

NORTH MACLEAN FACTORY OUTLETS & DISTRIBUTION CENTRE

INDUSTRY AND BUSINESS ZONE
(Lot 3, 4, 5 and 6 on RP137101)

PLAN OF DEVELOPMENT

PREPARED BY URBIS FOR ROUBAIX PROPERTIES PTY LTD
SEPTEMBER 2024



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1. EXPLANATORY CONTENT

1.1. PLAN OF DEVELOPMENT PURPOSE

This Plan of Development (PoD) has been prepared in accordance with the requirements of the Greater Flagstone Urban Development Area (UDA) Development Scheme (endorsed on 8 October 2011).

The *Greater Flagstone Urban Development Area Development Scheme* ('the **Development Scheme**') (endorsed October 2011) sets the vision for this locality as accommodating industrial activities including, but not limited to, low and medium impact industry, research and technological industries, and service industry activities.

This PoD describes the development that may proceed where generally in accordance with the relevant approved documents and assessment criteria.

1.2. LAND TO WHICH THIS POD RELATES

This PoD relates to part of the land within the Greater Flagstone UDA, specifically over Lot 3, 4, 5 and 6 on RP137101 within the North Maclean industry and business zone, as indicated in **Figure 1**. It is noted that infrastructure servicing required for land within this PoD, which sits outside the boundaries of the land identified in Figure 1.

1.3. INTEPRETATION

Terms used in this PoD have the meaning assigned by the *Economic Development Act 2012* ('**ED Act**') and the Development Scheme.

If there are any inconsistencies between the definitions in these documents, the inconsistency is to be resolved by using the definitions contained in the documents in the following order:

- a) The definitions contained in this PoD;
- b) Any executed infrastructure agreement under Section 97 of the ED Act;
- c) The Greater Flagstone UDA Development Scheme; then
- d) The ED Act.

Figure 1 – Land to which this PoD relates



Source: Nearmap, 2024

1.4. RELATIONSHIPS TO OTHER LEGISLATION

A local categorising instrument only applies to the extent it is specified throughout this PoD. Local categorising instruments include temporary local planning instruments.

1.5. EXPLANATION OF PLAN OF DEVELOPMENT STRUCTURE AND ASSESSMENT PROCESSES

This PoD consists of the components outlined by the following table:

Table 1 – Plan of Development Structure

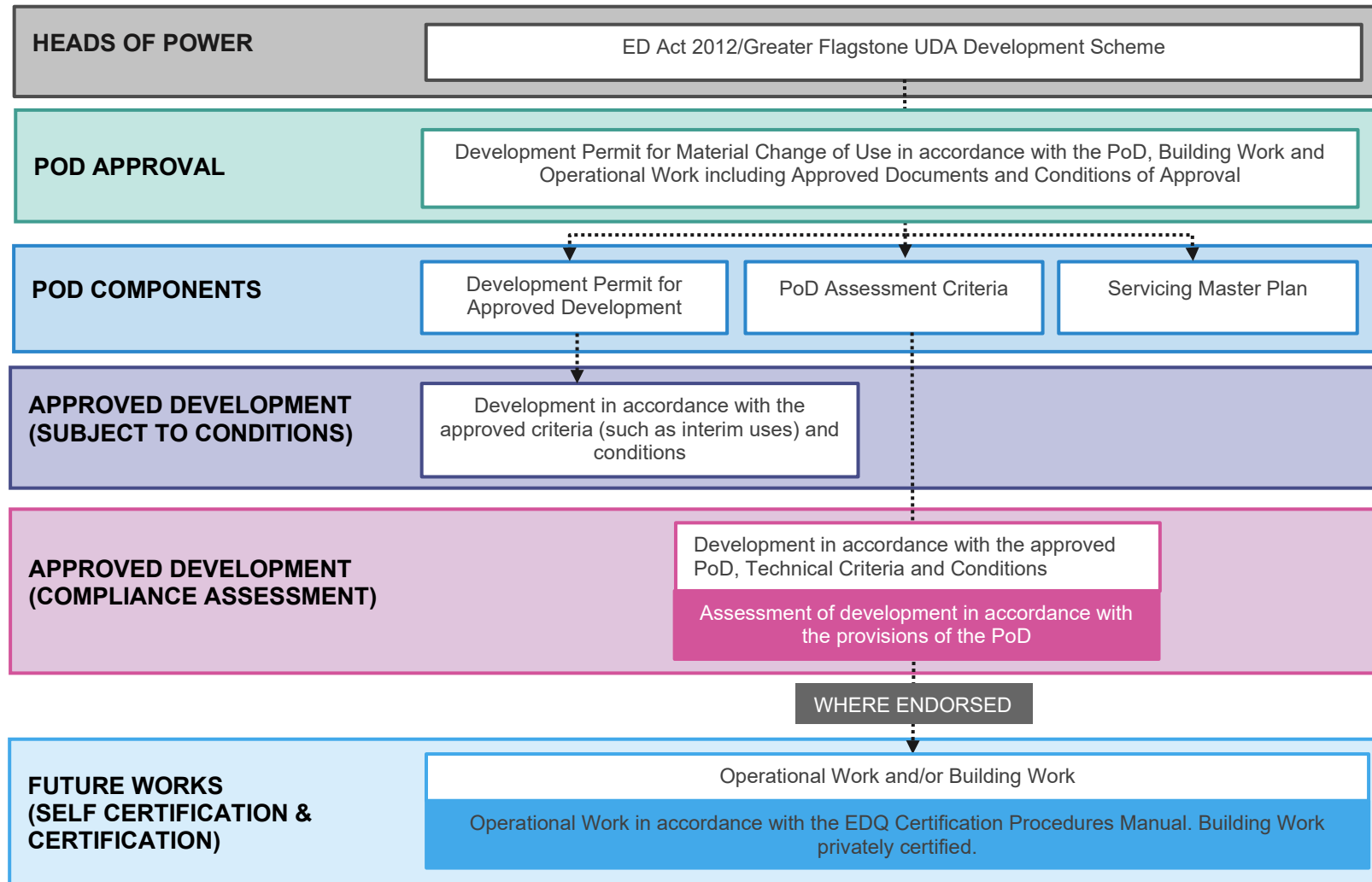
Section		Explanation
Provides context and understanding of the PoD and how it is to be used.	Section 1 Explanatory Content	This section includes general explanatory content regarding the site and how the PoD document is used, including: ▪ Plan of Development purpose; ▪ Land to which this PoD relates; ▪ Rules for interpretation; ▪ The relationship of this PoD to other legislation.
Providing development criteria and plans that form the statutory element of the PoD	Section 2 Approved Development	This section outlines how and what is determined as Exempt Development and may proceed to operational works and building works approvals.
	Section 3 Compliance Assessment	This section outlines all development that can be considered through compliance assessment. This section specifies particular land uses and the criteria that are to be used in the compliance assessment process.

Source: Urbis

1.6. OVERALL OPERATION OF THIS POD AND RELATIONSHIP TO OTHER APPROAVLS

This PoD forms the overall approval framework relevant to development within the land identified in Figure 1 above. The relationship of this PoD to other approvals or statutory obligations is outlined in Figure 2.

Figure 2 - PoD Relationships and Operational Overview



Source: Urbis

2. APPROVED DEVELOPMENT (NO FURTHER ASSESSMENT)

In accordance with section 3.1.3 of the Development Scheme, development that is exempt from further assessment is specified in Table 2 – Levels of Assessment, Column 1 – Exempt Development where located 'In the Industry and business zone'. Additionally, PDA-wide Exempt Development provided in Schedule 1 of the Development Scheme also applies to development carried out under this PoD.

The provisions of the relevant tables have been reproduced and referenced below in **Table 2**.

2.1. MATERIAL CHANGE OF USE

Table 2 – Exempt development

In the industry and business zone
1. An environmentally relevant activity if; (i) a code of environmental compliance has been made for that activity under the Environmental Protection Regulation 2008, and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register; (i) Development specified in Schedule 1 of the Development Scheme; (ii) Making a material change of use where complying with the car parking rates in the planning scheme¹ and not involving building work (other than minor building work) or operational work for: (a) Emergency services (b) Low impact industry (c) Research and technology industry (d) Service industry (e) Showroom (f) Warehouse.

¹ Refer to Beaudesert Shire Planning Scheme 2007, Chapter 5, Part 3, Division 5 Parking and Servicing Code

3. APPROVED DEVELOPMENT (COMPLIANCE ASSESSMENT)

This section of the PoD provides the Design Criteria for Approved Development (Compliance Assessment) for development under the process outlined in Section 1 of the Explanatory Content to this PoD.

Approved Development (Compliance Assessment) is development identified in this section of the PoD which may occur if the development is endorsed through Compliance Assessment as generally in accordance with the Specific Design Criteria set out in the following section.

3.1. DEVELOPMENT SUBJECT TO COMPLIANCE ASSESSMENT

The uses that comprise Approved Development subject to Compliance Assessment are outlined in **Table 3** below and defined in Section 4.

Table 3 - Development Subject to Compliance Assessment

DEVELOPMENT
Development Subject to Compliance Assessment
Material Change of Use:
Emergency services
Low impact industry
Medium impact industry
Research and technology industry
Service industry
Showroom
Warehouse

Source: Urbis



3.2. SPECIFIC DESIGN CRITERIA

Applications for Compliance Assessment are required to be assessed against and fulfill the Design Standards identified in this section for uses identified in Section 3.1.

Future development must be in accordance with the overall Plan of Development layout and must not compromise the delivery of trunk infrastructure as shown in the Servicing Master Plan.

3.2.1. Material Change of Use

Table 4 - Design Standards

ELEMENT	DESIGN STANDARD
BUILT FORM	DS1 For all development (excluding Advertising Devices or structures required for specific industrial processes), building height does not exceed 15m.
	DS2 Site cover does not exceed 80%.
	DS3 The minimum setback from the outermost projection is to be in accordance with Table 5 – Minimum setback requirements .
	DS4 All plant and equipment areas are suitably screened from view from adjoining streets and noise sensitive areas.
	DS5 Waste storage areas and bin wash down areas are screened from view from adjoining streets.
	DS6 Recreation areas for staff (where located externally) are to be located to achieve a reasonable level of amenity (e.g. away from noisy or unpleasant activities).
	DS7 Buildings address the street frontage by: DS7.1 Being aligned generally parallel to the street; and DS7.2 Providing clear, legible entry points for pedestrians and vehicles.
	DS8 Buildings maximise opportunities for overlooking and casual surveillance of streets, public spaces, parking areas and pedestrian/cycling paths.

ELEMENT	DESIGN STANDARD
	DS8 All parts of buildings (other than roofs) that are visible from connector or higher order roads are constructed predominately of brick, painted concrete or masonry, and do not incorporate highly reflective materials.
	DS9 Buildings or other structures should be designed to minimise potential for graffiti by: DS9.1 access control measures including lighting, vegetation, fencing; or DS9.2 graffiti deterrent surface treatments.
	DS10 Development incorporates sustainable building materials and energy efficiency measures in accordance with <i>EDQ Guideline 14: Environment</i> (May 2015).
ENVIRONMENT AND SAFETY	DS11 Emissions (including air, water and soil pollutants, noise, vibration, heat, light, radioactivity and electromagnetic radiation) and hazards must be managed in accordance with: ▪ The Environmental Protection (Air) Policy 2008; ▪ The Environmental Protection (Noise) Policy 2008; ▪ The Dangerous Goods Safety Management Act 2001 and the Dangerous Goods Safety Management Regulation 2001.
LANDSCAPING	DS12 A minimum of 5% of the site area is landscaped.
	DS13 A landscaping strip with a minimum width of 2m is accommodated along primary and secondary frontages. This strip is to comprise screening shrubs and ground covers at a minimum.
	DS14 Street frontages are unfenced or where street frontage fencing is required for security purposes it should be transparent (i.e. minimum 70% open).
	DS15 Landscaping should apply water sensitive urban design (WSUD) principles and use endemic and drought tolerant species where possible.
	DS16 Landscaping is designed with Crime Prevention Through Environmental Design (CPTED) principles in mind to reduce areas of possible concealment close to footpaths and parking areas.

ELEMENT	DESIGN STANDARD
LIGHTING	DS17 Development should provide external lighting to ensure adequate site security.
	DS18 Lighting should be located and directed to limit light spill beyond the site. Australian Standard AS-4282 1997 Control of the obtrusive effects of outdoor lighting provides guidance on the use of directional lighting.
CAR PARKING	DS19 On site vehicle parking is provided at the following rates: Emergency services: Sufficient spaces to accommodate the number of vehicles likely to be parked at any one time. Low Impact Industry, Medium Impact Industry & Warehouse: Minimum 1 space per 150m² gross floor area (GFA) up to 900m² GFA; or Where exceeding 900m² GFA, minimum 1 space per 200m² GFA; and Minimum 1 space per 800m² GFA for employees. Research and technology industry: 1 space per 50m² of GFA up to 500m² GFA; 1 space per 100m² GFA thereafter; and 1 space per 800m² GFA for employees. Service Industry: 1 space per 25m² GFA; and 1 space per 200m² GFA for employees. Showroom: 1 space per 35m² GFA; and 1 space per 750m² GFA for employees; and

ELEMENT	DESIGN STANDARD
	1 visitor space per 1,000m ² GFA.
ACCESS	DS20 Development has physical access to a sealed road or constructed road.
	DS21 Direct access to the Mt Lindesay Highway is not permitted. Access is to occur via the Service Road or the Trunk Road extension.
USE	DS22 Land uses comprise the uses specified in Section 3.1 of this PoD.
SITE DESIGN	DS23 A 50m buffer is to be provided along the western boundary of Lot 6 on RP137101, to act as an environmental offset and stormwater conveyance area.
INFRASTRUCTURE	DS24 Development is connected to reticulated water supply, sewerage, stormwater drainage, electricity supply and telecommunications infrastructure networks (refer to the Servicing Master Plan).
	DS25 On-site parking, circulation and service areas are designed and constructed to meet the relevant standards of the <i>Logan Planning Scheme 2015</i> (Version 9).
FLOODING	DS26 All development is designed and constructed above the defined flood event (DFE) level nominated as 27.2m AHD (the DFE: 1% AEP) + 500mm freeboard.

Source: Urbis

Table 5 – Minimum setback requirements

Minimum distance in meters from outermost projection to a lot boundary			
Note: the below excludes a buffer area as illustrated on the PoD². Where a setback is less than the identified buffer, built form can be located up to the buffer area.			
Lot size	Front	Rear	Side
Any	Primary: 6m, with areas for office, showroom or customer service components set to the street alignment (0m) Secondary: 3m	0m	0m

Source: Urbis

3.2.2. Advertising Devices

Advertising devices are to be established in accordance with conditions of approval. Conditions of approval may determine whether an advertising device is exempt development or requires further compliance assessment.

Where requiring compliance assessment, properties within the PoD boundaries are to be assessed in accordance with the *Logan Planning Scheme 2015* (Version 9).

² A buffer area includes a Biodiversity and Stormwater Conveyance Buffer and Vegetation Habitat Offset area. The buffer area excludes built form however, allows for impervious area where stormwater conveyancing is maintained.

4. DEFINITIONS

4.1. USE DEFINITIONS

Table 6 – Use Definitions

USE DEFINITION	DEFINITION
<i>Emergency services</i>	Means the use of premises by government bodies or community organisations to provide essential emergency services, disaster management services and including management support facilities for the protection of persons, property and the environment.
<i>Low impact industry</i>	Means the use of premises for industrial activities which have negligible impacts on surrounding non-industrial uses. The manufacturing aspects of the use are undertaken indoors. Any off site impacts including air, noise and odour emissions are able to be readily mitigated.
<i>Medium Impact Industry</i>	Means the use of premises for industrial activities that have offsite air, noise and odour emissions. Despite mitigation measures these activities would still have noticeable impacts on non-industrial uses. The primary (noise, odour and air emitting) aspects of the use are undertaken indoors.
<i>Research and technology facility</i>	Means the use of premises for innovative and emerging technological industries involved in research design, manufacture, assembly, testing, maintenance and storage of machinery, equipment and component. The use may include emerging industries such as energy, aerospace, and biotechnology.
<i>Service industry</i>	Means the use of premises for industrial activities that have no external air, noise or odour emissions from the site and can be suitably located with other non-industrial uses.
<i>Showroom</i>	Means the use of premises primarily for the sale of goods of a related product line that are of a size, shape or weight that requires: (a) a large area for handling, display or storage; and (b) direct vehicle access to the building by members of the public for loading and unloading items purchased or hired.
<i>Warehouse</i>	Means the use of premises for the storage of goods whether or not in a building, including self storage facilities or storage yards.

4.2. ADMINISTRATIVE DEFINITIONS

The Administrative Definitions in the Development Scheme apply to development under the PoD, with additional definitions as relevant produced below.

Advertising Device:

- (a) Means a permanent sign, structure or other device used, or intended to be used, for advertising; and
- (b) Includes a structure, or part of a building, the primary purpose of which is to support the sign, structure or device.

Australian Height Datum:

The survey height datum adopted by the National Mapping Council as the datum to which all vertical control for mapping is to be referred. 0.0 metres AHD approximates mean sea level.

Biodiversity and Stormwater Conveyance Buffer:

Land dedicated for the purposes of biodiversity conservation and conveyancing of stormwater as indicated on the Plan of Development, drawing no. POD-01, dated 11 October 2024.

Building Height:

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including anything projecting from a building such as an antenna, aerial, chimney, flagpole or the like.

Context Plan:

Endorsed North Maclean Context Plan dated 3 September 2021.

Defined Flood Event (DFE):

The one percent annual exceedance probability (1% AEP).

Defined Flood Level (DFL):

The level of the defined flood event (DFE) for the 1% AEP is 27.2 meters AHD.

Development Scheme:

As defined in the *Urban Land Development Authority Act 2007*.

Gross floor area (GFA):

The total floor area of all storeys of a building, including mezzanines, measured from the outside of external walls or the centre of a common wall, excluding area used for:

- (a) building services;
- (b) ground floor public lobby;
- (c) a public mall in a shopping complex;
- (d) the parking, loading and manoeuvring of motor vehicles;
- (e) private balconies whether roofed or not.

Plan of Development:

A Plan of Development is as defined in section 3.2.9 of the Greater Flagstone UDA Development Scheme (October 2011).

Primary Road Frontage:

Where:

- (a) a lot is vacant, the frontage most commonly addressed by other buildings in the street as the front of the lot; or
- (b) a lot is not vacant, the frontage to which the front of the existing building addresses the street.

Secondary Road Frontage:

Where a lot has more than one frontage, a frontage that is not the primary street frontage.

Setback:

The shortest distance measured horizontally from the wall of the building or structure to the vertical projection of the boundary of the lot (i.e. excluding eaves).

Service Road:

A service road is road dedicated for the purpose of access whereby direct access via a state-controlled road is not permitted.

Servicing Master Plan:

The proposed trunk infrastructure servicing plan for the PoD.

Site:

Site, of development, means the land that the development is to be carried out on. Examples include:

- 1) If development is to be carried out on part of a lot, the site of the development is that part of the lot.
- 2) If development is to be carried out on part of 1 lot and part of an adjoining lot, the site of the development is both of those parts.

Site Cover:

The proportion of the site covered by buildings, including roof overhangs.

Storey:

A space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above. This does not include:

- (a) a space that contains only:
 - (i) a lift shaft, stairway or meter room;
 - (ii) a bathroom, shower room, laundry, toilet or other sanitary compartment;
 - (iii) accommodation intended for not more than 3 vehicles;
 - (iv) a combination of the above; or
- (b) a mezzanine.

Trunk Road:

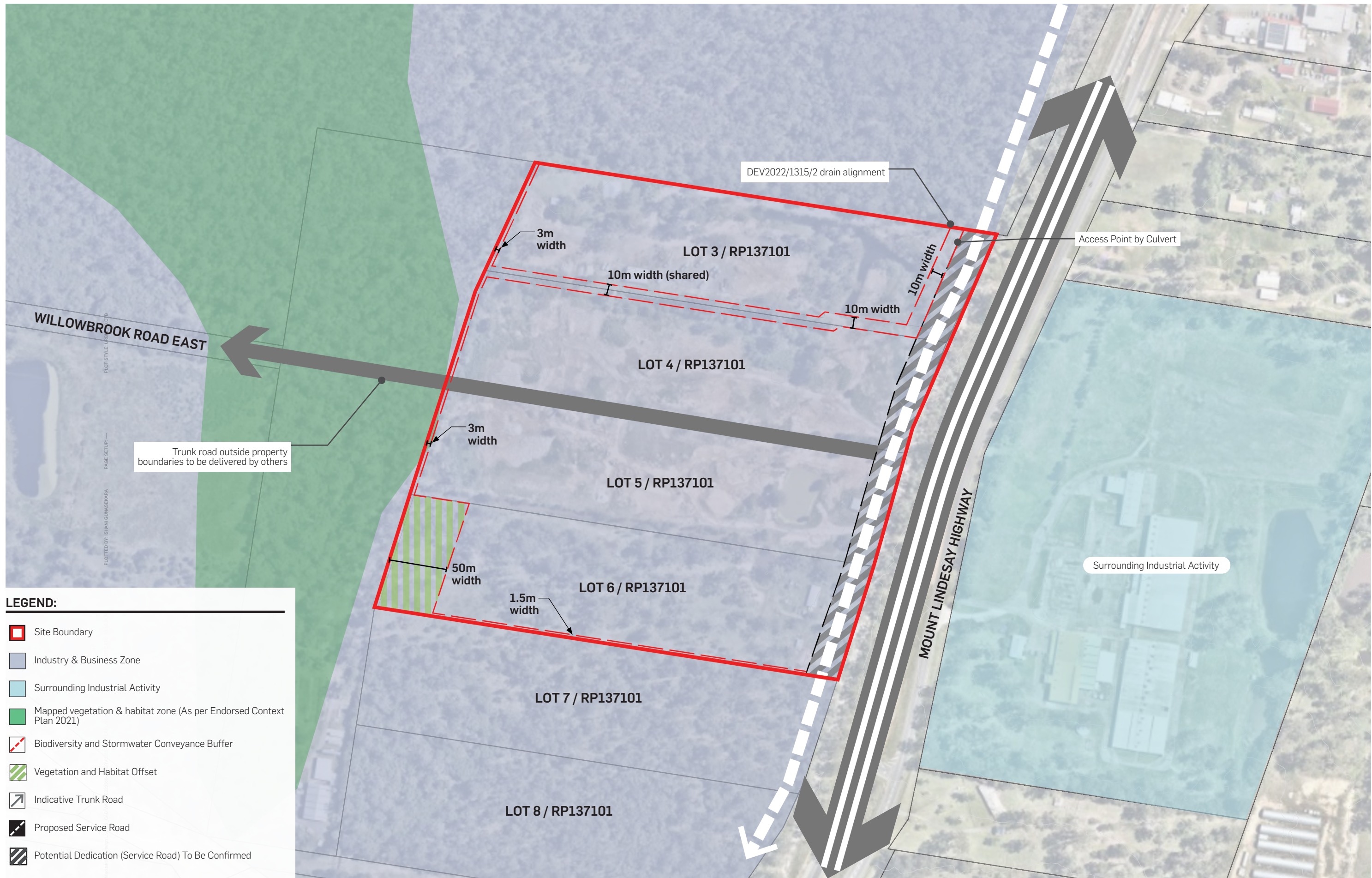
The Willowbrook Road East extension as shown on the Context Plan.

