

Review of Environmental Factors

Bruxner Highway and Patricia Street Roundabout



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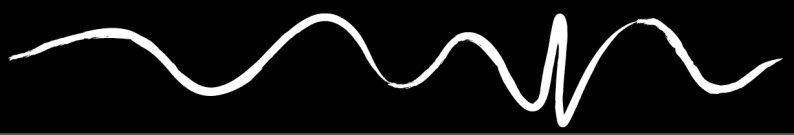
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Executive Summary

Richmond Valley Council propose to construct a roundabout at the intersection of the Bruxner Highway and Patricia Street in Casino. The works are required to service additional traffic that will be generated by the development of the Regional Jobs Precinct – Johnston Street Sub Precinct. The roundabout will also relieve traffic congestion at existing intersections on the Bruxner Highway.

State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&ISEPP) enables the roundabout and associated works to be undertaken as development without consent pursuant to Section 2.109(1). As such, the works can be assessed and determined under Part 5, Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

GeoLINK has been engaged by Richmond Valley Council (RVC) to prepare a Review of Environmental Factors (REF) for the Activity, as per the requirements of Part 5, Division 5.1 of the EP&A Act and the Department of Planning and Environment's *Guidelines for Division 5.1 Assessments* (DPE June 2022).

The Activity includes the following works:

- Establish site compound and materials stockpile area and install environmental controls.
- Initial earthworks to widen the road formation, including the removal of up to 30 small Crepe Myrtle street trees.
- Construct roundabout, including culvert, medians, splitter islands.
- Construct road tie in works, carry out line marking and installation of signage.
- Stabilise and rehabilitate disturbed areas.
- Removal of environmental controls; and
- Site clean-up.

Section 5.5 of the EP&A Act requires determining authorities, when assessing activities under Part 5, to examine and consider to the fullest extent possible all matters affecting or likely to affect the environment by reason of 'the activity'. The purpose of the REF is to describe the activity, to document the likely impacts of the activity on the environment, and to detail safeguard/ mitigation measures to be implemented. This REF has been prepared for approval by the determining authority (RVC).

The description of the Activity and associated environmental impacts have been undertaken with regard to the *Guidelines for Division 5.1 Assessments* (DPE June 2022), the *Biodiversity Conservation Act 2016* (BC Act), the *Fisheries Management Act 1994* (FM Act) and the Australian Government *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). In doing so, the REF helps to fulfil the requirements of Section 5.5 of the EP&A Act, which requires RVC to examine and consider to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

The Activity is considered justified considering the potential environmental impacts and subsequent mitigation measures and safeguards. The Activity is in accordance with ecologically sustainable development (ESD) principles and consistent with the objectives of the EP&A Act.

The potential environmental impacts of the Activity are not likely to be significant, therefore it is not necessary for an Environmental Impact Statement to be prepared, nor for approval to be sought for the Activity from the Minister for Planning and Public Spaces under Section 5.7 or Division 5.2 of the EP&A Act. The Activity is unlikely to significantly affect threatened species or ecological communities or their habitats, within the meaning of the *Biodiversity Conservation Act 2016* or *Fisheries Management Act 1994* and therefore a Species Impact Statement (or BDAR if the Proponent elected) is not required. The Activity is not expected to affect Commonwealth land or have a significant impact on any matters of national environmental significance. Accordingly, the Activity has not been referred to the Australian Department of Climate Change, Energy, the Environment and Water.



1. Introduction

1.1 Background and Activity Identification

Richmond Valley Council (RVC) requires the preparation of a Review of Environmental Factors (REF) for the construction of a roundabout at the intersection of the Bruxner Highway and Patricia Street in Casino. The roundabout is required to service the Richmond Valley Regional Job Precinct (RJP) to be created in an area of land immediately northeast of Casino, identified in the draft RJP masterplan as the Johnston Street sub precinct (Precinct 3a). RJP's are areas of regional NSW which have been identified by the NSW Government as potential growth areas for industry. The planning process to create the RJP is in the final stages, with the final masterplanning and rezoning process to occur in 2025.

Casino is the primary commercial centre within the Richmond Valley Local Government Area and has a population of around 12,000 people. It was identified in the North Coast Regional Plan 2041 as an important centre, playing an increasingly important role in providing housing and employment opportunities in the region. Hence Casino's identification as a suitable location for an RJP. The location of the Activity is shown in **Illustration 1.1**.

The majority of the Activity will occur within the Bruxner Highway road reserve. The Bruxner Highway is a classified road (HW 16) and as such, RVC has obtained a Works Authorisation Deed from Transport for NSW to carry out the work. The Activity will also occur within the Patricia Street road reserve, managed by Richmond Valley Council. The Activity will also extend slightly outside of these road reserves and RVC is currently undertaking the land acquisition process.

The Activity is permissible without development consent under Division 17 Roads and Traffic of State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&ISEPP). Section 2.109(1) of the T&ISEPP permits development for the purpose of a road or road infrastructure facility, to be carried out by or on behalf of a public authority on any land, without development consent. However, if on land reserved under the *National parks and Wildlife Act 1974* additional requirements apply (this does not apply in this instance).

1.2 Activity Need/ Justification and Analysis of Alternatives

A Traffic Assessment prepared by GHD for the Richmond Valley RJP identified that a new roundabout on the Bruxner Highway would be required to provide safe and efficient access to the Johnston Street sub precinct. It would also relieve traffic congestion at existing intersections on the Bruxner Highway. The new roundabout could be located at the Bruxner Highway's intersection with Cassino Drive or with its intersection with Patricia Street. RVC prefer the roundabout to be at the intersection of the Bruxner and Patricia Street, as it would slow vehicles approaching the Casino township from the east. It would also provide the ability to connect the RJP link road through the industrial estate and provide access to Spring Grove Road, reducing turning volumes at both the East Street and Cassino Drive intersections with the Bruxner Highway.

The GHD Traffic Assessment advised that the roundabout would need to include:

- A single approach and departure with additional short acceleration and deceleration lanes on the Bruxner Highway.
- Two circulation lanes.
- A circulation carriageway width of 10 m and a 24 m diameter island to support the movement of large trucks.



The Activity is consistent with these recommendations.

Given the minimal site constraints and straightforward construction works involved with the Activity, the proposed Activity is the most suitable way to upgrade Casino's road network to cater for development of the RJP.

1.3 Purpose of this Report

This REF has been prepared by GeoLINK on behalf of RVC. For the purposes of this Activity, RVC is the proponent and the determining authority under Part 5, Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The purpose of the REF is to describe the Activity, to document the likely impacts of the Activity on the environment, and to detail safeguard/ mitigation measures to be implemented.

