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Section 4.55(1A) Modification Report

Client: Tinobah Pty Ltd

Site Address: 66 Edgell Lane, Bombira

27 May 2024

Our Reference : 39130-PR01_A

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DISCLAIMER

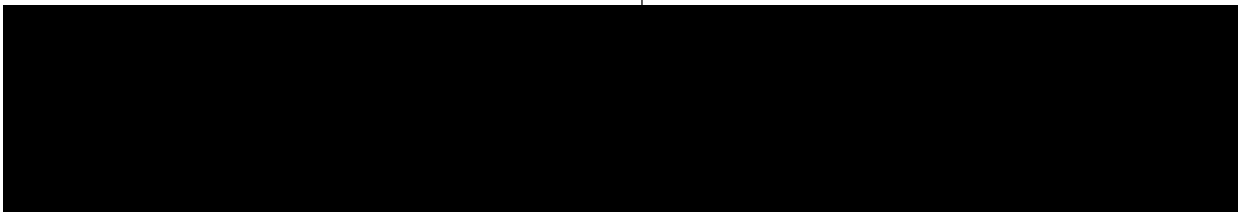
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Project Name:	Modification to DA0109/2016 – Subdivision at 66 Edgell Lane, Bombira
Client:	Tinobah Pty Ltd
Project Number:	39130
Report Reference:	39130-PR01_A
Date:	27 May 2024

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1. INTRODUCTION

1.1. Background

Barnson Pty Ltd has been engaged by Tinobah Pty Ltd to prepare information in support of a modification to DA0109/2016, which was approved for a 45 Lot subdivision of Lot 15 DP 1194019, known as 66 Edgell Lane, Bombira.

The subject site is located on the south eastern side of Ulan Road and has an area of 40 hectares. The site contains isolated trees, managed grasslands, dams and rural fencing throughout.

The project will consist of the modification of DA0109/2016 to allow for a better Lot and road layout to support the subdivision. The proposed modification will also change the amount of Lots created, from 45 Lots to 46 Lots. The Landscape buffer facing Ulan Road shall also be retained and increased in width in some places due to the change in road layouts.

The proposed development as modified would be substantially the same development as the development for which consent was originally granted and before that connect as originally granted was modified.

The site is zoned part R2 Low Density Residential and part RU4 Primary Production Small Lots pursuant to the provisions under the *Mid-Western Regional Local Environmental Plan 2012*. The proposed subdivision and modification to DA0109/2016 remains permissible with consent under the LEP.

This application consists of:

- A completed NSW Planning Portal development application form; and
- PDF copy of this written statement, including plans and supporting documents.

1.2. Proponent

The proponent for the DA is Tinobah Pty Ltd.

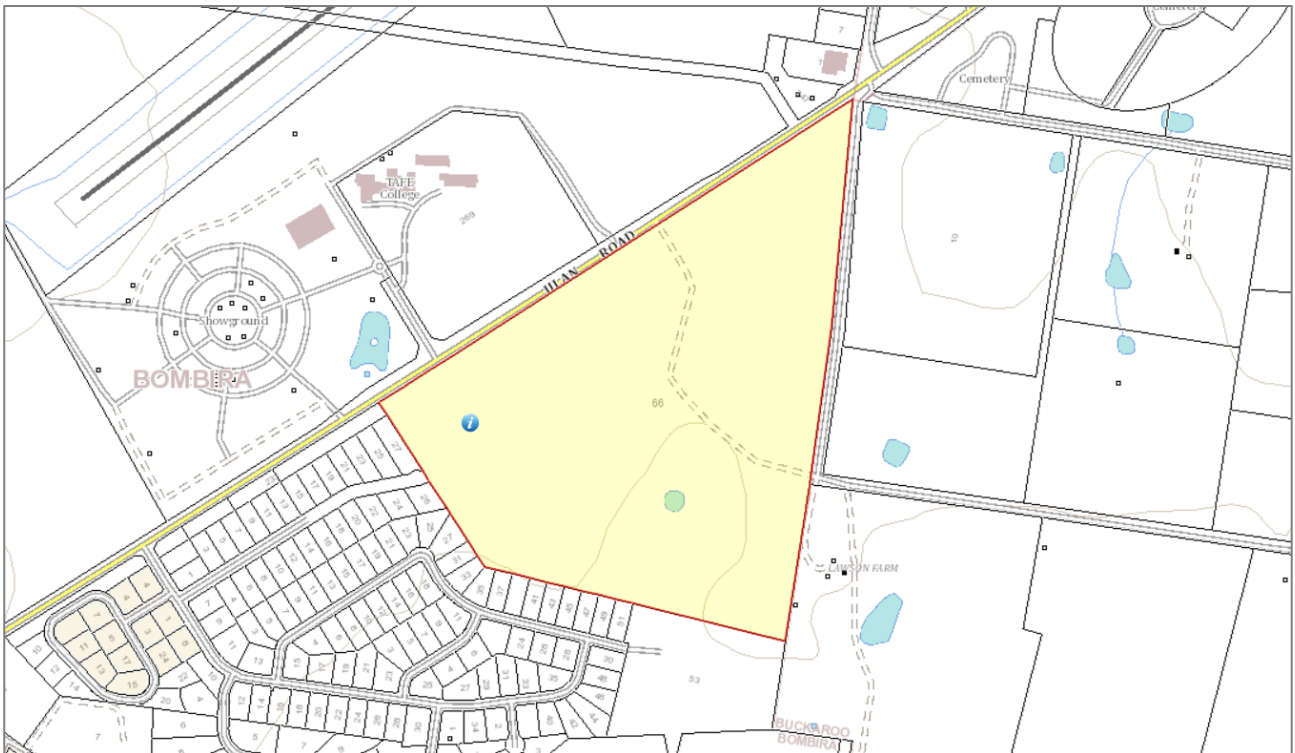
1.3. Consultant

Barnson Pty Ltd
Jack Massey
Unit 4, 108-110 Market Street
Mudgee NSW 2850

2. EXISTING ENVIRONMENT

2.1. Location and Title

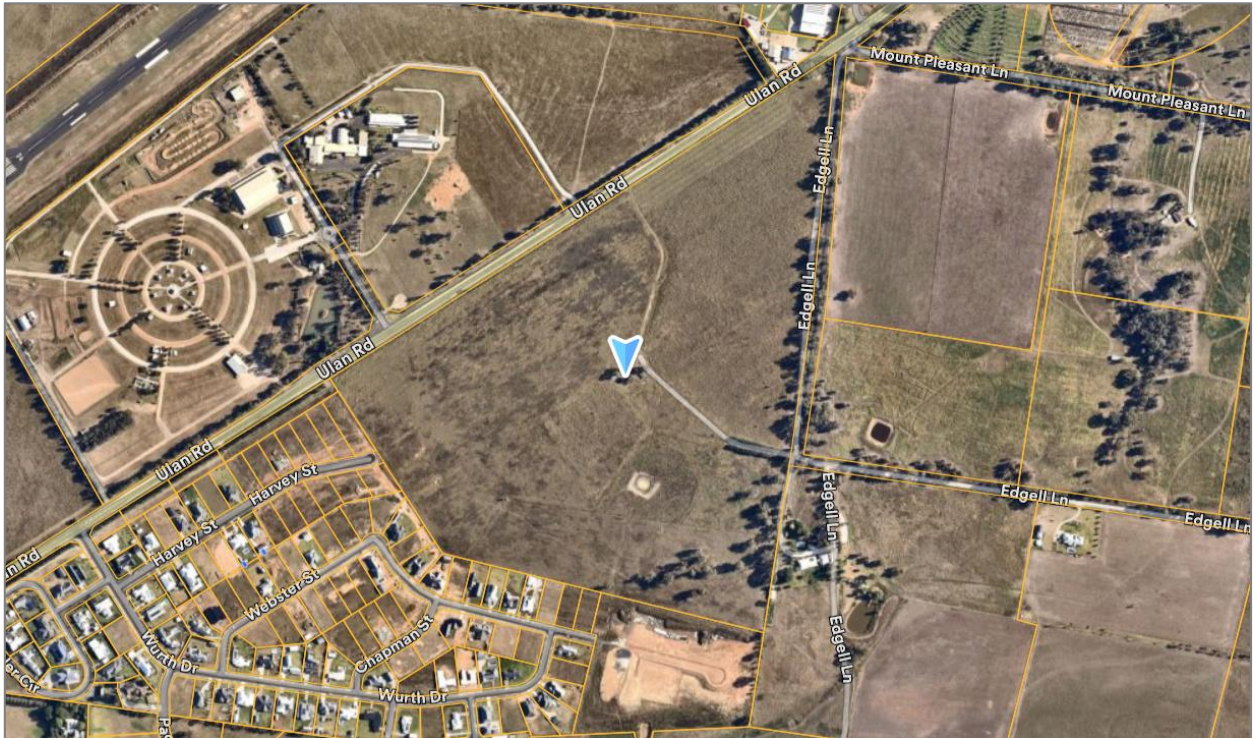
The subject site of this application is Lot 15 DP 1194019, known as 66 Edgell Lane, Bombira. The site is located on the south eastern side of Ulan Road and also adjoins Edgell Lane to the east, as shown in Figure 1 below.



Source: (NSW Government Spatial Services, 2024)

Figure 1 – Site Location

The site has an overall area of 40 hectares (refer to Deposited Plan in Appendix A of this report). Images of the site and locality have been provided in Figure 2 and Plates 1-3 below.



Source: (NSW Government Spatial Services, 2024)

Figure 2 – Site Aerial



Plate 1 – View of the site from Ulan Road



Plate 2 – View of the site from Edgell Lane



Plate 3 – Internal view of the site

2.2. Land Use

The subject site has been vacant for an extended period of time. Historically, the site has been used for viticulture and agricultural grazing purposes. There are residential and semi-rural land uses within proximity to the site.

2.3. Topography

The subject site is undulating throughout, but generally falls to the south.

2.4. Flora and Fauna

The site contains minimal tracts of vegetation and predominately consists of managed grasslands.

2.5. Natural Hazards

The subject site is not mapped within a flood planning area or within bushfire prone land.

2.6. Services

There are currently no services connected to the subject site except for existing overhead electricity lines. All other services such as reticulated water and sewer, stormwater infrastructure, telecommunications etc are available and within proximity to the site.

2.7. Access and Traffic

Access to the site is currently gained via an existing access point off the north western side of Edgell Lane. Harvey Street to the west of the site ends at the property boundary.

2.8. Heritage

There are no items of local or state heritage significance known to be located on the subject site. The AHIMS Search in Appendix B shows that there are no items of Aboriginal cultural heritage significance located on the subject site or within proximity.

3. APPROVAL & PHYSICAL COMMENCEMENT

3.1. Existing Approval

Development Consent was given to DA0109/2016 on 21 March 2016 by Mid-Western Regional Council. The approval was for a Staged Subdivision Torrens Title – 1 Lot into 45 Lots.

The approval included the creation of 45 new residential lots generally 4,000m² in size, with one (1) main road extending through the centre of the site and connecting with Ulan Road and other internal roads servicing the proposed Lots.

Refer to the Approval Documents provided in Appendix C of this report.

3.2. Physical Commencement

As mentioned, DA0109/2016 was approved on 21 March 2016 with a consent lapse date of 21 March 2021. In 2020, Australia experienced the initial phases of the COVID-19 pandemic, which was part of the worldwide pandemic of the coronavirus disease.

As part of the NSW Government 'Covid-19 Response and Recovery', development consents that were granted prior to 25 March 2020 that had not already lapsed enjoyed a lapsing extension of 2 years. DA0109/2016 qualifies for this new lapse date offering and therefore the new lapse date was 21 March 2023.

Section 4.53(4) of the *Environmental Planning and Assessment Act 1979* (the Act) and Section 96 of the *Environmental Planning and Assessment Regulation 2021* (the Regulation) states:

(4) *Development consent for—*

- (a) *the erection of a building, or*
- (b) *the subdivision of land, or*
- (c) *the carrying out of a work,*

does not lapse if building, engineering or construction work relating to the building, subdivision or work is physically commenced on the land to which the consent applies before the date on which the consent would otherwise lapse under this section.

AND

96 *When work is physically commenced—the Act, s 4.53(7)*

(1) *Work is not taken to have been physically commenced merely by the doing of 1 or more of the following—*

- (a) *creating a bore hole for soil testing,*
- (b) *removing water or soil for testing,*
- (c) *carrying out survey work, including the placing of pegs or other survey equipment,*

- (d) acoustic testing,
 - (e) removing vegetation as an ancillary activity,
 - (f) marking the ground to indicate how land will be developed.
- (2) This section does not apply to a development consent granted before 15 May 2020.

As DA0109/2016 was issued before 15 May 2020, Section 96(1) of the Regulation does not apply to when determining “physical commencement”. Rather, the test under the *Environmental Planning and Assessment Regulation 2000* applies and which physical commencement constituted works that fell within “building, subdivision of land or works” and whether those works related to the land the subject of the development consent. Examples of works that were held to be sufficient to prevent a development consent from lapsing were:

- Survey work including clearing of vegetation, digging of holes, placement of permanent marks and placement of pegs or stages as recovery marks: *Hunter Development Brokerage Pty Ltd v Cessnock City Council*; *Tovedale Pty Ltd v Shoalhaven City Council [2005] NSWCA 169 (Hunter Development)*; and
- Geotechnical work including excavation of test pits and testing of soil samples; *Hunter Development*.

As per the evidence provided in the above cases, the landowners conducted works, which involved survey works as “engineering works” sufficient for subdivisions, geotechnical works, preparatory works including surveys and geotechnical investigations, and taking away and testing soil from a site. These works were completed as follows:

1. Site Survey Works – Completed 11 November 2022;
2. Survey Boundary and Road Setout Plan – Completed 24 November 2022;
3. Site Geotechnical Investigations including drilling and taking away soil – Completed 21 November 2022;
4. Testing of soil samples – Completed 5 January 2023; and
5. Geotechnical Report – Completed 18 January 2023.

Therefore as shown above, the relevant works were completed prior to the new lapse date of 21 March 2023. Refer to copies of the Physical Commencement Works in Appendix D of this report. Therefore, physical commencement has been obtained for DA0109/2016.

Upon review of the Development Consent and relevant approval documents, no civil design drawings or services drawings were found. As such, Barnson has prepared preliminary Civil Engineering Designs, addressing the consent conditions and DA modification prelodgement discussions, in order to allow for the proposed modification and subsequent Subdivision Works Certificate to proceed smoothly.

A Sewer Pump Station (SPS) for the Bombira Estate was constructed as part of the MAAS Development to the west of the site. This SPS was constructed following the approval of DA0109/2016 and it is understood that provision was made to ensure the capacity of the SPS could service up to 45 Lots from land to the north east (i.e. DA0109/2016). As such, the SPS that was constructed to the west of the site shall be utilised and considering 46 residential Lots are proposed as part of the modified subdivision, the SPS has the relevant capacity to service the Lots. The RU4 Lot to the east will not require sewer servicing as any future dwelling on that Lot can be supported by an Onsite Effluent System, considering the size of the Lot and available disposal/management areas for sewer.

Preliminary Civil Engineering Designs have been included in Appendix E of this report.

The following servicing components have been shown on the designs:

- Council indicated that sewer will be connected to a sewer man hole between Lot 607 DP 1262509 and Lot 901 DP 1262515. As such, the sewer shall be directed to this point, as shown on Sheet C07 of Appendix E;
- Prelodgement discussions with Council confirmed that On Site Detention can be provided within the RU4 zoned part of the site. As such, OSD has been provided adjoining proposed Lot 35, as shown on sheet C07 of Appendix E;
- Outflows from the OSD shall be discharged via the dedicated drainage reserve known as proposed Lot 901 DP 1262515.
- Reticulated water shall be connected via the existing infrastructure within Harvey Street to the west as shown on sheet C12 of Appendix E; and
- Telecommunications and electricity shall be installed in accordance with the relevant service providers. Consultation with those providers shall be undertaken as part of the subdivision certificate works process.

It is noted that the consent conditions may need to be reviewed by Council to ensure consistency with the abovementioned designs and revised subdivision layout. In particular, the road width etc stipulated in Condition 16 will need to be updated and condition 35 will need to be deleted.

5. LAND USE ZONING

The subject site is zoned part R2 Low Density Residential and part RU4 Primary Production Small Lots pursuant to the *Mid-Western Regional Local Environmental Plan 2012* (LEP). The proposed 4,000m² Lot subdivision is carried out within the R2 zoned land with the residual land (proposed Lot 46) making up the RU4 zoned land. The subdivision is permissible with consent.

The permissibility of the proposed development is assessed in terms of the heads of consideration in Section 4.15 of the *Environmental Planning & Assessment Act 1979*, which incorporates consideration of the LEP and the objectives and permissible uses outlined in the zone tables, as outlined in Section 5 of this report.

6. PLANNING CONSIDERATIONS

6.1. Introduction

Section 4.55(3) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) requires:

In determining an application for modification of a consent under this section, the consent authority must take into consideration such of the matters referred to in section 4.15(1) as are of relevance to the development the subject of the application.

This section of the report addresses the relevant requirements of Section 4.15.

6.2. Environmental Planning & Assessment Act 1979

6.2.1. Evaluation

Section 4.15 of the EP&A Act (as amended) requires Council to consider various matters in regard to the determination of the Development Application.

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

- (a) *The provisions of:*
 - (i) *any environmental planning instrument, and*
 - (ii) *any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and*
 - (iii) *any development control plan, and*
 - (iv) *any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and*
 - (v) *the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and*
 - (vi) *any coastal zone management plan (within the meaning of the Coastal Protection Act 1979), that apply to the land to which the development application relates,*
- (b) *The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;*
- (c) *The suitability of the site for the development,*
- (d) *Any submissions made in accordance with this act or the regulations,*
- (e) *The public interest.*

The proposed development has been designed with consideration to the following matters, as outlined below.

6.2.2. Integrated Development

Development that requires both development consent and another approval listed under Section 4.46 of the EP&A Act is 'Integrated Development'. It is understood that the original application was referred to Transport for NSW in accordance with the legislation in force at that time. TfNSW provided General Terms of Approval and Council conditioned those requirements in the development consent (conditions 42-44, refer to Appendix C of this report).

The GTA's required the upgrade of the intersection between the proposed internal roads an Ulan Road. The requirements under these conditions have been shown on the Preliminary Civil Engineering Plans in Appendix E of this report, sheet C06.

The original approval included 45 Lots that would be able utilise this intersection for access. The residual Lot proposed as part of the modified subdivision layout (proposed Lot 46) will obtain access via the existing access crossover off the western side of Edgell Lane, as shown in Figure 4 below.

Therefore, as no additional Lots are proposed to utilise the conditioned intersection upgrade, re-referral to TfNSW is not considered necessary in this instance and the Developer shall comply with Conditions 42-44 of the original consent.

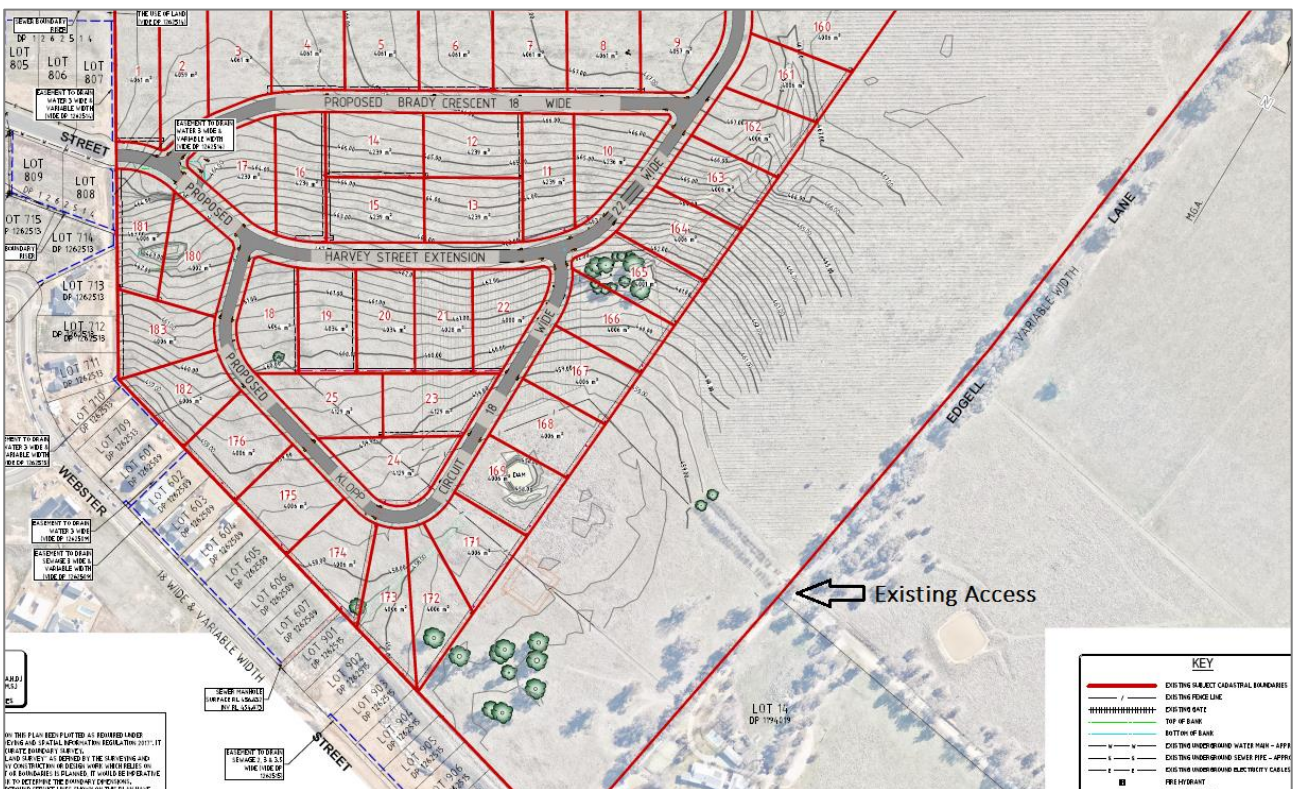


Figure 5 – Residual Lot Access Point

6.3. Environmental Planning Instruments

6.3.1. State Environmental Planning Policies

While a number of SEPPs apply to the subject land and development thereon, there will be no implications in terms of the requirements of the SEPPs that will apply to the proposed modification. It is considered that the applicable SEPPs were addressed as part of the original application, and the proposed modifications will not trigger any additional requirements.

6.3.2. Mid-Western regional Local Environmental Plan 2012

Permissibility

The proposed modification would not change the permissibility of the proposed development and remains permissible under the land use table of the LEP.

LEP Clauses

While a number of Clauses under the LEP apply to the proposed modification, considering the extent of development works and associated changes, there would be no implications in terms of the requirements under those LEP Clauses that would apply to this application.

6.4. Draft Environmental Planning Instruments

No draft Environmental Planning Instruments are applicable to the subject site or development.

6.5. Development Control Plans

The *Mid-Western Regional Development Control Plan 2012* applies to the proposed subdivision and associated modification. An assessment of the relevant provisions of the DCP pertaining to the modification is provided in Table 1 below.

Table 1 – DCP Requirements	
Provision	Comment
<i>Section 7.1 Urban Subdivision</i>	
Lot Size	As shown on the Plans in Appendix E, all Lots meet the specified minimum lot size of 4,000m ² , as required under this part and in accordance with the <i>Mid-Western Regional Local Environmental Plan 2012</i> .

<p>Lot Design</p>	<p>Given the size of the proposed Lots, there is ample room on each Lot for new dwellings to optimise solar access.</p> <p>Lots are generally rectangular in shape with some variations throughout. The variations are generally consistent to what was approved as part of the original Development Consent. Proposed Lots 10, 17 and 24 are irregular in shape, being corner Lots fronting two roads and proposed Lots 33 and 34 have a skinny frontage. However given the size of these Lots and anticipated dwellings of approximately 300-400m² in size, there is ample room for development on each Lot.</p> <p>This part of the DCP requires the width of proposed Lots to be at least 16m at the front. As shown on the Plans in Appendix E, the following Lots have a lesser width:</p> <ul style="list-style-type: none"> - Lot 34 – 15.175m width; - Lot 45 – 14.29m width. <p>All other Lots meet the specified width requirement. As such, a Departure Request is sought for the abovementioned Lots. Proposed Lot 34 has a width at the rear of 78.57m and proposed Lot 45 has a width at the rear of 64.875m. Therefore, as these Lots are tapered throughout their entire length, each proposed Lot has a plethora of space for the development of residential dwellings. The 16m width requirement is likely to commence on each proposed Lot prior to the DCP setback requirement of 4.5m and considering the size of the Lots, dwellings are anticipated to be well setback front the street frontage. Therefore, the Departure Request is considered justified in this instance.</p>
<p>Street Design and Layout</p>	<p>It is assumed that a Traffic Impact Assessment (TIA) was provided to Council as part of the original submission. Given the number of Lots is consistent, with the exception of separating the residual land to the east, it is considered that a new or revised TIA is not necessary in this instance.</p> <p>The following carriageway widths are proposed:</p> <ul style="list-style-type: none"> • Brady Crescent – 18m wide; • Harvey Street extension – 22m wide; and • Klopp Circuit – 18m wide. <p>This is consistent with the provisions under Council’s DCP being a bus route (22m) for Harvey Street and residential road (18m) for Brady Crescent and Klopp Circuit.</p>
<p>Landscaping</p>	<p>The original approval provided the following condition prior to the issue of a Construction Certificate (now known as a Subdivision Works Certificate).</p> <p>28. Street tree landscaping is to be provided within the proposed road reserve on Ulan Road and internal subdivision roads. A plan for the proposed planting is to be submitted for approval by Council. All landscaping is to consist of appropriately advanced trees in accordance with Clause 7.1 Urban Subdivision of the Mid-Western Regional Council Development Control Plan amended December 2014.</p>

	<p>It is proposed to comply with the abovementioned condition and prepare a detailed Landscape Design prior to the issue of a Subdivision Works Certificate.</p> <p>It is important to note that the original approved subdivision plan included a road within the 20m wide Landscape Buffer. The revised Lot layout deletes the road within the landscape buffer and realigns it internally within the subdivision, thereby creating additional landscaping opportunities fronting Ulan Road. This will increase the amenity of the area and future residents of the proposed subdivision, whilst creating additional greenspace for a major entrance corridor into the township of Mudgee. The Landscaping would also be consistent with Bombira Estate to the west of the site.</p>
Utility Services	Preliminary civil designs, which included servicing designs, have been prepared and provided in Appendix E of this report.
Drainage	Prelodgement discussions with Council confirmed that On Site Detention can be provided within the RU4 zoned part of the site. As such, OSD has been provided adjoining proposed Lot 35, as shown on sheet C07 of Appendix E. Outflows from the OSD shall be discharged via the dedicated drainage reserve known as proposed Lot 901 DP 1262515.

6.6. Any Planning Agreement entered into

No Planning Agreements entered into are known to exist in relation to the development or site.

6.7. Any Matters Prescribed by the Regulations

For the purposes of Section 4.15(1)(a)(iv) of the EP&A Act, Clause 92 of the *Environmental Planning and Assessment Regulations 2000* (EP&A Regulations) specifies the additional matters a consent authority must take into consideration when determining a DA. None of the provisions relate to the proposed development as modified.

6.8. Any Likely Impacts of the Development

6.8.1. Context & Setting

The proposed subdivision has been carried out in a semi-rural locality with emerging residential land uses. The proposed development as modified is considered to be consistent with the existing area and originally approved consent.

The development modifications would therefore not impact on the context or setting in the locality, but would rather contribute to the proposed future residential use of the site.

6.8.2. Access, Transport & Traffic

The proposed access arrangements shall change slightly due to the reconfiguration of internal roads, however the main internal through road that extends from Harvey Street to Ulan Road shall remain generally consistent to what was approved. The number of Lots created as part of the modification is only increased by 1 due to the residual RU4 land to the east being created on its own Lot. As such, the originally submitted Traffic Impact Assessment and conditions of consent pertaining to access, traffic and transport shall be retained and modified where required to reflect the modified layout.

The proposed modifications will not generate any additional throughput or potential increase in capacity requirements for the local road network and the Ulan Road upgrade requirements shall remain consistent to what was originally approved, in accordance with the General Terms of Approval issued by Transport for New South Wales. Therefore, the proposed access, transport and traffic arrangements and proposed modifications to the existing consent are considered suitable.

6.8.3. Public Domain

The proposed would not create any negative impacts on the public domain as appropriate onsite screening and landscape buffering methods as detailed within the original application is to be incorporated on the site.

6.8.4. Utilities

The plans in Appendix E provide Preliminary Engineering Designs which have considered the original approval consent conditions and prelodgement discussions with Council. The proposed utilities and servicing arrangements are considered suitable for the proposed subdivision and would not create any detrimental impact in the locality in terms of servicing availability or any potential issues. The utilities shall be constructed as per Council and/or the relevant service providers requirements.

6.8.5. Other Land Resources

The proposed development would not detrimentally impact on other land resources such as primary production or agricultural land uses.

6.8.6. Air & Microclimate

Any incidence of air pollution can be reduced by using appropriate equipment, employing good work practices and utilising a water spray, especially in conditions where dust is likely to be a nuisance.

6.8.7. Social & Economic Impacts in the Locality

The social and economic impacts of the proposed development continue to relate to the provision of a new subdivision in the Mudgee area, creating additional residential opportunities. The proposal, as modified, would contribute to the local economy and is considered to be a positive social and economic impact.

6.8.8. Construction

A site establishment area will be set up on the subject site to ensure site safety and to reduce any environmental impacts. Erosion and sediment control measures shall be carried out on the site during development works.

6.8.9. Other

There are no other impact that would hinder the development proposal. Considering the minor modifications to the development, it is considered that the majority of impacts were adequately addressed as part of the original approval.

6.9. Suitability of the Site for the Proposed Development

The suitability of the site for the proposed development has been addressed in the above sections of this report. There are no prohibitive constraints posed by adjacent developments. There does not appear to be any zoning, planning or environmental matters that should hinder the proposed development of the site. In this regard, it can be concluded that the proposal fits into the locality and the site attributes are conducive for the development.

6.10. The Public Interest

The proposal is unlikely to create any negative impacts on the amenity of the area and is therefore deemed to be positive in terms of the public interest.

7. CONCLUSION

It is recommended that the proposed modification to DA0109/2016 on Lot 15 DP 1194019, known as 66 Edgell Lane, Bombira be supported on the following grounds:

- The modification is of minimal environmental impact;
- The development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified;
- The proposal is considered acceptable in terms of the provisions of Section 4.15 of the *Environmental Planning and Assessment Act 1979*;
- The proposal is permissible with consent and consistent with the relevant development standards and provisions of the *Mid-Western Regional Local Environmental Plan 2012*;
- The proposal complies with the relevant provisions of the *Mid-Western Regional Development Control Plan 2012*;
- The development as modified is not anticipated to generate any adverse impacts in the locality; and
- The development as modified is considered suitable for the site and its surrounds.

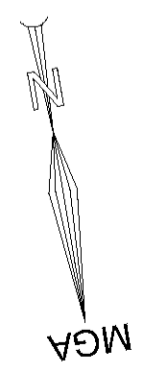
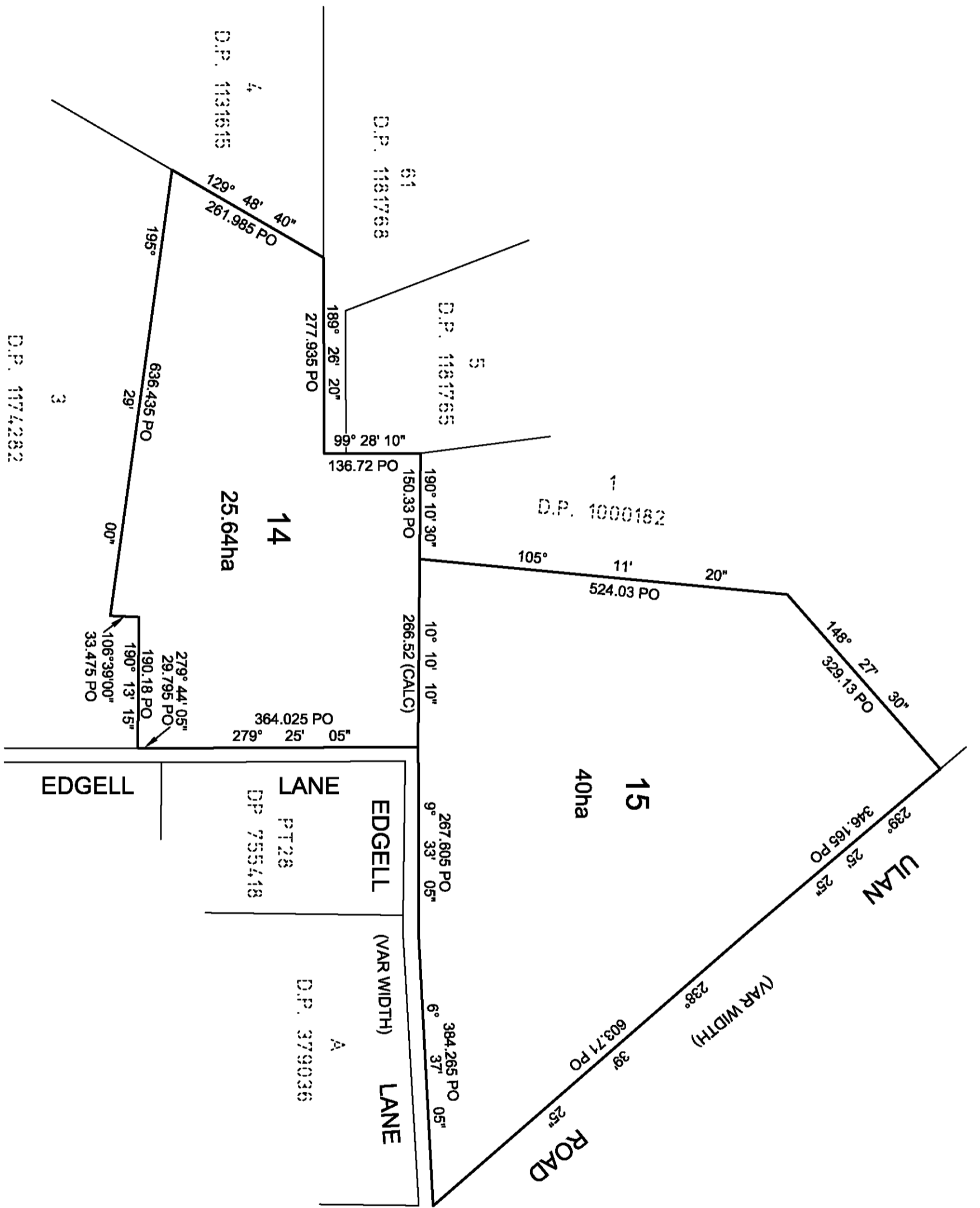
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NSW Government Spatial Services. (2024, May 1). *Six Maps*. Retrieved from <http://maps.six.nsw.gov.au/>

NSW Rural Fire Service. (2019). *Planning for Bush Fire Protection: A Guide for Council's, Planners, Fire Authorities and Developers*. Sydney: NSW RFS.

