ENTIRE ROAD FRONTAGE - REFER SITE PLAN
AO8.1 DEVELOPMENT TO MEET AIR QUALITY DEIGN OBJECTIVES STORAGE OF MATERIAL CAPABLE OF GENERATING AIR CONTAMINANTS IS MANAGED SO MATERIAL CANNOT BECOME AIRBORNE	AO8.1 DEVELOPMENT TO MEET AIR QUALITY DEIGN OBJECTIVES STORAGE OF MATERIAL CAPABLE OF GENERATING AIR CONTAMINANTS IS MANAGED SO MATERIAL CANNOT BECOME AIRBORNE
AO8.2 STORAGE OF POTENTIALLY CONTAMINATING SUBSTANCES ARE ROOFED AND SEALED AND LOCATED ABOVE THE DEFINED FLOOD LEVEL	AO8.2 STORAGE OF POTENTIALLY CONTAMINATING SUBSTANCES ARE ROOFED AND SEALED AND LOCATED ABOVE THE DEFINED FLOOD LEVEL
AO9 DEVELOPMENT ACHIEVES SET NOISE GENERATION LEVELS	AO9 DEVELOPMENT ACHIEVES SET NOISE GENERATION LEVELS
AO10.1 LIGHTING COMPLIES WITH AS4282	AO10.1 LIGHTING COMPLIES WITH AS4282
AO10.2 OUTDOOR LIGHTING IS PROVIDED PER AS1158.1	AO10.2 OUTDOOR LIGHTING IS PROVIDED PER AS1158.1
AO11.1 STORAGE OF POTENTIALLY CONTAMINATING SUBSTANCES ARE ROOFED AND SEALED AND LOCATED ABOVE THE DEFINED FLOOD LEVEL	AO11.1 STORAGE OF POTENTIALLY CONTAMINATING SUBSTANCES ARE ROOFED AND SEALED AND LOCATED ABOVE THE DEFINED FLOOD LEVEL
AO11.2 PROVISION FOR SPILLS WITH BUNDED AREAS AND APPROVED DISPOSAL MEANS	AO11.2 PROVISION FOR SPILLS WITH BUNDED AREAS AND APPROVED DISPOSAL MEANS
AO11.3 ROOF WATER IS PIPED AWAY FROM AREAS OF POTENTIAL CONTAMINATION	AO11.3 ROOF WATER IS PIPED AWAY FROM AREAS OF POTENTIAL CONTAMINATION
AO12 WHERE WITHIN 150M OF A SENSITVE LAND USE OR RESIDENTIAL ZONE, HOURS OF OPERATION ARE LIMITED TO 7:00 TO 18:00 DAILY	AO12 OPERATIONAL HOURS TO CONFORM TO AO12
AO13.1 MAX. 1 NO. CARETAKER'S ACCOMM.	AO13.1 N/A
AO13.2 MAX. 50M <sup>2</sup> GFA FOR CARETAKER ACCOMM.	AO13.2 N/A
AO14 MAX 100M <sup>2</sup> AREA USED FOR ANCILLARY OFFICE	AO14 94M <sup>2</sup> OFFICE AREA PROPOSED
AO15 MAX 250M <sup>2</sup> FOR ANY AGRICULTURAL SUPPLIES STORE, GARDEN CENTRE AND HARDWARE AND TRADE SUPPLIES	AO15 N/A
AO19 FOOD AND DRINK OUTLET	AO19 N/A
AO21 SERVICE STATION USE	AO21 N/A

**DEVELOPMENT APPROVAL**

PROPOSAL: TBC  
 APPLICATION NUMBER: TBC  
 ADDRESS: 3-9 NORMAN DUNGAVELL DRIVE  
 PROPERTY DESCRIPTION: LOT 1 ON RP901157

**WORK IN PROGRESS**  
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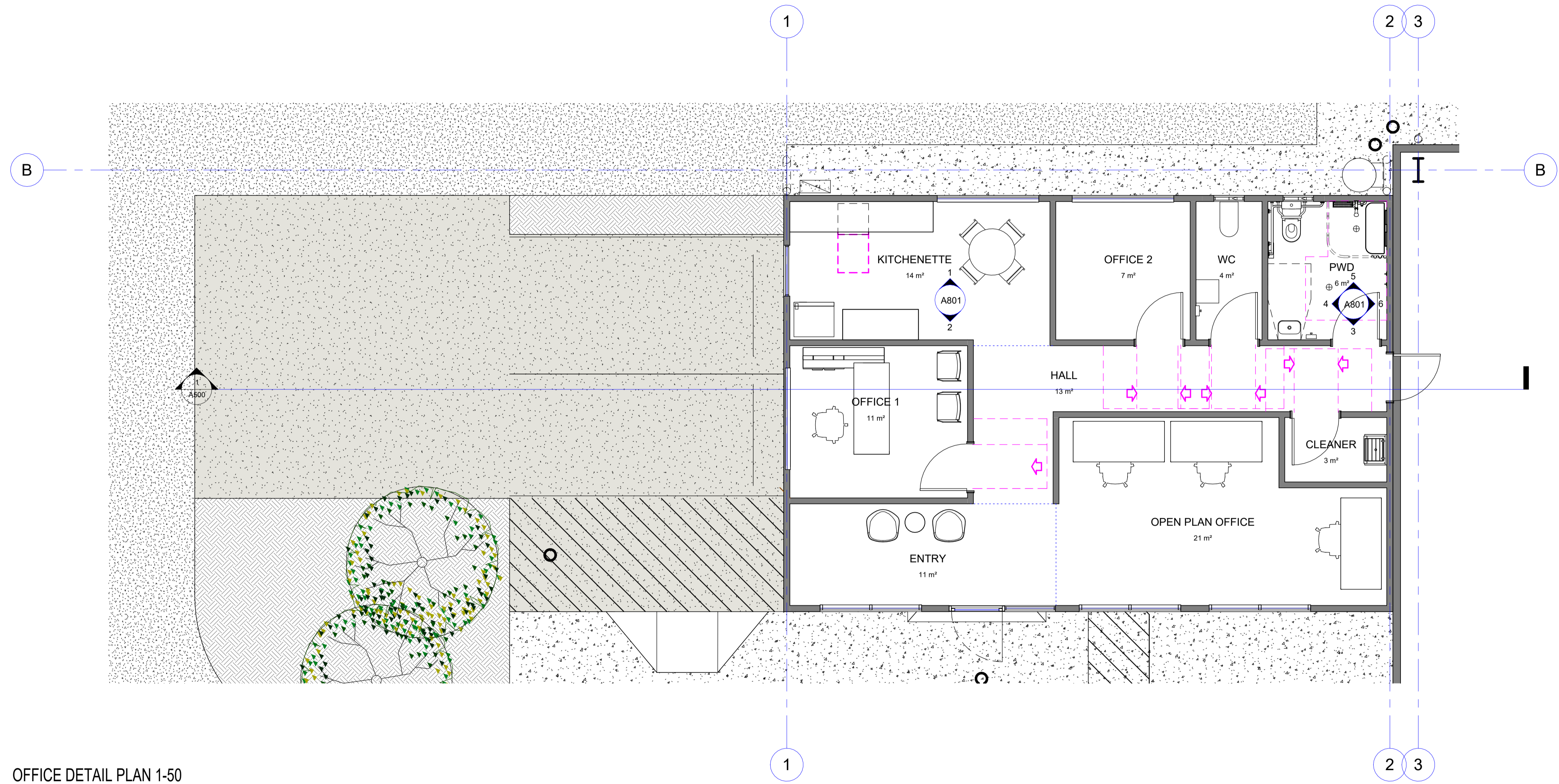
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 PHONE: 0438 473 982  
 EMAIL: mark.norton@spacecourts.com

DESIGNED  
 REVIEWED  
 DRAWN MRN  
 SIGNED:

Project Title  
**PROPOSED OFFICE AND WAREHOUSE COMPLEX**  
 Site Address  
 3-9 Norman Dungavell Drive, Queenton, QLD, 4820  
 Client  
 Hollimans Pty Ltd

Sheet Title  
**EXISTING SITE PLAN AND TOWN PLANNING NOTES**  
 Project No.  
 2025053

Sheet No.  
**A102**  
 Scale (A1)  
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OFFICE DETAIL PLAN 1-50  
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ABN 53611765956  
QBCC 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark.norton@spacecourts.com

DESIGNED  
REVIEWED  
DRAWN  
MRN  
SIGNED:

Project Title  
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WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollmans Pty Ltd

Sheet Title  
**PROPOSED OFFICE FLOOR PLAN**

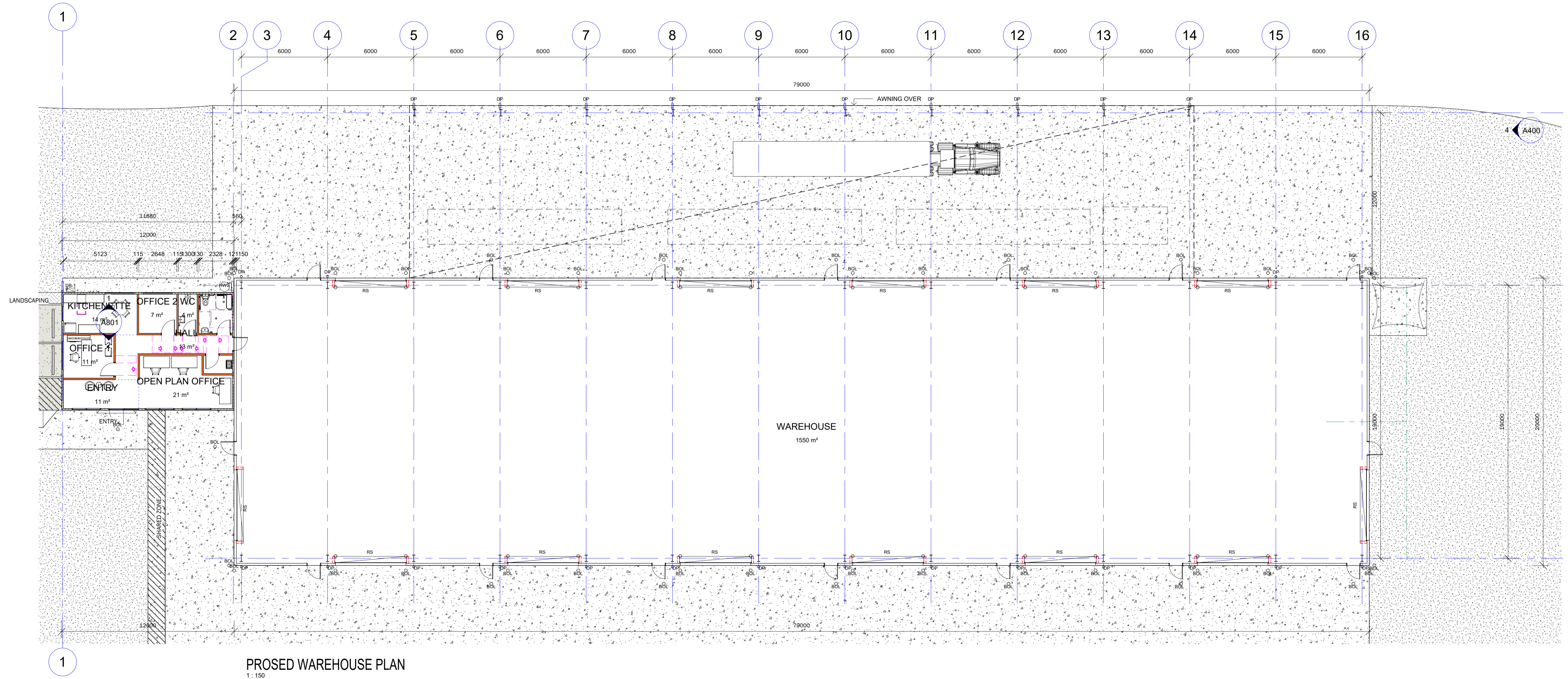
Project No.  
2025053

Sheet No.  
**A201a**

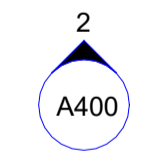
Scale (A1)  
1:50

REVISION  
**B**

KEYNOTE LEGEND	
BOL	225MM CAST-IN BOLLARD, GALVANISED WITH PAINT FINISH 'SAFETY YELLOW'
DB-1	DISTRIBUTION BOARD 1 - REFER ELECTRICAL
DP	150mm DIA RAINWATER DOWNPIPE
HWS	
RS	ROLLER SHUTTER



PROSED WAREHOUSE PLAN  
1:150



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CURRENT MANUFACTURER'S SPECIFICATIONS & INSTALLATION DETAILS  
FOR MATERIALS USED

NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED

Revision Schedule		
Rev	Description	Date
A	PRELIMINARY CONCEPT ISSUE	13/06/2025
B	DEVELOPMENT APPLICATION	28/07/2025

**drawing works**

USE SPACE BETTER PTY LTD. T/A  
DRAWING WORKS  
ABN 53617765956  
QBCC 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark.norton@spacecourts.com

DESIGNED  
REVIEWED  
DRAWN  
MRN  
SIGNED:

Project Title  
**PROPOSED OFFICE AND  
WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollmans Pty Ltd

Sheet Title  
**PROPOSED FLOOR PLAN**

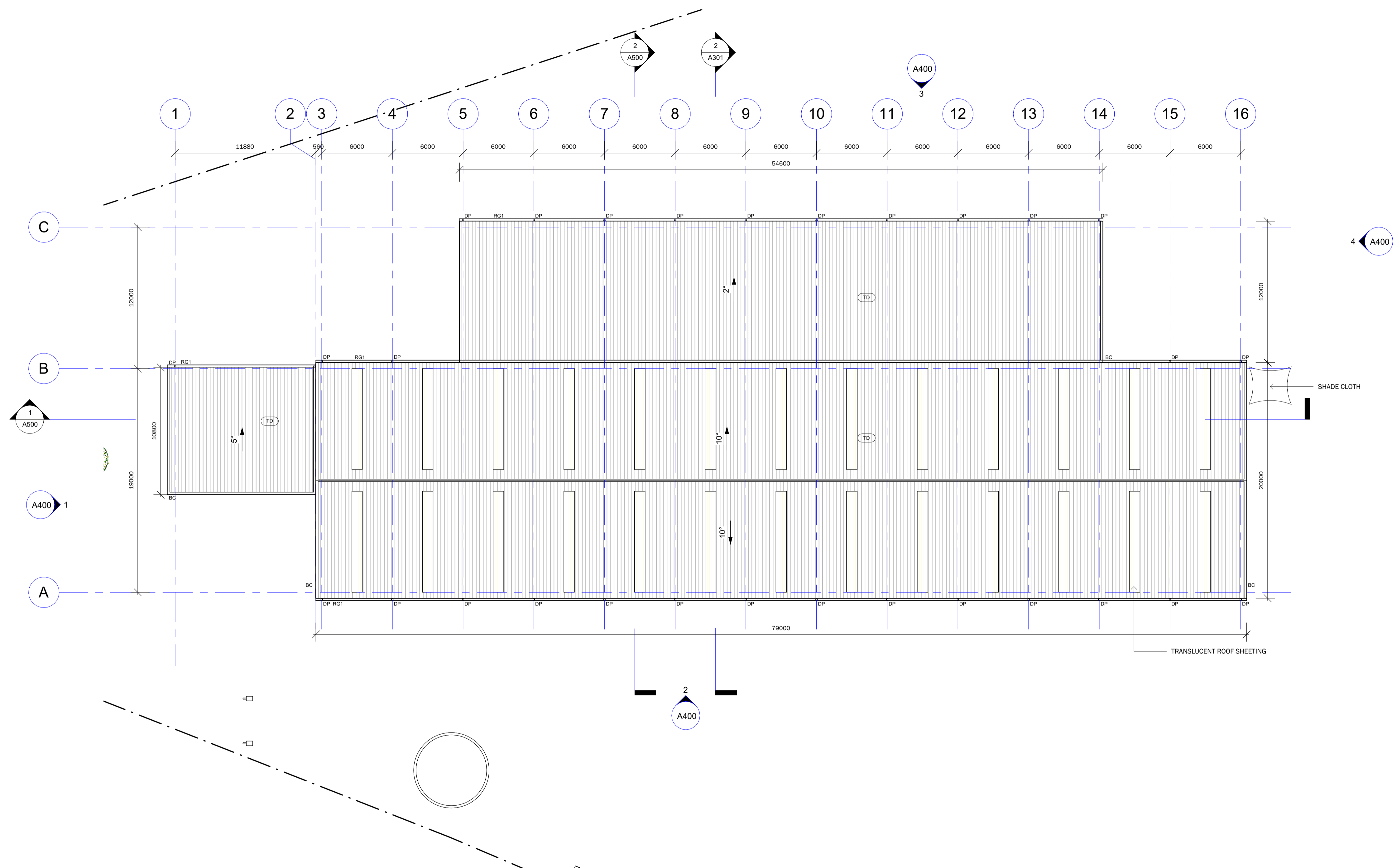
Project No.  
2025053

Sheet No.  
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Scale (A1)  
1:150

REVISION  
**B**

KEYNOTE LEGEND	
BC	BARGE CAPPING
DP	150mm DIA RAINWATER DOWNPIPE
RG1	COLORBOND QUAD GUTTER & FASCIA - REFER HYDRAULIC ENG'S DETAILS
TD	TRIMDEK WALL/ROOF SHEETING 0.48 BMT COLORBOND STEEL - TO SPECIFICATION. SURFMIST



**ROOF PLAN**  
1 : 200

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Revision Schedule		
Rev	Description	Date
A	PRELIMINARY CONCEPT ISSUE	13/06/2025
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DRAWING WORKS  
ABN 53617765956  
QBCB 15212911

Suite 2, 197 Flinders Street  
Townsville City QLD 4810  
www.drawingworks.com.au

PHONE: 0438 473 982  
EMAIL: mark.norton@spacecourts.com

DESIGNED  
REVIEWED  
DRAWN  
MRN  
SIGNED:

Project Title  
**PROPOSED OFFICE AND  
WAREHOUSE COMPLEX**

Site Address  
3-9 Norman Dungavell Drive, Queenton, QLD, 4820

Client  
Hollimans Pty Ltd

Sheet Title  
**PROPOSED ROOF PLAN**

Project No.  
2025053

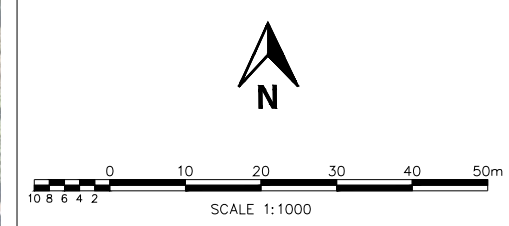
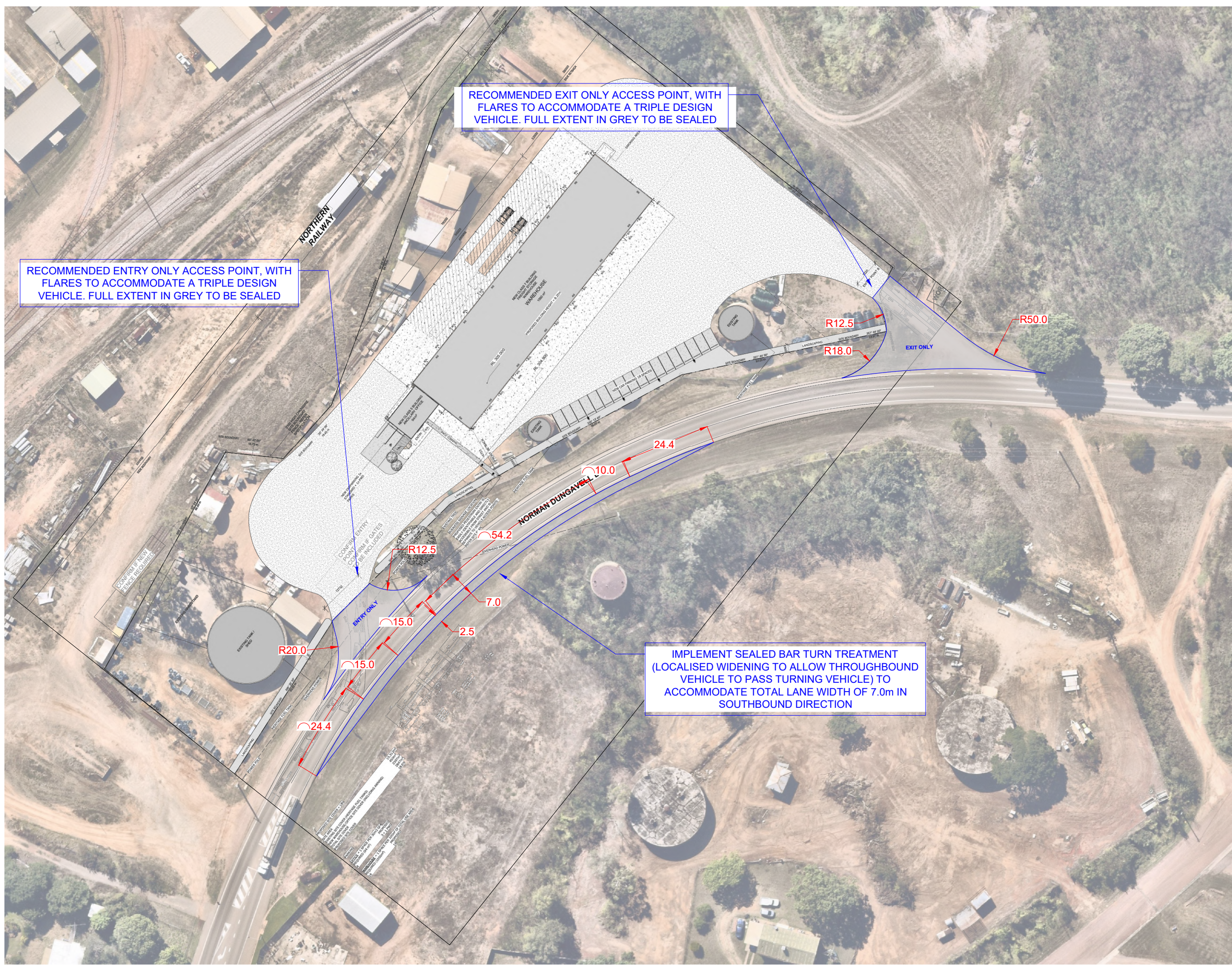
Sheet No.  
**A202**

Scale (A1)  
1 : 200

REVISION  
**B**

# APPENDIX B

## Traffic Concept Plan



**PROJECT**  
**3 - 9 NORMAN DUNGAVELL DRIVE**

**CLIENT**  
**HOLLIMANS PTY LTD**

**DRAWING TITLE**  
**MODUS TRAFFIC CONCEPT PLAN**

**DRAWING NUMBER**  
**MOD25169QLD - SK01**

DATE	REVISION
15 JAN 2026	A

REV	DRAWN BY	APPROVED	DATE	AMENDMENT DETAILS

**MODUS**  
 Transport and Traffic Engineering

ABN 49 668 863 269  
 310 Edward Street, BRISBANE CITY QLD 4000  
 T: 1300 606 408 E: marketing@moduseng.com.au  
 W: www.modusengineering.com.au

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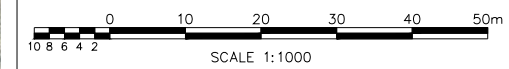
Harj Singh  
 Director  
 RPEQ 22364



DRIVER PERSPECTIVE AT MINIMUM SISD REQUIREMENT



DRIVER PERSPECTIVE AT MINIMUM SISD REQUIREMENT



**PROJECT**  
**3 - 9 NORMAN DUNGAVELL DRIVE**

**CLIENT**  
**HOLLIMANS PTY LTD**

**DRAWING TITLE**  
**SAFE INTERSECTION SIGHT DISTANCE REVIEW**

**DRAWING NUMBER**  
**MOD25169QLD - SK08**

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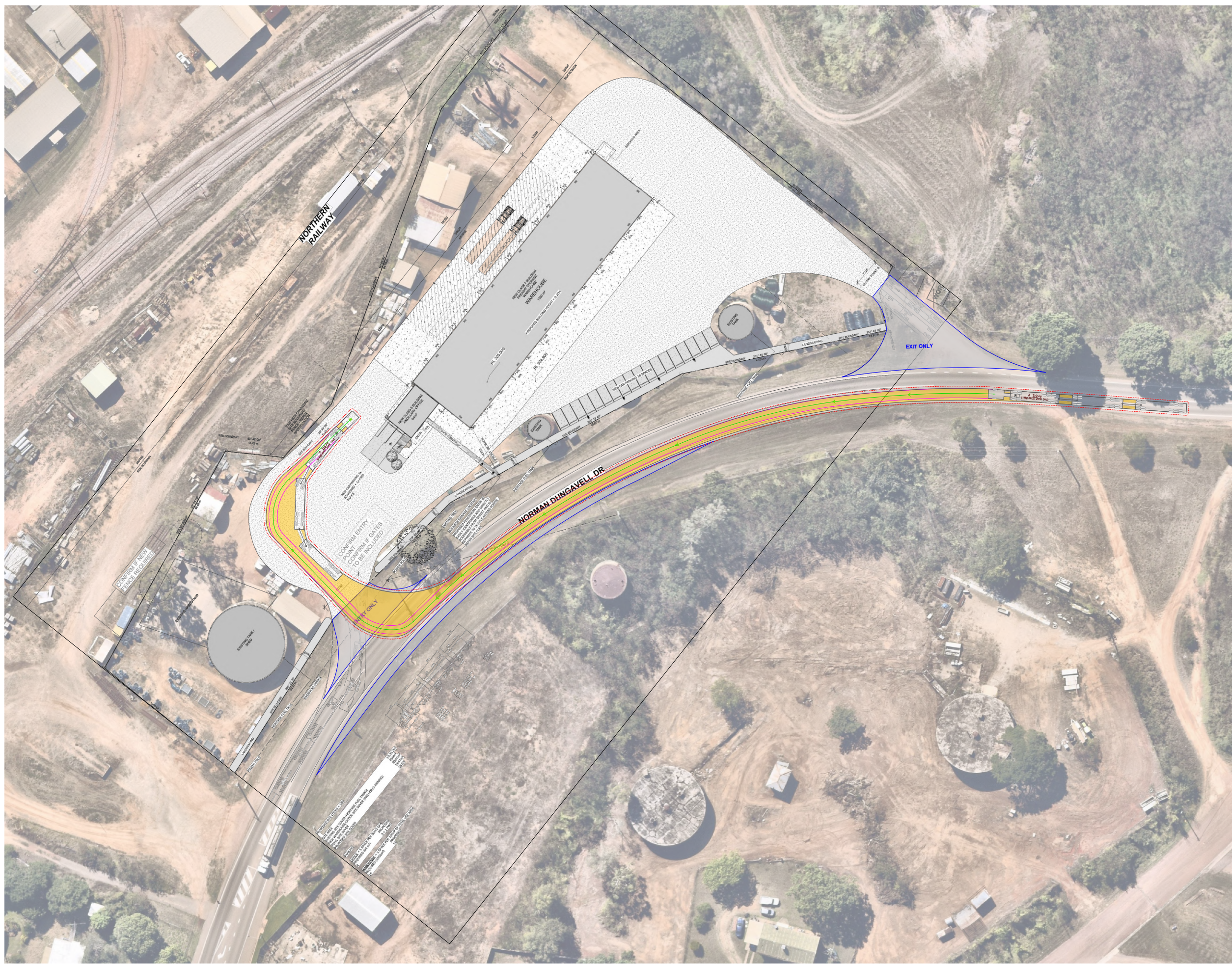
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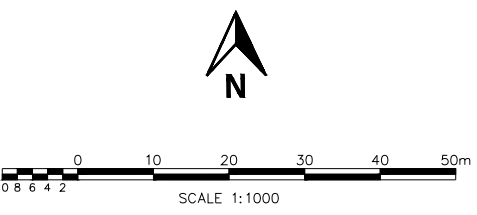
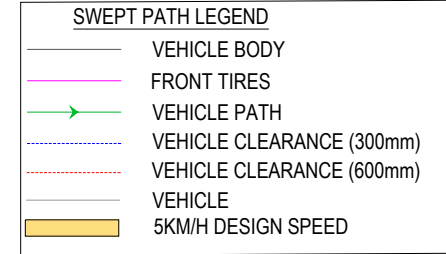
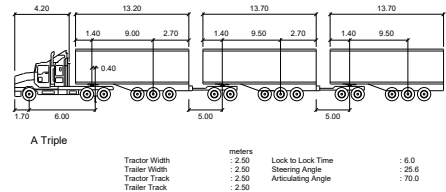
**Harj Singh**  
 Director  
 RPEQ 22364

# APPENDIX C

## Swept Path Assessment



**VEHICLE USED IN SIMULATION**



**PROJECT**  
**3 - 9 NORMAN DUNGAVELL DRIVE**

**CLIENT**  
**HOLLIMANS PTY LTD**

**DRAWING TITLE**  
**A TRIPLE ACCESS SWEEP PATH ASSESSMENT**

**DRAWING NUMBER**  
**MOD25169QLD - SK03**

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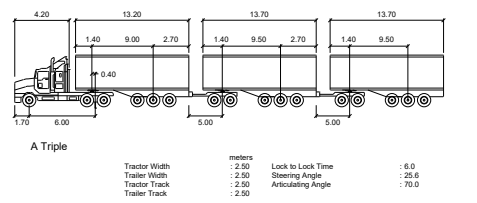
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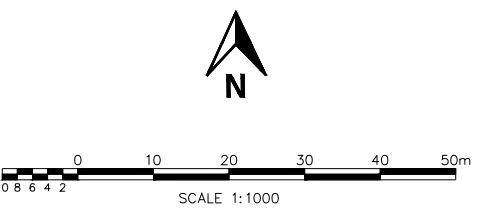


**VEHICLE USED IN SIMULATION**



**SWEPT PATH LEGEND**

	VEHICLE BODY
	FRONT TIRES
	VEHICLE PATH
	VEHICLE CLEARANCE (300mm)
	VEHICLE CLEARANCE (600mm)
	VEHICLE
	5KM/H DESIGN SPEED



**PROJECT**  
**3 - 9 NORMAN DUNGAVELL DRIVE**

**CLIENT**  
**HOLLIMANS PTY LTD**

**DRAWING TITLE**  
**A TRIPLE ACCESS SWEEP PATH ASSESSMENT**

**DRAWING NUMBER**  
**MOD25169QLD - SK04**

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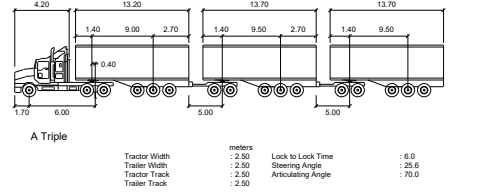
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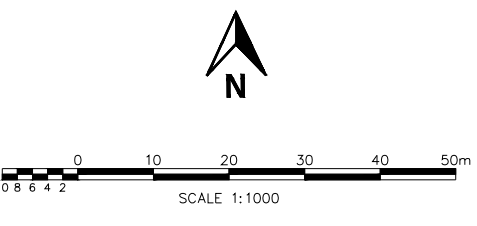


**VEHICLE USED IN SIMULATION**



**SWEPT PATH LEGEND**

	VEHICLE BODY
	FRONT TIRES
	VEHICLE PATH
	VEHICLE CLEARANCE (300mm)
	VEHICLE CLEARANCE (600mm)
	VEHICLE 5KM/H DESIGN SPEED



**PROJECT**  
**3 - 9 NORMAN DUNGAVELL DRIVE**

**CLIENT**  
**HOLLIMANS PTY LTD**

**DRAWING TITLE**  
**A TRIPLE EGRESS SWEEP PATH ASSESSMENT**

**DRAWING NUMBER**  
**MOD25169QLD - SK05**

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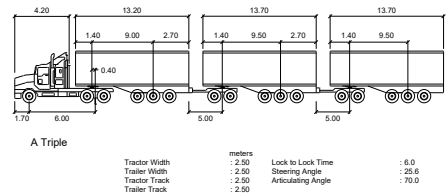
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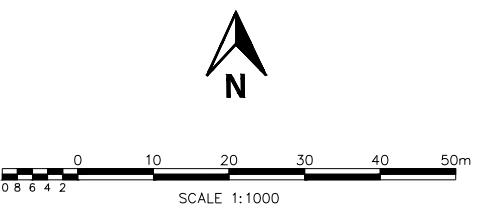


**VEHICLE USED IN SIMULATION**



**SWEPT PATH LEGEND**

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE CLEARANCE (600mm)
- VEHICLE
- 5KM/H DESIGN SPEED