The description of the Activity and associated environmental impacts have been undertaken in context of the Department of Planning and Environment's *Guidelines for division 5.1 Assessments* (June 2022), the *Biodiversity Conservation Act 2016* (BC Act), and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). In doing so, the REF helps to fulfil the requirements of Section 5.5 of the EP&A Act, which requires the determining authority (RVC) to examine and consider to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the Activity.

The findings of the REF would be considered when assessing:

- Whether the Activity is likely to have a significant impact on the environment and therefore the necessity for an Environmental Impact Statement to be prepared and approval to be sought from the Minister for Planning under Section 5.7 and Division 5.2 of the EP&A Act.
- The significance of any impact on threatened species as defined by the BC Act and/ or *Fisheries Management Act 1994* (FM Act), and therefore the requirement for a Species Impact Statement.
- The potential for the Activity to significantly impact a matter of national environmental significance or Commonwealth land and the need to make a referral to the Australian Government Department of Climate Change, Energy the Environment and Water (DCCEEW) for a decision by the commonwealth minister whether assessment and approval is required under the EPBC Act.



0 600 Metres

Site Locality - Illustration 1.1

2. Description of the Activity

2.1 Site Location

The proposed intersection will be located on the eastern fringe of Casino on the main route between Casino and Lismore, as shown on **Illustration 1.1**.

Works will occur primarily within the Bruxner Highway and Patricia Street road reserves, however there will be some minor encroachment into private property, which will be acquired to form part of the road reserve. Impacted properties are Lot 1 DP 772606, Lot 2 DP 772606 and Lot 1 DP 783330.

The site is defined as the area of works shown in **Illustration 2.1**, which includes the intersection itself, approximately 200 m of the Bruxner Highway extending to the east and west, 40 m of Patricia Street extending north, and a new road stub extending 20 m or so to the south. The sign posted speed limit on the Bruxner Highway, at the site is 100 km/h.

Within the study area, the Bruxner Highway is currently a two-lane two-way asphalt-sealed rural road in good condition. Patricia Street currently comprises a 3 – 4 m wide unsealed gravel pavement, providing access to a single rural property.



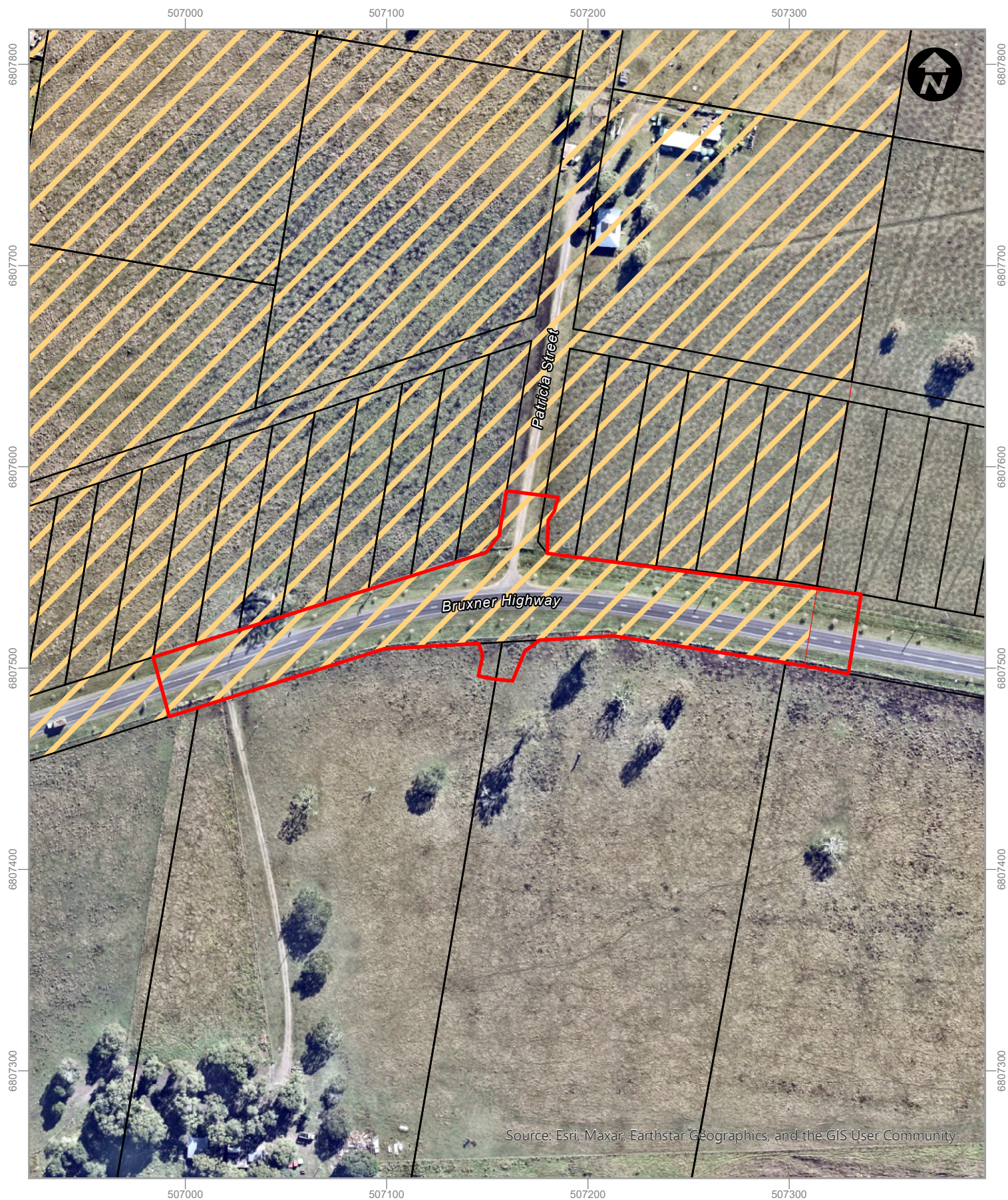
Plate 2.1 Bruxner Highway, at the intersection with Patricia Street (facing east)



Plate 2.2 Bruxner Highway, at the intersection with Patricia Street (facing west)



Plate 2.3 Patricia Street (facing north)



LEGEND

- Indicative extent of works
- Cadastre
- Johnston Street Sub Precinct of the Regional Jobs Precinct

0 50 Metres



2.2 The Activity

RVC propose to construct the roundabout in accordance with the following construction methodology:

- Preparation of the site, including establishing site compound, placing of advisory signage, tagging of services and installation of erosion and sedimentation control devices.
- Relocation of services including overhead power and underground telecommunications.
- Removal of existing street trees.
- Initial earthworks and formation widening, involving stripping of existing topsoil and placement and compaction of imported material to widen the road formation.
- Construction of cross culvert to allow for drainage from west to east in existing table drain on northern side of roundabout.
- Construction of flexible road pavement where necessary to widen and change level of approach to the roundabout.
- Construction of concrete roundabout in 2 stages, to allow traffic flow through the site during construction.
- Construction of medians and splitter islands.
- Sealing of road pavement.
- Line marking and installation of signage.
- Stabilise and rehabilitate disturbed areas.
- Remove environmental controls.
- Site clean-up.