APPENDIX A
Deposited Plan



Surveyor: COLIN WILLIAM (BILL) CURRIE Date of Survey: 20 th DECEMBER 2013 Surveyor's Ref: F462MU 2012M7100(1287)	PLAN OF SUBDIVISION OF LOT 4 IN DP 1174282	L.G.A.: MID WESTERN REGIONAL Locality: BOMBIRA Subdivision No: 048/2014 Lengths are in metres. Reduction Ratio 1: 6000	Registered:  7.3.2014	DP1194019
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PLAN FORM 6 (2012)

WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 1 of 2 sheet(s)

Office Use Only
 Registered:  7.3.2014
 Title System: TORRENS
 Purpose: SUBDIVISION

Office Use Only

DP1194019 S

PLAN OF

SUBDIVISION OF LOT 4 IN DP 1174282

LGA: MID WESTERN REGIONAL
 Locality: BOMBIRA & BUCKAROO
 Parish: BUMBERRA
 County: PHILLIP

~~Crown Lands NSW/Western Lands Office Approval
 I, (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.
 Signature:
 Date:
 File Number:
 Office:~~

Survey Certificate
 I, COLIN WILLIAM (BILL) CURRIE
 of INSITES PTY LTD T/A RJ CROOKS & ASSOCIATES
 26 MARKET STREET, MUDGEE
 a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:
 *(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on

Subdivision Certificate
 I, GARY BRUCE
 *Authorised Person/*General Manager/*Accredited Certifier, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.
 Signature: [Signature]
 Accreditation number:
 Consent Authority: MID WESTERN REGIONAL COUNCIL
 Date of endorsement: 24/1/2014
 Subdivision Certificate number: 048/2014
 File number: P1140.665
 *Strike through if inapplicable.

*(b) The part of the land shown in the plan (*being/*excluding^

 was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on, the part not surveyed was compiled in accordance with that Regulation.
 *(c) The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2012*.
 Signature: [Signature] Dated: 20th Dec 2013
 Surveyor ID: 7447
 Datum Line: 'X'-'Y'
 Type: Urban/ Rural
 The terrain is Level -Undulating /Steep-Mountainous.
 ^Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Statements of intention to dedicate public roads, public reserves and drainage reserves.

Plans used in the preparation of survey/compilation.

 DP 1174282

 If space is insufficient continue on PLAN FORM 6A

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A


Surveyor's Reference: F462MU 2012M7100(1287)

AMENDED IN LPI AT SURVEYORS REQUEST

PLAN FORM 6A (2012)

WARNING: Creasing or folding will lead to rejection

DEPOSITED PLAN ADMINISTRATION SHEET Sheet 2 of 2 sheet(s)

Office Use Only
Registered:  7.3.2014

Office Use Only
DP1194019

PLAN OF
SUBDIVISION OF LOT 4 IN DP 1174282

This sheet is for the provision of the following information as required:
• A schedule of lots and addresses - See 60(c) SSI Regulation 2012
• Statements of intention to create and release affecting interests in accordance with section 88B Conveyancing Act 1919
• Signatures and seals- see 195D Conveyancing Act 1919
• Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Subdivision Certificate number: *048/2014*
Date of Endorsement: *24/1/2014*

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919 AS AMENDED, IT IS INTENDED TO CREATE:

1: RESTRICTION ON THE USE OF LAND

STREET ADDRESSES OF ALL LOTS ARE NOT AVAILABLE

SIGNED for and on behalf of TINOBAH)
PTY LIMITED by its authorised)
Officers pursuant to Section 127)
of the Corporations Act 2001)
ACN 000 837 427

Richard Wallace Turner
.....
Richard Wallace Turner
Director

Jennifer Anne Turner
.....
Jennifer Anne Turner
Director

NATIONAL AUSTRALIA BANK LIMITED as Mortgagee under Mortgage No: AA985640

Mortgagee under Mortgage No. *AA985640*

Signed at *Mudgee* this *12TH* day of *FEBRUARY* 2014 for National Australia Bank Limited ABN 12 004 044 937 by *PETER WILLIAM COTEN* its duly appointed Attorney under Power of Attorney No. *39* Book *4512*

Peter William Coten
.....
Level 3 Attorney

Matthew Ronan Revell
.....
Witness/Bank Officer
Matthew Ronan Revell

Surveyor's Reference F462MU 2012M7100(1287)

APPENDIX B
AHIMS Search

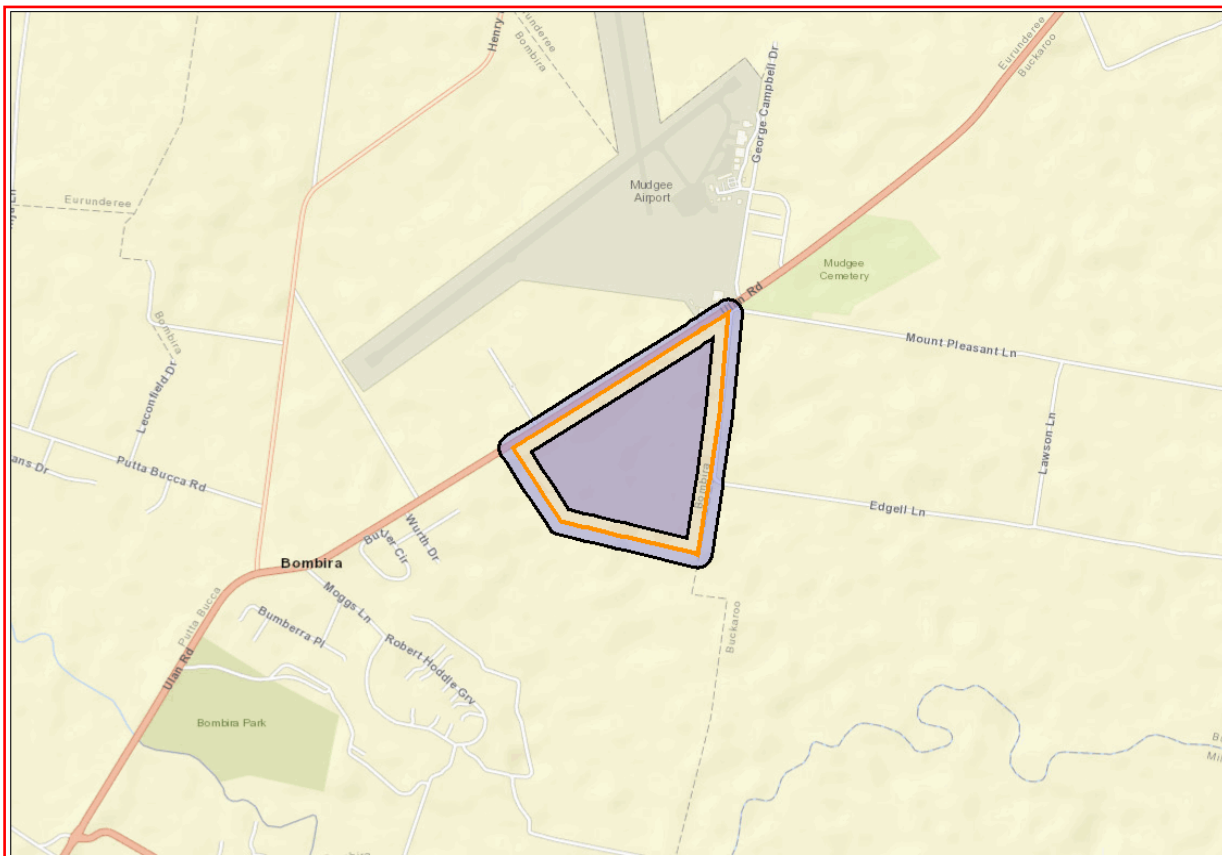
Barnson
Suite 6 11 White Street
Tamworth New South Wales 2340
Attention: Jack Massey
Email: jmassey@barnson.com.au

Date: 06 May 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 15, DP:DP1194019, Section : - with a Buffer of 50 meters, conducted by Jack Massey on 06 May 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

APPENDIX C

Existing Approval Documents



MID-WESTERN REGIONAL COUNCIL
PO Box 156, MUDGEES NSW 2850
86 Market Street, Mudgee | 109 Herbert Street, Gulgong | 77 Louee Street, Rylstone
T 1300 765 002 or 02 6378 2850 | F 02 6378 2815
E council@midwestern.nsw.gov.au

SArmstrong:kb:DA0109/2016

21 March 2016

Rick Turner
10/450 Edgecliff Road
EDGECLIFF NSW 2027

Dear Sir/Madam

**DEVELOPMENT APPLICATION DA0109/2016 –STAGED SUBDIVISION TORRENS TITLE
1 LOT INTO 45 - LOT 15 DP 1194019 - 66 EDGELL LANE BUCKAROO NSW 2850**

I am pleased to advise that your application has been approved by Council.

Attached is Council's formal Development Consent No. DA0109/2016.

It is important that you read the consent and understand the requirements of any conditions imposed. Certain requirements may need to be satisfied prior to proceeding with the development.

The consent is a legal document and should be kept for your future reference as the development proceeds. It should be noted that commencement of the development implies your acceptance of the conditions of consent.

Should you have any query regarding the consent or associated conditions, do not hesitate to contact myself or the appropriate Council officer.

Yours faithfully

A handwritten signature in black ink, appearing to be "Brad Cam".

**BRAD CAM
GENERAL MANAGER**

Notice of Determination of a Development Application

Issued under the *Environmental Planning and Assessment Act 1979* Section 81(1)(a)

Our Ref: SArmstrong:kb:DA0109/2016	DA No: DA0109/2016
---	---------------------------

Applicant: Rick Turner 10/450 Edgecliff Road EDGECLIFF NSW 2027	Land to be Developed: Lot 15 DP 1194019 66 Edgell Lane BUCKAROO NSW 2850
--	---

Proposed Development: Staged Subdivision - Torrens Title 1 Lot into 45 Lots	Building Code of Australia Classification: -
--	--

Date of Determination: 16 March 2016	
Determination:	CONSENT GRANTED The application was determined by Councilors of Mid-Western Regional Council at its Ordinary Meeting 16 March 2016 and was granted consent subject to conditions set out below

Consent to operate from: 21 March 2016	Consent to lapse on: 21 March 2021
--	--

CONDITIONS

APPROVED PLANS

1. The development is to be carried out in accordance with the following plans endorsed with Council's Stamp as well as the documentation listed below, except as varied by the conditions listed herein and/or any plan notations.

Title / Name:	Drawing No / Document Ref	Revision / Issue:	Date:	Prepared by:
Subdivision Plan	BK228 Sheet 3	A	1 March 2016	Jabek Pty Ltd
Statement of Environmental Effects (Including Appendices)	N/A	1	September 2015	Minespex

ENGINEERING CONSTRUCTION

2. The applicants shall, at their own expense, engage a registered surveyor to relocate any survey mark that may be disturbed by the development or any associated work. Any information regarding relocation should be supplied to the Land Titles Office and Council.
3. All works are to be constructed at the full cost of the developer, in a manner consistent with Aus-Spec #1 and Council's standard drawings.
4. The subdivision works are to be inspected by the Council (or an Accredited Certifier on behalf of Council) to monitor compliance with the consent and the relevant standards of construction, encompassing the following stages of construction:
 - Installation of sediment and erosion control measures
 - Water and sewer line installation prior to backfilling
 - Establishment of line and level for kerb and gutter placement
 - Road Pavement construction
 - Road Pavement surfacing
 - Practical Completion

PRIOR TO ISSUE OF THE CONSTRUCTION CERTIFICATE

5. A detailed engineering design is to be submitted to and approved by Council prior to the issue of a Construction Certificate. The engineering design is to comply with Council's Development Control Plan and the Standards referenced within Appendix B and D.

Construction Certificate is required for, but not limited to, the following civil works;

- Water and sewer main extensions
- Stormwater drainage such as inter-allotment drainage, detention basins,
- Road construction
- Footpath and kerb & gutter
- Landscaping of public reserves

Note: No works can commence prior to the issue of the Construction Certificate.

6. Where the development requires access to private land, the developer shall provide documentary evidence that an agreement has been entered into with the landowner prior to the issue of a Construction Certificate. If stormwater drainage, or utilities are to be located within the private land, an easement is to be created prior to release of the Construction Certificate.
7. The Developer is to provide evidence of an Engagement Letter that the Subdivision has been registered with Telstra Smart Communities prior to the issue of the Construction Certificate.
8. The applicant is to submit a Drainage Report prepared in accordance with the Institution of Engineers publication Australian Rainfall and Run-off to the Principal Certifying Authority for approval prior to the release of the Construction Certificate. The report must demonstrate that stormwater runoff from the site is not increased beyond the existing undeveloped state up to and including a 100 year event. All storm water detention details including analysis shall be included with the drainage report.

9. The trunk drainage system must be designed such that discharge from the subdivision satisfies the following water quality targets:

Post Development Stormwater Pollution Reduction Targets	
•	Total Suspended Solids (TSS) – 85% reduction of the typical annual load
•	Total Phosphorus (TP) – 65% reduction of the typical annual load
•	Total Nitrogen (TN) – 45% reduction of the typical annual load
•	90% of gross pollutant loads, oil and grease retained on-site

Note: Results from MUSIC modelling or equivalent shall be supplied with Construction Certificate Issue plans demonstrating that the design meets the above criteria.

10. Where the trunk drainage system crosses through private land three metre wide easements, including associated Section 88B of the Conveyancing Act 1919 instruments, are to be created in favour of Council over any existing or newly constructed stormwater drainage located within the subject property, or extended through adjoining private properties as a result of this subdivision.

Note: where an easement is proposed over private land for the purpose of servicing this subdivision, Council will require evidence that the easement has been created prior to the release of the Construction Certificate.

11. All internal roads shall comprise roll back concrete kerb and gutter. Sub-surface drainage is required where gutter flows exceed 2.5m width during minor events (1 in 5yr ARI). If required, sub-surface drainage shall be located behind the kerb.
12. All earthworks, filling, building, driveways or other works, are to be designed and constructed (including stormwater drainage if necessary) so that at no time will any ponding of stormwater occur on adjoining land as a result of this development.
13. Inter-allotment drainage is to be provided to remove stormwater from any lots that cannot discharge to the street in accordance with Aus Spec #1. Easements not less than 1m wide shall be created over inter-allotment drainage in favour of upstream allotments.
14. One (1) roof-water outlet per allotment is to be provided in the kerb and gutter 2m from the downhill boundary at the time of installation of the kerb and gutter
15. Any soil/water retention structures are to be constructed prior to the bulk stripping of topsoil, to ensure sediment from the whole site is captured.
16. All internal roads within the subdivision must be designed and constructed to the following standards:

Road 1

Item	Requirement
Full Road Pavement Width	13 m (2 x 3.5m travel lanes with 2x3m sealed shoulders parallel parking lanes)
Nature Strip	2 x 4.5m
Concrete Footpaths	2.5m Wide
Seal	Two-coat flush seal -14/7 mm (Double/ Double) as required
Kerb & Gutter	Roll back concrete kerb & gutter
Subsoil Drainage	Where gutter flow exceeds 2.5m during minor events or adjacent to intersections. To be installed behind kerb

Road 2

Item	Requirement
Full Road Pavement Width	9 m (2 x 3.5m travel lanes with 2x1m sealed shoulders)
Nature Strip	2 x 4.5m
Concrete Footpaths	1.2m Wide
Seal	Two-coat flush seal -14/7 mm (Double/ Double) as required
Kerb & Gutter	Roll back concrete kerb & gutter
Subsoil Drainage	Where gutter flow exceeds 2.5m during minor events or adjacent to intersections. To be installed behind kerb

Road 3 & 4

Item	Requirement
Full Road Pavement Width	8 m (2 x 4m travel lanes)
Nature Strip	2 x 4m
Concrete Footpaths	Nil
Seal	Two-coat flush seal -14/7 mm (Double/ Double) as required
Kerb & Gutter	Roll back concrete kerb & gutter
Subsoil Drainage	Where gutter flow exceeds 2.5m during minor events or adjacent to intersections. To be installed behind kerb

17. The submission to Council of engineering design plans for any road works shall include pavement and wearing surface investigation and design.
18. All electrical, telecommunication and water service crossings are to be perpendicular to the road centreline and performed prior to the addition of the base course and installation of the kerb and gutter.
19. All stormwater, water and sewer main infrastructure road crossings must be installed prior to the addition of the base course and installation of kerb and gutter.

20. All water mains and associated fittings/valves should not be installed underneath a concrete structure such as the footpath.
21. All required earthworks for roads associated with the subdivision must have compacting testing in compliance with RMS Q4 and AUS-SPEC CQS-A.
22. A Traffic Control Plan (TCP) completed by a "Certified Person" for implementation during works is to be submitted to Mid-Western Regional Council prior to any work commencing.
23. All internal roads must be designed with design speed of 50km/hr.
24. Street signs necessitated by the subdivision are to be installed in accordance with Aus-Spec #1 and Council standards.
25. A Give Way sign is required to be installed on the internal subdivision road at the junction with Ulan Road.
26. 50km/hr speed restriction signs, duplicated both sides of the road, are to be installed on Road 1 at the entry to the subdivision. These signs must also indicate 80km/hr for traffic leaving the subdivision.
27. The proposed internal road network should have sufficient width to accommodate the turning paths for service vehicles (eg. Rubbish collection and removalist vehicles). Particular attention should be given to cul de sac finishing points.
28. Street tree landscaping is to be provided within the proposed road reserve on Ulan Road and internal subdivision roads. A plan for the proposed planting is to be submitted for approval by Council. All landscaping is to consist of appropriately advanced trees in accordance with Clause 7.1 Urban Subdivision of the Mid-Western Regional Council Development Control Plan amended December 2014.
29. An Erosion and Sediment Control Plan for the development is to be prepared and implemented in accordance with the LANDCOM guidelines and requirements as outlined in the latest edition of "Soils and Construction – Managing Urban Stormwater". Points to be considered include, but are not limited to:
 - Drainage reserves are to be turfed.
 - single strip of turf to be laid behind kerb and gutter.
 - saving available topsoil for reuse in the revegetation phase of the subdivision;
 - using erosion control measures to prevent on-site damage;
 - rehabilitating disturbed areas quickly
 - maintenance of erosion and sediment control structures;
 - a schedule of operations is to be submitted to ensure all appropriate works are undertaken at the correct stage.
30. All finished surface levels shall be shown on the plans submitted for the Construction Certificate. Where it is proposed to import fill, the material shall be certified as free of hazardous materials and contamination by a suitably qualified geotechnical engineer. Fill placed in residential or commercial lots shall be compacted in accordance with AS3798-2007 Guidelines on Earthworks for Commercial and Residential Developments.
31. The proponent shall obtain a Section 91 Activity Approval under the Water Management Act 2000 should drainage or other works be carried out in within 40m of a prescribed watercourse or creek.

Note: Please contact the NSW Office of Water for more information in relation to this matter.

32. If any aboriginal artefacts are uncovered or identified during construction earthworks, such work is to cease immediately and the local aboriginal community and National Parks and Wildlife Service are to be notified.

(Note: A suitably qualified person is required to be present during earthworks to identify whether any artefacts were uncovered)

33. The developer is to extend and meet the full cost of water and sewerage reticulations to service the new lots prior to the release of the Subdivision Certificate. Each lot must be provided with separate water and sewer services. All water and sewerage work is required to be carried out in accordance with the requirements of Mid-Western Regional Council (as the Water Supply Authority under the Local Government Act, 1993) and in accordance with the National Specification – Water & Sewerage Codes of Australia.
34. Three metre wide easements, including associated Section 88B Instruments, are to be created in favour of Council over any existing or newly constructed water or sewerage reticulation components located within the subject property, or extended through any private properties as a result of this subdivision.

Note: where an easement is proposed over private land for the purpose of servicing this subdivision, Council will require evidence that the easement has been created prior to the release of the Construction Certificate.

35. The proposed sewer pump station is to be located and constructed on proposed lot 34. Details to be provided at Construction Certificate stage.
36. All water mains associated fittings/valves shall be clockwise close.

PRIOR TO COMMENCEMENT OF WORKS

37. Prior to the commencement of subdivision works, the following actions are to be carried out;
- A site supervisor is to be nominated by the applicant;
 - Council is to be provided with two (2) days' notice of works commencing.
 - Council is to be notified in writing of any existing damage to Council's infrastructure

Note: Failure to comply with these conditions will result in damage to Council's infrastructure being rectified by the applicant and at the applicant's cost.

38. Contractor's public liability insurance cover for a minimum of \$20,000,000 is to be sighted and shown to Mid-Western Regional Council as an interested party. Public Liability Insurance is to include Mid-Western Regional Council as an interested party and a copy of the insurance policy including the Certificate of Currency is to be provided to Mid-Western Regional Council prior to the commencement of work. All work is to be at no cost to Council.
39. Any necessary alterations to, or relocations of, public utility services to be carried out at no cost to council and in accordance with the requirements of the relevant authority including the provision of easements over existing and proposed public infrastructure.
40. Prior to commencement of works, the submission of three possible street/road names in order of preference, for the proposed new road within the subdivision, are to be submitted to Council for approval.

41. The development site is to be managed for the entirety of work in the following manner:
- Appropriate dust control measures;
 - Construction equipment and materials shall be contained wholly within the site unless approval to use the road reserve has been obtained;
 - Toilet facilities are to be provided on the work site at the rate of one toilet for every 20 persons or part of 20 persons employed at the site.

GENERAL TERMS OF APPROVAL (NSW Roads and Maritime Service)

42. The intersection of the proposed public road and Ulan Road is to be constructed to include an Auxiliary Left Turn Treatment Short [AUL(S)] and Channelised Right Turn Treatment [CHR] on a major road in accordance with Figures 8.3 & 7.7 Part 4A Austroads Guide to Road Design respectively (copies enclosed) and Roads and Maritime supplements. The intersection treatment is to incorporate and make allowances for the existing rural property access from Ulan Road opposite the proposed new intersection. The intersection is to be formed as to provide lay-bys on the departure sides for use as a school bus stop shelter.
43. All intersection works are to be designed and constructed to accommodate the largest vehicle accessing the intersection and for the current speed zone of 80km/h, match existing road levels and not interfere with existing road drainage.
44. A suitable barrier is to be provided on the subject land to prevent vehicles from entering/exiting Ulan Road from/to the subject land other than via the proposed public road.

PRIOR TO THE ISSUE OF THE SUBDIVISION CERTIFICATE

45. Under the Environmental Planning & Assessment Act, 1979, a Subdivision Certificate is required before the linen plan of subdivision can be registered with the Land Titles Office.

Note: The fee to issue a Subdivision Certificate is set out in Council's Fees and Charges #. The final inspection report shall be submitted to Council with the Subdivision Certificate application.

46. A linen plan and two (2) copies are to be submitted to Council for approval and endorsement by the General Manager.
47. If the Subdivision Certificate is not issued, for any reason whatsoever, by the end of the financial year immediately following the date of determination, then the charges and contributions contained in this consent, may be increased to the current rate at the time of payment.
48. Following completion of the subdivision works, work-as-executed plans (WAE) are to be provided to Council in the following formats:
- a. PDF
 - b. Dwg format or "Autocad compatible"
 - c. Map Information Files
- All work-as-executed plans shall bear the Consulting Engineer's or Consulting Surveyor's certification stating that all information shown on the plans is accurate.
49. Underground electricity and telecommunications are to be supplied to the subdivision.

50. Prior to issue of the Subdivision Certificate, Council is to be supplied with:
- A certificate from the appropriate power authority indicating that satisfactory arrangements have been made for provision of electricity supply to the subdivision.
 - A certificate from the appropriate telecommunications authorities indicating that satisfactory arrangements have been made for provision of telephone services to the subdivision.
 - All contributions must be paid to Council and all works required by the consent be completed in accordance with the consent.
51. The developer must provide Council and land purchasers with a site classification for each lot within the subdivision. The classification is to be carried out at a suitable building site on each lot and is to be carried out by a NATA registered laboratory using method (a) of Clause of AS2870 - 2011. Results are to be submitted to Council prior to issue of the Subdivision Certificate.
52. Street trees are required at a rate of two (2) trees per lot and are to be planted prior to the issue of the Subdivision Certificate. The trees are to be semi- mature and barricaded for protection
53. To mitigate the impacts of traffic noise upon Lots 1 – 8 and 45, an acoustic assessment is required to be prepared by an appropriately qualified and experienced acoustic engineer. This assessment report must be submitted to and approved by Council prior to the release of the subdivision certificate. Any recommendations arising from the report are required to be implemented during construction of a dwelling upon that lot.
54. A Restriction as to User is to be registered on the title of proposed lots 1 – 8 and 45 stating that no direct access to Ulan Road is permitted.
55. A Restriction as to User is to be place on Lot 34 restricting the location of any future dwelling to area zoned R2 Low Density Residential.
56. A shared Pedestrian/bicycle path is to be provided and constructed along the Ulan Road frontage.
57. An application for a Compliance Certificate under the Water Management Act, 2000 is to be submitted to Council as the Water Supply Authority and approved prior to the issue of a Subdivision Certificate for the development.

Note: This will include (but is not limited to) the requirement to alter and extend services, upgrade and install ancillary infrastructure such as the sewer pump station and the payment of section 64 developer contributions.

58. In accordance with the provisions of section 94 of the Environmental Planning and Assessment Act 1979 and the Mid-Western Regional Council Section 94 Developer Contributions Plan, a contribution shall be paid to Council in accordance with this condition for the purpose of: SUBJECT TO CPI INCREASE

Transport Management	
Traffic Management	\$53,504
Open Space	
Local Open Space	\$84,040
District Open Space	\$114,048
Community Facilities	
Library Buildings	\$11,000
Library Resources	\$13,200
Administration	
Plan Administration	\$25,652
TOTAL	\$301,444

PRESCRIBED CONDITION

59. A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:
- showing the name, address and telephone number of the principal certifying authority for the work, and
 - showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and
 - stating that unauthorised entry to the work site is prohibited.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

OTHER APPROVALS

N/A

ADVISORY NOTES

- The removal of trees within any road reserve requires the separate approval of Council in accordance with the policy "Tree Removal and Pruning – Public Places".
- The land upon which the subject building is to be constructed may be affected by restrictive covenants. This approval is issued without enquiry by Council as to whether any restrictive covenant affecting the land would be breached by the construction of the building, the subject of this approval. Persons to whom this approval is issued must rely on their own enquiries as to whether or not the building breaches any such covenant.
- Section 82A of the Environmental Planning and Assessment Act (EP&A Act) gives you the ability to seek a review of the determination. This request is made to Council and must be made within 6 months after the date on which you receive this notice. The request must be made in writing and lodged with the required fee; please contact Council's Planning and Development Department for more information or advice.

- 4 If you are dissatisfied with this decision section 97 of the EP&A Act 1979 gives you the right to appeal to the Land and Environment Court within 6 months after the date on which you receive this notice.
- 5 To ascertain the date upon which the consent becomes effective, refer to Section 83 of the EP&A Act.
- 6 To ascertain the extent to which the consent is liable to lapse, refer to Section 95 of the EP&A Act.

Signed on behalf of Mid-Western Regional Council by:

A handwritten signature in black ink, appearing to be 'BRAD CAM', with a long horizontal stroke extending to the right.

**BRAD CAM
GENERAL MANAGER
21 MARCH 2016**



MID-WESTERN REGIONAL COUNCIL
APPROVED PLAN

APPLICATION NO DA0109/2016

SIGNED 

Authorised person

DATE 22.3.16

**Statement of Environmental Effects
Proposed Staged Low Density
Residential Subdivision
of Lot 15 in DP1194019**

66 Edgell Lane, Mudgee NSW 2850

for

Mr R Turner

Project Ref. – RT091_A52

MINESPEX

Head office

Units 2 & 3, 73 Market St.

Mudgee, NSW 2850

PO BOX 604

Mudgee, NSW 2850

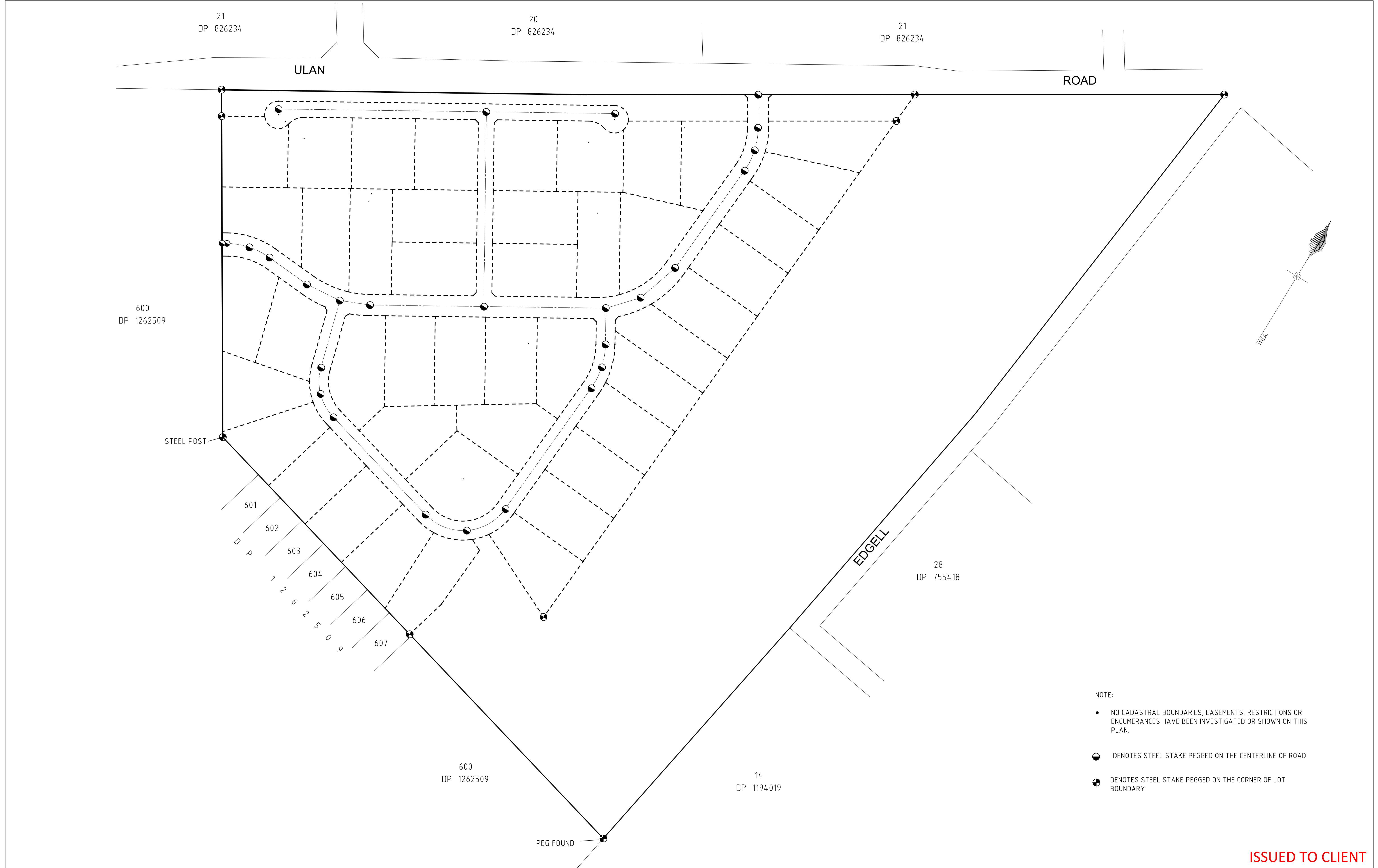
T +61 2 6372 9512

E admin@minespex.com.au

September 2015

APPENDIX D

Physical Commencement Works



- NOTE:
- NO CADASTRAL BOUNDARIES, EASEMENTS, RESTRICTIONS OR ENCUMBRANCES HAVE BEEN INVESTIGATED OR SHOWN ON THIS PLAN.
 - DENOTES STEEL STAKE PEGGED ON THE CENTERLINE OF ROAD
 - ⊙ DENOTES STEEL STAKE PEGGED ON THE CORNER OF LOT BOUNDARY

ISSUED TO CLIENT



BARNSON PTY LTD
 † 1300 BARNSON (1300 227 676)
 e generalenquiry@barnson.com.au
 w www.barnson.com.au
 Bathurst | Dubbo | Mudgee | Sydney | Tamworth

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Client: RICK TURNER
 Project: PROPOSED BOUNDARY AND ROAD SETOUT AT LOT 15 IN DP 1194019
 66 EDGELL LANE, BOMBIRA NSW
 Drawing Title: PROPOSED BOUNDARY AND ROAD SETOUT PLAN

Rev	Date	Amendment
A	24/11/22	ISSUED TO CLIENT

Design	BT	Certification	
Drawn	BT		
Check	RB	Drawing Number	Revision
Original Sheet Size = A1		39130_L02	A



barnson.
DESIGN . PLAN . MANAGE

Geotechnical Pavement Design Report

Client: Rick Turner

Site Address: 66 Edgell Lane, Bombira NSW

18 January 2023


Our Reference: 39130-GR01_A

© Barnson Pty Ltd 2023. Confidential.