**PROJECT**  
**3 - 9 NORMAN DUNGAVELL DRIVE**

**CLIENT**  
**HOLLIMANS PTY LTD**

**DRAWING TITLE**  
**A TRIPLE EGRESS SWEEP PATH ASSESSMENT**

**DRAWING NUMBER**  
**MOD25169QLD - SK06**

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 Director  
 RPEQ 22364

# APPENDIX D

## Traffic Survey Data

**TURNING MOVEMENT SURVEY**

**Intersection of Milchester Rd and Dungavell Dr, Queenston**

GPS: 43.070031, -80.222402

Date: Tue 14/03/2023

Weather: Fine

Observer: Submission

Customer: N/A

North: Dungavell Dr

East: Milchester Rd

South: York St

West: Milchester Rd

Survey Period: AM 8:00 AM-9:00 AM

PM 3:00 PM-4:00 PM

Traffic Peak: AM 8:00 AM-9:00 AM

PM 3:00 PM-4:00 PM

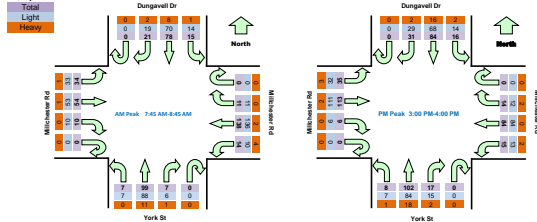
**All Vehicles**

Time	North Approach Dungavell Dr				East Approach Milchester Rd				South Approach York St				West Approach Milchester Rd				Hourly Total		
	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L			
6:00-6:15	0	0	10	1	0	4	4	0	1	4	0	0	0	0	0	0	5	3	201
6:15-6:30	0	0	9	1	0	2	5	4	0	2	5	1	0	2	2	2	2	2	228
6:30-6:45	0	4	22	2	0	2	13	3	0	1	9	1	0	2	4	3	270		
6:45-7:00	0	3	8	2	0	2	15	4	0	4	10	4	0	0	12	4	295		
7:00-7:15	0	5	11	0	0	0	13	4	0	2	8	1	0	1	9	5	363		
7:15-7:30	0	2	16	2	2	0	20	2	0	2	14	0	0	0	12	5	432		
7:30-7:45	0	5	17	3	0	0	19	3	0	1	18	5	0	2	10	8	487		
7:45-8:00	0	6	23	4	0	2	45	2	0	1	29	3	0	2	8	11	488		
8:00-8:15	0	7	22	1	0	4	29	2	0	3	29	1	0	5	13	12	469		
8:15-8:30	0	3	23	8	0	4	36	7	0	0	23	0	0	3	19	6			
8:30-8:45	0	5	10	2	0	1	28	3	0	3	18	3	0	0	14	5			
8:45-9:00	0	12	12	3	0	4	25	4	0	2	19	1	0	2	22	11			
9:00-9:15	0	4	31	2	0	2	31	4	0	3	31	0	0	3	43	6	525		
9:15-9:30	0	12	19	6	0	2	22	2	0	5	29	4	0	2	26	10	493		
9:30-9:45	0	9	14	3	0	5	13	4	0	5	19	2	0	0	26	10	464		
9:45-10:00	0	6	20	5	0	5	18	5	0	4	23	2	0	1	18	9	480		
10:00-10:15	0	12	21	2	0	1	18	4	0	6	15	0	0	1	35	13	500		
10:15-10:30	0	10	20	5	0	4	15	1	0	1	18	1	0	4	25	6	489		
10:30-10:45	0	8	22	10	0	4	17	5	1	1	19	1	0	1	30	7	467		
10:45-11:00	0	12	24	9	0	2	26	3	0	5	7	0	0	3	41	4	422		
11:00-11:15	0	12	23	6	0	3	13	1	0	4	8	0	0	1	44	2	366		
11:15-11:30	0	4	15	3	0	1	26	1	0	4	8	0	0	0	23	3			
11:30-11:45	0	4	7	5	0	2	13	3	0	1	6	1	0	1	37	1			
11:45-12:00	0	4	9	1	0	1	27	1	0	4	6	1	0	0	24	2			

Peak Time	North Approach Dungavell Dr				East Approach Milchester Rd				South Approach York St				West Approach Milchester Rd				Peak total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
7:45-8:45	0	21	78	15	0	11	138	14	0	7	89	7	0	10	54	34	488	
15:00-16:00	0	31	84	16	0	14	84	15	0	17	102	8	0	6	115	35	525	

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

**Graphic**



**Light Vehicles**

Time	North Approach Dungavell Dr				East Approach Milchester Rd				South Approach York St				West Approach Milchester Rd				
	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
6:00-6:15	0	0	4	1	0	2	4	0	0	1	2	0	0	0	0	4	3
6:15-6:30	0	0	3	1	0	1	5	4	0	1	3	1	0	2	2	2	2
6:30-6:45	0	2	11	1	0	1	13	3	0	1	8	1	0	2	4	3	3
6:45-7:00	0	2	5	2	0	2	15	3	0	3	8	1	0	0	12	3	3
7:00-7:15	0	3	10	0	0	0	13	4	0	2	4	1	0	1	9	4	4
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7:45-8:00	0	5	19	4	0	2	43	2	0	1	29	3	0	2	7	11	11
8:00-8:15	0	6	19	1	0	4	29	2	0	3	26	1	0	5	13	12	12
8:15-8:30	0	3	22	8	0	4	36	5	0	0	20	0	0	3	19	6	6
8:30-8:45	0	5	10	1	0	1	28	1	0	2	13	3	0	0	14	4	4
8:45-9:00	0	11	6	2	0	3	24	2	0	2	16	1	0	2	21	10	10
9:00-9:15	0	4	29	2	0	2	31	3	0	3	30	0	0	3	43	5	5
9:15-9:30	0	11	16	5	0	2	22	2	0	5	19	3	0	2	26	10	10
9:30-9:45	0	8	8	3	0	4	13	3	0	4	16	2	0	0	26	10	10
9:45-10:00	0	6	15	4	0	4	18	5	0	3	19	2	0	1	16	7	7
10:00-10:15	0	12	15	2	0	1	17	3	0	4	11	0	0	1	32	13	13
10:15-10:30	0	10	15	5	0	4	15	1	0	1	14	1	0	4	22	6	6
10:30-10:45	0	8	18	10	0	4	16	5	1	1	15	1	0	1	29	7	7
10:45-11:00	0	11	14	8	0	2	23	3	0	4	6	0	0	3	41	4	4
11:00-11:15	0	11	16	6	0	3	13	1	0	4	6	0	0	1	42	2	2
11:15-11:30	0	4	7	2	0	1	26	1	0	4	5	0	0	0	23	3	3
11:30-11:45	0	4	4	5	0	2	13	3	0	1	4	1	0	1	37	1	1
11:45-12:00	0	3	8	1	0	1	27	1	0	3	2	1	0	0	22	2	2

Peak Time	North Approach Dungavell Dr				East Approach Milchester Rd				South Approach York St				West Approach Milchester Rd				Peak total	
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
7:45-8:45	0	19	70	14	0	11	136	10	0	6	69	7	0	10	53	33	457	
15:00-16:00	0	29	68	14	0	12	84	13	0	15	84	7	0	6	111	32	475	

**Heavy Vehicles**

Time	North Approach Dungavell Dr				East Approach Milchester Rd				South Approach York St				West Approach Milchester Rd				
	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	
6:00-6:15	0	0	6	0	0	2	0	0	0	0	2	0	0	0	0	1	0
6:15-6:30	0	0	6	0	0	1	0	0	0	1	2	0	0	0	0	0	0
6:30-6:45	0	2	11	1	0	1	0	0	0	0	1	0	0	0	0	0	0
6:45-7:00	0	1	3	0	0	0	0	1	0	1	2	3	0	0	0	1	1
7:00-7:15	0	2	1	0	0	0	0	0	0	0	4	0	0	0	0	1	1
7:15-7:30	0	0	4	0	2	0	1	0	0	0	3	0	0	0	3	1	1
7:30-7:45	0	0	4	1	0	0	1	0	0	0	3	0	0	1	1	1	1
7:45-8:00	0	1	4	0	0	0	2	0	0	0	0	0	0	0	1	0	0
8:00-8:15	0	1	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0
8:15-8:30	0	0	1	0	0	0	0	2	0	0	3	0	0	0	0	0	0
8:30-8:45	0	0	0	1	0	0	0	2	0	1	5	0	0	0	0	1	1
8:45-9:00	0	1	6	1	0	1	1	2	0	0	3	0	0	0	1	1	1
9:00-9:15	0	0	2	0	0	0	0	1	0	0	1	0	0	0	0	1	1
9:15-9:30	0	1	3	1	0	0	0	0	0	0	10	1	0	0	0	0	0
9:30-9:45	0	1	6	0	0	1	0	1	0	1	3	0	0	0	0	0	0
9:45-10:00	0	0	5	1	0	1	0	0	0	1	4	0	0	0	2	2	2
10:00-10:15	0	0	6	0	0	0	1	1	0	2	4	0	0	0	3	0	0
10:15-10:30	0	0	5	0	0	0	0	0	0	4	0	0	0	0	3	0	0
10:30-10:45	0	0	4	0	0	0	1	0	0	4	0	0	0	0	1	0	0
10:45-11:00	0	1	10	1	0	0	3	0	0	1	1	0	0	0	0	0	0
11:00-11:15	0	1	7	0	0	0	0	0	0	2	0	0	0	0	2	0	0
11:15-11:30	0	0	8	1	0	0	0	0	0	3	0	0	0	0	0	0	0
11:30-11:45	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0
11:45-12:00	0	1	1	0	0	0	0	0	0	1	4	0	0	0	2	0	0

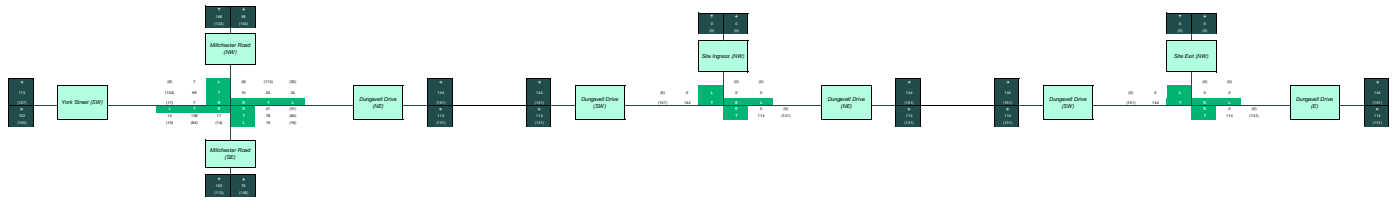
# APPENDIX E

## Traffic Network Flow Diagram

**Legend**

- Left Lane
- Through
- Right Lane
- Signal
- 100% High Speed Train
- 50% High Speed Train
- 25% High Speed Train
- High Speed Train

All Peak Hour Band: 8:00-18:00  
 All Peak Hour Band: 8:00-18:00



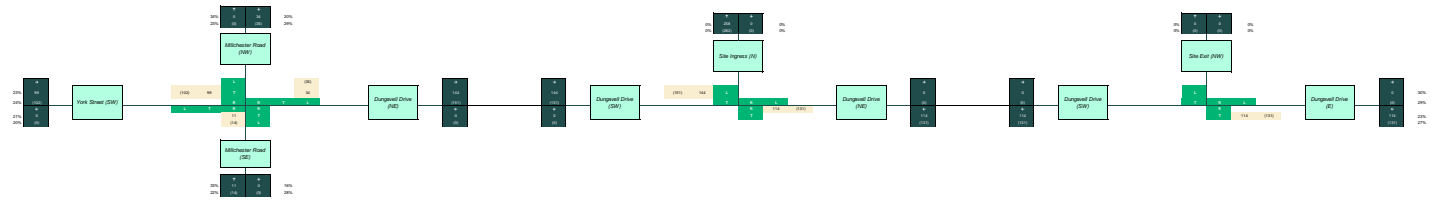
**MODUS**  
 Transport and Traffic Engineering

2025BACKGROUND

**Legend**

- Light Green
- Yellow
- Dark Green
- Black
- Light Blue
- Dark Blue
- Light Green with Red Border
- Light Green with Red Border and Black Dots
- Light Green with Red Border and Black Dots and Red Border

All Peak Hours (AM) 06:00-09:00  
 All Peak Hours (PM) 03:00-06:00



**MODUS**  
 Transport and Traffic Engineering

INBOUND TRAFFIC

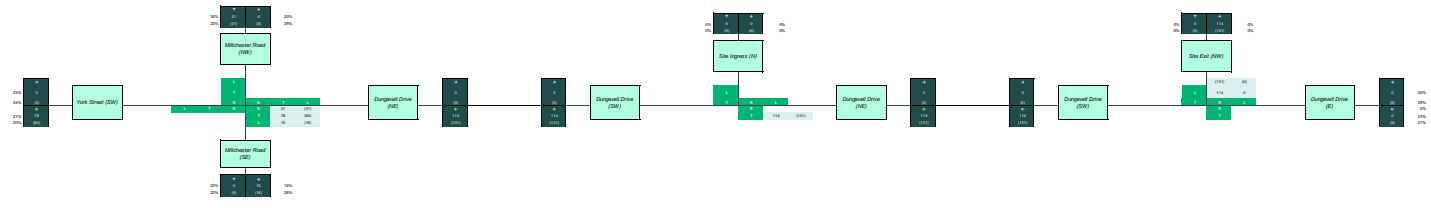




**Legend**

- Light Green
- Dark Green
- White
- Black
- Light Blue
- Dark Blue
- Light Grey
- Dark Grey

All Peak Hour Bus  
 All Peak Hour Bus  
 All Peak Hour Bus  
 All Peak Hour Bus  
 All Peak Hour Bus  
 All Peak Hour Bus  
 All Peak Hour Bus  
 All Peak Hour Bus



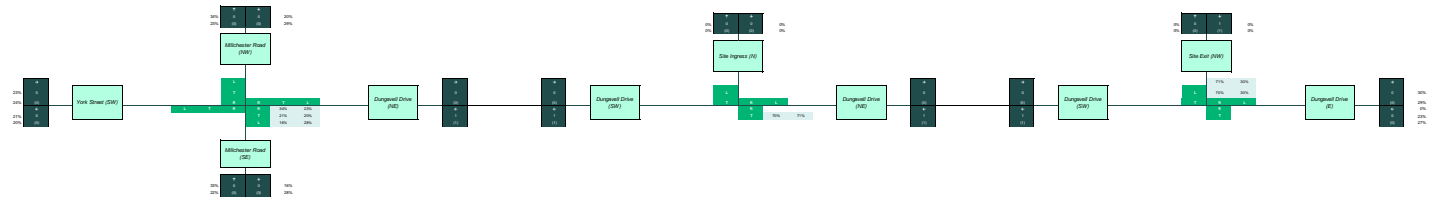
**MODUS**  
 Transport and Traffic Engineering

OUTBOUND TRAFFIC

**Legend**

- Light Green
- Dark Green
- Black
- Light Blue
- Dark Blue
- Light Grey
- Dark Grey
- White

All Peak Hour Demand  
 All Peak Hour Demand  
 All Peak Hour Demand  
 All Peak Hour Demand  
 All Peak Hour Demand  
 All Peak Hour Demand  
 All Peak Hour Demand  
 All Peak Hour Demand

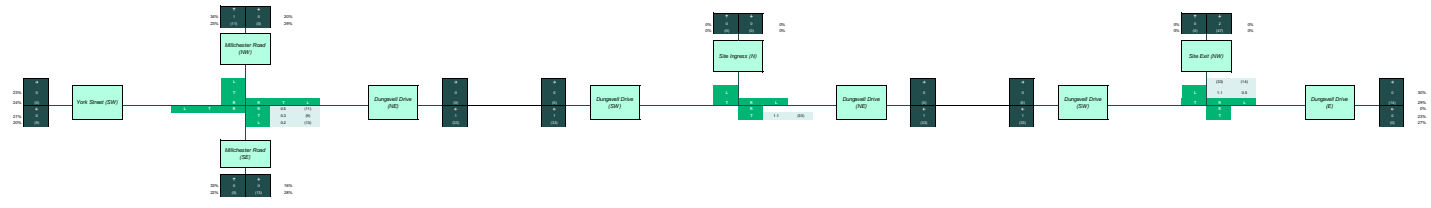


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OUTBOUND TRAFFIC PERCENTAGE

**Legend**

- L Left Lane
- T Through
- R Right Lane
- A Access
- D Drive
- S Side Street
- M Midway
- E End
- P Peak
- N Non-Peak
- A All
- P Peak
- N Non-Peak
- A All
- P Peak
- N Non-Peak
- A All



**MODUS**  
Transport and Traffic Engineering

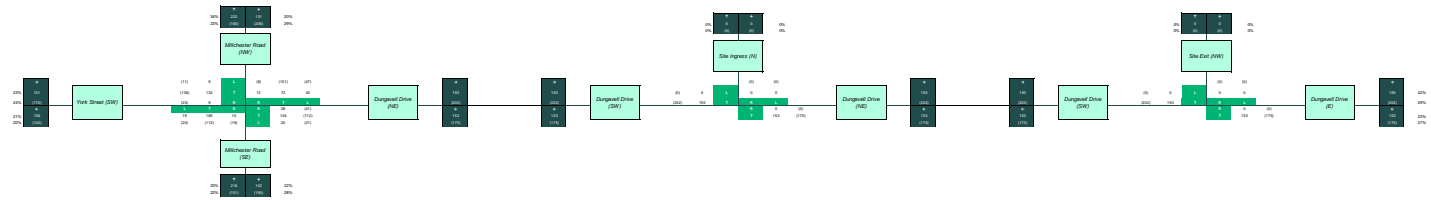
OUTBOUND TRAFFIC VOLUME







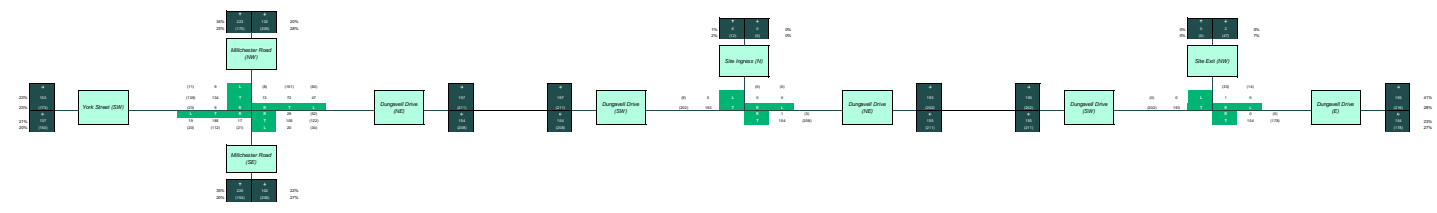
- Legend**
- Light Green
  - Dark Green
  - Yellow
  - Red
  - Blue
  - Black
  - White Box with Black Border
  - Green Box with White Text
  - Black Box with White Text
- All Peak Hour Data**    **400-10**  
**Off Peak Hour Data**    **400-15**



**MODUS**  
 Transport and Traffic Engineering

2038BACKGROUND

- Legend**
- Light Green
  - Yellow
  - Dark Green
  - Black
  - Light Blue
  - Dark Blue
  - White with black border
  - Green with black border
  - Black with white border
- Cell Peak Hour Start** 06:00-07:00  
**Cell Peak Hour End** 07:00-08:00



**MODUS**  
 Transport and Traffic Engineering

2038BG+DEV

# APPENDIX F

## Turn Warrant Assessment

# APPENDIX G

## SIDRA Results and Layouts

# MOVEMENT SUMMARY

Site: [3 (10)] SITE EGRESS - 2038BG+DEV - PM (2038BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

SITE EGRESS  
 SITE EGRESS / DUNGAVELL DRIVE  
 2038 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	187	5.0	187	5.0	0.099	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	60.0
Approach			187	5.0	187	5.0	0.099	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
NorthWest: SITE INGRESS															
27	L2	All MCs	15	5.0	15	5.0	0.052	6.3	LOSA	0.2	1.3	0.37	0.64	0.37	51.5
29	R2	All MCs	35	5.0	35	5.0	0.052	7.5	LOSA	0.2	1.3	0.37	0.64	0.37	51.0
Approach			49	5.0	49	5.0	0.052	7.2	LOSA	0.2	1.3	0.37	0.64	0.37	51.2
SouthWest: DUNGAVELL DRIVE															
31	T1	All MCs	213	5.0	213	5.0	0.113	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	59.9
Approach			213	5.0	213	5.0	0.113	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			449	5.0	449	5.0	0.113	0.8	NA	0.2	1.3	0.04	0.07	0.04	58.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

**STOP** Site: [1 (3)] INTERSECTION 1 - 2028BG - AM (2028BG )  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INTERSECTION 1  
 MILLCHESTER ROAD / DUNGAVELL DRIVE / NAGLE STREET  
 2028 BACKGROUND  
 Site Category: Future Conditions 1  
 Stop (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
SouthEast: MILLCHESTER ROAD															
21	L2	All MCs	16	5.0	16	5.0	0.015	8.6	LOS A	0.1	0.4	0.19	0.89	0.19	50.9
22	T1	All MCs	157	5.0	157	5.0	0.253	10.9	LOS B	1.2	8.5	0.50	0.89	0.50	49.6
23	R2	All MCs	13	5.0	13	5.0	0.253	13.0	LOS B	1.2	8.5	0.50	0.89	0.50	49.5
Approach			185	5.0	185	5.0	0.253	10.8	LOS B	1.2	8.5	0.47	0.89	0.47	49.7
NorthEast: NORMAN DUNGAVELL DRIVE															
24	L2	All MCs	17	5.0	17	5.0	0.056	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	56.4
25	T1	All MCs	88	5.0	88	5.0	0.056	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	59.1
26	R2	All MCs	24	5.0	24	5.0	0.015	5.9	LOS A	0.1	0.5	0.23	0.54	0.23	51.9
Approach			129	5.0	129	5.0	0.056	1.8	NA	0.1	0.5	0.04	0.18	0.04	57.3
NorthWest: MILLCHESTER ROAD															
27	L2	All MCs	39	5.0	39	5.0	0.127	8.8	LOS A	0.5	3.8	0.37	0.88	0.37	50.2
28	T1	All MCs	61	5.0	61	5.0	0.127	10.6	LOS B	0.5	3.8	0.37	0.88	0.37	50.2
29	R2	All MCs	12	5.0	12	5.0	0.026	13.1	LOS B	0.1	0.7	0.53	0.90	0.53	48.2
Approach			112	5.0	112	5.0	0.127	10.3	LOS B	0.5	3.8	0.38	0.88	0.38	50.0
SouthWest: YORK STREET															
30	L2	All MCs	8	5.0	8	5.0	0.064	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.9
31	T1	All MCs	113	5.0	113	5.0	0.064	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
32	R2	All MCs	8	5.0	8	5.0	0.005	5.9	LOS A	0.0	0.2	0.21	0.53	0.21	52.0
Approach			129	5.0	129	5.0	0.064	0.8	NA	0.0	0.2	0.01	0.07	0.01	58.9
All Vehicles			556	5.0	556	5.0	0.253	6.3	NA	1.2	8.5	0.25	0.53	0.25	53.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

**STOP Site: [1 (4)] INTERSECTION 1 - 202BG - PM (2028BG )**  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INTERSECTION 1  
 MILLCHESTER ROAD / DUNGAVELL DRIVE / NAGLE STREET  
 202 BACKGROUND  
 Site Category: Future Conditions 1  
 Stop (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
SouthEast: MILLCHESTER ROAD															
21	L2	All MCs	17	5.0	17	5.0	0.016	8.7	LOS A	0.1	0.4	0.20	0.89	0.20	50.8
22	T1	All MCs	96	5.0	96	5.0	0.184	11.1	LOS B	0.8	5.7	0.51	0.91	0.51	49.3
23	R2	All MCs	16	5.0	16	5.0	0.184	14.7	LOS B	0.8	5.7	0.51	0.91	0.51	49.2
Approach			128	5.0	128	5.0	0.184	11.2	LOS B	0.8	5.7	0.47	0.91	0.47	49.4
NorthEast: NORMAN DUNGAVELL DRIVE															
24	L2	All MCs	18	5.0	18	5.0	0.061	5.6	LOS A	0.0	0.0	0.00	0.09	0.00	56.5
25	T1	All MCs	96	5.0	96	5.0	0.061	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.1
26	R2	All MCs	35	5.0	35	5.0	0.022	5.9	LOS A	0.1	0.7	0.23	0.54	0.23	51.9
Approach			148	5.0	148	5.0	0.061	2.1	NA	0.1	0.7	0.05	0.20	0.05	56.9
NorthWest: MILLCHESTER ROAD															
27	L2	All MCs	40	5.0	40	5.0	0.236	8.9	LOS A	1.1	7.8	0.46	0.87	0.46	49.7
28	T1	All MCs	128	5.0	128	5.0	0.236	11.4	LOS B	1.1	7.8	0.46	0.87	0.46	49.7
29	R2	All MCs	6	5.0	6	5.0	0.013	12.5	LOS B	0.0	0.3	0.51	0.87	0.51	48.5
Approach			175	5.0	175	5.0	0.236	10.9	LOS B	1.1	7.8	0.46	0.87	0.46	49.7
SouthWest: YORK STREET															
30	L2	All MCs	9	5.0	9	5.0	0.067	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	56.9
31	T1	All MCs	116	5.0	116	5.0	0.067	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.6
32	R2	All MCs	19	5.0	19	5.0	0.012	5.9	LOS A	0.1	0.4	0.22	0.54	0.22	51.9
Approach			144	5.0	144	5.0	0.067	1.2	NA	0.1	0.4	0.03	0.11	0.03	58.3
All Vehicles			596	5.0	596	5.0	0.236	6.4	NA	1.1	7.8	0.26	0.53	0.26	53.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [2 (3)] SITE INGRESS - 2028BG - AM (2028BG )  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INGRESS CROSSOVER  
 SITE INGRESS / DUNGAVELL DRIVE  
 2028 BACKGROUND  
 Site Category: Future Conditions 1  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. ]	[ Dist ]		Rate to Depart		km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	129	5.0	129	5.0	0.069	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.9
26	R2	All MCs	1	5.0	1	5.0	0.069	5.8	LOS A	0.0	0.1	0.01	0.01	0.01	56.7
Approach			131	5.0	131	5.0	0.069	0.0	NA	0.0	0.1	0.01	0.01	0.01	59.9
SouthWest: DUNGAVELL DRIVE															
30	L2	All MCs	1	5.0	1	5.0	0.087	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.2
31	T1	All MCs	163	5.0	163	5.0	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			164	5.0	164	5.0	0.087	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			295	5.0	295	5.0	0.087	0.1	NA	0.0	0.1	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [2 (4)] SITE INGRESS - 2028BG - PM (2028BG )  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INGRESS CROSSOVER  
 SITE INGRESS / DUNGAVELL DRIVE  
 2028 BACKGROUND  
 Site Category: Future Conditions 1  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	148	5.0	148	5.0	0.079	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	59.9
26	R2	All MCs	1	5.0	1	5.0	0.079	5.8	LOS A	0.0	0.1	0.01	0.00	0.01	56.7
Approach			149	5.0	149	5.0	0.079	0.0	NA	0.0	0.1	0.01	0.00	0.01	59.9
SouthWest: DUNGAVELL DRIVE															
30	L2	All MCs	1	5.0	1	5.0	0.091	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.2
31	T1	All MCs	172	5.0	172	5.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			173	5.0	173	5.0	0.091	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			322	5.0	322	5.0	0.091	0.0	NA	0.0	0.1	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [3 (3)] SITE EGRESS - 2028BG - AM (2028BG)  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

SITE EGRESS  
 SITE EGRESS / DUNGAVELL DRIVE  
 2028 BACKGROUND  
 Site Category: Future Conditions 1  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	129	5.0	129	5.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			129	5.0	129	5.0	0.069	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
NorthWest: SITE INGRESS															
27	L2	All MCs	1	5.0	1	5.0	0.002	6.1	LOS A	0.0	0.0	0.28	0.55	0.28	51.8
29	R2	All MCs	1	5.0	1	5.0	0.002	6.9	LOS A	0.0	0.0	0.28	0.55	0.28	51.4
Approach			2	5.0	2	5.0	0.002	6.5	LOS A	0.0	0.0	0.28	0.55	0.28	51.6
SouthWest: DUNGAVELL DRIVE															
31	T1	All MCs	163	5.0	163	5.0	0.086	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			163	5.0	163	5.0	0.086	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles			295	5.0	295	5.0	0.086	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [3 (4)] SITE EGRESS - 2028BG - PM (2028BG)  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

SITE EGRESS  
 SITE EGRESS / DUNGAVELL DRIVE  
 2028 BACKGROUND  
 Site Category: Future Conditions 1  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	148	5.0	148	5.0	0.079	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			148	5.0	148	5.0	0.079	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
NorthWest: SITE INGRESS															
27	L2	All MCs	1	5.0	1	5.0	0.002	6.1	LOS A	0.0	0.0	0.30	0.55	0.30	51.8
29	R2	All MCs	1	5.0	1	5.0	0.002	7.0	LOS A	0.0	0.0	0.30	0.55	0.30	51.3
Approach			2	5.0	2	5.0	0.002	6.5	LOS A	0.0	0.0	0.30	0.55	0.30	51.6
SouthWest: DUNGAVELL DRIVE															
31	T1	All MCs	172	5.0	172	5.0	0.091	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			172	5.0	172	5.0	0.091	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles			322	5.0	322	5.0	0.091	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

**STOP** Site: [1 (5)] INTERSECTION 1 - 2028BG+DEV - A (2028BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INTERSECTION 1  
MILLCHESTER ROAD / DUNGAVELL DRIVE / NAGLE STREET  
2028 BACKGROUND+DEVELOPMENT  
Site Category: Future Conditions 2  
Stop (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
SouthEast: MILLCHESTER ROAD															
21	L2	All MCs	16	5.0	16	5.0	0.015	8.6	LOS A	0.1	0.4	0.19	0.89	0.19	50.9
22	T1	All MCs	157	5.0	157	5.0	0.257	10.9	LOS B	1.2	8.6	0.50	0.89	0.50	49.6
23	R2	All MCs	15	5.0	15	5.0	0.257	13.1	LOS B	1.2	8.6	0.50	0.89	0.50	49.5
Approach			187	5.0	187	5.0	0.257	10.9	LOS B	1.2	8.6	0.47	0.89	0.47	49.7
NorthEast: NORMAN DUNGAVELL DRIVE															
24	L2	All MCs	17	5.0	17	5.0	0.056	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	56.4
25	T1	All MCs	88	5.0	88	5.0	0.056	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	59.1
26	R2	All MCs	24	5.0	24	5.0	0.015	5.9	LOS A	0.1	0.5	0.23	0.54	0.23	51.9
Approach			129	5.0	129	5.0	0.056	1.8	NA	0.1	0.5	0.04	0.18	0.04	57.3
NorthWest: MILLCHESTER ROAD															
27	L2	All MCs	40	5.0	40	5.0	0.128	8.9	LOS A	0.5	3.9	0.37	0.88	0.37	50.2
28	T1	All MCs	61	5.0	61	5.0	0.128	10.6	LOS B	0.5	3.9	0.37	0.88	0.37	50.2
29	R2	All MCs	12	5.0	12	5.0	0.026	13.1	LOS B	0.1	0.7	0.53	0.90	0.53	48.2
Approach			113	5.0	113	5.0	0.128	10.3	LOS B	0.5	3.9	0.38	0.88	0.38	50.0
SouthWest: YORK STREET															
30	L2	All MCs	8	5.0	8	5.0	0.065	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.9
31	T1	All MCs	114	5.0	114	5.0	0.065	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
32	R2	All MCs	8	5.0	8	5.0	0.005	5.9	LOS A	0.0	0.2	0.21	0.53	0.21	52.0
Approach			131	5.0	131	5.0	0.065	0.8	NA	0.0	0.2	0.01	0.07	0.01	58.9
All Vehicles			560	5.0	560	5.0	0.257	6.3	NA	1.2	8.6	0.25	0.53	0.25	53.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
Two-Way Sign Control Capacity Model: SIDRA Standard.  
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