Draft design drawings are provided at **Appendix A**. It is not expected that any significant changes to the design drawings that would impact the findings of this REF will occur. If there are significant changes, the REF would need to be revised.

2.2.1 Activity Objectives

The objectives of the Activity are to:

- Provide a safe and efficient roundabout at the intersection of the Bruxner Highway and Patricia Street to allow for the future development of the Richmond Valley Regional Jobs Precinct (Johnston Street sub precinct).
- Minimise environmental impacts associated with the proposed construction works.
- Minimise impact to traffic on the Bruxner Highway.

2.3 Construction Activities

2.3.1 Construction hours and duration

The Activity would be undertaken during standard construction hours detailed below:

- | | |
|------------------------------|---------------------|
| ■ Monday to Friday | 7:00 am to 6:00 pm. |
| ■ Saturday | 8:00 am to 1:00 pm. |
| ■ Sunday and Public Holidays | No work. |



2.3.2 Plant and equipment

The main plant and equipment required for the Activity may include (but not limited to) the following:

- Excavators.
- Vibrating rollers.
- Static rollers.
- Road grader.
- Pavement stabiliser
- Concrete pump
- Concrete agitator
- Tools truck.
- Hand tools (angle grinder, electric saw, driller/ driver etc).

2.3.3 Construction Duration and Timing

It is estimated that the Activity will commence in February 2025 and will take six months to complete.

2.4 Ancillary Facilities

The Activity will require a temporary site compound, to be established within the Patricia Street road reserve. Key features of the site compound include:

- Site offices.
- Amenities.
- Waste bins.
- Plant/ equipment laydown areas.
- Temporary material stockpiles (as necessary).

Currently, Patricia Street is a narrow (3 – 4 m wide) unsealed gravel road, servicing one rural dwelling, and has a wide road reserve of approximately 19 m. As such, it is expected that the temporary site compound can be established within the verges. If an overflow compound area is required, this would be established on the adjoining land (Lot 1 DP783330), which is owned by RVC.

2.5 Public Utilities

As described in **Section 2.2** there are overhead power lines and telecommunications cables within the Bruxner Highway road reserve that will be relocated as part of the Activity. Additional lighting will be installed at the roundabout and its approaches.



3. Statutory and Planning Framework

3.1 Planning Approval Pathway

The Activity involves construction of a roundabout at the intersection of the Bruxner Highway and Patricia Street in Casino. The works are required to facilitate the development of the Johnston Street Sub Precinct of the Richmond Valley Regional Job Precinct.

Section 4 of the *EP&A Act* states that if an environmental planning instrument (EPI) provides that development may be carried out without the need for development consent, a person may carry the development out, in accordance with the EPI, on land to which the provision applies. However, the environmental assessment of the development is required under Part 5, Division 5.1 of the *EP&A Act* and that development becomes defined as an ‘Activity’.

State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&ISEPP) applies to the State and its purpose is to facilitate the effective delivery of infrastructure across NSW. The policy overrides other EPIs, including Local Environmental Plans (LEPs), and provides specific planning provisions and development controls.

Division 17 of the T&ISEPP outlines specific development controls for Roads and Traffic. Section 2.109(1) of the T&ISEPP states:

“Development for the purpose of a road or road infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land. However, such development may be carried out without consent on land reserved under the National Parks and Wildlife Act 1974 only if the development—

- (a) is authorised by or under the National Parks and Wildlife Act 1974, or*
- (b) is, or is the subject of, an existing interest within the meaning of section 39 of that Act, or*
- (c) is on land to which that Act applies over which an easement has been granted and is not contrary to the terms or nature of the easement.”*

The Activity is defined as a road and will not occur on land reserved under the *National Parks and Wildlife Act 1974*. As such, the Activity is permissible without development consent and can be assessed and determined under Part 5, Division 5.1 of the *EP&A Act* i.e., preparation of an REF for determination by RVC.

3.2 Environmental Planning and Assessment Act 1979

Although the Activity does not require development consent Under Part 4 of the *EP&A Act*, Section 5.5 of the *EP&A Act* requires determining authorities, when assessing activities under Part 5, to examine and take into account, to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that Activity. The Activity therefore requires preparation of an environmental assessment (REF) for approval by the determining authority, which in this instance is RVC. This also includes an assessment of the Activity’s consistency with relevant EPIs including State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs) as follows.

Whilst the Bruxner Highway is a classified road, RVC have a Works Authorisation Deed (WAD) in place from Transport for NSW. The WAD makes RVC the roads authority under the Act in relation to



the roads that will be affected by the Activity and authorises RVC to carry out the Activity subject to the terms of the deed. As such, RVC is the determining authority for the proposed Activity.

3.3 State Environmental Planning Policies

3.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&ISEPP) aims to facilitate the effective delivery of infrastructure across the State.

As stated in **Section 3.1** above, the Activity is permissible without consent by way of Section 2.109(1) of the T&ISEPP.

Consultation as required by T&ISEPP is discussed in **Section 4** of this REF.

3.3.2 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 2 of State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BCSEPP) applies to the non-rural areas of the State. As such, Chapter 2 does not apply to the Activity as the site is zoned RU1 Primary Production and any vegetation clearing would be authorised under Part 5 of the EP&A Act.

Chapters 3 and 4 of the BCSEPP contain the land use planning and assessment framework for Koala habitat. Chapter 4 of the BCSEPP (formerly State Environmental Planning Policy (Koala Habitat Protection) 2021) aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline.

Section 4.9(2) of the BCSEPP states 'before a council may grant consent to a development application for consent to carry out development on the land, the council must assess whether the development is likely to have any impact on koalas or koala habitat'. Development consent is not required for the proposal by virtue of the T&ISEPP and therefore Chapter 4 of the BCSEPP does not apply to the Activity.

It is noted that the Activity includes vegetation removal. Assessment of the ecological impacts of the Activity is provided in **Section 5.1**.