5. DRAWINGS AND APPENDICES



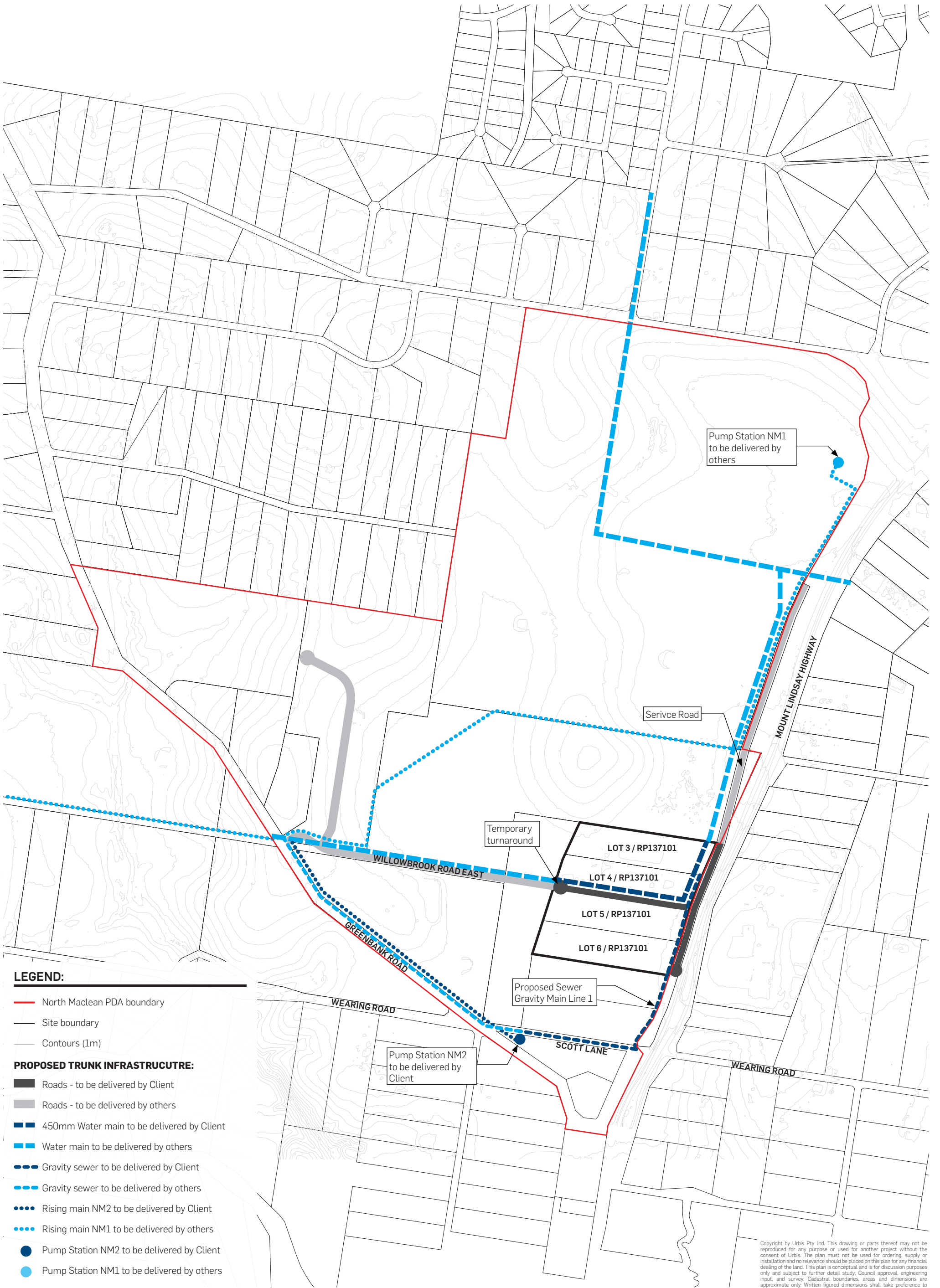
A.1 PLAN OF DEVELOPMENT





A.2 SERVICING MASTER PLAN



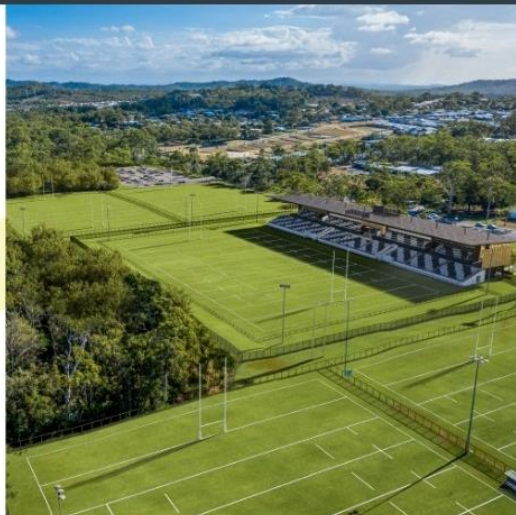


A.3 CIVIL ENGINEERING REPORT





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**North Maclean Factory Outlets & Distribution Centre
Civil Engineering Report**

Client:
Project Number:
Document Number:

Roubaix Properties Pty Ltd
BE220566
BE220566-RP-CER-03

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1. Introduction

Roubaix Properties Pty Ltd (Roubaix) has engaged Burchills Engineering Solutions (Burchills) to prepare a Civil Engineering Report to be considered part of a Development Approval (DA) to Economic Development Queensland (EDQ). The proposed North Maclean Factory Outlets and Distribution Centres development is located across 4693-4731 Mount Lindesay Highway, North Maclean.

This report determined that the site is suitable for the proposed development, in relation to matters particularly relating to civil engineering design parameters, and site constraints. The development can be undertaken in accordance with the current Logan City Council (LCC) guidelines, South East Queensland (SEQ) Water Supply and Sewerage, Design and Construction Code and best management practices.

1.1 Scope of Report

This report describes the existing physical conditions of the site, and suitability for the proposed development with particular respect to:

- Project Identification;
- Proposed Development;
- Site Earthworks;
- Roadworks, Access and Traffic;
- Stormwater Drainage;
- Water Supply;
- Sewer Reticulation; and
- Electricity and Telecommunications Supply.

This report represents an assessment of the facts and circumstances pertaining to these matters, as they are known to the writer at the time of preparation.





2. Project Identification

2.1 Real Property Description

The site is legally described as Lots 3 RP137101, 4 RP137101, 5 RP137101 and 6 RP137101. The corresponding street addresses are 4693-4703, 4705-4715, 4717-4731 and 4733-4743 Mount Lindesay Highway, North Maclean respectively. The combined site is generally rectangular and occupies an area of approximately 16.01 ha.

A detailed site survey has been undertaken by Sunrise Surveying and is included within Appendix A of this report. The location of the subject site is shown on Figure 2.1 below.

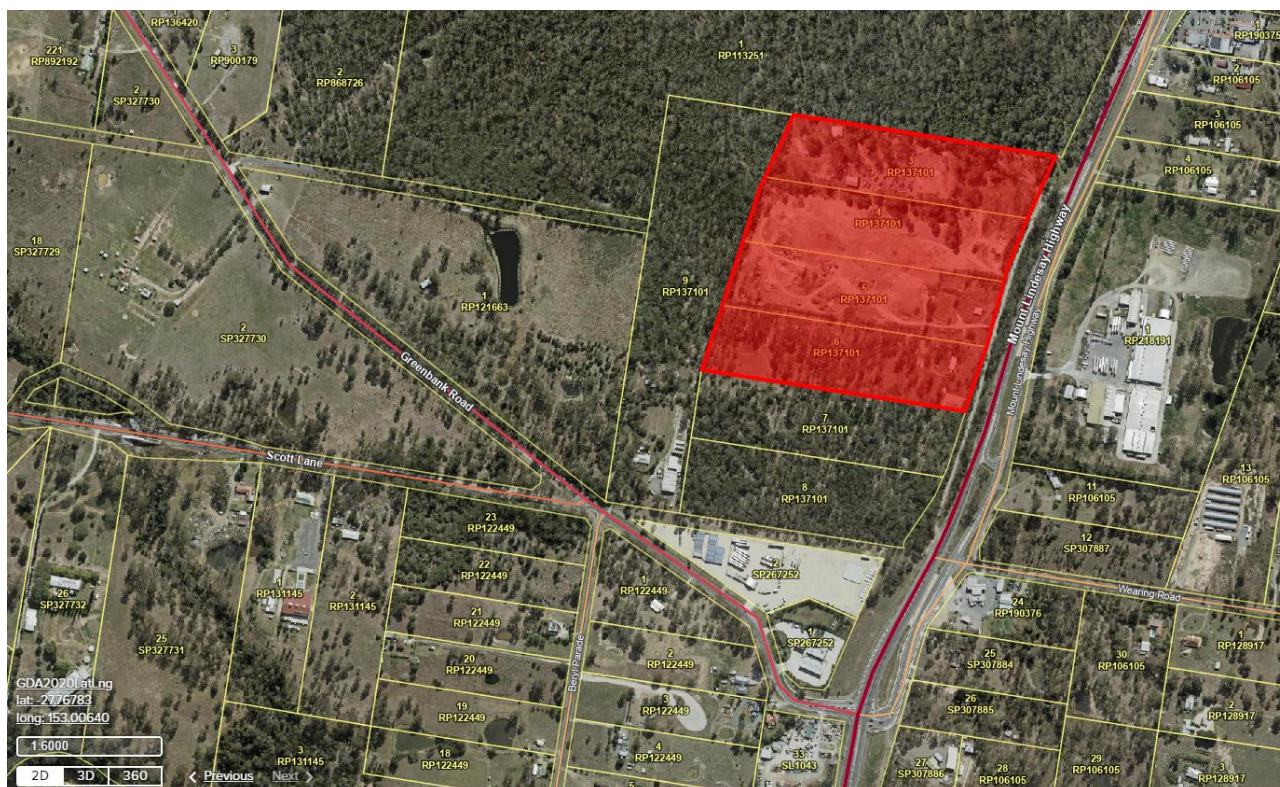


Figure 2.1 Site Locality Plan

2.2 Physical Description

The site is accessed from Mount Lindesay Highway service road, an existing road which fronts the eastern boundary of the subject site.

The subject site is relatively flat with majority of the site at an approximate level of RL26 mAHD to RL29 mAHD. There are currently development approvals on Lots 3, 4, 5 and 6 on RP137101 for civil earthworks (clearing in the case of Lot 6). Currently, the subject site has the following features:

- Lot 3 has sheds and dwelling
- Lot 4 is clear vacant land
- Lot 5 is clear vacant land as civil works are underway under approval DEV2019/1065
- Lot 6 has a single dwelling and due to commence civil works under DEV2023/1370 and DEV2024/1470

The subject site is located within the Great Flagstone Priority Development Area (PDA).





The site is bounded by the following existing land uses:

North: Vacant Land;

East: Mount Lindsay Highway;

South: Vacant Land; and

West: Industrial supplier/business.





3. Proposed Development

The subject site falls within the Greater Flagstone PDA, which is controlled by EDQ. The Context Plan indicates that the site is within an industrial and business zone as shown in Figure 3.1.

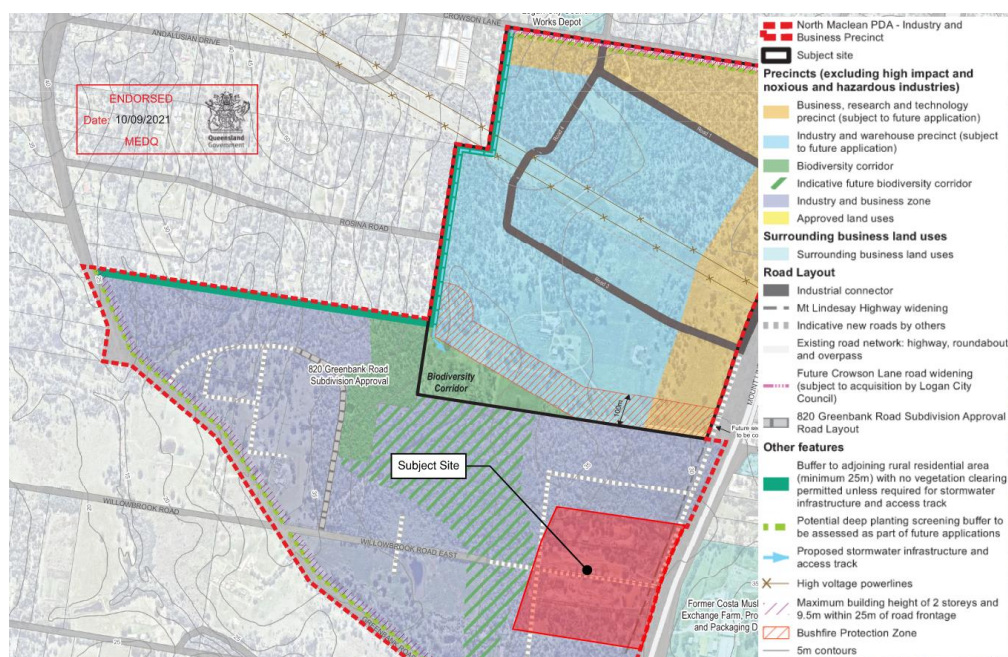


Figure 3.1 Subject Sites within Industrial and Business Zone

Based on the SEQ Water Supply and Sewerage Design & Construction Code, the Equivalent Tenements (ET) and Equivalent Population (EP) for the proposed development is shown in Table 3.1. The ET and EP has been calculated assuming a maximum building GFA of 50% for each lot (it is noted that the LCC planning scheme states a max 80% site coverage that is inclusive of carparking, landscaping and others).

Table 3.1 Development Summary

Use	Unit	Total Units (m ²)	EP's/Unit	Total EP
Industrial	GFA	77,505	0.97 EP per 100m ² GFA	751.8

Given the proposal is in the initial stages, a detailed development proposal has not yet been compiled. Initial investigations will allow for the filling of the site for an industrial purpose. The plan of development is attached as Appendix E.





4. Site Earthworks

It is anticipated that earthworks associated with the proposed development will be kept to a minimum with general cutting and filling associated with the driveway construction, trenching of services, flat building pad and basin construction. Given the proposal is in the initial stages, a detailed development proposal has not yet been compiled. Initial investigations will allow for the filling of the site for an industrial purpose.

Earthworks will be completed under the following development approvals:

- Lot 3 and 4: DEV2020/1144
- Lot 5: DEV2019/1065
- Lot 6: DEV2023/1370; DEV2024/1470

Earthworks on Lot 4 is complete and the 'As Constructed' package has been submitted to EDQ. Earthworks on Lot 3 and 5 are ongoing with final 'As Constructed' packages to be submitted under those approvals to EDQ. For the purpose of this report, it is assumed that the finished surface levels of Lot 6 will be similar to the 'As Constructed' levels of Lot 4, and a minimum RL of 27.5m for Lots 3 and 5.

Any additional earthworks required, including for provision of external infrastructure will be captured under the future material change of use, ROL or building use applications and subsequent OPW applications.

4.1 Sediment and Erosion Control

The best management practices will be implemented according to the IECA Best Practice Erosion and Sediment Control (2008) guidelines.

The following is a procedure of water quality controls to be implemented for the construction stage of the development.

4.1.1 Phase 1 – Stripping and Bulk Earthworks

- Identify and mark all trees to be retained and erect exclusions zones.
- Prior to any demolition, stripping or bulk earthworks on site, sediment fences, inlet traps, gully protection and entry/exit pad shall be put in place.
- A wash-down area and entry/exit pad will be provided at the construction site entrance to minimise the amount of sediment being tracked off the site.
- The wash down area will be drained to a suitable sediment capture device installed downstream of the construction entry.
- Sediment fences are to be installed along the downstream property boundaries prior to stripping and earthworks commencing.
- Construct an appropriately sized sediment basin for the development.
- If refueling of machinery is to occur on site, appropriate absorbent products for cleaning oil spills will be provided.
- Provide bins on site for the disposal of waste and building debris.
- All fresh water upstream of disturbed areas and stockpiles is to be diverted around the disturbed area to minimise the amount of sediment mobilization.
- If it is anticipated that stockpiled material will not be used for a period of two weeks or more, a polythene cover (or equivalent) shall be used to prevent sediment transport by rain during wet periods. Conversely during dry spells a cover shall be used to prevent fine sediments becoming airborne.
- The contractor shall provide on-going maintenance of sediment and erosion control devices around the site.





- The contractor is to stage all works so that disturbed areas remain exposed for a short a period as practicable.

Measures to minimise airborne pollutants during construction in the form of dust during dry and/or windy weather shall include the following:

- Exposed soils shall be kept damp to prevent particulates becoming airborne; and
- Stockpiles exposed for more than two weeks shall be covered to prevent wind erosion.

4.1.2 Phase 2 – Infrastructure, Building and Roadworks

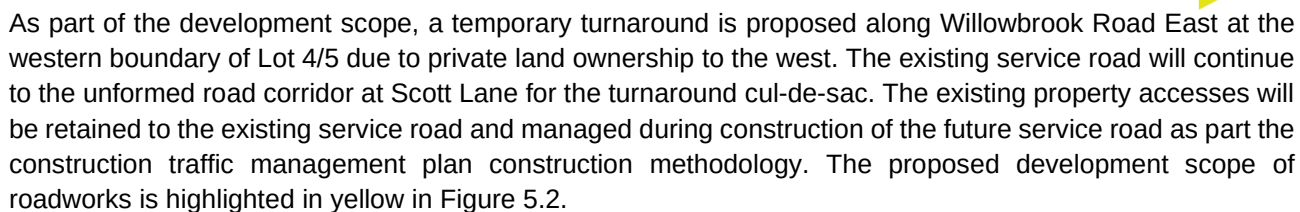
- The site stormwater pipes and pits shall be installed with drop inlets provided to all pits.
- Provide sediment fences, sandbags or fine mesh cover to all gully pits.
- Monitoring of new stormwater pipes and infrastructure (including the storm water quality improvement devices) to ensure they are free of sediment and debris.
- Maintain shake down and wash down area at entry/exit.
- All disturbed areas are to be surfaced or landscaped/grassed (maintained to minimum 70% ground cover) as soon as practicable after completion of localized works.

4.1.3 Phase 3 – Finishing Works and Defects Liability Period

All erosion and sediment control measures, including sediment fences and inlet traps shall be maintained until completion of surface finishes including landscaping and turfing:

- Maintain sediment fences.
- Tend to landscaped areas to maintain ground cover.





Existing access points will be connected to the future road alignment. Internal site distribution will be captured in future material change of use, ROL and or building use applications.

As the proposed road will be providing access to light industrial land uses, a minimum 24m wide industrial collector road cross section should be provided in accordance with LCC Standard Drawing 8-00382 (excerpt shown in Figure 5.3 below).





5.4 Traffic Assumptions and Characteristics

5.4.1 Study Intersections

The operation of the following intersections has been modelled using SIDRA 9 to assess their likely operation and capacity at year of opening and at the 10-year design horizon in accordance with TMR's Guide to Traffic Generating Developments.

- Willowbrook Road East / Greenbank Road
- Willowbrook Road East / Mount Lindesay Highway service road

5.4.2 Background Traffic Volumes

Existing traffic volumes on Greenbank Road were sourced from traffic survey data obtained at the Greenbank Road / Mount Lindesay Highway intersection in 2017 (refer Appendix B). Growth rates were applied to the traffic survey data to obtain year of opening and 10-year design horizon background traffic volumes.

5.4.3 Traffic Growth

A conservative (i.e. high) annual linear growth rate of 3% was applied to the background traffic volumes on Greenbank Road.

5.4.4 Catchment

It has been assumed that the proposed service road and Willowbrook Road East will service the following lots in the 10 year design scenario:

- The subject site (Lots 3 to 6 on RP137101)
- Lot 1 on RP121663 and
- Lot 1 on RP11325.

It has been assumed that the lots north of these (i.e. Charter Hall) will connect to the road network via the Chambers Flat Road / Mount Lindesay Highway interchange.

5.4.5 Traffic Generation

The peak traffic generation for the industrial sites within the catchment of the proposed road has been calculated assuming a maximum building GFA of 50% for each lot (it is noted that the LCC planning scheme states a max 80% site coverage that is inclusive of carparking, landscaping and others). The traffic generation rate was sourced from the RTA Guide to Traffic Generating Developments Technical Direction (2013). The AM and PM peak trip rates for 'business park' have been used for the purpose of this assessment. The traffic generation calculations are summarised in Table 5.1.

Table 5.1 Estimated Traffic Generation

Parcel	Total Land Area (m²)	Estimated Site Coverage (GFA – m²)	AM Peak Traffic Generation Rate	Peak Traffic Generation – Two-way (vehicle / hour)	PM Peak Traffic Generation Rate	Peak Traffic Generation – Two-way (vehicle / hour)
Lot 4 on RP137101 (subject site)	39,820	19,910	0.7 veh/hr per 100m2 GFA	139 veh/h	0.78 veh/hr per 100m2 GFA	155 veh/h
Lot 6 on RP137101 (subject site)	40,470	20,235		142 veh/h		158 veh/h





Parcel	Total Land Area (m²)	Estimated Site Coverage (GFA – m²)	AM Peak Traffic Generation Rate	Peak Traffic Generation – Two-way (vehicle / hour)	PM Peak Traffic Generation Rate	Peak Traffic Generation – Two-way (vehicle / hour)
Lot 3 on RP137101 (subject site)	39,540	19,770		138 veh/h		154 veh/h
Lot 5 on RP137101 (subject site)	40,280	20,140		141 veh/h		157 veh/h
Lot 1 on RP121663	139,844	69,922		489 veh/h		545 veh/h
Lot 1 on RP113251	178,845	89,423		626 veh/h		697 veh/h
Total				1,676 veh/h		1,867 veh/h

5.4.6 Directional Distribution

The directional distribution has been estimated based on industry standards for industrial land uses. The distribution has been summarised in Table 5.2.

Table 5.2 Directional Distribution

Land Use	AM Peak Period		PM Peak Period	
	IN	OUT	IN	OUT
Industrial	70%	30%	30%	70%

5.4.7 Traffic Distribution

The existing traffic survey data at the nearby Greenbank Road / Mount Lindesay Highway intersection has been analysed to determine the external distributions for the development traffic. The existing in / out splits and north / south origins and destinations at the intersection were applied to the traffic originating from and travelling to the sites in the catchment area.

5.4.8 Post-development Traffic

The traffic expected to be generated by the development was added to the background traffic volumes for the year of opening (2025) and 10-year design horizon (2035). The post-development traffic volumes are shown in Figure 5.4 and Figure 5.5.