**STOP** Site: [1 (6)] INTERSECTION 1 - 202BG+DEV - PM (2028BG +DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INTERSECTION 1  
MILLCHESTER ROAD / DUNGAVELL DRIVE / NAGLE STREET  
2028 BACKGROUND+DEVELOPMENT  
Site Category: Future Conditions 2  
Stop (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
SouthEast: MILLCHESTER ROAD															
21	L2	All MCs	17	5.0	17	5.0	0.016	8.7	LOS A	0.1	0.4	0.21	0.89	0.21	50.8
22	T1	All MCs	96	5.0	96	5.0	0.202	11.5	LOS B	0.9	6.2	0.54	0.92	0.54	48.9
23	R2	All MCs	19	5.0	19	5.0	0.202	15.6	LOS C	0.9	6.2	0.54	0.92	0.54	48.8
Approach			132	5.0	132	5.0	0.202	11.8	LOS B	0.9	6.2	0.50	0.92	0.50	49.1
NorthEast: NORMAN DUNGAVELL DRIVE															
24	L2	All MCs	32	5.0	32	5.0	0.073	5.6	LOS A	0.0	0.0	0.00	0.14	0.00	56.1
25	T1	All MCs	105	5.0	105	5.0	0.073	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	58.7
26	R2	All MCs	46	5.0	46	5.0	0.030	6.0	LOS A	0.1	1.0	0.24	0.55	0.24	51.9
Approach			183	5.0	183	5.0	0.073	2.5	NA	0.1	1.0	0.06	0.24	0.06	56.4
NorthWest: MILLCHESTER ROAD															
27	L2	All MCs	43	5.0	43	5.0	0.252	9.0	LOS A	1.1	8.3	0.48	0.87	0.48	49.5
28	T1	All MCs	128	5.0	128	5.0	0.252	12.0	LOS B	1.1	8.3	0.48	0.87	0.48	49.5
29	R2	All MCs	6	5.0	6	5.0	0.014	12.9	LOS B	0.0	0.4	0.52	0.87	0.52	48.3
Approach			178	5.0	178	5.0	0.252	11.3	LOS B	1.1	8.3	0.49	0.87	0.49	49.4
SouthWest: YORK STREET															
30	L2	All MCs	9	5.0	9	5.0	0.068	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.9
31	T1	All MCs	119	5.0	119	5.0	0.068	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
32	R2	All MCs	19	5.0	19	5.0	0.012	6.0	LOS A	0.1	0.4	0.24	0.54	0.24	51.9
Approach			147	5.0	147	5.0	0.068	1.1	NA	0.1	0.4	0.03	0.11	0.03	58.3
All Vehicles			640	5.0	640	5.0	0.252	6.5	NA	1.1	8.3	0.26	0.53	0.26	53.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
Two-Way Sign Control Capacity Model: SIDRA Standard.  
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [2 (5)] SITE INGRESS - 2028BG+DEV - AM (2028BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INGRESS CROSSOVER  
 SITE INGRESS / DUNGAVELL DRIVE  
 2028 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	131	5.0	131	5.0	0.070	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.9
26	R2	All MCs	1	5.0	1	5.0	0.070	5.8	LOS A	0.0	0.1	0.01	0.01	0.01	56.7
Approach			132	5.0	132	5.0	0.070	0.0	NA	0.0	0.1	0.01	0.01	0.01	59.9
SouthWest: DUNGAVELL DRIVE															
30	L2	All MCs	5	5.0	5	5.0	0.089	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.1
31	T1	All MCs	163	5.0	163	5.0	0.089	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach			168	5.0	168	5.0	0.089	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles			300	5.0	300	5.0	0.089	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [2 (6)] SITE INGRESS - 2028BG+DEV - PM (2028BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INGRESS CROSSOVER  
 SITE INGRESS / DUNGAVELL DRIVE  
 2028 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	183	5.0	183	5.0	0.099	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.8
26	R2	All MCs	3	5.0	3	5.0	0.099	5.9	LOS A	0.0	0.2	0.01	0.01	0.01	56.6
Approach			186	5.0	186	5.0	0.099	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
SouthWest: DUNGAVELL DRIVE															
30	L2	All MCs	9	5.0	9	5.0	0.096	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.0
31	T1	All MCs	172	5.0	172	5.0	0.096	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach			181	5.0	181	5.0	0.096	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles			367	5.0	367	5.0	0.099	0.2	NA	0.0	0.2	0.01	0.02	0.01	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [3 (5)] SITE EGRESS - 2028BG+DEV - AM (2028BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

SITE EGRESS  
 SITE EGRESS / DUNGAPELL DRIVE  
 2028 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAPELL DRIVE															
25	T1	All MCs	131	5.0	131	5.0	0.069	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	60.0
Approach			131	5.0	131	5.0	0.069	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
NorthWest: SITE INGRESS															
27	L2	All MCs	1	5.0	1	5.0	0.002	6.1	LOSA	0.0	0.0	0.28	0.55	0.28	51.8
29	R2	All MCs	1	5.0	1	5.0	0.002	6.9	LOSA	0.0	0.0	0.28	0.55	0.28	51.4
Approach			2	5.0	2	5.0	0.002	6.5	LOSA	0.0	0.0	0.28	0.55	0.28	51.6
SouthWest: DUNGAPELL DRIVE															
31	T1	All MCs	163	5.0	163	5.0	0.086	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	60.0
Approach			163	5.0	163	5.0	0.086	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles			296	5.0	296	5.0	0.086	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [3 (6)] SITE EGRESS - 2028BG+DEV - PM (2028BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

SITE EGRESS  
 SITE EGRESS / DUNGAVELL DRIVE  
 2028 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	152	5.0	152	5.0	0.080	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	60.0
Approach			152	5.0	152	5.0	0.080	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
NorthWest: SITE INGRESS															
27	L2	All MCs	15	5.0	15	5.0	0.048	6.2	LOSA	0.2	1.2	0.32	0.62	0.32	51.7
29	R2	All MCs	35	5.0	35	5.0	0.048	7.1	LOSA	0.2	1.2	0.32	0.62	0.32	51.2
Approach			49	5.0	49	5.0	0.048	6.8	LOSA	0.2	1.2	0.32	0.62	0.32	51.4
SouthWest: DUNGAVELL DRIVE															
31	T1	All MCs	172	5.0	172	5.0	0.091	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	60.0
Approach			172	5.0	172	5.0	0.091	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles			373	5.0	373	5.0	0.091	0.9	NA	0.2	1.2	0.04	0.08	0.04	58.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

**STOP** Site: [1 (7)] INTERSECTION 1 - 2038BG - AM (2038BG )  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INTERSECTION 1  
 MILLCHESTER ROAD / DUNGAVELL DRIVE / NAGLE STREET  
 2038 BACKGROUND  
 Site Category: Future Conditions 1  
 Stop (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
SouthEast: MILLCHESTER ROAD															
21	L2	All MCs	20	5.0	20	5.0	0.019	8.7	LOS A	0.1	0.5	0.22	0.88	0.22	50.8
22	T1	All MCs	195	5.0	195	5.0	0.346	12.5	LOS B	1.9	13.8	0.58	0.94	0.66	48.6
23	R2	All MCs	16	5.0	16	5.0	0.346	15.6	LOS C	1.9	13.8	0.58	0.94	0.66	48.5
Approach			231	5.0	231	5.0	0.346	12.4	LOS B	1.9	13.8	0.55	0.94	0.62	48.8
NorthEast: NORMAN DUNGAVELL DRIVE															
24	L2	All MCs	21	5.0	21	5.0	0.070	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	56.4
25	T1	All MCs	109	5.0	109	5.0	0.070	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	59.1
26	R2	All MCs	29	5.0	29	5.0	0.019	6.0	LOS A	0.1	0.6	0.26	0.54	0.26	51.8
Approach			160	5.0	160	5.0	0.070	1.9	NA	0.1	0.6	0.05	0.18	0.05	57.3
NorthWest: MILLCHESTER ROAD															
27	L2	All MCs	47	5.0	47	5.0	0.169	9.0	LOS A	0.7	5.2	0.43	0.88	0.43	49.8
28	T1	All MCs	76	5.0	76	5.0	0.169	11.6	LOS B	0.7	5.2	0.43	0.88	0.43	49.8
29	R2	All MCs	14	5.0	14	5.0	0.037	15.1	LOS C	0.1	0.9	0.58	0.94	0.58	47.0
Approach			137	5.0	137	5.0	0.169	11.0	LOS B	0.7	5.2	0.44	0.89	0.44	49.5
SouthWest: YORK STREET															
30	L2	All MCs	9	5.0	9	5.0	0.079	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.9
31	T1	All MCs	139	5.0	139	5.0	0.079	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
32	R2	All MCs	9	5.0	9	5.0	0.006	5.9	LOS A	0.0	0.2	0.24	0.53	0.24	51.9
Approach			158	5.0	158	5.0	0.079	0.7	NA	0.0	0.2	0.01	0.07	0.01	58.9
All Vehicles			685	5.0	685	5.0	0.346	7.0	NA	1.9	13.8	0.29	0.55	0.31	52.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

**STOP Site: [1 (8)] INTERSECTION 1 - 2038BG - PM (2038BG )**  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INTERSECTION 1  
 MILLCHESTER ROAD / DUNGAVELL DRIVE / NAGLE STREET  
 2038 BACKGROUND  
 Site Category: Future Conditions 1  
 Stop (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
SouthEast: MILLCHESTER ROAD															
21	L2	All MCs	21	5.0	21	5.0	0.020	8.8	LOS A	0.1	0.5	0.23	0.88	0.23	50.8
22	T1	All MCs	118	5.0	118	5.0	0.260	12.4	LOS B	1.1	8.3	0.59	0.94	0.60	48.3
23	R2	All MCs	20	5.0	20	5.0	0.260	17.9	LOS C	1.1	8.3	0.59	0.94	0.60	48.2
Approach			159	5.0	159	5.0	0.260	12.6	LOS B	1.1	8.3	0.54	0.93	0.55	48.6
NorthEast: NORMAN DUNGAVELL DRIVE															
24	L2	All MCs	22	5.0	22	5.0	0.075	5.6	LOS A	0.0	0.0	0.00	0.09	0.00	56.5
25	T1	All MCs	118	5.0	118	5.0	0.075	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.1
26	R2	All MCs	43	5.0	43	5.0	0.028	6.1	LOS A	0.1	0.9	0.27	0.55	0.27	51.8
Approach			183	5.0	183	5.0	0.075	2.1	NA	0.1	0.9	0.06	0.20	0.06	56.9
NorthWest: MILLCHESTER ROAD															
27	L2	All MCs	49	5.0	49	5.0	0.323	9.4	LOS A	1.6	12.0	0.54	0.90	0.58	48.9
28	T1	All MCs	159	5.0	159	5.0	0.323	13.0	LOS B	1.6	12.0	0.54	0.90	0.58	48.9
29	R2	All MCs	8	5.0	8	5.0	0.021	14.2	LOS B	0.1	0.5	0.56	0.90	0.56	47.5
Approach			217	5.0	217	5.0	0.323	12.2	LOS B	1.6	12.0	0.54	0.90	0.58	48.9
SouthWest: YORK STREET															
30	L2	All MCs	12	5.0	12	5.0	0.082	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.9
31	T1	All MCs	143	5.0	143	5.0	0.082	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
32	R2	All MCs	24	5.0	24	5.0	0.016	6.0	LOS A	0.1	0.5	0.25	0.54	0.25	51.9
Approach			179	5.0	179	5.0	0.082	1.2	NA	0.1	0.5	0.03	0.11	0.03	58.2
All Vehicles			738	5.0	738	5.0	0.323	7.1	NA	1.6	12.0	0.30	0.54	0.31	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [2 (7)] SITE INGRESS - 2038BG - AM (2038BG )  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INGRESS CROSSOVER  
 SITE INGRESS / DUNGAVELL DRIVE  
 2038 BACKGROUND  
 Site Category: Future Conditions 1  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	161	5.0	161	5.0	0.086	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	59.9
26	R2	All MCs	1	5.0	1	5.0	0.086	5.8	LOS A	0.0	0.1	0.01	0.00	0.01	56.7
Approach			162	5.0	162	5.0	0.086	0.0	NA	0.0	0.1	0.01	0.00	0.01	59.9
SouthWest: DUNGAVELL DRIVE															
30	L2	All MCs	1	5.0	1	5.0	0.108	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.2
31	T1	All MCs	203	5.0	203	5.0	0.108	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			204	5.0	204	5.0	0.108	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			366	5.0	366	5.0	0.108	0.0	NA	0.0	0.1	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [2 (8)] SITE INGRESS - 2038BG - PM (2038BG)  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INGRESS CROSSOVER  
 SITE INGRESS / DUNGAVELL DRIVE  
 2038 BACKGROUND  
 Site Category: Future Conditions 1  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	184	5.0	184	5.0	0.098	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	59.9
26	R2	All MCs	1	5.0	1	5.0	0.098	5.8	LOS A	0.0	0.1	0.00	0.00	0.00	56.7
Approach			185	5.0	185	5.0	0.098	0.0	NA	0.0	0.1	0.00	0.00	0.00	59.9
SouthWest: DUNGAVELL DRIVE															
30	L2	All MCs	1	5.0	1	5.0	0.113	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.2
31	T1	All MCs	213	5.0	213	5.0	0.113	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			214	5.0	214	5.0	0.113	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			399	5.0	399	5.0	0.113	0.0	NA	0.0	0.1	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [3 (7)] SITE EGRESS - 2038BG - AM (2038BG )  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

SITE EGRESS  
 SITE EGRESS / DUNGAVELL DRIVE  
 2038 BACKGROUND  
 Site Category: Future Conditions 1  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	161	5.0	161	5.0	0.085	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			161	5.0	161	5.0	0.085	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
NorthWest: SITE INGRESS															
27	L2	All MCs	1	5.0	1	5.0	0.002	6.2	LOS A	0.0	0.0	0.32	0.56	0.32	51.7
29	R2	All MCs	1	5.0	1	5.0	0.002	7.2	LOS A	0.0	0.0	0.32	0.56	0.32	51.3
Approach			2	5.0	2	5.0	0.002	6.7	LOS A	0.0	0.0	0.32	0.56	0.32	51.5
SouthWest: DUNGAVELL DRIVE															
31	T1	All MCs	203	5.0	203	5.0	0.108	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			203	5.0	203	5.0	0.108	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			366	5.0	366	5.0	0.108	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [3 (8)] SITE EGRESS - 2038BG - PM (2038BG)  
 Output produced by SIDRA INTERSECTION Version: 10.0.5.217

SITE EGRESS  
 SITE EGRESS / DUNGAVELL DRIVE  
 2038 BACKGROUND  
 Site Category: Future Conditions 1  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	148	5.0	148	5.0	0.079	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			148	5.0	148	5.0	0.079	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
NorthWest: SITE INGRESS															
27	L2	All MCs	1	5.0	1	5.0	0.002	6.2	LOS A	0.0	0.0	0.33	0.56	0.33	51.7
29	R2	All MCs	1	5.0	1	5.0	0.002	7.2	LOS A	0.0	0.0	0.33	0.56	0.33	51.3
Approach			2	5.0	2	5.0	0.002	6.7	LOS A	0.0	0.0	0.33	0.56	0.33	51.5
SouthWest: DUNGAVELL DRIVE															
31	T1	All MCs	213	5.0	213	5.0	0.113	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			213	5.0	213	5.0	0.113	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			363	5.0	363	5.0	0.113	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

**STOP** Site: [1 (9)] INTERSECTION 1 - 2038BG+DEV - AM (2038BG +DEV )

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INTERSECTION 1  
 MILLCHESTER ROAD / DUNGAVELL DRIVE / NAGLE STREET  
 2038 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Stop (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
SouthEast: MILLCHESTER ROAD															
21	L2	All MCs	20	5.0	20	5.0	0.019	8.8	LOS A	0.1	0.5	0.22	0.88	0.22	50.8
22	T1	All MCs	195	5.0	195	5.0	0.353	12.6	LOS B	2.0	14.3	0.58	0.95	0.68	48.5
23	R2	All MCs	18	5.0	18	5.0	0.353	15.9	LOS C	2.0	14.3	0.58	0.95	0.68	48.4
Approach			233	5.0	233	5.0	0.353	12.5	LOS B	2.0	14.3	0.55	0.94	0.64	48.7
NorthEast: NORMAN DUNGAVELL DRIVE															
24	L2	All MCs	21	5.0	21	5.0	0.070	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	56.4
25	T1	All MCs	111	5.0	111	5.0	0.070	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	59.1
26	R2	All MCs	31	5.0	31	5.0	0.020	6.0	LOS A	0.1	0.6	0.26	0.54	0.26	51.8
Approach			162	5.0	162	5.0	0.070	1.9	NA	0.1	0.6	0.05	0.18	0.05	57.2
NorthWest: MILLCHESTER ROAD															
27	L2	All MCs	49	5.0	49	5.0	0.172	9.0	LOS A	0.7	5.3	0.43	0.88	0.43	49.8
28	T1	All MCs	76	5.0	76	5.0	0.172	11.6	LOS B	0.7	5.3	0.43	0.88	0.43	49.8
29	R2	All MCs	14	5.0	14	5.0	0.037	15.2	LOS C	0.1	0.9	0.58	0.94	0.58	47.0
Approach			139	5.0	139	5.0	0.172	11.1	LOS B	0.7	5.3	0.44	0.89	0.44	49.5
SouthWest: YORK STREET															
30	L2	All MCs	9	5.0	9	5.0	0.080	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.9
31	T1	All MCs	141	5.0	141	5.0	0.080	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
32	R2	All MCs	9	5.0	9	5.0	0.006	6.0	LOS A	0.0	0.2	0.24	0.53	0.24	51.9
Approach			160	5.0	160	5.0	0.080	0.7	NA	0.0	0.2	0.01	0.07	0.01	58.9
All Vehicles			694	5.0	694	5.0	0.353	7.0	NA	2.0	14.3	0.29	0.55	0.32	52.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

**STOP** Site: [1 (10)] INTERSECTION 1 - 203BG+DEV - PM (2038BG +DEV )

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INTERSECTION 1  
 MILLCHESTER ROAD / DUNGAVELL DRIVE / NAGLE STREET  
 2038 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Stop (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
SouthEast: MILLCHESTER ROAD															
21	L2	All MCs	21	5.0	21	5.0	0.021	8.9	LOS A	0.1	0.5	0.24	0.88	0.24	50.8
22	T1	All MCs	118	5.0	118	5.0	0.281	13.2	LOS B	1.3	9.4	0.61	0.97	0.67	47.8
23	R2	All MCs	22	5.0	22	5.0	0.281	19.2	LOS C	1.3	9.4	0.61	0.97	0.67	47.7
Approach			161	5.0	161	5.0	0.281	13.4	LOS B	1.3	9.4	0.56	0.96	0.61	48.1
NorthEast: NORMAN DUNGAVELL DRIVE															
24	L2	All MCs	36	5.0	36	5.0	0.088	5.6	LOS A	0.0	0.0	0.00	0.13	0.00	56.2
25	T1	All MCs	128	5.0	128	5.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	58.8
26	R2	All MCs	55	5.0	55	5.0	0.036	6.1	LOS A	0.2	1.2	0.27	0.55	0.27	51.8
Approach			219	5.0	219	5.0	0.088	2.4	NA	0.2	1.2	0.07	0.24	0.07	56.5
NorthWest: MILLCHESTER ROAD															
27	L2	All MCs	53	5.0	53	5.0	0.345	9.7	LOS A	1.9	13.6	0.57	0.91	0.65	48.4
28	T1	All MCs	159	5.0	159	5.0	0.345	14.1	LOS B	1.9	13.6	0.57	0.91	0.65	48.4
29	R2	All MCs	8	5.0	8	5.0	0.022	14.7	LOS B	0.1	0.6	0.57	0.91	0.57	47.2
Approach			220	5.0	220	5.0	0.345	13.1	LOS B	1.9	13.6	0.57	0.91	0.65	48.4
SouthWest: YORK STREET															
30	L2	All MCs	12	5.0	12	5.0	0.084	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	56.9
31	T1	All MCs	146	5.0	146	5.0	0.084	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.6
32	R2	All MCs	24	5.0	24	5.0	0.016	6.1	LOS A	0.1	0.5	0.27	0.54	0.27	51.8
Approach			182	5.0	182	5.0	0.084	1.2	NA	0.1	0.5	0.04	0.11	0.04	58.2
All Vehicles			782	5.0	782	5.0	0.345	7.4	NA	1.9	13.6	0.30	0.55	0.34	52.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [2 (9)] SITE INGRESS - 2038BG+DEV - AM (2038BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INGRESS CROSSOVER  
 SITE INGRESS / DUNGAVELL DRIVE  
 2038 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	162	5.0	162	5.0	0.087	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	59.9
26	R2	All MCs	1	5.0	1	5.0	0.087	5.8	LOS A	0.0	0.1	0.01	0.00	0.01	56.7
Approach			163	5.0	163	5.0	0.087	0.0	NA	0.0	0.1	0.01	0.00	0.01	59.9
SouthWest: DUNGAVELL DRIVE															
30	L2	All MCs	5	5.0	5	5.0	0.111	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.1
31	T1	All MCs	203	5.0	203	5.0	0.111	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach			208	5.0	208	5.0	0.111	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles			372	5.0	372	5.0	0.111	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: [2 (10)] SITE INGRESS - 2038BG+DEV - PM (2038BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

INGRESS CROSSOVER  
 SITE INGRESS / DUNGAVELL DRIVE  
 2038 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Total HV ]	[ Total HV ]	v/c	sec		[ Veh. ]	[ Dist ]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAVELL DRIVE															
25	T1	All MCs	219	5.0	219	5.0	0.118	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.9
26	R2	All MCs	3	5.0	3	5.0	0.118	6.0	LOS A	0.0	0.2	0.01	0.01	0.01	56.6
Approach			222	5.0	222	5.0	0.118	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
SouthWest: DUNGAVELL DRIVE															
30	L2	All MCs	9	5.0	9	5.0	0.118	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.0
31	T1	All MCs	213	5.0	213	5.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach			222	5.0	222	5.0	0.118	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.6
All Vehicles			444	5.0	444	5.0	0.118	0.2	NA	0.0	0.2	0.01	0.02	0.01	59.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
 Two-Way Sign Control Capacity Model: SIDRA Standard.  
 Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).  
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.  
 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.  
 Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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 Organisation: MODUS TRAFFIC ENGINEERING PTY LTD | Licence: NETWORK / 1PC | Processed: Wednesday, 14 January 2026 5:27:37 PM  
 Project: C:\Users\AfafElHarda\Modus Engineering\Projects 2025 - 2026 - Documents\Projects 2025 - 2026\TA\QLD\MOD25169QLD - 3-9 Norman Dungavell Drive, Queenton\3 ANALYSIS\SIDRA\MOD25169QLD - 3-9 Norman Dungavell Drive, Queenton.sipx

# MOVEMENT SUMMARY

Site: [3 (9)] SITE EGRESS - 2038BG+DEV - AM (2038BG+DEV)

Output produced by SIDRA INTERSECTION Version: 10.0.5.217

SITE EGRESS  
 SITE EGRESS / DUNGAPELL DRIVE  
 2038 BACKGROUND+DEVELOPMENT  
 Site Category: Future Conditions 2  
 Give-Way (Two-Way)  
**Site Scenario: 1 | Local Volumes**

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[ Total HV ]	[ Total HV ]			v/c	sec		[ Veh. ]	[ Dist ]				km/h
			veh/h	%	veh/h	%				veh	m				
NorthEast: DUNGAPELL DRIVE															
25	T1	All MCs	162	5.0	162	5.0	0.086	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			162	5.0	162	5.0	0.086	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
NorthWest: SITE INGRESS															
27	L2	All MCs	1	5.0	1	5.0	0.002	6.2	LOS A	0.0	0.0	0.32	0.56	0.32	51.7
29	R2	All MCs	1	5.0	1	5.0	0.002	7.2	LOS A	0.0	0.0	0.32	0.56	0.32	51.3
Approach			2	5.0	2	5.0	0.002	6.7	LOS A	0.0	0.0	0.32	0.56	0.32	51.5
SouthWest: DUNGAPELL DRIVE															
31	T1	All MCs	203	5.0	203	5.0	0.108	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			203	5.0	203	5.0	0.108	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			367	5.0	367	5.0	0.108	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).  
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 Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).  
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 Project: C:\Users\AfafElHarda\Modus Engineering\Projects 2025 - 2026 - Documents\Projects 2025 - 2026\TA\QLD\MOD25169QLD - 3-9 Norman Dungavell Drive, Queenton\3 ANALYSIS\SIDRA\MOD25169QLD - 3-9 Norman Dungavell Drive, Queenton.sipx

# APPENDIX G

STRUCTURAL  
CIVIL  
ELECTRICAL  
MECHANICAL  
HYDRAULIC  
FIRE  
VERTICAL  
TRANSPORT  
SEISMIC



## **New Warehouse & Hardstand**


3 – 9 NORMAN DUNGAVELL DRIVE, QUEENTON QLD 4820

**SITE BASED STORMWATER MANAGEMENT PLAN**

**URBAN SPACE CONSULTING**

STP25-2356

DOCUMENT STATUS

Rev.	Issue	Author	Approved for Issue		
			Approved by	Signature	Date
A	For Approval	Manuel Flores	Paul Petersen RPEQ 13231		18 February 2026

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## 1. Introduction

Urban Space Consulting has engaged STP Consultants to prepare a Site Based Stormwater Management Plan. This plan is intended to provide essential information to support the development of a New Warehouse along with a Hardstand, and Car Parking. The primary objective of this report is to comprehensively address the stormwater infrastructure needs necessary to effectively manage all-site runoff resulting from the proposed development.

Careful consideration of stormwater management is paramount as additional impervious surface inevitably alters the natural hydrological dynamics of the site, which potentially leading to increase runoff volumes and altered drainage patterns. Therefore, the key components of this report include:

1. Site assessment: An evaluation of the site's topography, hydrology, land use, and existing stormwater infrastructure.
2. Risk Analysis: An assessment of potential risk associated with stormwater runoff, including flooding, and water quality.
3. Proposed solutions: recommendations for stormwater management strategies including both green and grey infrastructure measures.

In summary, this report serves as a vital component of the overall project planning process, providing essential guidance for the design and implementation of stormwater infrastructure to effectively manage runoff from the proposed works. It underscores the importance of proactive stormwater management in mitigating potential risk and ensuring the successful and sustainable development of the site.

### 1.1 Limitations

This report provides a desktop stormwater and hydrology investigation from the information obtained from the following sources.

- Architectural plans prepared by Drawing Works.
- Survey Plan prepared by GJCM Surveys.
- LiDAR data obtained from Department of Natural Resources and Mines (via ELVIS – Elevation Foundation Spatial Data).
- Charters Towers Regional Council Zone Maps.
- Charters Towers Regional Council Flood Hazard Overlay.
- Charters Towers Regional Council Planning Scheme.
- Rainfall and Meteorological Data by the Australia Bureau of Meteorology.
- Before You Dig Australia.
- Queensland Globe.
- Google Maps and Street View.

## 2. Site Characteristics

The site is situated at 3 – 9 Norman Dungavell Drive, Queenton, and encompasses a single lot specifically identified as Lot 1 on RP901157, with a total land area of 1.53 ha (hereafter described as “the site”). The site falls within the Industry zone under the authority of the Charters Towers Regional Council (CTRC) local government area.

The site is positioned north west of Norman Dungavell Drive and south east of the Mt Isa Train line. At present, the site is partly occupied with multiple structures like large water tanks, shipping containers, and irrigation products. The site contains minimum vegetation around the perimeter with the single trees spread throughout. The site’s immediate surroundings are residential dwellings to the south on Millchester Road and north past the train track, the old WWII American Fuel tanks for Planes on the opposite side of Norman Dungavell Drive, and large medium dense vegetation land to the east.



Figure 2.1 - Zoning Map Overlay Extract (CTRC Maps)

## 2.1 Easements and Resumptions

There are currently no easements register over the lot.



Figure 2.2 - Cadastral Boundaries and Easements (Qld Globe)

## 2.2 Site Topography

The site contains existing surface levels which vary with elevation from RL 308.0m AHD (Australian Height Datum) on the southern corner, at the property boundary next to Norman Dungavell Drive, to RL302.450m AHD on the north east boundary. Presently, the site exhibits a south to north slope with an approximate gradient 4.1% (1:24).



Figure 2.3 - Site Survey (GJCM Survey)

### 2.3 Flood Study

The site is not affected by the 1% AEP (Annual Exceedance Probability) flood overlay.

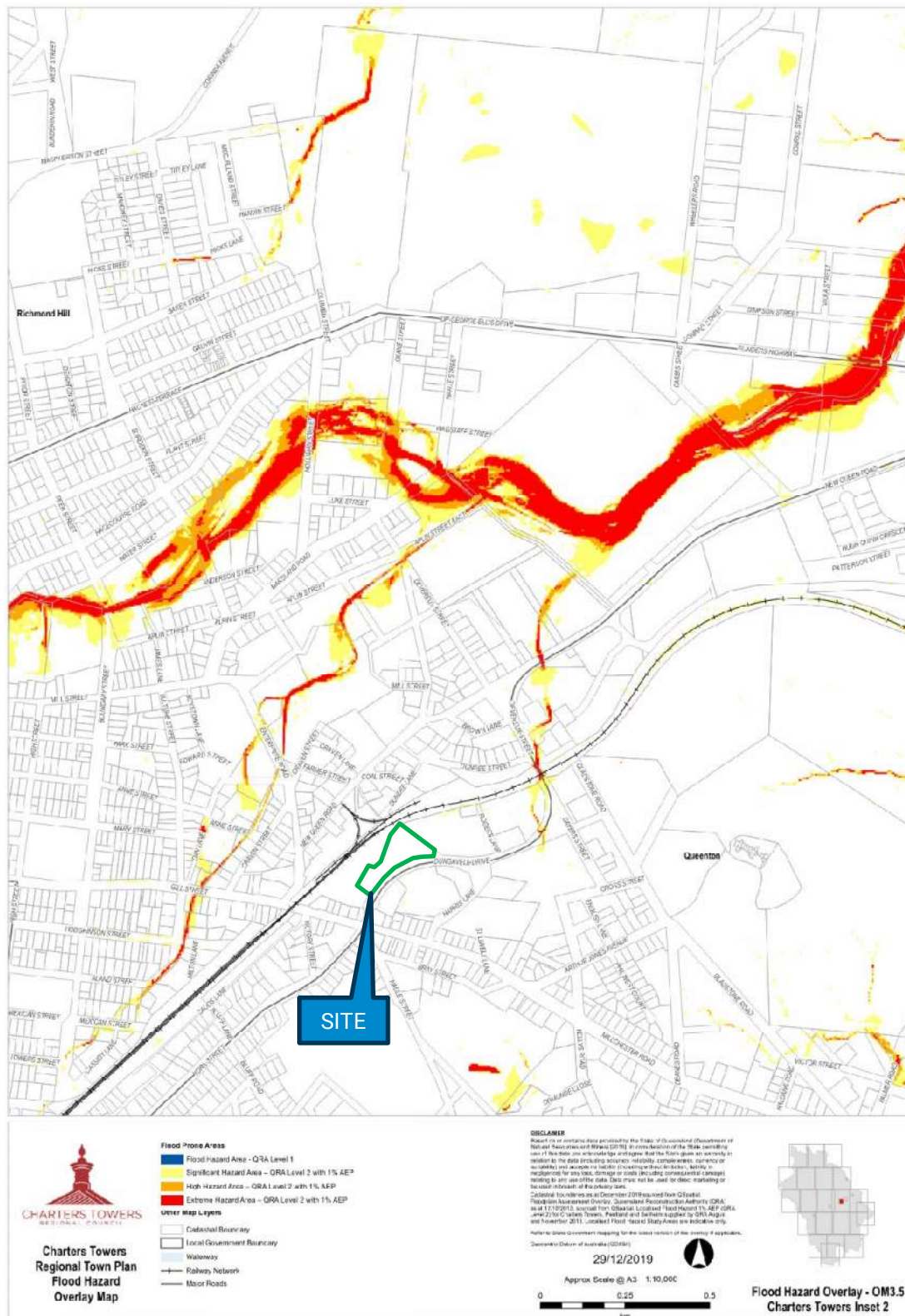


Figure 2.4 - 1% Flood Hazard Overlay (CTRC Maps)

### 3. Proposed Development

#### 3.1 Site Plan

The proposed development consist of removing the existing shipping containers and demountable structures, constructing a new warehouse and hardstand pavement, along with gardens beds and carparking.

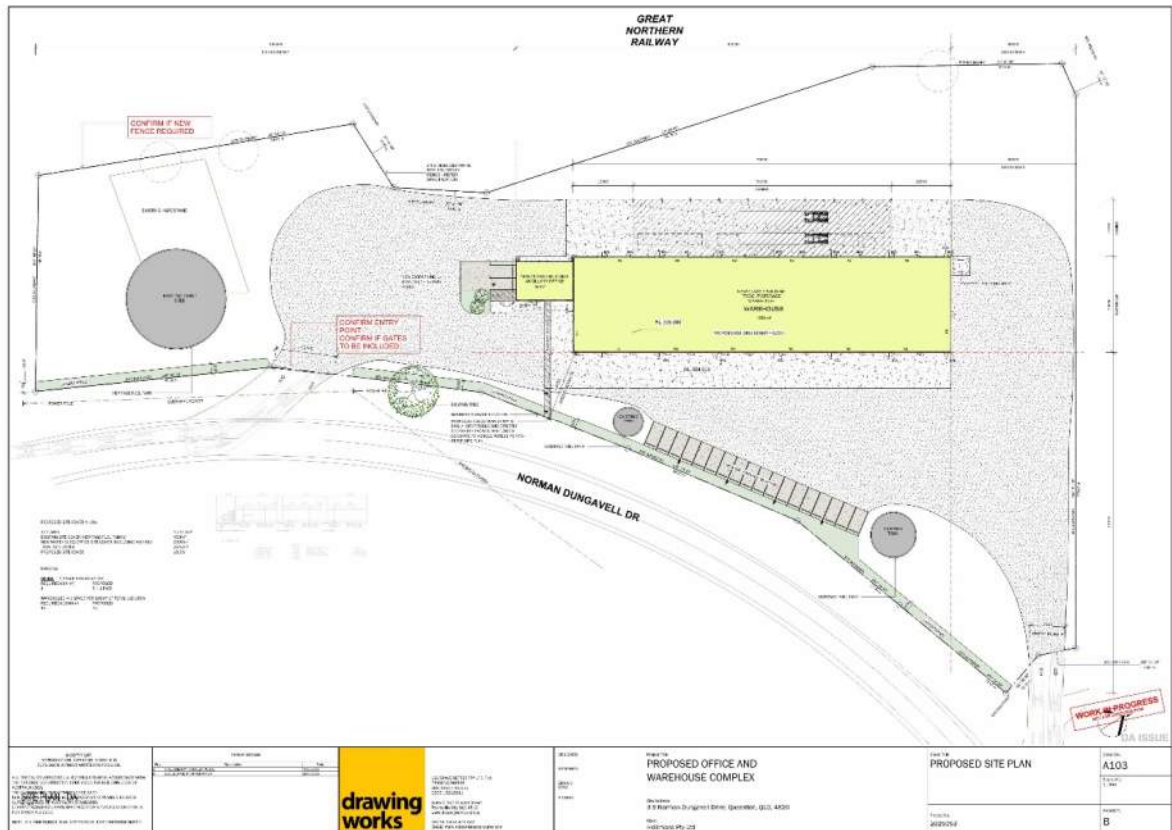


Figure 3.1 - Site Plan (Drawing Works)

#### 3.2 Site Earthworks & Finished Floor Levels

As the site is not affected by the 1% AEP rainfall event, finished floor levels should be rational and take the site slope into account. The below is a guide on minimum building levels in non-flood affected areas.