3.3.3 State Environmental Planning Policy (Resilience and Hazards) 2021

State Environmental Planning Policy (Resilience and Hazards) 2021 (RHSEPP) contains planning provisions:

- For land use planning within the coastal zone, in a manner consistent with the objects of the *Coastal Management Act 2016*.
- To manage hazardous and offensive development.
- Which provides a state-wide planning framework for the remediation of contaminated land and to minimise the risk of harm.



3.3.3.1 RHSEPP Chapter 2

Chapter 2 of the RHSEPP provides an integrated and coordinated approach to coastal land use planning. It defines the four coastal management areas through detailed mapping and specifies assessment criteria that are tailored for each coastal management area. Councils and other consent authorities must apply these criteria when assessing proposals for development that fall within one or more of the mapped areas. The site does not fall within any of the mapped coastal management areas.

3.3.3.2 RHSEPP Chapter 3

Chapter 3 of the RHSEPP relates to hazardous and offensive development. The Activity does not constitute a *potentially hazardous industry* or *potentially offensive industry* as defined in Section 3.2 of the RHSEPP.

3.3.3.3 RHSEPP Chapter 4

This chapter of the RHSEPP aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment by:

- specifying when consent is required, and when it is not required, for remediation work; and
- specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out remediation work in particular; and
- requiring that remediation work meets certain standards and notification requirements.

As the Activity does not involve a change of use and does not involve a development application, the provisions of Chapter 4 are not triggered. However, RVC must still consider the potential for the land to be contaminated and make a determination of suitability of the land for its intended use.

As part of the Richmond Valley Regional Job Precinct planning process, Environmental Resources Management Australia Pty Ltd (ERM) prepared a Soils, Geology and Contamination Assessment Report, which encompassed the Activity area (Precinct 3a Johnston Street). The ERM report stated that the only potentially contaminating industry or activity in proximity to the Activity area is the Wastewater treatment plant which is located approximately 765 m away to the north-west. However, ERM state that it is important to note that there is a broad potential for contamination on all land across the RJP associated with hazardous building materials, small scale chemical storage and use and uncontrolled waste dumping, which should be assessed further as part of any future development application in individual sites to prevent potential exposure to contamination hazards.

However, as the proposed Activity is occurring primarily within a road reserve, it is unlikely that any potentially contaminating activities have occurred at the site.

Details relating to the soil condition and any management measures required to be implemented during construction are provided in **Section 5.2**.

3.4 Local Environmental Plan

The Activity is located within the Richmond Valley Local Government Area (LGA). Planning controls within this LGA are set out in the Richmond Valley Local Environmental Plan 2012 (RVLEP 2012).

The site is zoned RU1 Primary Production. The objectives of this zone are:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To ensure that development does not unreasonably increase the demand for public services or public facilities.

The Activity does not conflict with any of these zone objectives.

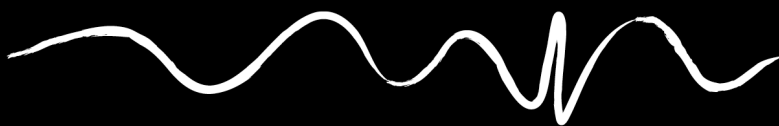
3.5 Other State and Commonwealth Legislation

3.5.1 Other NSW Legislation

Table 3.1 lists and describes other NSW State legislation and comments on its applicability in relation to the proposed Activity.

Table 3.1 NSW Legislation

Legislation	Section(s)	Comment
<i>Environmental Planning and Assessment Act 1979 (as amended)</i>	Section 1.7	Section 1.7 of the EP&A Act relates to the application of Part 7 of the <i>Biodiversity Conservation Act 2016 (BC Act)</i> and Part 7A of the <i>Fisheries Management Act 1994 (FM Act)</i> . Biodiversity has been assessed in Section 5.1 . No significant impacts would result. A test of significance was completed for Koala; however no impact is expected.
	Section 5.5	The determining authority in its consideration of a project shall examine and take into account, to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity. This REF fulfils this duty.
Environmental Planning and Assessment Regulation 2021	Section 171(1)	The Department of Planning and Environment's <i>Guidelines for Division 5.1 Assessments</i> (June 2022) have been considered to assess the likely impacts of the Activity on the natural and built environment (refer to Section 7.1). It is not expected that the Activity would result in a significant impact.
<i>Biodiversity Conservation Act 2016</i>	Schedules 1, 2 and 3	The Activity would not impact on any threatened flora species or communities listed in the BC Act. No threatened fauna species listed under the BC Act and/ or EPBC Act were recorded within the study area during the site inspection. The Activity would incrementally contribute to the Key Threatening Process (KTP) <i>Anthropogenic Climate Change</i> , through the generation of carbon dioxide during operation of machinery and vehicles and associated fuel consumption however the impact is not considered significant. No other KTPs would be noticeably contributed to by the Activity. Section 7.3 of the BC Act requires a test of significance ('five-part test') for determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats. A five-part test has been completed for the Koala, which may utilise adjacent Forest Red Gums.



Legislation	Section(s)	Comment
		The biodiversity impacts of the Activity are assessed in Section 5.1 .
<i>Biosecurity Act 2015</i>		In NSW, the administration of noxious weed control is the responsibility of the Minister for Primary Industries under the <i>Biosecurity Act 2015</i> . The Act is implemented and enforced by the Local Control Authority for the area, usually local government, or NSW Agencies. The Priority Weed, Fireweed, was observed within the study area. In addition to <i>General Biosecurity Duties</i> (to prevent, eliminate or minimise any biosecurity risk) specific duties under the Act for this species in the region are: ' <i>Prohibition on certain dealings</i> ' and " <i>Must not be imported into the state, sold, bartered, exchanged or offered for sale</i> ".
<i>Crown Land Management Act 2016 and Local Government Act 1993</i> .		The Activity does not impact on any Crown Land.
<i>Fisheries Management Act 1994</i> (FM Act)	Section 199	The Activity does not involve any dredge, or reclamation works in any key fish habitat. The closest waterway to the Activity area is the Richmond River, which is situated approximately 370 m away to the south.
	Sections 219-220	A permit is required when barriers to the movement of fish including water course crossings are to be constructed or modified. The Activity would not affect a water course or fish passage.
	Section 205	This section regulates harm to marine vegetation. Any impact to marine vegetation, such as Mangroves, would require a Fisheries Permit. The Activity would not impact marine vegetation.
<i>Heritage Act 1977</i>		<p>The NSW Government's State Heritage Inventory online mapping system displays World, Commonwealth, State and Local heritage places or items. The website was viewed in relation to the site, finding that there are no heritage listed places or items near the site. The nearest site is the Fig Tree Planting on East Street, Casino, approximately 1.7 km west of the Activity.</p> <p>As part of the Richmond Valley RJP, a Heritage Report was prepared by ERM. This report identified the Richmond River as a heritage item. The Activity is 370 m away from the Richmond River.</p>
<i>National Parks and Wildlife Act 1974</i>	Sections 87(1), 90	<p>The <i>National Parks and Wildlife Act 1974</i> (NSW) (NPW Act) is the primary legislation concerning the identification and protection of Aboriginal cultural heritage in New South Wales.</p> <p>Section 86 of the NPW Act provides offence provisions for Aboriginal objects, Aboriginal skeletal remains and Aboriginal places in NSW. Section 87 of the NPW Act outlines defences against prosecution relating to Aboriginal objects, skeletal remains and Aboriginal places. These include:</p> <ul style="list-style-type: none"> ■ Acting in accordance with an Aboriginal Heritage Impact Permit (AHIP) issued under Section 90 of the NPW Act ■ Demonstrating that the "defendant exercised due diligence to determine whether the act or omission constituting the alleged