DISCLAIMER

This report has been prepared solely for Rick Turner in accordance with the scope provided by the client and for the purpose(s) as outlined throughout this report. Barnson Pty Ltd accepts no liability or responsibility for or in respect of any use or reliance upon this report and its supporting material by anyone other than the client.

The accuracy of the advice provided in this report may be limited by unobserved variations in ground conditions across the site in areas between and beyond test locations and by any restrictions in the sampling and testing which was able to be carried out, as well as by the amount of data that could be collected given the project and site constraints. These factors may lead to the possibility that actual ground conditions and materials behaviour observed at the test locations may differ from those which may be encountered elsewhere on the site. If the sub-surface conditions are found to differ from those described in this report, we should be informed immediately to evaluate whether recommendations should be reviewed and amended if necessary.

Project Name:	66 Edgell Lane, Bombira NSW	
Client:	Rick Turner	
Project Number:	39130	
Report Reference:	39130-GR01_A	
Date:	18.01.2023	
Revision	Revision A	
Prepared by:	Reviewed by:	
		
Gareth Williams Laboratory Technician	Richard Noonan <i>BE(Hons) ME FIEAust CPEng NER</i> Director	

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1. INTRODUCTION

The following is a report on the geotechnical assessment of a site in accordance with AS1726-2017 “Geotechnical Site Investigations”.

The site investigation was carried out by Barnson Pty Ltd, on behalf of Rick Turner of Bombira NSW.



Plate 1 – Area of Investigation

Rick Turner is proposing to construct new internal sub-division roads at 66 Edgell Lane, Bombira NSW. The proposed site features that are covered by this investigation are as follows;

- Proposed Internal Road Construction

The investigation comprised of six (6) boreholes together with field mapping near the site. Details of the field work and laboratory testing are given in the report together with comments relevant to design and construction practice.

1.1. Terminology

The methods used in this report to describe the soil profiles, including visual classification of material types encountered, are in accordance with Australian standard AS1726-2017 “Geotechnical Site Investigations”.

1.2. Limitations

The geotechnical section of Barnson Pty Ltd has conducted this investigation and prepared this report in response to specific instructions from the client to whom this report is addressed. This report is intended for the sole use of the client, and only for the purpose which it is prepared. Any third party who relies on the report or any representation contained in it does so at their own risk.

1.3. Geotechnical Testing

Representative samples from the site were subjected to the following range of tests in accordance with relevant method of Australian Standard AS1289:

- **Maximum Dry Density**
- **California Bearing Ratio**

NATA reports are attached in **Appendix D**.

2. GENERAL DESCRIPTION OF SITE

The site is situated in a semi-rural area on the northeast of Bombira NSW.

The site consists of no grass and weed cover. There are mature trees and vineyard trees with the proposed location.

The site is sloping slightly to the southeast. The site has an existing Vineyard in the proposed sub division location.



Plate 2 – General view of site facing northeast.



Plate 3 – General view of site facing southwest.



Plate 4 – General view of site facing northeast.

3. SITE HISTORY

A review of Google Earth imagery of the site indicates that trees are influencing the site since before an image taken in 2003. Images exist back to 1985, yet the image is not clear enough to determine what was on the site. The trees are still existing on the site and should be excavated and backfilled with natural material and reinstated in layers to a minimum of 95% Standard Maximum Dry Density. See 2003 aerial image below:



Plate 5 – Aerial Image 2003, Courtesy Google Earth.

4. METHOD OF INVESTIGATION

On the 21st of November 2022, a geotechnical investigation was carried out at the site of the above-mentioned development. The field drilling was carried out by a geotechnical technician who logged the boreholes on site and undertook geological mapping of the nearby area.

A drilling rig with a 300mm auger and tungsten tip was used to excavate six (6) boreholes for the proposed roads to depths of 1.5m within the proposed development area. These are identified as boreholes 1 through 6.

4.1. GPS Co-Ordinates

The boreholes were drilled as close as possible to the anticipated location of the proposed structures. GPS Co-ordinates of these were recorded on site to enable plotting of the borehole locations. The following Table 1 shows these co-ordinates.

Table 1: GPS Co-Ordinates of Boreholes

Location	Longitude	Latitude	Proposed Structure
Borehole 1	149.609258	-32.573734	Internal Roads
Borehole 2	149.610705	-32.573287	Internal Roads
Borehole 3	149.612548	-32.571459	Internal Roads
Borehole 4	149.612489	-32.574181	Internal Roads
Borehole 5	149.610524	-32.572296	Internal Roads
Borehole 6	149.609250	-32.572095	Internal Roads

The boreholes were recorded on site with a Garmin Oregon 550 handheld GPS, using GDA94 Datum. The co-ordinates have an accuracy of +/- 5m. These locations are also shown on site plan in **Appendix B**. Bulk samples (Ds >25kg) were sampled from all relevant boreholes and returned to the Laboratory where NATA testing was performed to assist in the material classification.

The borehole logs of sub-surface profiles are attached in **Appendix C**

5. GENERAL SUB-SURFACE CONDITIONS

From the bore logs attached it can be seen that the soil encountered to the test end point was as follows:

5.1. Topsoil

A 0.2m thick layer of topsoil was encountered at all borehole locations. The topsoil consisted of sandy silt.

5.2. Alluvial Sub-Soils

Alluvial soils were encountered though out the boreholes. These generally comprised of slightly moist silts and clays to the depths as shown in the borehole logs attached in **Appendix C**. The silts and clays were noted to be of a medium to high plasticity

5.3. Regional Geology

Reference to the New South Wales 1:1,00,000 Geological Map indicates the surrounding area consists of *“Alluvial and riverine plain deposits of gravel, sand, silt and clay; claypans and outwash areas of black and red clayey silt and sand; coastal sand dunes and beach deposits”*.

Rock was not encountered during this investigation.

5.4. Seismicity

Reference is made to AS1170.4-2007 as per clause 4.1.1 the sites sub-soil class is “Ce – Shallow Sub-soil”.

6. NATA LABORATORY TESTING

Disturbed samples were taken during the field investigation. Laboratory testing was carried out on selected samples of all different material types, with details of the sampling and testing shown below:

Soil Index Properties testing were carried out on samples to aid in classification of the soils encountered and to assist in determining design parameters.

6.1. California Bearing Ratio (CBR) Testing

CBR testing was conducted on the samples across the site to determine the soaked CBR values. The results are shown below:

Table 2: Maximum Dry Density & CBR Testing Results

Borehole No.	Location	Maximum Dry Density (t/m)	Optimum Moisture Content (%)	CBR Value (%)
Borehole 1	Internal Roads	1.57	24.5	1.5
Borehole 2	Internal Roads	1.68	20.0	1.5
Borehole 3	Internal Roads	1.75	18.0	1.5
Borehole 4	Internal Roads	1.91	14.0	1.5
Borehole 5	Internal Roads	1.66	22.5	1.5
Borehole 6	Internal Roads	1.76	17.5	4.5

The samples were then tested to determine soaked CBR values at a Standard Density Ratio of 95%, with the results shown in the above table. See **Appendix D** for all complete test reports.

7. SUB-SURFACE BEARING CAPACITIES

7.1. Bearing Capacities General

All the below soil strengths are applicable to the sites at the time of the investigation. These bearing capacities should not be used for design purposes, they are provided to give an indication of soil strength only. Refer to section 8 for footing design parameters.

Elevation of moisture content will cause a marked decrease in bearing capacity with soil types listed.

Table 3: In-Situ Site Bearing Capacities

Borehole No.	Soil Strata	Depth of Strata (m)	Ultimate Base Bearing Capacity (kPa)	Factored Limit State $\phi = 0.52$ (kPa)
Borehole 1	Soft CLAY	0.2-0.5	<10	N/a
Borehole 1	Stiff CLAY	0.4-0.6	300	156
Borehole 1	Very Stiff CLAY	0.6-1.2	300	156
Borehole 1	Hard CLAY	1.2-1.5	>500	260
Borehole 2	Soft CLAY	0.2-0.5	<10	N/a
Borehole 2	Stiff CLAY	0.4-0.6	300	156
Borehole 2	Very Stiff CLAY	0.6-1.2	300	156
Borehole 2	Hard CLAY	1.2-1.5	>500	260
Borehole 3	Soft CLAY	0.2-0.5	<10	N/a
Borehole 3	Stiff CLAY	0.4-0.6	300	156
Borehole 3	Very Stiff CLAY	0.6-1.2	300	156
Borehole 3	Hard CLAY	1.2-1.5	>500	260
Borehole 4	Soft CLAY	0.2-0.5	<10	N/a
Borehole 4	Stiff CLAY	0.4-0.6	300	156
Borehole 4	Very Stiff CLAY	0.6-1.2	300	156
Borehole 4	Hard CLAY	1.2-1.5	>500	260

Borehole No.	Soil Strata	Depth of Strata (m)	Ultimate Base Bearing Capacity (kPa)	Factored Limit State $\phi = 0.52$ (kPa)
Borehole 5	Soft CLAY	0.2-0.5	<10	N/a
Borehole 5	Stiff CLAY	0.4-0.6	300	156
Borehole 5	Very Stiff CLAY	0.6-1.2	300	156
Borehole 5	Hard CLAY	1.2-1.5	>500	260
Borehole 6	Soft CLAY	0.2-0.5	<10	N/a
Borehole 6	Stiff CLAY	0.4-0.6	300	156
Borehole 6	Very Stiff CLAY	0.6-1.2	300	156
Borehole 6	Hard CLAY	1.2-1.5	>500	260

A Geotechnical reduction factor of 0.52 has been applied to all listed ultimate bearing capacities (reference table 4.3.2 (i) AS2159-2009) low to moderate risk rating.

8. EARTHWORKS RECOMMENDATIONS

8.1. Excavations

Excavations within the natural silts and clays will be achievable using conventional earthmoving equipment. The civil contractor should be responsible for selecting excavation equipment based on the proposed excavation depths and equipment capabilities.

8.2. General Construction Filling

All earthworks performed on site must be undertaken in a controlled manner, in accordance with a suitable earthwork's specification. Filling should be placed, compacted, inspected and tested in accordance with the Level 2 requirements of AS3798-2007.

The following conditions should also be satisfied:

- General filling must be compacted to a minimum dry density ratio of 98-100% relative to standard compaction at a moisture content of -2% to +2% of standard optimum moisture content.
- Filling should proceed in layers of 300mm maximum loose thicknesses.
- Layers of filling should be horizontal or benched to suit the surrounding topography.
- Natural soil is NOT suitable to be used as bulk fill due to high reactivity.

8.3. Site Construction Batters

8.3.1. Temporary batter slopes

Temporary batters in soil should be graded no steeper than 2 Horizontal (H) in 1 Vertical (V), and protected from erosion by re-directing any surface water flows from the batter face, revegetating etc.

8.3.2. Permanent batter slopes

Permanent batter slopes in with clay should be no steeper than 3 Horizontal (H) in 1 Vertical (V) and protected from erosion. Alternatively, fill embankments may be retained with properly designed and constructed retaining walls.

8.4. Flexible Pavement Areas

In-situ CBR values have confirmed a CBR of 1.5% for the natural clays. Any sealed asphalt or bitumen areas with commercial traffic are to incorporate gravel pavement layers of an overall thickness of **500mm** thick, having two equal layers. A design ESA value of 4×10^3 has been adopted for these areas for traffic as per Austroads AP-T36/06 "*Pavement Design for Light Traffic.*" table 7.9 for minor street with two lane traffic, AADT two way of 90 vehicles per day, 3% heavy vehicles and twenty-year design life.

The pavement layers should consist of suitable local gravel having a CBR value not less than 80% for base layers and 60% for sub-base layers. All imported gravel layers should be placed and tested to the requirements set out in AS3798-2007. It is essential that all pavement areas are well drained so that moisture is not stored in this layer that would affect the strength of the sub-grade soil.

The subgrade soil was found to be soft to a depth of 500mm. this unsuitable material will require removal and replacement with compacted road base as per specified below in section 8.6.

8.5. Rigid Pavements

Rigid pavements of concrete slab on ground can be designed with the aid of CCA T48-2009 "*Guide to Industrial Floors and Pavements*". The design subgrade CBR can be taken as 1.5%, which correlates to a long-term Young's Modulus of 6MPa. Short term Young's Modulus can be taken as 8MPa. The natural silts and clays have a correlated Poisson's ratio of 0.35 for long term loading, 0.45 for short term loading.

8.6. General Pavement Notes

All pavement areas are required to be sealed and well drained to prevent moisture affecting the sub-grade. All pavement areas should be removed of any other deleterious material then compacted to a minimum of 100% standard compaction. The pavement should be placed, compacted and tested in accordance with AS3798-2007.

9. CONCLUSION

The testing methods adopted are indicative of the site's sub-surface conditions to the depths excavated and to specific sampling and/or testing locations in this investigation, and only at the time the work was carried out.

The accuracy of geotechnical engineering advice provided in this report may be limited by unobserved variations in ground conditions across the site in areas between and beyond test locations and by any restrictions in the sampling and testing which was able to be carried out, as well as by the amount of data that could be collected given the project and site constraints.

These factors may lead to the possibility that actual ground conditions and materials behaviour observed at the test locations may differ from those which may be encountered elsewhere on the site.

If the sub-surface conditions are found to differ from those described in this report, we should be informed immediately to evaluate whether recommendations should be reviewed and amended if necessary.

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APPENDIX A

General Notes

GEOTECHNICAL INVESTIGATION GENERAL NOTES

This report contains the results of a geotechnical investigation conducted for a specific purpose and client. The results should not be used by other parties, or for other purposes, as they may contain neither adequate nor appropriate information. In particular, the investigation does not cover contamination issues unless specifically required to do so by the client.

TEST HOLE LOGGING

The information on the test hole logs (boreholes, test pits, exposures etc.) is based on a visual and tactile assessment, except at the discrete locations where the test information is available (field and/or laboratory results). The borehole logs include both factual data and inferred information. Reference should be made to the relevant sheets for the explanation of logging procedures (Soil and Rock Descriptions, Core Log Sheet Notes etc).

GROUNDWATER

Unless otherwise indicated, the water levels presented on the borehole logs are the levels of free water or seepage in the bore hole recorded at the given time of measuring. The actual groundwater level may differ from this recorded level depending on material permeability's (i.e. depending on response time of the measuring instrument). Further, variations of this level could occur with time due to such effects as seasonal, environmental and tidal fluctuations or construction activities. Confirmation of groundwater levels, phreatic surfaces or piezometric pressures can only be made by appropriate instrumentation techniques and monitoring programmes.

INTERPRETATION OF RESULTS

The discussion or recommendations contained within this report normally are based on a site evaluation from discrete borehole area. Generalised, idealised or inferred subsurface conditions (including any geotechnical cross-sections) have been assumed or prepared by interpolation and/or extrapolation of these data. As such these conditions are an interpretation and must be considered as a guide only.

CHANGE IN CONDITIONS

Local variations or anomalies in the generalised ground conditions do occur in the natural environment, particularly between discrete borehole locations. Additionally, certain design or construction procedures may have been assumed in assessing the soil-structure interaction behaviour of the site. Furthermore, conditions may change at the site from those encountered at the time of the geotechnical investigation through construction activities and constantly changing natural forces.

Any change in design, in construction methods, or in ground conditions as noted during construction, from those assumed or reported should be referred to this firm for appropriate assessment and comment.

GEOTECHNICAL VERIFICATION

Verification of the geotechnical assumptions and/or model is an integral part of the design process – investigation, construction verification and performance monitoring. Variability is a feature of the natural environment and, in many instances, verification of soil or rock quality, or foundation levels are required. There may be a requirement to extend foundation depths to modify a foundation system or to conduct monitoring as a result of this natural variability. Allowance for verification by geotechnical personnel accordingly should be recognised and programmed during construction.

FOUNDATIONS

Where referred to in the report, the soil or rock quality, or the recommendation depth of any foundation (piles, caissons footings etc.) is an engineering estimate. The estimate is influenced and perhaps limited, by the fieldwork method and testing carried out in connection with the site investigation, and other pertinent information as has been made available. The material quality and/or foundation depth remains, however, an estimate and therefore liable to variation. Foundation drawings, designs and specifications should provide for variations in the final depth, depending upon the ground conditions at each point of support, and allow for geotechnical verification.

REPRODUCTION OF REPORTS

Where it is desired to reproduce the information contained in our geotechnical report, or other technical information, for the inclusion in contract documents or engineering specification of the subject development, such reproductions should include at least all of the relevant test hole and test data, together with the appropriate standard description sheets and remarks made in the written report of a factual or descriptive nature.

Reports are the subject of copyright and shall not be reproduced either totally or in part without the express permission of this firm.

ROCK

Rock Strength

Rock strength is a scale of strength, based on point load index testing, or field testing.

Term	Letter Symbol	Point load index (Mpa) Is (50)	Field guide to strength
Extremely low	EL	< 0.03	Easily remoulded by hand to a material with soil properties.
Very low	VL	0.03 – 0.1	Material crumbles under firm blows with sharp end of pick.
Low	L	0.1 – 0.3	Easily scored by knife, has dull sound under hammer.
Medium	M	0.3 – 1.0	Readily scored with knife, core pieces broken by hand with difficulty
High	H	1 – 3	Rock rings under hammer, core piece broken by pick only.
Very high	VH	3 – 10	Hand specimen breaks with pick after more than one blow.
Extremely high	EH	> 10	Hand specimen breaks with pick after several than one blow.

Rock Weathering

Rock weathering is the degree of rock weathering, determined in the field.

Term	Letter Symbol	Definition
Residual soil	RS	Soil developed on extremely weathered rock.
Extremely weathered rock	XW	Soil is weathered to such an extent that it has soil properties, i.e. it disintegrates or can be remoulded in water.
Distinctly weathered rock	DW	Rock strength usually changed by weathering. The rock may be discoloured, usually by iron staining, porosity is increased.
Slightly weathered rock	SW	Rock is slightly discoloured but shows little or no change of strength from fresh rock.
Fresh rock	FR	Rock shows no sign of decomposition or staining.

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APPENDIX B

Site Plan & Borehole Locations



MID-WESTERN REGIONAL COUNCIL
APPROVED PLAN
APPLICATION NO DA0109/2016
SIGNED *[Signature]*
Authorised person
DATE 22.3.16



<p>PROJECT Jabek Pty Limited Land Development Consultants 10/175 Brisbane Road MARRICKVILLE NSW 2152 Phone: 02/7711118</p>		<p>CLIENT MR RICK TURNER EMAR</p>		<p>SCALE 1:400 @ A3 DATE DRAWN BY AS</p>		<p>CHECKED KATE DATE RJC</p>		<p>DATE 22.3.16</p>		<p>PROJECT BK22B</p>		<p>PLAN OF SUBDIVISION OF LOT 15 DPI 194019 P.O. BOX 66 EDGELL 1 LANE BOMBERA A</p>	
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APPENDIX C

Borehole Logs

CLIENT Rick Turner PROJECT NAME Geotechnical Investigation

PROJECT NUMBER 39130 PROJECT LOCATION 66 Edgell Lane, Bombira NSW

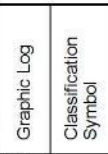




DATE STARTED 21/11/22 COMPLETED 21/11/22 R.L. SURFACE _____ LONGITUDE ---

DRILLING CONTRACTOR Barnson SLOPE 90° LATITUDE ---

EQUIPMENT 1750 Drill Rig HOLE LOCATION Borehole 1

HOLE SIZE 90mm LOGGED BY HC CHECKED BY NR

NOTES

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Dynamic Cone Penetrometer Blows / 100mm	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.0			Sandy SILT: pale brown	0	TOPSOIL
		0.2		CL	Silty CLAY: brown-orange: slightly moist to moist: soft to firm: medium to high plasticity	3	ALLUVIAL
	Disturbed Sample CBR = 1.5%	0.6		CL	Silty CLAY: brown-orange: slightly moist to moist: very stiff to hard: medium to high plasticity	7	ALLUVIAL
		1.2		CH	Silty CLAY: brown-yellow: slightly moist: hard: medium to high plasticity	12	ALLUVIAL
		1.5			Borehole 1 terminated at 1.5m	24	

BOREHOLE / TEST PIT WITH DCP 39130-G01A-G06A.GPJ GINT STD AUSTRALIA.GDT 23/12/22

CLIENT Rick Turner PROJECT NAME Geotechnical Investigation

PROJECT NUMBER 39130 PROJECT LOCATION 66 Edgell Lane, Bombira NSW






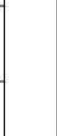
DATE STARTED 21/11/22 COMPLETED 21/11/22 R.L. SURFACE _____ LONGITUDE ---

DRILLING CONTRACTOR Barnson SLOPE 90° LATITUDE ---

EQUIPMENT 1750 Drill Rig HOLE LOCATION Borehole 3

HOLE SIZE 90mm LOGGED BY HC CHECKED BY NR

NOTES _____

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Dynamic Cone Penetrometer Blows / 100mm	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.0			Sandy SILT: pale brown	0	TOPSOIL
		0.2		CL	Silty CLAY: brown-orange: slightly moist to moist: soft to firm: medium to high plasticity	3	ALLUVIAL
	Disturbed Sample CBR = 1.5%	0.6		CL	Silty CLAY: brown-orange: slightly moist to moist: very stiff to hard: medium to high plasticity	7	ALLUVIAL
		1.0				7	
		1.2		CH	Silty CLAY: brown-yellow: slightly moist: hard: medium to high plasticity	12	ALLUVIAL
	1.5				15		
		1.5			Borehole 2 terminated at 1.5m	19	
		2.0				24	
						29	
						32	

BOREHOLE / TEST PIT WITH DCP: 39130-G01A-G06A.GPJ GINT STD AUSTRALIA.GDT 23/12/22

CLIENT Rick Turner PROJECT NAME Geotechnical Investigation

PROJECT NUMBER 39130 PROJECT LOCATION 66 Edgell Lane, Bombira NSW









DATE STARTED 21/11/22 COMPLETED 21/11/22 R.L. SURFACE _____ LONGITUDE ---

DRILLING CONTRACTOR Barnson SLOPE 90° LATITUDE ---

EQUIPMENT 1750 Drill Rig HOLE LOCATION Borehole 5

HOLE SIZE 90mm LOGGED BY HC CHECKED BY NR

NOTES

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Dynamic Cone Penetrometer Blows / 100mm	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.0			Sandy SILT: pale brown	0	TOPSOIL
		0.2		CL	Sandy CLAY: brown: moist: soft: medium to high plasticity	3	ALLUVIAL
		0.4		CL	Silty CLAY: orange: slightly moist: soft to stiff: medium to high plasticity	7	ALLUVIAL
		0.5		CL	Silty CLAY: orange: slightly moist: very stiff to hard: medium to high plasticity	7	ALLUVIAL
	Disturbed Sample CBR = 1.5%	0.6		CL	Silty CLAY: orange: slightly moist: very stiff to hard: medium to high plasticity	7	ALLUVIAL
		1.0				12	
		1.3		CH	Silty CLAY: brown-yellow: slightly moist: hard: medium to high plasticity	15	ALLUVIAL
	1.5				19		
		1.5			Borehole 3 terminated at 1.5m	24	
						29	
						32	

CLIENT Rick Turner PROJECT NAME Geotechnical Investigation

PROJECT NUMBER 39130 PROJECT LOCATION 66 Edgell Lane, Bombira NSW


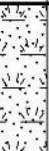






DATE STARTED 21/11/22 COMPLETED 21/11/22 R.L. SURFACE _____ LONGITUDE ---

DRILLING CONTRACTOR Barnson SLOPE 90° LATITUDE ---

EQUIPMENT 1750 Drill Rig HOLE LOCATION Borehole 2

HOLE SIZE 90mm LOGGED BY HC CHECKED BY NR

NOTES

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Dynamic Cone Penetrometer Blows / 100mm	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.0			Sandy SILT: pale brown	0	TOPSOIL
		0.2		CL	Sandy CLAY: brown: moist: soft: medium to high plasticity	3	ALLUVIAL
		0.4		CL	Silty CLAY: orange: slightly moist: soft to stiff: medium to high plasticity	7	ALLUVIAL
		0.5		CL	Silty CLAY: orange: slightly moist: very stiff to hard: medium to high plasticity	7	ALLUVIAL
	Disturbed Sample CBR = 1.5%	0.6		CL	Silty CLAY: orange: slightly moist: very stiff to hard: medium to high plasticity	7	ALLUVIAL
		1.0				7	
		1.3		CH	Silty CLAY: brown-yellow: slightly moist: hard: medium to high plasticity	12	ALLUVIAL
		1.5			Borehole 4 terminated at 1.5m	15	
						19	
						24	
						29	
						32	

CLIENT Rick Turner PROJECT NAME Geotechnical Investigation

PROJECT NUMBER 39130 PROJECT LOCATION 66 Edgell Lane, Bombira NSW

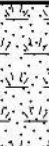




DATE STARTED 21/11/22 COMPLETED 21/11/22 R.L. SURFACE _____ LONGITUDE ---

DRILLING CONTRACTOR Barnson SLOPE 90° LATITUDE ---

EQUIPMENT 1750 Drill Rig HOLE LOCATION Borehole 4

HOLE SIZE 90mm LOGGED BY HC CHECKED BY NR

NOTES _____

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Dynamic Cone Penetrometer Blows / 100mm	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.0			Sandy SILT: pale brown	0	TOPSOIL
		0.2		CL	Silty CLAY: brown-orange: slightly moist to moist: soft to firm: medium to high plasticity	3	ALLUVIAL
	Disturbed Sample CBR = 1.5%	0.6		CL	Silty CLAY: brown-orange: slightly moist to moist: very stiff to hard: medium to high plasticity	7	ALLUVIAL
		1.2		CH	Silty CLAY: brown-yellow: slightly moist: hard: medium to high plasticity	12	ALLUVIAL
		1.5			Borehole 5 terminated at 1.5m	24	

BOREHOLE / TEST PIT WITH DCP 39130-G01A-G06A.GPJ GINT STD AUSTRALIA.GDT 23/12/22

CLIENT Rick Turner PROJECT NAME Geotechnical Investigation

PROJECT NUMBER 39130 PROJECT LOCATION 66 Edgell Lane, Bombira NSW

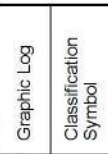




DATE STARTED 21/11/22 COMPLETED 21/11/22 R.L. SURFACE _____ LONGITUDE ---

DRILLING CONTRACTOR Barnson SLOPE 90° LATITUDE ---

EQUIPMENT 1750 Drill Rig HOLE LOCATION Borehole 6

HOLE SIZE 90mm LOGGED BY HC CHECKED BY NR

NOTES

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Dynamic Cone Penetrometer Blows / 100mm	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.0			Sandy SILT: pale brown	0	TOPSOIL
		0.2		CL	Silty CLAY: brown:-orange: slightly moist to moist: soft to firm: medium to high plasticity		ALLUVIAL
	Disturbed Sample CBR = 4.5%	0.6		CL	Silty CLAY: brown-orange: slightly moist to moist: very stiff to hard: medium to high plasticity	3 7 7 7 7	ALLUVIAL
		1.2		CH	Silty CLAY: brown-yellow: slightly moist: hard: medium to high plasticity	5 7 8 12 15 19	ALLUVIAL
		1.5			Borehole 6 terminated at 1.5m	24 29 32	

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APPENDIX D

NATA Laboratory Reports

Material Test Report

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Barnson Pty Ltd

Dubbo Laboratory

16 L Yarrandale Road Dubbo NSW 2830

Phone: 1300 BARNSON

Email: jeremy@barnson.com.au

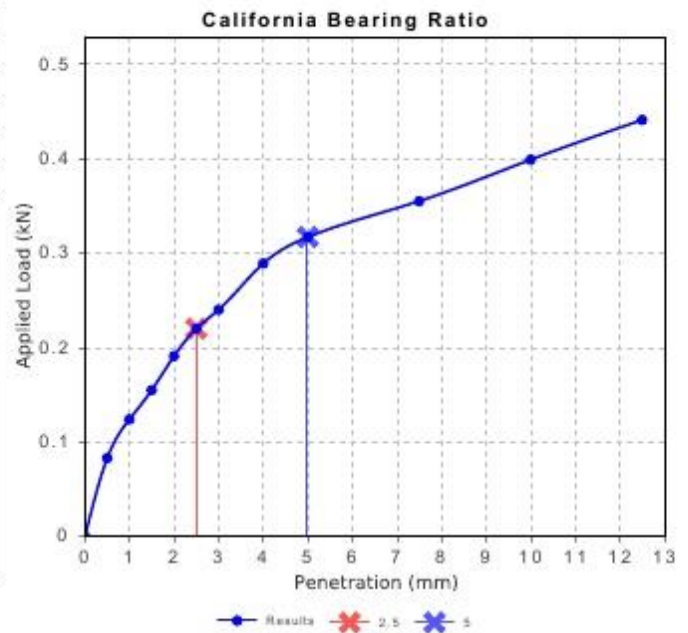
Report Number: 39130-1
Issue Number: 1
Date Issued: 05/01/2023
Client: Rick Turner
 66 Edgell Lane, Bombira NSW 2850
Contact: Rick Turner
Project Number: 39130
Project Name: Pavement Investigation
Project Location: 66 Edgell Lane, Bombira NSW
Work Request: 7228
Sample Number: D22-7228A
Date Sampled: 21/11/2022
Dates Tested: 21/11/2022 - 16/12/2022
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Site Selection: RMS Q6 (not covered by NATA Accreditation)
Sample Location: Borehole 1, Depth: 600mm
Material: Brown-Orange Silty CLAY



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Jeremy Wiatkowski
 Geotechnical Technician
 NATA Accredited Laboratory Number: 9605

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	1.5		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual		
Maximum Dry Density (t/m^3)	1.57		
Optimum Moisture Content (%)	24.5		
Laboratory Density Ratio (%)	94.5		
Laboratory Moisture Ratio (%)	102.0		
Moisture Content at Placement (%)	24.8		
Moisture Content Top 30mm (%)	31.3		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	73.3		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		



Material Test Report

Report Number: 39130-1
Issue Number: 1
Date Issued: 05/01/2023
Client: Rick Turner
 66 Edgell Lane, Bombira NSW 2850
Contact: Rick Turner
Project Number: 39130
Project Name: Pavement Investigation
Project Location: 66 Edgell Lane, Bombira NSW
Work Request: 7228
Sample Number: D22-7228B
Date Sampled: 21/11/2022
Dates Tested: 21/11/2022 - 13/12/2022
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Site Selection: RMS Q6 (not covered by NATA Accreditation)
Sample Location: Borehole 2, Depth: 600mm
Material: Brown-Orange Silty CLAY

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 Dubbo Laboratory
 16 L Yarrandale Road Dubbo NSW 2830
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 Email: jeremy@barnson.com.au