- 300mm above the top of the kerb
- 300mm above the crown of the adjacent road
- 225mm above the finished ground level

Taking the above into account, the proposed floor level of RL305.00m AHD will work if a ramp is provided at the entrance access to achieve two things. The first is to achieve lower grades for DDA compliance from the carpark. The second is to ensure the levels outside the building are below the FFL and provide some tolerance for stormwater build up.

The site majority drains from south-west to north-east and it is intended to decrease the existing gradient directing runoff towards the north-east boundary. To achieve the above, retaining walls will be required for this development, up to a height of 2m across the northern, eastern, and western boundary. These retaining walls will be offset between 1m to 2m from the boundaries, to allow for the external catchment diversion, landscape requirements, and guard rail construction.

The site exit will require a secondary ramp to tie into the existing levels at the boundary. Ramps and levels are to be further investigated during the detail design.

### 3.3 Site Stormwater Drainage

A schematic stormwater drainage plan is illustrated in Figure 3.2. The intent of the plan is to ensure the site catchment is captured through the underground stormwater network and discharged to the adjacent property on lot 46. All roofwater is to be captured by pits and directed to the underground stormwater network. No treatment chamber is required as explained in section 5 – Stormwater Quality.

As the proposed works will lift the site significantly higher than adjacent property. It's recommended to either install a catch drain with a weir on the north-east boundary or rock dissipation pads at the pipe outlets. The intent is to ensure site runoff returns to sheet flow across the boundary instead of the stormwater pipes discharging concentrated flows and scouring the adjacent surface. Returning the site runoff to sheet flow will eliminate any erosion and scouring from stormwater discharge.

The rock pad option is not ideal as these pads required a certain length to achieve the appropriate energy dissipation which in turn will reduce the pavement for the trucks to perform their turning manoeuvres. The recommended option is to construct the catch drain with a weir.

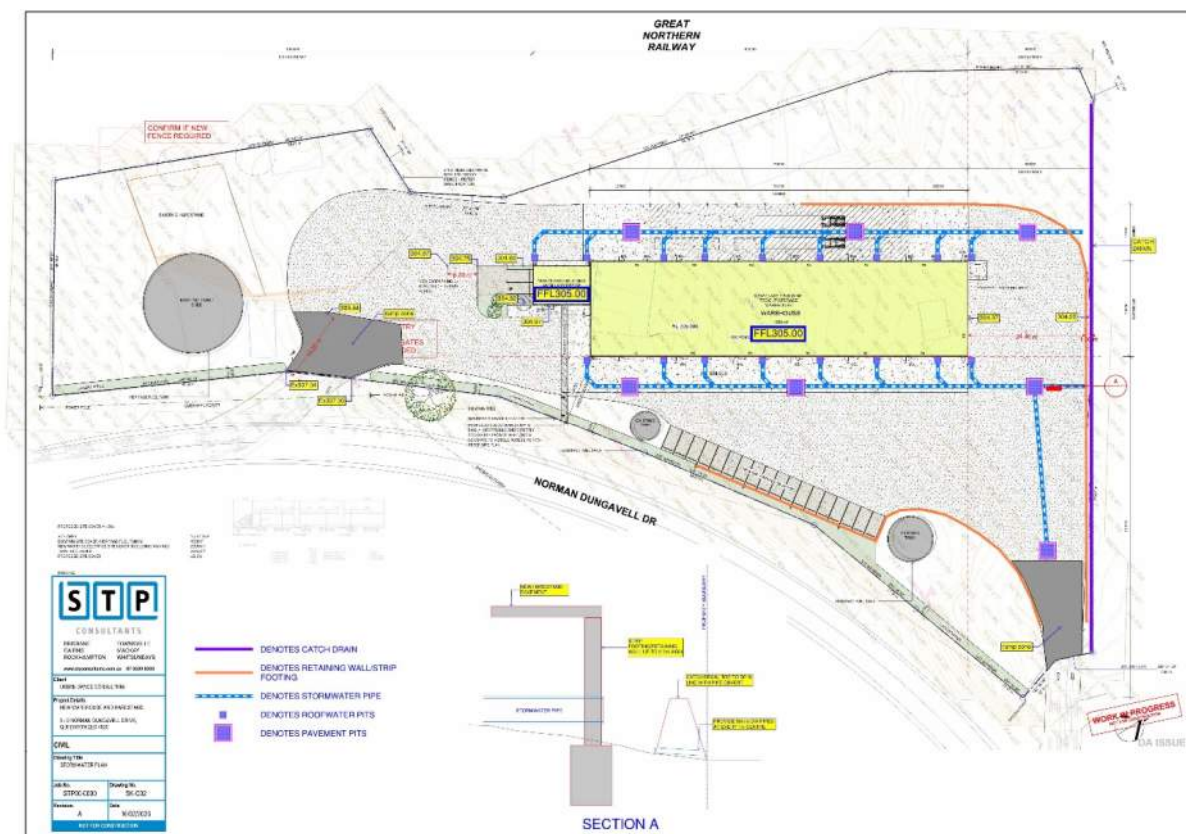


Figure 3.2 - Concept Stormwater Plan (STP)

## 4. Stormwater Quantity

### 4.1 Existing Stormwater Infrastructure

Currently, the site discharges runoff via overland towards the north-east into the adjacent vegetated property, Lot 46. There is no existing council underground drainage except for local culverts under the road or under the driveway, as illustrated in Figure 4.1 and Figure 4.2. There is a small table drain on the road reserve that discharges into multiple areas. The southern section which involves from the road intersection up to the entry driveway of the site discharges across Norman Dungavell Drive. The table drain between the two driveways on the site frontage appears to discharge into a culvert under the driveway and into the adjacent property, Lot 46. Both can be seen in Figures 4.1 and 4.2.

To maintain the existing catchments, it is proposed to retain the existing discharge points from the site and the road reserve. Any site discharge into the road reserve will eventually travel back into the adjacent property through the road culvert. Therefore, the Legal Point of Discharge (LPOD) for the site would be the adjacent property Lot 46.



Figure 4.1 - Site Entry Driveway - Culvert Under the Road (Google Maps)



Figure 4.2 - Site Exit - Culvert Under the Driveway and Discharging Into the Adjacent Lot (Google Maps)



Development category <sup>[1]</sup>		ARI (yrs)	AEP
Central business and commercial		10	10%
Industrial		2	39%
Urban residential high density – greater than 20 dwelling units/ha		10	10%
Urban residential low density – 6 to 20 dwelling units/ha		2	39%
Rural residential – 2 to 5 dwelling units/ha		2	39%
Open space – parks, etc.		1	63%
Major road	Kerb and channel flow	10 <sup>[2]</sup>	10%
	Cross drainage (culverts)	50 <sup>[3]</sup>	2%
Minor road	Kerb and channel flow	[4]	[4]
	Cross drainage (culverts)	10 <sup>[3]</sup>	10%

Table 4.1 - Recommended Design for Minor Systems (QUDM)

Stormwater Detention requires to be designed in accordance with the principles of QUDM. Detention storage must be installed if any of the following conditions are met.

- Insufficient capacity in the downstream drainage system to provide a no worsening situation.
- Limit any increase in discharge rate for all storm events up to and including the define flood event.
- The site must not discharge more than the discharge calculated for the pre-development flows.

In this case, pre-development and post-development runoff calculations will be based on the current permissible fraction of Impervious for the zone, and time of concentration will be based on overland flow calculations for the as per QUDM 4.6.6 & 4.6.7.

The site is currently zoned as Industrial under the CTCR Planning Scheme with a permissible fraction of impervious of 0.9 in accordance with QUDM 4.5. The proposed works contains a fraction of impervious of 0.64%, as shown in Figure 4.2, which is under the allowable limit for the zone and therefore no on-site detention is required.

Development category	Fraction impervious ( $f_i$ )
Central business district	1.00
Commercial, local business, neighbouring facilities, service industry, general industry, home industry	0.90
Significant paved areas e.g. roads and car parks	0.90
Urban residential – high density	0.70 to 0.90
Urban residential – low density (including roads)	0.45 to 0.85
Urban residential – low density (excluding roads)	0.40 to 0.75
Rural residential	0.10 to 0.20
Open space and parks etc.	0.00

Table 4.2 - Allowable Fraction of Impervious (QUDM)

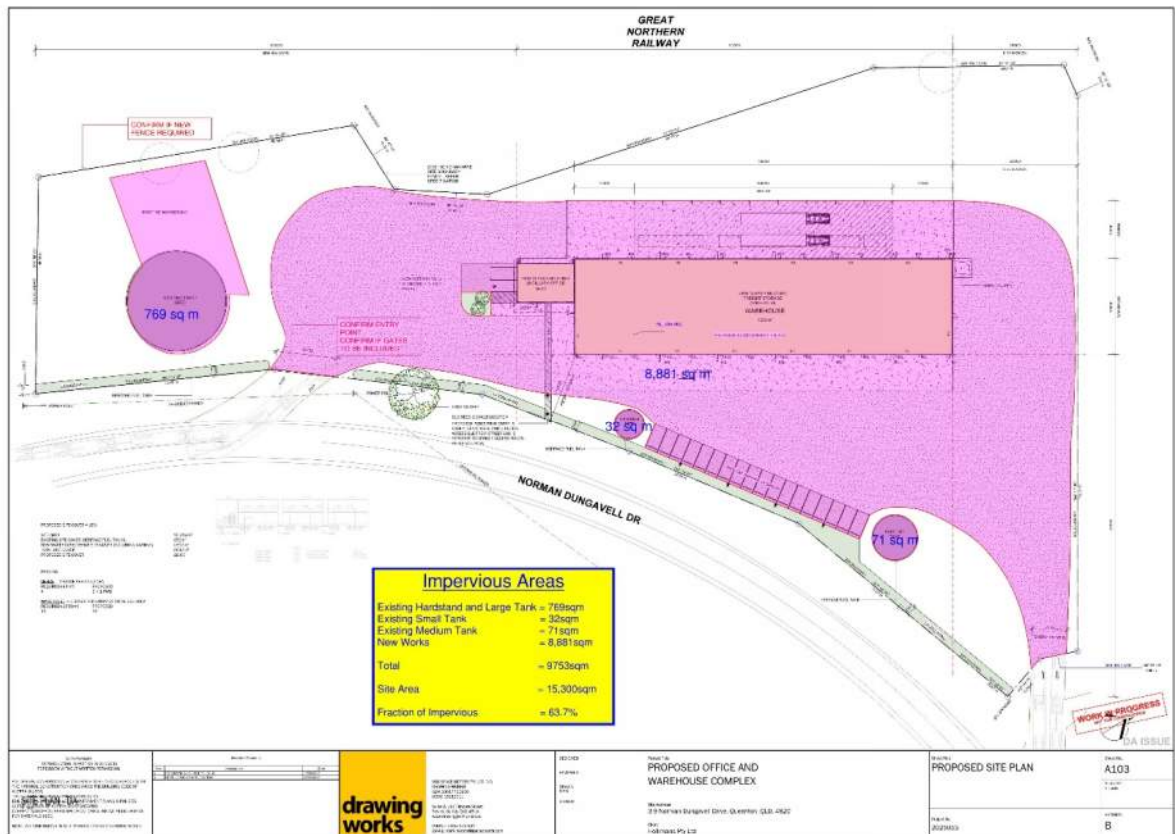


Figure 4.4 - Proposed impervious Area (STP)

## 5. Stormwater Quality

In accordance with the State Planning Policy (SPP), the development does not meet the threshold criteria and therefore no stormwater quality treatment is required.

**Table B: Post construction phase – stormwater management design objectives**

Application:

- (1) A material change of use for an urban purpose that involves premises 2500 metres<sup>2</sup> or greater in size and:
  - (a) will result in six or more dwellings; or
  - (b) an impervious area greater than 25 per cent of the net developable area.
- (2) Reconfiguring a lot for urban purposes that involves premises 2500 metres<sup>2</sup> or greater in size and will result in six or more lots.

Climatic region	Design objectives				
	Reductions in mean annual load from unmitigated development (%)				
	Total suspended solids (TSS)	Total phosphorus (TP)	Total nitrogen (TN)	Gross pollutants >5mm	Waterway stability management
South East Queensland	80	60	45	90	Limit the peak 1-year ARI event discharge within the receiving waterway to the pre-development peak 1-year ARI discharge
Central Queensland (south)	85	60	45	90	
Central Queensland (north)	75	60	40 <sup>15</sup>	90	
Cape York <sup>14</sup> , wet tropics and dry tropics	80	60 <sup>16</sup>	40	90	
Western Queensland <sup>16</sup>	85	60	45	90	

Notes:

- Mapping of climatic regions is available on the State Planning Policy Interactive Mapping System.
- In lieu of modelling, the default bio-retention treatment area to comply with load reduction targets for all Queensland regions is 1.5 per cent of the contributing catchment area.
- Water stability objective applies if development drains to an unlined waterway within or downstream of the site where a risk of increased erosion exists due to changes in hydrology. Local government may also require application of the waterway stability objective where there are planned future rehabilitation works to return a lined channel to a natural channel design.
- The SPP Water quality guidance material provides advice on the measures that demonstrate compliance with table B.

<sup>14</sup> Note: Applies to population centres greater than 25,000 persons.

<sup>15</sup> Note: Mackay Regional Council has adopted a 35 per cent reduction for TN.

<sup>16</sup> Note: Townsville City Council has adopted a 65 per cent reduction for TP.

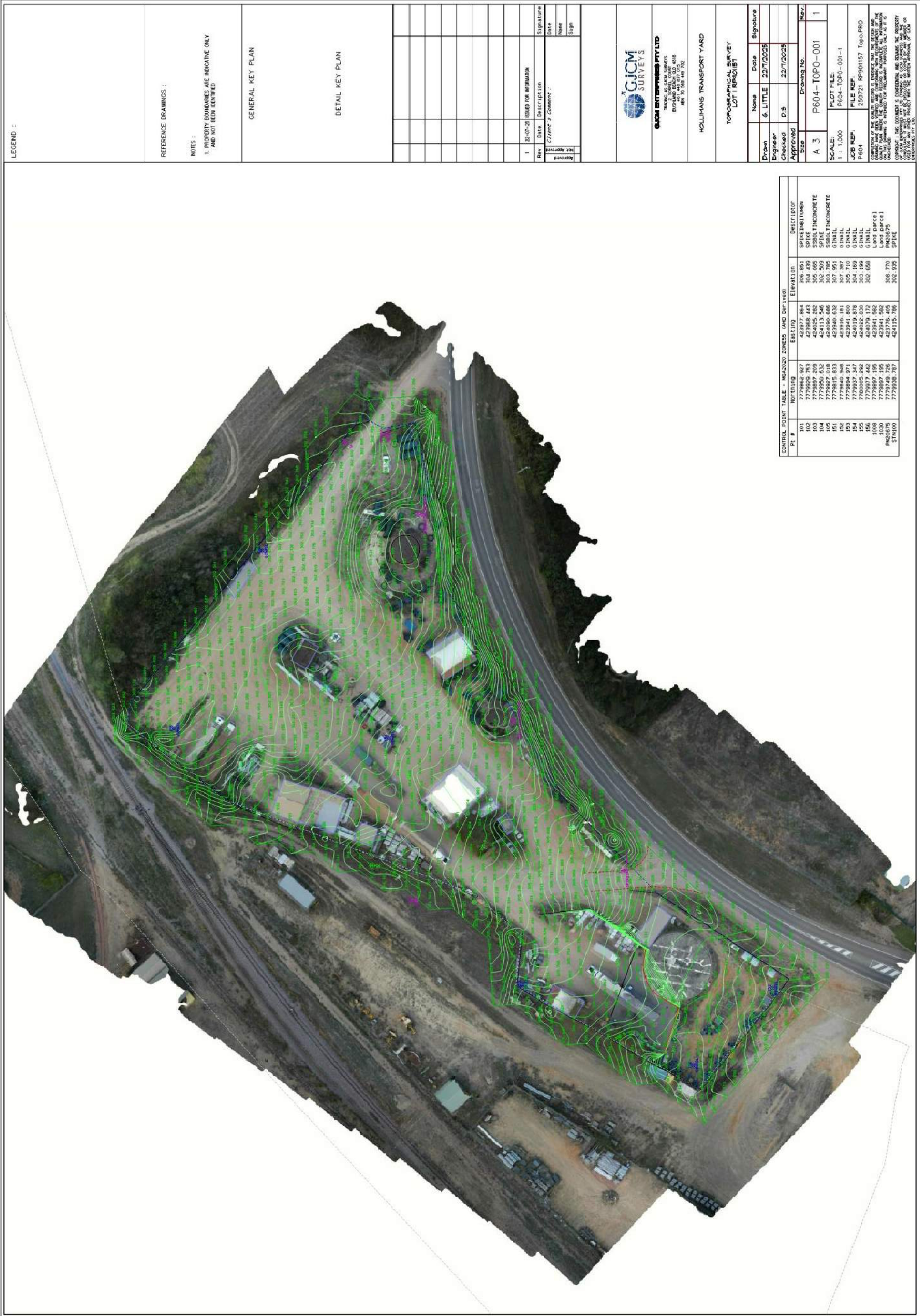
Figure 5.1 – Assessment Benchmarks for Stormwater Quality (SPP)

## 6. Conclusion

As demonstrated, the development can be constructed as proposed.

- Site not affected by the 1% AEP design storm.
- The building floor levels to be set at RL405.00m AHD.
- Retaining walls are required for the development with a maximum height of 2.0m.
- A catch drain with a weir is recommended to return concentrated flows back into sheet flow across the adjacent site and to avoid erosion at the discharge points.
- The external catchment from the adjacent lot is accommodated in the design.
- Minor Design Event is the 39% AEP.
- Major Design Event is the 1% AEP.
- No on-site Detention is required.
- As the existing site gradient falls towards the adjacent property and the road reserve drains into the same property, it is proposed to retain the LPOD as the adjacent property on the north-east.
- No Quality treatment is required under the State Planning Policy.

## Appendix A: Survey Plan



CONTROL POINT TABLE - MGA2020 DIMENS (AND Deriv) (m)

PT #	NOTING	Easting	Elevation	DESCRIPTION
101	7778932.781	42397.864	306.691	SPRINTUMEN
102	7778932.781	424025.282	305.685	SPRINTUMEN
103	7778932.781	424113.346	302.309	SPRINTUMEN
104	7778932.781	424096.686	303.785	SPRINTUMEN
105	7778932.781	423916.184	307.307	SPRINTUMEN
106	7778932.781	423944.800	305.710	SPRINTUMEN
107	7778932.781	424018.878	304.869	SPRINTUMEN
108	7778932.781	424025.282	303.199	SPRINTUMEN
109	7778932.781	423944.800	302.658	SPRINTUMEN
110	7778932.781	423776.405	308.770	SPRINTUMEN
111	7778932.781	424113.346	302.195	SPRINTUMEN

LEGEND :

REFERENCE DRAWINGS :

NOTES :

- PROPERTY DIMENSIONS ARE INDICATIVE ONLY AND NOT BEEN SURVEYED.

GENERAL KEY PLAN

DETAIL KEY PLAN

Rev.	Date	Description	Signature
1	22/07/2025	ISSUED FOR INFORMATION	



**GICM ENTERPRISES PTY LTD**  
 10/100 WILSON ROAD  
 BUNNACRA, VIC 3083  
 AUSTRALIA  
 TEL: 03 9477 1013  
 FAX: 03 9477 1012

HOLLIMAN TRANSPORT YARD

TOPOGRAPHICAL SURVEY  
 LOT 1 RP102187

Drawn	Name	Date	Signature
6	LITTLE	22/7/2025	

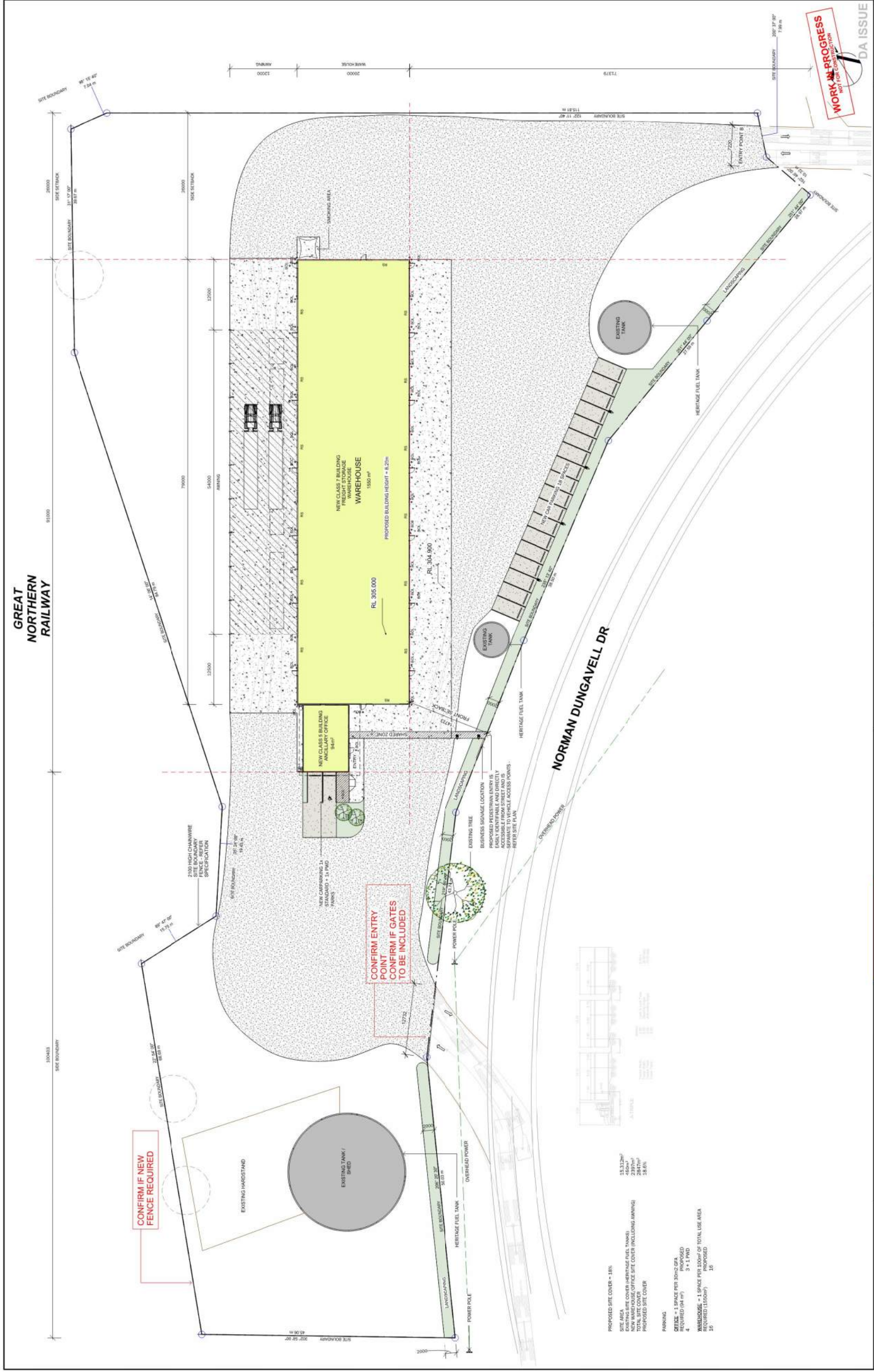
Checked	Name	Date	Signature
D.S		22/7/2025	

Size	Drawing No.	Rev.
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SCALE: 1:1,000  
 PLOT FILE: P604-TOPO-001-1  
 JOB REF: 250721 RP102187 Topo PRO  
 P604

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## Appendix B: Site Plan



**WORK IN PROGRESS**  
 NOT FOR CONSTRUCTION  
 DA ISSUE

<p>Sheet No: <b>A103</b></p> <p>Scale (A1): 1:300</p>	<p>Project Title: <b>PROPOSED OFFICE AND WAREHOUSE COMPLEX</b></p> <p>Site Address: 3-9 Norman Dungavell Drive, Queensland, QLD, 4820</p> <p>Client: Hollimans Pty Ltd</p>	<p>DESIGNED</p> <p>REVIEWED</p> <p>DRAWN</p> <p>ISSUED:</p>	<p>USE SPACE BETTER PTY LTD, T/A          DRAWING WORKS          0800 152 126 11          Suite 2, 197 Fribourg Street          Townsville City QLD 4810          www.drawingworks.com.au          PHONE: 0438 473 882          EMAIL: mark@drawingworks.com.au</p> <p><b>drawing works</b></p>									
<p>Project No: 2025063</p>	<p>Project Title: <b>PROPOSED SITE PLAN</b></p>	<p>Revision Schedule</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Description</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PRELIMINARY CONSULTATION</td> <td>10/03/2025</td> </tr> <tr> <td>2</td> <td>DEVELOPMENT APPLICATION</td> <td>10/03/2025</td> </tr> </tbody> </table>	No.	Description	Date	1	PRELIMINARY CONSULTATION	10/03/2025	2	DEVELOPMENT APPLICATION	10/03/2025	<p>© COPYRIGHT:          REPRODUCTION IN PART OR IN WHOLE IS          FORBIDDEN WITHOUT WRITTEN PERMISSION.          ALL DESIGN, CONSTRUCTION &amp; MATERIALS TO BE IN ACCORDANCE WITH          THE BUILDING CODE OF PRACTICE (BCP) OF THE BUILDING CODE OF          AUSTRALIA (BCA).          THE SITE PLAN IS TO BE USED IN ACCORDANCE WITH THE PLANS &amp; POLICIES          CURRENTLY IN FORCE AT THE TIME OF THE DESIGN.          CURRENT MANUFACTURERS SPECIFICATIONS &amp; INSTALLATION DETAILS          FOR MATERIALS USED          NOTE: ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED</p>
No.	Description	Date										
1	PRELIMINARY CONSULTATION	10/03/2025										
2	DEVELOPMENT APPLICATION	10/03/2025										

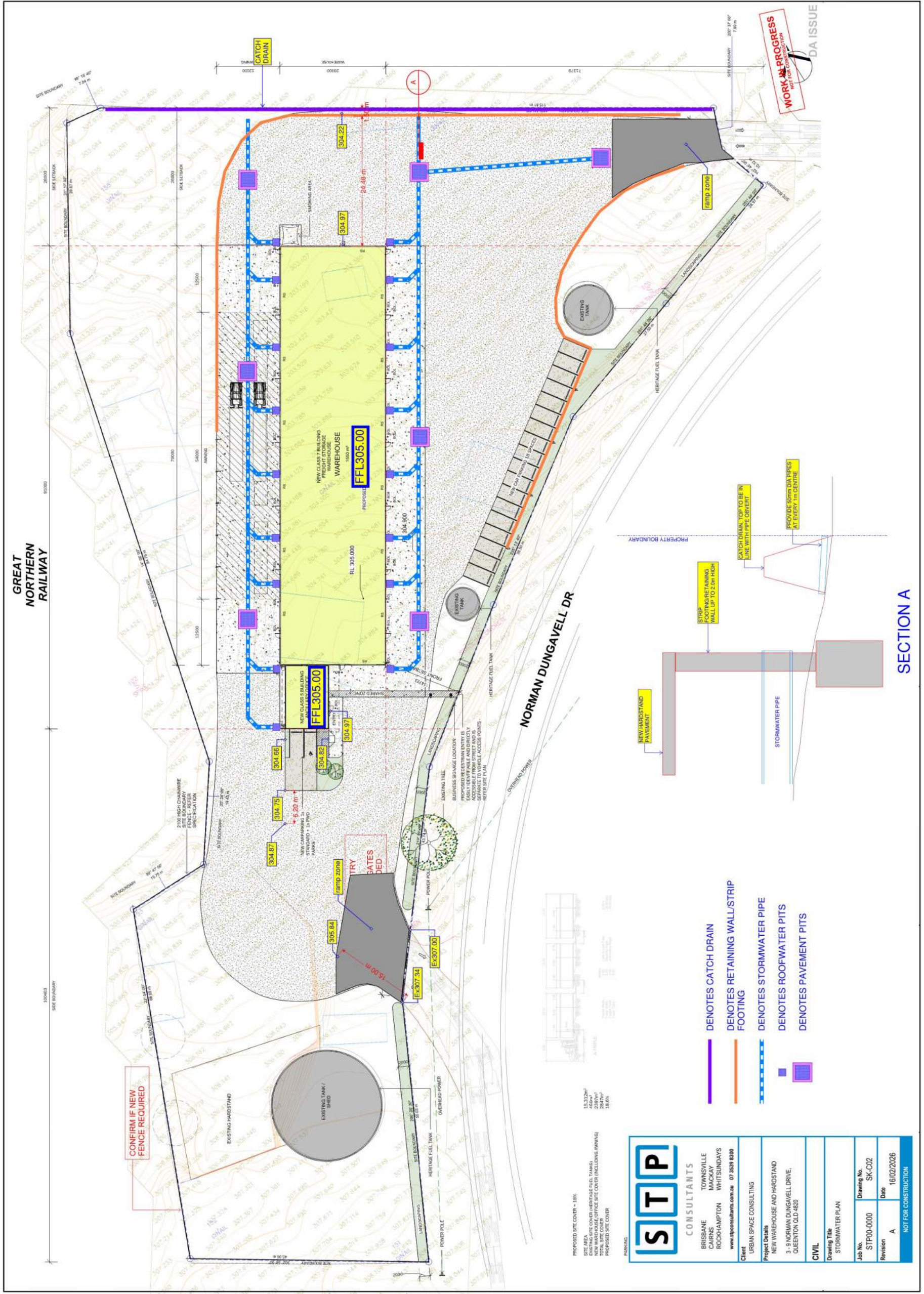
PROPOSED SITE COVER = 18%

SITE AREA  
 EXISTING SITE COVER (HERITAGE FUEL TANKS)  
 NEW WAREHOUSE OFFICE SITE COVER (INCLUDING AWNING)  
 TOTAL SITE COVER  
 PROPOSED SITE COVER

PARKING  
 CREDS = 1 SPACE PER 300G GRN.  
 PROPOSED  
 REQUIRED (04 #)  
 3 + 1 PND  
 WAREHOUSE = 1 SPACE PER 100m² OF TOTAL USE AREA  
 PROPOSED  
 REQUIRED (1500m²)  
 15

18.320m²  
 4.620m²  
 28.970m²  
 47.910m²  
 18.8%

## Appendix C: Concept Stormwater Plan

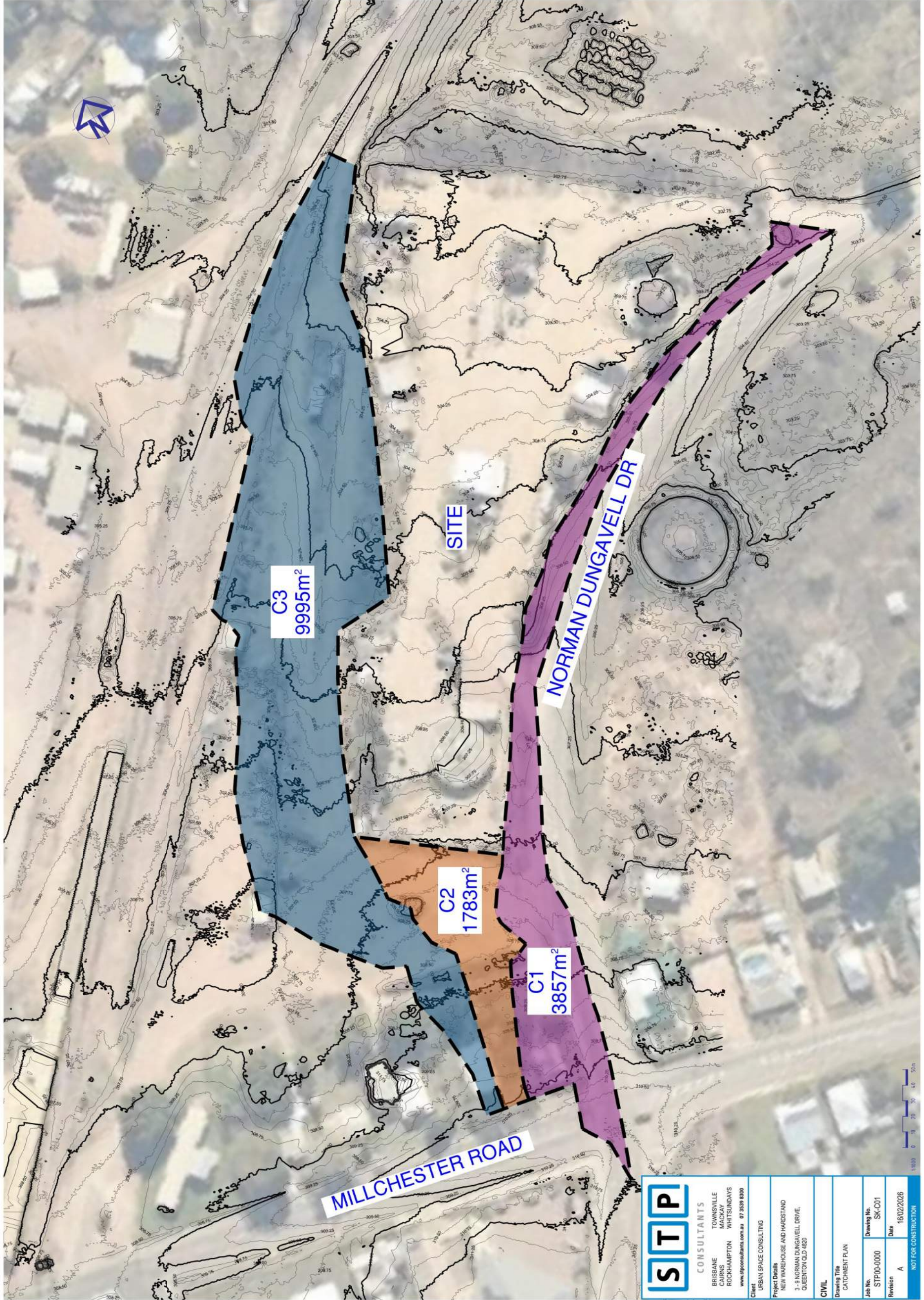


<b>CONSULTANTS</b> BRISBANE    TOWNSVILLE CAIRNS        MACKAY ROCKHAMPTON    WHITSUNDAYS www.stpconsultants.com.au    07 3579 8200	
<b>Client</b> URBAN SPACE CONSULTING	
<b>Project Details</b> NEW WAREHOUSE AND HARDSTAND 3 - 9 NORMAN DUNGAVELL DRIVE, QUEENTON QLD 4620	
<b>CIVIL</b> Drawing Title STORMWATER PLAN	
Job No. STP00-0000	Drawing No. SK-C02
Revision A	Date 16/02/2026
NOT FOR CONSTRUCTION	