Legislation	Section(s)	Comment
		<p>offence would harm an Aboriginal object and reasonably determined that no Aboriginal object would be harmed"</p> <ul style="list-style-type: none"> ■ The activity was prescribed as a "low Impact" activity or an "omission" under the NPW Regulations (2019), and ■ Was undertaken in compliance with a Code of Practice adopted or prescribed by the NPW Regulations (2019). <p>The Activity meets the definition of Low Impact Infrastructure, as the works are minor requiring minimal excavation, on land that has been disturbed. The Activity area is the site of the existing road. As such, it is unlikely that any Aboriginal objects, Aboriginal skeletal remains or Aboriginal places would be discovered during the construction works. If unexpected Aboriginal artefacts are encountered, works would cease, and the Casino-Boolangle Local Aboriginal Land Council would be notified immediately.</p>
<i>Protection of the Environment Operations Act 1997</i>		No Protection of the Environment Policies (PEPs) are relevant to the Activity. No licenses would be required pursuant to the <i>Protection of the Environment Operations Act 1997</i> . RVC and/ or contractors working on behalf of RVC are required to notify EPA when a 'pollution incident' occurs that is likely to impact upon the environment.
	Section 115	<p>It is an offence to negligently dispose of waste in a manner that harms the environment.</p> <p>Waste would be managed in accordance with the <i>Waste Avoidance and Resource Recovery Act 2001</i>.</p> <p>The Activity would aim to reduce the environmental impact of dumping waste and include mechanisms to recover resources and reduce the production of waste where possible.</p>
	Section 120	It is an offence to pollute any waters of the State. This REF includes safeguards and mitigation measures to ensure that the Activity does not result in pollution of waters.
<i>Roads Act 1993</i>	Section 138	Section 138 of the <i>Roads Act 1993</i> requires approval from the relevant road's authority for the erection of a structure, or the carrying out of work in, on or over a public road, or the digging up or disturbance of the surface of a road. As the Bruxner Highway is a classified road, RVC have obtained a Works Authorisation Deed from TfNSW for the Activity. To view the WAD, refer to Appendix B .

3.5.2 Commonwealth Legislation

3.5.2.1 Environmental Protection and Biodiversity Conservation Act 1999

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), any action that has, or is likely to have, a significant impact on matters of national environmental significance or other aspects of the environment, such as on Commonwealth land, may progress only with approval of the Commonwealth Minister for the Department of Climate Change, Energy, the Environment and Water under Part 9 of the EPBC Act. There are no matters of national environmental significance that would be affected by the proposed Activity and therefore no Commonwealth referral or approval is necessary for the proposed works (refer to **Section 7**).



3.5.2.2 *Native Title Act 1993*

The Native Title Vision web viewer was accessed on 19 September 2024. The Activity is not within a Native Title Determination Area or application area.

3.6 Confirmation of Statutory Position

An assessment of the relevant statutory provisions and planning instruments has concluded that the Activity can be carried out as development without consent under the T&ISEPP and can be assessed and determined under Part 5, Division 5.1 of the EP&A Act.



4. Stakeholder Consultation

4.1 Community Consultation

The proposed roundabout appears on the Richmond Valley Regional Job Precinct Draft Master Plan, which was on public exhibition from 12 February 2024 until 10 March 2024. The label “new intersection” is shown on the draft master plan and the proposal to construct a roundabout at the intersection of the Bruxner Highway and Patricia Street is discussed on Page 39 of the document. As such, the Casino community in general has been sufficiently consulted on the Activity.

More targeted consultation with adjoining landowners, including discussions and negotiations regarding land acquisition, has occurred throughout 2024. This consultation will continue to occur until such time as the roundabout is complete.

4.2 T&ISEPP Consultation

T&ISEPP aims to facilitate the effective delivery of infrastructure across the State. Part 2.2 of the T&ISEPP contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development.

Consultation with councils and public authorities is required in certain instances in accordance with Section 2.10 to Section 2.17 of T&ISEPP (as applicable to proposals).

Pursuant to Section 2.17(1)(c) (exceptions) of T&ISEPP, Section 2.10 – Section 2.12 and Section 2.14 do not apply with respect to development to the extent that (as relevant), they would require notice to be given to a council or public authority that is carrying out the development or on whose behalf it is being carried out. Given the proposal is being carried out by or on behalf of Council, and Council is the determining authority, Section 2.10 – 2.12 and 2.14 (consultation with councils) do not apply.

Section 2.13 contains provisions requiring consultation with State Emergency Service (SES) for development with impacts on flood liable land. The Bruxner Highway and Patricia Street have previously been filled and are above the 1 in 100-year flood inundation event, based on the 2023 Flood Study. As such, consultation with the SES is not required.

Section 2.15 contains provisions for consultation with public authorities other than councils (such as National Parks and Wildlife Service and Transport for NSW), for specified development. None of the provisions in Section 2.15 apply to the Activity. Section 2.16 contains provisions requiring a public authority to consider *Planning for Bush Fire Protection* (PBP) before carrying out certain development in an area that is bush fire prone. The Activity is not a health services facility, a correctional centre or residential authority and therefore there is no requirement to consider *Planning for Bush Fire Protection*.



5. Environmental Assessment

5.1 Biodiversity

For the biodiversity assessment, the site refers to the 'Extent of works', while the study area refers to the whole area the ecological field inspection was undertaken within (refer to **Illustration 5.1**).