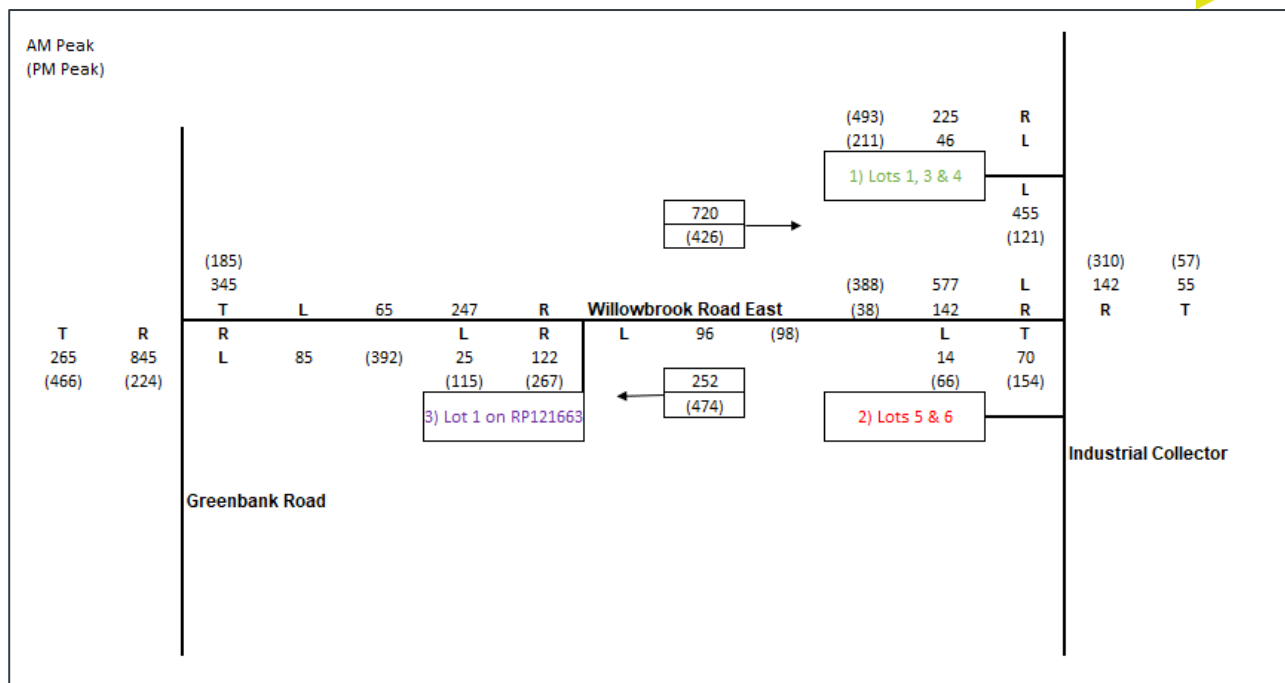


Figure 5.4 Year of Opening (2025) Post-development Traffic Volumes

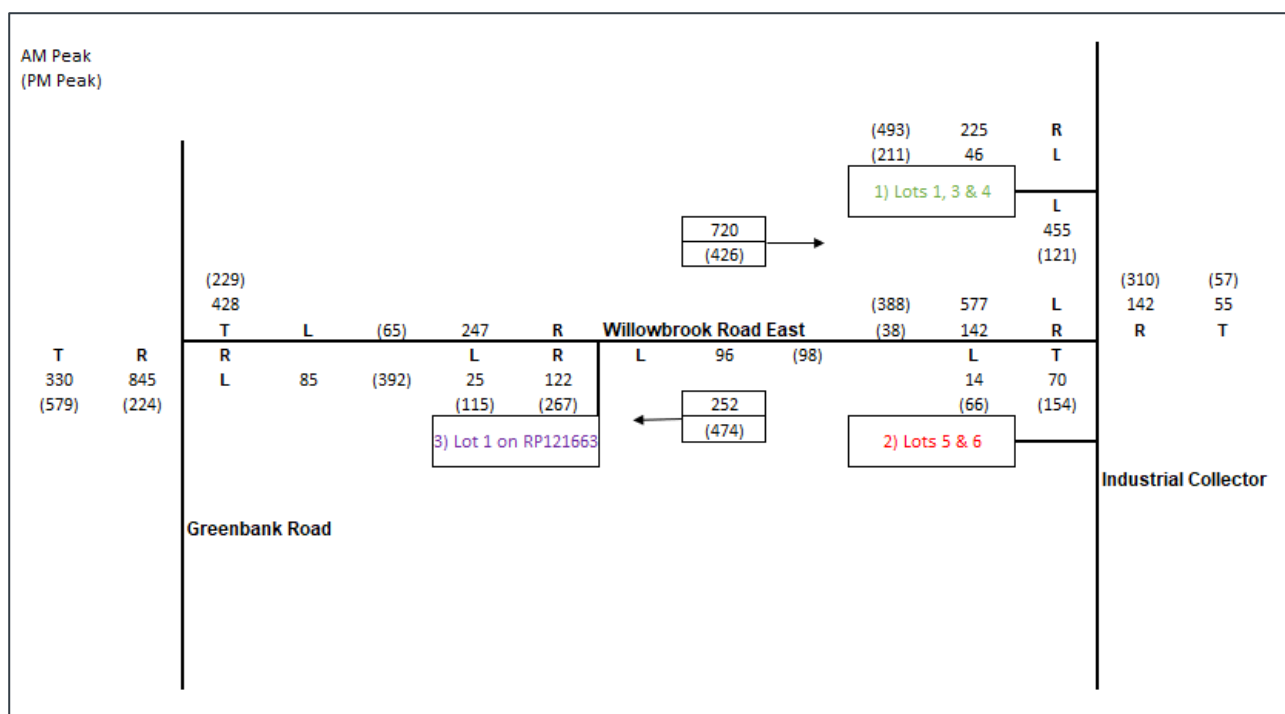


Figure 5.5 10-Year Horizon (2035) Post-development Traffic Volumes





5.5 Capacity Assessment

5.5.1 Willowbrook Road East Link Capacity

The industrial collector cross section proposed on Willowbrook Road East is expected to be able to carry a minimum of 1,800 vehicles per hour in each direction.

Based on the traffic generation assumptions outlined above, Willowbrook Road East is likely to carry in the order of 1,000 vehicles per hour (two-way) during the peak hour once the lots in the catchment are developed.

As the two-way capacity of the road link is approximately 3,600 veh/h, the road capacity is considered sufficient to support the needs of both the subject site and the surrounding land uses.

5.5.2 Willowbrook Road East / Greenbank Road Intersection

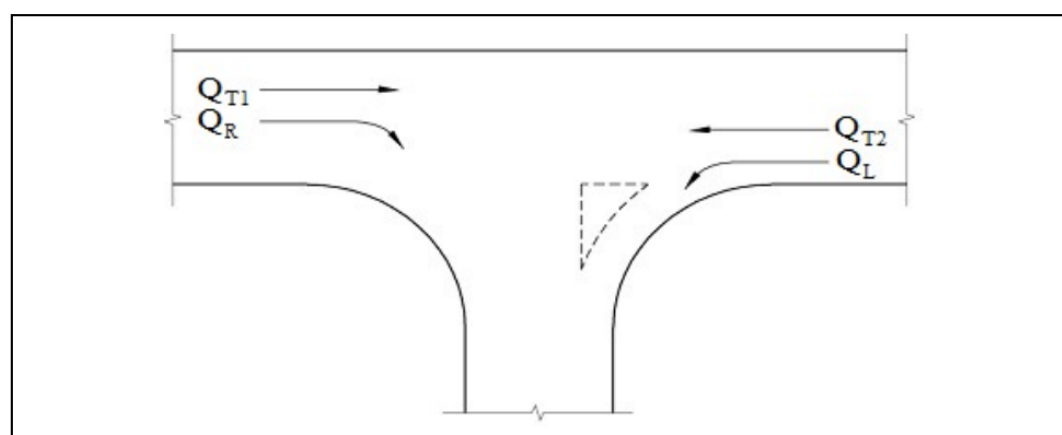
Turn Warrants Assessment

A turn warrants assessment based on the expected traffic generation of the development was undertaken to determine the appropriate treatments at the proposed Willowbrook Road East / Greenbank Road intersection. The warrants have been developed around the relationship between traffic volumes, speed environments and accident statistics, employing a Benefit Cost Ratio (BCR) across an assumed design life.

The warrants are based on the construction of intersections on new roads.

Turn Warrant assessment is based on the Department of Transport and Main Roads (DTMR) Road Planning and Design Manual Edition 2: Volume 3 Supplement to Austroads Guide to Road Design Part 4A: Unsignalised Intersections November 2021. Figure 5.6 shows the calculation of the major road traffic volume parameters 'Q_m' and turning warrants assessment based on Figure 4A -1 Warrants – major road turn treatments – normal design domain from the DTMR - RPDM.

Figure 4A-A 5 - Calculation of the major road traffic volume parameter 'Q_m'



Road Type	Turn Type	Splitter Island	Q _m (veh/h)
2 Lane 2 Way	Right	No	= Q _{T1} + Q _{T2} + Q _L
		Yes	= Q _{T1} + Q _{T2}
	Left	Yes/No	= Q _{T2}
4 Lane 2 Way	Right	No	= 50% x Q _{T1} + Q _{T2} + Q _L
		Yes	= 50% x Q _{T1} + Q _{T2}
	Left	Yes/No	= 50% x Q _{T2}

Figure 5.6 Turn Warrants Q_m Traffic Flow Calculation





An estimate of the peak hour traffic passing the site at the 10-year design horizon (2035) is shown in Table 5.3.

Table 5.3 Greenbank Road / Willowbrook Road East Trips Peak Hours (Right Turn)

Traffic Volume	AM peak hour	PM peak hour
QT1 (northbound)	330	579
QT2 (southbound)	428	229
QL (from north)	1	1
QR (from south)	842	223

Table 5.3 shows the traffic volumes adopted for the calculation of Q_m and the turning warrants based on 8 as extracted from the DTMR – RPDM.

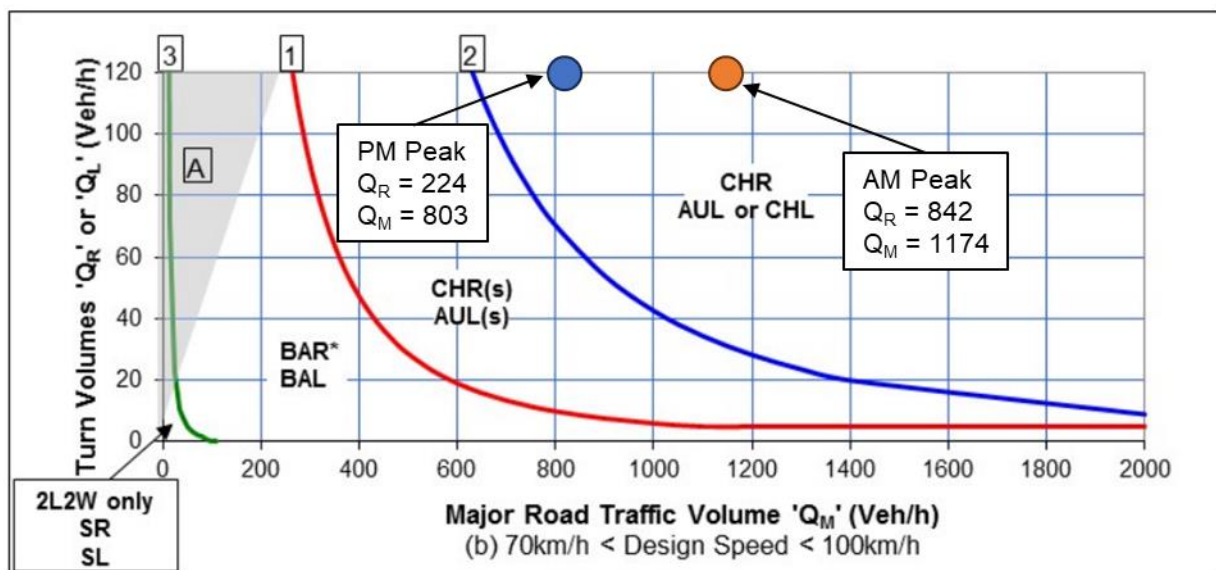


Figure 5.7 Turn Warrants For Major Road (70km/h < Design Speed < 100km/h)

As shown above, at a minimum, this intersection will require a channelized right turn lane (CHR) to support the right turn traffic volumes into Willowbrook Road East.

SIDRA Assessment

Initial analysis was undertaken in SIDRA of a priority-controlled intersection with a channelized right turn lane (CHR) into Willowbrook Road East for both the year of opening (2025) and 10-year design horizon (2035). The modelling indicated that in 2035, the delay at the intersection exceeded 42 seconds. Based on TMR's GTIA, this is an unacceptable level of delay for a priority-controlled intersection.

Based on the above, a signalised intersection with dual right turn lanes and dual exit lanes on Willowbrook Road East is proposed to support the traffic demands of the ultimate yield of the catchment, as shown in Figure 5.8. Given that these are significant upgrades, the timing of delivery of the upgrade could be determined via a trigger assessment (i.e. at the point at which development on the sites in the catchment oversaturate the priority-controlled intersection).



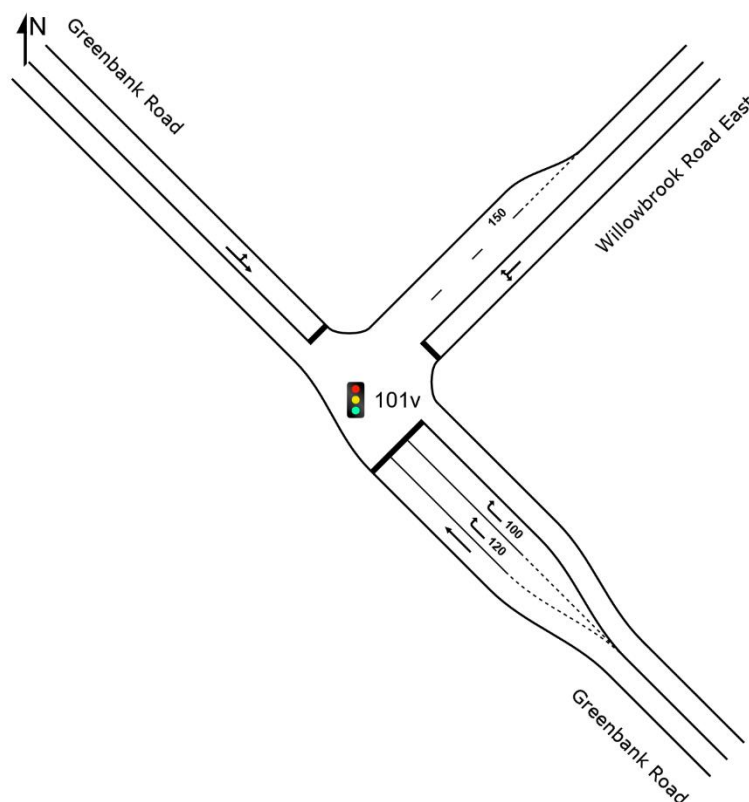


Figure 5.8 Proposed Ultimate Intersection Layout

The SIDRA model results for the proposed signalised intersection are summarised in Table 5.4.

Table 5.4 SIDRA Results – Willowbrook Road East / Greenbank Road

Scenario	AM Peak			PM Peak		
	DoS	Delay (s)	Queues (m)	DoS	Delay (s)	Queues (m)
2035 Post-development	0.772	22.3	112	0.745	12.6	56

As shown above, the intersection performs within acceptable limits (i.e. a DOS <0.90 in accordance with TMR's GTIA). Additionally, the delays are less than 42 seconds.

5.5.3 Willowbrook Road East / Mount Lindesay Highway Service Road Intersection

Turn Warrants Assessment

A turn warrants assessment based on the expected traffic generation of the development was undertaken to determine the appropriate treatments at the proposed Willowbrook Road East / Mount Lindesay Highway Service Road intersection.





An estimate of the peak hour traffic passing the site at the 10-year design horizon is shown in Table 5.5.

Table 5.5 Willowbrook Road East / Service Road Trips Peak Hours (Right Turn)

Traffic Volume	AM peak hour	PM peak hour
QT1 (northbound)	71	155
QT2 (southbound)	56	57
QL (from south)	14	67
QR (from north)	146	308

Table 5.5 shows traffic volumes adopted for the calculation of Q_m and the turning warrants based on Figure 5.9 as extracted from the DTMR – RPDM.

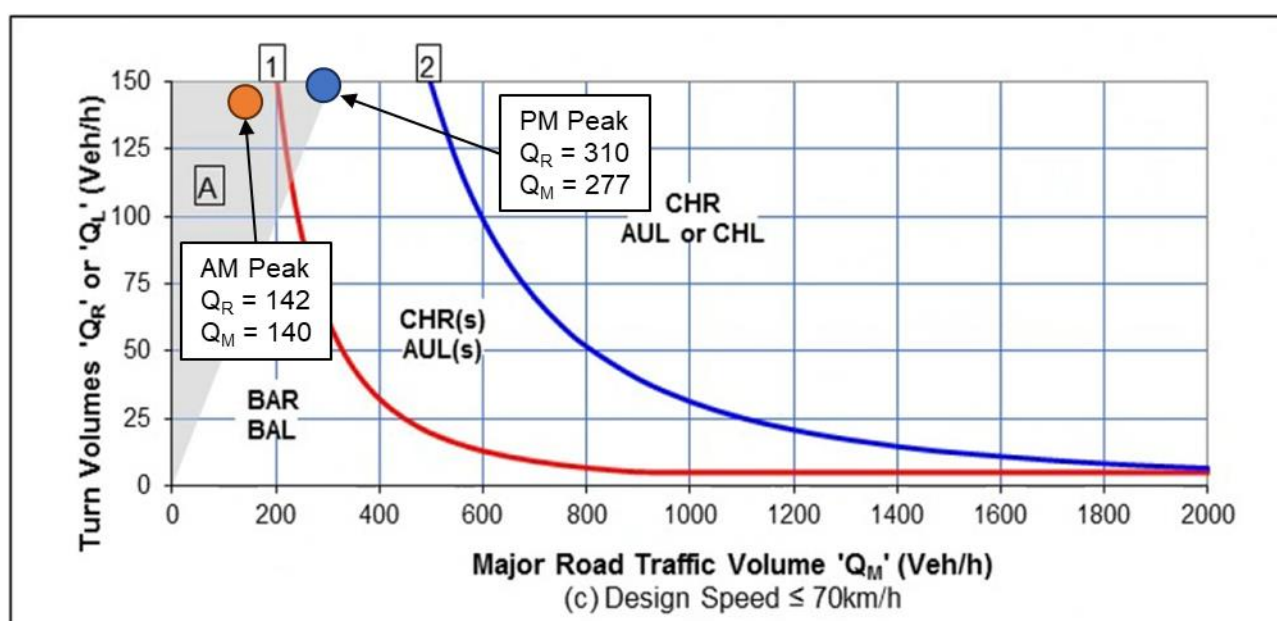


Figure 5.9 Turn Warrants For Major Road (Design Speed <70km/h)

The results of the turn warrant assessment indicate that a Basic Right turn treatment is triggered during the AM peak while a CHR(s) is triggered during the PM peak.

Due to the high demand for southbound right turns and the low demand for southbound through traffic, a short channelized right turn (CHR(s)) is proposed on the southbound side of the service road approaching the intersection.

The left turns out of the southern leg of the intersection are low, and do not warrant any further treatments.

SIDRA Assessment

Initial analysis was undertaken in SIDRA of a priority-controlled intersection at the Willowbrook Road / Service Road intersection for the year of opening (2025) only, as the traffic demands on this intersection are resulting only from the development (i.e. no background traffic at this intersection). The SIDRA layout is shown in Figure 5.10.



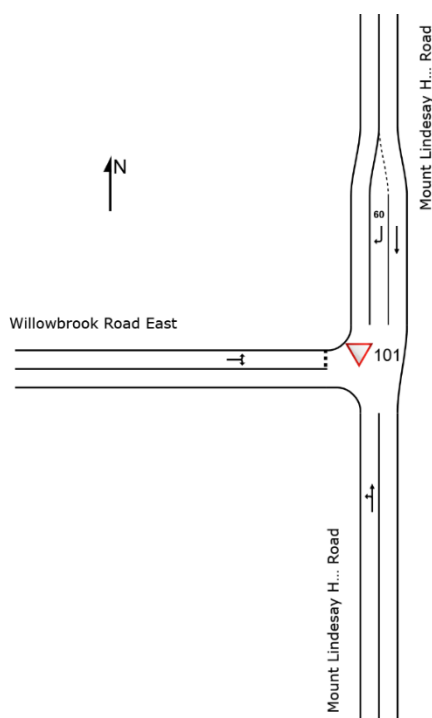


Figure 5.10 Proposed Intersection Layout

The SIDRA results are summarised in Table 5.6.

Table 5.6 SIDRA Results – Willowbrook Road East / Mount Lindesay Highway Service Road

Scenario	AM Peak			PM Peak		
	DoS	Delay (s)	Queues (m)	DoS	Delay (s)	Queues (m)
2025 Post-development	0.567	6.6	29	0.354	6.7	13

The results above indicate minimal queues and delays at the intersection. In addition, the intersection operates at an acceptable DoS (<0.80 in accordance with TMR's GTIA).

5.6 Conclusion

The proposed road extension (Willowbrook Road East) requires a minimum 24m road reserve and a cross section in accordance with an Industrial Collector (LCC Standard Drawing 8-00382). This road link is expected to have sufficient capacity to carry the expected traffic volumes resulting from the developments within the catchment of the new road.

A high-level assessment of the operation of key intersections indicates that at full development buildout within the catchment at the 10-year design horizon (2035), the future Willowbrook Road East / Greenbank Road intersection is likely to require signalisation with a dual right turn into Willowbrook Road East to mitigate queueing and delay impacts on Greenbank Road created by AM peak demands into the proposed industrial sites. The timing of these upgrades could be determined by a trigger assessment based on completion of developments within the catchment.

The expected traffic demands on the Willowbrook Road East / Service Road intersection are likely to require a short channelised right turn (CHR(s)) treatment on the north approach to allow southbound through traffic to pass vehicles turning right (westbound) into Willowbrook Road East. SIDRA modelling indicates that the intersection operates within acceptable limits at full development yield.





6. Flooding and Stormwater Drainage

6.1 Existing Site Conditions

6.1.1 Flood Conditions – Regional Event

The latest mapping on Logan's Flood Portal indicates that three (3) of the four (4) lots (Lots 3 RP137101, 4 RP137101, 5 RP137101) are currently filled above the 2100 1% AEP Flood level. A screen shot of the flood extent has been provided in Figure 6.1 below.

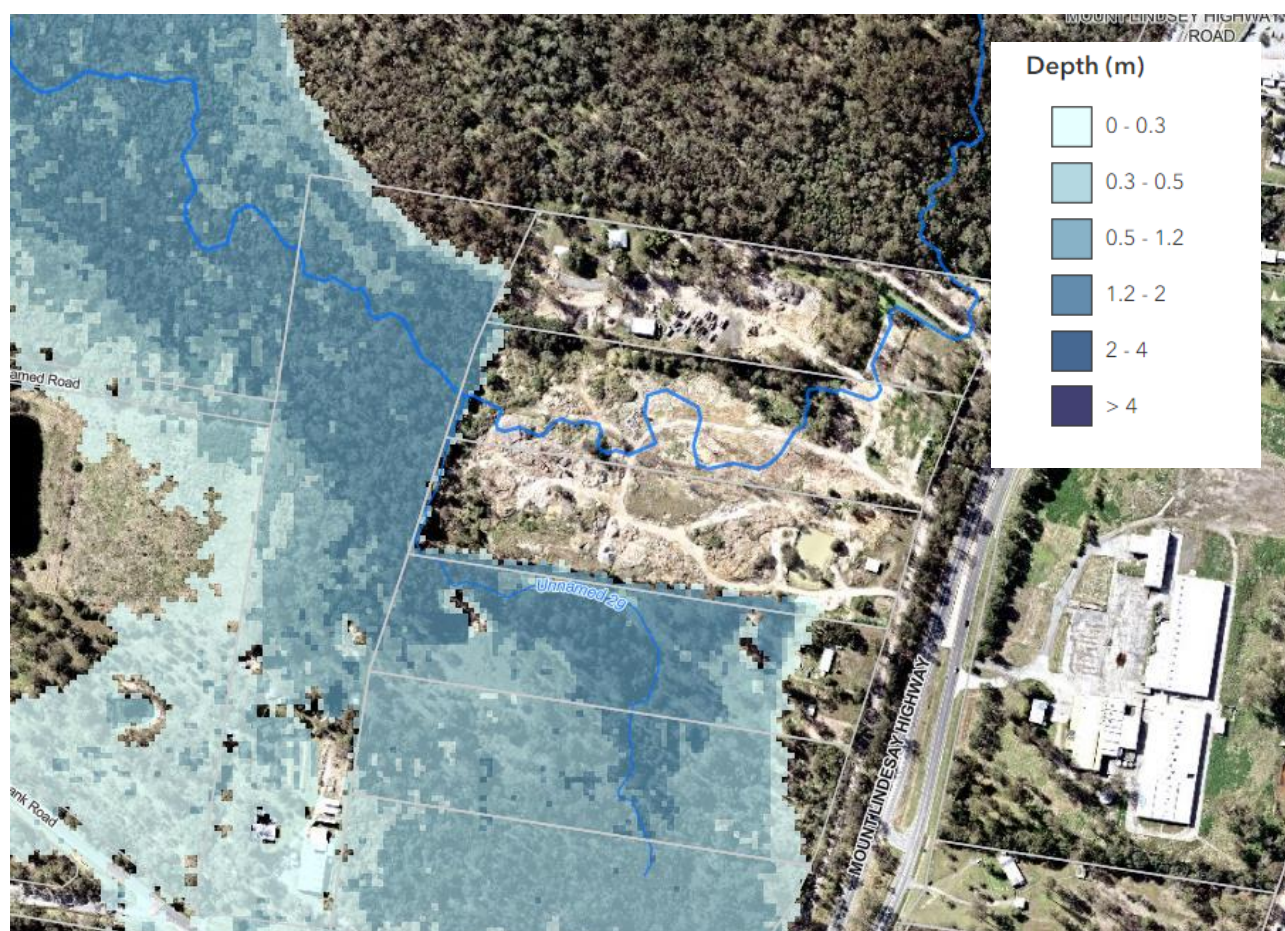


Figure 6.1 2100 1% AEP Flood Depth Mapping (LCC, 2023)

The 2100 1% AEP flood level or Defined Flood Event Level over Lot 6 RP137101 has been identified by the Logan Flood Portal as RL27.2 mAHD. There is an existing Bulk earthworks approval over Lot 6 RP137101 to fill the site to approximately RL28 mAHD (DEV2023-1370 and DEV2024-1470). Once filled the majority of the lot will be flood free the same as the three (3) lots to the north.