- DENOTES CATCH DRAIN
- DENOTES RETAINING WALL/STRIP FOOTING
- DENOTES STORMWATER PIPE
- DENOTES ROOFWATER PITS
- DENOTES PAVEMENT PITS

SECTION A

## Appendix D: External Catchment Plan



<b>STP</b>	
<b>CONSULTANTS</b>	
BRISBANE	TOWNSVILLE
CARNS	MACKAY
ROCKHAMPTON	WHITSUNDAYS
www.stpconsultants.com.au 07 2539 8000	
<b>Client</b>	
URBAN SPACE CONSULTING	
<b>Project Details</b>	
NEW WAREHOUSE AND HARDSTAND	
3 - 9 NORMAN DUNGAVELL DRIVE,	
QUEENTON QLD 4820	
<b>CIVIL</b>	
<b>Drawing Title</b>	
CATCHMENT PLAN	
<b>Job No.</b>	<b>Drawing No.</b>
STP00-0000	SK-C01
<b>Revision</b>	<b>Date</b>
A	16/02/2026
NOT FOR CONSTRUCTION	

## Appendix E: New Works Impervious Area



## BRISBANE

Level 3, 451 St Pauls Terrace  
Fortitude Valley QLD 4006  
P. 07 3539 8300  
E. [trevor@stpconsultants.com.au](mailto:trevor@stpconsultants.com.au)

## TOWNSVILLE

Level 3, 382 Sturt Street  
Townsville QLD 4810  
PO Box 1777  
Townsville QLD 4810  
P. 07 3539 8350  
E. [anthony@stpconsultants.com.au](mailto:anthony@stpconsultants.com.au)

## CAIRNS

Suite 2, 111 Spence Street  
Cairns City QLD 4870  
P. 07 3539 8380  
E. [adrien@stpconsultants.com.au](mailto:adrien@stpconsultants.com.au)

## MACKAY

Suite 2, 25 River Street  
Mackay QLD 4740  
P. 07 3539 8390  
E. [brian@stpconsultants.com.au](mailto:brian@stpconsultants.com.au)

## ROCKHAMPTON

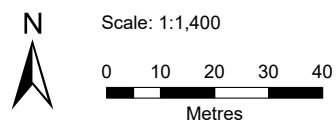
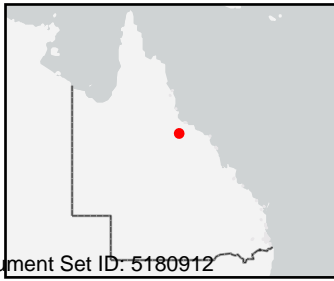
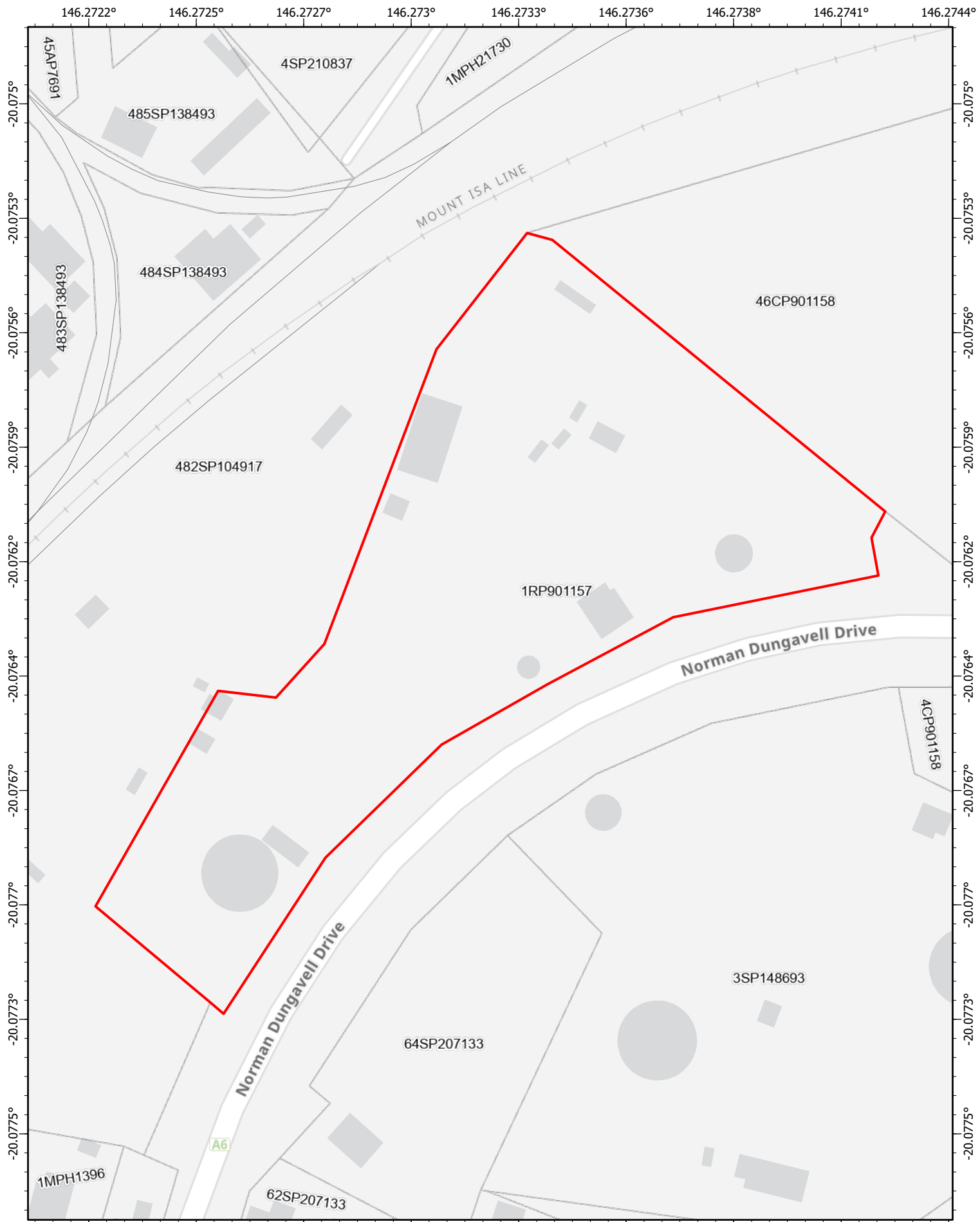
Level 3, 36 East Street  
Rockhampton QLD 4700  
P. 07 3539 8344  
E. [brian@stpconsultants.com.au](mailto:brian@stpconsultants.com.au)

## WHITSUNDAYS

230 Shute Harbour Road  
Cannonvale QLD 4802  
P. 07 3539 8399  
E. [brian@stpconsultants.com.au](mailto:brian@stpconsultants.com.au)



# APPENDIX H



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# State Planning Policy mapping layers - consolidated list for all selected Lot Plans

## State Planning Policy mapping layers - consolidated list for all selected Lot Plans

(Note: Please refer to following pages for State Interests listed for each selected Lot Plan)

### CULTURAL HERITAGE

- State heritage place

### TRANSPORT INFRASTRUCTURE

- State-controlled road
- Railway corridor

### NATURAL HAZARDS RISK AND RESILIENCE

- Flood hazard area - local government flood mapping area

## State Planning Policy

**Making or amending a local planning instrument  
and designating land for community infrastructure**  
Date: 25/02/2026



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# State Planning Policy mapping layers for selected

**Lot Plan: 1RP901157 (Area: 15300 m<sup>2</sup>)**

CULTURAL HERITAGE

- State heritage place

NATURAL HAZARDS RISK AND RESILIENCE

- Flood hazard area - local government flood mapping area

TRANSPORT INFRASTRUCTURE

- Railway corridor

- State-controlled road

## State Planning Policy

**Making or amending a local planning instrument  
and designating land for community infrastructure**

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# APPENDIX I

## **Matters of Interest for all selected Lot Plans**

*Queensland heritage place*

*Water resource planning area boundaries*

*State-controlled road*

*Railway corridor*

*Area within 25m of a State-controlled road*

*Area within 25m of a railway corridor*

## **Matters of Interest by Lot Plan**

### **Lot Plan: 1RP901157 (Area: 15300 m<sup>2</sup>)**

*Queensland heritage place*

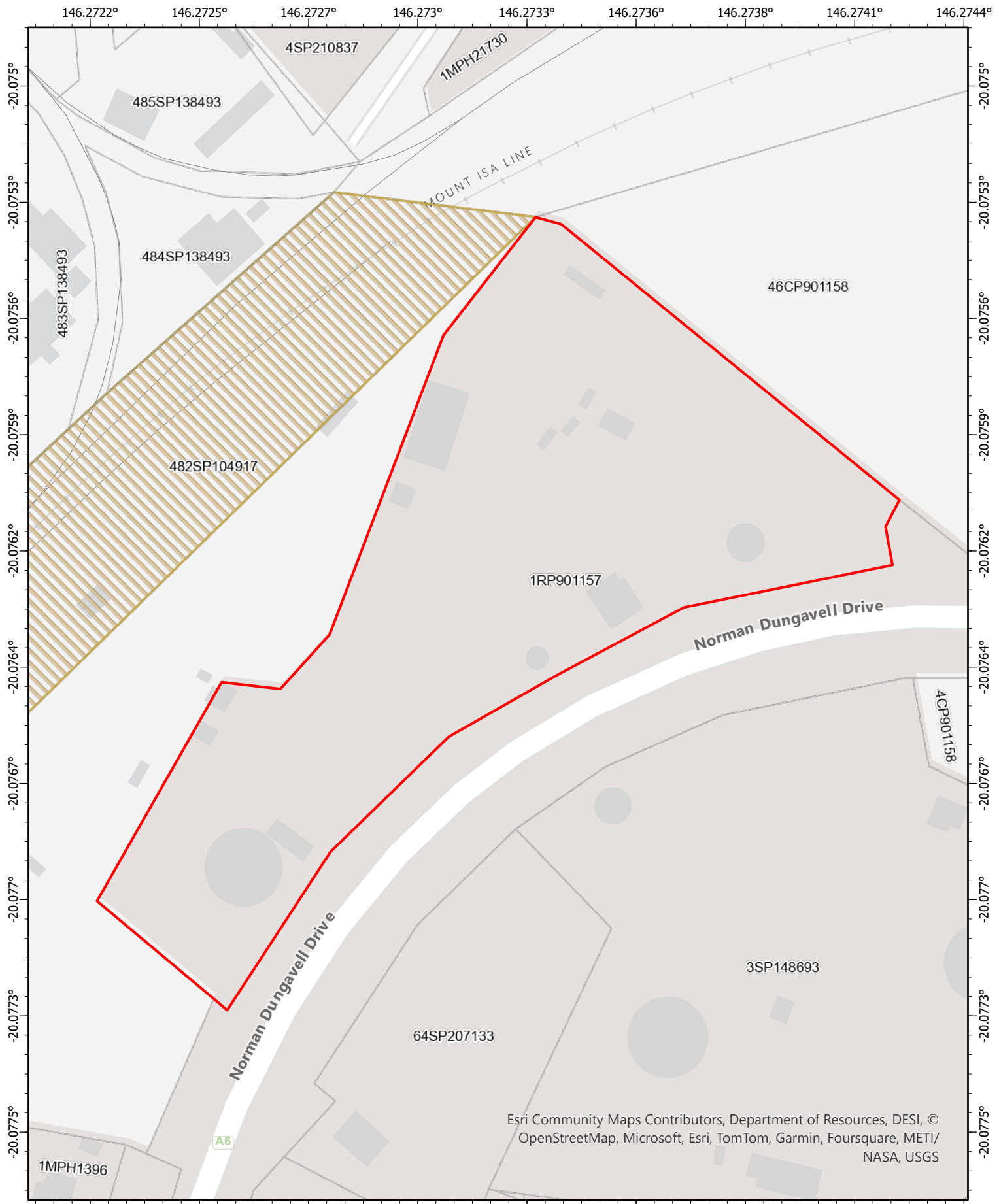
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*State-controlled road*

*Railway corridor*

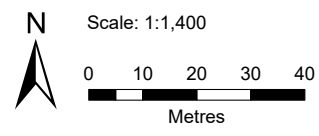
*Area within 25m of a State-controlled road*

*Area within 25m of a railway corridor*



 Queensland heritage place

Date: 14/03/2025



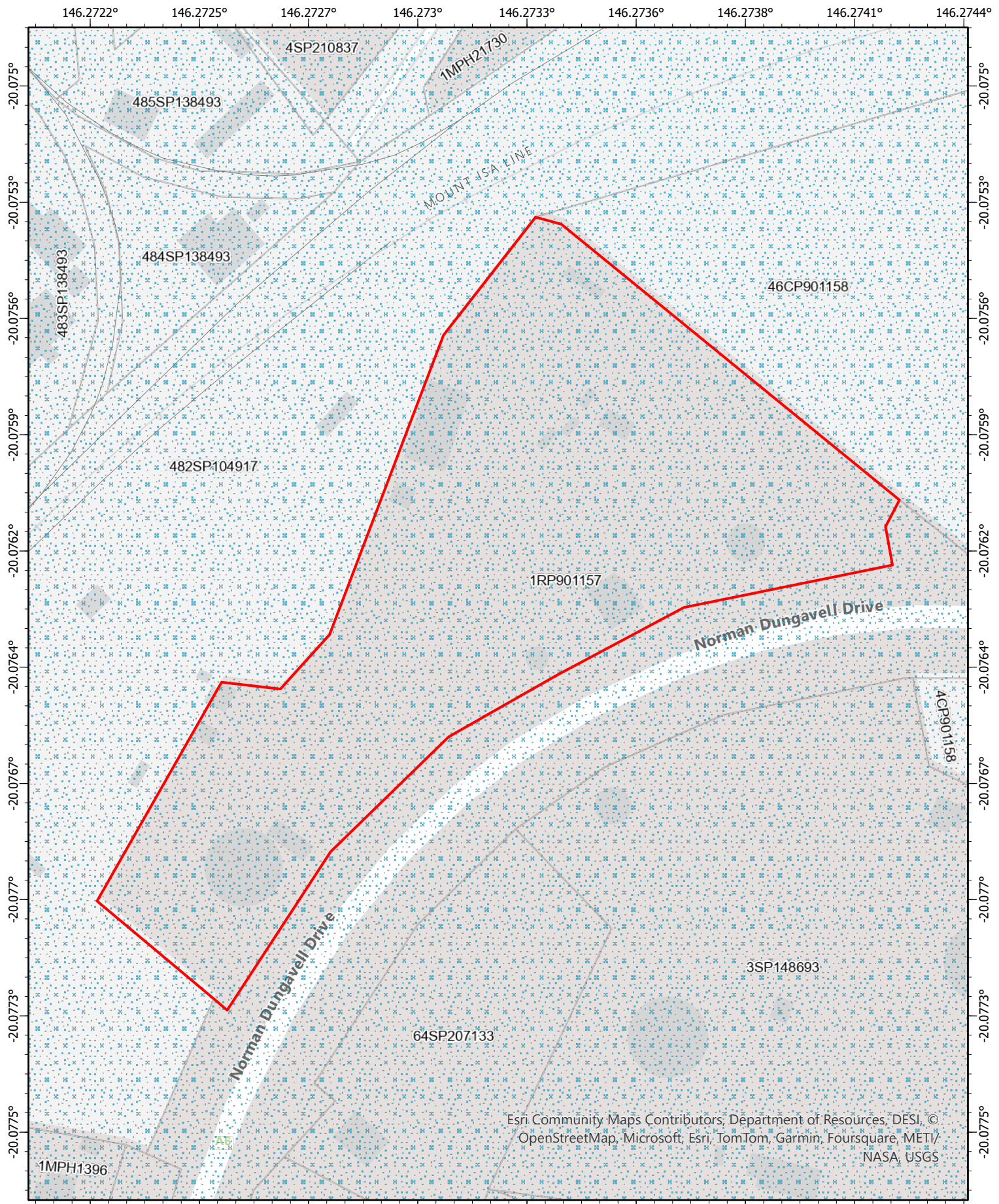
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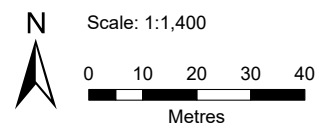
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 Water resource planning area boundaries



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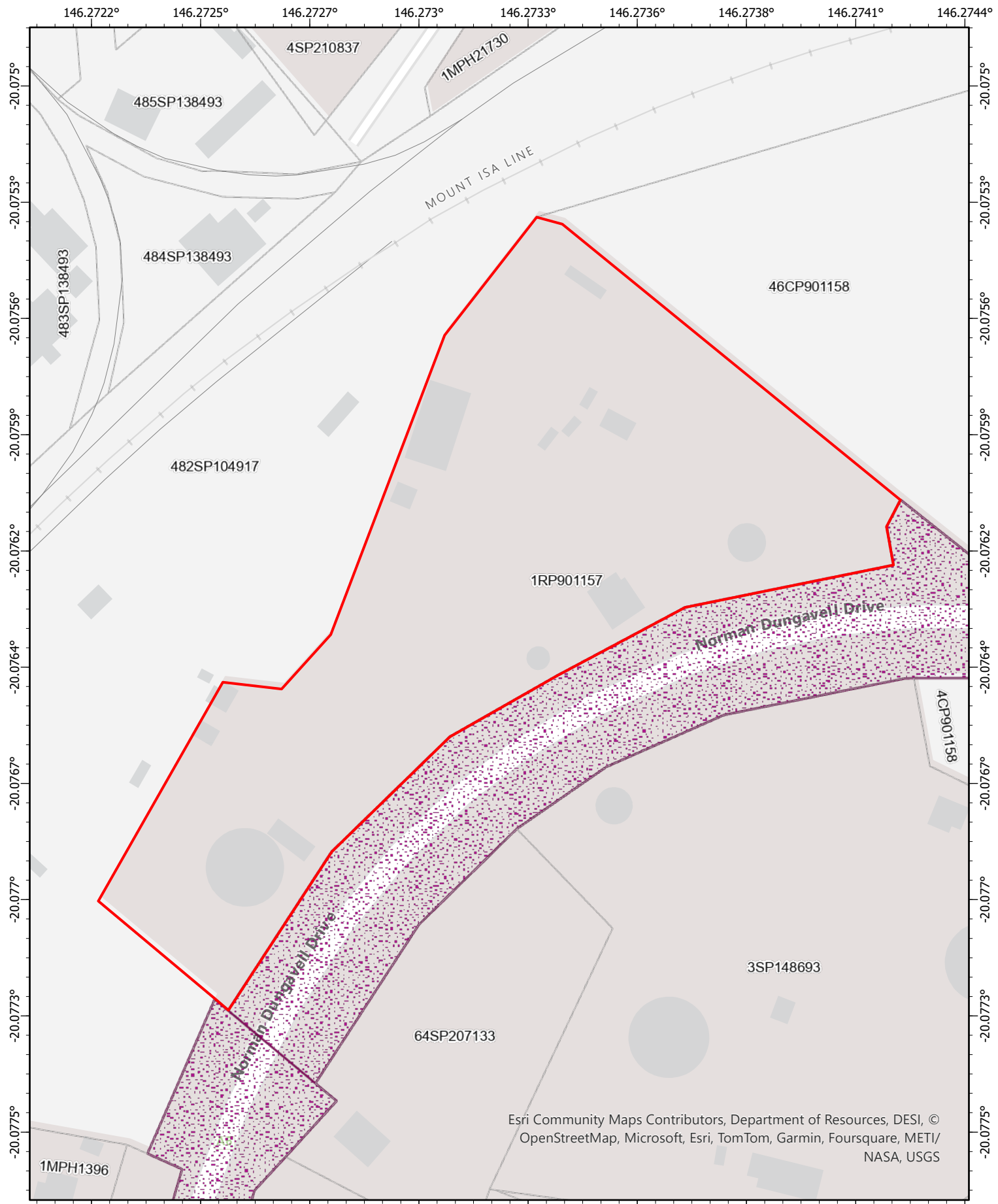
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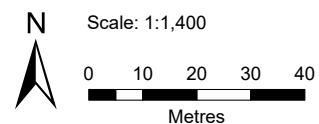


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 State-controlled road

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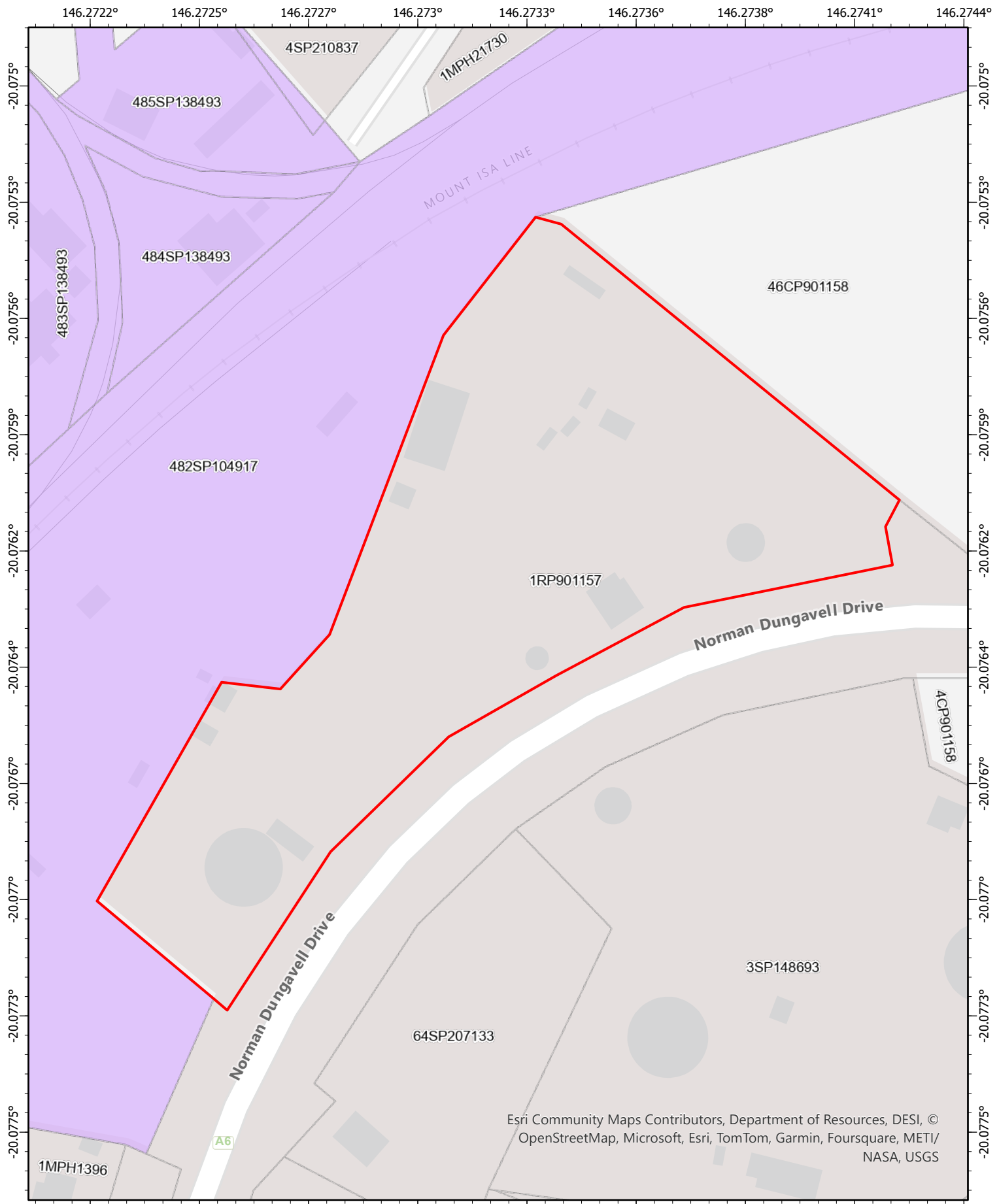
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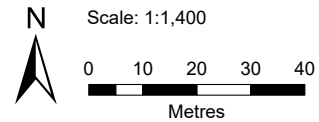


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 Railway corridor

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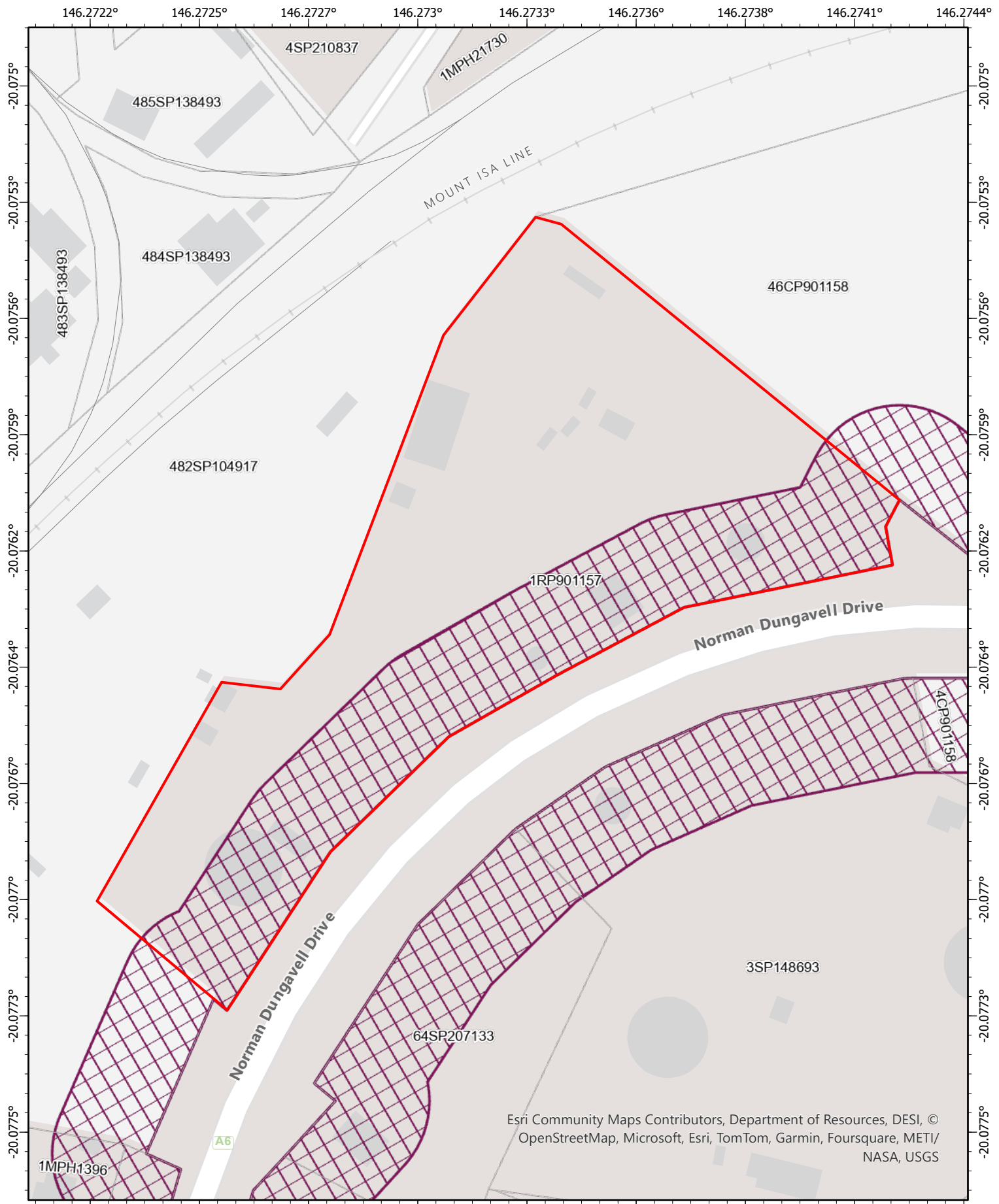
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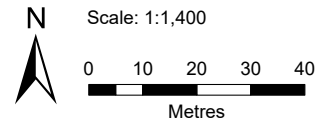


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 Area within 25m of a State-controlled road

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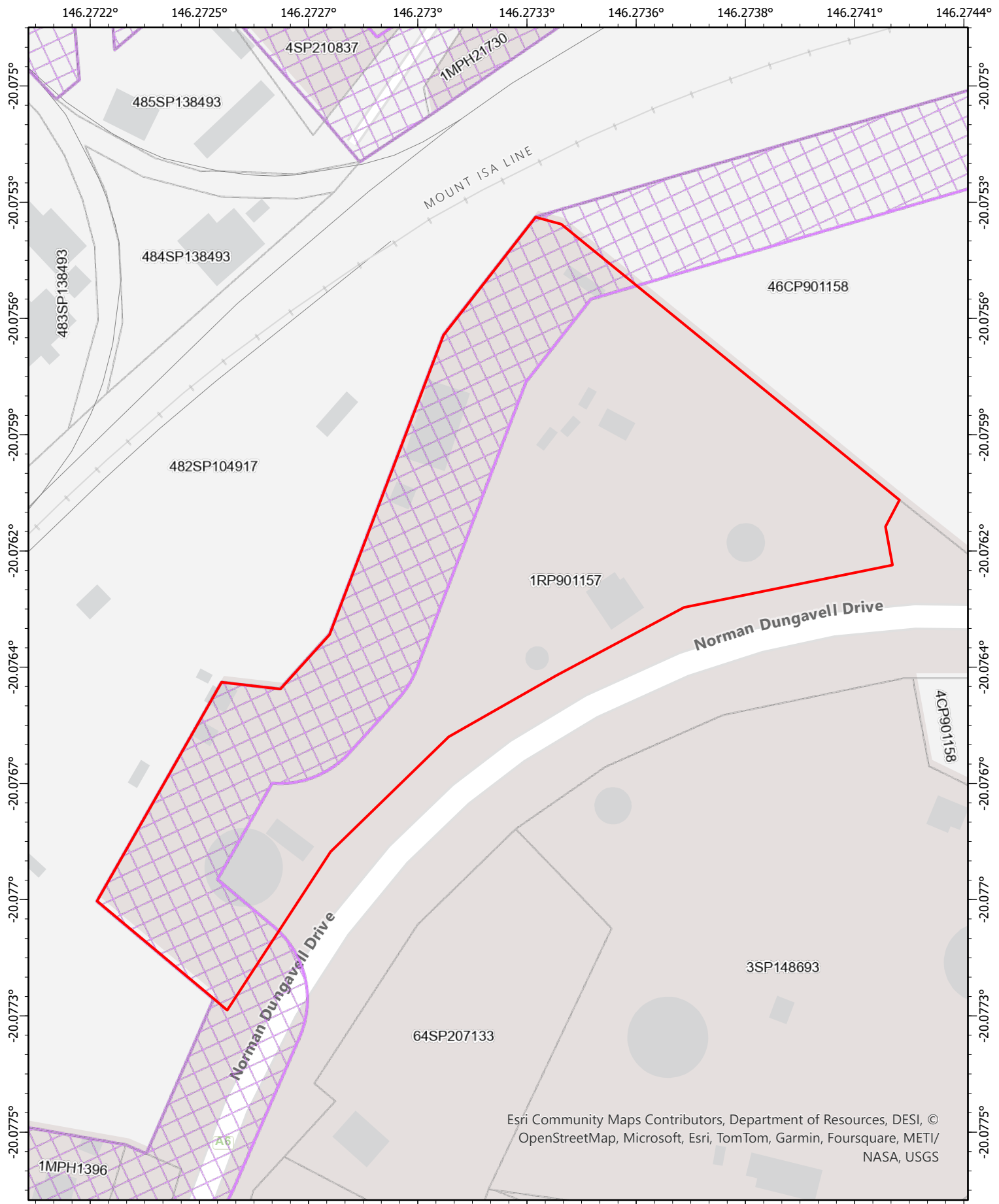
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


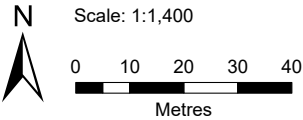
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 Area within 25m of a railway corridor



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# APPENDIX J

# State code 1: Development in a state-controlled road environment

State Development Assessment Provisions guideline - State Code 1: Development in a state-controlled road environment. This guideline provides direction on how to address State Code 1.