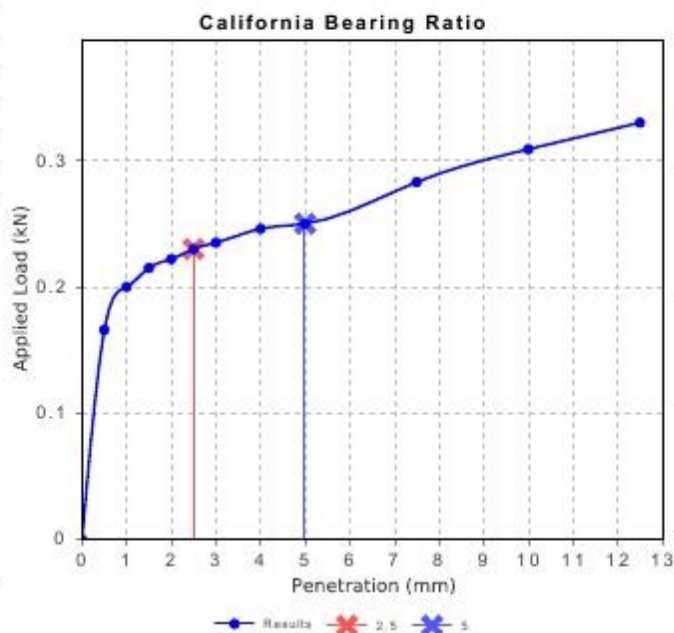
Accredited for compliance with ISO/IEC 17025 - Testing



Signature

Approved Signatory: Jeremy Wiatkowski
 Geotechnical Technician
 NATA Accredited Laboratory Number: 9605

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	1.5		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual		
Maximum Dry Density (t/m^3)	1.68		
Optimum Moisture Content (%)	20.0		
Laboratory Density Ratio (%)	95.0		
Laboratory Moisture Ratio (%)	99.5		
Moisture Content at Placement (%)	19.7		
Moisture Content Top 30mm (%)	20.8		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	74.1		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		



Material Test Report

Report Number: 39130-1
Issue Number: 1
Date Issued: 05/01/2023
Client: Rick Turner
 66 Edgell Lane, Bombira NSW 2850
Contact: Rick Turner
Project Number: 39130
Project Name: Pavement Investigation
Project Location: 66 Edgell Lane, Bombira NSW
Work Request: 7228
Sample Number: D22-7228C
Date Sampled: 21/11/2022
Dates Tested: 21/11/2022 - 13/12/2022
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Site Selection: RMS Q6 (not covered by NATA Accreditation)
Sample Location: Borehole 3, Depth: 600mm
Material: Orange Silty CLAY

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 Dubbo Laboratory
 16 L Yarrandale Road Dubbo NSW 2830
 Phone: 1300 BARNSON
 Email: jeremy@barnson.com.au

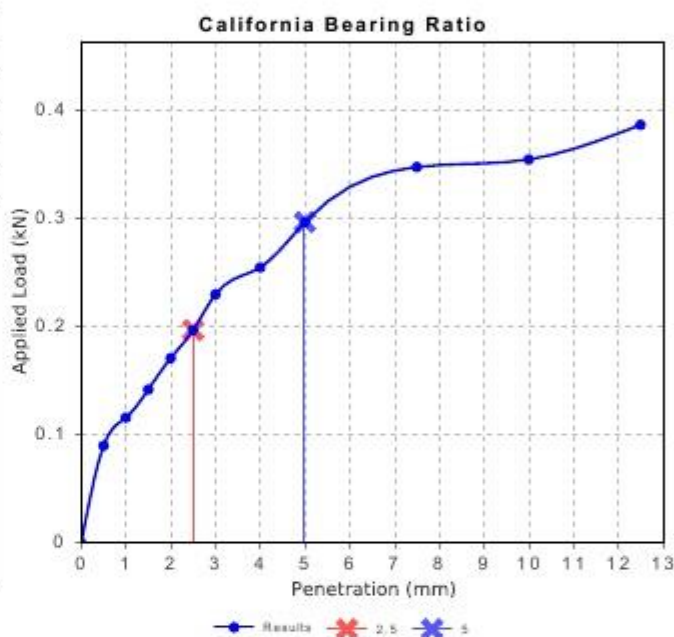
Accredited for compliance with ISO/IEC 17025 - Testing



Jeremy Wiatkowski

Approved Signatory: Jeremy Wiatkowski
 Geotechnical Technician
 NATA Accredited Laboratory Number: 9605

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	5 mm		
CBR %	1.5		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual		
Maximum Dry Density (t/m^3)	1.75		
Optimum Moisture Content (%)	18.0		
Laboratory Density Ratio (%)	95.0		
Laboratory Moisture Ratio (%)	98.5		
Moisture Content at Placement (%)	17.6		
Moisture Content Top 30mm (%)	25.1		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	75.2		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		



Material Test Report

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Dubbo Laboratory

16 L Yarrandale Road Dubbo NSW 2830

Phone: 1300 BARNSON

Email: jeremy@barnson.com.au

Report Number: 39130-1
Issue Number: 1
Date Issued: 05/01/2023
Client: Rick Turner
 66 Edgell Lane, Bombira NSW 2850
Contact: Rick Turner
Project Number: 39130
Project Name: Pavement Investigation
Project Location: 66 Edgell Lane, Bombira NSW
Work Request: 7228
Sample Number: D22-7228D
Date Sampled: 21/11/2022
Dates Tested: 21/11/2022 - 16/12/2022
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Site Selection: RMS Q6 (not covered by NATA Accreditation)
Sample Location: Borehole 4, Depth: 600mm
Material: Orange Silty CLAY

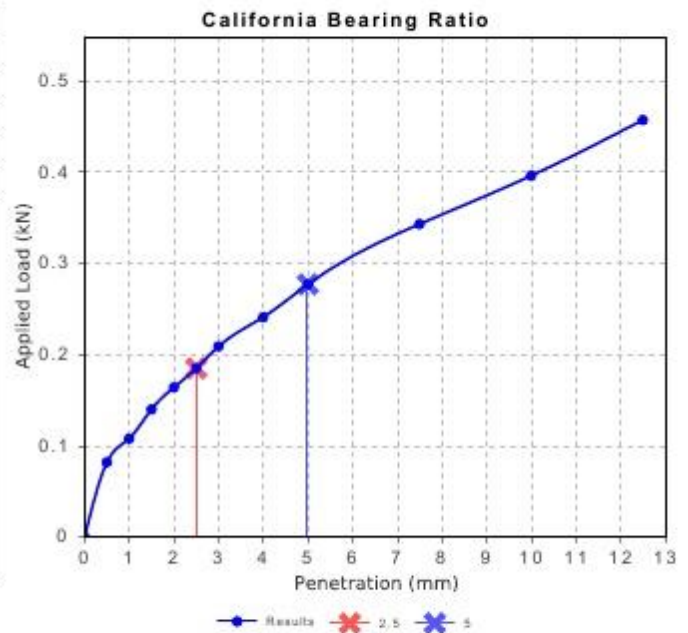
Accredited for compliance with ISO/IEC 17025 - Testing



Signature

Approved Signatory: Jeremy Wiatkowski
 Geotechnical Technician
 NATA Accredited Laboratory Number: 9605

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	1.5		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual		
Maximum Dry Density (t/m^3)	1.91		
Optimum Moisture Content (%)	14.0		
Laboratory Density Ratio (%)	95.5		
Laboratory Moisture Ratio (%)	95.0		
Moisture Content at Placement (%)	13.5		
Moisture Content Top 30mm (%)	14.9		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	76.8		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		



Material Test Report

Report Number: 39130-1
Issue Number: 1
Date Issued: 05/01/2023
Client: Rick Turner
 66 Edgell Lane, Bombira NSW 2850
Contact: Rick Turner
Project Number: 39130
Project Name: Pavement Investigation
Project Location: 66 Edgell Lane, Bombira NSW
Work Request: 7228
Sample Number: D22-7228E
Date Sampled: 21/11/2022
Dates Tested: 21/11/2022 - 23/12/2022
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Site Selection: RMS Q6 (not covered by NATA Accreditation)
Sample Location: Borehole 5, Depth: 600mm
Material: Brown-Orange Silty CLAY

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 Dubbo Laboratory
 16 L Yarrandale Road Dubbo NSW 2830
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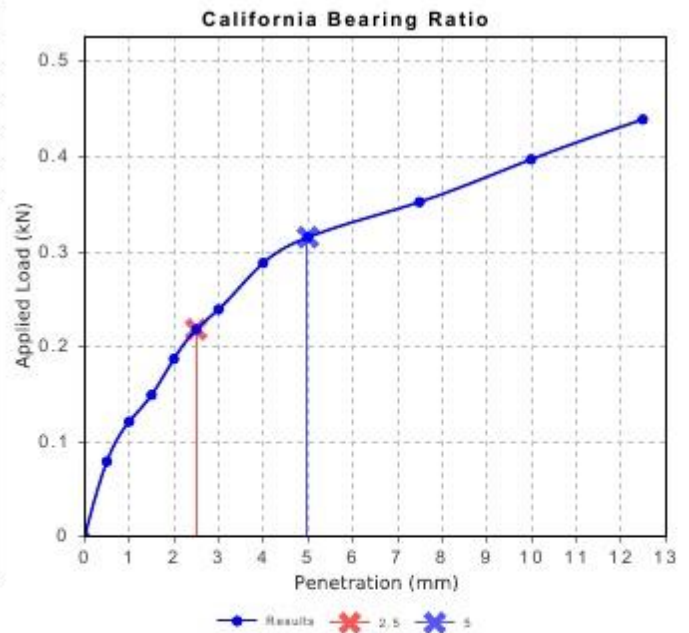
Accredited for compliance with ISO/IEC 17025 - Testing



Jeremy Wiatkowski

Approved Signatory: Jeremy Wiatkowski
 Geotechnical Technician
 NATA Accredited Laboratory Number: 9605

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	1.5		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual		
Maximum Dry Density (t/m^3)	1.66		
Optimum Moisture Content (%)	22.5		
Laboratory Density Ratio (%)	95.0		
Laboratory Moisture Ratio (%)	100.0		
Moisture Content at Placement (%)	22.7		
Moisture Content Top 30mm (%)	25.0		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	74.5		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		



Material Test Report

Report Number: 39130-1
Issue Number: 1
Date Issued: 05/01/2023
Client: Rick Turner
 66 Edgell Lane, Bombira NSW 2850
Contact: Rick Turner
Project Number: 39130
Project Name: Pavement Investigation
Project Location: 66 Edgell Lane, Bombira NSW
Work Request: 7228
Sample Number: D22-7228F
Date Sampled: 21/11/2022
Dates Tested: 21/11/2022 - 20/12/2022
Sampling Method: AS 1289.1.2.1 6.5.3 - Power auger drilling
Site Selection: RMS Q6 (not covered by NATA Accreditation)
Sample Location: Borehole 6, Depth: 600mm
Material: Brown-Orange Silty CLAY

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 Dubbo Laboratory
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 Phone: 1300 BARNSON
 Email: jeremy@barnson.com.au

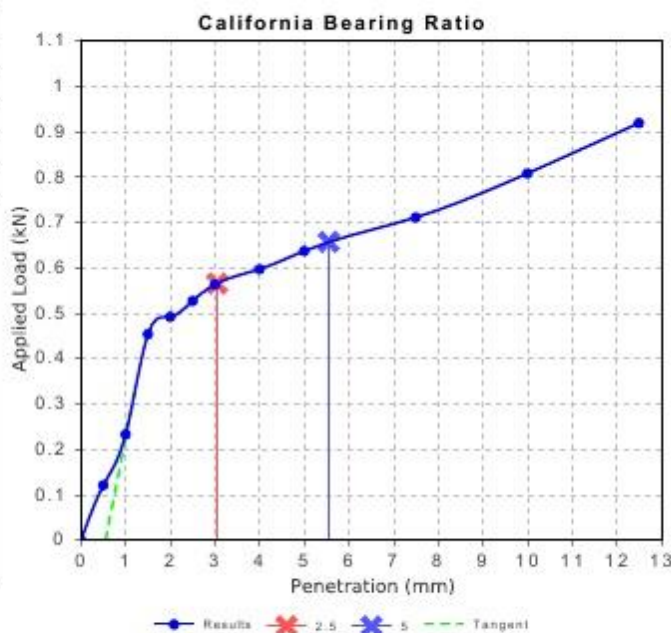
Accredited for compliance with ISO/IEC 17025 - Testing



Signature

Approved Signatory: Jeremy Wiatkowski
 Geotechnical Technician
 NATA Accredited Laboratory Number: 9605

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	4.5		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual		
Maximum Dry Density (t/m^3)	1.76		
Optimum Moisture Content (%)	17.5		
Laboratory Density Ratio (%)	95.0		
Laboratory Moisture Ratio (%)	101.0		
Moisture Content at Placement (%)	17.5		
Moisture Content Top 30mm (%)	24.6		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours	51.8		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		



APPENDIX E

Revised Subdivision Plans

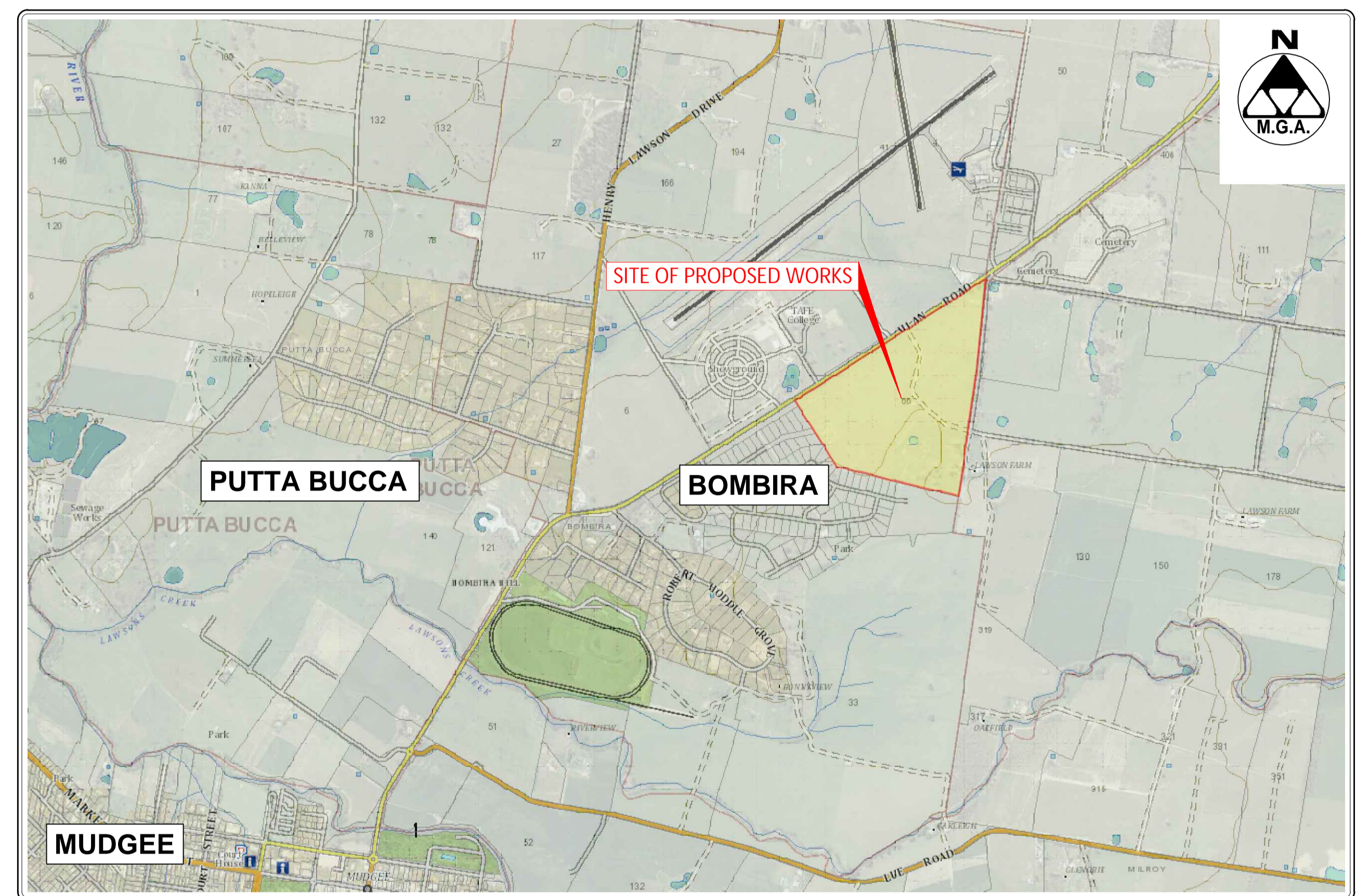
Civil Design Documentation

Proposed Subdivision

Lot 15 in DP 1194019
66 Edgell Lane, Bombira NSW 2850

SCHEDULE OF DRAWINGS

SHEET No.	DESCRIPTION
39130-C00	COVER SHEET AND DRAWING SCHEDULE
39130-C01	EXISTING SITE PLAN
39130-C02	PROPOSED PLAN OF SUBDIVISION
39130-C03	PROPOSED LOT PLAN
39130-C04	PROPOSED ROAD PLAN
39130-C05	PROPOSED ROAD SPECIFICATIONS
39130-C06	PROPOSED INTERSECTION PLAN
39130-C07	PROPOSED SEWER PLAN
39130-C08	PROPOSED SEWER SPECIFICATIONS
39130-C09	PROPOSED STORMWATER PLAN
39130-C10	PROPOSED WATER SPECIFICATIONS
39130-C11	PROPOSED SITE STORMWATER ANALYSIS
39130-C12	PROPOSED ON-SITE DETENTION BASIN PLAN
39130-C13	PROPOSED WATER PLAN
39130-C14	PROPOSED WATER SPECIFICATIONS

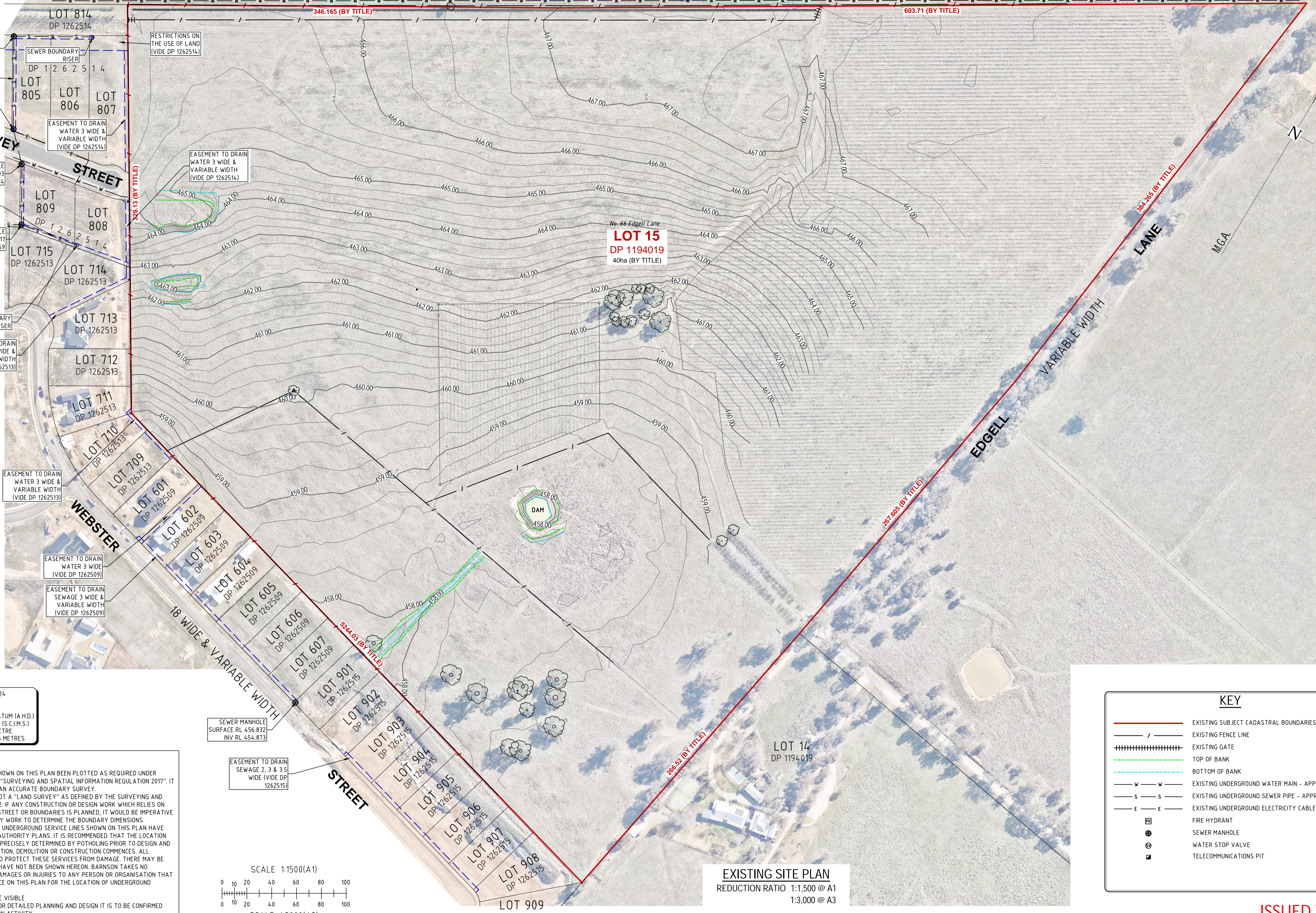


LOCALITY PLAN
REDUCTION RATIO 1:12500 @ A1

ISSUED TO CLIENT



ULAN ROAD



DATE OF SURVEY : 1st FEBRUARY 2024
 SURVEY BY : R. Boylan

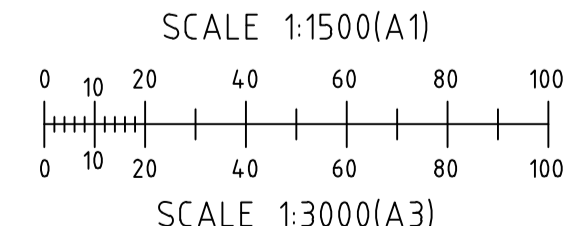
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 MAJOR CONTOUR INTERVAL : 1 METRE
 MINOR CONTOUR INTERVAL : 0.25 METRES

NOTES:

- THE BOUNDARY INFORMATION SHOWN ON THIS PLAN BEEN PLOTTED AS REQUIRED UNDER DIVISION 1, SECTION 9.1(1) OF THE "SURVEYING AND SPATIAL INFORMATION REGULATION 2017". IT HAS NOT BEEN DETERMINED BY AN ACCURATE BOUNDARY SURVEY.
- A DETAIL & LEVEL SURVEY IS NOT A "LAND SURVEY" AS DEFINED BY THE SURVEYING AND SPATIAL INFORMATION ACT 2002. IF ANY CONSTRUCTION OR DESIGN WORK WHICH RELIES ON CRITICAL SETBACKS FROM THE STREET OR BOUNDARIES IS PLANNED, IT WOULD BE IMPERATIVE TO CARRY OUT FURTHER SURVEY WORK TO DETERMINE THE BOUNDARY DIMENSIONS.
- THE LOCATIONS AND DEPTHS OF UNDERGROUND SERVICE LINES SHOWN ON THIS PLAN HAVE BEEN SCALED FROM RELEVANT AUTHORITY PLANS. IT IS RECOMMENDED THAT THE LOCATION OF THESE SERVICES SHOULD BE PRECISELY DETERMINED BY POTHOLING PRIOR TO DESIGN AND CONSTRUCTION OR ANY EXCAVATION, DEMOLITION OR CONSTRUCTION COMMENCES. ALL MEASURES SHOULD BE TAKEN TO PROTECT THESE SERVICES FROM DAMAGE. THERE MAY BE UNDERGROUND SERVICES THAT HAVE NOT BEEN SHOWN HEREON. BARNSON TAKES NO RESPONSIBILITY FOR LOSSES, DAMAGES OR INJURIES TO ANY PERSON OR ORGANISATION THAT MAY OCCUR DUE TO THE RELIANCE ON THIS PLAN FOR THE LOCATION OF UNDERGROUND SERVICES.
- SERVICES LOCATED ONLY WHERE VISIBLE
- THE BENCHMARK PROVIDED IS FOR DETAILED PLANNING AND DESIGN IT IS TO BE CONFIRMED PRIOR TO USE FOR CONSTRUCTION ACTIVITY.

SEWER MANHOLE
 SURFACE RL 456.832
 INV RL 454.873

EASEMENT TO DRAIN
 SEWAGE 2, 3 & 3.5
 WIDE (VIDE DP 1262515)



EXISTING SITE PLAN
 REDUCTION RATIO 1:1,500 @ A1
 1:3,000 @ A3

KEY	
	EXISTING SUBJECT CADASTRAL BOUNDARIES
	EXISTING FENCE LINE
	EXISTING GATE
	TOP OF BANK
	BOTTOM OF BANK
	EXISTING UNDERGROUND WATER MAIN - APPROX.
	EXISTING UNDERGROUND SEWER PIPE - APPROX.
	EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX.
	FIRE HYDRANT
	SEWER MANHOLE
	WATER STOP VALVE
	TELECOMMUNICATIONS PIT

ISSUED TO CLIENT



BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
 email generalenquiry@barnson.com.au
 web barnson.com.au

Rev	Date	Description
A	7-02-2024	ISSUED TO CLIENT

Project
CIVIL DESIGN DOCUMENTATION
LOT 15 IN DP 1194019
 Site Address
 66 EDGELL LANE
 BOMBIRA NSW 2850
 Client
 TINOBAH PTY LTD

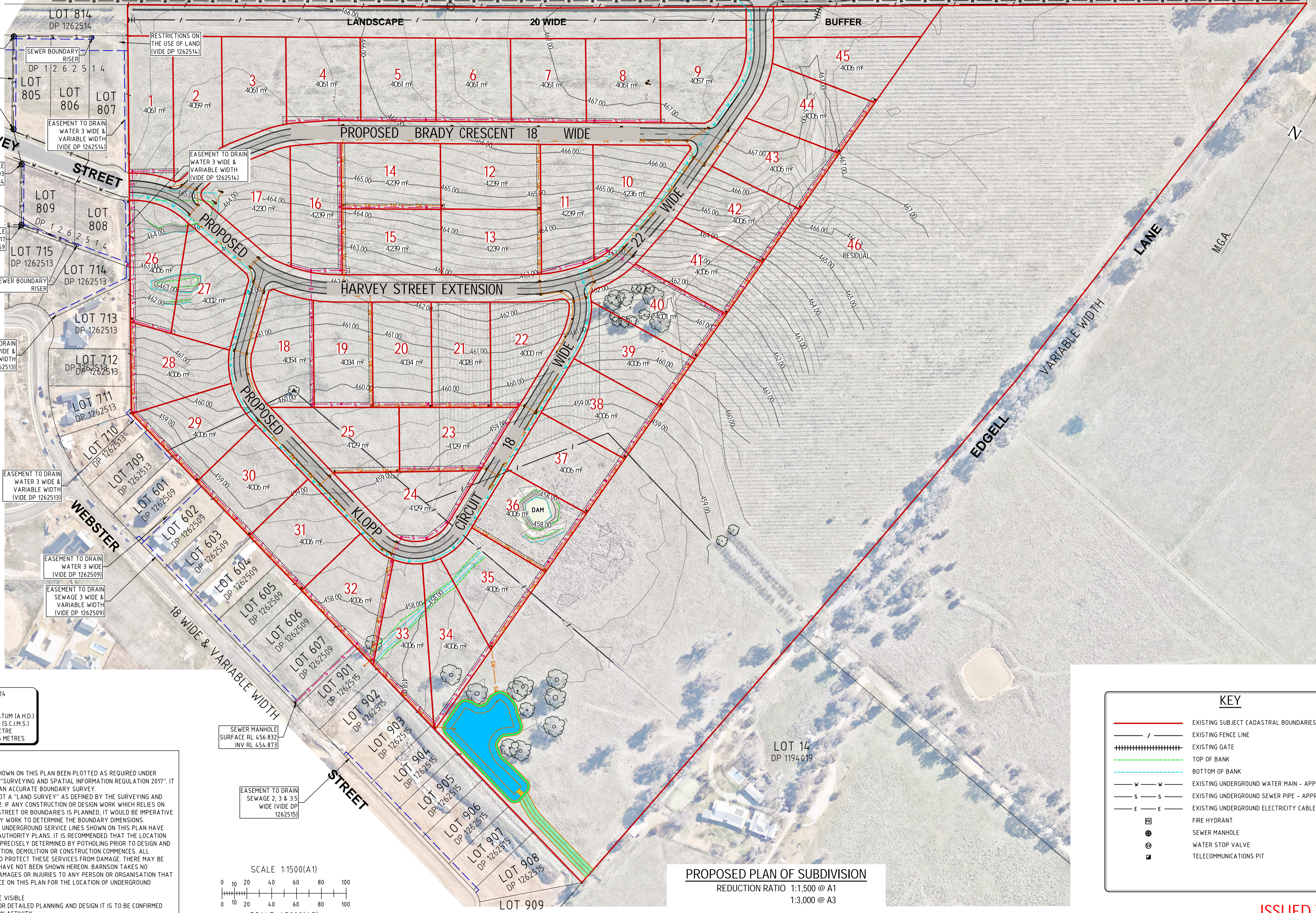
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EXISTING SITE PLAN

Survey RB & BT
 Drawn JS
 Check RB

Original Sheet Size	A1	Project No	39130
Revision	A	Drawing No	C01



ULAN ROAD

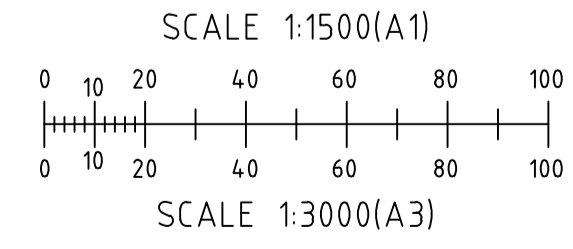


DATE OF SURVEY : 1st FEBRUARY 2024
 SURVEY BY : R. Boylan

DATUM : AUSTRALIAN HEIGHT DATUM (A.H.D.)
 ORIGIN : PM 85725 RL 465.907m (S.C.I.M.S.)
 MAJOR CONTOUR INTERVAL : 1 METRE
 MINOR CONTOUR INTERVAL : 0.25 METRES

NOTES:

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- THE LOCATIONS AND DEPTHS OF UNDERGROUND SERVICE LINES SHOWN ON THIS PLAN HAVE BEEN SCALED FROM RELEVANT AUTHORITY PLANS. IT IS RECOMMENDED THAT THE LOCATION OF THESE SERVICES SHOULD BE PRECISELY DETERMINED BY POTHOLING PRIOR TO DESIGN AND CONSTRUCTION OR ANY EXCAVATION, DEMOLITION OR CONSTRUCTION COMMENCES. ALL MEASURES SHOULD BE TAKEN TO PROTECT THESE SERVICES FROM DAMAGE. THERE MAY BE UNDERGROUND SERVICES THAT HAVE NOT BEEN SHOWN HEREON. BARNSON TAKES NO RESPONSIBILITY FOR LOSSES, DAMAGES OR INJURIES TO ANY PERSON OR ORGANISATION THAT MAY OCCUR DUE TO THE RELIANCE ON THIS PLAN FOR THE LOCATION OF UNDERGROUND SERVICES.
- SERVICES LOCATED ONLY WHERE VISIBLE
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PROPOSED PLAN OF SUBDIVISION
 REDUCTION RATIO 1:1,500 @ A1
 1:3,000 @ A3

KEY	
	EXISTING SUBJECT CADASTRAL BOUNDARIES
	EXISTING FENCE LINE
	EXISTING GATE
	TOP OF BANK
	BOTTOM OF BANK
	EXISTING UNDERGROUND WATER MAIN - APPROX.
	EXISTING UNDERGROUND SEWER PIPE - APPROX.
	EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX.
	FIRE HYDRANT
	SEWER MANHOLE
	WATER STOP VALVE
	TELECOMMUNICATIONS PIT

ISSUED TO CLIENT



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phone 1300 BARNSON (1300 227 676)
 email generalenquiry@barnson.com.au
 web barnson.com.au