6.1.2 Flood Conditions – Local Event

There is approximately 150 ha of upstream catchment that drains adjacent to the site, with overland flow discharging the site along the north-western boundary to the south. The local area is relatively flat which would result in the ponding of flood water during major events before flows are discharged through 2/1200 x 600 box culverts beneath Mount Lindsey Highway.

A Hydraulic Impact Assessment report (EAG002-30139050-AAR-03) was prepared by Arcadis for the local area as part of the development application over 4653-4691 Mount Lindesay Highway, which indicates the major storm flows are discharged to the north.





The model validates the local flooding is a backwater effect, with runoff conveyed along the western site boundary to the north and between Lot 3 and Lot 4 RP137101 before discharging to the proposed channel on the Maclean Estates land (Lot 1 RP113251). Lot 3 will finish earthworks to match in with Lot 1 approval to the north DEV2022/1315/2 to maintain conveyance of the front property boundary alignment.

The Arcadis flood model results demonstrate there are no impacts from this flood conveyance regime. Therefore, it is proposed to retain these arrangements and provide a 20m wide drainage reserve on the western site boundary to maintain the conveyance to the north.



Figure 6.2 Flood Level Extracts for the Subject Site

The drainage reserve should be continued on the adjoining properties to the north as they are developed, and / or could be dedicated as road reserve in accordance with the approved North Maclean Enterprise Context Plan Land Use and Road Network (DEV201896) and the future road utilised for stormwater drainage and overland flow purposes. This will ensure an integrated master plan development strategy that can be implemented progressively as development occurs.

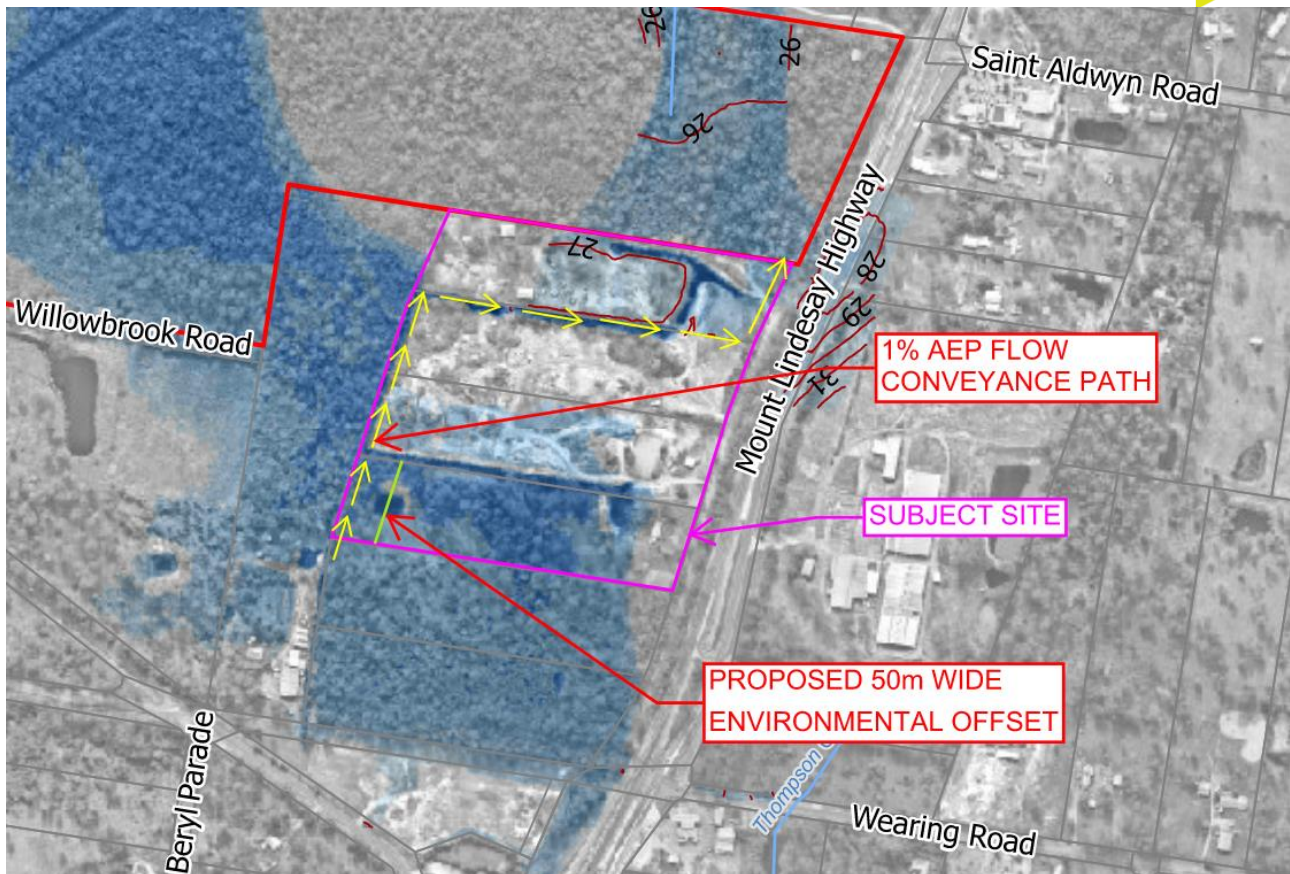


Figure 6.3 Demonstrated 1% AEP Stormwater Flow Conveyance

This flood conveyance regime will meet the intent and demonstrate compliance with adjoining approved development. The proposed drainage swale and/or drainage systems are appropriate for managing the external runoffs without causing obstruction, as required by the condition, and will ensure an integrated master plan development strategy that can be implemented progressively as development occurs.

6.1.3 Economic Development Queensland

The subject site is located within the PDA zone as per the LCC Planning Scheme. EDQ will be the assessing agency for the proposed development; however, the flood assessment will be assessed against the LCC Waterways and Flood Overlay codes.

6.1.4 Logan City Council Planning Scheme

Overland Flow

According to LCC Overlay Map OM-14.01 "Waterways", a minor waterway is mapped to traverse the site which would indicate that an overland flow path is present over the site. Figure 6.4 shows an excerpt from the LCC Planning Scheme 2015 Version 9.0 indicating the extents and location of the mapped waterway.

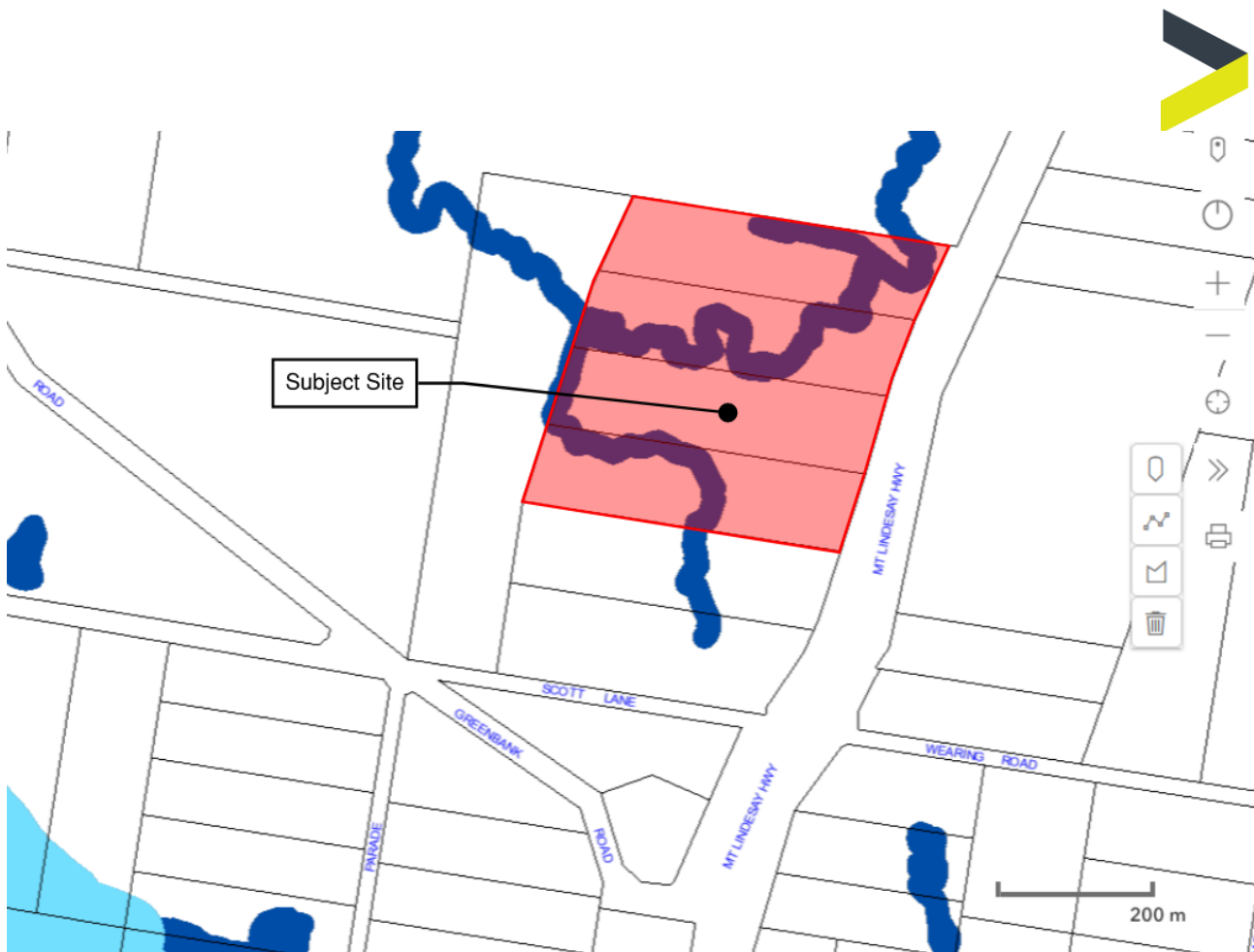


Figure 6.4 LCC Planning Scheme OM-14.1 Waterways Overlay

The proposed development will be required to comply with the LCC Planning Scheme Part 9.4.2 Filling and Excavation Code, in particular Performance Outcome 6 (PO6) which relates to “Surface Water Flow”. The following requirements are outlined by the Performance Outcome:

Surface water drainage does not cause any of the following:

- Ponding on any premises; or
- A hazard or adversely affect personal health and safety and premises; or
- Diversion or concentration of flow from or onto adjoining premises or infrastructure.

It should be noted that approval for bulk earthworks over the subject site have been obtained and these items have been addressed throughout the approval process.

Flood Hazard Overlay

Under the current Planning Scheme Overlay Map OM-05 “Flood Hazard Overlay” the subject site is triggered by the Flood Hazard Overlay Trigger. Figure 6.5 shows an excerpt from the Planning Scheme indicating the location of the Flood Hazard Overlay in relation to the proposed development site.

The development will be required to comply with the flood hazard overlay code. The following Performance Outcomes will have the most influence on the proposed design.

- PO3 - Development provides a development envelope area that is above the flood level during the defined flood event (DFL).
- PO6 - Development for any of the uses identified in column 1 of Table 8.2.5.3.3 - Minimum flood levels, are able to function effectively during and immediately after flood events.





- PO8 - The natural conveyance of flood waters and natural overland flow paths are protected and maintained without adversely affecting adjoining premises.

It should be noted that approval for bulk earthworks over the subject site have been obtained and these items have been addressed throughout the approval process.

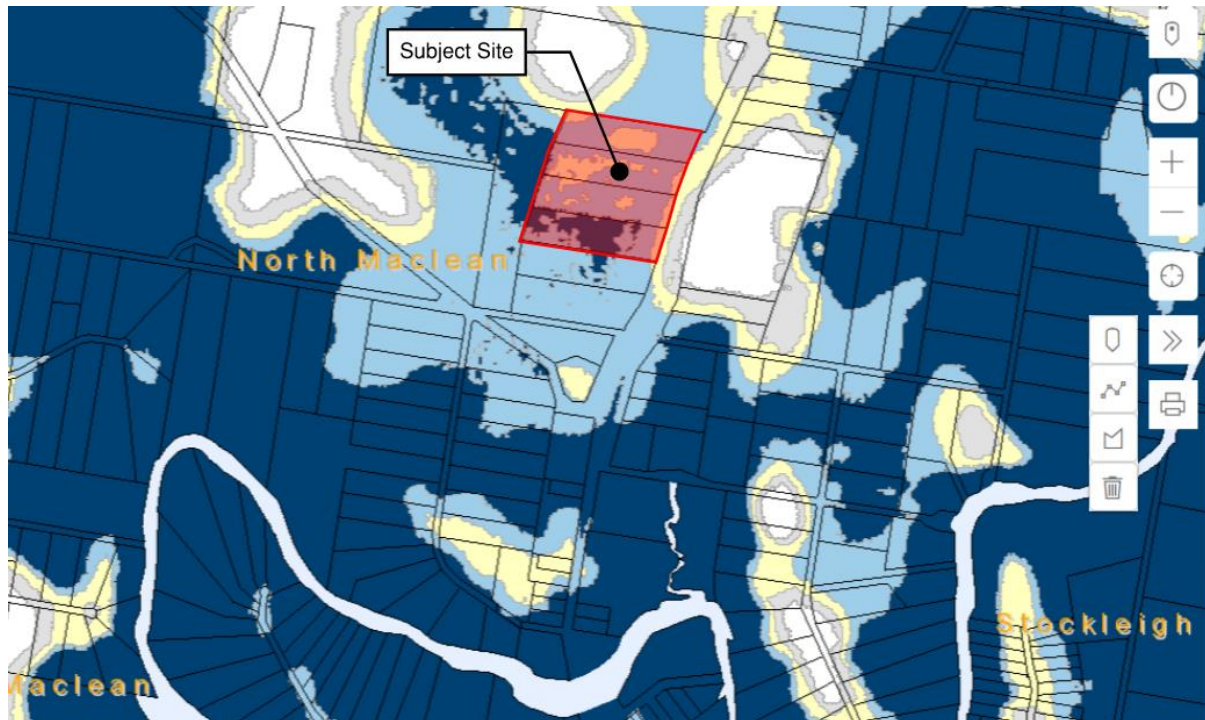


Figure 6.5 LCC Planning Scheme OM-05 Flood Hazard Overlay





6.2 Development Considerations

6.2.1 Impact on Conveyance

Overland flow paths have been identified to flow through the site, entering the site from the north-western boundary. It will be required that the proposed development will not cause any of the following:

- ponding on any premises; or
- a hazard or adversely affect personal health and safety and premises; or
- diversion or concentration of flow from or onto adjoining premises or infrastructure

It will be necessary to further investigate the impacts of the proposed development to determine whether the development is to comply with the filling and excavation code. Diversion drains/conveyance buffers have been provided along the southern and western boundaries to allow for the existing conveyance through the site to be maintained. It is proposed that easements will be placed over these diversions drains which will provide Lawful Points of Discharge for each individual lot.

6.2.2 Minimum Floor Levels

In accordance with Table 8.2.5.3.3 Minimum Flood Planning Levels in Section 8.2.5 of the planning scheme, the Under the current planning scheme, the minimum flood planning level of a Class 7 (b) building is to be the defined flood event level (DFE). The DFE level for the site has been identified as RL27.2 mAHD as per the property flood report provided by Logan City Council.

Currently Lots 3 RP137101, 4 RP137101, 5 RP137101 are above this level and there is a bulk earthworks approval over Lot 6 RP137101 to fill majority of the site above RL28 mAHD.

The proposed development is to comply with the Minimum Flood Planning Levels outlined in the planning scheme.

6.3 Stormwater Management – Quality and Quality

It has been assumed that the stormwater management over each lot will be managed individually in the future. The development of the lots will be required to comply with relevant guidelines and planning scheme with regards to stormwater quantity mitigation and stormwater quality treatment objectives. Each lot will be required to discharge to an appropriate Lawful Point of Discharge in accordance with the Queensland Urban Drainage Manual (IPWEAQ, 2017).





7. Water Supply

The subject site is proposed to be serviced by a new 300mm trunk water main along the eastern site boundary. This proposed trunk infrastructure forms part of EDQ's planned water supply for Greater Flagstone as shown in Figure 7.1. The water supply connection is proposed from the Maclean Estates/Charter Halls (north of the subject site). As part of the development scope, the proposed trunk water main will only extend up to the western boundary of Lots 4 and 5 due to adjoining private land ownership. Service connections will be provided to each lot as a registered free hold industrial lot. Internal site distribution will be captured in future material change of use, ROL and or building use applications.

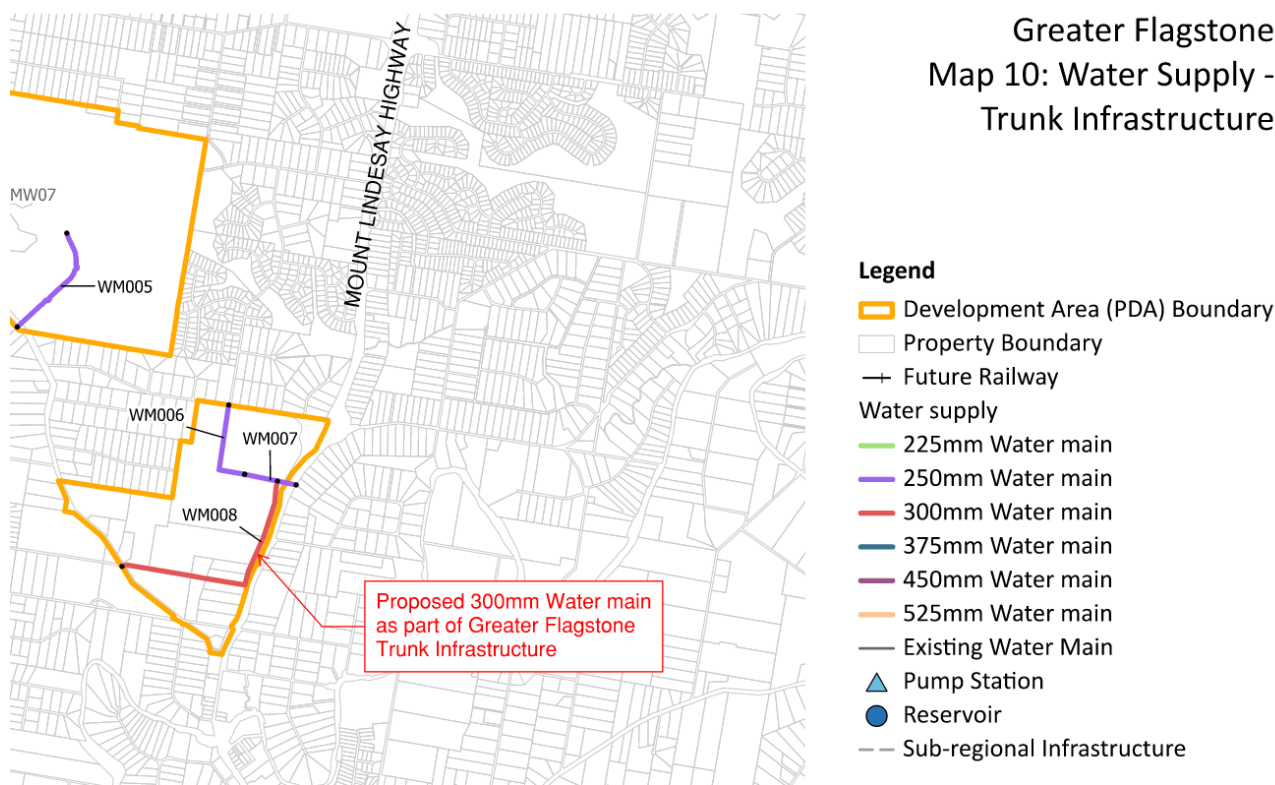


Figure 7.1 EDQ Greater Flagstone Proposed Trunk Water Infrastructure Network

7.1 Water Demand Calculation

To determine suitable pipe sizing for the proposed development, water demands are calculated according to the intended new development. The water criteria and design parameters are based on the following references:

- SEQ Water Supply and Sewerage Design & Construction Code (SEQ WS&S D&C Code); and
- Water Services Association of Australia – WSA 03-2013 Water Supply Code of Australia, Part 1: Planning and Design.

The service mains internal of each building will be designed and constructed in accordance with AS/NZS 3500.1:2003 Plumbing and Drainage – Water services (Standards Australia, 2003).

The water flow parameters shown in Table 7.1, Table 7.2 and Table 7.3 required to meet Council's Standards of Service and have been based on Single Supply (Drinking Water Only) Network parameters shown in SEQ Design Criteria Table 4.1.

**Table 7.1 Potable Water Supply Demand and Peaking Factors**

Property Type	Average Day (AD) Demand L/EP/day	Non-Revenue L/EP/day	Peaking Factors		
			Mean Day Maximum Month (MDMM)	Peak Day (PD)	Peak Hour (PH)
Industrial	230	30	1.5	2	2.8

Table 7.2 Potable Water Pressure Parameters

Item	Pressure Parameter
Minimum Service Pressure	22 metres (adjoining the property boundary)
Maximum Service Pressure	55 metres

Table 7.3 Fire Fighting Parameters

Item	Pressure Parameter
Minimum Residential Mains Pressure (Emergency Fire operating conditions)	12 metres at the main at the property boundary 6 metres elsewhere
Fire Flow Urban Residential	15 L/s for a duration of 2 hrs
Fire Flow Commercial	30 L/s for a duration of 4 hrs
Background Demand	2/3 x Peak Hour demand (not less than Average Day demand)

The calculated water supply demand for the proposed development is shown in Table 7.4.

Table 7.4 Water Supply Demand Calculations

Use	EP	AD Flow	Non-Revenue	AD (L/s)	PH (L/s)
Industrial	751.8	230	30	2.26	5.86

Calculations of maximum peak demand and demand multiplier for the development is based on an allowance of 230 L/EP/day, a peak hour factor of 2.8 and applying the Non-Revenue flows of 30 L/EP/day, as follows:

Maximum Peak Demand = PHF x Demand Rate x EP's + NR
 = 2.8 x 230 x 751.8 + 30 x 751.8
 = 506,713 L/day
 = 5.86 L/s

Demand Multiplier = Maximum Demand / EP's
 = 0.01 L/EP/s

Fire flow demand will be approximately 30 L/s. this will require a 150mm diameter connection to be made to Council's existing infrastructure.





Table 8.2 Pipe Design Parameters

Flow	Parameter
Mannings 'n'	0.013
Minimum velocity @ PDWF	0.7 m/s
Depth of Flow @ PWWF – Existing system	Up to 1.0 m below MH cover level and no spillage through overflow structures
Depth of Flow @ PWWF – Proposed sewers	Max flow depth shall not exceed $\frac{3}{4}$ pipe full (75% d/D).

Table 8.3 Minimum Pipe Capacity – New Sewers Flowing $\frac{3}{4}$ Full

Pipe Size (mm)	Min Pipe Grade (1 in x)	Capacity (L/s)
150	180	10.4
225	300	23.6
300	400	44.1
525	750	143.0
1200	2400	796.1

The calculated sewer demand generation for the proposed development is shown in Table 8.4.

Table 8.4 Water Supply Demand Calculations

Use	EP	ADWF Rate	ADWF (L/d)	PWWF (L/d)	PWWF (L/s)
Industrial	751.8	200	150,360	751,800	8.7

The calculations indicate that the total post development demand at PWWF will be approximately 8.7 L/s.