**Table 1.1 Development in general**

Performance outcomes	Acceptable outcomes	Response
<b>Buildings, structures, infrastructure, services and utilities</b>		
<b>PO1</b> The location of the development does not create a safety hazard for users of the <b>state-controlled road</b> .	<b>AO1.1</b> Development is not located in a <b>state-controlled road</b> .  AND <b>AO1.2</b> Development can be maintained without requiring access to a <b>state-controlled road</b> .	<b>Complies.</b> <ul style="list-style-type: none"> <li>No buildings or structures are proposed within the state-controlled road corridor.</li> <li>The development layout maintains safe separation from Norman Dungavell Drive.</li> </ul>
<b>PO2</b> The design and construction of the development does not adversely impact the <b>structural integrity</b> or physical condition of the <b>state-controlled road</b> or <b>road transport infrastructure</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>No works are proposed that would affect the structural integrity of Norman Dungavell Drive.</li> <li>Access works will be designed and constructed to relevant TMR standards.</li> <li>Any detailed design matters can be conditioned.</li> </ul>
<b>PO3</b> The location of the development does not obstruct <b>road transport infrastructure</b> or adversely impact the operating performance of the <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>The development does not obstruct existing road transport infrastructure.</li> <li>Access locations maintain safe sight distances and do not impede traffic flow, given the wide road shoulder.</li> </ul>

State Development Assessment Provisions v3.5

State code 1: Development in a state-controlled road environment

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Performance outcomes	Acceptable outcomes	Response
<b>PO4</b> The location, placement, design and operation of advertising devices, visible from the <b>state-controlled road</b> , do not create a safety hazard for users of the <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Not applicable.</b> <ul style="list-style-type: none"> <li>No advertising devices are proposed.</li> </ul>
<b>PO5</b> The design and construction of buildings and <b>structures</b> does not create a safety hazard by distracting users of the <b>state-controlled road</b> .	<p><b>AO5.1</b> Facades of buildings and <b>structures</b> fronting the <b>state-controlled road</b> are made of non-reflective materials.</p> <p>AND</p> <p><b>AO5.2</b> Facades of buildings and <b>structures</b> do not direct or reflect point light sources into the face of oncoming traffic on the <b>state-controlled road</b>.</p> <p>AND</p> <p><b>AO5.3</b> External lighting of buildings and <b>structures</b> is not directed into the face of oncoming traffic on the <b>state-controlled road</b>.</p> <p>AND</p> <p><b>AO5.4</b> External lighting of buildings and <b>structures</b> does not involve flashing or laser lights.</p>	<b>Complies</b> <ul style="list-style-type: none"> <li>The proposed development will be made of non-reflective materials.</li> <li>Any external lighting will be directed away from the State-controlled road.</li> </ul>
<b>PO6</b> Road, pedestrian and bikeway bridges over a <b>state-controlled road</b> are designed and constructed to prevent projectiles from being thrown onto the <b>state-controlled road</b> .	<b>AO6.1</b> Road, pedestrian and bikeway bridges over the <b>state-controlled road</b> include throw protection screens in accordance with section 4.11 of the Design Criteria for Bridges and Other Structures Manual, Department of Transport and Main Roads, 2020.	<b>Not applicable.</b> <ul style="list-style-type: none"> <li>No bridges are proposed.</li> </ul>
<b>Landscaping</b>		

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State code 1: Development in a state-controlled road environment

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Performance outcomes	Acceptable outcomes	Response
<b>PO7</b> The location of landscaping does not create a safety hazard for users of the <b>state-controlled road</b> .	<p><b>AO7.1</b> Landscaping is not located in a <b>state-controlled road</b>.</p> <p>AND</p> <p><b>AO7.2</b> Landscaping can be maintained without requiring access to a <b>state-controlled road</b>.</p> <p>AND</p> <p><b>AO7.3</b> Landscaping does not block or obscure the sight lines for vehicular access to a <b>state-controlled road</b>.</p>	<p><b>Complies</b></p> <ul style="list-style-type: none"> <li>All landscaping is located on-site and can be maintained within access to a state controlled road.</li> </ul>
<b>Stormwater and overland flow</b>		
<b>PO8</b> Stormwater run-off or overland flow from the development site does not create or exacerbate a safety hazard for users of the <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>A Site Based Stormwater Management Plan has been prepared and confirms a no-worsening condition.</li> <li>Final design and no worsening to the State-controlled road can be conditioned.</li> </ul>
<b>PO9</b> Stormwater run-off or overland flow from the development site does not result in a material worsening of the operating performance of the <b>state-controlled road</b> or <b>road transport infrastructure</b> .	No acceptable outcome is prescribed.	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>A Site Based Stormwater Management Plan has been prepared and confirms a no-worsening condition.</li> </ul>
<b>PO10</b> Stormwater run-off or overland flow from the development site does not adversely impact the <b>structural integrity</b> or physical condition of the <b>state-controlled road</b> or <b>road transport infrastructure</b> .	No acceptable outcome is prescribed.	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>A Site Based Stormwater Management Plan has been prepared and confirms a no-worsening condition.</li> </ul>
<b>PO11</b> Development ensures that stormwater is lawfully discharged.	<b>AO11.1</b> Development does not create any new points of discharge to a <b>state-controlled road</b> .	<p><b>Complies.</b></p>

State Development Assessment Provisions v3.5

State code 1: Development in a state-controlled road environment

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Performance outcomes	Acceptable outcomes	Response
	<p>AND</p> <p><b>AO11.2</b> Development does not concentrate flows to a <b>state-controlled road</b>.</p> <p>AND</p> <p><b>AO11.3</b> Stormwater run-off is discharged to a <b>lawful point of discharge</b>.</p> <p>AND</p> <p><b>AO11.4</b> Development does not worsen the condition of an existing <b>lawful point of discharge</b> to the <b>state-controlled road</b>.</p>	<ul style="list-style-type: none"> <li>• No new discharge points to the state-controlled road are proposed.</li> <li>• Flows will not be concentrated toward Norman Dungavell Drive</li> <li>• Stormwater will be directed to a lawful point of discharge.</li> <li>• Any detailed design can be conditioned.</li> </ul>
<b>Flooding</b>		
<p><b>PO12</b> Development does not result in a material worsening of flooding impacts within a <b>state-controlled road</b>.</p>	<p><b>AO12.1</b> For all flood events up to 1% <b>annual exceedance probability</b>, development results in negligible impacts (within +/- 10mm) to existing flood levels within a <b>state-controlled road</b>.</p> <p>AND</p> <p><b>AO12.2</b> For all flood events up to 1% <b>annual exceedance probability</b>, development results in negligible impacts (up to a 10% increase) to existing peak velocities within a <b>state-controlled road</b>.</p> <p>AND</p>	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>• A Site Based Stormwater Management Plan has been prepared and confirms a no-worsening condition of flooding impacts.</li> </ul>

State Development Assessment Provisions v3.5

State code 1: Development in a state-controlled road environment

Performance outcomes	Acceptable outcomes	Response
	<b>AO12.3</b> For all flood events up to 1% <b>annual exceedance probability</b> , development results in negligible impacts (up to a 10% increase) to existing time of submergence of a <b>state-controlled road</b> .	
<b>Drainage Infrastructure</b>		
<b>PO13</b> Drainage infrastructure does not create a safety hazard for users in the <b>state-controlled road</b> .	<p><b>AO13.1</b> Drainage infrastructure is wholly contained within the development site, except at the <b>lawful point of discharge</b>.</p> <p>AND</p> <p><b>AO13.2</b> Drainage infrastructure can be maintained without requiring access to a <b>state-controlled road</b>.</p>	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>All drainage infrastructure can and will be contained within the site.</li> </ul>
<b>PO14</b> Drainage infrastructure associated with, or within, a <b>state-controlled road</b> is constructed, and designed to ensure the <b>structural integrity</b> and physical condition of existing drainage infrastructure and the surrounding drainage network.	No acceptable outcome is prescribed.	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>No drainage works are proposed within the state-controlled road corridor.</li> <li>Any interface works will be designed to TMR standards.</li> </ul>

## Table 1.2 Vehicular access, road layout and local roads

Performance outcomes	Acceptable outcomes	Response
<b>Vehicular access to a state-controlled road or within 100 metres of a state-controlled road intersection</b>		
<b>PO15</b> The location, design and operation of a <b>new or changed access</b> to a <b>state-controlled road</b> does not compromise the safety of users of the <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>Formalising the existing two direct access points are designed to maintain safe sight distances.</li> <li>Access design will comply with TMR standards.</li> <li>Detailed access design can be conditioned.</li> </ul>
<b>PO16</b> The location, design and operation of a <b>new or changed access</b> does not adversely impact the <b>functional requirements</b> of the <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>Access locations do not interfere with the function of Norman Dungavell Drive.</li> <li>Traffic volumes from the proposed development are low, manageable and considered negligible.</li> </ul>
<b>PO17</b> The location, design and operation of a <b>new or changed access</b> is consistent with the <b>future intent</b> of the <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>Access locations do not compromise the long-term function or upgrade potential of the state-controlled road.</li> <li>Any future-proofing requirements can be conditioned.</li> </ul>
<b>PO18</b> <b>New or changed access</b> is consistent with the access for the relevant <b>limited access road policy</b> : 1. <b>LAR 1</b> where direct access is prohibited; or 2. <b>LAR 2</b> where access may be permitted, subject to assessment.	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>Norman Dungavell Drive is not identified as LAR1 (prohibited access).</li> <li>Proposed access is consistent with LAR2 principles and can be conditioned if required.</li> </ul>
<b>PO19</b> <b>New or changed access</b> to a <b>local road</b> within 100 metres of an intersection with a <b>state-</b>	No acceptable outcome is prescribed.	<b>Not applicable / Complies.</b>

State Development Assessment Provisions v3.5

State code 1: Development in a state-controlled road environment

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Performance outcomes	Acceptable outcomes	Response
<b>controlled road</b> does not compromise the safety of users of the <b>state-controlled road</b> .		<ul style="list-style-type: none"> <li>No new access to a local road within 100m of a state-controlled road intersection is proposed.</li> </ul>
<b>PO20 New or changed access</b> to a <b>local road</b> within 100 metres of an intersection with a <b>state-controlled road</b> does not adversely impact on the operating performance of the intersection.	No acceptable outcome is prescribed.	<b>Not applicable / Complies.</b> <ul style="list-style-type: none"> <li>No new access to a local road within 100m of a state-controlled road intersection is proposed.</li> <li>The development will generate minimal additional traffic and will not affect intersection performance.</li> </ul>
<b>Public passenger transport and active transport</b>		
<b>PO21</b> Development does not compromise the safety of users of <b>public passenger transport infrastructure, public passenger services</b> and <b>active transport infrastructure</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>The development does not affect public transport or active transport infrastructure.</li> </ul>
<b>PO22</b> Development maintains the ability for people to access <b>public passenger transport infrastructure, public passenger services</b> and <b>active transport infrastructure</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>Existing pedestrian and transport access is maintained.</li> </ul>
<b>PO23</b> Development does not adversely impact the operating performance of <b>public passenger transport infrastructure, public passenger services</b> and <b>active transport infrastructure</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>No works impact public transport operations.</li> </ul>
<b>PO24</b> Development does not adversely impact the <b>structural integrity</b> or physical condition of <b>public passenger transport infrastructure</b> and <b>active transport infrastructure</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>No works occur within or near public transport infrastructure.</li> </ul>

### Table 1.3 Network impacts

Performance outcomes	Acceptable outcomes	Response
<b>PO25</b> Development does not compromise the safety of users of the <b>state-controlled road</b> network.	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>The Traffic Impact Assessment confirms the proposed development will not compromise network safety.</li> <li>Access design will be in accordance with TMR standards.</li> </ul>
<b>PO26</b> Development ensures <b>no net worsening</b> of the operating performance of the <b>state-controlled road</b> network.	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>The Traffic Impact Assessment confirms the proposed development will not compromise network safety and proposes road upgrades to ensure safety of vehicles is maintained.</li> </ul>
<b>PO27</b> Traffic movements are not directed onto a <b>state-controlled road</b> where they can be accommodated on the <b>local road</b> network.	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>Norman Dungavell Drive is the only lawful access point; no alternative local road access exists.</li> </ul>
<b>PO28</b> Development involving haulage exceeding 10,000 tonnes per year does not adversely impact the pavement of a <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Not applicable.</b> <ul style="list-style-type: none"> <li>No haulage exceeding 10,000 tonnes per year is proposed.</li> </ul>
<b>PO29</b> Development does not impede delivery of <b>planned upgrades</b> of <b>state-controlled roads</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>The development will not impede any planned upgrades.</li> </ul>
<b>PO30</b> Development does not impede delivery of <b>corridor improvements</b> located entirely within the <b>state-controlled road corridor</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>The development will not impede any planned improvements.</li> </ul>

**Table 1.4 Filling, excavation, building foundations and retaining structures**

<b>Performance outcomes</b>	<b>Acceptable outcomes</b>	<b>Response</b>
<b>PO31</b> Development does not create a safety hazard for users of the <b>state-controlled road</b> or <b>road transport infrastructure</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>• Earthworks will be contained within the site.</li> </ul>
<b>PO32</b> Development does not adversely impact the operating performance of the <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>• The development will not alter road performance or stability.</li> </ul>
<b>PO33</b> Development does not undermine, damage or cause subsidence of a <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>• No excavation will occur near the state-controlled road formation.</li> </ul>
<b>PO34</b> Development does not cause ground water disturbance in a <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>• Works will not affect groundwater conditions beneath Norman Dungavell Drive.</li> </ul>
<b>PO35</b> Excavation, boring, piling, blasting and fill compaction do not adversely impact the physical condition or <b>structural integrity</b> of a <b>state-controlled road</b> or <b>road transport infrastructure</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>• No piling, blasting or heavy compaction near the state-controlled road will occur.</li> <li>• Any construction requirements can be conditioned.</li> </ul>
<b>PO36</b> Filling and excavation associated with the construction of <b>new or changed access</b> do not compromise the operation or capacity of existing drainage infrastructure for a <b>state-controlled road</b> .	No acceptable outcome is prescribed.	<b>Complies.</b> <ul style="list-style-type: none"> <li>• Earthworks for access will not affect existing road drainage capacity.</li> </ul>

## Table 1.5 Environmental emissions

Statutory note: Where a **state-controlled road** is co-located in the same transport corridor as a railway, the development should instead comply with Environmental emissions in State code 2: Development in a railway environment.

Performance outcomes	Acceptable outcomes	Response
<b>Reconfiguring a lot</b>		
<b>Involving the creation of 5 or fewer new residential lots adjacent to a state-controlled road or type 1 multi-modal corridor</b>		
<b>PO37</b> Development minimises free field noise intrusion from a <b>state-controlled road</b> .	<p><b>AO37.1</b> Development provides a noise barrier or earth mound which is designed, sited and constructed:</p> <ol style="list-style-type: none"> <li>1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.1);</li> <li>2. in accordance with:               <ol style="list-style-type: none"> <li>a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013;</li> <li>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</li> <li>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020.</li> </ol> </li> </ol> <p>OR</p> <p><b>AO37.2</b> Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</p> <p>OR</p>	<p><b>Not Applicable</b></p> <p>The development does not include a reconfiguring a lot.</p>

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Performance outcomes	Acceptable outcomes	Response
	<b>AO37.3</b> Development provides a <b>solid gap-free fence</b> or other <b>solid gap-free structure</b> along the full extent of the boundary closest to the <b>state-controlled road</b> .	
<b>Involving the creation of 6 or more new residential lots adjacent to a state-controlled road or type 1 multi-modal corridor</b>		
<b>PO38</b> Reconfiguring a lot minimises free field noise intrusion from a <b>state-controlled road</b> .	<p><b>AO38.1</b> Development provides noise barrier or earth mound which is designed, sited and constructed:</p> <ol style="list-style-type: none"> <li>1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.1);</li> <li>2. in accordance with: <ol style="list-style-type: none"> <li>a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013;</li> <li>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</li> <li>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020.</li> </ol> </li> </ol> <p>OR</p> <p><b>AO38.2</b> Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</p>	<p><b>Not Applicable</b></p> <ul style="list-style-type: none"> <li>• The development does not include a reconfiguring a lot.</li> </ul>
<b>Material change of use (accommodation activity)</b>		
<b>Ground floor level requirements adjacent to a state-controlled road or type 1 multi-modal corridor</b>		
<b>PO39</b> Development minimises noise intrusion from a <b>state-controlled road</b> in <b>private open space</b> .	<b>AO39.1</b> Development provides a noise barrier or earth mound which is designed, sited and constructed:	<p><b>Not Applicable</b></p> <ul style="list-style-type: none"> <li>• The development is for a warehouse.</li> </ul>

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Performance outcomes	Acceptable outcomes	Response
	<ol style="list-style-type: none"> <li>1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.2) for <b>private open space</b> at the ground floor level;</li> <li>2. in accordance with:               <ol style="list-style-type: none"> <li>a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013;</li> <li>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</li> <li>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020.</li> </ol> </li> </ol> <p>OR</p> <p><b>AO39.2</b> Development achieves the maximum free field acoustic level in reference table 2 (item 2.2) for <b>private open space</b> by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</p>	
<p><b>PO40</b> Development (excluding a <b>relevant residential building</b> or <b>relocated building</b>) minimises noise intrusion from a <b>state-controlled road</b> in <b>habitable rooms</b> at the facade.</p>	<p><b>AO40.1</b> Development (excluding a <b>relevant residential building</b> or <b>relocated building</b>) provides a noise barrier or earth mound which is designed, sited and constructed:</p> <ol style="list-style-type: none"> <li>1. to achieve the maximum building façade acoustic level in reference table 1 (item 1.1) for <b>habitable rooms</b>;</li> <li>2. in accordance with:               <ol style="list-style-type: none"> <li>a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic</li> </ol> </li> </ol>	<p><b>Not Applicable</b></p> <p>The development is for a warehouse.</p>

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Performance outcomes	Acceptable outcomes	Response
	<p>Noise), Department of Transport and Main Roads, 2013;</p> <p>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</p> <p>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020.</p> <p>OR</p> <p><b>AO40.2</b> Development (excluding a <b>relevant residential building or relocated building</b>) achieves the maximum building façade acoustic level in reference table 1 (item 1.1) for <b>habitable rooms by alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</p>	
<b>PO41 Habitable rooms</b> (excluding a <b>relevant residential building or relocated building</b> ) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is provided.	<b>Not Applicable</b> The development is for a warehouse.
<b>Above ground floor level requirements (accommodation activity) adjacent to a state-controlled road or type 1 multi-modal corridor</b>		
<b>PO42</b> Balconies, podiums, and roof decks include: <ol style="list-style-type: none"> <li>a continuous <b>solid gap-free structure</b> or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia);</li> <li>highly acoustically absorbent material treatment for the total area of the soffit above balconies, podiums, and roof decks.</li> </ol>	No acceptable outcome is provided.	<b>Not Applicable</b> The development is for a warehouse.

Performance outcomes	Acceptable outcomes	Response
<b>PO43 Habitable rooms</b> (excluding a <b>relevant residential building</b> or <b>relocated building</b> ) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is provided.	<b>Not Applicable</b> The development is for a warehouse.
<b>Material change of use (other uses)</b>		
<b>Ground floor level requirements (childcare centre, educational establishment, hospital) adjacent to a state-controlled road or type 1 multi-modal corridor</b>		
<b>PO44</b> Development: 1. provides a noise barrier or earth mound that is designed, sited and constructed: a. to achieve the maximum free field acoustic level in reference table 2 (item 2.3) for all <b>outdoor education areas</b> and <b>outdoor play areas</b> ; b. in accordance with: i. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013; ii. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019; iii. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020; or 2. achieves the maximum free field acoustic level in reference table 2 (item 2.3) for all <b>outdoor education areas</b> and <b>outdoor play areas</b> by <b>alternative noise attenuation measures</b> where it is not	No acceptable outcome is provided.	<b>Not Applicable</b> The development is for a warehouse.

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Performance outcomes	Acceptable outcomes	Response
practical to provide a noise barrier or earth mound.		
<p><b>PO45</b> Development involving a <b>childcare centre</b> or <b>educational establishment</b>:</p> <ol style="list-style-type: none"> <li>1. provides a noise barrier or earth mound that is designed, sited and constructed:</li> <li>2. to achieve the maximum building facade acoustic level in reference table 1 (item 1.2);</li> <li>3. in accordance with: <ol style="list-style-type: none"> <li>a. Chapter 7 integrated noise barrier design of the Transport Noise Management Code of Practice: Volume 1 (Road Traffic Noise), Department of Transport and Main Roads, 2013;</li> <li>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</li> <li>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020; or</li> </ol> </li> <li>4. achieves the maximum building facade acoustic level in reference table 1 (item 1.2) by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</li> </ol>	No acceptable outcome is provided.	<p><b>Not Applicable</b></p> <p>The development is for a warehouse.</p>
<p><b>PO46</b> Development involving:</p> <ol style="list-style-type: none"> <li>1. <b>indoor education areas</b> and <b>indoor play areas</b>; or</li> <li>2. sleeping rooms in a <b>childcare centre</b>; or</li> <li>3. <b>patient care areas</b> in a <b>hospital</b> achieves the maximum internal acoustic level in reference table 3 (items 3.2-3.4).</li> </ol>	No acceptable outcome is provided.	<p><b>Not Applicable</b></p> <p>The development is for a warehouse.</p>
<p><b>Above ground floor level requirements (childcare centre, educational establishment, hospital) adjacent to a state-controlled road or type 1 multi-modal corridor</b></p>		

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Performance outcomes	Acceptable outcomes	Response
<p><b>PO47</b> Development involving a <b>childcare centre</b> or <b>educational establishment</b> which have balconies, podiums or elevated <b>outdoor play areas</b> predicted to exceed the maximum free field acoustic level in reference table 2 (item 2.3) due to noise from a <b>state-controlled road</b> are provided with:</p> <ol style="list-style-type: none"> <li>1. a continuous <b>solid gap-free structure</b> or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia);</li> <li>2. highly acoustically absorbent material treatment for the total area of the soffit above balconies or elevated <b>outdoor play areas</b>.</li> </ol>	No acceptable outcome is provided.	<p><b>Not Applicable</b></p> <p>The development is for a warehouse.</p>
<p><b>PO48</b> Development including:</p> <ol style="list-style-type: none"> <li>1. <b>indoor education areas</b> and <b>indoor play areas</b> in a <b>childcare centre</b> or <b>educational establishment</b>; or</li> <li>2. sleeping rooms in a <b>childcare centre</b>; or</li> <li>3. <b>patient care areas</b> in a <b>hospital</b> located above ground level, is designed and constructed to achieve the maximum internal acoustic level in reference table 3 (items 3.2-3.4).</li> </ol>	No acceptable outcome is provided.	<p><b>Not Applicable</b></p> <p>The development is for a warehouse.</p>
<b>Air, light and vibration</b>		

Performance outcomes	Acceptable outcomes	Response
<p><b>PO49 Private open space, outdoor education areas and outdoor play areas</b> are protected from air quality impacts from a <b>state-controlled road</b>.</p>	<p><b>AO49.1</b> Each dwelling or unit has access to a <b>private open space</b> which is shielded from a <b>state-controlled road</b> by a building, <b>solid gap-free fence</b>, or other <b>solid gap-free structure</b>.</p> <p>OR</p> <p><b>AO49.2</b> Each <b>outdoor education area</b> and <b>outdoor play area</b> is shielded from a <b>state-controlled road</b> by a building, <b>solid gap-free fence</b>, or other <b>solid gap-free structure</b>.</p>	<p><b>Not Applicable</b></p> <p>The development is for a warehouse.</p>
<p><b>PO50 Patient care areas within hospitals</b> are protected from vibration impacts from a <b>state-controlled road</b> or <b>type 1 multi-modal corridor</b>.</p>	<p><b>AO50.1 Hospitals</b> are designed and constructed to ensure vibration in the patient treatment area does not exceed a vibration dose value of <math>0.1\text{m/s}^{1.75}</math>.</p> <p>AND</p> <p><b>AO50.2 Hospitals</b> are designed and constructed to ensure vibration in the ward of a <b>patient care area</b> does not exceed a vibration dose value of <math>0.4\text{m/s}^{1.75}</math>.</p>	<p><b>Not Applicable</b></p> <p>The development is for a warehouse.</p>
<p><b>PO51</b> Development is designed and sited to ensure light from infrastructure within, and from users of, a <b>state-controlled road</b> or <b>type 1 multi-modal corridor</b>, does not:</p> <ol style="list-style-type: none"> <li>intrude into buildings during night hours (10pm to 6am);</li> <li>create unreasonable disturbance during evening hours (6pm to 10pm).</li> </ol>	<p>No acceptable outcomes are prescribed.</p>	<p><b>Not Applicable</b></p>

**Table 1.6: Development in a future state-controlled road environment**

Performance outcomes	Acceptable outcomes	Response
<p><b>PO52</b> Development does not impede delivery of a <b>future state-controlled road</b>.</p>	<p><b>AO52.1</b> Development is not located in a <b>future state-controlled road</b>.</p> <p>OR ALL OF THE FOLLOWING APPLY:</p> <p><b>AO52.2</b> Development does not involve filling and excavation of, or material changes to, a <b>future state-controlled road</b>.</p> <p>AND</p> <p><b>AO52.3</b> The intensification of lots does not occur within a <b>future state-controlled road</b>.</p> <p>AND</p> <p><b>AO52.4</b> Development does not result in the landlocking of parcels once a <b>future state-controlled road</b> is delivered.</p>	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>• The site is not affected by a future state-controlled road designation.</li> <li>• No filling, excavation or intensification occurs within a future corridor.</li> </ul>
<p><b>PO53</b> The location and design of <b>new or changed access</b> does not create a safety hazard for users of a <b>future state-controlled road</b>.</p>	<p><b>AO53.1</b> Development does not include <b>new or changed access</b> to a <b>future state-controlled road</b>.</p>	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>• No access is proposed to a future state-controlled road.</li> </ul>
<p><b>PO54</b> Filling, excavation, building foundations and <b>retaining structures</b> do not undermine, damage or cause subsidence of a <b>future state-controlled road</b>.</p>	<p>No acceptable outcome is prescribed.</p>	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>• No works occur near a future state-controlled road.</li> </ul>
<p><b>PO55</b> Development does not result in a material worsening of stormwater, flooding, overland flow or drainage impacts in a <b>future state-controlled road</b> or <b>road transport infrastructure</b>.</p>	<p>No acceptable outcome is prescribed.</p>	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>• Stormwater design will ensure no impacts to any future state-controlled road.</li> </ul>

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Performance outcomes	Acceptable outcomes	Response
<p><b>PO56</b> Development ensures that stormwater is lawfully discharged.</p>	<p><b>AO56.1</b> Development does not create any new points of discharge to a <b>future state-controlled road</b>.</p> <p>AND</p> <p><b>AO56.2</b> Development does not concentrate flows to a <b>future state-controlled road</b>.</p> <p>AND</p> <p><b>AO56.3</b> Stormwater run-off is discharged to a <b>lawful point of discharge</b>.</p> <p>AND</p> <p><b>AO56.4</b> Development does not worsen the condition of an existing <b>lawful point of discharge</b> to the <b>future state-controlled road</b>.</p>	<p><b>Complies.</b></p> <ul style="list-style-type: none"> <li>• There is no discharge to a future state-controlled road.</li> <li>• Stormwater will be directed to a lawful point of discharge.</li> </ul>

# State code 2: Development in a railway environment

Guide to Development in a Transport Environment: Rail which provides direction on how to address this code.

**Table 2.1 Development in general**

Performance outcomes	Acceptable outcomes	Response
<b>Building, structures, infrastructure, services and utilities</b>		
<b>PO1</b> Development does not create a safety hazard within the <b>railway corridor</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not create a safety hazard within the railway corridor.
<b>PO2</b> Development does not cause damage to the <b>railway corridor, rail transport infrastructure or other rail infrastructure</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not cause damage to the railway corridor.
<b>PO3</b> Development does not interfere with, or obstruct, the <b>rail transport infrastructure or other rail infrastructure</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not interfere with or obstruct rail infrastructure.
<b>PO4</b> Development does not adversely impact the <b>structural integrity</b> or physical condition of the <b>railway, other rail infrastructure or the railway corridor</b> by adding or removing <b>loading</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the structural integrity of the railway.
<b>PO5</b> Development above a <b>railway</b> is designed to enable natural ventilation and smoke dispersion in the event of a fire emergency.	No acceptable outcome is prescribed.	Not applicable The proposed development is not located above a railway.
<b>PO6</b> Development does not adversely impact the operating performance of the <b>railway corridor</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway.

Performance outcomes	Acceptable outcomes	Response
<b>PO7</b> Buildings and <b>structures</b> in a <b>railway corridor</b> are designed and constructed to protect persons in the event of a derailed train.	No acceptable outcome is prescribed.	Complies The level of the railway corridor is significantly lower than the subject site.
<b>PO8</b> Buildings and <b>structures</b> in <b>high risk locations</b> and where also located within 10 metres of the centreline of the nearest <b>railway</b> track are design and constructed to protect persons in the event of a derailed train.	<b>AO8.1</b> Buildings and <b>structures</b> , in a <b>railway corridor</b> , including foundations, retaining and other support elements, are designed and constructed in accordance with Civil Engineering Technical Requirement CIVIL-SR-012 Collision protection of supporting elements adjacent to <b>railways</b> , Queensland Rail, 2011, AS5100 Bridge design, and AS1170 Structural design actions.	Complies The proposed development has been designed to not impact the railway.
<b>PO9</b> Buildings and <b>structures</b> are designed and constructed to protect people from electrocution.	<b>AO9.1</b> The outermost projection of development is set back horizontally a minimum of 3 metres from the outermost projection of <b>overhead line equipment</b> .	Complies The proposed development has been designed to not impact the railway.
<b>PO10</b> Development in the <b>railway corridor</b> is designed and constructed to prevent projectiles being thrown onto the <b>railway</b> .	No acceptable outcome is prescribed.	Not applicable The proposed development is not within the railway corridor.
<b>PO11</b> Buildings, and <b>structures</b> with publicly accessible or communal areas within 20 metres from the centreline of the nearest <b>railway</b> track are designed and constructed to prevent projectiles from being thrown onto a <b>railway</b> .	<b>AO11.1</b> Publicly accessible areas located within 20 metre from the centreline of the nearest <b>railway</b> do not overlook a <b>railway</b> .  OR <b>AO11.2</b> Buildings and <b>structures</b> are designed to ensure publicly accessible areas located within 20 metres from the centreline of the nearest <b>railway</b> track and that overlook the <b>railway</b> may include throw protection screens in accordance with the relevant provisions of the Civil Engineering Technical Requirement – CIVIL-SR005 Design of buildings over or near <b>railways</b> , Queensland Rail, 2011, and the Civil Engineering Technical	Complies The proposed development has been designed to not impact the railway. Furthermore, the development will be suitably located from the centreline to prevent projectiles.

Performance outcomes	Acceptable outcomes	Response
	Requirement – CIVIL-SR008 Protection screens, Queensland Rail.	
<b>Stormwater and overland flow</b>		
<b>PO12</b> Stormwater run-off or overland flow from the development site does not create or exacerbate a safety hazard in a <b>railway corridor</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway and all stormwater from the site will be treated appropriately in accordance with the Site Based Stormwater Management Plan (Appendix G).
<b>PO13</b> Stormwater run-off or overland flow from the development site does not result in a material worsening of operating performance of the <b>railway corridor, rail transport infrastructure or other rail infrastructure</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway and all stormwater from the site will be treated appropriately in accordance with the Site Based Stormwater Management Plan (Appendix G).
<b>PO14</b> Stormwater run-off or overland flow from the development site does not interfere with the <b>structural integrity</b> or physical condition of the <b>railway corridor, rail transport infrastructure or other rail infrastructure</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway and all stormwater from the site will be treated appropriately in accordance with the Site Based Stormwater Management Plan (Appendix G).
<b>Flooding</b>		
<b>PO15</b> Development does not result in a material worsening of flooding impacts within a <b>railway corridor</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway.
<b>Drainage Infrastructure</b>		
<b>PO16</b> Drainage infrastructure does not create a safety hazard in a <b>railway corridor</b> .	<b>AO16.1</b> Drainage infrastructure is wholly contained within the development site.  AND	Complies The proposed development has been designed to not impact the railway. All drainage and stormwater infrastructure is located on-site.