5.1.1 Existing Environment

5.1.1.1 Desktop Review

BioNet Atlas Search

A search of the BioNet Atlas database was undertaken on 16 September 2024 to identify threatened species recorded within a 10 km x 10 km search area centred on the site. Results indicate nine threatened flora species, 38 threatened fauna species, and 17 threatened ecological communities (TECs) have been recorded within the search area (refer to **Appendix C**).

EPBC Protected Matters Report

The Protected Matters Search Tool (PMST) was accessed on 16 September 2024. The PMST search identified 26 threatened flora species, 35 threatened fauna species and six threatened ecological communities listed under the EPBC Act which may occur within 10 km of the site (refer to **Appendix C**).

Areas of Outstanding Biodiversity Value

A search of the BC Act indicates that no Areas of Outstanding Biodiversity Value occur within or in close proximity to the site.

Wildlife Corridors

The site does not occur within any regional or subregional wildlife corridors as per Scotts (2003). Additionally, the study area only contains scattered trees with no connectivity to the broader landscape.

5.1.1.2 Vegetation

Vegetation within the study area is highly disturbed from historic land clearing to accommodate the Bruxner Highway and neighbouring pastureland. It has been subjected to frequent roadside slashing and grazing. Due to the disturbed condition, vegetation within the study area does not align with a Plant Community Type (PCT) in the BioNet Vegetation Classification. Photos of vegetation within the study area are provided at **Plate 5.1** and **Plate 5.2**.

Vegetation within the road reserve would be described as poor quality and containing planted exotic Crepe Myrtle (*Lagerstroemia indica**) and dominated by ground covers species comprising Bahia Grass (*Paspalum notatum**), Common Couch (*Cynodon dactylon*), White Clover (*Trifolium repens**), Red-flowered Mallow (*Modiola caroliniana**), Kikuyu (*Cenchrus clandestinus**), South African Pigeon Grass (*Setaria sphacelata**), Brown's Love Grass (*Eragrostis brownii*), Fireweed (*Senecio madagascariensis**) and Common Sowthistle (*Sonchus oleraceus**).

Vegetation with the pastureland contains two isolated Forest Red Gum (*Eucalyptus tereticornis*) with groundcover comprising Bahia Grass (*P. notatum**), Kikuyu (*C. clandestinus**), Pin Rush (*Juncus usitatus*), Common Couch (*C.dactylon*), Cuphea (*Cuphea carthagenensis**), Fireweed (*S. madagascariensis**), , Poison Pratia (*Lobelia concolor*), Pennywort (*Centella asiatica*) and Lesser Joyweed (*Alternanthera denticulata*).

*Denotes exotic species



Plate 5.1 View west of vegetation with the road reserve



Plate 5.2 View south of vegetation within pastureland

5.1.1.3 Threatened Flora

No threatened flora species listed under the BC Act and/ or EPBC Act were recorded within the study area or are likely to occur.

5.1.1.4 Threatened Ecological Communities

Vegetation within the study area is not indicative with any BC Act and/ or EPBC Act listed Threatened Ecological Community (TEC).

5.1.1.5 Priority Weeds

Fireweed is a *Biosecurity Act 2015* listed species that occur within the study area. In addition to *General Biosecurity Duties* to prevent, eliminate or minimise any biosecurity risk they may pose; specific duties under the Act for this species in the region are: '*Prohibition on certain dealings*' and '*Must not be imported into the state, sold, bartered, exchanged or offered for sale*'.

5.1.1.6 Threatened Fauna

No threatened fauna species listed under the BC Act and/ or EPBC Act were recorded within the study area during the site inspection. A range of common bird species were observed during the site inspection, including Masked Lapwing (*Vanellus miles*), Magpie-lark (*Grallina cyanoleuca*), Torresian Crow (*Corvus orru*), Australian Magpie (*Cracticus tibicen*) and Pied Butcherbird (*Cracticus nigrogularis*).

Two hollow-bearing trees occur within the study area (refer to **Illustration 5.1**), one of these trees also contains a small stick nest (likely used by an Australian Magpie or Torresian Crow nest).

The site features a concrete pipe culvert (refer to **Plate 5.3**). Due to the size, it would be unsuitable to provide roosting habitat to locally occurring microbats.

No Koala scats were recorded at the base of any trees within the study area. Two Forest Red Gum, a preferred Koala feed tree occurs within the study area (refer **Illustration 5.1**).

While some highly mobile threatened species would disperse over the site (such as birds, microbats and flying-foxes), the habitat present is highly disturbed and would not provide important foraging or breeding habitat to any locally occurring threatened species. The exception to this is that Koala may utilise adjacent Forest Red Gums and other trees moving across the landscape. Additionally, there are BioNet records of Koala within the locality. Statutory assessments for the Koala have been completed in accordance with Section 7.3 of the BC Act and the EPBC Act *Policy Statement 1.1 Significant Impact Guidelines* (refer to **Appendix D**).



Plate 5.3 View west of concrete pipe culvert within the site

5.1.2 Potential Impacts

The potential direct impact to biodiversity from the Activity would include:

- The removal of mixed exotic and native groundcover species for the works footprint.
- Removal of up to 30 Crepe Myrtle trees (note these are planted exotic street trees).
- Topsoil stripping and earthworks within the works footprint.
- No Forest Red Gum/ Hollow-bearing trees would be removed as part of the Activity.

Indirect impacts include:

- Direct mortality or injury to fauna during works.
- Habitat degradation of adjacent habitat due to earthworks (e.g. erosion and sedimentation impacts or chemical spills).
- Unintentional damage to adjacent habitat during earthworks.

Overall, no significant biodiversity impacts are expected, and suitable safeguards and mitigation can be implemented.

5.1.3 Safeguards and Mitigation measures

The following safeguards would be implemented in order to prevent adverse impacts relating to biodiversity:

1. The limit of works will be clearly marked, including no-go flagging.
2. All vegetation will be retained beyond the limit of works.



3. Stockpiles will not be placed within the dripline of native trees.
4. All plant, equipment and personnel will be free of soil and potential weed propagules prior to being brought to the site.
5. Should injured fauna be found on the site, local wildlife care groups and/ or local veterinarians will be contacted immediately, and arrangements made for the immediate welfare of the animal. The phone number of the local WIRES group (Ph: 1300 094 737) will be known to the project manager.
6. If unexpected threatened/ vulnerable fauna or flora species are discovered, stop works immediately and notify the relevant Project Manager and refer to an ecologist before works can continue.