9. Electrical and Telecommunications

A detailed site survey has been prepared by Sunrise Surveying and is included within Appendix A. The survey indicates there are existing Energex power supply services and telecommunications services along Mount Lindsay Highway service road. It is envisaged that adequate supply can be provided to the site from the existing infrastructure. However, a specialist electrical consultant will need to be engaged to provide advice in relation to internal electrical reticulation requirements, to prepare detailed designs and to liaise with the relevant authorities.





10. Conclusion

The findings of this Civil Engineering Report support the site use proposed in this DA to the EDQ.

The earthworks associated with the proposed development will be general cutting and filling associated with the new site access point, the commercial carpark, trenching of services, stormwater basins and flat building pads.

The subject sites are flood free and / or have bulk earthworks approval to provide finished development levels above the Defined Flood Level. Stormwater quality improvement measures will be incorporated into the future developments.

The water connection will be provided via a new water main extension from Greenbank Road. The water main alignment will be along the verge of the proposed Willowbrook Road East. The proposed water main is subject to a more detailed assessment, including a detailed sizing of mains during the detailed design phase

The subject site is proposed to be serviced by a new sewer gravity main along Mount Lindesay Highway service road. This proposed alignment aims to provide ease of maintenance access and locates the sewer main away from the watercourse. The proposed sewer gravity main will connect into the proposed sewer rising main to be constructed as part of NM1 and NM2 scope of works.

All required essential services can be suitably provided to the development, including:

- Stormwater Drainage;
- Reticulated Water Services;
- Reticulated Sewerage Services;
- Electricity and Telecommunications Supply.

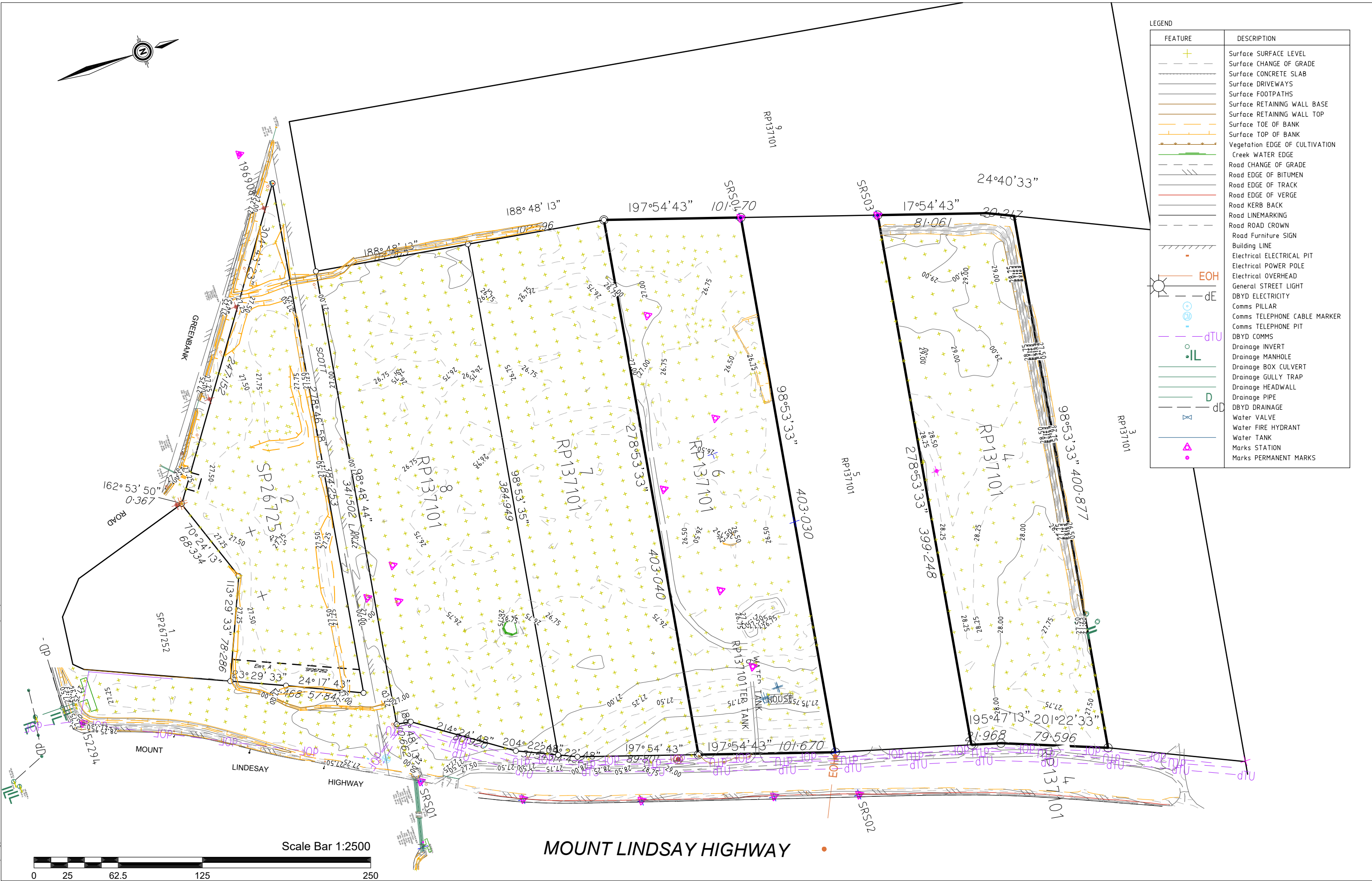




Appendix A – Site Survey



Project Location: Synergy/24/01/22095 - ADHOC - Mount Lindsay Hwy North Maclean/01. 12d Data/4. Detail/22095 4001 MTC Detail 240927.12dmodel



LEGEND	
FEATURE	DESCRIPTION
	Surface SURFACE LEVEL
	Surface CHANGE OF GRADE
	Surface CONCRETE SLAB
	Surface DRIVEWAYS
	Surface FOOTPATHS
	Surface RETAINING WALL BASE
	Surface RETAINING WALL TOP
	Surface TOE OF BANK
	Surface TOP OF BANK
	Vegetation EDGE OF CULTIVATION
	Creek WATER EDGE
	Road CHANGE OF GRADE
	Road EDGE OF BITUMEN
	Road EDGE OF TRACK
	Road EDGE OF VERGE
	Road KERB BACK
	Road LINEMARKING
	Road ROAD CROWN
	Road FURNITURE SIGN
	Building LINE
	Electrical ELECTRICAL PIT
	Electrical POWER POLE
	Electrical OVERHEAD
	General STREET LIGHT
	DBYD ELECTRICITY
	Comms PILLAR
	Comms TELEPHONE CABLE MARKER
	Comms TELEPHONE PIT
	DBYD COMMS
	Drainage INVERT
	Drainage MANHOLE
	Drainage BOX CULVERT
	Drainage GULLY TRAP
	Drainage HEADWALL
	Drainage PIPE
	DBYD DRAINAGE
	Water VALVE
	Water FIRE HYDRANT
	Water TANK
	Marks STATION
	Marks PERMANENT MARKS

REV.	DATE	DESCRIPTION	DRAWN	SURV	CHKD	 SUNRISE SURVEYING	<u>Brisbane (Head Office)</u> Ground Floor, 18 Finchley St, Milton admin@sunrisesurveying.com.au <u>Toowoomba</u> Tenancy 1, 4 Laurel St, Toowoomba toowoomba@sunrisesurveying.com.au <u>Rockhampton</u> Level 1, 150 Denison St, Rockhampton rockhampton@sunrisesurveying.com.au <u>Yeppoon</u> 47 Normanby St, Yeppoon yeppoon@sunrisesurveying.com.au	CLIENT.	PROJECT. Mt Lindsay Highway Maclean HORIZONTAL DATUM. MGA2020 Zone 56 (Ground) Vide PSM 196908 VERTICAL DATUM. AHD D Vide PSM 196908 RL: 27.348	DRAWING DESCRIPTION. Detail Survey Combined Data over Various Lots Sheet 1 of 1	DRAWING NAME: 22095 4001 001-A SCALE. 1: 2500 @ A3	SITE ADDRESS. LOCAL AUTHORITY Logan City Council	SURVEY DATE
A	11/10/24	Issue to Client	11/10/24	MAB	MC								-
													CONTOUR INTERVAL Minor: 0.25 Major: 1
													REV A



Appendix B – 2017 Traffic Survey Data



Turning Movement Count Summary

Site ID: 1

Location: Mt Lindesay Hwy & Greenbank Rd, North Maclean

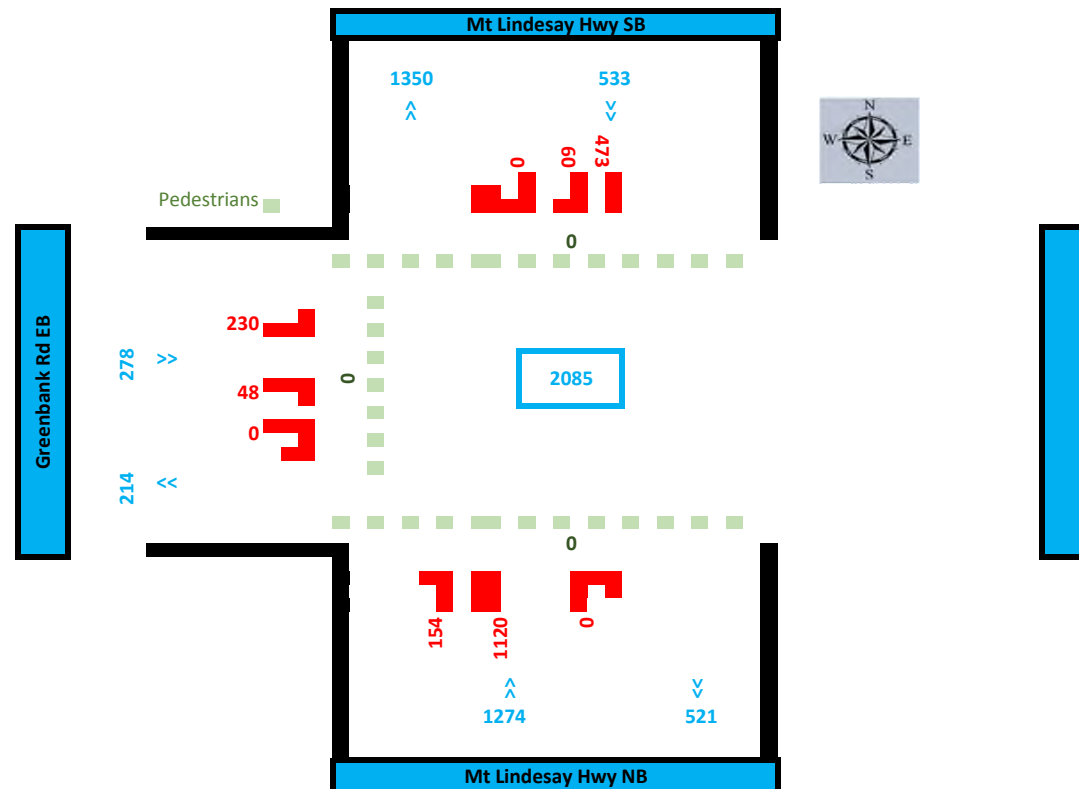
Date: 9-Feb-2016

Surveyed Time: 6:00 AM to 9:00 AM

Weather: Fine

Data for hour starting: 6:15 AM to 7:15 AM

Vehicle Class: ALL VEHICLES



Turning Movement Count Summary

Site ID:

1

Location:

Mt Lindesay Hwy & Greenbank Rd, North Maclean

Date:

9-Feb-2016

Surveyed Time:

3:30 PM

to

6:30 PM

Weather:

Fine

Data for hour starting:

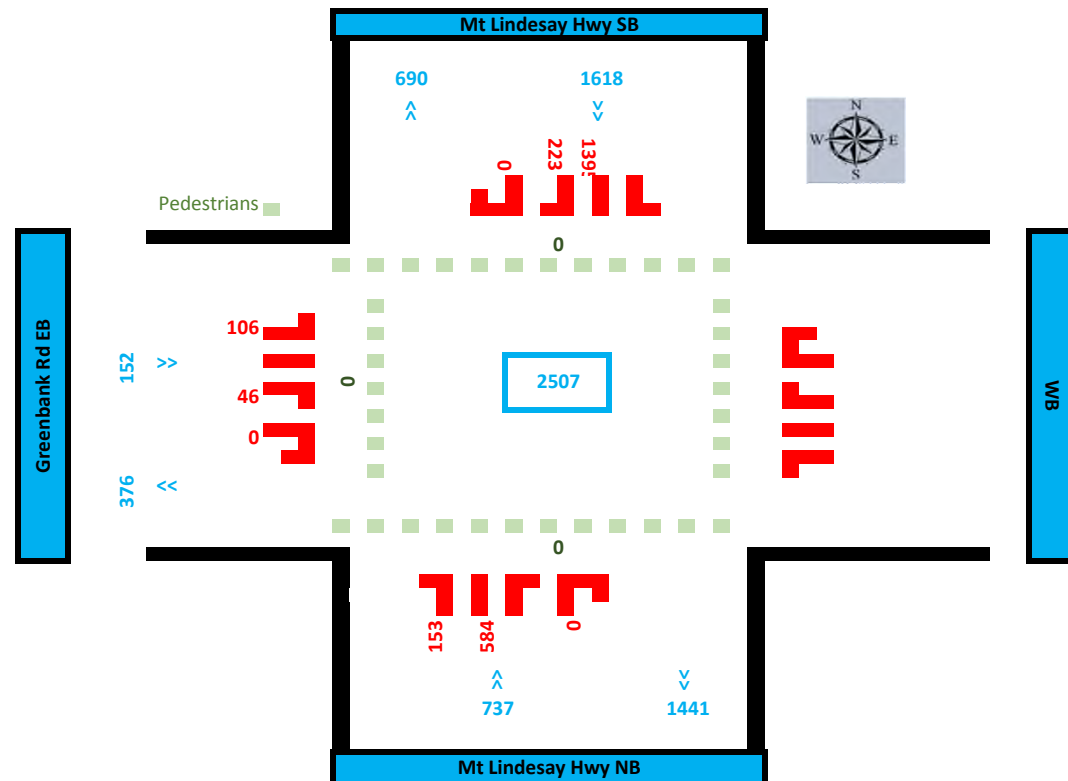
4:15 PM

to

5:15 PM

Vehicle Class:

ALL VEHICLES





Appendix C – SIDRA Outputs



USER REPORT FOR SITE

All Movement Classes



Project: Intersection Models

Template: Movement Summary

Site: 101v [DEV 2035_Greenbank Road / Willowbank Road East - AM Peak (Site Folder: Signals_Dual Right_2035)]

Greenbank Rd / Willowbank Rd

DEV 2025

AM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Convert Function Default

Reference Phase: Phase B

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
SouthEast: Greenbank Road														
2	T1	330	0.0	347	0.0	0.240	3.0	LOS A	3.7	25.7	0.33	0.29	0.33	57.2
3	R2	842	0.0	886	0.0	* 0.750	28.0	LOS C	16.0	112.0	0.91	0.86	0.95	40.2
Approach		1172	0.0	1234	0.0	0.750	21.0	LOS C	16.0	112.0	0.75	0.70	0.78	43.9
NorthEast: Willowbank Road East														
4	L2	85	0.0	89	0.0	0.100	15.4	LOS B	1.6	11.3	0.55	0.70	0.55	46.9
6	R2	1	0.0	1	0.0	* 0.100	15.4	LOS B	1.6	11.3	0.55	0.70	0.55	46.7
Approach		86	0.0	91	0.0	0.100	15.4	LOS B	1.6	11.3	0.55	0.70	0.55	46.8
NorthWest: Greenbank Road														
7	L2	1	0.0	1	0.0	0.772	34.1	LOS C	15.4	107.5	0.97	0.91	1.09	40.7
8	T1	428	0.0	451	0.0	* 0.772	27.2	LOS C	15.4	107.5	0.97	0.91	1.09	41.5
Approach		429	0.0	452	0.0	0.772	27.2	LOS C	15.4	107.5	0.97	0.91	1.09	41.5
All Vehicles		1687	0.0	1776	0.0	0.772	22.3	LOS C	16.0	112.0	0.79	0.75	0.84	43.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 101v [DEV 2035_Greenbank Road / Willowbank Road East - PM Peak (Site Folder: Signals_Dual Right_2035)]

Greenbank Rd / Willowbank Rd

DEV 2025

AM Peak

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 36 seconds (Site Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Convert Function Default

Reference Phase: Phase B

Input Phase Sequence: A, B, C

Output Phase Sequence: A, B, C

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
SouthEast: Greenbank Road														
2	T1	579	0.0	609	0.0	0.625	7.3	LOS A	8.1	56.4	0.78	0.68	0.78	53.6
3	R2	223	0.0	235	0.0	* 0.426	21.2	LOS C	2.3	15.9	0.93	0.77	0.93	43.2
Approach		802	0.0	844	0.0	0.625	11.2	LOS B	8.1	56.4	0.82	0.71	0.82	50.2
NorthEast: Willowbank Road East														
4	L2	391	0.0	412	0.0	0.447	12.0	LOS B	4.8	33.8	0.69	0.77	0.69	49.0
6	R2	1	0.0	1	0.0	* 0.447	12.0	LOS B	4.8	33.8	0.69	0.77	0.69	48.8
Approach		392	0.0	413	0.0	0.447	12.0	LOS B	4.8	33.8	0.69	0.77	0.69	49.0
NorthWest: Greenbank Road														
7	L2	1	0.0	1	0.0	0.745	24.3	LOS C	4.7	33.1	1.00	0.93	1.30	45.0
8	T1	229	0.0	241	0.0	* 0.745	18.5	LOS B	4.7	33.1	1.00	0.93	1.30	46.0
Approach		230	0.0	242	0.0	0.745	18.6	LOS B	4.7	33.1	1.00	0.93	1.30	46.0
All Vehicles		1424	0.0	1499	0.0	0.745	12.6	LOS B	8.1	56.4	0.81	0.76	0.86	49.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

▼ Site: 101 [DEV 2035 Willowbank Road East / Mt Lindesay Hwy Service Road - AM Peak (Site Folder: DEV 2035)]

Willowbank Road East / Mt Lindesay Hwy
DEV 2035
AM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Mount Lindesay Hwy Service Road														
1	L2	14	0.0	15	0.0	0.046	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	57.5
2	T1	71	0.0	75	0.0	0.046	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	59.1
Approach		85	0.0	89	0.0	0.046	0.9	NA	0.0	0.0	0.00	0.10	0.00	58.8
North: Mount Lindesay Hwy Service Road														
8	T1	56	0.0	59	0.0	0.030	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	142	0.0	149	0.0	0.090	5.7	LOS A	0.4	3.0	0.20	0.56	0.20	52.6
Approach		198	0.0	208	0.0	0.090	4.1	NA	0.4	3.0	0.14	0.40	0.14	54.5
West: Willowbank Road East														
10	L2	574	0.0	604	0.0	0.567	6.1	LOS A	4.2	29.1	0.28	0.57	0.29	52.7
12	R2	143	0.0	151	0.0	0.567	9.0	LOS A	4.2	29.1	0.28	0.57	0.29	52.2
Approach		717	0.0	755	0.0	0.567	6.6	LOS A	4.2	29.1	0.28	0.57	0.29	52.6
All Vehicles		1000	0.0	1053	0.0	0.567	5.6	NA	4.2	29.1	0.23	0.50	0.23	53.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [DEV 2035 Willowbank Road East / Mt Lindesay Hwy Service Road - PM Peak (Site Folder: DEV 2035)]

Willowbank Road East / Mt Lindesay Hwy
DEV 2035
AM Peak
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Mount Lindesay Hwy Service Road														
1	L2	67	0.0	71	0.0	0.122	5.6	LOS A	0.0	0.0	0.00	0.18	0.00	56.8
2	T1	155	0.0	163	0.0	0.122	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	58.3
Approach		222	0.0	234	0.0	0.122	1.7	NA	0.0	0.0	0.00	0.18	0.00	57.9
North: Mount Lindesay Hwy Service Road														
8	T1	57	0.0	60	0.0	0.031	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
9	R2	308	0.0	324	0.0	0.223	6.3	LOS A	1.1	7.9	0.38	0.61	0.38	52.1
Approach		365	0.0	384	0.0	0.223	5.4	NA	1.1	7.9	0.32	0.52	0.32	53.2
West: Willowbank Road East														
10	L2	387	0.0	407	0.0	0.354	6.2	LOS A	1.8	12.5	0.34	0.60	0.34	52.6
12	R2	38	0.0	40	0.0	0.354	11.5	LOS B	1.8	12.5	0.34	0.60	0.34	52.1
Approach		425	0.0	447	0.0	0.354	6.7	LOS A	1.8	12.5	0.34	0.60	0.34	52.5
All Vehicles		1012	0.0	1065	0.0	0.354	5.1	NA	1.8	12.5	0.26	0.48	0.26	53.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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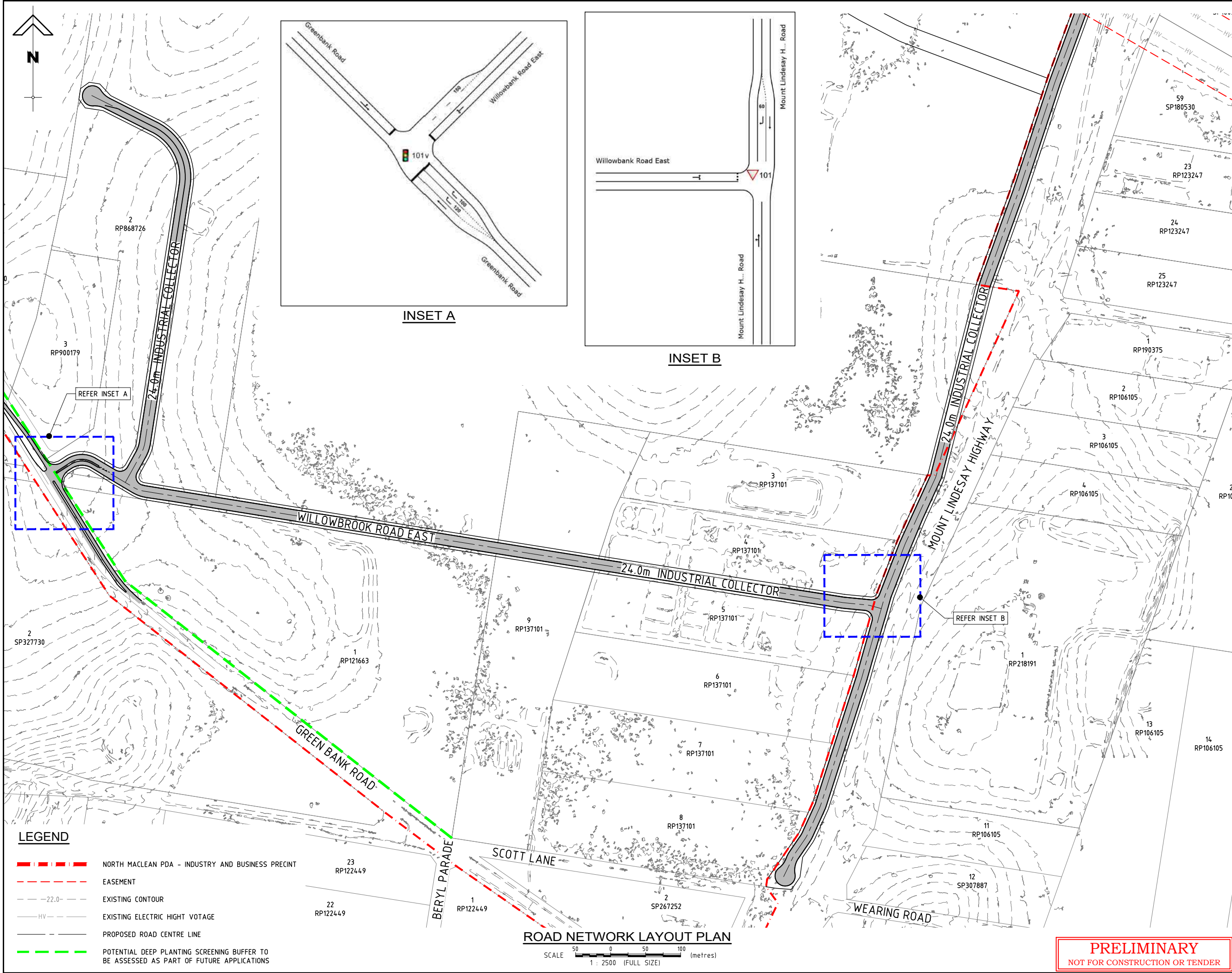
Organisation: BURCHILLS ENGINEERING SOLUTIONS | Licence: NETWORK / 1PC | Created: Thursday, 17 August 2023 1:27:31 PM