Performance outcomes	Acceptable outcomes	Response
	<b>AO16.2</b> Drainage infrastructure can be maintained without requiring access to a <b>railway corridor</b> .	
<b>Construction Impacts</b>		
<b>PO17</b> Construction activities do not cause ground movement or vibration impacts in a <b>railway corridor</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway and all construction activities suitably setback from the railway corridor.
<b>Access</b>		
<b>PO18</b> Development prevents unauthorised access to the <b>railway corridor</b> .	<p><b>AO18.1</b> Development abutting the <b>railway corridor</b> incorporates fencing along the property boundary with the <b>railway corridor</b> in accordance with the <b>railway manager's</b> standards.</p> <p>AND</p> <p><b>AO18.2</b> A road barrier designed in accordance with Queensland Rail Civil Engineering Technical Requirement CIVIL-SR-007 – Design Criteria for Road Rail Barriers.</p> <p>AND</p> <p><b>AO18.3</b> Vehicle manoeuvring areas, driveways, <b>loading</b> areas and carparks abutting the <b>railway corridor</b> incorporate <b>rail interface barriers</b> along the boundary to the <b>railway corridor</b>.</p>	Complies The subject site contains an existing fence along the entire boundary of the railway corridor and will be maintained. The manoeuvring areas and access configuration has been designed to ensure vehicles can safely manoeuvre the site, however if the State require rail interface barriers along parts of the site boundary with the railway corridor, this can be conditioned accordingly.
<b>PO19</b> Development maintains existing maintenance and authorised access to the <b>railway corridor</b> .	<b>AO19.1</b> Development does not obstruct existing authorised access points and access routes for maintenance and emergency works to the <b>railway corridor</b> at all times.	Complies Any existing maintenance access to the railway corridor will be maintained during construction and post-construction of the development.

Performance outcomes	Acceptable outcomes	Response
<b>PO20</b> Development does not impede the maintenance of a <b>railway bridge</b> or authorised access to a <b>railway bridge</b> .	<p><b>AO20.1</b> Buildings and other <b>structures</b> are set back horizontally a minimum of 3 metres from a <b>railway bridge</b>.</p> <p>AND</p> <p><b>AO20.2</b> Permanent <b>structures</b> are not located below or abutting a <b>railway bridge</b>.</p> <p>AND</p> <p><b>AO20.3</b> Temporary activities below or abutting a <b>railway bridge</b> do not impede access to a <b>railway corridor</b>.</p>	<p>Complies</p> <p>Any existing maintenance access to the railway corridor will be maintained during construction and post-construction of the development.</p>
<b>Public passenger transport and active transport</b>		
<b>PO21</b> Development does not compromise the safety of <b>public passenger transport infrastructure</b> and <b>active transport infrastructure</b> .	No acceptable outcome is prescribed.	<p>Complies</p> <p>The proposed development does not compromise the public passenger transport infrastructure or active transport infrastructure.</p>
<b>PO22</b> Development maintains pedestrian and cycle access to a <b>railway station</b> or other <b>public passenger transport infrastructure</b> and <b>active transport infrastructure</b> associated with the <b>railway</b> .	No acceptable outcome is prescribed.	<p>Complies</p> <p>The proposed development does not compromise the pedestrian or cycle access to a railway station of public transport infrastructure.</p>
<b>PO23</b> Development does not adversely impact the <b>structural integrity</b> or physical condition of <b>public passenger transport infrastructure</b> and <b>active transport infrastructure</b> .	No acceptable outcome is prescribed.	<p>Complies</p> <p>The proposed development does not compromise the public passenger transport infrastructure or active transport infrastructure.</p>
<b>PO24</b> Development does not adversely impact the operating performance of <b>public passenger transport infrastructure, public passenger services</b> and <b>active transport infrastructure</b> .	No acceptable outcome is prescribed.	<p>Complies</p> <p>The proposed development does not compromise the public passenger transport infrastructure or active transport infrastructure.</p>

Performance outcomes	Acceptable outcomes	Response
<b>Planned upgrades</b>		
<b>PO25</b> Development does not impede delivery of <b>planned upgrades of rail transport infrastructure.</b>	No acceptable outcome is prescribed.	Complies The proposed development does not impede the delivery of any planned upgrades.
<b>Network safety</b>		
<b>PO26</b> Development involving <b>dangerous goods</b> does not adversely impact on the safety or operations of the <b>railway and rail transport infrastructure.</b>	<b>AO26.1</b> Development does not involve handling or storage of hazardous chemicals above the threshold quantities listed in table 5.2 of the Model Planning Scheme Development Code for Hazardous Industries and Chemicals, Office of Industrial Relations, Department of Justice and Attorney-General, 2016.	Not applicable The proposed development does not involve dangerous goods.

**Table 2.2 Filling, excavation, building foundations and retaining structures**

Performance outcomes	Acceptable outcomes	Response
<b>PO27</b> Development does not create a safety hazard for users of the <b>railway or other rail infrastructure.</b>	No acceptable outcome is prescribed.	Complies The proposed development does not create a safety hazard for users of the railway.
<b>PO28</b> Development does not adversely impact on the operating performance of the <b>railway or other rail infrastructure</b> within the <b>railway corridor.</b>	No acceptable outcome is prescribed.	Complies The proposed development does not create adverse impacts on the railway.
<b>PO29</b> Development does not undermine, damage, or cause subsidence of, the <b>railway corridor.</b>	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway.
<b>PO30</b> Development does not adversely impact the <b>structural integrity</b> or physical condition of the <b>railway, other rail infrastructure</b> or the <b>railway corridor</b> by adding or removing <b>loading.</b>	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway.
<b>PO31</b> Development does not cause ground water disturbance in the <b>railway corridor.</b>	No acceptable outcome is prescribed.	Complies

		The proposed development has been designed to not impact the railway.
<b>PO32</b> Development does not adversely impact the <b>railway</b> or <b>other rail infrastructure</b> within the <b>railway corridor</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway.
<b>PO33</b> Excavation, boring, piling, blasting, drilling, fill compaction or similar activities does not adversely impact the operating performance of the <b>railway</b> or <b>other rail infrastructure</b> within the <b>railway corridor</b> .	No acceptable outcome is prescribed.	Complies The proposed development has been designed to not impact the railway.
<b>PO34</b> Filling and excavation material does not cause an obstruction or nuisance in the <b>railway corridor</b> .	<b>AO34.1</b> Fill, spoil or any other material is not stored in, or adjacent to, the <b>railway corridor</b> .	Complies The proposed development has been designed to not impact the railway.

## Table 2.3 Railway crossings

Performance outcomes	Acceptable outcomes	Response
<b>PO35</b> Development does not require a new level <b>railway crossing</b> .	No acceptable outcome is prescribed.	Complies The proposed development does not require a new railway crossing.
<b>PO36</b> Development does not adversely impact on the operating performance of an existing <b>railway crossing</b> .	No acceptable outcome is prescribed.	Complies The proposed development does not impact existing railway crossings.
<b>PO37</b> Development does not adversely impact on the safety of an existing <b>railway crossing</b> .	No acceptable outcome is prescribed.	Complies The nearby railway crossings are grade separated.
<b>PO38</b> Development is designed and constructed to allow for on-site circulation to ensure vehicles do not queue in a <b>railway crossing</b> .	No acceptable outcome is prescribed.	Complies The nearby railway crossings are grade separated.

## Table 2.4 Environmental emissions

Statutory note: Where development is adjacent to a **railway** with 15 or fewer passing trains per day, compliance with table 2.4 is not required.

Performance outcomes	Acceptable outcomes	Response
<b>Reconfiguring a Lot</b>		
<b>Involving the creation of 5 or fewer new residential lots adjacent to a railway or type 2 multi-modal corridor</b>		
<b>PO39</b> Development minimises free field noise intrusion from a <b>railway</b> .	<b>AO39.1</b> Development provides a noise barrier or earth mound which is designed, sited and constructed: <ol style="list-style-type: none"> <li>1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.1);</li> <li>2. in accordance with:               <ol style="list-style-type: none"> <li>a. Civil Engineering Standard Specification QR-CTS-Part 41 – Part 41, Design and Construction of Noise Fences/Barriers, Queensland Rail, 2018;</li> <li>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</li> </ol> </li> </ol>	Not applicable The proposed development is for a material change of use.

	<p>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020.</p> <p>OR</p> <p><b>AO39.2</b> Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</p> <p>OR</p> <p><b>AO39.3</b> Development provides a <b>solid gap-free fence</b> or other <b>solid gap-free structure</b> along the full extent of the boundary closest to a <b>railway</b>.</p>	
<p><b>Involving the creation of 6 or more new residential lots adjacent to a railway or type 2 multi-modal corridor</b></p>		
<p><b>PO40</b> Reconfiguring a lot minimises free field noise intrusion from a <b>railway</b>.</p>	<p><b>AO40.1</b> Development provides a noise barrier or earth mound which is designed, sited and constructed:</p> <ol style="list-style-type: none"> <li>1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.1);</li> <li>2. in accordance with: <ol style="list-style-type: none"> <li>a. Civil Engineering Standard Specification QR-CTS-Part 41 – Part 41, Design and Construction of Noise Fences/Barriers;</li> <li>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</li> <li>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020.</li> </ol> </li> </ol> <p>OR</p>	<p>Not applicable The proposed development is for a material change of use.</p>

	<b>AO40.2</b> Development achieves the maximum free field acoustic levels in reference table 2 (item 2.1) by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.	
<b>Material change of use (accommodation activity)</b>		
<b>Ground floor level requirements adjacent to a railway or type 2 multi-modal corridor</b>		
<b>PO41</b> Development minimises noise intrusion from a <b>railway in private open space</b> at the ground floor.	<p><b>AO41.1</b> Development provides a noise barrier or earth mound which is designed, sited and constructed:</p> <ol style="list-style-type: none"> <li>1. to achieve the maximum free field acoustic levels in reference table 2 (item 2.2) for <b>private open space</b> at the ground floor level;</li> <li>2. in accordance with: <ol style="list-style-type: none"> <li>a. Civil Engineering Standard Specification QR-CTS-Part 41 – Part 41, Design and Construction of Noise Fences/Barriers, Queensland Rail, 2018;</li> <li>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</li> <li>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020.</li> </ol> </li> </ol> <p>OR</p> <p><b>AO41.2</b> Development achieves the maximum free field acoustic level in reference table 2 (item 2.2) for <b>private open space</b> at the ground floor level by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</p>	Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.
<b>PO42</b> Development (excluding a <b>relevant residential building</b> or <b>relocated building</b> ) minimises noise intrusion from the <b>railway</b>	<b>AO42.1</b> Development (excluding a <b>relevant residential building</b> or <b>relocated building</b> )	Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.

<p>in <b>habitable rooms</b> at the facade of the ground floor level.</p>	<p>provides a noise barrier or earth mound which is designed, sited and constructed:</p> <ol style="list-style-type: none"> <li>1. to achieve the maximum building facade acoustic level in reference table 1 (item 1.1) for <b>habitable rooms</b> at the ground floor level;</li> <li>2. in accordance with: <ol style="list-style-type: none"> <li>a. Civil Engineering Standard Specification QR-CTS-Part 41 – Part 41, Design and Construction of Noise Fences/Barriers, Queensland Rail, 2018;</li> <li>b. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;.</li> <li>c. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020.</li> </ol> </li> </ol> <p>OR</p> <p><b>AO42.2</b> Development (excluding a <b>relevant residential building</b> or <b>relocated building</b>) achieves the maximum building facade acoustic level in reference table 1 (item 1.1) for <b>habitable rooms</b> at the ground floor level by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</p>	
<p><b>PO43 Habitable rooms</b> (excluding a <b>relevant residential building</b> or <b>relocated building</b>) are designed and constructed using materials to achieve the maximum internal acoustic level in Table 3 (item 3.1).</p>	<p>No acceptable outcome is prescribed.</p>	<p>Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.</p>
<p><b>Above ground floor level requirements (accommodation activity) adjacent to a railway or type 2 multi-modal corridor</b></p>		
<p><b>PO44</b> Balconies, podiums and roof decks include:</p> <ol style="list-style-type: none"> <li>1. a continuous <b>solid gap-free structure</b> or balustrade (excluding gaps required for drainage purposes to comply with the Building Code of Australia);</li> </ol>	<p>No acceptable outcome is prescribed.</p>	<p>Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.</p>

2. highly acoustically absorbent material treatment for the total area of the soffit above balconies, podiums and roof decks		
<b>PO45 Habitable rooms</b> (excluding a <b>relevant residential building</b> or <b>relocated building</b> ) are designed and constructed using materials to achieve the maximum internal acoustic level in reference table 3 (item 3.1).	No acceptable outcome is prescribed.	Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.
<b>Material change of use (other uses)</b>		
<b>Ground floor level requirements (childcare centre, educational establishment, hospital) adjacent to a railway or type 2 multi-modal corridor</b>		
<p><b>PO46</b> Development:</p> <ol style="list-style-type: none"> <li>1. provides a noise barrier or earth mound that is designed, sited and constructed: <ol style="list-style-type: none"> <li>a. to achieve the maximum free field acoustic level in reference table 2 (item 2.3) for all <b>outdoor education areas</b> and <b>outdoor play areas</b>;</li> <li>b. in accordance with: <ol style="list-style-type: none"> <li>i. Civil Engineering Standard Specification QR-CTS-Part 41 – Part 41, Design and Construction of Noise Fences/Barriers, Queensland Rail, 2018;</li> <li>ii. Technical Specification-MRTS15 Noise Fences, Transport and Main Roads, 2019;</li> <li>iii. Technical Specification-MRTS04 General Earthworks, Transport and Main Roads, 2020; or</li> </ol> </li> </ol> </li> <li>2. achieves the maximum free field acoustic level in reference table (item 2.3) for all <b>outdoor education areas</b> and <b>outdoor play areas</b> by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</li> </ol>	No acceptable outcome is prescribed.	Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.

<p><b>PO47</b> Development involving a <b>childcare centre</b> or <b>educational establishment</b>:</p> <ol style="list-style-type: none"> <li>1. provides a noise barrier or earth mound that is designed, sited and constructed: <ol style="list-style-type: none"> <li>a. to achieve the maximum building facade acoustic level in reference table 1 (item 1.2);</li> <li>b. in accordance with: <ol style="list-style-type: none"> <li>i. Civil Engineering Standard Specification QR-CTS-Part 41 – Part 41, Design and Construction of Noise Fences/Barriers, Queensland Rail, 2018; or</li> </ol> </li> </ol> </li> <li>2. achieves the maximum building facade acoustic level in reference table 1 (item 1.2) by <b>alternative noise attenuation measures</b> where it is not practical to provide a noise barrier or earth mound.</li> </ol>	<p>No acceptable outcome is prescribed.</p>	<p>Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.</p>
<p><b>PO48</b> Development involving:</p> <ol style="list-style-type: none"> <li>1. <b>indoor education areas</b> and <b>indoor play areas</b>; or</li> <li>2. sleeping rooms in a <b>childcare centre</b>; or</li> <li>3. <b>patient care areas</b> in a <b>hospital</b>;</li> </ol> <p>achieves the maximum internal acoustic level in reference table 3 (items 3.2, 3.3 and 3.4).</p>	<p>No acceptable outcome is prescribed.</p>	<p>Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.</p>
<p><b>Above ground floor level requirements (childcare centre, educational establishment, hospital) adjacent to a railway or type 2 multi-modal corridor</b></p>		
<p><b>PO49</b> Development involving a <b>childcare centre</b>; or <b>educational establishment</b> which have balconies, podiums or elevated <b>outdoor play areas</b> predicted to exceed the maximum free field acoustic level in reference table 2 (item 2.3) due to noise from the <b>railway</b> are provided with:</p> <ol style="list-style-type: none"> <li>1. a continuous <b>solid gap-free structure</b> or balustrade (excluding gaps required for drainage</li> </ol>	<p>No acceptable outcome is prescribed.</p>	<p>Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.</p>

<p>purposes to comply with the Building Code of Australia); and</p> <p>2. highly acoustically absorbent material treatment for the total area of the soffit above balconies, podiums and elevated <b>outdoor play areas</b>.</p>		
<p><b>PO50</b> Development including:</p> <p>1. <b>indoor education areas</b> and <b>indoor play areas</b> in a <b>childcare centre</b> or <b>educational establishment</b>; or</p> <p>2. sleeping rooms in a <b>childcare centre</b>; or</p> <p>3. <b>patient care areas</b> in a <b>hospital</b> located above ground level, is designed and constructed to achieve the maximum internal acoustic level in reference table 3 (items 3.2-3.4).</p>	No acceptable outcome is prescribed.	Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.
<b>Air, light and vibration</b>		
<p><b>PO51</b> Private open space, outdoor education areas and outdoor play areas are protected from air quality impacts from a <b>railway</b>.</p>	<p><b>AO51.1</b> Each dwelling or unit has access to a <b>private open space</b> which is shielded from a <b>railway</b> by a building, noise barrier, <b>solid gap-free fence</b>, or other <b>solid gap-free structure</b>.</p> <p>OR</p> <p><b>AO51.2</b> Each <b>outdoor education area</b> and <b>outdoor play area</b> is shielded from a <b>railway</b> by a building, noise barrier, <b>solid gap-free fence</b>, or other <b>solid gap-free structure</b>.</p>	Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.
<p><b>PO52</b> Patient care areas within <b>hospitals</b> are protected from vibration impacts from a <b>railway</b>.</p>	<p><b>AO52.1</b> <b>Hospitals</b> are designed and constructed to ensure vibration in the patient treatment area does not exceed a vibration dose value of 0.1m/s<sup>1.75</sup>.</p> <p>AND</p> <p><b>AO52.2</b> <b>Hospitals</b> are designed and constructed to ensure vibration in the ward of a <b>patient care area</b> does not exceed a vibration dose value of 0.4m/s<sup>1.75</sup>.</p>	Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.

<p><b>PO53</b> Development is designed and sited to ensure light from infrastructure within, and use of, a <b>railway</b> does not:</p> <ol style="list-style-type: none"> <li>1. intrude into buildings during night hours (10pm to 6am); and</li> <li>2. create unreasonable disturbance during evening hours (6pm to 10pm).</li> </ol>	<p>No acceptable outcomes are prescribed.</p>	<p>Not applicable The proposed development is for a material change of use for a warehouse in the Industry zone.</p>
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**Table 2.5 Development in a future railway corridor**

<b>Performance outcomes</b>	<b>Acceptable outcomes</b>	<b>Response</b>
<p><b>PO54</b> Development does not impede the planning, design and delivery of <b>rail transport infrastructure</b> in a <b>future railway corridor</b>.</p>	<p><b>AO54.1</b> Development is not located in a <b>future railway corridor</b>.</p> <p>OR both of the following acceptable outcomes apply:</p> <p><b>AO54.2</b> The intensification of lots does not occur within a <b>future railway corridor</b>.</p> <p>AND</p> <p><b>AO54.3</b> Development does not result in the landlocking of parcels once a <b>future railway corridor</b> is delivered.</p>	<p>Not applicable The proposed development is not in a future railway corridor.</p>
<p><b>PO55</b> Development, including filling, excavation, building foundations and <b>retaining structures</b> do not undermine or cause subsidence of a <b>future railway corridor</b>.</p>	<p>No acceptable outcome is prescribed.</p>	<p>Not applicable The proposed development is not in a future railway corridor.</p>
<p><b>PO56</b> Development does not result in a material worsening of stormwater, flooding, overland flow or drainage impacts in a <b>future railway corridor</b>.</p>	<p>No acceptable outcome is prescribed.</p>	<p>Not applicable The proposed development is not in a future railway corridor.</p>

# State code 14: Queensland heritage

Guideline – SDAP State code 14: Queensland heritage which provides direction on how to address this code.

**Table 14.1: Applicable criteria for development associated with a Queensland heritage place**

Type of development on a Queensland heritage place	Relevant provisions of code
All development on a Queensland heritage place	Table 14.2 — PO1 – PO4
Reconfiguring a lot on land containing a Queensland heritage place	Table 14.3 — PO5 – PO7
Material change of use on land adjoining a Queensland heritage place or on a lot containing a Queensland heritage place, but not carried out on the Queensland heritage place	Table 14.4 — PO8

**Table 14.2: Development on a Queensland heritage place**

Performance outcomes	Response
<b>PO1 Development</b> minimises adverse impacts on the <b>cultural heritage significance</b> of a <b>Queensland heritage place</b> .	Not applicable The proposed development is not located on a Queensland heritage place.
<b>PO2 Development</b> on a <b>Queensland heritage place</b> with <b>identified archaeological potential</b> manages adverse impacts on <b>artefacts</b> .	Not applicable The proposed development is not located on a Queensland heritage place.
<b>PO3 Development</b> employs methods and utilises materials that are compatible with the <b>conservation</b> of built and landscape <b>features</b> that form part of the <b>cultural heritage significance</b> of the <b>Queensland heritage place</b> .	Not applicable The proposed development is not located on a Queensland heritage place.
<b>Development proposing to destroy or substantially reduce the cultural heritage significance of a Queensland heritage place</b>	
<b>PO4 Development</b> proposing to <b>destroy or substantially reduce</b> the <b>cultural heritage significance</b> of the <b>Queensland heritage place</b> must demonstrate that there is <b>no reasonable alternative</b> to the <b>development</b> that would conserve the <b>cultural heritage significance</b> of the <b>Queensland heritage place</b> .	Not applicable The proposed development is not located on a Queensland heritage place.

**Table 14.3: Reconfiguring a lot on land containing a Queensland heritage place**

Performance outcomes	Response
<b>PO5 Development</b> does not result in a lot size or configuration which adversely impacts the aspects of the <b>setting</b> that form part of the <b>cultural heritage significance</b> of the <b>Queensland heritage place</b> .	Not applicable The proposed development is for a material change of use and is not located on a Queensland heritage place.

Performance outcomes	Response
<b>PO6 Development</b> does not result in a lot size and configuration which adversely impacts the ongoing <b>conservation</b> management of the <b>Queensland heritage place</b> .	Not applicable The proposed development is for a material change of use and is not located on a Queensland heritage place.
<b>Where the relationship between built and open spaces forms part of the cultural heritage significance of the place</b>	
<b>PO7 Development</b> on a place where the relationship between built and open spaces form part of the <b>cultural heritage significance</b> of the place, maintains a lot size and configuration which facilitates the <b>conservation</b> of these relationships.	Not applicable The proposed development is for a material change of use and is not located on a Queensland heritage place.

**Table 14.4: Material change of use on land adjoining a Queensland heritage place or on a lot containing a Queensland heritage place, but not carried out on the Queensland heritage place**

Performance outcomes	Response
<b>PO8 Development</b> is located, designed and scaled so that its form, bulk and proximity minimises adverse impacts on the <b>cultural heritage significance</b> of the <b>Queensland heritage place</b> .	Complies The proposed development has been designed to not impact the cultural heritage significance of the Queensland heritage place, being the Signals, Crane and Subway; Charters Towers Railway Station. The subject site adjoins the heritage place at the corner only, and is located at the furthest point from the significance. Notwithstanding, the proposed development has been designed, scaled and located to consider the heritage values of nearby significance.

# APPENDIX K

## **6.2.3 Industry zone category**

### **6.2.3.1 Industry zone code**

#### **6.2.3.1.1 Application**

This code applies to development where the code is identified as applicable in categories of assessment and development. When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

#### **6.2.3.1.2 Purpose**

(1) The purpose of the Industry zone is to provide for:

- (a) a variety of industry activities; and
- (b) other uses and activities that:
  - (i) support industry activities; and
  - (ii) do not compromise the future use of premises for industry activities.

(2) The purpose of the zone will be achieved through the following overall outcomes:

- (a) industrial activities are located, designed and managed to maintain public safety, avoid significant adverse effects on the natural environment and minimise impacts on adjacent non-industrial land;
- (b) high impact, noxious and hazardous industrial uses require large development sites with appropriate separation from other land use activities;
- (c) the zone also accommodates limited activities of wholesale, trade supplies and indoor sport and recreation uses which are difficult to locate in other areas, where these have low levels of potential impacts on surrounding areas;
- (d) other non-industrial uses that are ancillary to, and directly support, the industrial area are facilitated;
- (e) the zone does not accommodate uses which are primarily oriented to retail sales and commercial business activities and which are more appropriately located in centres, such as Shops, Shopping centres, showrooms and offices;
- (f) uses and works for industrial purposes are located, designed and managed to maintain safety to people, avoid significant adverse effects on the natural environment and minimise impacts on adjacent non-industrial land;
- (g) development maximises the use of existing transport infrastructure and has access to the appropriate level of transport infrastructure (railways, freight routes and motorways) and facilities such as airports;
- (h) development is supported by transport infrastructure that is designed to provide and promote safe and efficient transport use, walking and cycling;
- (i) development is designed to incorporate sustainable practices including maximising energy efficiency and water conservation;
- (j) the scale, character and built form of development contributes to a high standard of amenity and makes a positive contribution to the public domain and streetscape particularly along major roads;
- (k) the viability of both existing and future industrial uses are protected from the intrusion of incompatible uses; (l) development responds to land

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constraints, including but not limited to topography, bushfire and flooding, former mining activities and land contamination;

(m) adverse impacts on natural features and processes, both on site and from adjoining areas, are minimised through location, design, operation and management of development;

(n) development avoids significant adverse effects on water quality and the natural environment; and

(o) industrial uses are adequately separated from sensitive land uses to minimise the likelihood of environmental harm or environmental nuisance occurring.

### 6.2.3.1.3 Specific benchmarks for assessment

**Table 6.2.3.1.3 — Accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Applicants Response
<b>Built form (if involving building work)</b>		
<b>PO1</b> Buildings, outdoor storage and activity areas: (a) are appropriate to the height, scale, bulk and character of other buildings and activities in the surrounding industrial area; (b) are proportionate to the size of the site; and (c) do not result in a significant loss of visual amenity.	<b>AO1.1</b> Building height does not exceed: (a) 12m; or (b) 8.5m where adjoining a residential premises or land in the General residential zone.	<b>Complies with AO1.1</b> The proposed development has a maximum building height of 8.255m.
	<b>AO1.2</b> Site cover including any outdoor storage and sales areas do not exceed 75% of the site.	<b>Complies with AO1.1</b> The proposed development has a site cover of 18.6%.
<b>PO2</b> Buildings, structures and industry activities are setback from the road frontage to mitigate the impact of activities on the streetscape.	<b>AO2</b> Buildings, structures and industrial activity areas are setback 6m from the road frontage.	<b>Complies with AO</b> The proposed development has a front setback of 14.7m.
<b>Building design (if involving building work)</b>		
<b>PO3</b> Building entrances are legible and safe.	<b>AO3.1</b> The main entry to the premises is: (a) easily identifiable and directly accessible from the street with a clearly defined entrance point; and (b) separate to vehicle access points.	<b>Complies with AO3.1</b> The development has separate vehicle access and pedestrian access gates to the site, clearly located.
	<b>AO3.2</b> Each building or tenancy is provided with a highly visible street and unit number.	<b>Complies with AO3.2</b> The development will provide suitable signage.

	<p><b>A03.3</b> Premises are provided with external lighting sufficient to provide safe ingress and egress for site users.</p> <p><b>A03.4</b> Ancillary office space is sited and orientated towards the principal road frontage of a site.</p>	<p><b>Complies with A03.3</b> The development will provide suitable lighting.</p> <p><b>Complies with A03.4</b> The development has been designed to have the ancillary office at the entry road frontage.</p>
<b>Amenity</b>		
<p><b>PO4</b> Where adjoining land in the General residential zone, development provides adequate buffering and screening so that adverse impacts on the amenity on adjoining properties are minimised.</p>	<p><b>A04.1</b> New buildings, plant and equipment, active outdoor use areas, site access and car parking, servicing or outdoor storage areas are set back a minimum of 5m from any boundary adjoining land in the General residential zone.</p> <p><b>A04.2</b> Within the setback area of any adjoining land in the General residential zone, the following is provided: (a) a minimum 1.8m high solid boundary fence; and (b) a densely planted landscape strip, having a minimum width of 3m and the balance setback area turfed.</p> <p><b>A04.3</b> Windows or openings that have direct views into adjoining residential buildings are provided with fixed screening that is a maximum of 50% transparent to obscure views into the adjoining residential building and maintain privacy for those residents.</p>	<p><b>Not Applicable</b> The development does not adjoin the general residential zone.</p>
<p><b>PO5</b> Utility elements (including refuse areas, outdoor storage, plant and equipment, loading and unloading areas) are screened from view from the street and adjoining any land in another zone.</p>	<p><b>A05</b> Utility elements are: (a) located within or behind the building; or (b) screened by a 1.8m high solid wall or fence; or (c) behind landscaping having the same screening</p>	<p><b>Complies with A05</b> The development has been designed to have all loading and unloading to occur behind the building to be out of view of the street view.</p>

	<p>effect as a 1.8m screen fence.</p> <p>Editor's note—Screening can be provided by any combination of the above treatments to meet the acceptable outcome.</p>	
<p><b>PO7</b></p> <p>Landscaping is provided to mitigate the visual impact of development and screen unsightly components.</p>	<p><b>AO7</b></p> <p>A minimum 2m width of landscaping is provided along the entire principal road frontage excluding the driveway.</p>	<p><b>Complies with AO7</b></p> <p>The development provides a 2m wide landscape strip along the entire road frontage.</p>
<p><b>PO8</b></p> <p>Development minimises potential conflicts with, or impacts on, other uses having regard to vibration, odour, dust or other emissions.</p>	<p><b>AO8.1</b></p> <p>Development achieves the air quality design objectives set out in the Environmental Protection (Air) Policy 2008, as amended.</p> <p>Editor's note—To achieve compliance, development is planned, designed and managed to ensure emissions from activities to achieve the appropriate acoustic objectives (measured at the receptor dB(A)).</p> <p><b>AO8.2</b></p> <p>Development that involves the storage of materials on site that are capable of generating air contaminants either by wind or when disturbed are managed by:</p> <p>(a) being wholly enclosed in storage bins; or</p> <p>(b) a watering program so material cannot become airborne.</p>	<p><b>Complies with AO8.1</b></p> <p>The development can achieve the relevant air quality design objectives.</p> <p><b>Complies with AO8.2</b></p> <p>The development has been designed to fully enclose all storage in the warehouse, and suitable storage of contaminants will be stored in appropriate bins, if necessary.</p>
<p><b>PO9</b></p> <p>Development prevents or minimises the generation of any noise so that:</p> <p>(a) nuisance is not caused to adjoining premises or other nearby sensitive land uses; and</p> <p>(b) desired ambient noise levels in residential areas are not exceeded.</p>	<p><b>AO9</b></p> <p>Development achieves the noise generation levels set out in the Environmental Protection (Noise) Policy 2008, as amended.</p>	<p><b>Complies with AO9</b></p> <p>The development can achieve the relevant noise levels.</p>
<p><b>PO10</b></p> <p>Outdoor lighting does not adversely affect the amenity of adjoining properties or create a traffic hazard on adjacent roads.</p>	<p><b>AO10.1</b></p> <p>Light emanating from any source complies with Australian Standard AS4282 Control of the Obtrusive Effects of Outdoor Lighting.</p> <p><b>AO10.2</b></p>	<p><b>Complies with AO10.1</b></p> <p>The development will ensure lighting is appropriately provided to meet the relevant standards.</p> <p><b>Complies with AO10.2</b></p>

	Outdoor lighting is provided in accordance with Australian Standard AS 1158.1.1 Road Lighting – Vehicular Traffic (Category V) Lighting – Performance and Installation Design Requirements.	The development will ensure lighting is appropriately provided to meet the relevant standards.
<b>PO11</b> Development provides for the collection, treatment and disposal of liquid wastes or sources of contamination such that off site releases of contaminants do not occur.	<p><b>AO11.1</b> Areas where potentially contaminating substances are stored or used, are: (a) roofed and sealed with concrete, asphalt or similar impervious surface and bunded; and (b) located above the defined flood event. Editor's note–Refer to the Flood hazard overlay code for further information regarding the defined flood event.</p> <p><b>AO11.2</b> Provision is made for spills to be bunded and retained on site for removal and disposal by an approved means.</p> <p><b>AO11.3</b> Roof water is piped away from areas of potential contamination.</p>	<p><b>Complies with AO11.1</b> The development will ensure any contaminating substances are appropriately stored, if required.</p> <p><b>Complies with AO11.2</b> The development can ensure any spills will be appropriately managed.</p> <p><b>Complies with AO11.3</b> The development has been designed to ensure roofwater is appropriately piped to avoid any chance of contamination.</p>
<b>Hours of operation</b>		
<b>PO12</b> Hours of operation are limited to minimise nuisance to any surrounding sensitive land uses.	<b>AO12</b> Where within 150m of a sensitive land use or land in a Residential zone, hours of operation are limited to 7:00 to 18:00 daily.	<b>Complies with AO12</b> The development will operate between 7:00am – 18:00 daily.
<b>Use - Caretaker's accommodation</b>		
<b>PO13</b> Development: (a) is subordinate to non-residential uses on the same site; and (b) only accommodates 1 caretaker.	<p><b>AO13.1</b> No more than 1 Caretaker's accommodation unit on site.</p> <p><b>AO13.2</b> Caretaker's accommodation is a maximum of 50m<sup>2</sup> in GFA.</p>	<b>Not Applicable</b> The development will not provide for a caretaker.

<b>Use - Office</b>		
<p><b>PO14</b> Offices are only accommodated within the Industry zone where they are ancillary to the primary industrial use.</p>	<p><b>AO14</b> The area used for an ancillary office use does not exceed 100m<sup>2</sup> GFA.</p>	<p><b>Complies with AO12</b> The development includes an ancillary office of 94m<sup>2</sup></p>
<b>Use - Agricultural supplies store, Garden centre, Hardware and trade supplies</b>		
<p><b>PO15</b> Development: (a) does not impact on the viability of the region's centres and industrial areas; (b) does not compromise the industry character of the locality; and (c) does not include large format, land consumptive commercial uses.</p>	<p><b>AO15</b> GFA does not exceed 250m<sup>2</sup> for any Agricultural supplies store, Garden centre and Hardware and trade supplies.</p>	<p><b>Not Applicable</b> The development does not include agriculture supplies store, garden centre, hardware and trade supplies.</p>

## **8.3 Other development codes**

### **8.3.1 Development works code**

#### **8.3.1.1 Application**

This code applies to development identified as requiring assessment against the Development works code by the tables of assessment in Part 5 (Tables of assessment).