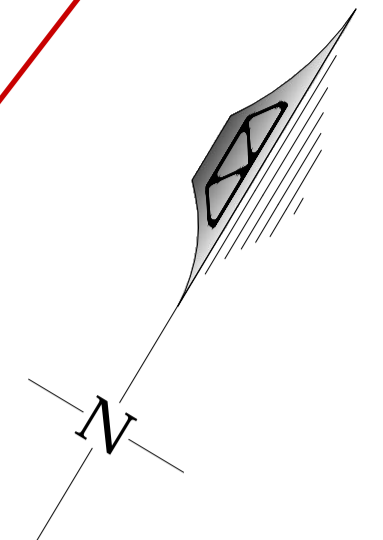
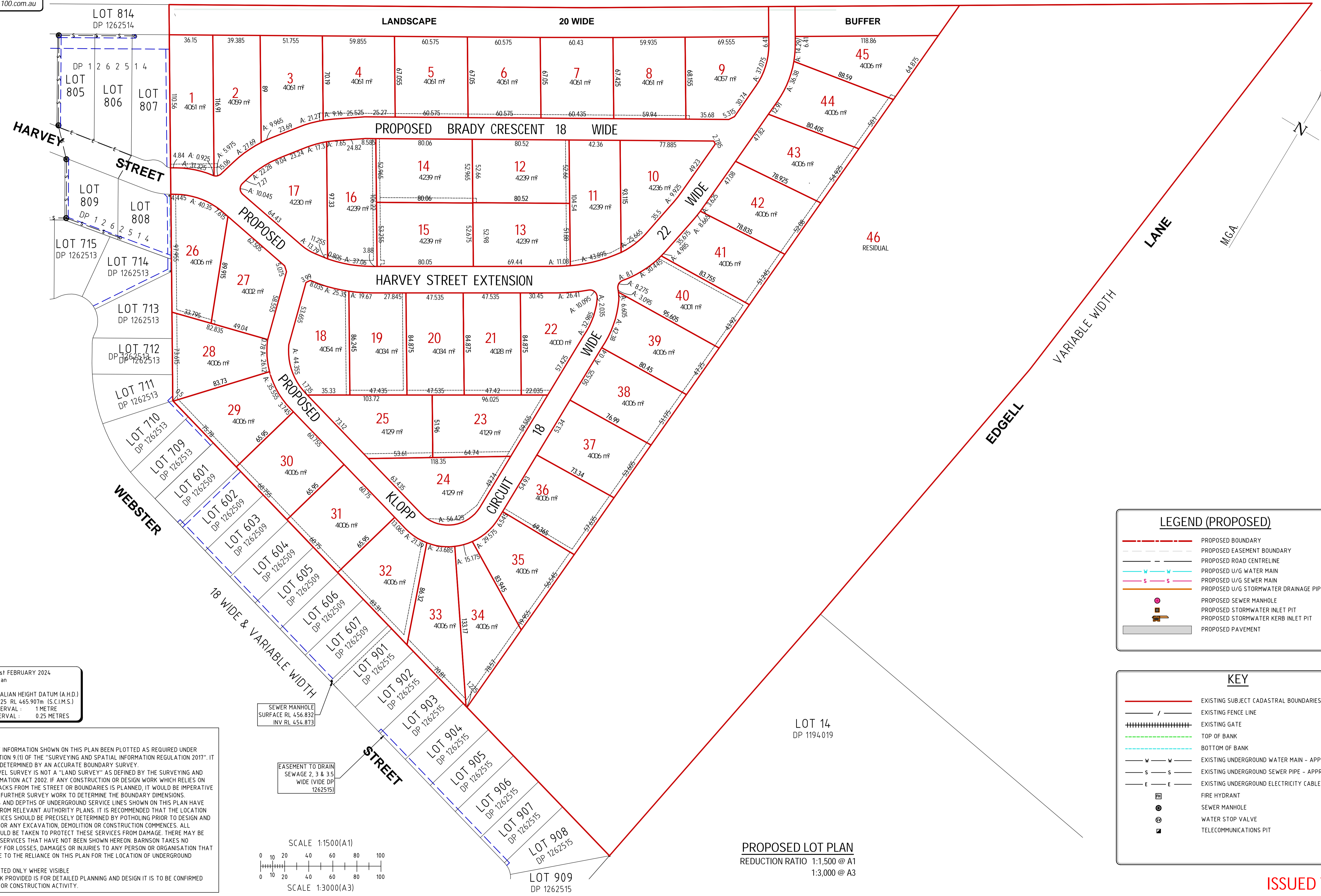
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B	24-05-2024	SITE PLAN UPDATED

Project
 CIVIL DESIGN DOCUMENTATION
 LOT 15 IN DP 1194019
 Site Address
 66 EDGELL LANE
 BOMBIRA NSW 2850
 Client
 TINOBAH PTY LTD

Drawing Title		Certification	
PROPOSED PLAN OF SUBDIVISION			
Survey	RB & BT	Original Sheet Size	A1
Drawn	JS	Project No	39130
Check	RB	Revision	B
		Drawing No	C02



ULAN ROAD

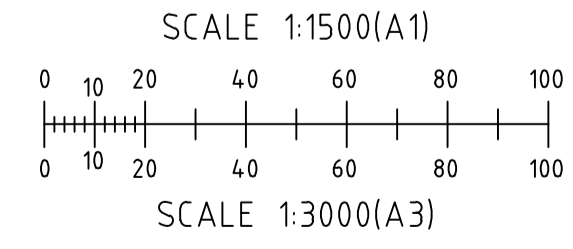


DATE OF SURVEY : 1st FEBRUARY 2024
SURVEY BY : R. Boylan
DATUM : AUSTRALIAN HEIGHT DATUM (A.H.D.)
ORIGIN : PM 85725 RL 465.907m (S.C.I.M.S.)
MAJOR CONTOUR INTERVAL : 1 METRE
MINOR CONTOUR INTERVAL : 0.25 METRES

NOTES:
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SEWER MANHOLE
SURFACE RL 456.832
INV RL 454.873

EASEMENT TO DRAIN
SEWAGE 2, 3 & 3.5
WIDE (VIDE DP
1262515)



PROPOSED LOT PLAN
REDUCTION RATIO 1:1,500 @ A1
1:3,000 @ A3

LEGEND (PROPOSED)
- - - - - PROPOSED BOUNDARY
- - - - - PROPOSED EASEMENT BOUNDARY
- - - - - PROPOSED ROAD CENTRELINE
W W W PROPOSED U/G WATER MAIN
S S S PROPOSED U/G SEWER MAIN
- - - - - PROPOSED U/G STORMWATER DRAINAGE PIPE
○ PROPOSED SEWER MANHOLE
□ PROPOSED STORMWATER INLET PIT
□ PROPOSED STORMWATER KERB INLET PIT
■ PROPOSED PAVEMENT

KEY
- - - - - EXISTING SUBJECT CADASTRAL BOUNDARIES
- - - - - EXISTING FENCE LINE
||||| EXISTING GATE
- - - - - TOP OF BANK
- - - - - BOTTOM OF BANK
W W EXISTING UNDERGROUND WATER MAIN - APPROX.
S S EXISTING UNDERGROUND SEWER PIPE - APPROX.
- - - - - EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX.
□ FIRE HYDRANT
○ SEWER MANHOLE
○ WATER STOP VALVE
■ TELECOMMUNICATIONS PIT

ISSUED TO CLIENT



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phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

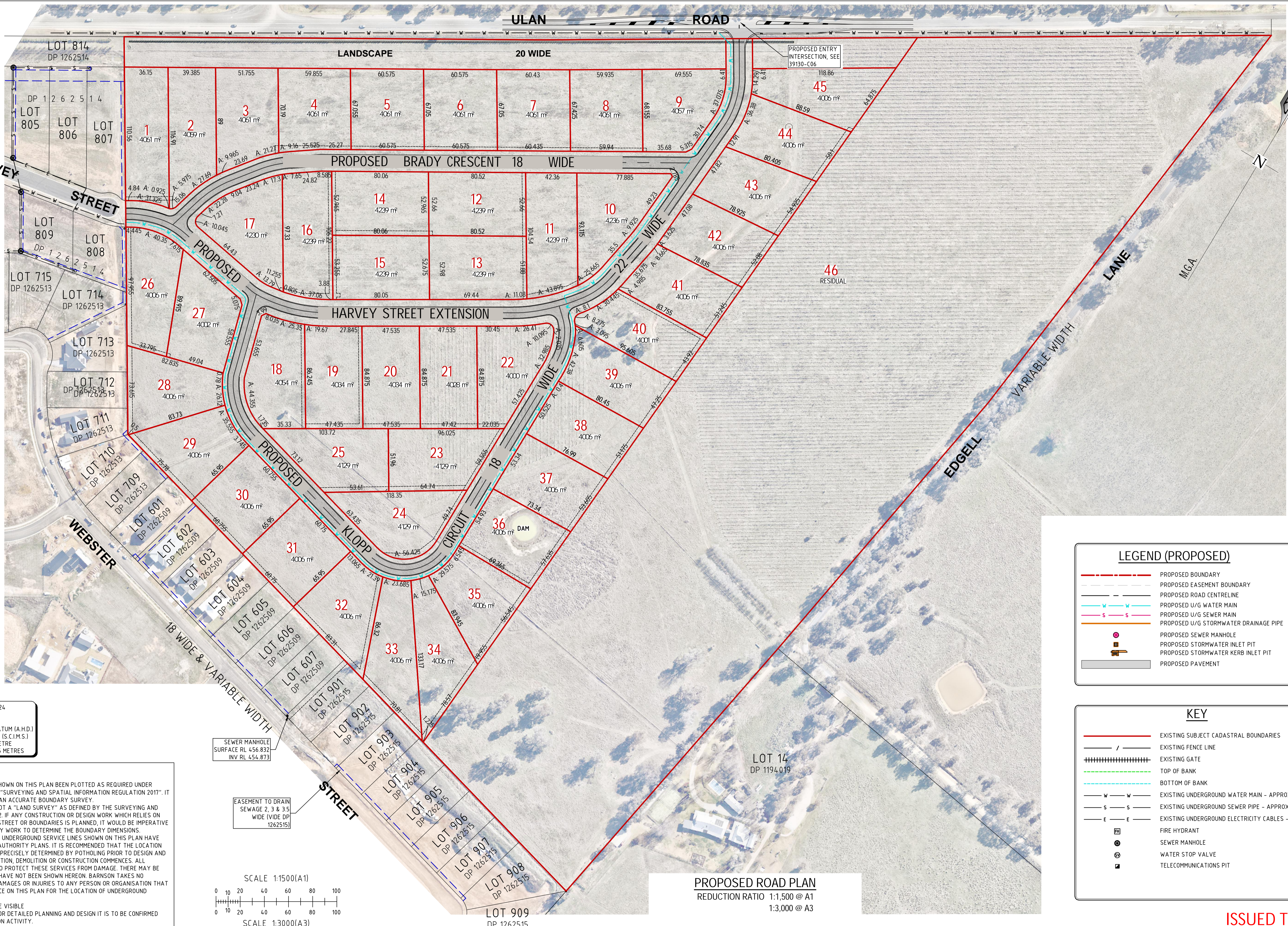
Rev	Date	Description
A	7-02-2024	ISSUED TO CLIENT

Project
CIVIL DESIGN DOCUMENTATION
LOT 15 IN DP 1194019
Site Address
66 EDGELL LANE
BOMBIRA NSW 2850
Client
TINOBAH PTY LTD

Drawing Title
PROPOSED LOT PLAN
Survey RB & BT
Drawn JS
Check RB

Original Sheet Size	Revision	Certification
A1	A	Project No
A		Drawing No

39130
C03



DATE OF SURVEY : 1st FEBRUARY 2024
 SURVEY BY : R. Boylan

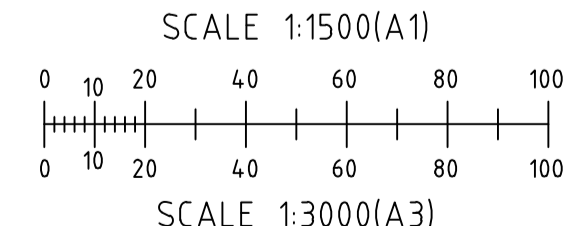
DATUM : AUSTRALIAN HEIGHT DATUM (A.H.D.)
 ORIGIN : PM 85725 RL 465.907m (S.C.I.M.S.)
 MAJOR CONTOUR INTERVAL : 1 METRE
 MINOR CONTOUR INTERVAL : 0.25 METRES

NOTES:

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SEWER MANHOLE
 SURFACE RL 456.832
 INV RL 454.873

EASEMENT TO DRAIN
 SEWAGE 2, 3 & 3.5
 WIDE (VIDE DP
 1262515)



PROPOSED ROAD PLAN
 REDUCTION RATIO 1:1,500 @ A1
 1:3,000 @ A3

LEGEND (PROPOSED)	
	PROPOSED BOUNDARY
	PROPOSED EASEMENT BOUNDARY
	PROPOSED ROAD CENTRELINE
	PROPOSED U/G WATER MAIN
	PROPOSED U/G SEWER MAIN
	PROPOSED U/G STORMWATER DRAINAGE PIPE
	PROPOSED SEWER MANHOLE
	PROPOSED STORMWATER INLET PIT
	PROPOSED STORMWATER KERB INLET PIT
	PROPOSED PAVEMENT

KEY	
	EXISTING SUBJECT CADASTRAL BOUNDARIES
	EXISTING FENCE LINE
	EXISTING GATE
	TOP OF BANK
	BOTTOM OF BANK
	EXISTING UNDERGROUND WATER MAIN - APPROX.
	EXISTING UNDERGROUND SEWER PIPE - APPROX.
	EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX.
	FIRE HYDRANT
	SEWER MANHOLE
	WATER STOP VALVE
	TELECOMMUNICATIONS PIT

ISSUED TO CLIENT



BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
 email generalenquiry@barnson.com.au
 web barnson.com.au

Rev	Date	Description
A	7-02-2024	ISSUED TO CLIENT

Project
 CIVIL DESIGN DOCUMENTATION
 LOT 15 IN DP 1194019
 Site Address
 66 EDGELL LANE
 BOMBIRA NSW 2850
 Client
 TINOBAH PTY LTD

Drawing Title
 PROPOSED ROAD PLAN

Survey RB & BT
 Drawn JS
 Check RB

Original Sheet Size	Revision
A1	A

Certification

Project No 39130
 Drawing No C04

SITWORKS NOTES

- ORIGIN OF LEVELS :- AHD.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
- ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE SUPERINTENDENT.
- EXISTING SERVICES HAVE BEEN OBTAINED FROM SURFACE INSPECTION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- WHERE NEW WORKS ABOUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A QUALIFIED SURVEYOR.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- ON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
- MAKE SMOOTH TRANSITION TO EXISTING SURFACES.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS. ALL WORK TO BE UNDERTAKEN WITH ADHERENCE TO THE REQUIREMENTS OF THE SOIL AND WATER MANAGEMENT PLAN.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.

SUBGRADE COMPACTION NOTES

- STRIP TOPSOIL TO EXPOSE NATURALLY OCCURRING MATERIAL.
- WHERE FILLING IS REQUIRED TO ACHIEVE DESIGN SUBGRADE PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF TEN PASSES OF A VIBRATING ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) IN THE PRESENCE OF THE SUPERINTENDENT.
- ALL SOFT, WET OR UNSUITABLE MATERIAL TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.
- ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SUPERINTENDENT AND SHALL COMPLY WITH THE FOLLOWING :
 - FREE FROM ORGANIC AND PERISHABLE MATTER
 - MAXIMUM PARTICLE SIZE 75mm
 - PLASTICITY INDEX BETWEEN 2% AND 15%.
- ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS 1289 E31 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITIES IN ACCORDANCE WITH AS 1289 E1.1:

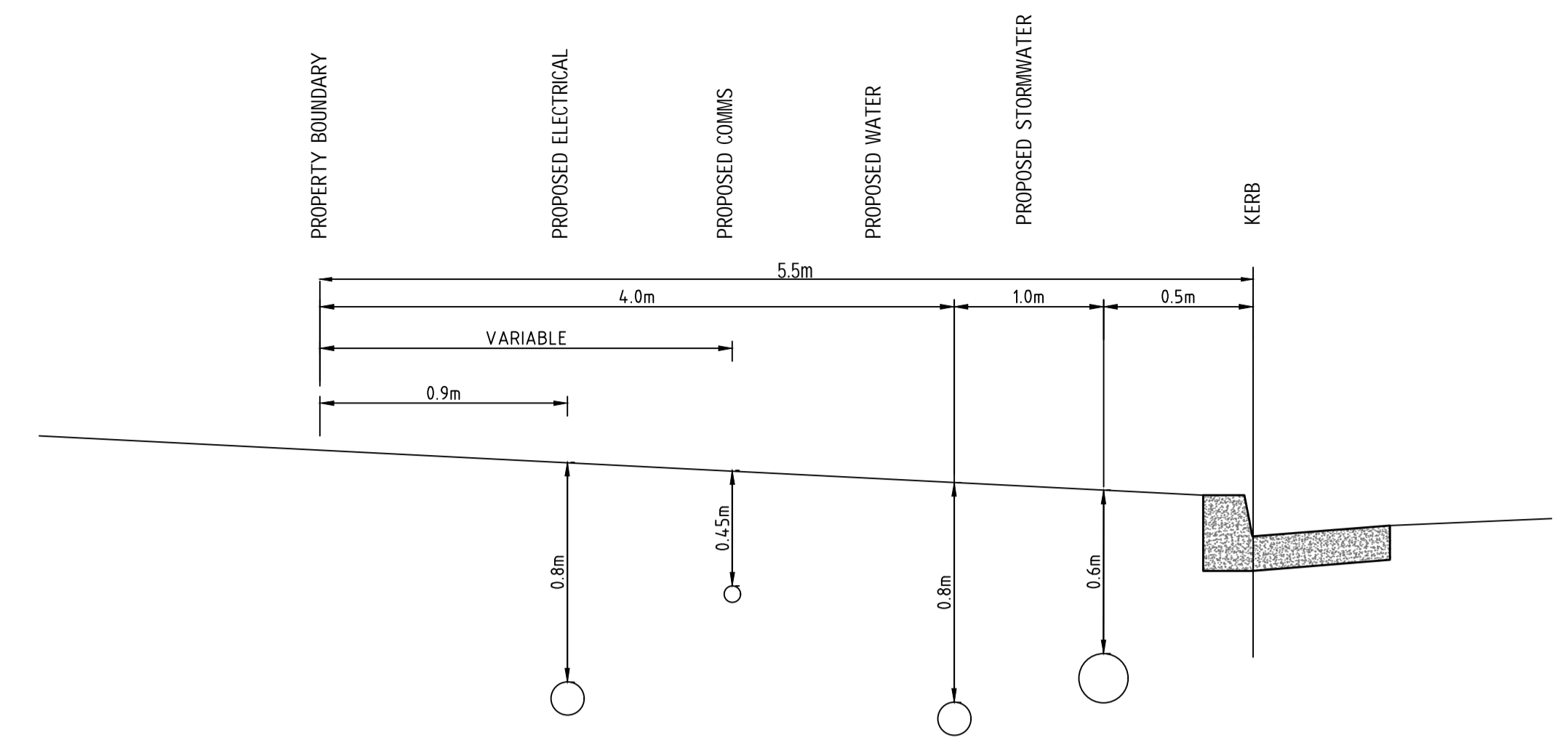
LOCATION	STANDARD DRY DENSITY
ROADS	100% STD MDD
- THE CONTRACTOR SHALL PROGRAMME THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED BY THE CONTRACTOR AT THEIR COST.
- TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY AT THE CONTRACTORS EXPENSE.

ROADWORKS NOTES

- ALL BASECOURSE AND SUB-BASECOURSE MATERIALS SHALL CONFORM WITH AUSPEC SPECIFICATION FOR THE CONSTRUCTION OF NATURAL GRAVEL OR CRUSHED ROCK ROAD PAVEMENT AND AUSPEC SPECIFICATION FOR THE SUPPLY AND DELIVERY OF BASE AND SUB-BASE MATERIALS FOR SURFACED ROAD PAVEMENTS.
- ALL BASECOURSE AND SUB-BASE MATERIALS SHALL BE COMPACTED TO ACHIEVE A MINIMUM OF 100% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OF +OR- 2% IN ACCORDANCE WITH AS1289 E1.1
- ALL WEARING SURFACES SHALL BE 40mm ASPHALTIC CONCRETE (AC) LAID UPON A SPRAYED BITUMINOUS PRIME COAT, DESIGNED IN ACCORDANCE WITH THE RTA PUBLICATION "SPRAYED SEALING GUIDE".

CONCRETE NOTES

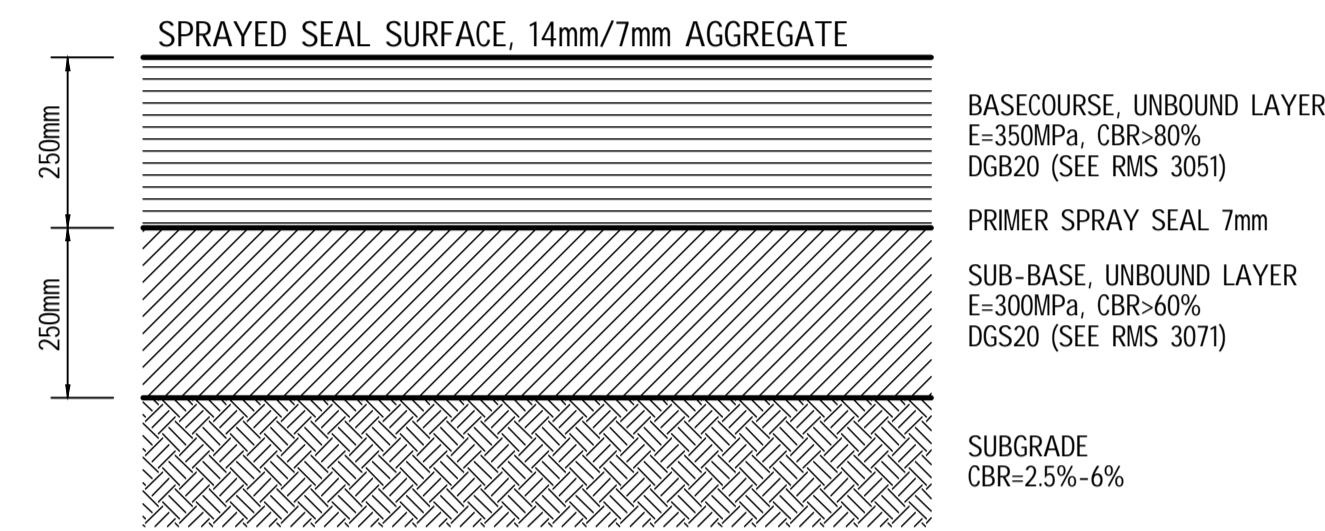
- CONCRETE FOR KERBS, DRIVEWAYS, RAMPS AND FOOTPATH



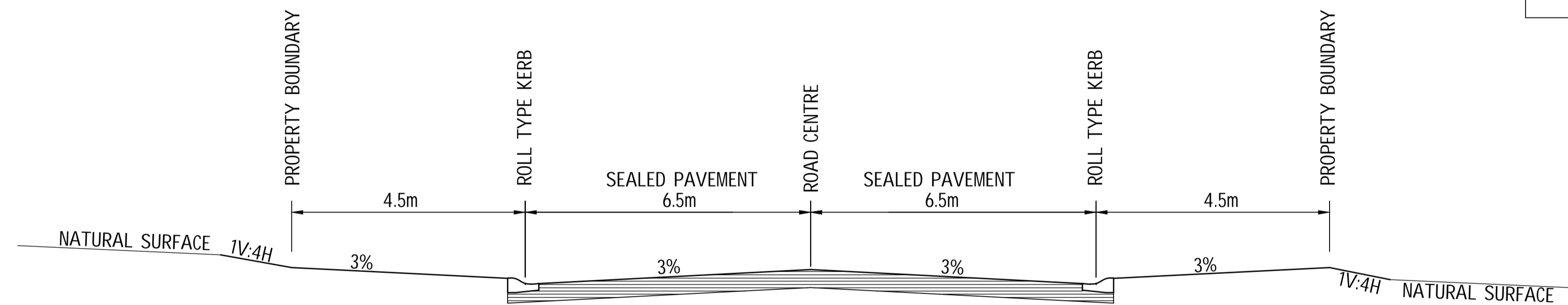
FOOTPATH SERVICES ALLOCATIONS - TYPICAL SECTION
NTS

INSPECTION HOLD POINTS
1. INSTALLATION OF SEDIMENT & EROSION CONTROL MEASURES.
2. WATER & SEWER LINE INSTALLATION PRIOR TO BACKFILL.
3. ESTABLISHMENT OF LINE & LEVEL FOR KERB & GUTTER PLACEMENT.
4. ROAD PAVEMENT CONSTRUCTION.
5. ROAD PAVEMENT SURFACING.
6. PRACTICAL COMPLETION.

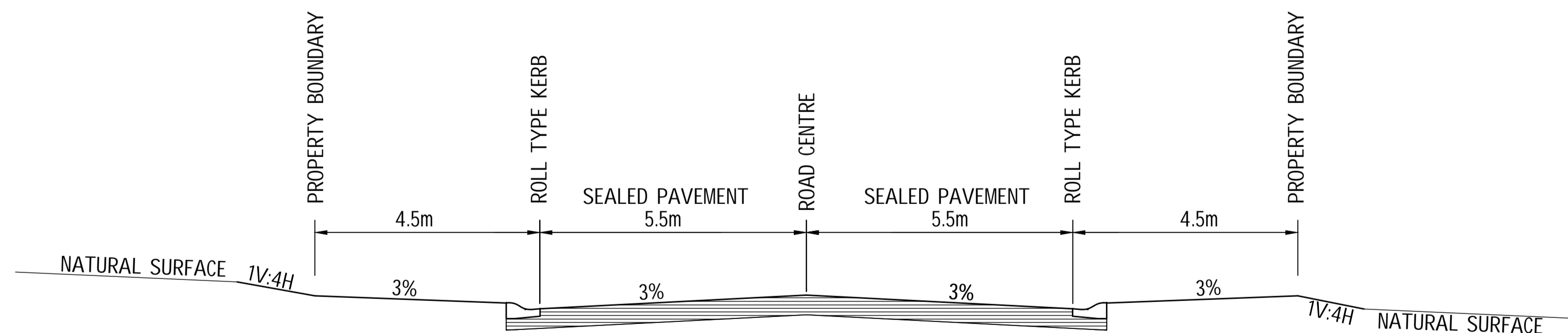
SERVICES INSTALLATION
1. INSTALLATION OF ALL UUGERGROUND PIPES BE INSTALLED PRIOR TO INSTALLATION OF ROAD PAVEMENT.



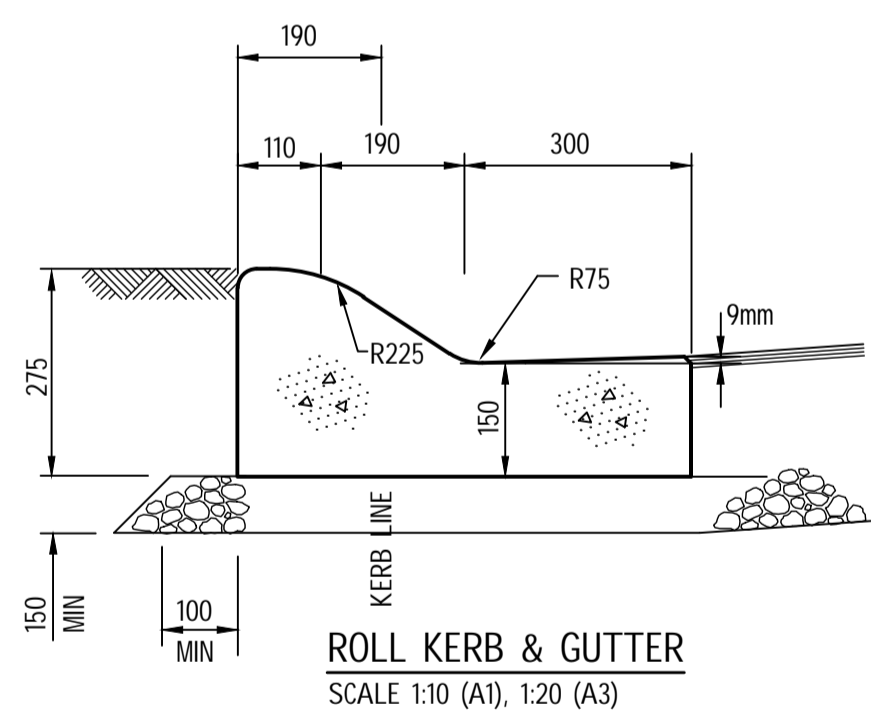
PAVEMENT SECTION - ROADS (TO BE CONFIRMED)
SCALE 1:10 (A1), 1:20 (A3)



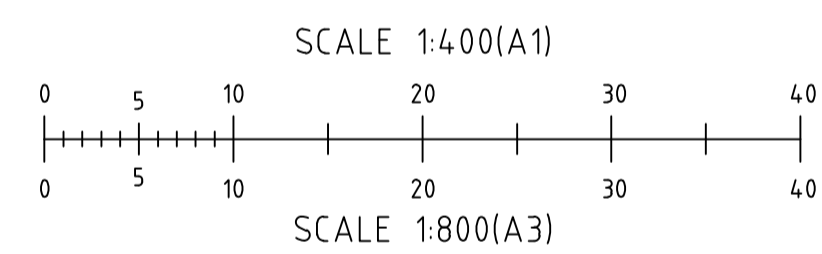
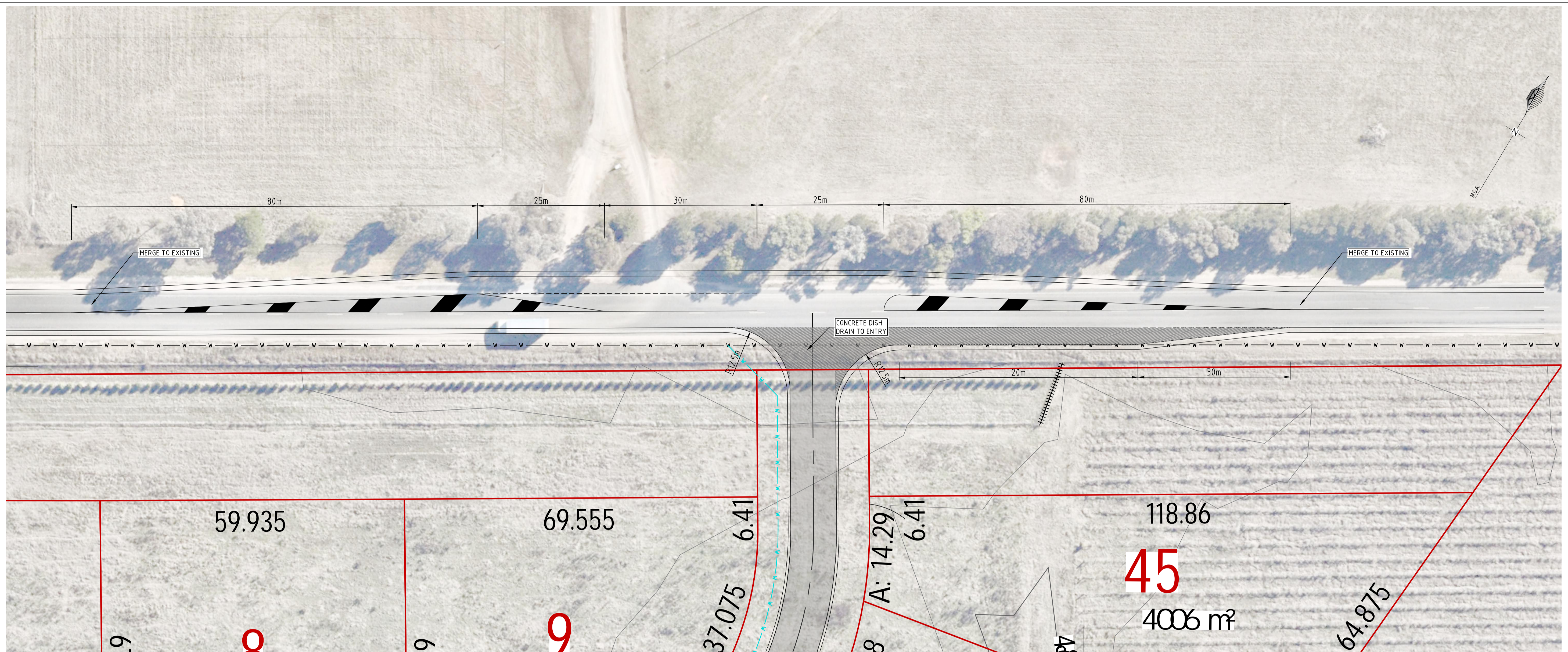
HARVEY STREET (22m) - TYPICAL SECTION
NOT TO SCALE



ALL OTHER ROADS (18m) - TYPICAL SECTION
NOT TO SCALE



ISSUED TO CLIENT



PROPOSED INTERSECTION PLAN
 REDUCTION RATIO 1:400 @ A1
 1:800 @ A3

DATE OF SURVEY : 1st FEBRUARY 2024
 SURVEY BY : R. Boylan
 DATUM : AUSTRALIAN HEIGHT DATUM (A.H.D.)
 ORIGIN : PM 85725 RL 465.907m (S.C.I.M.S.)
 MAJOR CONTOUR INTERVAL : 1 METRE
 MINOR CONTOUR INTERVAL : 0.25 METRES