Project: I:\Projects\2022\BE220566_4733-4743 Mount Lindesay Highway!\Traffic\SIDRA\Intersection Models.sip9



Appendix D – Structure Plan Layout





PROPOSED INDUSTRIAL DEVELOPMENT

4693-4731 MOUNT LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

**ROUBAIX PROPERTIES
PTY LTD**

A1

ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	UPDATED ISSUE	01-10-24
A	ORIGINAL ISSUE	07-07-23

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

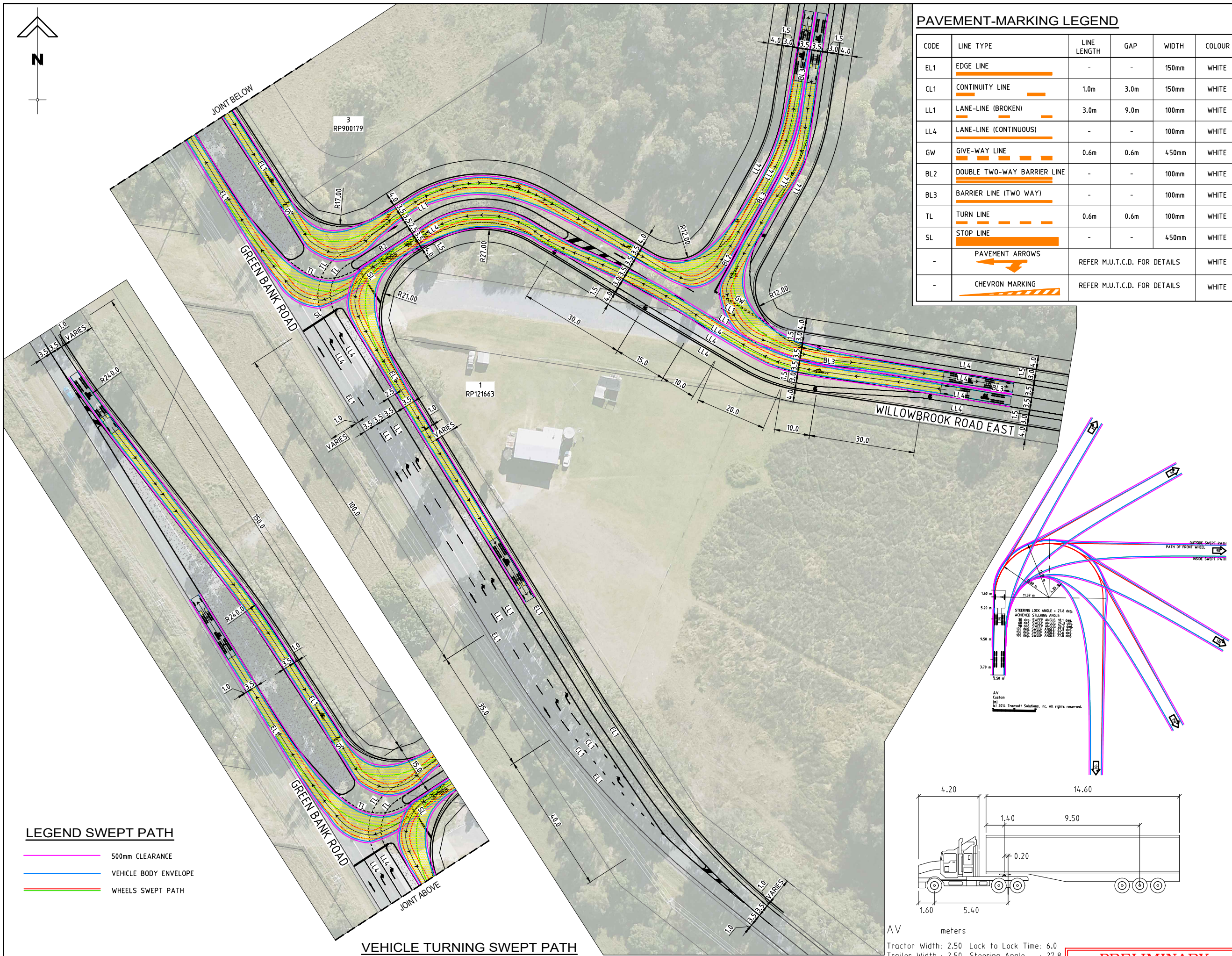
**4693-4731 MOUNT
LINDESAY HIGHWAY**

DRAWING TITLE:

**ROAD NETWORK
LAYOUT PLAN**

DEVEL. APPLIC. No. :	DATE : 01-10-24	
PROJECT LEADER : JACK SHAO		
DESIGNER : NHUNG NGUYEN		
DRAFTSPERSON : NHUNG NGUYEN		
CHECKED : JACK SHAO		
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ No. :		
SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE220566	DRAWING No. : SK01	VERSION: B

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER



PAVEMENT-MARKING LEGEND

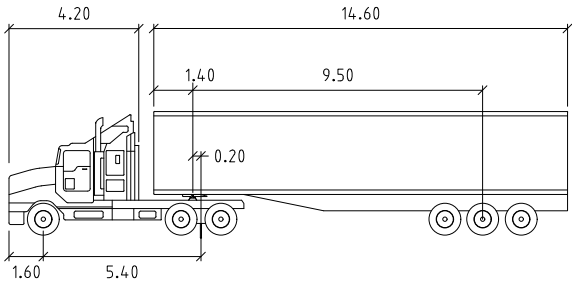
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EL1	EDGE LINE	-	-	150mm	WHITE
CL1	CONTINUITY LINE	1.0m	3.0m	150mm	WHITE
LL1	LANE-LINE (BROKEN)	3.0m	9.0m	100mm	WHITE
LL4	LANE-LINE (CONTINUOUS)	-	-	100mm	WHITE
GW	GIVE-WAY LINE	0.6m	0.6m	450mm	WHITE
BL2	DOUBLE TWO-WAY BARRIER LINE	-	-	100mm	WHITE
BL3	BARRIER LINE (TWO WAY)	-	-	100mm	WHITE
TL	TURN LINE	0.6m	0.6m	100mm	WHITE
SL	STOP LINE	-	-	450mm	WHITE
-	PAVEMENT ARROWS	REFER M.U.T.C.D. FOR DETAILS			WHITE
-	CHEVRON MARKING	REFER M.U.T.C.D. FOR DETAILS			WHITE

LEGEND SWEEP PATH

- 500mm CLEARANCE
- VEHICLE BODY ENVELOPE
- WHEELS SWEEP PATH

VEHICLE TURNING SWEEP PATH

SCALE 1 : 400 (FULL SIZE)



Tractor Width: 2.50 Lock to Lock Time: 6.0
Tractor Track: 2.50 Steering Angle : 27.8
Trailer Track : 2.50 Articulating Angle: 70.0

PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

PROPOSED INDUSTRIAL DEVELOPMENT

4693-4731 MOUNT LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES
PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	UPDATED ISSUE	01-10-24
A	ORIGINAL ISSUE	12-08-24
VER.	DESCRIPTION	DATE

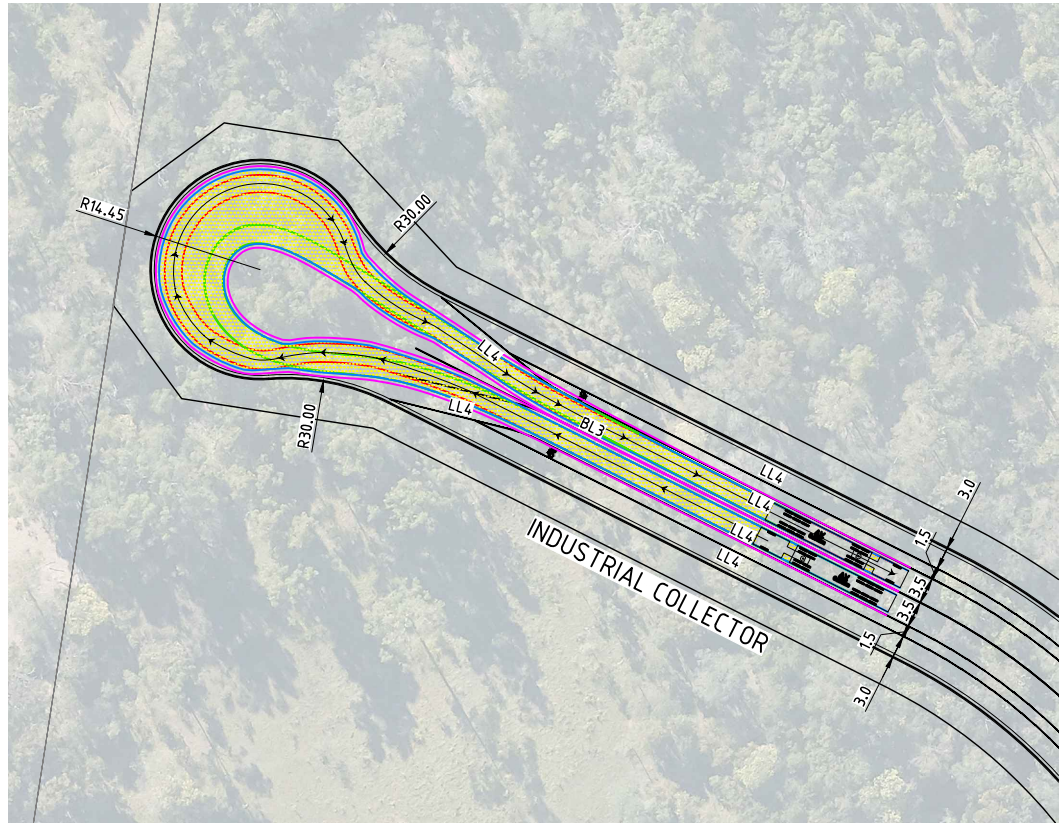
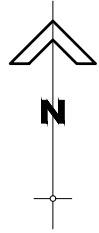
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NOTE
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Figured dimensions take precedence over scale. Do not scale reduced size drawings. Verify dimensions prior to commencing any on-site or off-site works or fabrication.

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
4693-4731 MOUNT LINDESAY HIGHWAY

DRAWING TITLE:
VEHICLE TURNING SWEEP PATH SHEET 1

DEVEL. APPLIC. No. :	DATE : 01-10-24
PROJECT LEADER : JACK SHAO	
DESIGNER : NHUNG NGUYEN	
DRAFTSPERSON : NHUNG NGUYEN	
CHECKED : JACK SHAO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS	ABN 76 166 942 365
RPEQ No. :	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE220566	DRAWING No. : SK02
	VERSION: B

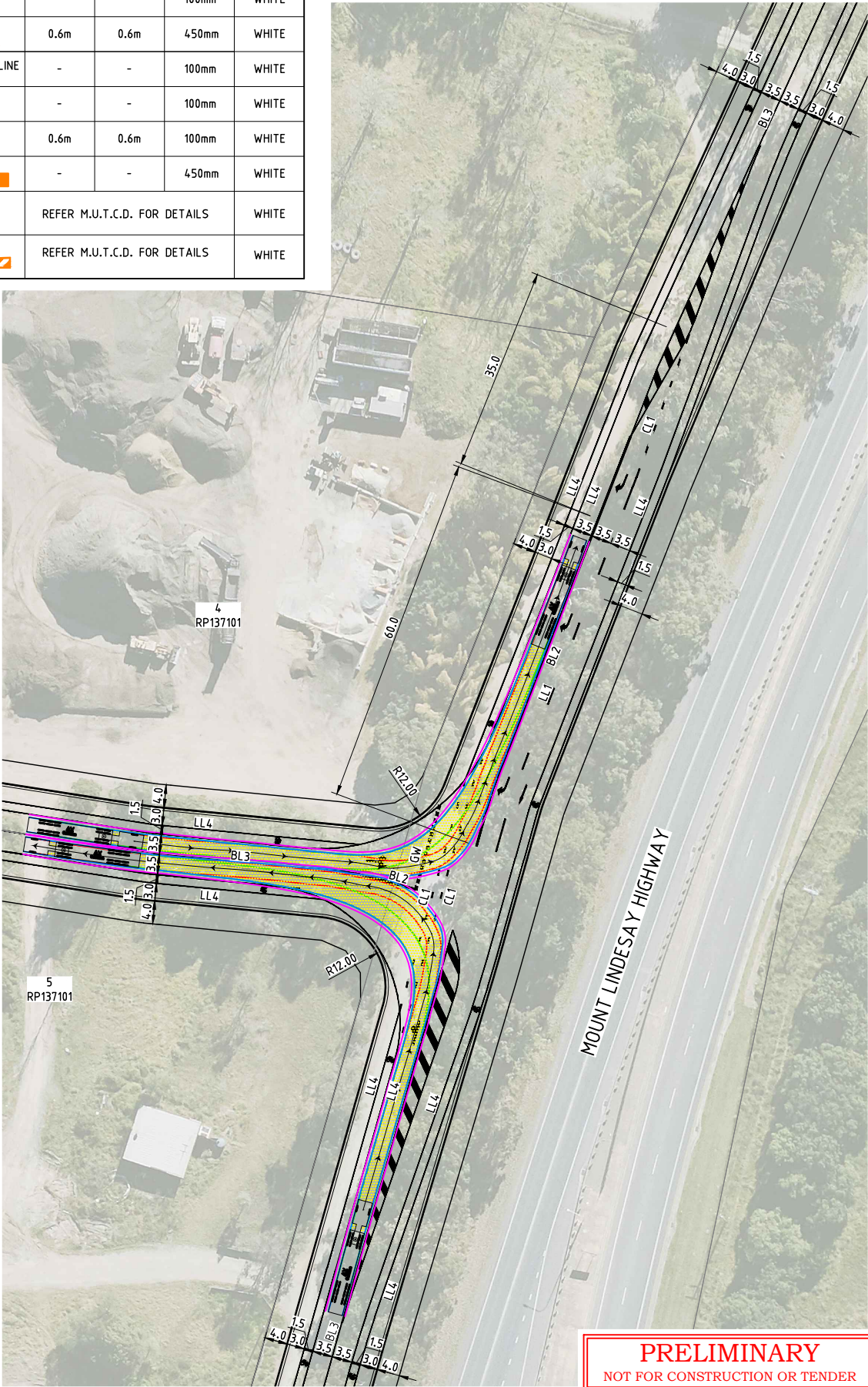


PAVEMENT-MARKING LEGEND

CODE	LINE TYPE	LINE LENGTH	GAP	WIDTH	COLOUR
EL1	EDGE LINE	-	-	150mm	WHITE
CL1	CONTINUITY LINE	1.0m	3.0m	150mm	WHITE
LL1	LANE-LINE (BROKEN)	3.0m	9.0m	100mm	WHITE
LL4	LANE-LINE (CONTINUOUS)	-	-	100mm	WHITE
GW	GIVE-WAY LINE	0.6m	0.6m	450mm	WHITE
BL2	DOUBLE TWO-WAY BARRIER LINE	-	-	100mm	WHITE
BL3	BARRIER LINE (TWO WAY)	-	-	100mm	WHITE
TL	TURN LINE	0.6m	0.6m	100mm	WHITE
SL	STOP LINE	-	-	450mm	WHITE
-	PAVEMENT ARROWS	REFER M.U.T.C.D. FOR DETAILS			WHITE
-	CHEVRON MARKING	REFER M.U.T.C.D. FOR DETAILS			WHITE

LEGEND SWEEP PATH

- 500mm CLEARANCE
- VEHICLE BODY ENVELOPE
- WHEELS SWEEP PATH



PROPOSED INDUSTRIAL DEVELOPMENT

4693-4731 MOUNT LINESAY HIGHWAY, NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6 ON RP137101
FOR

ROUBAIX PROPERTIES PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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A	ORIGINAL ISSUE	12-08-24
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IPSWICH | MORETON BAY
PHONE: +61 7 5509 6400
FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

4693-4731 MOUNT LINESAY HIGHWAY

DRAWING TITLE:

VEHICLE TURNING SWEEP PATH SHEET 2

DEVEL. APPLIC. No. : DATE : 01-10-24

PROJECT LEADER : JACK SHAO

DESIGNER : NHUNG NGUYEN

DRAFTSPERSON : NHUNG NGUYEN

CHECKED : JACK SHAO

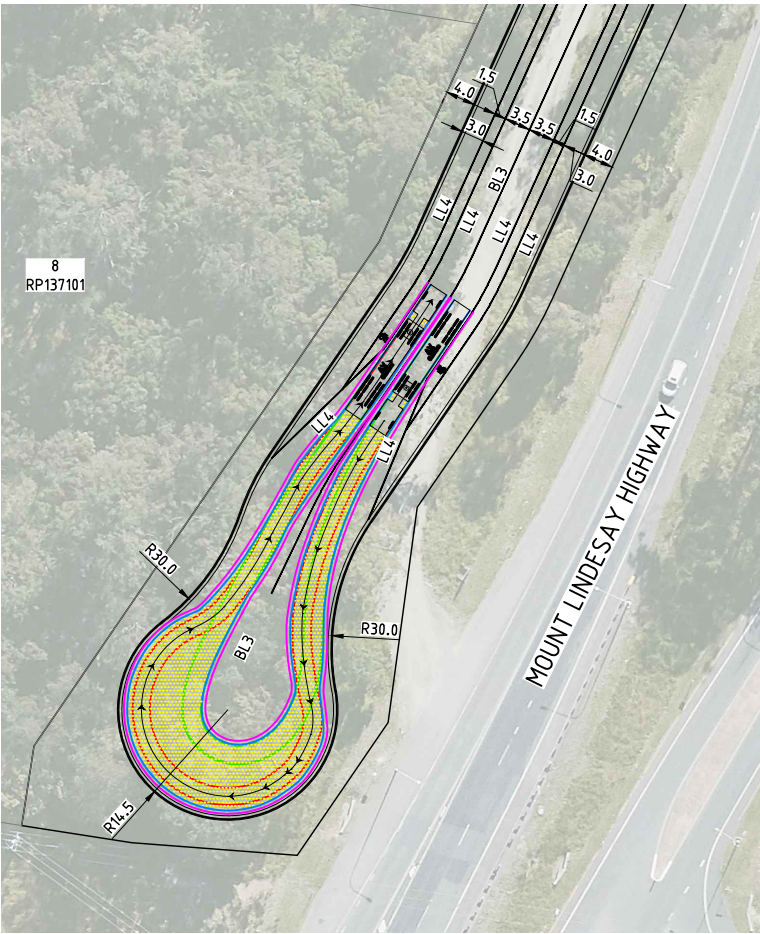
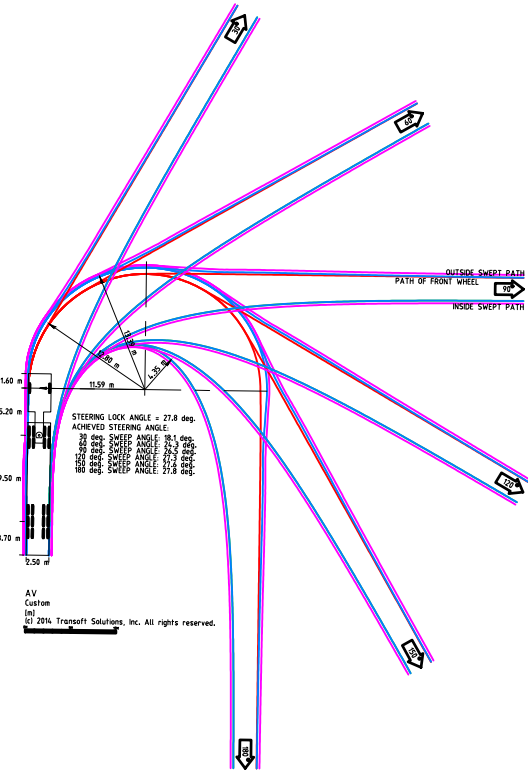
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No. :

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION :

BE220566 SK03 B

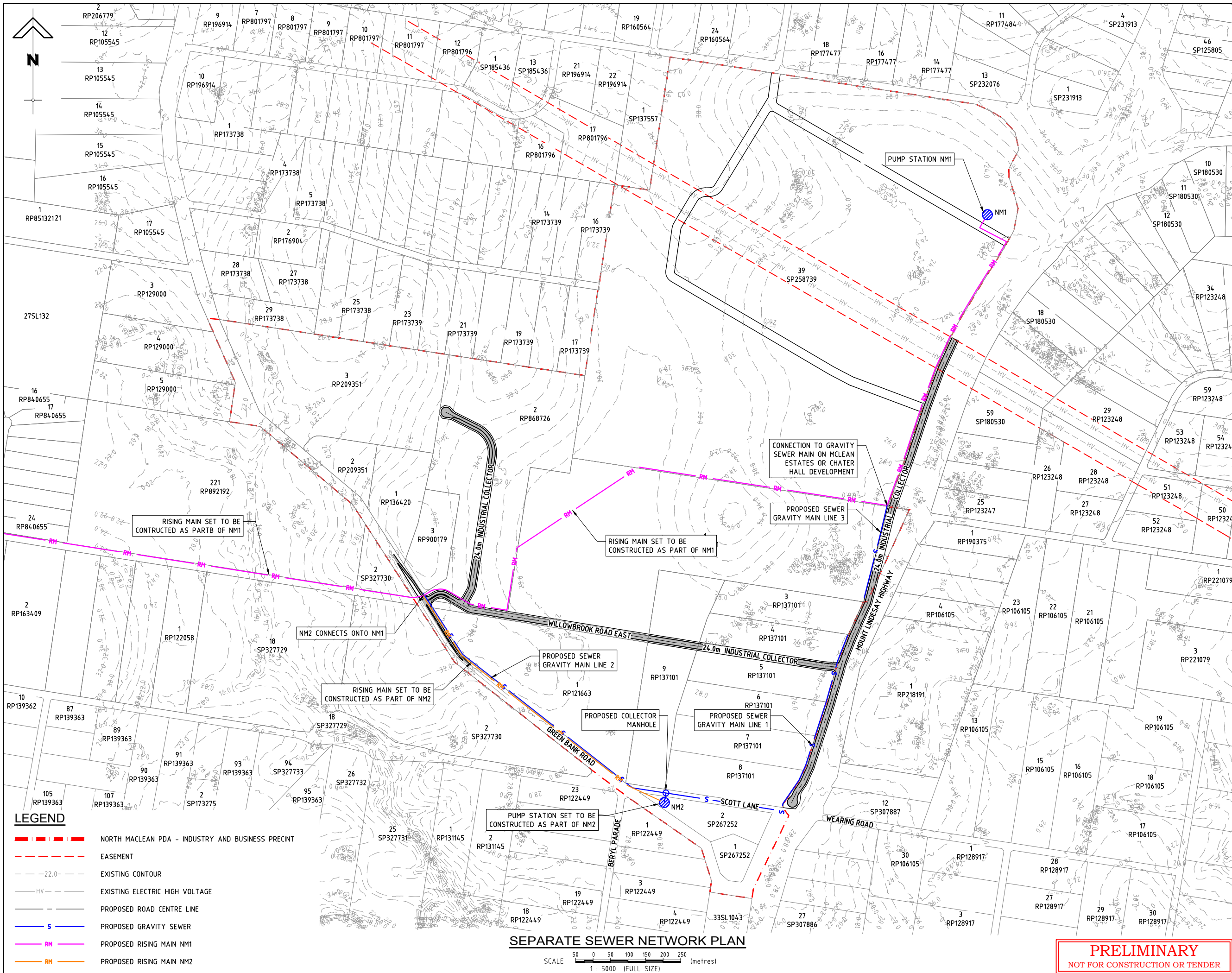


VEHICLE TURNING SWEEP PATH

SCALE 1 : 500 (FULL SIZE) (metres)