LEGEND

- | | | |
|---|---|--|
| Indicative extent of works | Hollow-bearing tree | Tree to be removed |
| Cadastre | Habitat tree with bird nest | ● Crepe Myrtle |
| Study area | | |

0 40 Metres



5.2 Soils, Water Quality and Flooding

5.2.1 Existing Environment

As part of the Richmond Valley Regional Job Precinct planning process, Environmental Resources Management Australia Pty Ltd (ERM) prepared a Soils, Geology and Contamination Assessment Report, which encompassed the Activity area (Precinct 3a Johnston Street).

The report found that the site is underlain by seven alluvial geological formations from the Quaternary (6) and Holocene (1) periods. Soil landscapes within the Site were described as including Leycester, Nammoona, Yorklea Variant A, North Casino and Disputed Plain. There is no significant risks associated with acid sulfate soils, salinity or soil aggressivity.

The nearest potential for contamination (based on ERM's desktop assessment) is at the Wastewater treatment plant, which is situated approximately 800 m north-west of the Activity area.

The report states that there is broad potential for contamination on all land across the RJP associated with hazardous building materials, small scale chemical storage and use and uncontrolled waste dumping. However, the Activity area is within a road reserve that has existed for almost 100 years, so the likelihood of contaminating land uses having occurred is very minor.

As part of the Richmond Valley Regional Jobs Precinct planning process, BMT prepared a Flood Impact Assessment (FIA) (Version 02, 31 August 2023). The FIA modelled the 2% AEP, 1% AEP, 1% annual exceedance probability (AEP) flood events with climate change (1%AEP+CC), 0.2% AEP and PMF flood events identifying flood and drainage constraints for Area 1 and Area 3. It also nominated recommended flood planning levels for the RJP Area 1 and Area 3. The flood inundation of RJP Area 3 during regional flood events mainly enters Area 3 from the west and south of the site. The 1% AEP + climate change level at the Activity area is 21.3 mAHD. The Bruxner Highway has been filled and road centreline has a level ranging from 21.0 mAHD to 21.8 m AHD.

5.2.2 Potential Impacts


5.2.2.1 Soils

There is negligible risk that the Activity will impact any acid sulfate soils or contaminated land.

5.2.2.2 Water Quality

The Activity is approximately 400 m north of the Richmond River, presenting a low risk to water quality. The potential impacts to water quality, soils and erosion that could arise from the proposal include:

- Erosion and sediment disturbance.
- Pollution of local water quality (both ground and surface water) from pollutants off machinery and construction materials and spills.
- A variety of dispersible liquid materials would be used which pose a potential pollutant threat to local water quality. These liquids include, but are not limited to, diesel, unleaded petrol, machinery oils and lubricants. The nature of these liquids and their ability to disperse away from the work site means that they could have a negative impact on ground or surface water on or adjacent to the site, especially during rain.
- Periods of high rainfall or flood could exacerbate potential water quality impacts if works are in progress during such an event.



Whilst the works could pose risk, such risks can be suitably minimised and managed by implementing appropriate safeguards and mitigation measures.

5.2.2.3 Flooding

The Activity is within the floodplain of the Richmond River; however, the Bruxner Highway has previously been filled and is above the modelled 1% AEP flood level. The Activity involves some minor filling to widen the road formation. The impact of that filling would be minor. The Activity is not anticipated to result in any increased risk to human life or result in additional economic and social costs arising from damage to property from flooding.

5.2.3 Safeguards and Mitigation Measures

The following measures will be implemented in order to prevent adverse impacts relating to water quality and to mitigate the impact of flooding:

7. Where possible, avoid works during forecast high rainfall events and plan works to occur during periods of no or low flow.
8. Erosion and sediment controls would be implemented in accordance with the Landcom/ Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book).
9. Works would only commence once all erosion and sediment controls have been established. The controls would be maintained in place until the works are complete, and all exposed erodible materials are stabilised.
10. Only clean equipment and vehicles would be used, with equipment being cleaned down before being brought to the site.
11. A spill containment kit will be available at all times. All personnel will be made aware of the location of the kit and trained in its effective deployment.
12. Any required fuels and other liquids will be stored in self-safe chemical storage containers.
13. All equipment will be maintained in good working order and operated according to manufacturer's specification.
14. No waste and/ or wastewater will be discharged directly or indirectly in drains or watercourses.
15. An unexpected, contaminated land find procedure shall be developed for the works. In the event contaminated materials are encountered the EPA will be notified immediately in response to incidents causing or threatening actual or potential harm to the environment in accordance with section 148 of the POEO Act (via EPA Environment Line on 131 555).

5.3 Non-Aboriginal (European) Heritage

5.3.1 Existing Environment

The NSW Government's State Heritage Inventory online mapping system displays World, Commonwealth, State and Local heritage places or items. The website was viewed in relation to the site, finding that there are no heritage listed places or items near the site. The nearest site is the Fig Tree Planting on East Street, Casino, approximately 1.7 km west of the Activity.

As part of the Richmond Valley RJP, a Heritage Report was prepared by ERM. The Heritage Report states that the township of Casino was laid out in 1855. The report identified the Richmond River as an unlisted heritage item. This finding resulted in the RJP Johnston Street sub precinct being modified to remove land south of the Bruxner Highway. The Activity is 370 m away from the Richmond River.



5.3.2 Potential Impacts

The Activity will not impact on any non-Aboriginal heritage places or items. The Activity will be constructed to a high-quality standard, which will improve the area surrounding the intersection. All areas that would be disturbed as part of the Activity have been previously disturbed for existing facilities. It is highly unlikely that any unidentified non-indigenous heritage items are located within the disturbance area. Safeguards are provided to ensure any heritage items uncovered during the Activity are not significantly affected.

5.3.3 Safeguards and Mitigation Measures

The following safeguards and management measures would be implemented in order to prevent adverse impacts to any items of non-indigenous or indigenous heritage:

16. Should non-Indigenous heritage items be uncovered during works, the stop work provision should be applied, in line with the requirements of the NSW *Heritage Act 1977* if any unexpected archaeological items are found or exposed during construction of the new footpath and associated works. An appropriate qualified heritage professional and an archaeologist should be engaged to assess the finds and advise on their management.

5.4 Aboriginal Heritage

5.4.1 Existing Environment

According to the Heritage Report prepared by ERM for the RJP, the Bandjalung people were the principal group occupying the Richmond River catchment at the time of European occupation. The inhabitants of the Casino area were part of this wider linguistic group. The Bandjalung people consisted of some twenty distinct dialects in a language spoken from the Logan River in the north in Queensland, south to the Clarence River and westwards to Tenterfield. Casino was occupied by the dialect group known as the Galibal, a distinct group that occupied territory between the McPherson Range in the north, around the Shannon Brook and Mongogare Creek tributaries of the Richmond River in the south, the limits presented by the Richmond Range to the west and the Tweed and Mackellar Ranges to the east.