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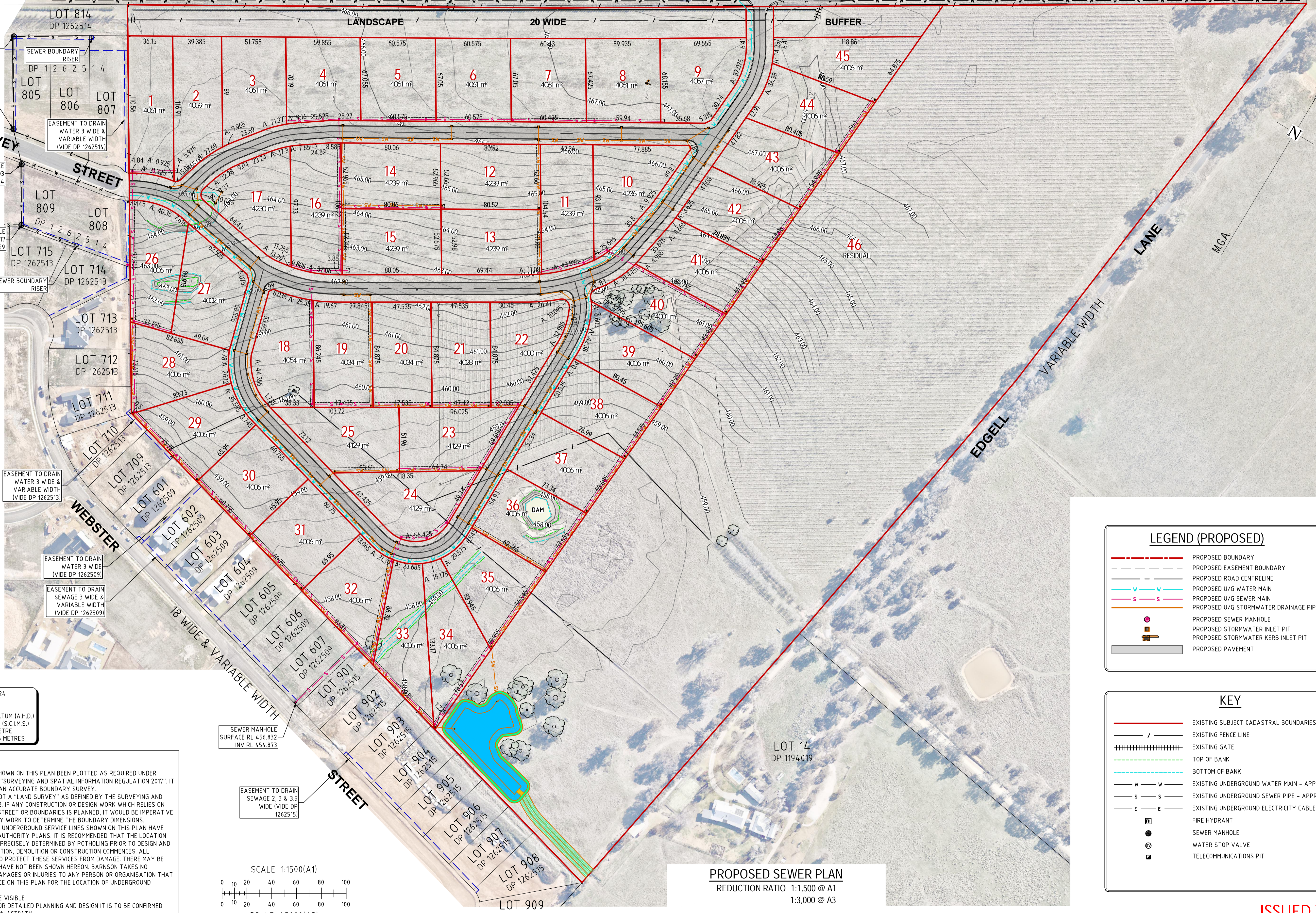
LEGEND (PROPOSED)	
	PROPOSED BOUNDARY
	PROPOSED EASEMENT BOUNDARY
	PROPOSED ROAD CENTRELINE
	PROPOSED U/G WATER MAIN
	PROPOSED U/G SEWER MAIN
	PROPOSED U/G STORMWATER DRAINAGE PIPE
	PROPOSED SEWER MANHOLE
	PROPOSED STORMWATER INLET PIT
	PROPOSED STORMWATER KERB INLET PIT
	PROPOSED PAVEMENT

KEY	
	EXISTING SUBJECT CADASTRAL BOUNDARIES
	EXISTING FENCE LINE
	EXISTING GATE
	TOP OF BANK
	BOTTOM OF BANK
	EXISTING UNDERGROUND WATER MAIN - APPROX.
	EXISTING UNDERGROUND SEWER PIPE - APPROX
	EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX
	FIRE HYDRANT
	SEWER MANHOLE
	WATER STOP VALVE
	TELECOMMUNICATIONS PIT

ISSUED TO CLIENT



ULAN ROAD



LEGEND (PROPOSED)

- Proposed Boundary
- Proposed Easement Boundary
- Proposed Road Centreline
- Proposed U/G Water Main
- Proposed U/G Sewer Main
- Proposed U/G Stormwater Drainage Pipe
- Proposed Sewer Manhole
- Proposed Stormwater Inlet Pit
- Proposed Stormwater Kerb Inlet Pit
- Proposed Pavement

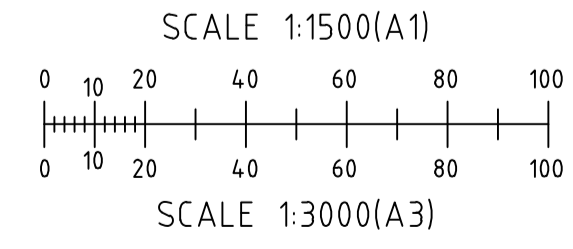
KEY

- Existing Subject Cadastral Boundaries
- Existing Fence Line
- Existing Gate
- Top of Bank
- Bottom of Bank
- Existing Underground Water Main - Approx.
- Existing Underground Sewer Pipe - Approx.
- Existing Underground Electricity Cables - Approx.
- Fire Hydrant
- Sewer Manhole
- Water Stop Valve
- Telecommunications Pit

DATE OF SURVEY : 1st FEBRUARY 2024
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PROPOSED SEWER PLAN
 REDUCTION RATIO 1:1,500 @ A1
 1:3,000 @ A3

ISSUED TO CLIENT



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 phone 1300 BARNSON (1300 227 676)
 email generalenquiry@barnson.com.au
 web barnson.com.au

Rev	Date	Description
A	7-02-2024	ISSUED TO CLIENT
B	24-05-2024	SITE PLAN UPDATED

Project
CIVIL DESIGN DOCUMENTATION
 LOT 15 IN DP 1194019
 Site Address
 66 EDGELL LANE
 BOMBIRA NSW 2850
 Client
 TINOBAH PTY LTD

Drawing Title
PROPOSED SEWER PLAN
 Survey RB & BT
 Drawn JS
 Check RB

Revision	Project No	Drawing No
A1	39130	C07
B		

39130
C07

NOTES

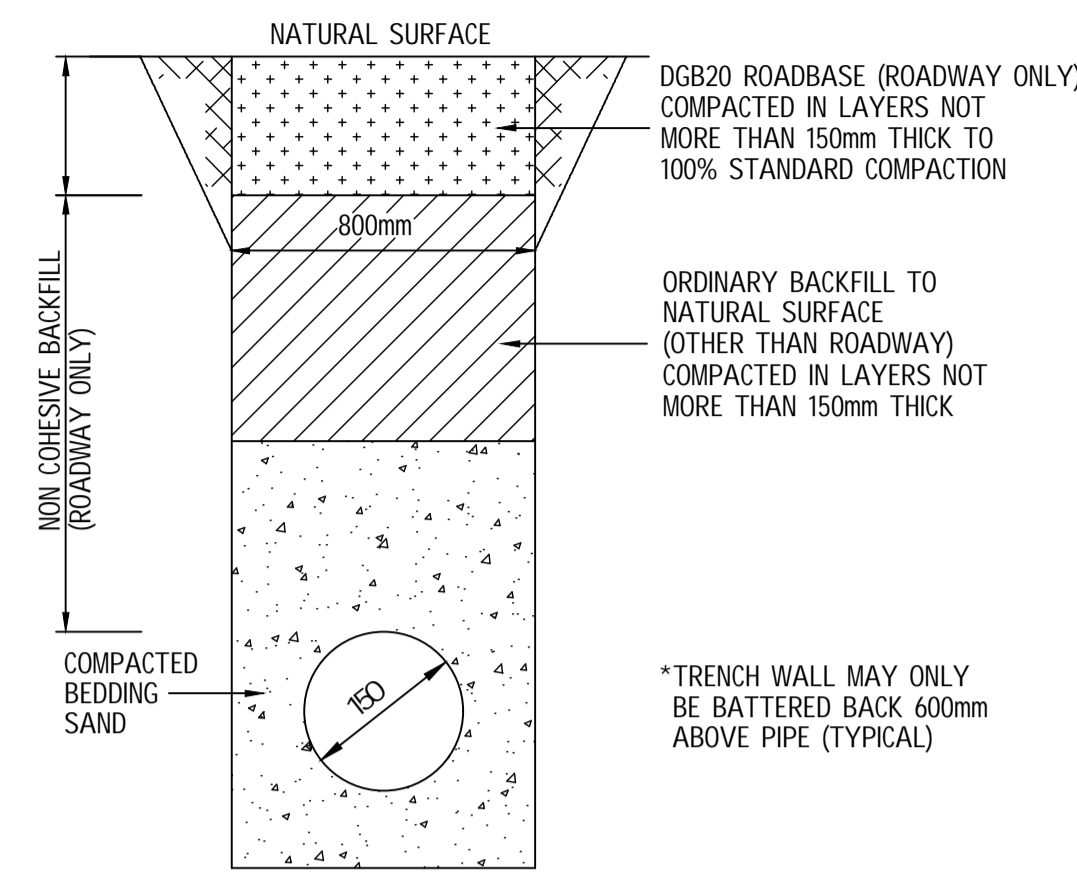
1. ALL SEWER MAINS SHALL BE 150 / 225 CLASS S100 R11 UPVC PIPE. ALL GRAVITY LINES TO USE SEWER GRADE FITTINGS WHERE REQUIRED.
2. CONSTRUCTION OF SEWER MAINS AND MANHOLES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WSA SEWERAGE CODE, WSA-02, 2002.
3. ANY OTHER SERVICES INCLUDING TELSTRA, GAS, POWER, WATER AND STORMWATER MUST BE LOCATED BEFORE WORK COMMENCES.
4. MANHOLES SHALL BE PRECAST CONCRETE FROM A SUPPLIER APPROVED BY COUNCIL AND HAVE A ROUND REMOVABLE LIGHT DUTY GATIC COVER (UNO) AND A MINIMUM INTERNAL DIAMETER OF 1020mm.
5. 150mm BOUNDARY RISERS SHALL BE PROVIDED TO EACH LOT TO MID-WESTERN REGIONAL COUNCIL'S GUIDELINES FOR ENGINEERING WORKS.
6. RISERS AND SIDELINES TO BE CONSTRUCTED TO WSA-02 2002.
7. FLOW LINE CHANNELS AND INTERSECTIONS SHALL BE CONSTRUCTED THROUGH MANHOLES AS PER WSA-02 2002.
8. ALL SEWER MAINS TO BE PRESSURE TESTED AS PER WSA-02 2002 AND MID-WESTERN REGIONAL COUNCIL'S GUIDELINES FOR ENGINEERING WORKS.

BEDDING NOTES

1. THE MINIMUM DEPTH TO TOP OF PIPE SHALL BE 1000mm, EXCEPT UNDER ROAD PAVEMENT WHERE MINIMUM COVER TO TOP OF PIPE SHALL BE 1200mm MINIMUM UNLESS SHOWN OTHERWISE. PIPES WITH LESS COVER THAN THESE LIMITS TO BE CONCRETE ENCASED, AND DICL UNDER ROADS.
2. GRADES OF GRAVITY SEWER NOT TO BE FLATTER THAN 1:179 (0.55%) FOR 150mm DIAMETER PIPES AS PER WSA-2014.
3. MANHOLES SHALL BE PLACED AT EACH CHANGE IN DIRECTION OR GRADE OF THE PIPE LINE AT INTERVALS ALONG THE LINE NOT EXCEEDING 80m.

FIELD NOTES

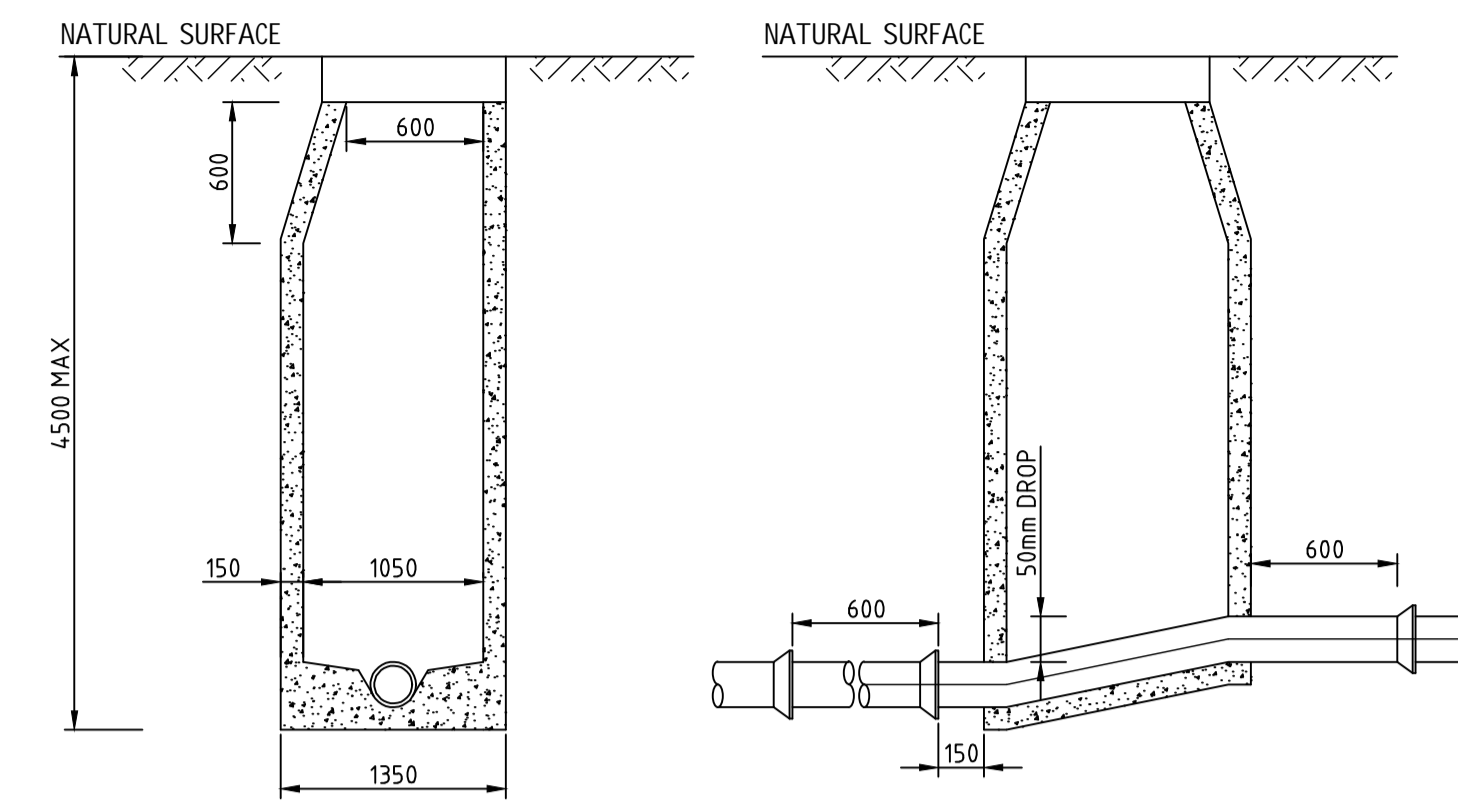
1. BEARINGS AND DISTANCES ARE BY TITLE AND/OR DEED ONLY. NO BOUNDARY INVESTIGATION HAS BEEN CARRIED OUT.
2. SERVICES SHOWN HEREON HAVE BEEN DETERMINED FROM VISUAL EVIDENCE ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE THE RELEVANT AUTHORITY SHOULD BE CONTACTED TO ESTABLISH DETAILED LOCATION AND DEPTH.
3. ALL HEIGHTS TO AHD (AUSTRALIAN HEIGHT DATUM).



TYPICAL TRENCH SECTION

N.T.S.

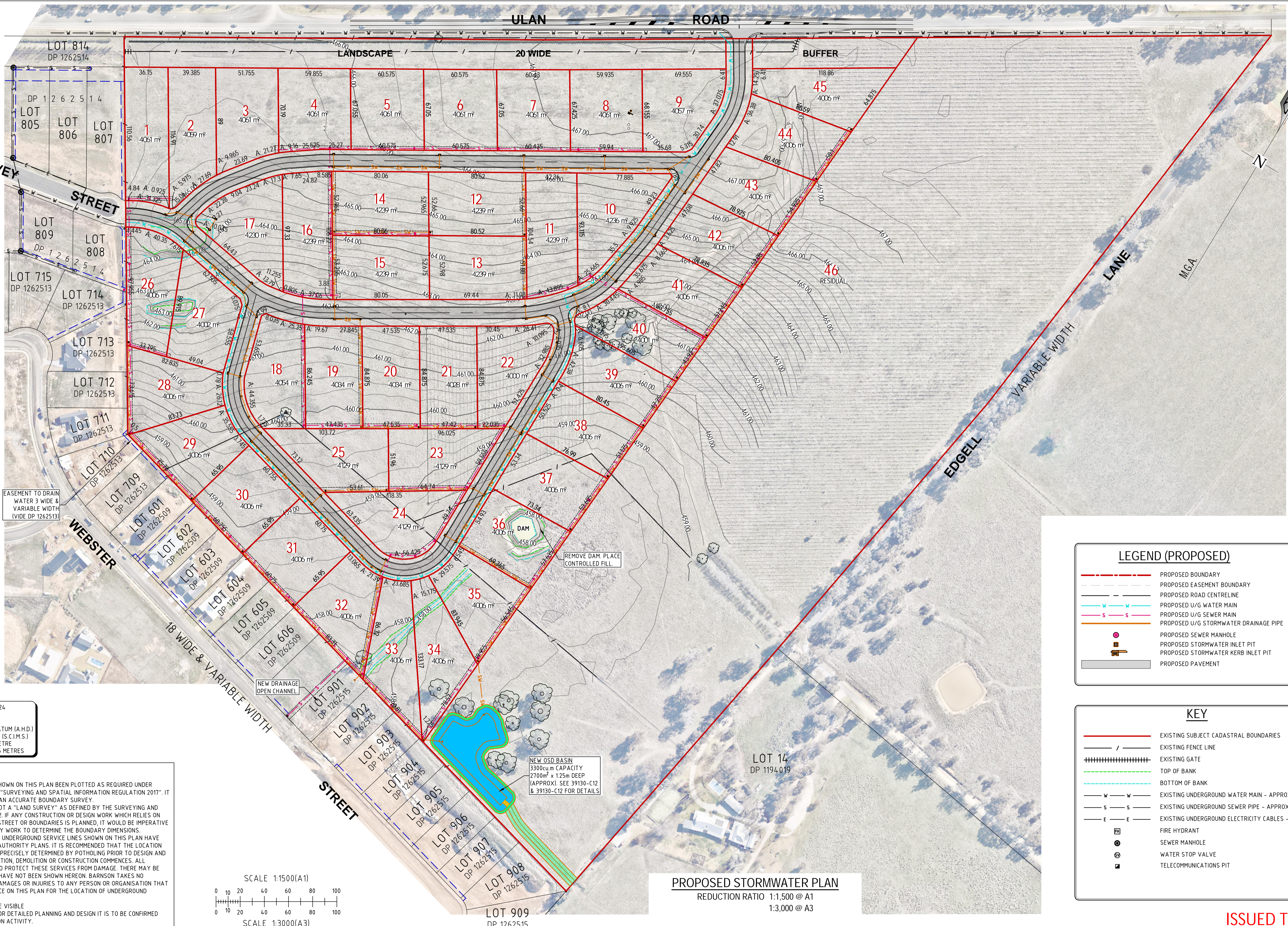
* INSTALLATION OF UPVC PIPES SHALL TO CONFORM TO AS2032-1977 "INSTALLATION OF UPVC PIPE SYSTEMS", AS2566-1998 "BURIED FLEXIBLE PIPELINES", WSA-02 2002 AND MANUFACTURERS INSTRUCTIONS.



TYPICAL MANHOLE SECTION (150mm)

N.T.S.

ISSUED TO CLIENT

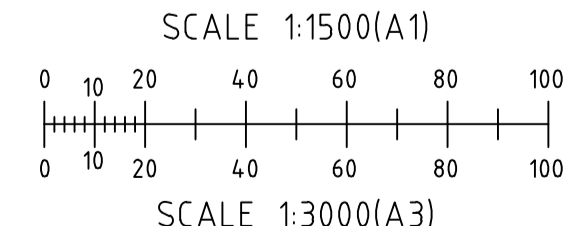


DATE OF SURVEY : 1st FEBRUARY 2024
 SURVEY BY : R. Boylan

DATUM : AUSTRALIAN HEIGHT DATUM (A.H.D.)
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 MINOR CONTOUR INTERVAL : 0.25 METRES

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PROPOSED STORMWATER PLAN
 REDUCTION RATIO 1:1,500 @ A1
 1:3,000 @ A3

LEGEND (PROPOSED)	
	PROPOSED BOUNDARY
	PROPOSED EASEMENT BOUNDARY
	PROPOSED ROAD CENTRELINE
	PROPOSED U/G WATER MAIN
	PROPOSED U/G SEWER MAIN
	PROPOSED U/G STORMWATER DRAINAGE PIPE
	PROPOSED SEWER MANHOLE
	PROPOSED STORMWATER INLET PIT
	PROPOSED STORMWATER KERB INLET PIT
	PROPOSED PAVEMENT

KEY	
	EXISTING SUBJECT CADASTRAL BOUNDARIES
	EXISTING FENCE LINE
	EXISTING GATE
	TOP OF BANK
	BOTTOM OF BANK
	EXISTING UNDERGROUND WATER MAIN - APPROX.
	EXISTING UNDERGROUND SEWER PIPE - APPROX.
	EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX.
	FIRE HYDRANT
	SEWER MANHOLE
	WATER STOP VALVE
	TELECOMMUNICATIONS PIT

ISSUED TO CLIENT



BARNSON PTY LTD

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 email generalenquiry@barnson.com.au
 web barnson.com.au

Rev	Date	Description
A	7-02-2024	ISSUED TO CLIENT
B	24-05-2024	SITE PLAN UPDATED

Project
CIVIL DESIGN DOCUMENTATION
 LOT 15 IN DP 1194019

Site Address
 66 EDGELL LANE
 BOMBIRA NSW 2850

Client
 TINOBASH PTY LTD

Drawing Title	
PROPOSED STORMWATER PLAN	

Survey	RB & BT	Original Sheet Size	A1
Drawn	JS	Revision	B
Check	RB		

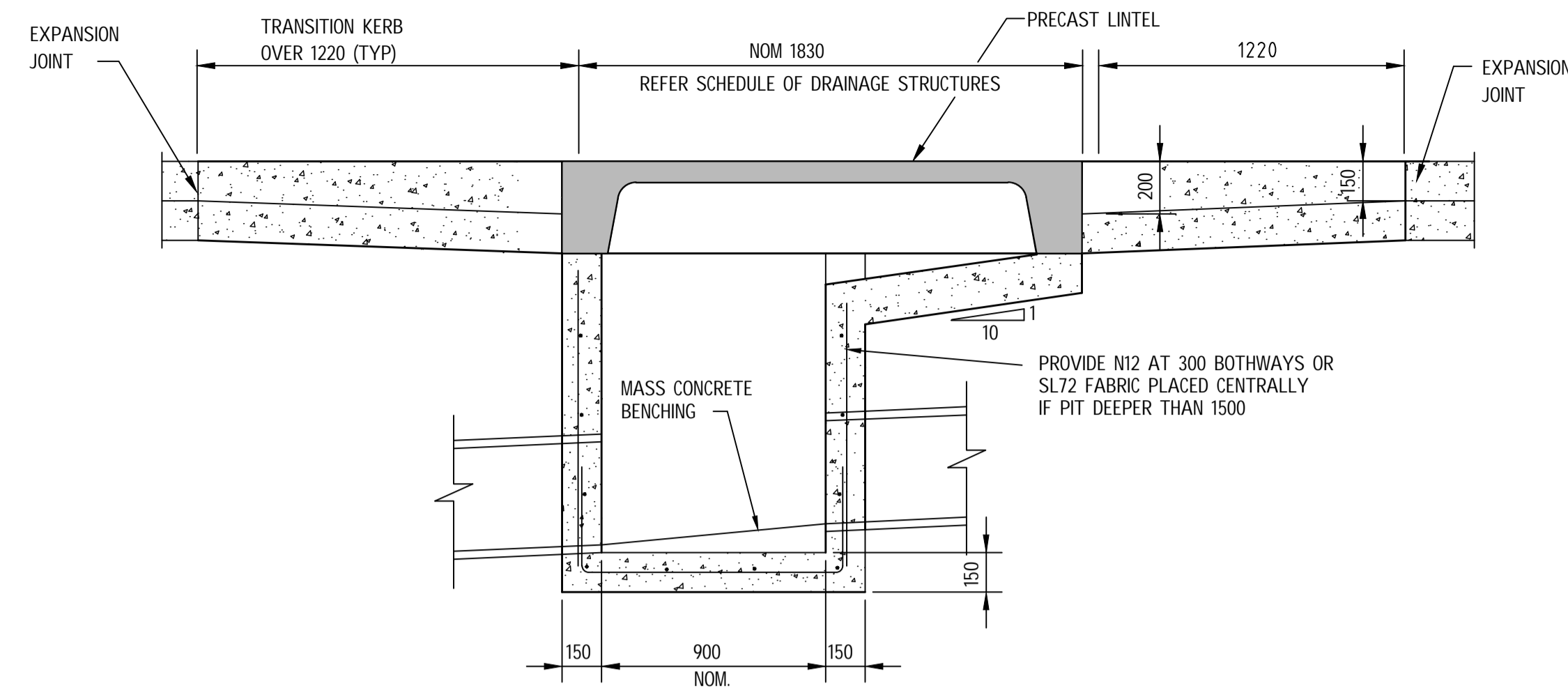
Certification	
Project No	39130
Drawing No	C09

STORMWATER NOTES

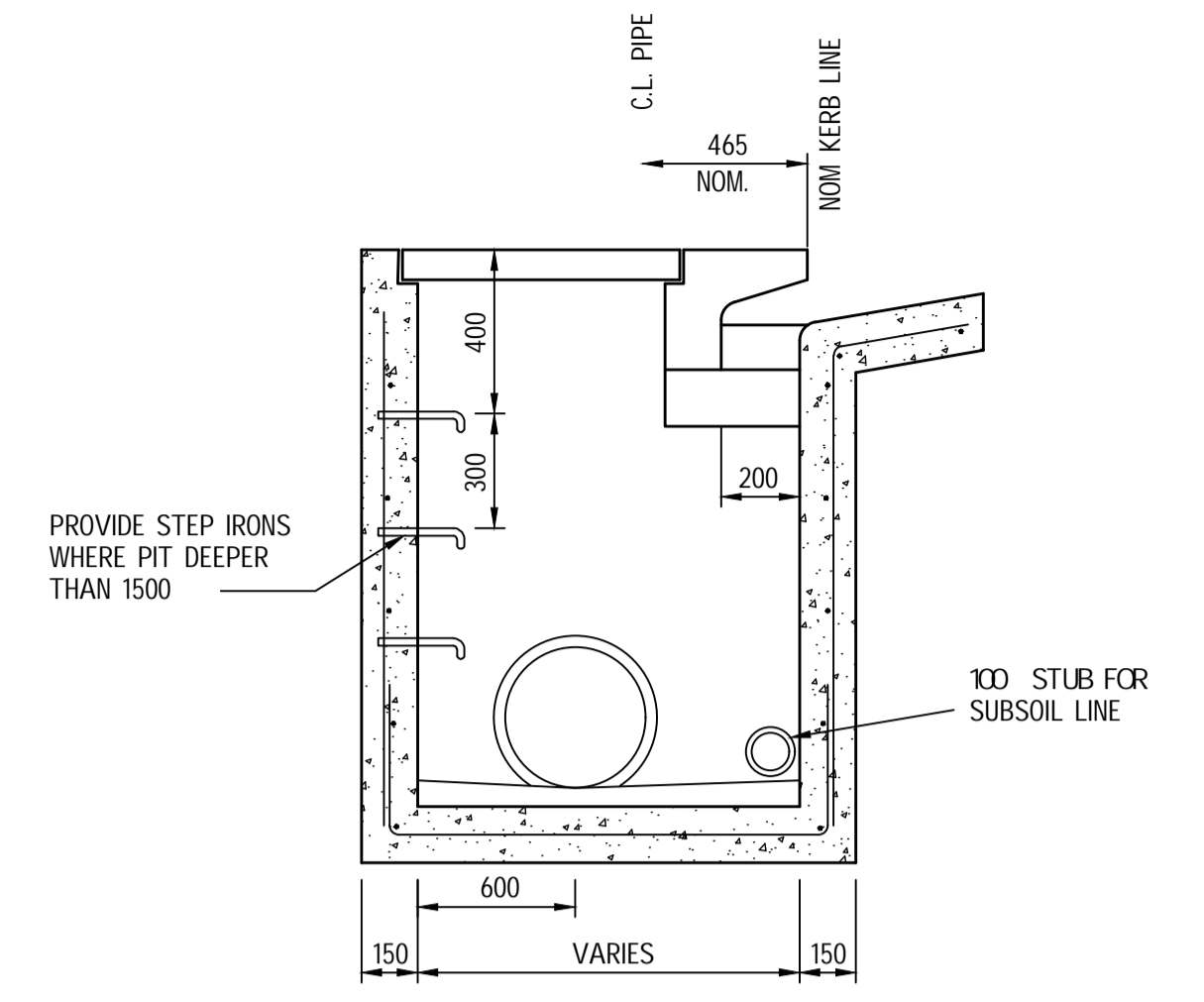
- CONTRACTOR IS TO ADEQUATELY INFORM HIMSELF AS TO THE DEPTH AND LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- PIPE IS TO BE LAID AT UNIFORM GRADE BETWEEN INVERT LEVELS SHOWN WITH MINIMUM COVER MAINTAINED UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
- MINIMUM COVER OVER ALL PIPES IN NON-TRAFFICABLE AREAS TO BE 450mm UNO. MINIMUM COVER OVER ALL PIPES IN TRAFFICABLE AREAS TO BE 600mm UNO. WHEN THIS CRITERIA CANNOT BE ACHIEVED, PIPES TO BE ENCASED IN 150 CONCRETE.
- ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
- PRECAST PITS MAY BE USED AS APPROVED BY THE SUPERINTENDENT.
- ALL PIPES SHALL BE RUBBER RING JOINTED CLASS '2' UNLESS NOTED OTHERWISE.

COMPACTION OF BACKFILL

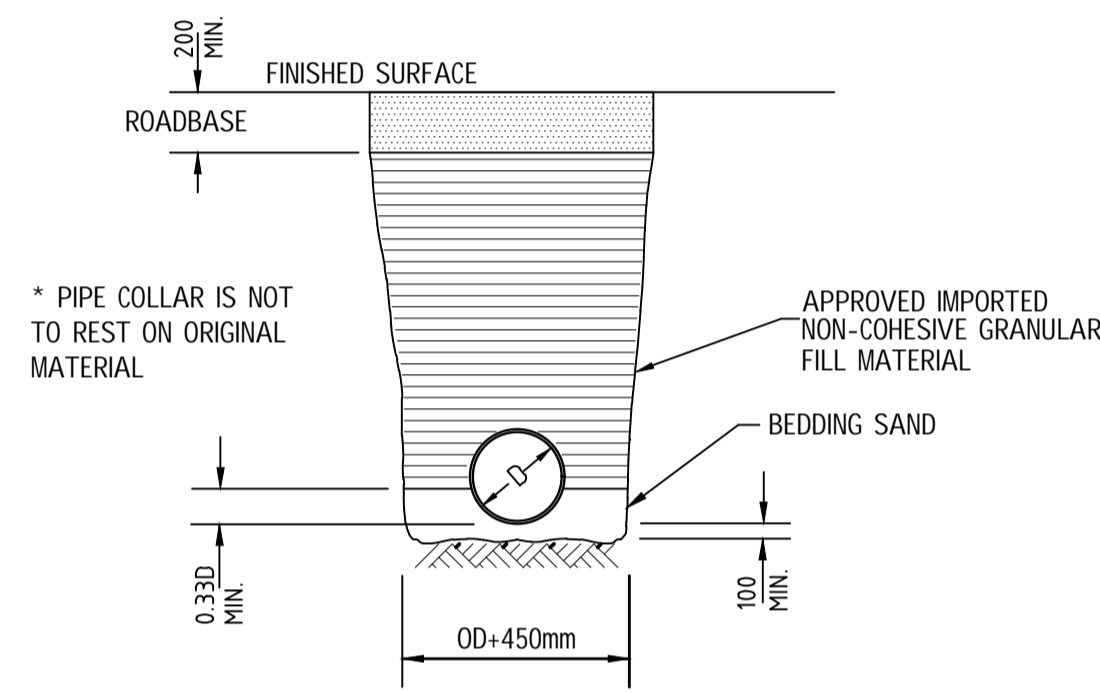
- BEDDING SAND**
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 70% AS DETERMINED IN ACCORDANCE WITH ASI289.
- APPROVED IMPORTED GRANULAR FILL**
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK TO A DRY DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH ASI289.
- ORDINARY EXCAVATED FILL MATERIAL**
ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 90% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH ASI289.