AV

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



PROPOSED INDUSTRIAL DEVELOPMENT

4693-4731 MOUNT LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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B	UPDATED ISSUE	01-10-24
A	ORIGINAL ISSUE	28-07-23

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

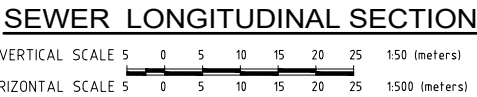
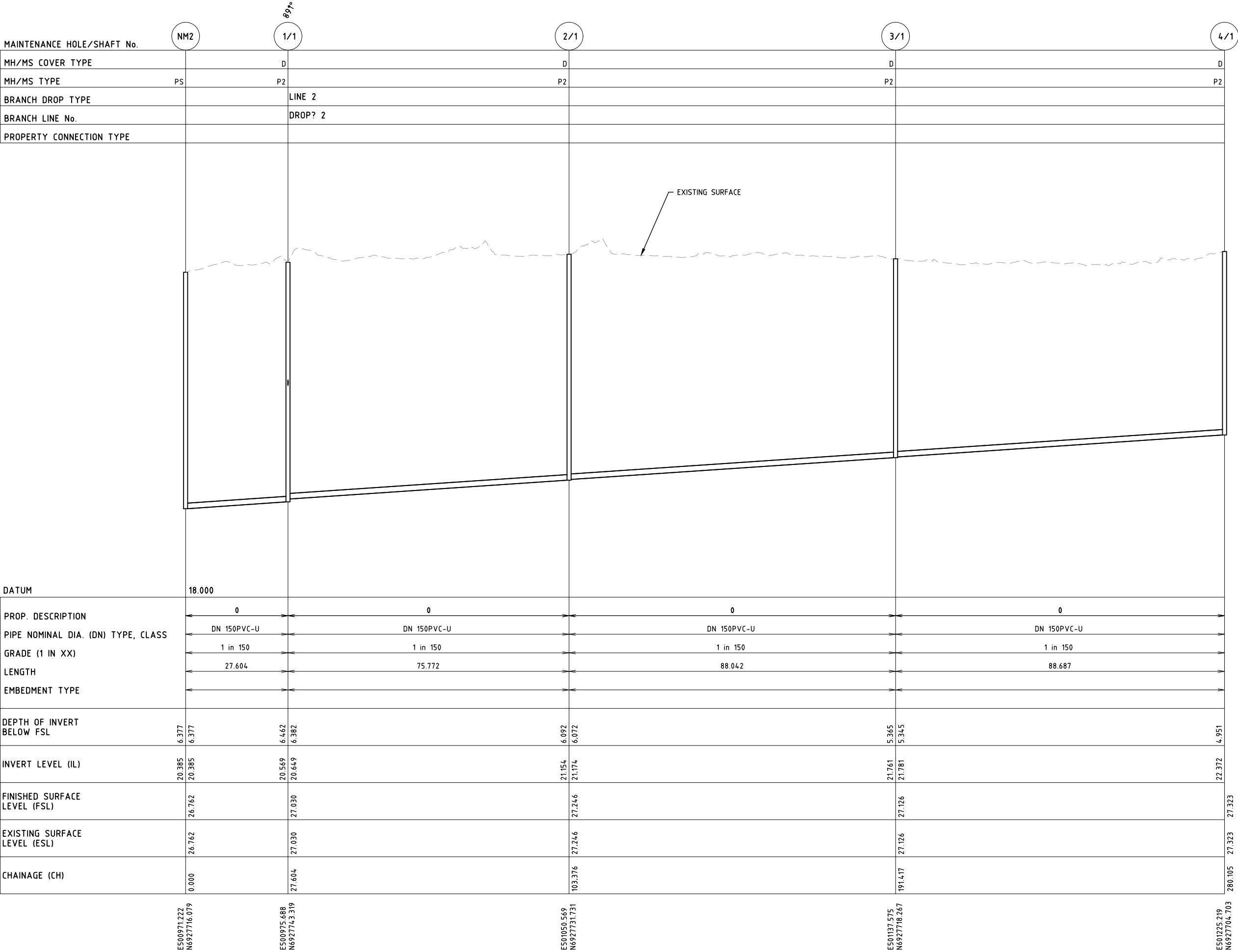
PROJECT:

4693-4731 MOUNT LINDESAY HIGHWAY

DRAWING TITLE:

SEPARATE SEWER NETWORK PLAN

DEVEL. APPLIC. No. :	DATE : 01-10-24
PROJECT LEADER : JACK SHAO	
DESIGNER : NHUNG NGUYEN	
DRAFTSPERSON : NHUNG NGUYEN	
CHECKED : JACK SHAO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. :	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE220566	DRAWING No. : SK04
	VERSION: B



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PROPOSED
INDUSTRIAL
DEVELOPMENT

4693-4731 MOUNT
LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES
PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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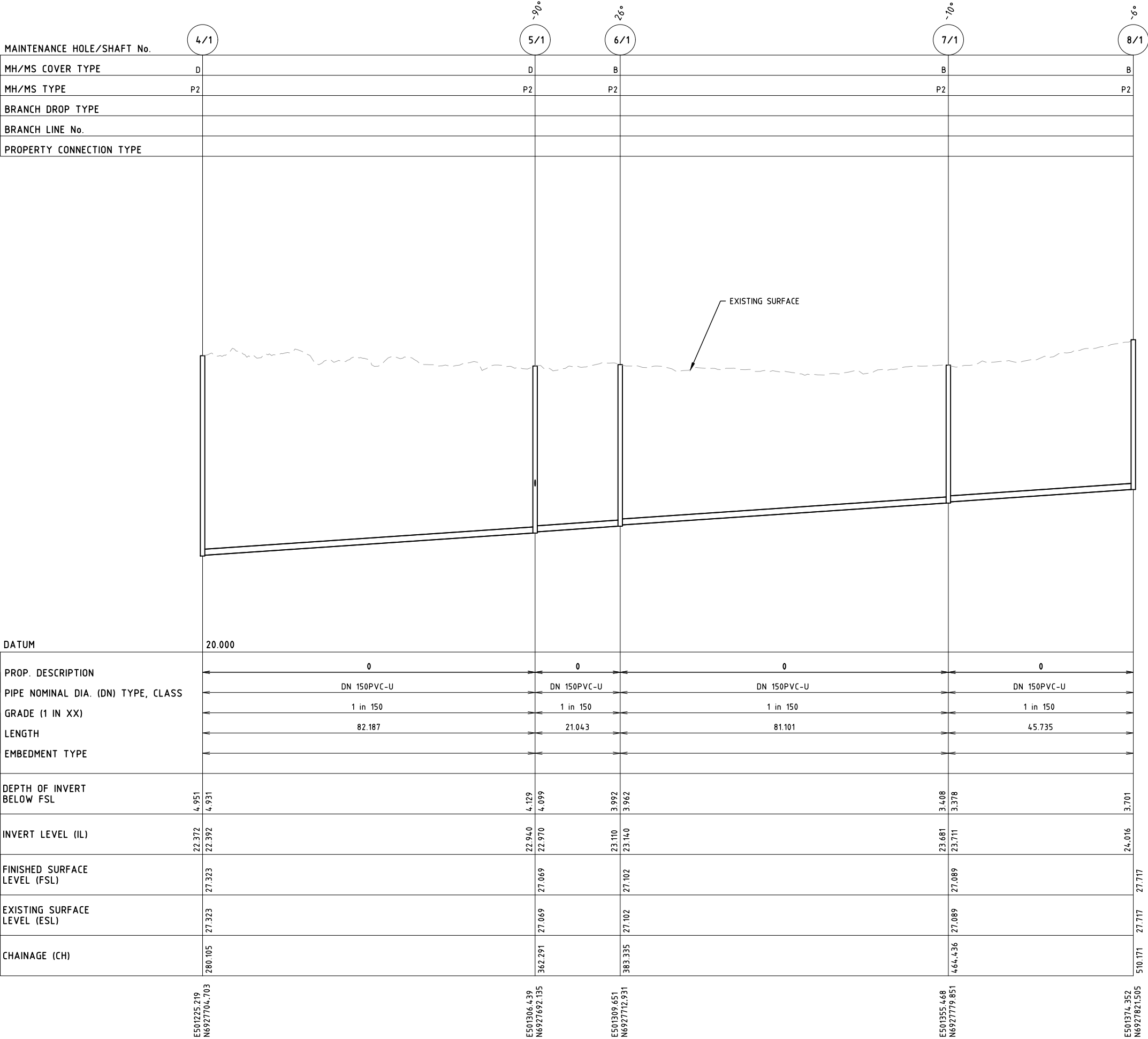
PROJECT:

4693-4731 MOUNT
LINDESAY HIGHWAY

DRAWING TITLE :

SEWER LONGITUDINAL
SECTION SHEET 1

DEVEL. APPLIC. No. :	DATE : 01-10-24
PROJECT LEADER : JACK SHAO	
DESIGNER : NHUNG NGUYEN	
DRAFTSPERSON : NHUNG NGUYEN	
CHECKED : JACK SHAO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. :	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE220566	DRAWING No. : SK06
	VERSION: B



PROPOSED
INDUSTRIAL
DEVELOPMENT

4693-4731 MOUNT
LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES
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COOTE Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

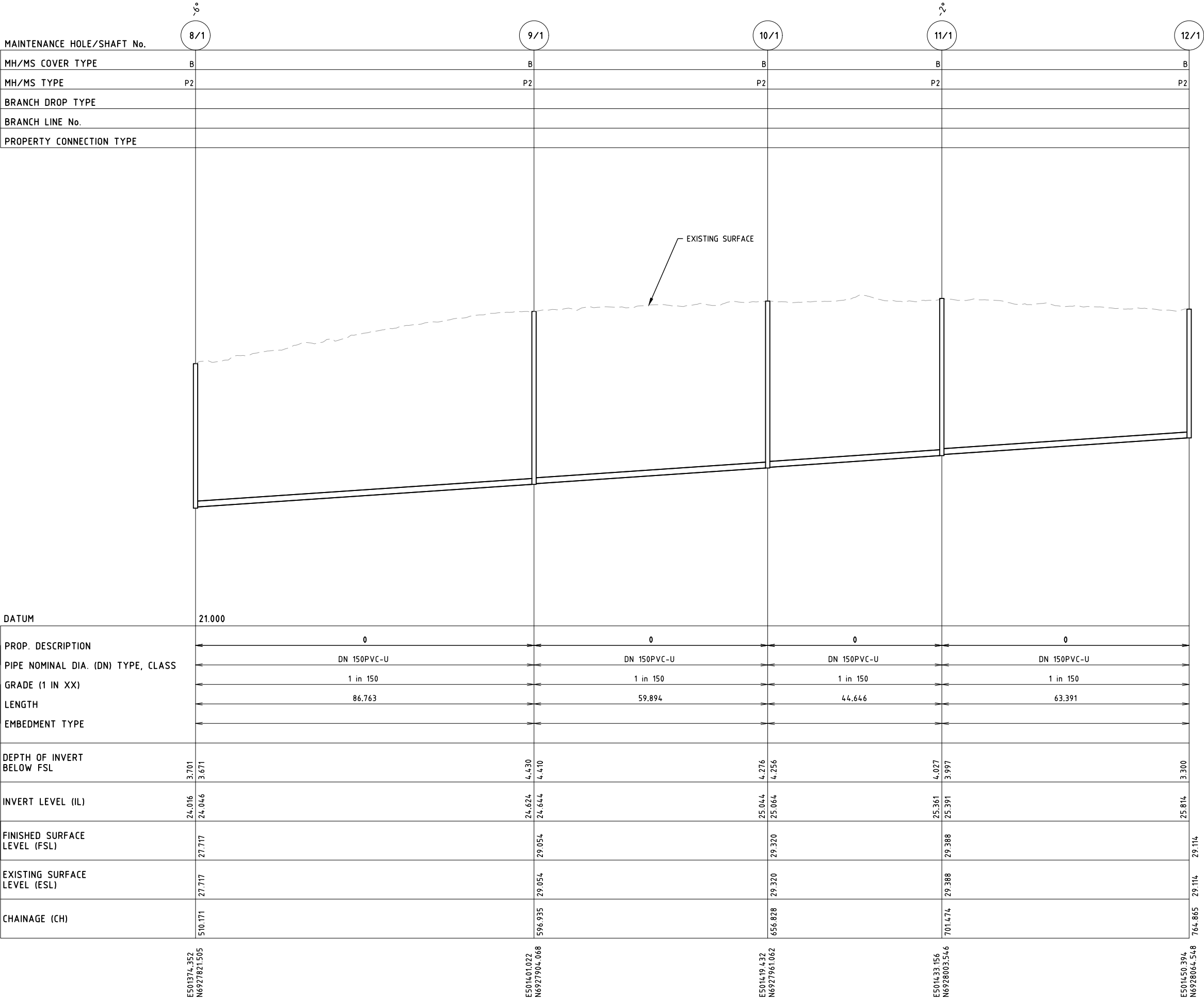
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LINDESAY HIGHWAY

DRAWING TITLE :

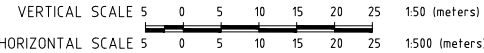
SEWER LONGITUDINAL
SECTION SHEET 2

DEVEL. APPLIC. No. :	DATE : 01-10-24
PROJECT LEADER : JACK SHAO	
DESIGNER : NHUNG NGUYEN	
DRAFTSPERSON : NHUNG NGUYEN	
CHECKED : JACK SHAO	
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RPEQ No. :	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE220566	DRAWING No. : SK07
	VERSION: B

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SEWER LONGITUDINAL SECTION



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4693-4731 MOUNT
LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES
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COOTE Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

4693-4731 MOUNT
LINDESAY HIGHWAY

DRAWING TITLE :

SEWER LONGITUDINAL
SECTION SHEET 3

DEVEL. APPLIC. No. : DATE : 01-10-24

PROJECT LEADER : JACK SHAO

DESIGNER : NHUNG NGUYEN

DRAFTSPERSON : NHUNG NGUYEN

CHECKED : JACK SHAO

APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

RPEQ No. :

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION:

BE220566 SK08 B

PROPOSED
INDUSTRIAL
DEVELOPMENT

4693-4731 MOUNT
LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES
PTY LTD

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ABN 76 166 942 365

PROJECT:

4693-4731 MOUNT
LINDESAY HIGHWAY

DRAWING TITLE :

SEWER LONGITUDINAL
SECTION SHEET 4

DEVEL. APPLIC. No. : DATE : 01-10-24

PROJECT LEADER : JACK SHAO

DESIGNER : NHUNG NGUYEN

DRAFTSPERSON : NHUNG NGUYEN

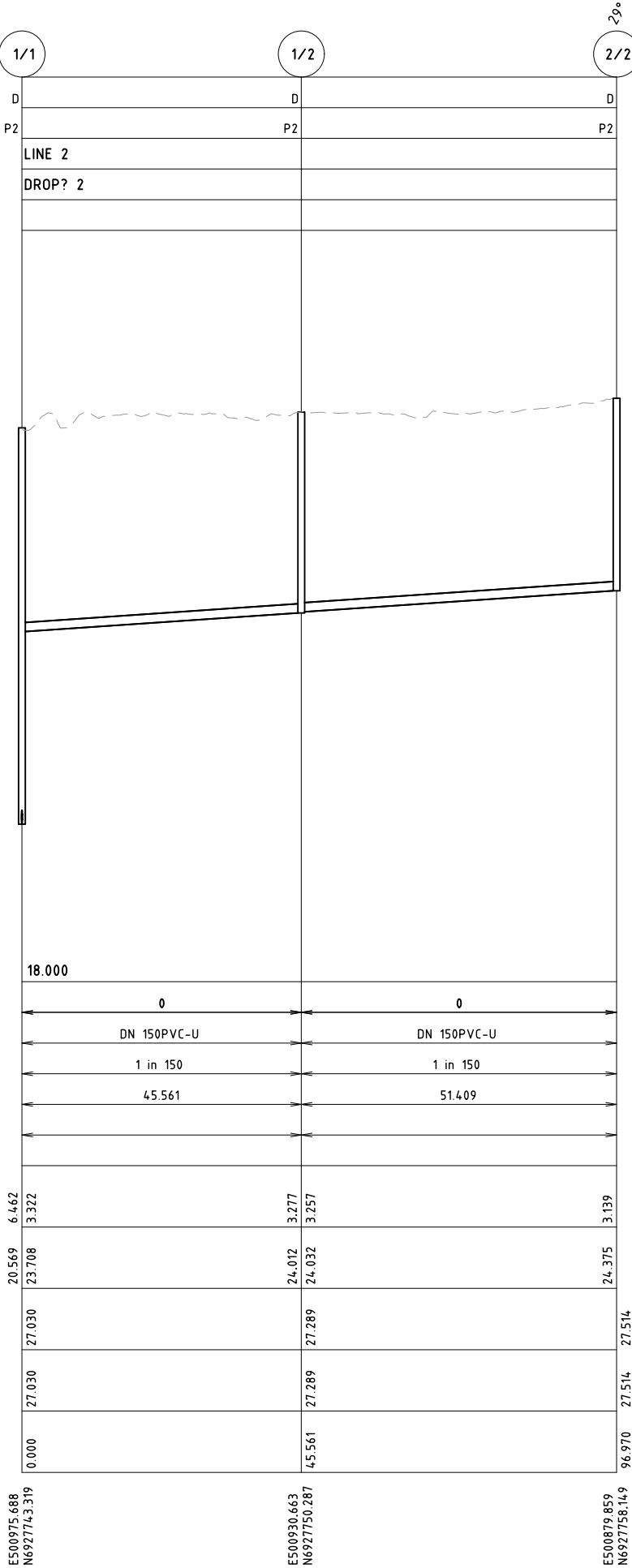
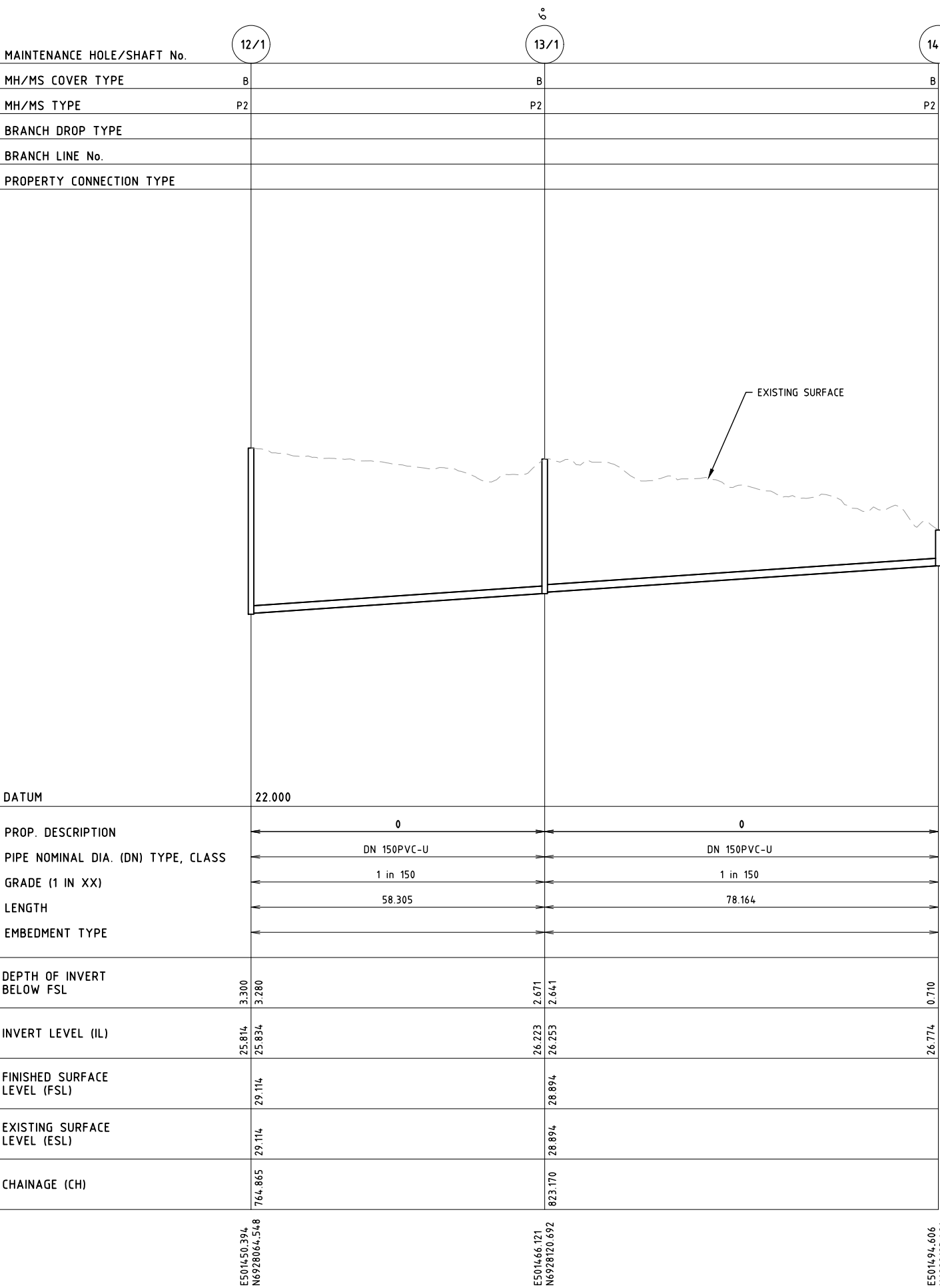
CHECKED : JACK SHAO

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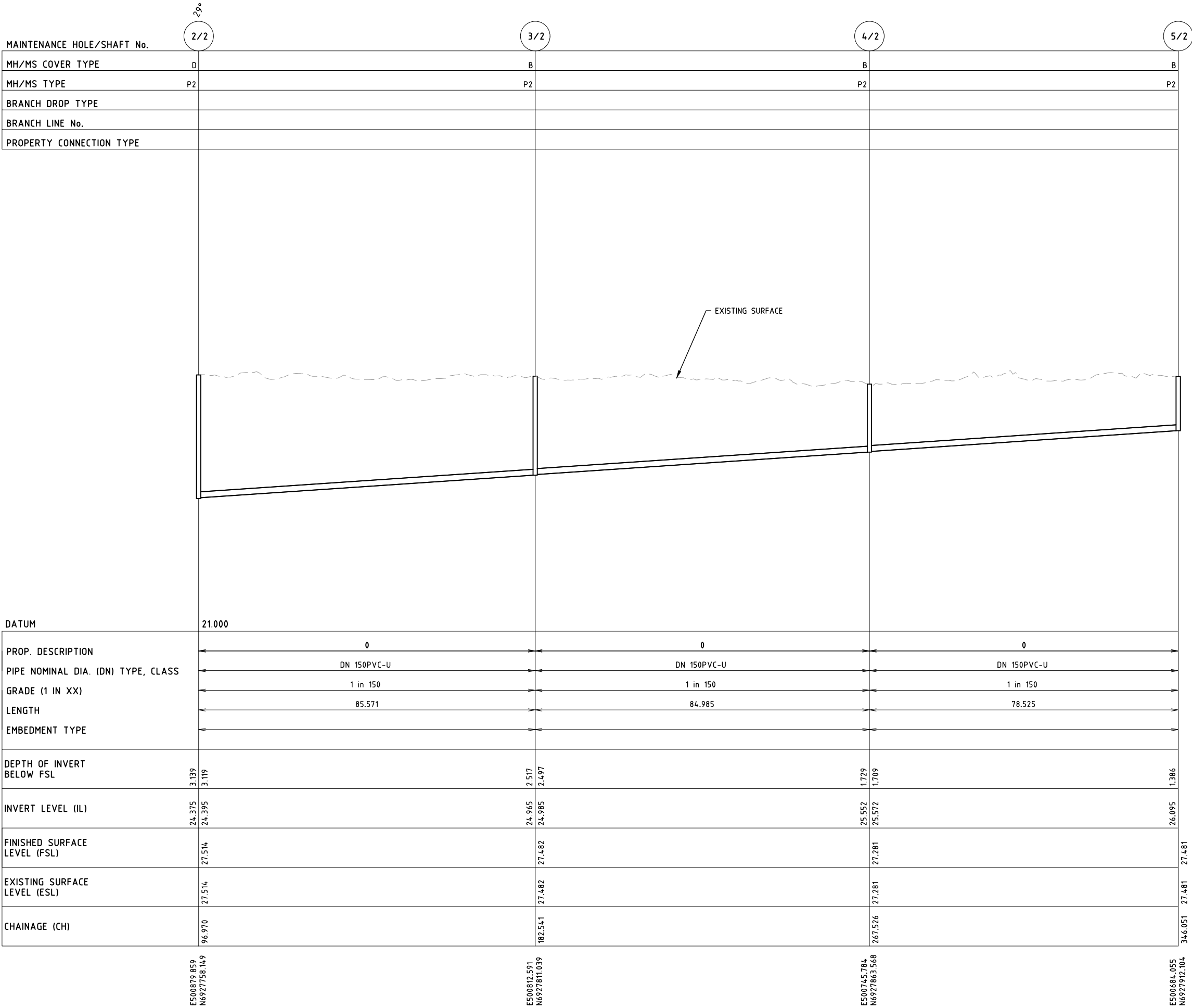
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SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