When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

#### **8.3.1.2 Purpose**

- (1) The purpose of the Development works code is to:
  - (a) ensure all development is provided with appropriate infrastructure, parking spaces and services;
  - (b) ensure development manages stormwater and wastewater as part of the integrated total water cycle and in ways that help protect the environmental water values specified in the *Environmental Protection (Water) Policy 2009* and the Stormwater Management Design Objectives in the State Planning Policy;
  - (c) protect surface water and ground water; and
  - (d) ensure development is designed, constructed, operated and maintained to eliminate any adverse impacts on the environment and the amenity of the locality.
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) development is adequately serviced by utility and access infrastructure including roads, water, waste water, power, telecommunications, stormwater management and waste management;
  - (b) the integrity and efficiency of utility and access infrastructure systems is maintained;
  - (c) environmental values of receiving waters are protected from adverse development impacts arising from stormwater quality and flow;
  - (d) environmental values of receiving waters are protected from waste water impacts;
  - (e) public health and safety are protected and damage or nuisance caused by stormwater is avoided;
  - (f) stormwater management works is designed to maintain or recreate natural hydrological processes and minimise run-off;
  - (g) the function, safety and efficiency of the transport network is optimised;
  - (h) development within close proximity to existing or future public passenger transport facilities supports an integrated approach to land use and transport integration;
  - (i) development provides adequate on site vehicular access and adequate parking and servicing facilities for vehicles and parking facilities for bicycles;

- (j) access, parking, servicing and associated manoeuvring areas are designed to be safe, functional and meet the reasonable demands generated by the development;
- (k) provision of safe and non-discriminatory public and pedestrian access is provided;
- (l) works in public streets and spaces enhance the pedestrian amenity and improve streetscape appearance;
- (m) earthwork does not impact adversely on the amenity of the site or the surrounding area and does not result in increased flooding, drainage and soil erosions problems on upstream and downstream property; and
- (n) development provides for the storage of generated waste in an environmentally acceptable manner and waste storage facilities are functionally appropriate for users of the facilities.

### 8.3.1.3 Specific benchmarks for assessment

**Table 8.3.1.3(a) — Accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Applicants response
<b>Utility infrastructure and services</b>		
<p><b>PO1</b> Development is serviced by an adequate, safe and reliable supply of potable and general use water, connected to reticulated water supply where possible.</p>	<p><b>AO1</b> Development is: (a) connected to Council’s reticulated water supply network, including the installation of easily accessed water meters, in accordance with the <i>Development works Town plan policy</i>; or (b) if connection to Council’s reticulated water supply network is not possible, a potable on site water supply is provided in accordance with the <i>Development works Town plan policy</i>.</p>	<p><b>Complies</b> The development will be connected to the reticulated water supply network.</p>
<p><b>PO2</b> Development is serviced by appropriate waste water disposal infrastructure which ensures: (a) no adverse ecological impacts on the receiving environment; (b) cumulative impacts of onsite waste water treatment are considered in assessing the likely environmental impacts; (c) public health is maintained;</p>	<p><b>AO2</b> Development is: (a) connected to Council’s reticulated sewerage treatment system, in accordance with the <i>Development works Town plan policy</i>; or (b) if connection to Council’s reticulated sewerage treatment system is not possible, waste water is treated in accordance with <i>Development works Town Plan Policy</i>.</p>	<p><b>Complies</b> The development will be connected to the reticulated sewerage treatment system.</p>

Performance outcomes	Acceptable outcomes	Applicants response
<p>(d) the location, site area, soil type and topography is suitable for on site waste water treatment; and</p> <p>(e) the reuse of waste water does not contaminate any surface water or ground water.</p>		
<p><b>PO3</b> Electricity supply network and telecommunication service connections are provided to the site and are connected.</p>	<p><b>AO3.1</b> The development is connected to electricity and telecommunications infrastructure in accordance with the standards of the relevant regulatory authority prior to the commencement of any use of the site.</p>	<p><b>Complies</b> The development will be connected to electricity and telecommunications infrastructure.</p>
	<p><b>AO3.2</b> Where not included in the development, provision is made for future telecommunications services (such as fibre optic cable) in accordance with the standards of the relevant regulatory authority.</p>	<p><b>Complies</b> Provision can be made for future telecommunications services where required.</p>
<p><b>Stormwater management</b> Editor's note–Refer also to the Stormwater management design objectives in the State planning policy.</p>		
<p><b>PO4</b> Stormwater management is designed and operated to ensure that adjoining land and upstream and downstream areas are not adversely affected through any ponding or changes in flows: (a) ensure that adjoining land and upstream and downstream areas are not adversely affected through any ponding or changes in flows; and (b) direct stormwater to a lawful point of discharge through competently designed and constructed outlet works in a manner that reflects the predevelopment status. Editor's note– Stormwater quality must meet the design</p>	<p><b>AO4.1</b> Development does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.</p>	<p><b>Complies</b> The development will not result in an increase in flood level and has been designed to provide a no worsening condition. A Site Based Stormwater Management Plan has been prepared to ensure stormwater in managed appropriately, and is provided in Appendix G.</p>
	<p><b>AO4.2</b> Stormwater (including roof and surface water) is conveyed to the kerb and channel or other lawful point of discharge in accordance with the requirements of the <i>Development works Town plan policy</i>.</p>	<p><b>Complies</b> The development will not result in an increase in flood level and has been designed to provide a no worsening condition. A Site Based Stormwater Management Plan has been prepared to ensure stormwater in managed appropriately, and is provided in Appendix G.</p>

objectives within the <i>Development works Town plan policy</i> .	<b>AO4.3</b> Stormwater runoff from all impervious areas (roof, pavements, etc) are not permitted to flow or discharge over adjoining properties.	<b>Complies</b> The development will not result in an increase in flood level and has been designed to provide a no worsening condition. A Site Based Stormwater Management Plan has been prepared to ensure stormwater in managed appropriately, and is provided in Appendix G.
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<b>Earthworks</b>		
<b>PO5</b> Earthworks are undertaken in a manner that: (a) prevents any worsening of soil erosion or water quality on the site, any adjoining land, or land upstream or downstream of the site; (b) produces stable landforms and structures; (c) maintain natural landforms where possible; (d) minimise the height of any batter faces; (e) does not unduly impact on the amenity or privacy for occupants of the site or on adjoining land or on the amenity of the streetscape; (f) does not result in the contamination of land or water; and (g) avoids risk to people and property.	<b>AO5.1</b> Earthworks comply with the <i>Development works Town plan policy</i> .	<b>Complies</b> Any earthworks required to facilitate the development will comply with the Development work Town plan policy.
	<b>AO5.2</b> The extent of filling or excavation does not exceed 40% of the site area or 500m <sup>2</sup> , whichever is lesser.	<b>Complies</b> The extent of filling and excavation is not expected to exceed 500m <sup>2</sup> of the site area.
	<b>AO5.3</b> Excavating or filling is no greater than 1m in height or depth.	<b>Complies</b> Any filling or excavation will not be greater than 1m in height or depth.
	<b>AO5.4</b> Batters have a maximum slope of 25%, are terraced at every rise of 1.5m and each terrace has a depth of 0.75m.	<b>Complies</b> No batters have been proposed as part of the development.
	<b>AO5.5</b> No contaminated material is used as fill.	<b>Complies</b> No contaminated material will be used as fill and this can be conditioned.
<b>PO6</b> Retaining walls are designed to minimise visual impact through: (a) setbacks from any boundary; and (b) being stepped or terraced to accommodate landscaping.	<b>AO6.1</b> The combined height of any retaining walls and fences does not exceed 2m.	<b>Complies</b> The development does not include a combined retaining wall and fence exceeding 2m.
	<b>AO6.2</b> A retaining wall is set back at least half the height of the wall from any boundary of the site.	<b>Complies</b> The development does not include retaining walls along the boundaries of the site.
	<b>AO6.3</b> Retaining walls over 1.5m are stepped 0.75m for every 1.5m in height, terraced and landscaped.	<b>Complies</b> The development does not include any retaining walls exceeding 1.5m in height.

	<p><b>A06.4</b> Design and construction of retaining walls over 1m in height are certified by a Registered Professional Engineer of Queensland.</p>	<p><b>Complies</b> The development does not include retaining walls over 1m in height.</p>
<p><b>P07</b> The excavation, filling or laying of pipes within the vicinity of electricity supply infrastructure must not create damage or hazard.</p> <p>Editor's note—Development involving filling, excavation or laying of metal pipes on land contiguous to electricity</p>	<p><b>A07.1</b> Excavation or filling does not occur within: (a) 10m of any tower, pole, foundation, ground anchorage or stay supporting electric lines or associated equipment; (b) 5m of a substation site boundary; (c) 2m of a padmount substation; or</p>	<p><b>Complies</b> Any filling or excavation will not occur near any infrastructure.</p>
<p>supply infrastructure should be referred to the relevant electricity entity for safety advice on the proposed development.</p>	<p>(d) 1m of a padmount transformer or an underground cable.</p>	
	<p><b>A07.2</b> The laying of metal pipes does not occur within: (a) 5m of any pole, tower, foundation, ground anchorage or stay supporting electric lines or associated equipment; (b) 15m of any substation site boundary; or (c) 5m of, and parallel to, an electric line shadow.</p>	<p><b>Complies</b> The laying of any pipes will not occur near any electricity infrastructure.</p>
<b>Parking and access</b>		
<p><b>P08</b> Development includes the provision of adequate and convenient car parking on site to satisfy the anticipated requirements of the land use or activity.</p>	<p><b>A08</b> Car parking is provided in accordance with Table 8.3.1.3(b)—Car parking requirements.</p>	<p><b>Complies</b> Car parking has been provided in accordance with Table 8.3.1.3(b).</p>
<p><b>P09</b> Development provides end of trip facilities for people engaging in active transport (bicycle and pedestrian): (a) to meet the needs of users and promote active modes of travel; (b) at convenient, easily identifiable, safe locations; and (c) in locations that do not obstruct vehicular, bicycle or pedestrian movement paths.</p>	<p><b>A09</b> Development provides cycling and pedestrian end of trip facilities, in accordance with the requirements of the <i>Development works Town plan policy</i>.</p>	<p><b>Complies</b> The proposed development has been designed to encourage cycling and pedestrians to the site with the ancillary office including shower facilities. Bike racks can be conditioned it deemed necessary, however the intent is to have them stored in the warehouse, away from view from the street.</p>

<p><b>PO10</b> Access driveways are designed and constructed to:</p> <ul style="list-style-type: none"> <li>(a) provide convenient access to the site and maintain the safety and efficiency of the road;</li> <li>(b) minimise conflicts with traffic and pedestrians; and</li> <li>(c) are constructed to a standard that is appropriate to the location and to meet the anticipated volume and type of traffic.</li> </ul>	<p><b>AO10.1</b> Access driveways are designed and constructed in accordance with the relevant <i>Development works Town plan policy</i>.</p> <p><b>AO10.2</b> Access driveways allow vehicles (with the exception of Dwelling house and Dual occupancy) to enter and exit the site in a forward gear.</p>	<p><b>Complies</b> Access to the site has been provided off Norman Dungavell Drive and has been designed in accordance with Development works Town plan policy and the Department of Transport and Main Roads standards, and this can be conditioned as part of any approval.</p> <p><b>Complies</b> As shown on the proposal plans and in the Traffic Impact Assessment, access to the site will occur through the southernmost crossover, and exit through the northernmost access, to allow forward gear maneuvering.</p>
<p><b>PO11</b> Vehicle movement areas (including internal driveways, access aisles, maneuvering areas, car parks and service bays) are designed to ensure:</p> <ul style="list-style-type: none"> <li>(a) a gradient appropriate for the type of vehicles;</li> <li>(b) effective stormwater drainage;</li> <li>(c) clearly marked and signed spaces;</li> <li>(d) convenience and safety for drivers and pedestrians; and</li> <li>(e) adequate dimensions to meet user requirements, including access and egress for emergency vehicles.</li> </ul>	<p><b>AO11</b> Maneuvering, queuing, loading and unloading areas, and parking areas are:</p> <ul style="list-style-type: none"> <li>(a) designed and constructed in accordance with the Development works Town plan policy; and</li> <li>(b) certified by a Registered Professional Engineer of Queensland.</li> </ul>	<p><b>Complies</b> The development has been designed in accordance with the Development works Town plan policy for maneuvering and parking areas.</p>
<p><b>PO12</b> Footpaths in the road reserve are provided along all road frontages and are paved in durable and stable materials matching any adjacent development footpaths.</p>	<p><b>AO12</b> Footpaths are:</p> <ul style="list-style-type: none"> <li>(a) provided for the full width and length of all road frontages;</li> <li>(b) designed and constructed in accordance with the requirements of the Development works Town plan policy; and</li> <li>(c) certified by a Registered Professional Engineer of Queensland.</li> </ul>	<p><b>Can comply if deemed necessary</b> Given the locality and the State asset of Norman Dungavell Drive, a footpath along the frontage is deemed unnecessary. However, if the State require a footpath, they can condition this accordingly.</p>

<p><b>PO13</b> Pedestrian access to buildings: (a) do not obstruct pedestrian movement (or form physical clutter) on public footpaths; (b) are not visually overbearing (or form visual clutter) in the streetscape; and (c) provide safe, efficient and convenient access including wheelchair access.</p>	<p><b>AO13</b> Steps, escalators, ramps and lifts are: (a) located wholly within the site; and (b) setback a minimum of 1.5m from the front boundary.</p>	<p><b>Not applicable</b> The development does not include steps, escalators, ramps and lifts.</p>
<p><b>Acoustic and air quality</b></p>		
<p><b>PO14</b> Development minimises potential conflicts with, or impacts on, other uses having regard to vibration, odour, dust or other emissions.</p>	<p><b>AO14</b> Development achieves the air quality design objectives set out in the <i>Environmental Protection (Air) Policy 2008, as amended</i>.  Editor's note—To achieve compliance, development is planned, designed and managed to ensure emissions from</p>	<p><b>Complies</b> The development can comply with the suitable air quality objectives.</p>
	<p>activities achieve the appropriate acoustic objectives (measured at the receptor dB(A)).</p>	
<p><b>PO15</b> Development prevents or minimises the generation of any noise so that: (a) nuisance is not caused to adjoining premises or other nearby sensitive land uses; and (b) desired ambient noise levels in residential areas are not exceeded.</p>	<p><b>AO15</b> Development achieves the noise generation levels set out in the <i>Environmental Protection (Noise) Policy 2008, as amended</i>.</p>	<p><b>Complies</b> The development can comply with the noise levels</p>
<p><b>PO16</b> Development adjacent to State controlled roads or Council controlled arterial road minimise nuisance caused by noise, vibration and dust emissions.</p>	<p><b>AO16</b> Development complies with the requirements of the Department Main Roads - Road Traffic Noise Management Code of Practice and the <i>Environmental Protection (Noise) Policy 2008</i>.</p>	<p><b>Complies</b> The development can comply with the State noise criteria</p>
<p><b>Lighting</b></p>		
<p><b>PO17</b> External lighting is provided in urban areas to ensure a safe environment.</p>	<p><b>AO17</b> Technical parameters, design, installation, operation and maintenance of outdoor lighting complies with the requirements of AS4282 – <i>Control of the Obtrusive Effects of Outdoor Lighting</i>.</p>	<p><b>Complies</b> External lighting will be provided and this can be conditioned as part of any development approval.</p>
<p><b>Waste management</b></p>		

<p><b>PO18</b> Development: (a) minimises waste generation (including construction, demolition and operational waste); and (b) provides adequate facilities on site for the storage of waste and recyclables.</p>	<p><b>AO18</b> Waste storage and management arrangements are sited, screened and designed in accordance with the <i>Development works Town plan policy</i>.</p>	<p><b>Complies</b> The development will provide suitable waste storage and management for an industry use in accordance with the Development works Town plan policy.</p>
<p><b>PO19</b> Development is designed to allow for safe and efficient servicing of waste and recycling containers through: (a) a development layout that facilitates direct and unobstructed servicing of waste and recycling containers; and</p>	<p><b>AO19</b> Waste and recycling collection services are provided in accordance with the <i>Development works Town plan policy</i>.</p>	<p><b>Complies</b> Waste and recycling collection services are provided in accordance with the Development works Town plan policy and this can be conditioned as part of the development approval.</p>
<p>(b) minimising the potential for nuisances to be caused by way of noise and odour.</p>		

### **7.2.3 Heritage overlay code**

#### **7.2.3.1 Application**

This code applies to development where the code is identified as applicable in the applicable categories of assessment and development for the Heritage overlay code and applies to any areas identified on Heritage overlay map OM4.

When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

#### **7.2.3.2 Purpose**

- (1) The purpose of the Heritage overlay code is to ensure:
  - (a) local cultural heritage places throughout the Charters Towers region are conserved for present and future generations;
  - (b) development is compatible with the cultural heritage significance of the local heritage place; and
  - (c) any development and works undertaken is consistent with the Burra Charter.
- (2) For buildings, local heritage places are characterised by the following features:
  - (a) commercial buildings with no setbacks to the street, post supported awnings along the street frontages, pedestrian entries from the street, predominately glass Shop fronts to the street, unobtrusive signage and a scale consistent with late nineteenth century architecture;
  - (b) residential detached dwellings of “timber and iron” style set in a large yard with mature trees, with a dominant roof form, the use of corrugated iron, elevated on timber stumps and the use of verandahs.
- (3) The purpose of the code will be achieved through the following overall outcomes:
  - (a) the cultural heritage significance of the Charters Towers region’s local heritage places is maintained and protected;
  - (b) local heritage places are protected from inappropriate removal and demolition unless there are no adverse impact on the heritage significance of that place or there is an unacceptable human safety risk;
  - (c) the re-use and adaption of local heritage places is supported where development is compatible to the heritage significance of the place;
  - (d) archaeological features and artefacts are identified and appropriately managed;
  - (e) development within a Local Heritage place including signage is visually subservient to the heritage place and does not impact on its cultural heritage significance.

Editor’s note—A site specific heritage impact assessment is required to demonstrate compliance with various aspects of this overlay code. Refer also to the Heritage Town plan policy.

### 7.2.3.3 Specific benchmarks for assessment

**Table 7.2.3.3 — Accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Applicants Response
<b>Operational work where an Advertising device</b>		
<p><b>PO1</b> The visual appearance of advertising devices and signage: (a) is unobtrusive and does not dominate the building or streetscape; and (b) protects the historic character of the local cultural heritage place.</p>	<p><b>AO1</b> Signage and advertising devices comply with the section 4.3.3 of the Heritage Town plan policy.</p>	<p><b>Not Applicable</b> The development does not include operational works for an advertising device.</p>
<b>Demolition or removal within a Local heritage place</b>		
<p><b>PO2</b> Any demolition must: (a) not result in the loss of the cultural heritage significance of the heritage place; or (b) demonstrate the building or structure to be demolished is not capable of structural repair and represents a safety hazard; or (c) ensure that part of the local heritage place is not of cultural heritage significance.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not Applicable</b> The development does not intent to demolish or remove a local heritage place.</p>
<b>Development within a Local heritage place</b>		
<p><b>PO3</b> Development is compatible with the conservation and management of the cultural heritage significance of the Local heritage place.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Complies</b> The proposed development has been designed to ensure it is compatible with the heritage of the site. In particular, the heritage tanks have been maintained and the development has designed around them at a scale appropriate.</p>
<p><b>PO4</b> Development does not adversely affect the heritage significance of the heritage place and is compatible with its heritage values including: (a) maintaining views to and from the heritage place where significant; (b) consistency with the character, setbacks, setting</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Complies</b> The proposed development has been designed to ensure it is compatible with the heritage of the site. In particular, the heritage tanks have been maintained and the development has designed around them at a scale appropriate.</p>

<p>or appearance of the heritage place;  (c) minimising for overshadowing on to the heritage place;  (d) avoiding altering, removing or concealing significant heritage features;  (e) avoiding the removal of significant established trees and vegetation; and  (f) consistency with open space and landscaping features.</p>		
<p><b>PO5</b>  Any reconfiguring a lot:  (a) does not diminish the cultural significance of the local heritage place including maintaining its historical context, landscape settings and consistency with the prevailing built environment;  (b) reflects the pattern and layout of the original subdivision in the area; and  (c) does not reduce public access to the local heritage place.</p>	No acceptable outcome is nominated.	<p><b>Not Applicable</b>  The development does not include reconfiguring a lot.</p>
<p><b>Carrying out building work (where not demolition), operational work or other works within a Local heritage place</b></p>		
<p><b>PO6</b>  Building work incorporates design elements which are compatible with the values of the heritage place in terms of:  (a) architectural features;  (b) external materials; and  (c) finishes and colours.</p>	No acceptable outcome is nominated.	<p><b>Complies</b>  The proposed development has been designed to ensure it is compatible with the heritage of the site. In particular, the heritage tanks have been maintained and the development has been designed around them at a scale appropriate.</p>
<p><b>PO7</b>  Excavation or other earthworks do not create an adverse impact on archaeological and heritage values of the local heritage place.</p>	No acceptable outcome is nominated.	<p><b>Complies</b>  Any proposed excavation or earthworks will ensure appropriate measures are in place to preserve the local heritage of the site.</p>
<p><b>PO8</b>  Any new fencing, landscaping, access or car parking arrangements are designed and sited in a manner that:  (a) does not have a detrimental impact on the</p>	No acceptable outcome is nominated.	<p><b>Complies</b>  The proposed fencing, landscaping and carparking has been designed and will be provided to ensure the local heritage is preserved.</p>

<p>significant values or views of the place;  (b) enhances the overall appearance of the local heritage place; and  (c) is sensitive to materials, colours, scale, placement and layout of the place.</p>		
<b>Archaeology</b>		
<p><b>PO9</b>  Development does not adversely impact on known or potential archaeological deposits.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Complies</b>  The development will ensure appropriate measures are in place to preserve the local heritage of the site.</p>
<b>General</b>		
<p><b>PO10</b>  Any changes as a result of development and associated works to a Local heritage place, are appropriately managed and documented.</p>	<p><b>AO10</b>  Development is compatible with a Conservation management plan prepared in accordance with the Australia ICOMOS Charter for Places of Cultural Heritage Significance.  Editor's note—An archival quality photographic record is made of the features of the place that are impacted because of the development.</p>	<p><b>Complies</b>  The proposed development does not intent to disturb the local heritage significance of the site.</p>

## **7.2.5 Regional infrastructure overlay code**

### **7.2.5.1 Application**

This code applies to development where the code is identified as applicable in the categories of development and assessment for the Regional infrastructure overlay and applies to any areas identified on Regional infrastructure corridor overlay map OM6.

When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

### **7.2.5.2 Purpose**

(1) The purpose of the Regional infrastructure overlay code is to:

- (a) protect regionally significant infrastructure including the Tabletop en-route or secondary radar, Very high frequency communication facilities and Satellite ground station aviation facilities from nearby development that is sensitive to, or creates a risk for the infrastructure; and
- (b) protect nearby development from the potential impacts of the regionally significant infrastructure.

(2) The purpose of the code will be achieved through the following overall outcomes:

- (a) effective separation and interface treatment is provided to major infrastructure sites and corridors to avoid risk to people and property and to minimise noise, odour and visual impacts;
- (b) easy access is provided to and along major infrastructure sites and corridors;
- (c) development does not compromise the safe and efficient operation, maintenance or expansion of major infrastructure;
- (d) existing and planned regional infrastructure facilities and corridors are protected from encroachment by sensitive land uses or incompatible development;
- (e) development does not create any threat to the provision of a safe and reliable supply of services and infrastructure to all users, and avoids any potential interference with the ongoing operation, maintenance and augmentation of the services and infrastructure;
- (f) development does not increase the potential for safety concerns, nuisance and complaints and minimises the need for measures to be introduced in the operation of the infrastructure to reduce potential impacts on surrounding areas; and
- (g) development minimises overlooking of and visual exposure to the infrastructure sites and corridors.

### 7.2.5.3 Specific benchmarks for assessment

**Table 7.2.5.3 — Assessable development**

Performance outcomes	Acceptable outcomes	Applicants Response
<b>General</b>		
<b>PO1</b> Development does not increase risk to community health or safety, or the operation and reliability of major regional infrastructure.	No acceptable outcome is nominated.	<b>Complies</b> The proposed development has been carefully designed to ensure it does not increase risk to major regional infrastructure.
<b>PO2</b> Development involving a sensitive land use is sufficiently separated from major infrastructure to: <ul style="list-style-type: none"> <li>(a) ensure community safety;</li> <li>(b) minimise the likelihood of nuisance or complaint; and</li> <li>(c) is located, designed and constructed to protect the integrity of the major infrastructure; and</li> <li>(d) maintains adequate access for any required maintenance or upgrading of the major infrastructure.</li> </ul>	<b>A02</b> Sensitive land uses maintain a setback of at least: <ul style="list-style-type: none"> <li>(a) 50m from a transmission substation;</li> <li>(b) 20m from any other substation;</li> <li>(c) 40m from a Powerlink high voltage corridor;</li> <li>(d) 20m from bulk water storage infrastructure;</li> <li>(e) 30m from a transmission line equal or greater than 66kV (identified as a major electricity infrastructure on OM6).</li> </ul>	<b>Not applicable</b> The proposed development is not a sensitive land use.
<b>PO3</b> Other than where they are separated from the infrastructure by a road, buildings are oriented to avoid direct overlooking of major infrastructure or corridors.	No acceptable outcome is nominated.	<b>Complies</b> The proposed development has been designed to not overlook major infrastructure .
<b>PO4</b> Major infrastructure within private land is protected by easement in favour of the service provider.	<b>A04</b> Existing easements are maintained and where none currently exist, new easements are created which are sufficient for the provider’s requirements.	<b>Not applicable</b> Major infrastructure is not on private land.
<b>PO5</b> Where in the building restriction area, development (including any associated permanent or temporary structures landscaping) does not obstruct a clear line of sight between the Tabletop en-route or secondary radar, Very high frequency communication facilities and Satellite ground station aviation facilities and associated communication satellites.	<b>A05</b> Where in the building restriction area, development (including any associated permanent or temporary structures landscaping) does not exceed 12m in building height.	<b>Not applicable</b> The proposed development is not in the building restriction area.
<b>Electricity infrastructure (including substations)</b>		

<p><b>PO6</b> Where major electricity infrastructure is located within public open space, the dimensions and characteristics of the open space area are sufficient to accommodate the electricity easement, in combination with compatible recreational facilities and landscaping, so that:</p> <p>(a) it has an open and expansive character, with landscape design which assists in breaking up the linear and vertical dominance of the infrastructure;</p> <p>(b) landscaping is located outside the easement area and substantively screens and softens the appearance of poles, towers or other structures; and</p> <p>(c) recreational facilities and landscaping are compatible with the electricity infrastructure, having regard to safety, height, the conductivity of materials and access to the electricity infrastructure by the electricity provider.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not applicable</b> The proposed development is not within electricity infrastructure.</p>
<p><b>PO7</b> Where major electricity infrastructure is located in a road:</p> <p>(a) an attractive, functional and safe streetscape is achieved;</p> <p>(b) street furniture, planting and lighting are compatible with the electricity infrastructure, having regard to safety, height and the conductivity of materials;</p> <p>(c) the reserve has sufficient width to accommodate significant landscaping which assists in screening and softening poles, towers or other structures and equipment from nearby sensitive land uses;</p> <p>(d) the clearances required under schedules 4 and 5 of the Electrical Safety Regulations 2002 can be achieved; and</p> <p>(e) convenient access to the infrastructure by the electricity provider is maintained.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not applicable</b> The proposed development is not within electricity infrastructure.</p>

<p><b>PO8</b> Development avoids potential noise nuisance from electricity substations.</p>	<p><b>A08</b> Noise emissions do not exceed 5db(A) above background noise level at the facia of a building measured in accordance with AS 1055 Acoustics – description and measurement of environmental noise.</p>	<p><b>Not applicable</b> The proposed development is not within electricity infrastructure.</p>
<p><b>PO9</b> There is sufficient space within the site to establish landscaping which substantively assists in screening and softening poles, towers or other structures and equipment associated with major electricity infrastructure and substations.</p>	<p><b>A09</b> A minimum 3m wide densely planted landscaped buffer is provided along the boundary adjoining the major electricity infrastructure, including provision for advanced trees and shrubs that will grow to a minimum height of 10m.</p>	<p><b>Not applicable</b> The proposed development is not within electricity infrastructure.</p>
<p><b>Reconfiguring a lot</b></p>		
<p><b>PO10</b> Reconfiguration of lots does not compromise or adversely impact upon the efficiency, functionality and integrity of major infrastructure and services networks.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not Applicable</b> The development does not include reconfiguring a lot.</p>
<p><b>PO11</b> Lot reconfiguration integrates major infrastructure sites and corridors within the overall layout. Layout and design: (a) ensures land of sufficient size and suitability is allocated to accommodate the existing and future major infrastructure networks; (b) as far as possible, minimises the likely (c) provides for an interface to surrounding uses that minimises the potential for nuisance (including noise and odour), health and safety concerns</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not Applicable</b> The development does not include reconfiguring a lot.</p>
<p><b>PO12</b> Where the reconfiguration involves major electricity infrastructure corridor, the corridor is incorporated within a useable public open space network wherever possible.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not Applicable</b> The development does not include reconfiguring a lot.</p>
<p><b>Operational works</b></p>		

<p><b>PO13</b> Development within a bulk water storage area is located, designed and constructed to: (a) protect the integrity of the water supply infrastructure; and (b) maintains adequate access for any required maintenance or upgrading work to the water supply infrastructure.</p>	<p><b>AO13</b> Development does not involve works within a bulk water storage infrastructure corridor.</p>	<p><b>Not Applicable</b> The development does not include operational works.</p>
<p><b>PO14</b> Earthworks do not restrict access to major electricity infrastructure by the electricity providers, using their normal vehicles and equipment.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not Applicable</b> The development does not include operational works.</p>
<p><b>PO15</b> There is no worsening of flooding, drainage or erosion conditions affecting regional infrastructure.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not Applicable</b> The development does not include operational works.</p>
<p><b>PO16</b> Development maintains the clearances required under schedules 4 and 5 of the Electrical Safety Regulations 2002.</p>	<p>No acceptable outcome is nominated.</p>	<p><b>Not Applicable</b> The development does not include operational works.</p>
<p><b>PO17</b> Earthworks are undertaken in a way which: (a) ensures stability of the land on or adjoining electricity infrastructure; (b) does not otherwise impact on the safety and reliability of the electricity infrastructure; and (c) does not restrict the placement or use of the electricity provider's equipment.</p>	<p><b>AO17.1</b> No earthworks are undertaken: (a) for overhead transmission infrastructure, within 20m of a transmission tower or pole; or (b) for overhead distribution infrastructure, within 10m of a tower, pole or stay; or (c) for substations, within 10m of a property boundary shared with the substation.</p> <p><b>AO17.2</b> No earthworks are undertaken, or other loading or displacement of earth caused, within the easement of an underground power line.</p>	<p><b>Not Applicable</b> The development does not include operational works.</p>
<p><b>PO18</b> Other services and infrastructure works (such as stormwater, sewerage, water and the like) do not impact on the safety and reliability of electricity infrastructure.</p>	<p><b>AO18.1</b> Underground services are not located within 20m of a tower, pole, stay or substation boundary.</p> <p><b>AO18.2</b></p>	<p><b>Not Applicable</b> The development does not include operational works.</p>

	<p>No valve pits occur within:  (a) for transmission infrastructure, 60m of a tower, pole or stay; or  (b) for distribution infrastructure, 20m of a tower, pole or stay</p> <p><b>AO18.3</b>  Pipelines with cathodic protection systems, comply with part 11 of the Electrical Safety Regulation 2013.</p> <p><b>AO18.4</b>  Underground services traversing an easement, cross at right angles to the overhead or underground lines.</p> <p><b>AO18.5</b>  Trenches for services are backfilled to be compacted in 150mm layers to at least 95% modified dry density compaction ratio.</p> <p><b>AO18.6</b>  Trenches under construction are not left open overnight.</p>	
<p><b>PO19</b>  Vegetation does not pose a risk to the safety or reliability of electricity infrastructure.</p>	<p><b>AO19.1</b>  Vegetation planted within an easement of an overhead powerline or, where there is no easement, the area of influence of a powerline has a mature height of no more than 3.5 metres.</p> <p><b>AO19.2</b>  Vegetation planted within an underground powerline easement does not have a mature root system in &gt;150mm depth and is not located directly over the powerline.</p> <p><b>AO19.3</b></p>	<p><b>Not Applicable</b>  The development does not include operational works.</p>

	<p>Vegetation adjoining easements complies with the clearance dimensions illustrated in the figure below.</p> <p><b>AO19.4</b> Planting complies with (as relevant to the infrastructure concerned): (a) Energex's Safe Tree Guidelines; or (b) Ergon's Plant Smart brochures; or (c) Powerlink's Screening Your Home from Powerlines information sheet and Property and Easements / Landowner information sheets).</p>	
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