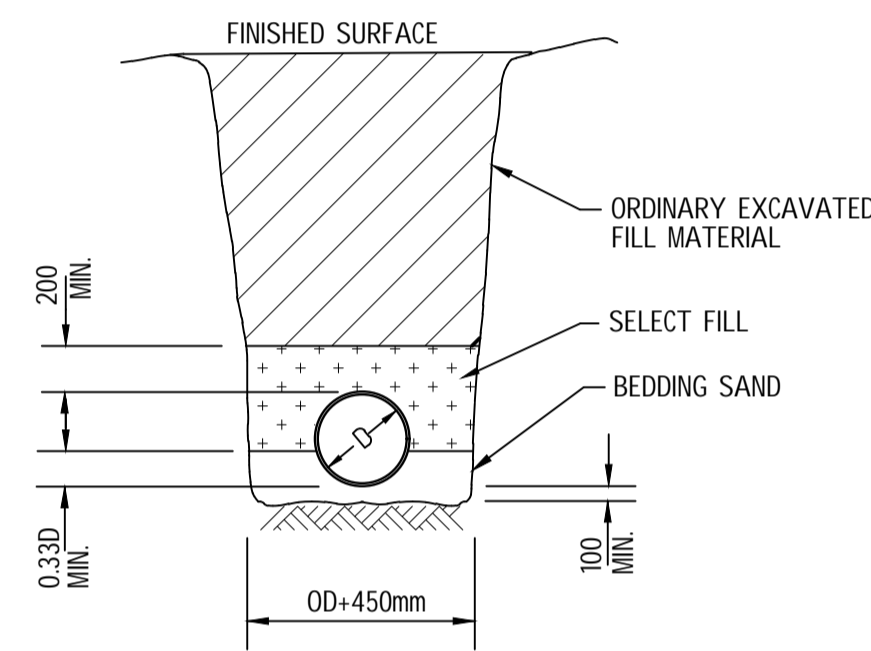
SECTION 1



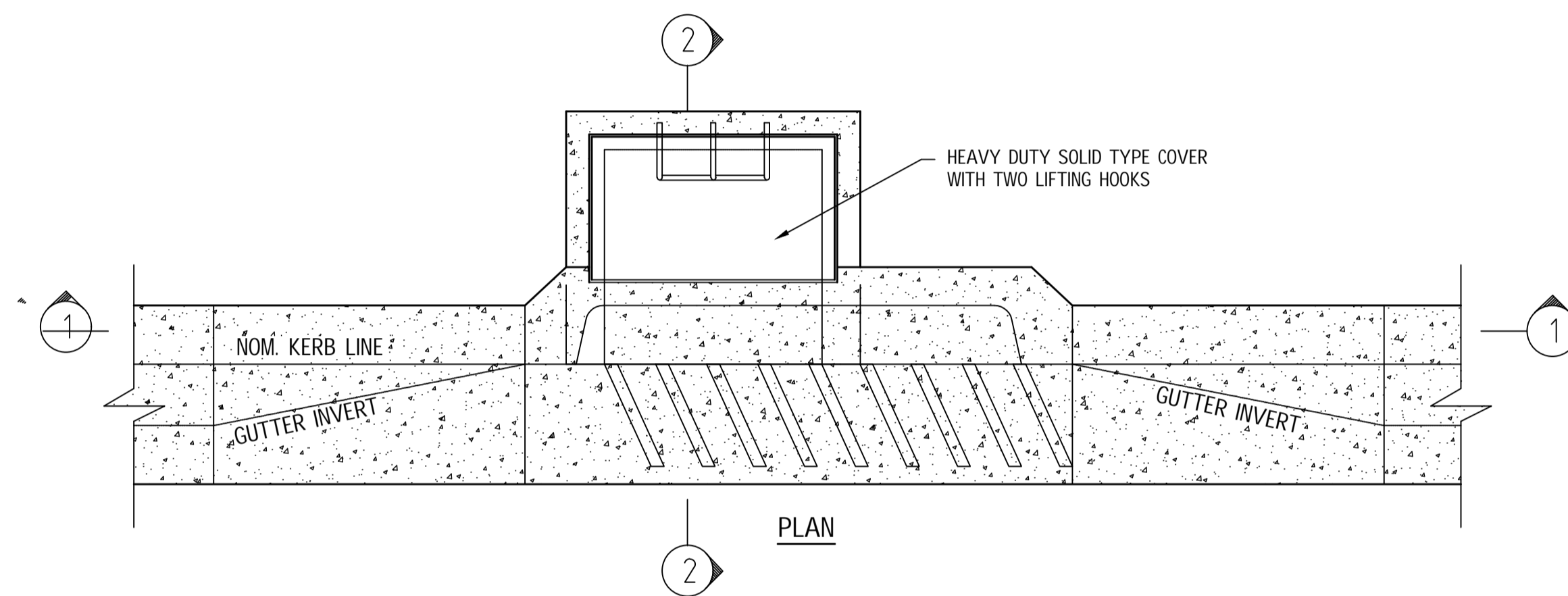
SECTION 2



TYPICAL SECTION - TRENCH IN ROADWAY
N.T.S.

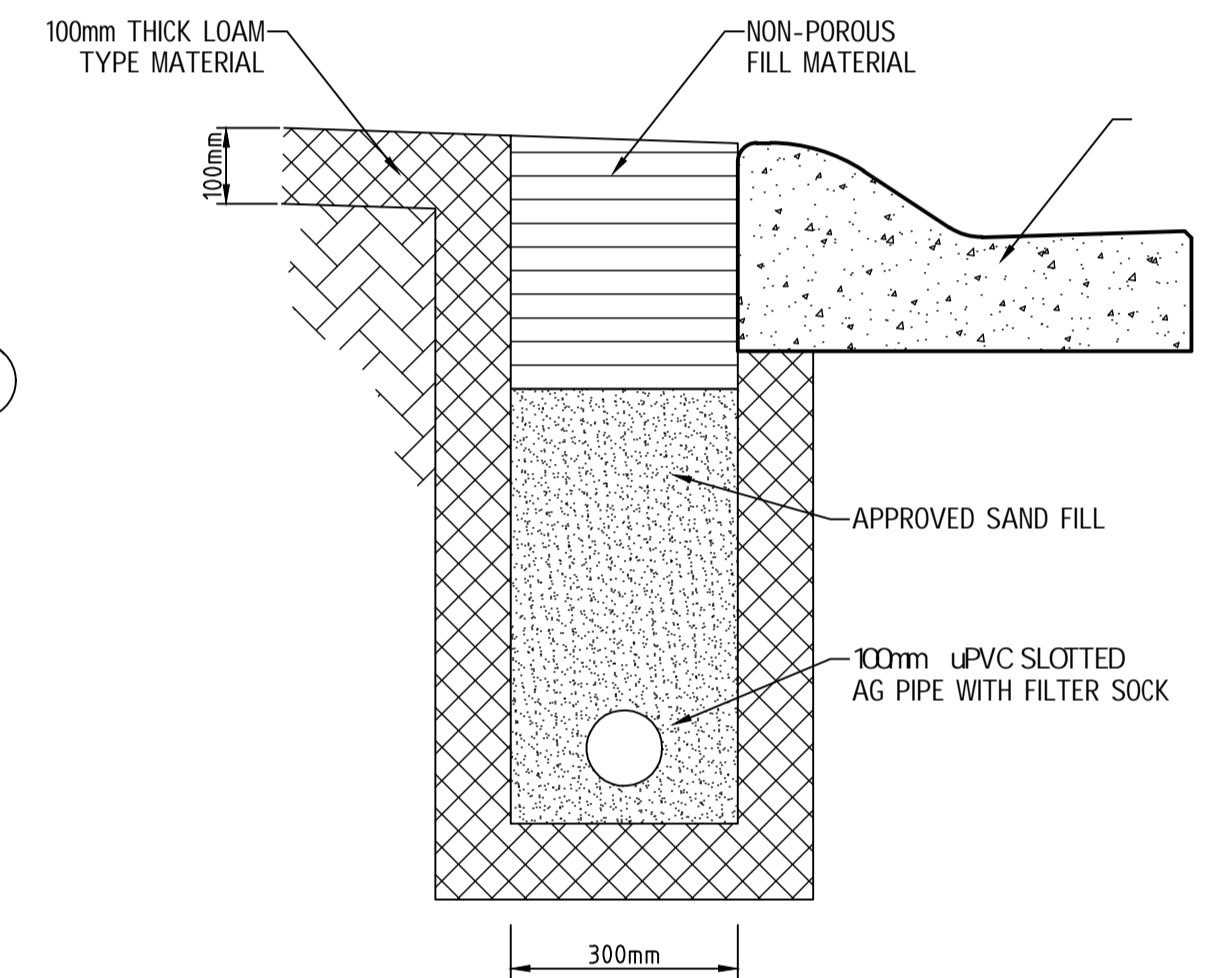


TYPICAL SECTION - EARTH FOUNDATION TRENCH
N.T.S.



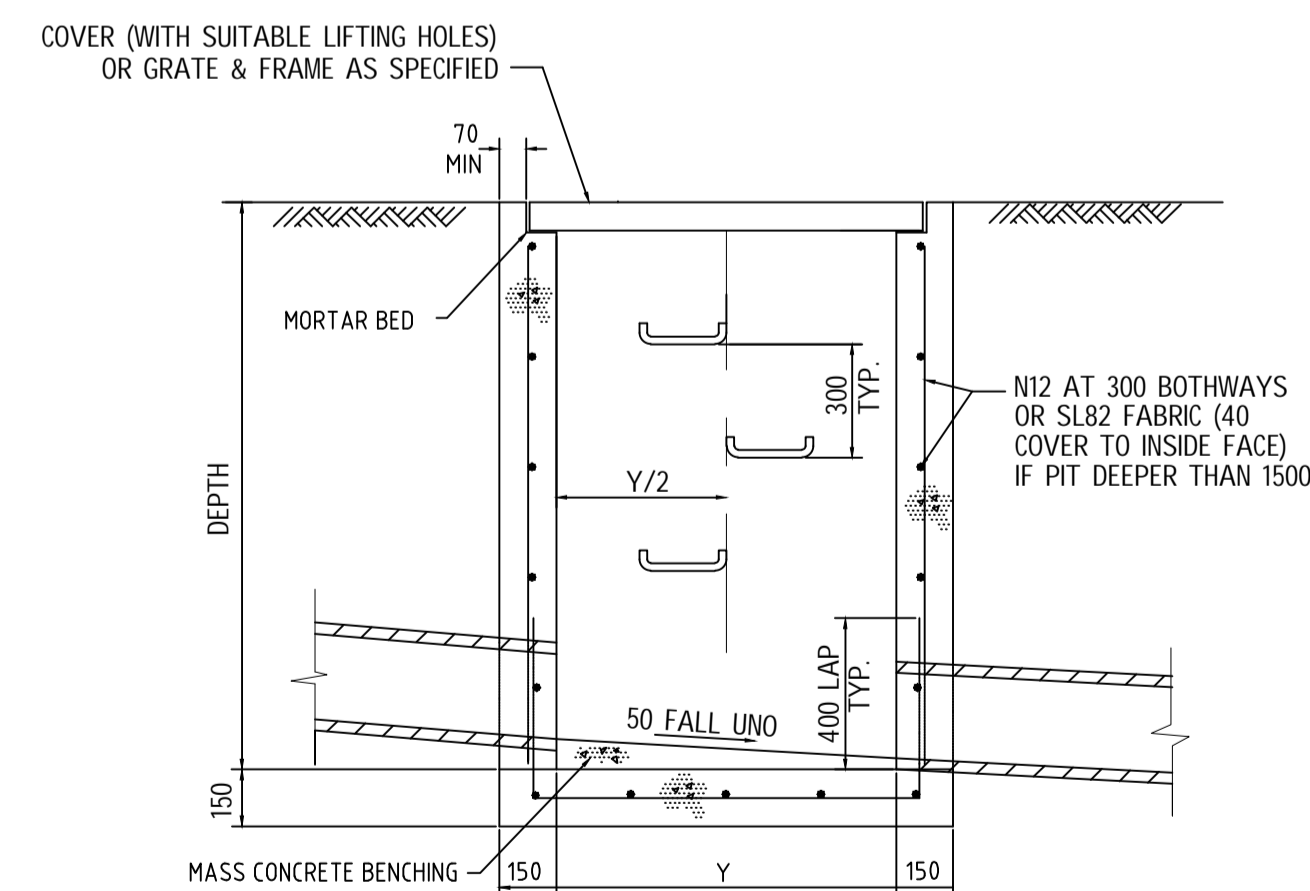
PLAN

KERB INLET PIT
SCALE 1:20 (A1), 1:40 (A3)



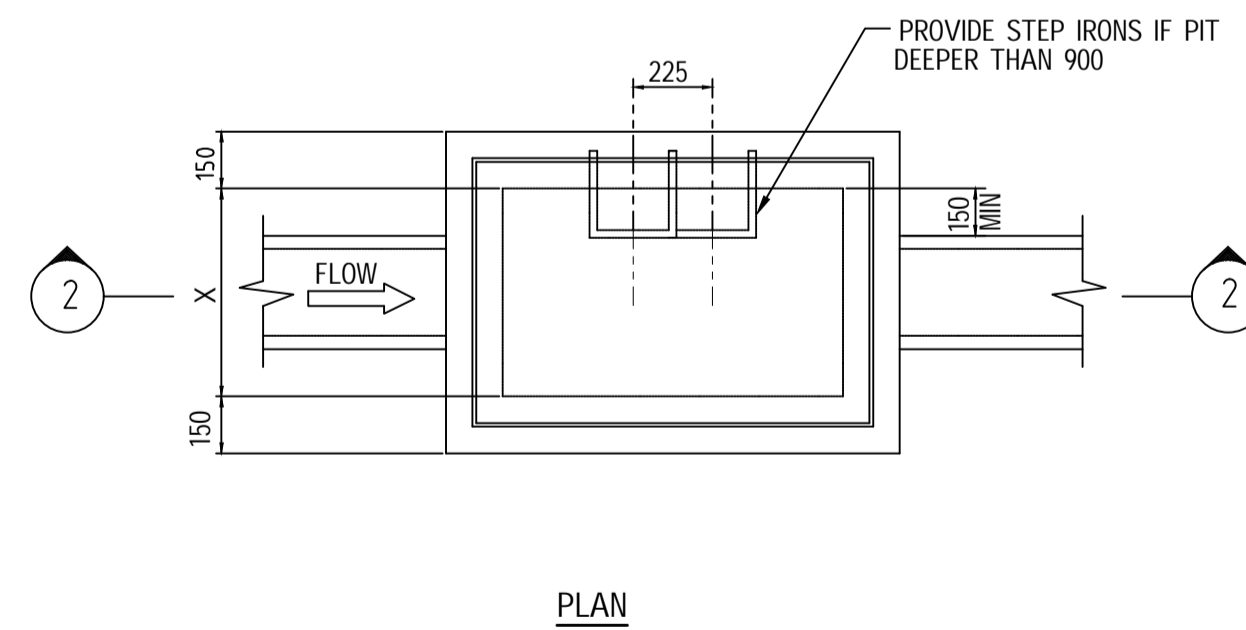
SUB-SOIL DRAINAGE DETAIL - TYPE 3
SCALE 1:10 (A1), 1:20 (A3)

INSPECTION HOLD POINTS
1. INSTALLATION OF SEDIMENT & EROSION CONTROL MEASURES.
2. WATER & SEWER LINE INSTALLATION PRIOR TO BACKFILL.
3. ESTABLISHMENT OF LINE & LEVEL FOR KERB & GUTTER PLACEMENT.
4. ROAD PAVEMENT CONSTRUCTION.
5. ROAD PAVEMENT SURFACING.
6. PRACTICAL COMPLETION.
SERVICES INSTALLATION
1. INSTALLATION OF ALL UNDERGROUND PIPES BE INSTALLED PRIOR TO INSTALLATION OF ROAD PAVEMENT.



SECTION 2

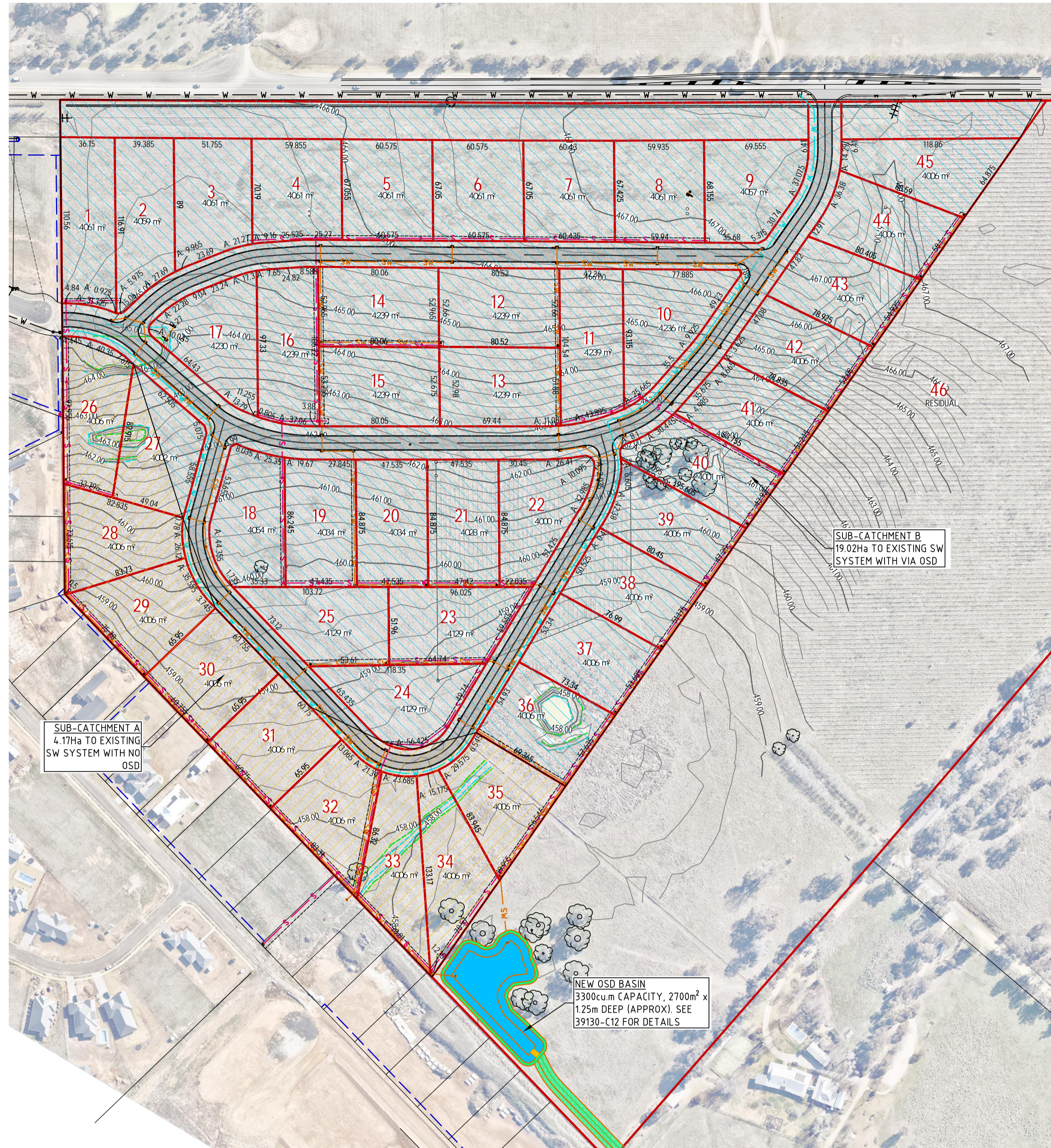
GRATED INLET PIT
N.T.S.



PLAN

PIT DIMENSIONS		
DEPTH	X	Y
D<600	450	450
D<1000	600	600
D<1500	600	900
1500<D<2400	900	900
D>2400	750	1200

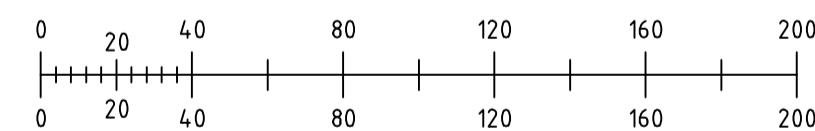
ISSUED TO CLIENT



PROPOSED CATCHMENT PLAN

REDUCTION RATIO 1:2,000 @ A1
1:4,000 @ A3

SCALE 1:2000(A1)



SCALE 1:4000(A3)

Area (Ha)	Duration (min)	C	Post dev. Flowrate	Post - Pre dev. Flowrate of 1.146 cu.m/sec	Storage	Duration (min)
7.65	5	0.5	2.300	1.154	346	5
23.19	6	0.5	6.500	5.354	1927	6
23.19	10	0.5	5.236	4.090	2454	10
23.19	20	0.5	3.721	2.575	3090	20
23.19	30	0.5	2.976	1.830	3294	30
23.19	60	0.5	1.968	0.822	2958	60
23.19	120	0.5	1.187	0.041	292	120

Overland Flow Analysis

Bombira

Design Calc for the overland flow-path:

Kinematic Wave Equation for Overland Flow

$$t = 6.94(Ln^2)^{0.38} / i^{0.4} S^{0.3}$$

where:
t = time of concentration (minutes)
L = is flow path length (m)
n* = retardance coefficient
i = rainfall intensity (mm/hr)
S = slope (m/m)
 $t^{0.4} = 6.94(Ln^2)^{0.38} / i^{0.4} S^{0.3}$

Segment	i (mm/hr)	L (m)	n*	S	t ^{0.4}
t ₁₋₄	TBA	585	0.15	0.016	352
					t _{total} = 352

Mudgee I.F.D

Duration (hrs)	1yr	2yrs	5yrs	10yrs	20yrs	50yrs	100yrs
5 mins	65.6	83.55	111.53	129.88	154.29	188.56	216.44
6 mins	61.39	78.15	104.21	121.28	144	175.89	201.81
10 mins	49.99	63.58	84.5	98.16	116.36	141.87	162.57
20 mins	36.14	45.89	60.67	70.27	83.1	101.02	115.53
30 mins	29.23	37.07	48.85	56.47	66.67	80.9	92.4
60 mins	19.72	24.97	32.7	37.67	44.34	53.61	61.09
2 hrs	12.44	15.69	20.26	23.16	27.09	32.5	36.84
3 hrs	9.44	11.87	15.21	17.31	20.16	24.09	27.22
6 hrs	5.88	7.36	9.3	10.5	12.15	14.4	16.18
12 hrs	3.67	4.58	5.7	6.38	7.34	8.63	9.65
24 hrs	2.31	2.87	3.54	3.95	4.52	5.28	5.88
48 hrs	1.42	1.76	2.14	2.38	2.7	3.14	3.49
72 hrs	1.04	1.28	1.55	1.71	1.94	2.25	2.49

$L_i^{0.4}$

Duration (mins)	1yr	2yrs	5yrs	10yrs	20yrs	50yrs	100yrs
5	26.65	29.36	32.86	35.03	37.52	40.66	42.96
6	31.15	34.30	38.49	40.89	43.80	47.45	50.13
10	47.81	52.64	58.99	62.65	67.04	72.37	76.63
20	83.99	92.41	103.33	109.58	117.18	126.70	133.69
30	115.75	127.27	142.12	150.81	160.95	173.90	183.40
60	197.75	217.33	242.09	256.18	273.44	295.02	310.84
120	328.93	360.94	399.79	421.77	449.06	482.99	507.82
180	441.84	484.23	534.72	563.11	598.51	642.70	674.88
360	731.23	799.93	878.41	922.10	977.94	1046.23	1096.21
720	1211.15	1328.36	1444.38	1510.99	1598.13	1705.05	1782.97
1440	2012.83	2195.41	2387.61	2494.60	2632.80	2801.66	2924.92
2880	3513.66	3810.75	4074.43	4274.02	4524.87	4816.66	5048.13
4320	4888.31	5268.35	5647.74	5854.05	6131.25	6491.26	6822.48

Therefore:

Duration (100yr) = 80 mins
Rainfall (mm/hr) = 55

The Rational Formula

where:
Q = C.I.A / 360
Q = design flowrate (m³/s)
C = dimensionless runoff co-efficient
i = rainfall intensity (mm/hr)
A = catchment area (ha)

and

$$C_{10} = 0.9 \times f + C_{10}^i \times (1 - f)$$

f = fraction impervious

$$C_{10}^i = 0.1 + 0.0133 \times (100 - 25) = 0.268511$$

Therefore:

$$C_{10} = 0.268511$$

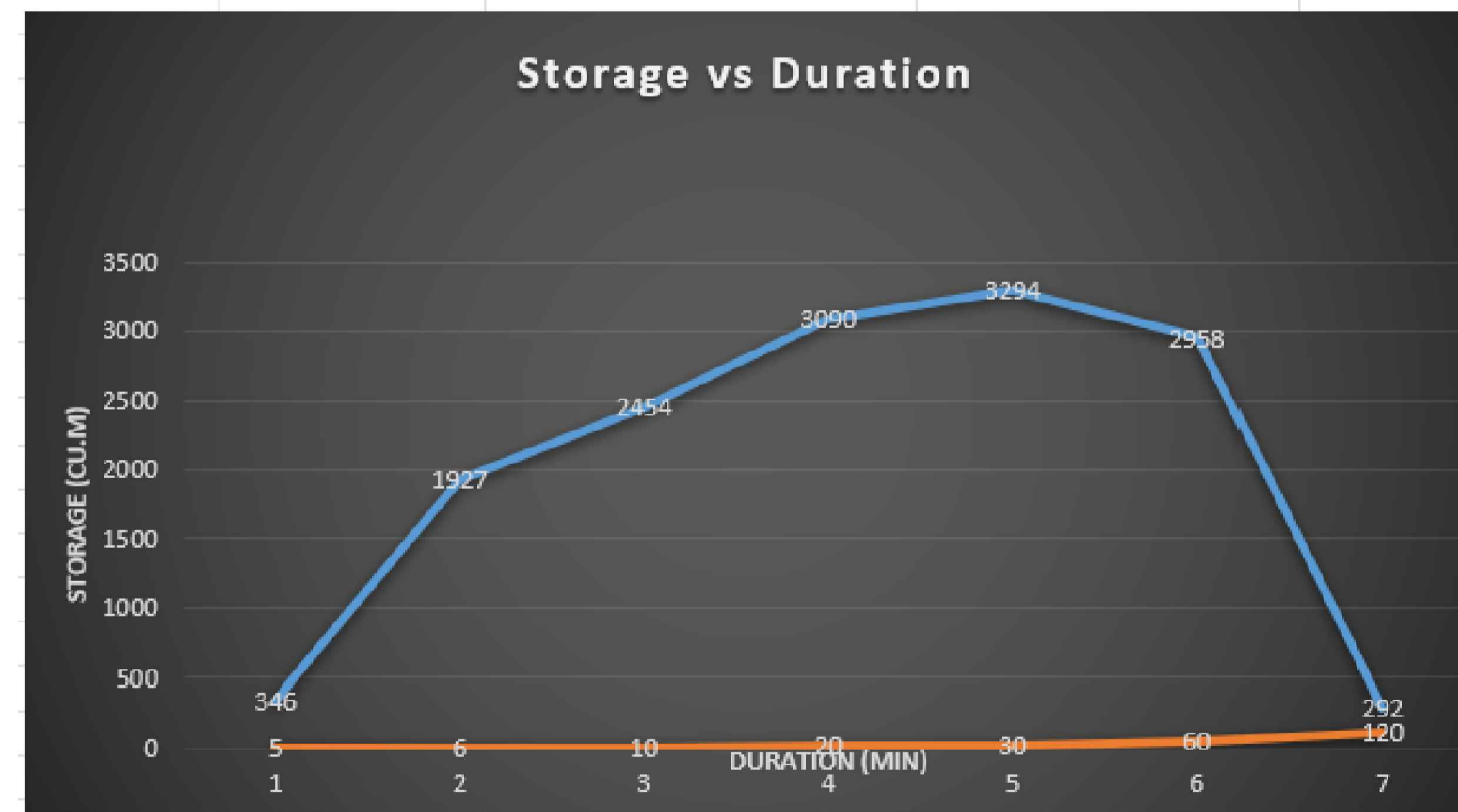
$$C_{100} = 1.20 \times C_{10}$$

Pre Development Flow

Catchment	i (mm/hr)	Area (ha)	f	C	Q (m ³ /s)
	1 in 100yr		impervious	1 in 100yr	0 in 100yr
Estate	55	23.19	0.00	0.322	1.1416

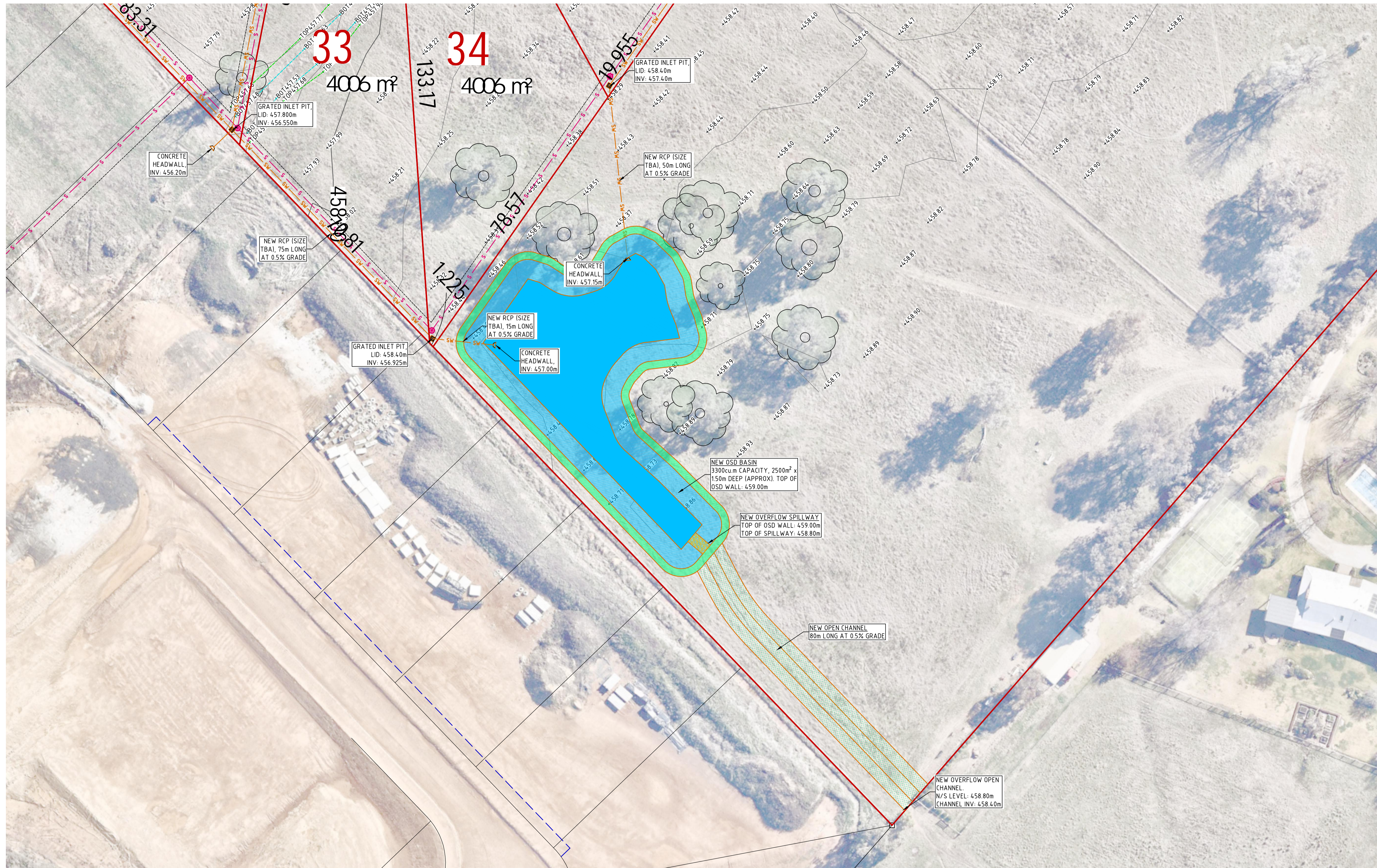
Engineers - Consulting - Civil Engineers - Structural Engineers - Mechanical Engineers - Electrical Engineers - Geotechnical Engineers - NATA Registered Soil & Concrete Testing Laboratory - Commercial, Residential & Interior Design - Project Management - Registered Surveyors - Town Planning - Environmental Consulting - Industrial Design