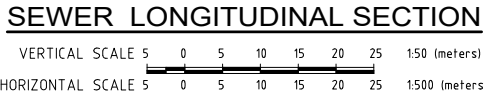
PROJECT No.: BE220566 DRAWING No.: SK09 VERSION: B



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LINE 2



PRELIMINARY

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PROPOSED
INDUSTRIAL
DEVELOPMENT

4693-4731 MOUNT
LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES
PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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ABN 76 166 942 365

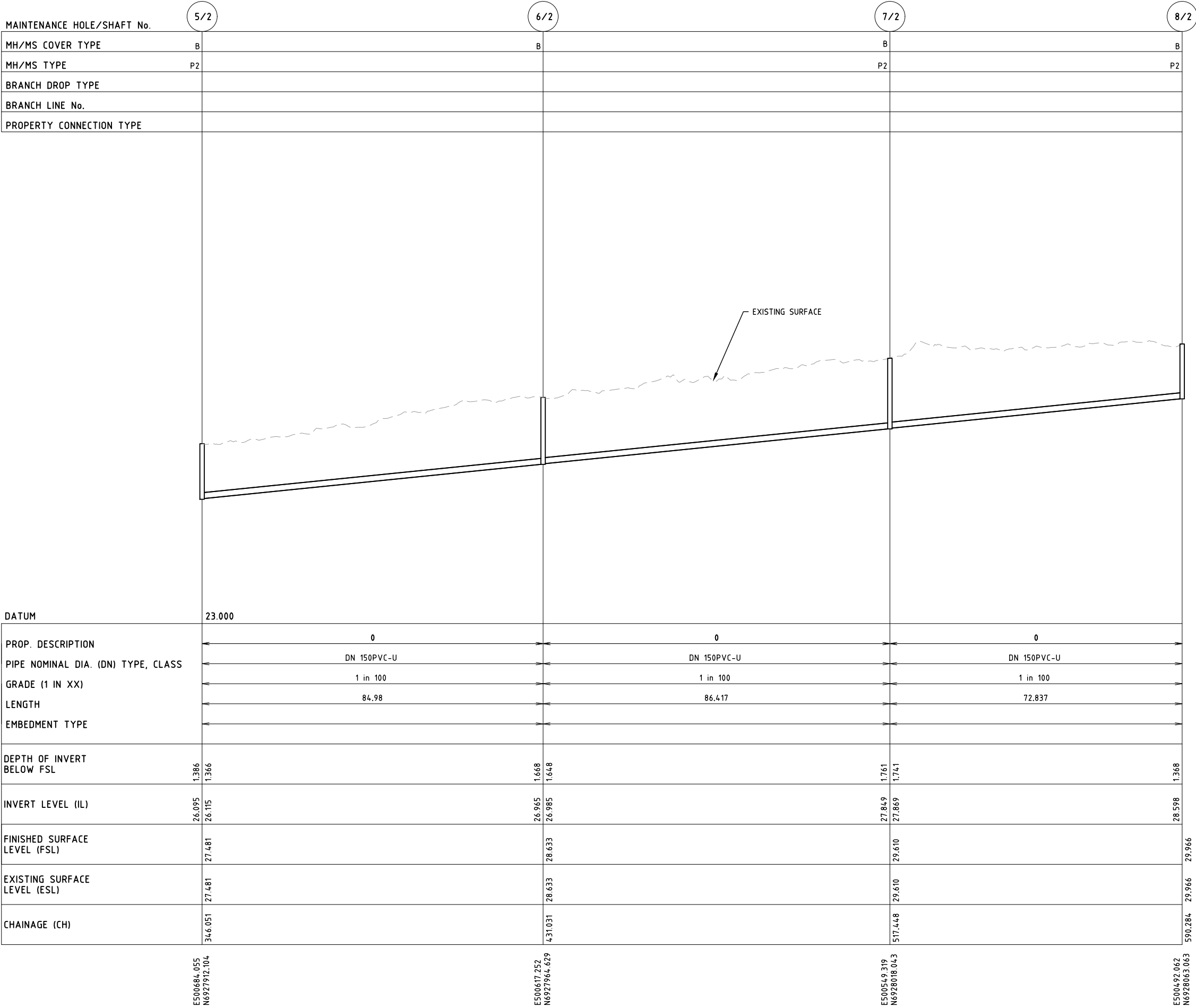
PROJECT:

4693-4731 MOUNT
LINDESAY HIGHWAY

DRAWING TITLE :

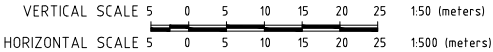
SEWER LONGITUDINAL
SECTION SHEET 5

DEVEL. APPLIC. No. :	DATE : 01-10-24
PROJECT LEADER : JACK SHAO	
DESIGNER : NHUNG NGUYEN	
DRAFTSPERSON : NHUNG NGUYEN	
CHECKED : JACK SHAO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. :	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE220566	DRAWING No. : SK10
	VERSION: B



LINE 2

SEWER LONGITUDINAL SECTION



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PROPOSED
INDUSTRIAL
DEVELOPMENT

4693-4731 MOUNT
LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES
PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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COOTE Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

4693-4731 MOUNT
LINDESAY HIGHWAY

DRAWING TITLE :

SEWER LONGITUDINAL
SECTION SHEET 6

DEVEL. APPLIC. No. : DATE : 01-10-24

PROJECT LEADER : JACK SHAO

DESIGNER : NHUNG NGUYEN

DRAFTSPERSON : NHUNG NGUYEN

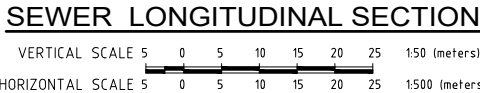
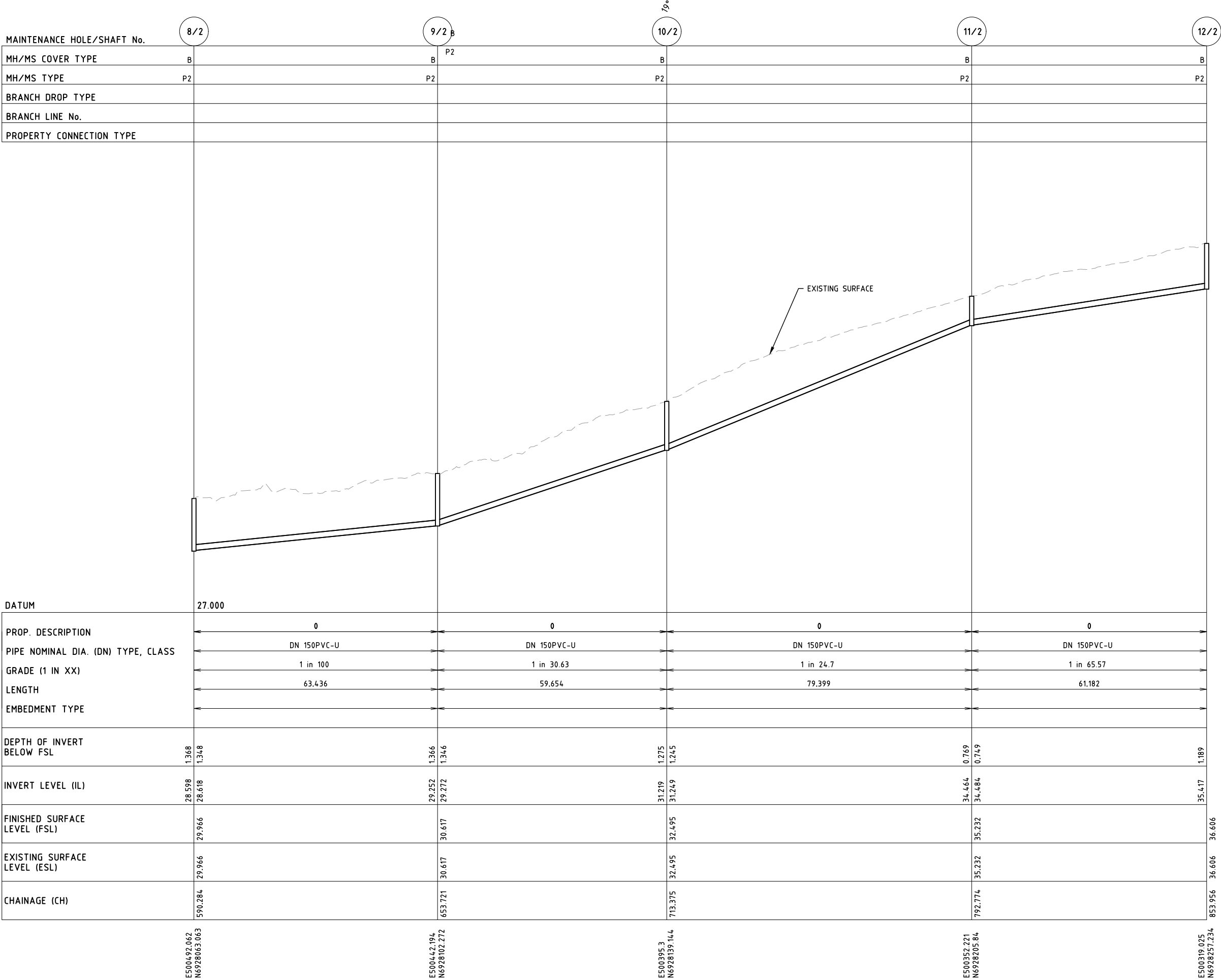
CHECKED : JACK SHAO

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RPEQ No. :

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No.: BE220566 DRAWING No.: SK11 VERSION: B



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PROPOSED INDUSTRIAL DEVELOPMENT

4693-4731 MOUNT LINDESAY HIGHWAY, NORTH MACLEAN RPD: LOT 3, 4, 5 AND 6 ON RP137101 FOR

ROUBAIX PROPERTIES PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

4693-4731 MOUNT LINDESAY HIGHWAY

DRAWING TITLE :

SEWER LONGITUDINAL SECTION SHEET 7

DEVEL. APPLIC. No. :	DATE : 01-10-24
PROJECT LEADER : JACK SHAO	
DESIGNER : NHUNG NGUYEN	
DRAFTSPERSON : NHUNG NGUYEN	
CHECKED : JACK SHAO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. :	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE220566	DRAWING No. : SK12
	VERSION: B

13/2



SEWER LONGITUDINAL SECTION

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MAINTENANCE HOLE/SHAFT No.

MH/MS COVER TYPE

MH/MS TYPE

BRANCH DROP TYPE

BRANCH LINE No.

PROPERTY CONNECTION TYPE

1/3

2/3

3/3

4/3

B

P2

B

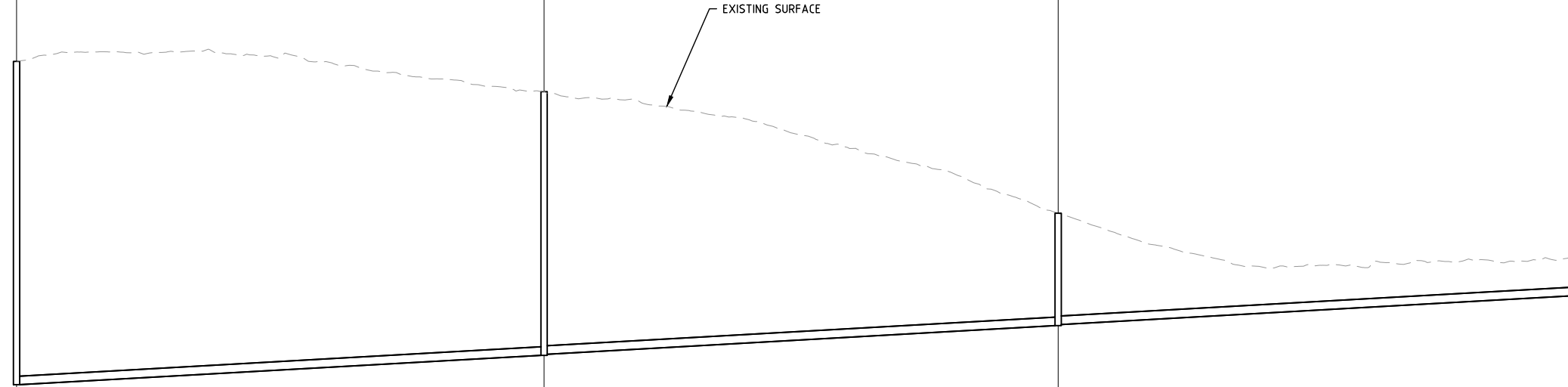
P2

B

P2

B

P2



DATUM

21.000

PROP. DESCRIPTION

PIPE NOMINAL DIA. (DN) TYPE, CLASS

GRADE (1 IN XX)

LENGTH

EMBEDMENT TYPE

0	0	0
DN 150PVC-U	DN 150PVC-U	DN 150PVC-U
1 in 180	1 in 180	1 in 180
92.36	90	90

DEPTH OF INVERT
BELOW FSL

5.657

5.657

4.615

4.595

1.968

1.948

0.676

INVERT LEVEL (IL)

24.177

24.177

24.691

24.711

25.211

25.231

25.731

FINISHED SURFACE
LEVEL (FSL)

29.834

29.834

29.305

29.305

27.179

27.179

26.407

EXISTING SURFACE
LEVEL (ESL)

29.834

29.834

29.305

29.305

27.179

27.179

26.407

CHAINAGE (CH)

0.000

92.360

182.360

272.360

E501607 326
N6928564.194

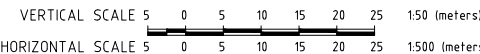
E501585 996
N6928474.33

E501563 761
N6928387.12

E501541 527
N6928299.91

LINE 3

SEWER LONGITUDINAL SECTION



PRELIMINARY
NOT FOR CONSTRUCTION OR TENDER

PROPOSED INDUSTRIAL DEVELOPMENT

4693-4731 MOUNT
LINDESAY HIGHWAY,
NORTH MACLEAN
RPD: LOT 3, 4, 5 AND 6
ON RP137101
FOR

ROUBAIX PROPERTIES
PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

B	UPDATED ISSUE	01-10-24
A	ORIGINAL ISSUE	08-08-23
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

4693-4731 MOUNT
LINDESAY HIGHWAY

DRAWING TITLE :

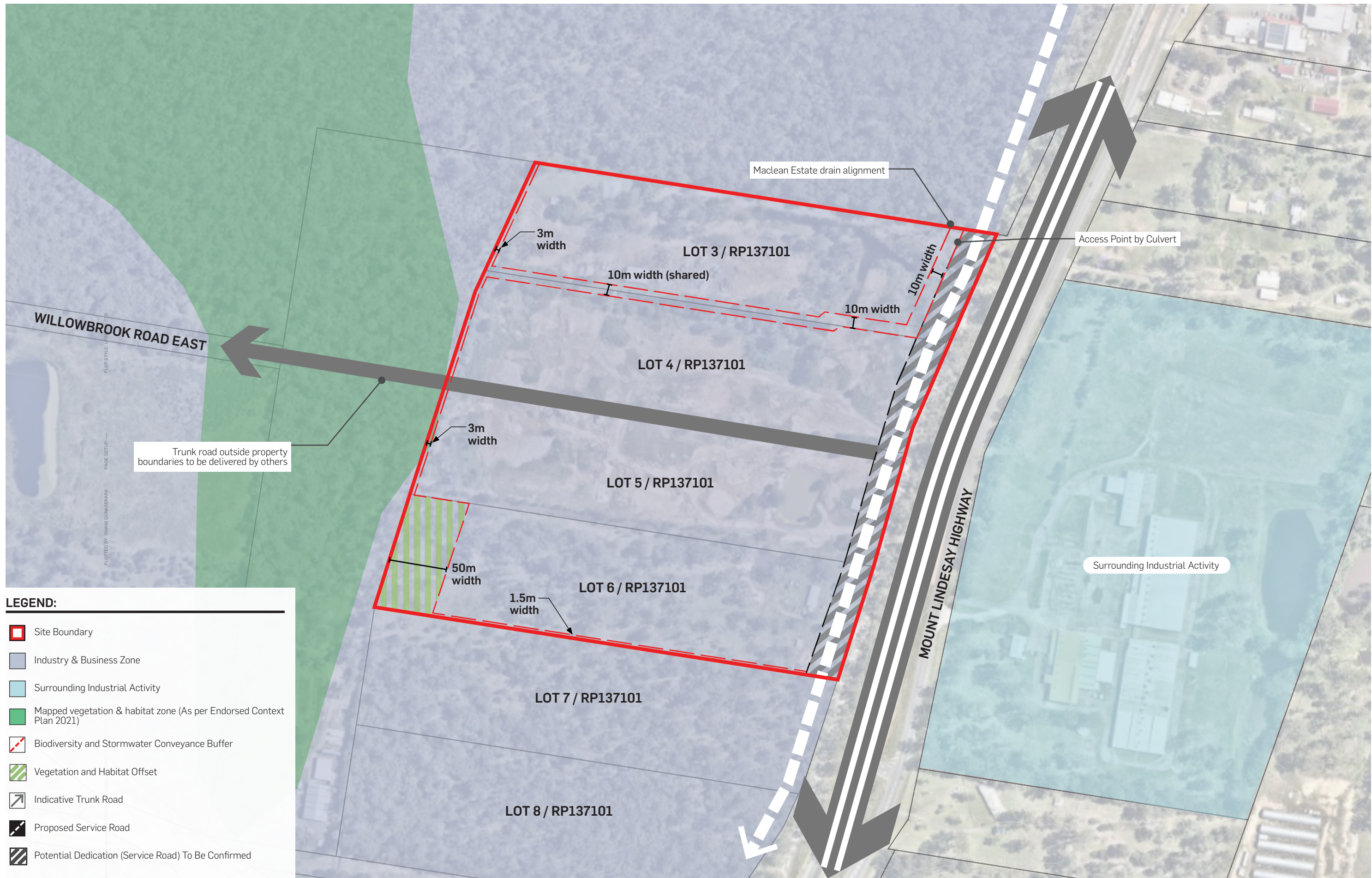
SEWER LONGITUDINAL
SECTION SHEET 9

DEVEL. APPLIC. No. :	DATE : 01-10-24
PROJECT LEADER : JACK SHAO	
DESIGNER : NHUNG NGUYEN	
DRAFTSPERSON : NHUNG NGUYEN	
CHECKED : JACK SHAO	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ No. :	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE220566	DRAWING No. : SK14
	VERSION: B



Appendix E – Plan of Development

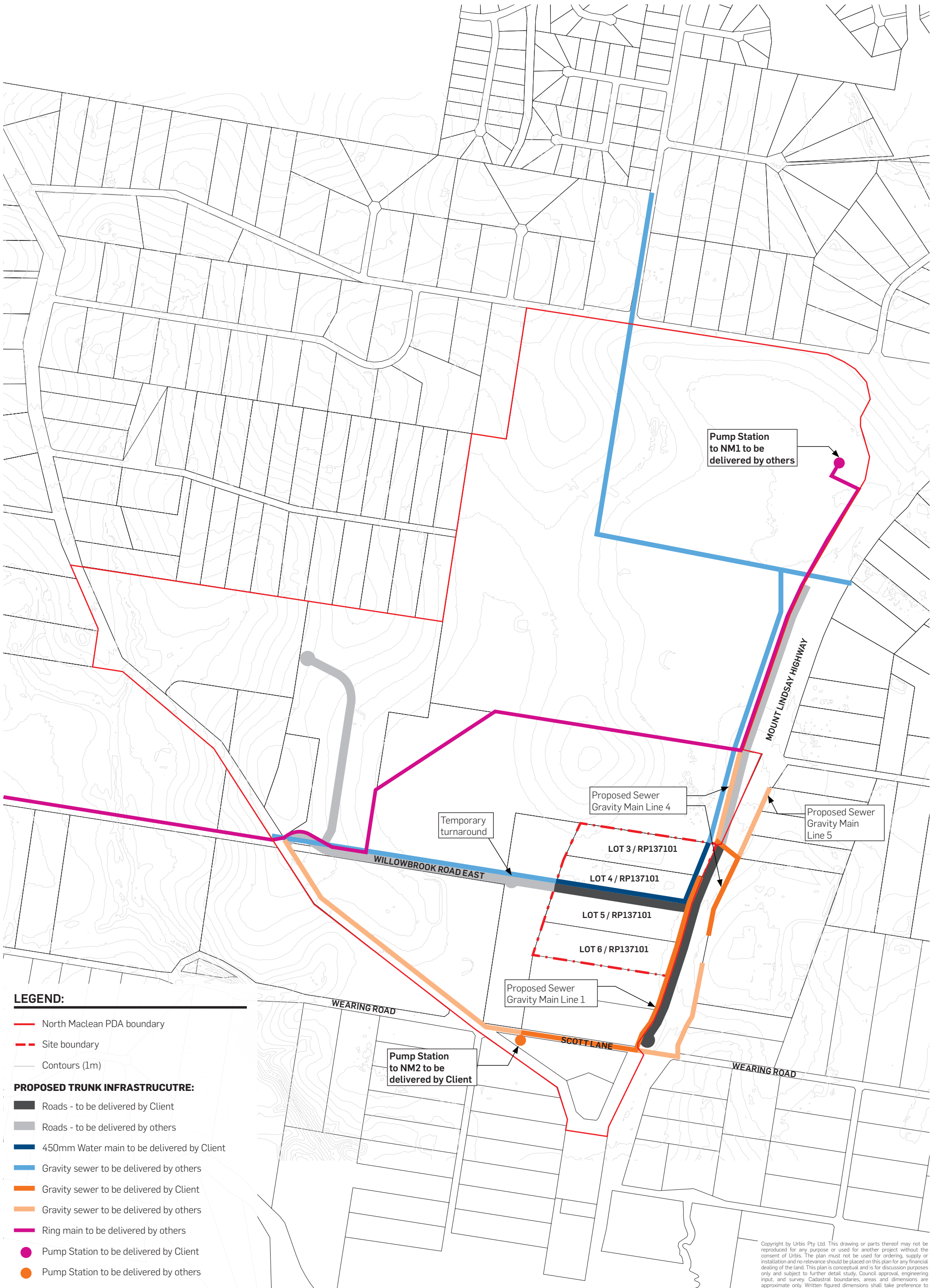






Appendix F – Infrastructure Masterplan





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4693-4703, 4705-4715, 4717-4731 & 4733-4743 MOUNT LINDSAY HIGHWAY INFRASTRUCTURE MASTERPLAN

DATE: 03.10.2024
JOB NO: P0045017
DWG NO: -
REV: -



1:10,000 @ AX

SCALE 1:10,000

0 100 200 300 400 500