PRE-DEVELOPMENT FLOW ANALYSIS

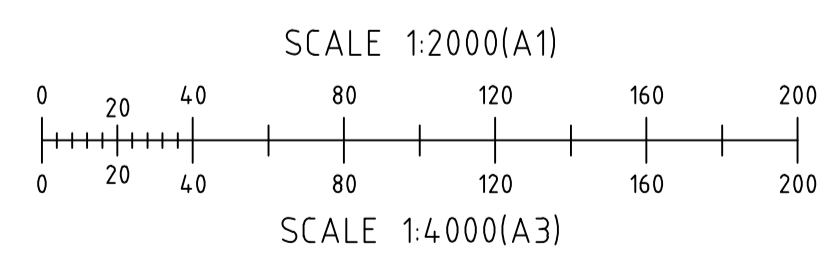


ON-SITE DETENTION BASIN SIZING

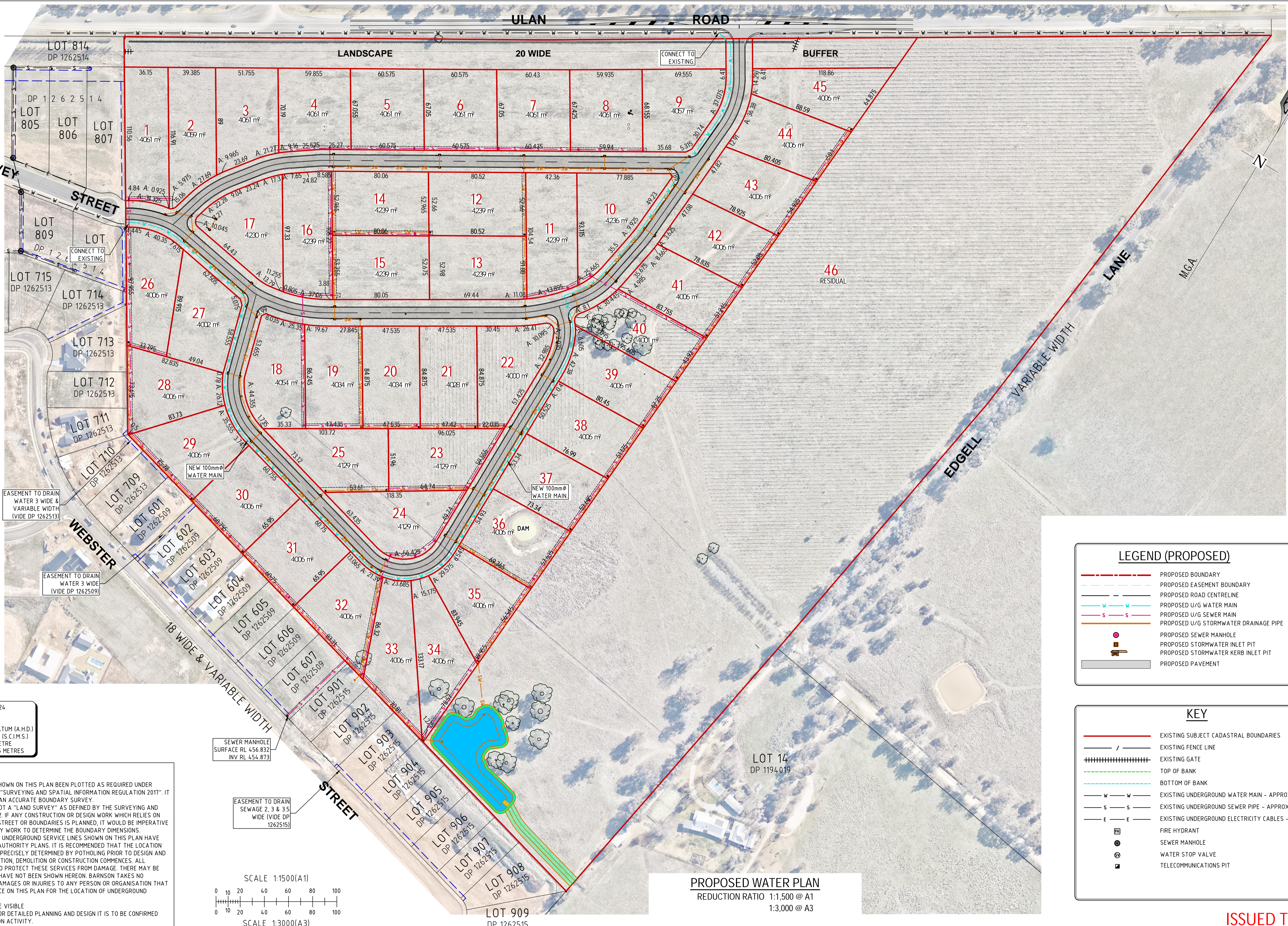
ISSUED TO CLIENT



PROPOSED ON-SITE DETENTION PLAN
 REDUCTION RATIO 1:500 @ A1
 1:1,000 @ A3



ISSUED TO CLIENT



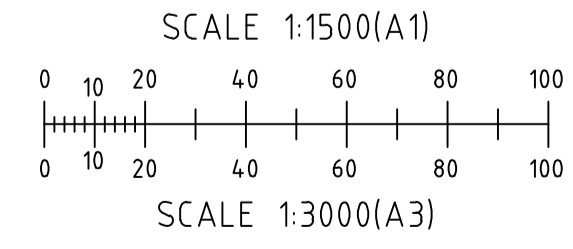
LEGEND (PROPOSED)	
	PROPOSED BOUNDARY
	PROPOSED EASEMENT BOUNDARY
	PROPOSED ROAD CENTRELINE
	PROPOSED U/G WATER MAIN
	PROPOSED U/G SEWER MAIN
	PROPOSED U/G STORMWATER DRAINAGE PIPE
	PROPOSED SEWER MANHOLE
	PROPOSED STORMWATER INLET PIT
	PROPOSED STORMWATER KERB INLET PIT
	PROPOSED PAVEMENT

KEY	
	EXISTING SUBJECT CADASTRAL BOUNDARIES
	EXISTING FENCE LINE
	EXISTING GATE
	TOP OF BANK
	BOTTOM OF BANK
	EXISTING UNDERGROUND WATER MAIN - APPROX.
	EXISTING UNDERGROUND SEWER PIPE - APPROX.
	EXISTING UNDERGROUND ELECTRICITY CABLES - APPROX.
	FIRE HYDRANT
	SEWER MANHOLE
	WATER STOP VALVE
	TELECOMMUNICATIONS PIT

DATE OF SURVEY : 1st FEBRUARY 2024
 SURVEY BY : R. Boylan
 DATUM : AUSTRALIAN HEIGHT DATUM (A.H.D.)
 ORIGIN : PM 85725 RL 465.907m (S.C.I.M.S.)
 MAJOR CONTOUR INTERVAL : 1 METRE
 MINOR CONTOUR INTERVAL : 0.25 METRES

NOTES:

- THE BOUNDARY INFORMATION SHOWN ON THIS PLAN BEEN PLOTTED AS REQUIRED UNDER DIVISION 1, SECTION 9.1(1) OF THE "SURVEYING AND SPATIAL INFORMATION REGULATION 2017". IT HAS NOT BEEN DETERMINED BY AN ACCURATE BOUNDARY SURVEY.
- A DETAIL & LEVEL SURVEY IS NOT A "LAND SURVEY" AS DEFINED BY THE SURVEYING AND SPATIAL INFORMATION ACT 2002. IF ANY CONSTRUCTION OR DESIGN WORK WHICH RELIES ON CRITICAL SETBACKS FROM THE STREET OR BOUNDARIES IS PLANNED, IT WOULD BE IMPERATIVE TO CARRY OUT FURTHER SURVEY WORK TO DETERMINE THE BOUNDARY DIMENSIONS.
- THE LOCATIONS AND DEPTHS OF UNDERGROUND SERVICE LINES SHOWN ON THIS PLAN HAVE BEEN SCALED FROM RELEVANT AUTHORITY PLANS. IT IS RECOMMENDED THAT THE LOCATION OF THESE SERVICES SHOULD BE PRECISELY DETERMINED BY POTHOLING PRIOR TO DESIGN AND CONSTRUCTION OR ANY EXCAVATION. DEMOLITION OR CONSTRUCTION COMMENCES. ALL MEASURES SHOULD BE TAKEN TO PROTECT THESE SERVICES FROM DAMAGE. THERE MAY BE UNDERGROUND SERVICES THAT HAVE NOT BEEN SHOWN HEREON. BARNSON TAKES NO RESPONSIBILITY FOR LOSSES, DAMAGES OR INJURIES TO ANY PERSON OR ORGANISATION THAT MAY OCCUR DUE TO THE RELIANCE ON THIS PLAN FOR THE LOCATION OF UNDERGROUND SERVICES.
- SERVICES LOCATED ONLY WHERE VISIBLE
- THE BENCHMARK PROVIDED IS FOR DETAILED PLANNING AND DESIGN IT IS TO BE CONFIRMED PRIOR TO USE FOR CONSTRUCTION ACTIVITY.



PROPOSED WATER PLAN
 REDUCTION RATIO 1:1,500 @ A1
 1:3,000 @ A3

ISSUED TO CLIENT



BARNSON PTY LTD
 phone 1300 BARNSON (1300 227 676)
 email generalenquiry@barnson.com.au
 web barnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Rev	Date	Description
A	7-02-2024	ISSUED TO CLIENT

Project
 CIVIL DESIGN DOCUMENTATION
 LOT 15 IN DP 1194019
 Site Address
 66 EDGELL LANE
 BOMBIRA NSW 2850
 Client
 TINOBAH PTY LTD

Drawing Title		Certification	
PROPOSED WATER PLAN		A1	
Survey	RB & BT	Original Sheet Size	A
Drawn	JS	Project No	39130
Check	RB	Drawing No	C13
		Revision	A

CONSTRUCTION NOTES

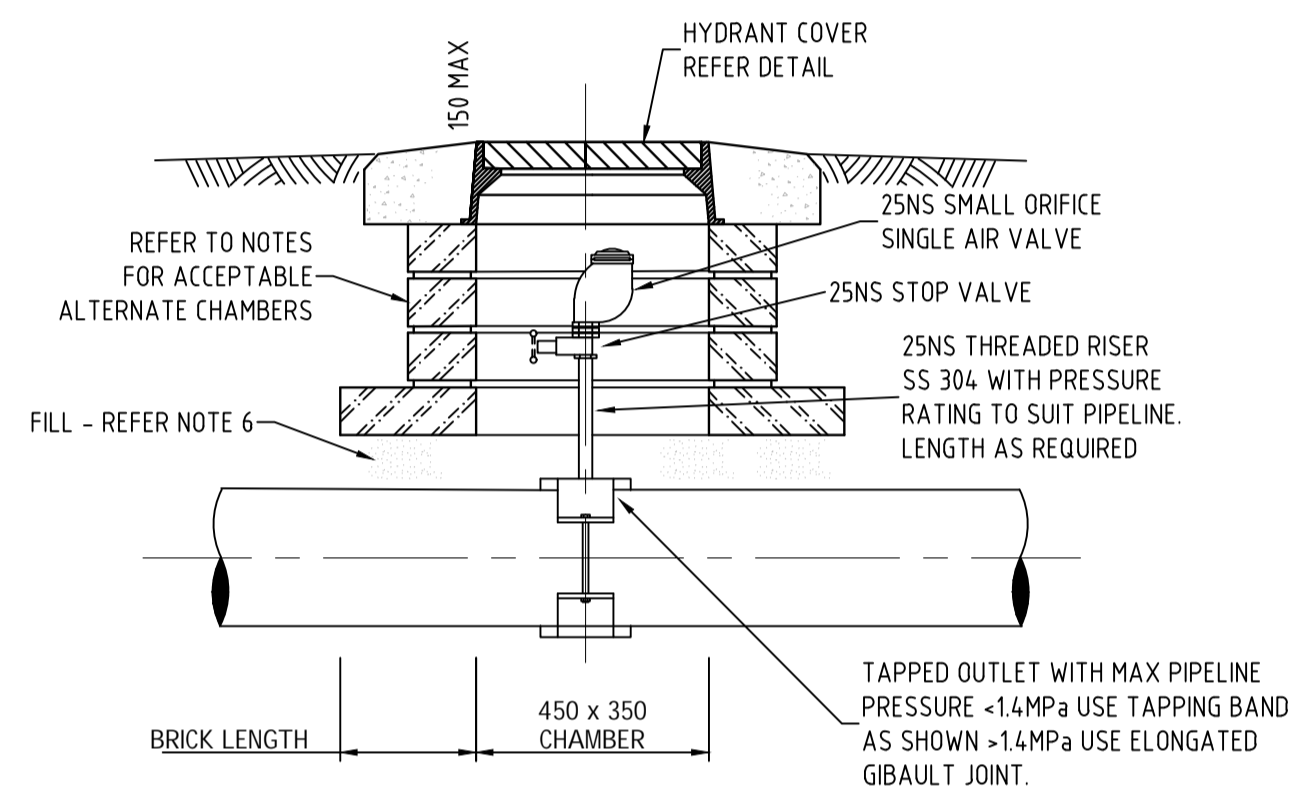
1. WATER MAINS TO HAVE MINIMUM 800mm COVER IN FOOTPATH AND 800mm COVER IN ROADWAYS.
2. PIPES TO BE RACKED & BENDS PLACED AS REQUIRED.

FLANGES.

4. ALL PIPES AND FITTINGS AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS & WSA WATER RETICULATION CODE.
5. MAIN SHALL BE PRESSURE-TESTED TO AS PER MID-WESTERN REGIONAL COUNCIL'S ENGINEERING GUIDELINE'S.
6. ALL MAINS FOR CONNECTION TO THE PUBLIC WATER SUPPLY SYSTEM SHALL BE DISINFECTED TO THE SATISFACTION OF COUNCIL INSPECTOR.
7. ALL CONCRETE SHALL BE 20MPa.

COUNCILS SPECIFICATIONS.

9. THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL UTILITIES AND SERVICES INTERSECTING THE WORKS AND CONNECTIONS TO THE EXISTING WATER MAINS PRIOR TO COMMENCEMENT OF TRENCH EXCAVATION. PIPES SHALL BE DEFLECTED AT JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS SUCH THAT CLEARANCES ARE MAINTAINED TO MEET UTILITY OR SERVICE OWNERS REQUIREMENTS

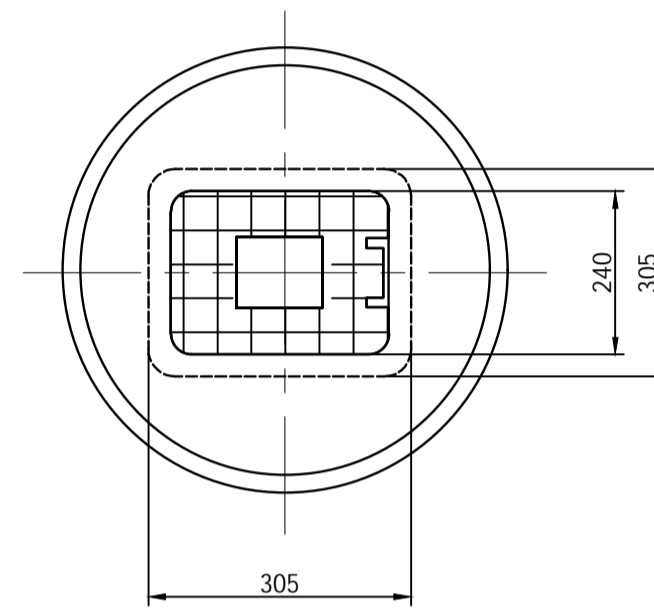


SINGLE AIR VALVE INSTALLATION

SCALE = N.T.S.

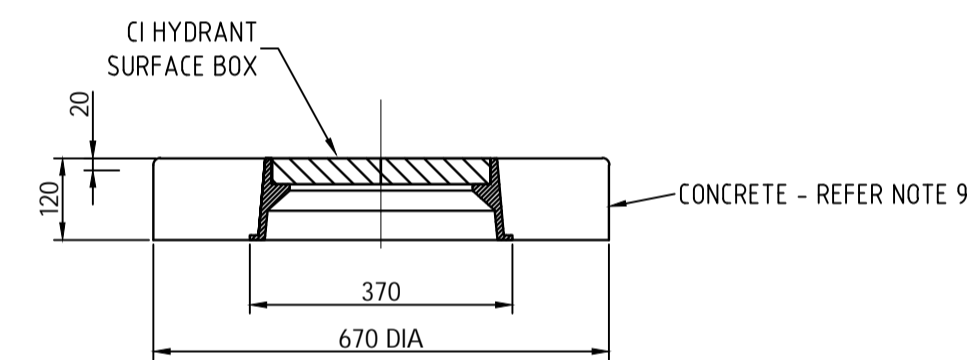
PIPE NOTES:

1. THE FOLLOWING PIPE MATERIALS MAY BE USED FOR WATER RETICULATION MAINS:
 - 1a. ALL WATER MAINS LESS THAN 300mm IN DIAMETER SHALL BE CONSTRUCTED FROM CLASS K9 DUCTILE IRON CEMENT LINED (DICL), SPIGOT AND SOCKET, RUBBER RING JOINTED PIPE MANUFACTURED IN ACCORDANCE WITH AUSTRALIAN STANDARD 2280 OR UPVC.
 - 1b. ALL WATER PIPES GREATER THAN 300MM IN DIAMETER SHALL BE CLASS K12 DICL. ALTERNATIVELY, CLASS 20 (MIN) "BLUE BRUTE" UPVC PIPE MAY BE USED, PROVIDED THAT OD COMPATIBILITY WITH DICL PIPING IS MAINTAINED.
 - 1c. POLYETHYLENE (AS/NZS4130) MINIMUM PN12.5, BLUE STRIPED FOR POTABLE SYSTEMS, LILAC STRIPED FOR RE-USE OR RAW WATER SYSTEMS. ALL JOINTING TO BE ELECTRO-FUSION OR BUTT-WELDED.
2. PRODUCTS IN CONTACT WITH POTABLE WATER SHALL BE TESTED AND COMPLY WITH THE REQUIREMENTS OF AS/NZS4020 FOR PRODUCTS IN CONTACT WITH DRINKING WATER.



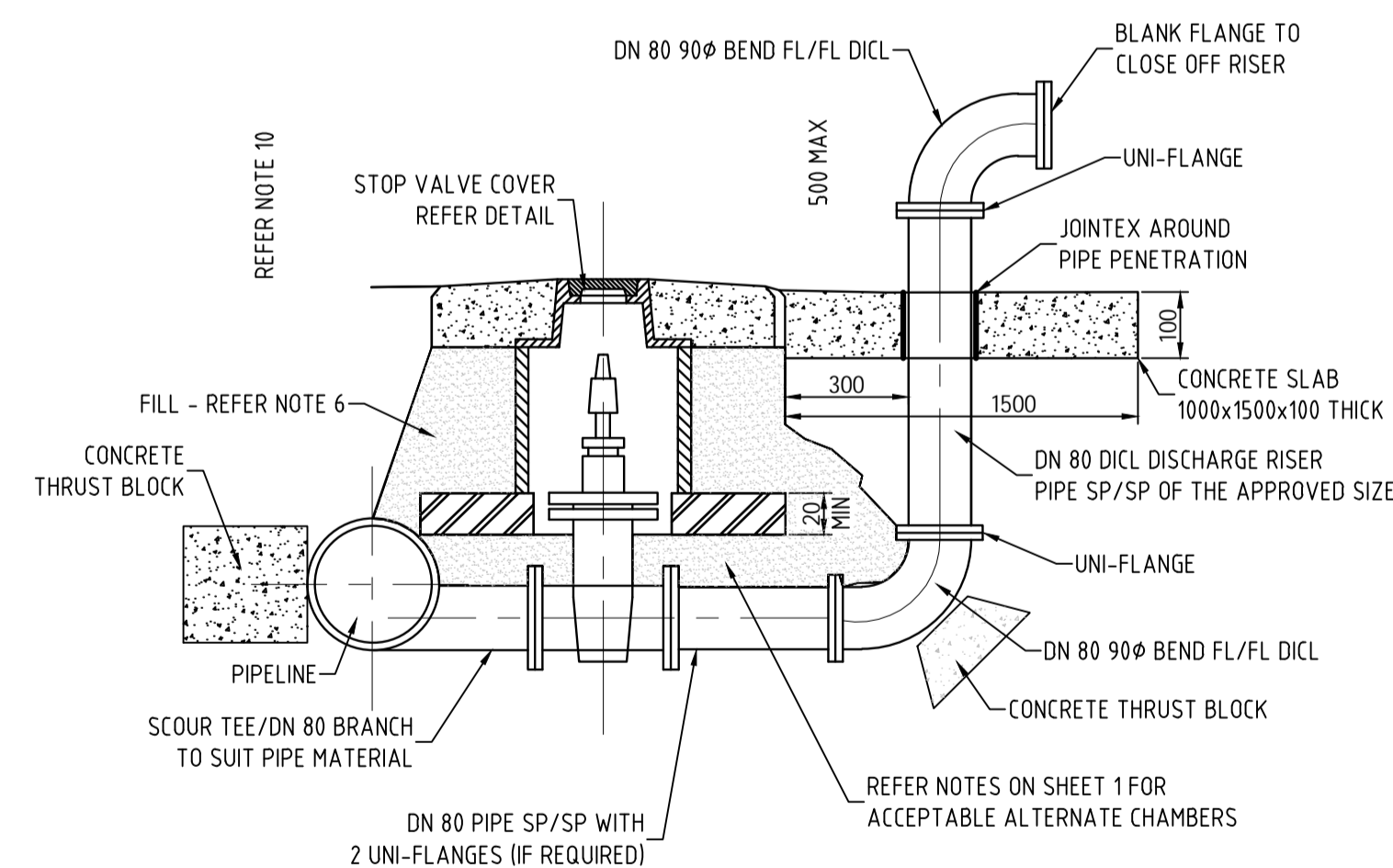
HYDRANT COVER - PLAN

SCALE = N.T.S.



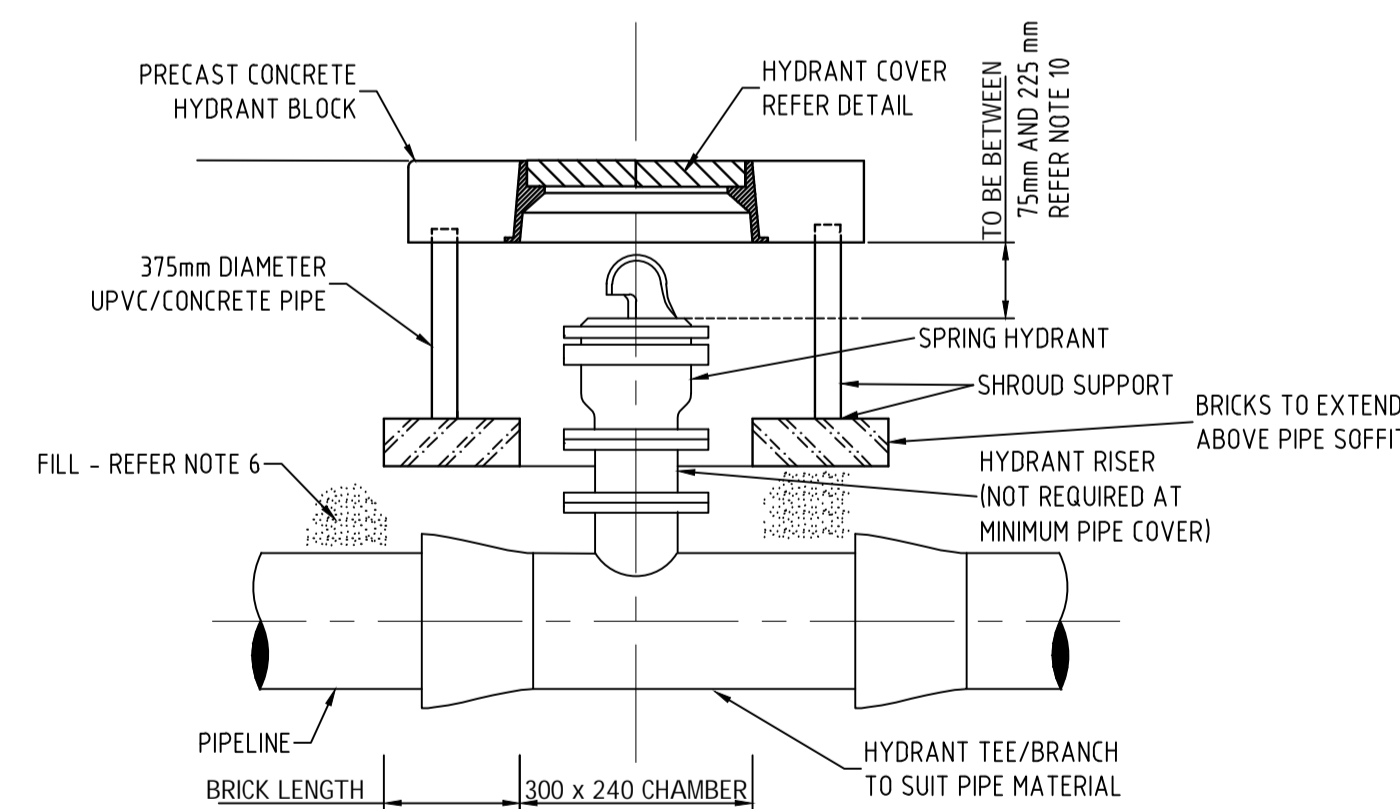
HYDRANT COVER - SECTION

SCALE = N.T.S.



SCOUR VALVE INSTALLATION

SCALE = N.T.S.

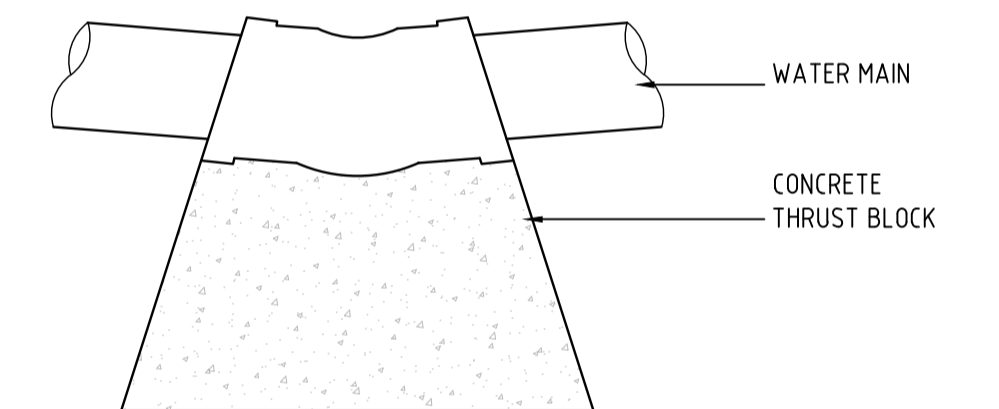


HYDRANT INSTALLATION WITH UPVC OR CONCRETE PIPE CHAMBER

SCALE = N.T.S.

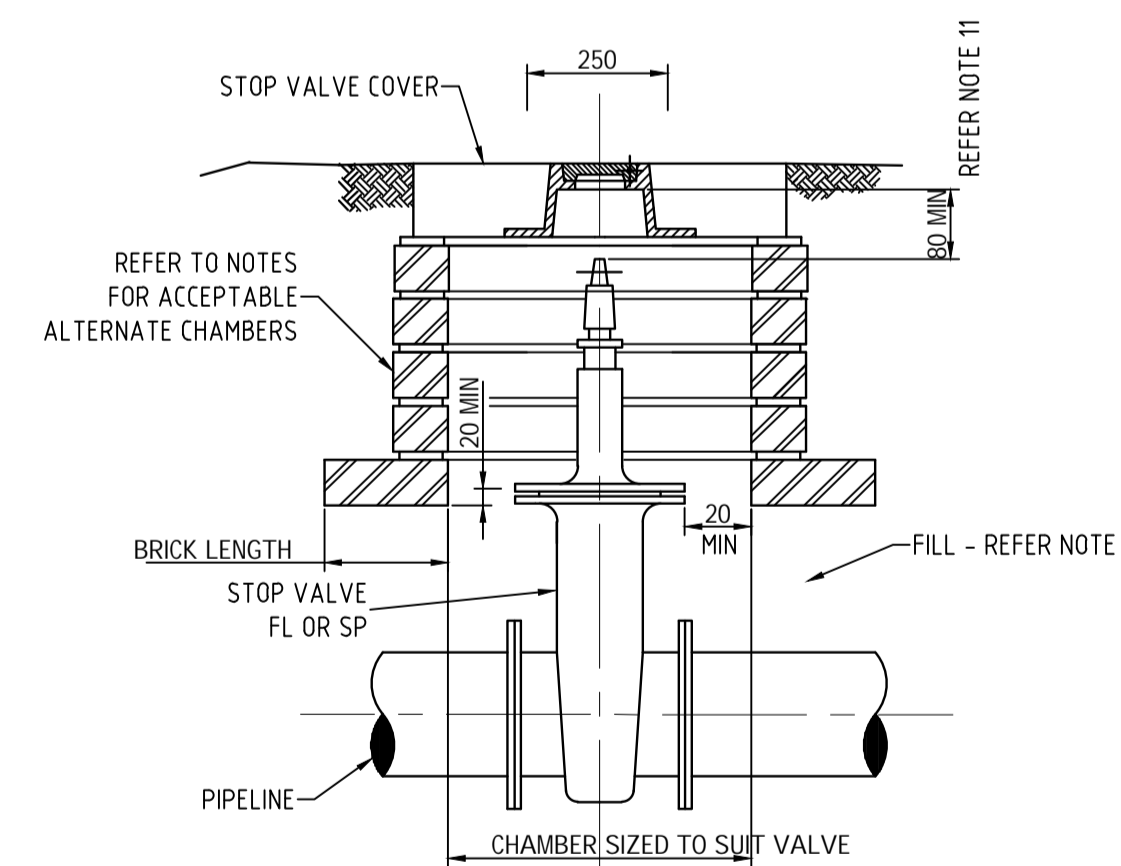
NOTES:

1. STOP VALVE & SCOUR VALVE CHAMBERS MAY EITHER BE CONSTRUCTED USING PREFABRICATED POLYPROPYLENE UNITS, 375mm DIAM. PVC OR CONCRETE PIPE, INTERLOCKING CONCRETE BLOCKS OR BRICKS WITH SAND/CEMENT MORTAR JOINTS.
2. THE BOTTOM OF THE BRICK, INTERLOCKING CONCRETE BLOCK OR PIPE CHAMBERS SHALL NOT REST DIRECTLY ON THE PIPE BUT ON A COURSE OF BRICKS OR A 100mm THICK CONCRETE FOUNDATION.
3. MINIMUM COVER OVER PIPELINES (ALL TYPES) SHALL BE 750mm IN AREAS SUBJECT TO VEHICULAR LOADING SUCH AS ROADS & FOOTPATHS AND 600mm ELSEWHERE.
4. IN AREAS PAVED WITH BITUMEN SEALING, ASPHALT, CONCRETE OR PAVING BLOCKS THE SURFACE OF VALVE AND HYDRANT COVERS SHALL FINISH FLUSH WITH THE PAVED SURFACE.
5. FOR STOP VALVES INSTALLATION, SOCKETS SHALL BE BUTTED UP TO SPIGOTS AND TRENCH WIDTHS SHALL BE KEPT TO A MINIMUM.
6. FILL SAND SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm AND COMPACTED TO ACHIEVE A MINIMUM 70 INDEX AND TO THE SATISFACTION OF THE SUPERINTENDENT.
7. INDICATOR POSTS SHALL BE WHITE IN COLOUR AND ONE OF THE FOLLOWING TYPES :
 - 100mm x 100mm REINFORCED CONCRETE WITH 20mm CHAMFERS.
 - POWDER COATED METAL SUCH AS "EZIDRIVE" POST OR EQUIVALENT.
 - RECYCLED PLASTIC POST WITH RECESSES FOR MARKER PLATES.
 - OTHER POSTS APPROVED BY COUNCIL.
8. DIMENSIONS OF SURFACE BOX COVERS SHOWN ON THIS DRAWING ARE NOMINAL. IF SURFACE BOX COVERS OTHER THAN THOSE SHOWN ARE SUPPLIED, THE DIMENSIONS OF THE CONCRETE SURROUNDS SHALL BE ADJUSTED ACCORDINGLY.
9. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 20 MPa AND COMPLY WITH THE AUS-SPEC SPECIFICATION FOR MINOR CONCRETE WORKS.



THRUST BLOCK PLAN DETAIL

NTS



STOP VALVE INSTALLATION

SCALE = N.T.S.

THRUST BLOCK SCHEDULE			
FITTINGS	FORCE (kN)	BEARING AREA (H*W)m ²	DIMENSIONS (HxWxL)
BEND 90°	151	1.0000	1.0x1.0x0.5m
BEND 45°	81	0.8100	0.9x0.9x0.5m
BEND 22.5°	42	0.2500	0.5x0.5x0.5m
BEND 11.25°	21	0.2500	0.5x0.5x0.5m
TEE/CLOSED VALVE	108	1.0000	1.0x1.0x0.5m

THRUST BLOCK DESIGN NOTES

1. THE THRUST BLOCK FACE SHALL BE POURED AGAINST UNDISTURBED EARTH.
2. SOIL BEARING CAPACITY ASSUMED TO BE 100kPa TO BE CONFIRMED ON SITE, IF SITE CONDITIONS VARY CONTACT BARNSON PTY LTD.
3. FACTOR OF SAFETY = 2.0

ISSUED TO CLIENT