ERM's survey of the Activity area found no historic heritage values or Aboriginal heritage values. The RJP Investigation Area as a whole forms a component of a cultural landscape associated with Aboriginal use of the Casino area for a number of cultural and subsistence based activities. The majority of the RJP was primarily associated with travel and resource gathering areas. Precinct 1 in particular was identified to be likely to demonstrate significant cultural values which may include a connection to the 'Black Swan' song line which was considered likely to have been utilised heavily by past Aboriginal people based on the large number of CMTs in the area, the accessibility of resources associated with the current wetland environment and the proximity of the location to the Casino Bora Ground Aboriginal Place. A number of culturally significant places included known former campsites, birthing places, song lines and ceremonial landscapes were present across Casino and the wider region however these features were not identified to be located spatially within the Richmond Valley RJP Investigation Area.

5.4.2 Potential Impacts

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* provides an assessment process to determine if the proposed activity may harm Aboriginal objects and to determine whether an Aboriginal Heritage Impact Permit (AHIP) is required.

Table 5.1 Generic Due Diligence

Generic Due Diligence Process		Proposed Activity
1	<p>Will the activity disturb the ground surface?</p> <p>Disturbed land is defined under the code as: <i>Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable.</i></p> <p>Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks.</p>	<p>Yes. The Activity involves reconstructing 460 m of the Bruxner Highway and creating a roundabout at the existing intersection, which will require ground disturbance.</p> <p>However, the site is already highly modified and disturbed. No culturally modified trees will be disturbed.</p>
2a	AHIMS Database	A search of the AHIMS database revealed that there are no registered sites within or immediately near the subject site on which the works are proposed (refer to Appendix E).
2b	<p>Is the activity:</p> <ul style="list-style-type: none"> - within 200 m of waters. - located within a sand dune system. - located on a ridge top, ridge line or headland. - located within 200 m below or above a cliff face. - within 20 m of or in a cave, rock shelter, or a cave mouth. - is on land that is not disturbed land. <p>If after completing steps 2a and 2b it is reasonable to conclude that there are no known Aboriginal objects or a low probability of objects occurring in the area of the proposed activity, you can proceed with caution without applying for an AHIP</p>	<p>The site is not within 200 m of the Richmond River. It is not within a sand dune system, ridge top, ridge line or headland. It is not located within 20 m of or in a cave, rock shelter or a cave mouth. The site is disturbed land.</p> <p>The Activity is road upgrade works. The land upon which the works are proposed is unlikely to retain any potential undiscovered archaeological sites or heritage items.</p>
3	Can you avoid harm to the object or disturbance of the landscape feature	This step only applies if the activity is on land that is not disturbed land or contains known Aboriginal objects.
4	Desktop assessment and visual inspection	Only applies if the activity is on land that is not disturbed land or contains known Aboriginal objects.
5	<p>Further investigations and impact assessment</p> <p>If after a detailed investigation and impact assessment has been undertaken and that harm would occur to Aboriginal objects, then an AHIP application must be made.</p>	Only applies if the activity is on land that is not disturbed land or contains known Aboriginal objects.



Given the above it is reasonable to conclude that there are no known Aboriginal objects within the Activity footprint. The generic due diligence process indicates the proposed activity can proceed without applying for an AHIP. Standard safeguards for unexpected finds would be implemented as per below.

5.4.3 Safeguards and Mitigation Measures

17. If Aboriginal cultural material is identified on site, a Stop Work Procedure will be followed, which includes:
 - Works will cease immediately.
 - A temporary exclusion zone established.
 - RVC project manager and the Casino-Boolangle Local Aboriginal Land Council (LALC) will be contacted immediately.
 - Heritage NSW contacted immediately.
18. Human remains – should skeletal material be exposed during ground disturbance, work will cease immediately, and contact made with NSW Police. The police then make the decision whether the remains are European, Aboriginal or something else. If deemed to be Aboriginal, then Heritage NSW and Casino-Boolangle LALC is to be contacted.
19. Notifying Heritage NSW – it is a legislative requirement that cultural heritage materials uncovered as a result of the Proposal are registered as Aboriginal sites with the Heritage NSW on the AHIMS database within the required timeframe.

5.5 Visual Impact

5.5.1 Existing Environment

The Activity is located on the eastern fringe of Casino, in a rural environment. When driving on the Bruxner Highway at the location of the proposed roundabout, there are emerging views of urban development to the west. Views to the north, south and east are of pasture lands, with some remnant trees scattered throughout. There are distant views of a low mountain range to the north. At the location of the Activity, the Bruxner Highway is a two-lane two-way asphalt-sealed rural road in good condition. Patricia Street has the appearance of an unsealed rural driveway. The visual environment is typical of a rural environment, providing a moderate amount of visual amenity.

5.5.2 Potential Impacts

Some short-term visual changes will occur including the presence of construction fencing, plant and equipment associated with an active construction zone. Upon completion of the works, there will be a modest change in the visual environment. There will be a medium sized roundabout at the intersection of the Bruxner Highway and Patricia Street, with stubs for the future extension of Patricia Street and the construction of a new road to the south. The Crepe Myrtle street trees will also be removed. While the change would be noticed, it will not detract from any views or vistas and will have a minimal impact on visual amenity as it is consistent with the existing road environment and associated visual characteristics.



5.5.3 Safeguards and Mitigation Measures

The following measures will be implemented to prevent and/ or minimise adverse impacts relating to visual amenity:

20. All working areas would be maintained, kept free of rubbish, and cleaned up at the end of each working day.
21. Soil disturbance would be minimised where possible and disturbed areas at risk of erosion stabilised progressively.
22. Vegetation removal would be minimised and limited to the extent necessary to achieve the design requirements of the works.
23. Upon completion of the works, any works areas would be restored to an acceptable visual state.

5.6 Noise and Vibration

5.6.1 Existing Environment

The Activity is located within a rural environment, on the eastern fringe of Casino. Noise at the site would consist of vehicles driving and machinery operating on the rural land. The nearest residences are located at 18 Patricia Street, which is approximately 100 m away from the proposed site compound area, and at Lot 1 DP772606, which is over 250 m away from the Activity area.

5.6.2 Potential Impacts

Noise or vibration from the Activity would be associated with both the temporary construction phase and the operational phase.

The noise and vibration during construction will be typical of that associated with road construction works and would result from the work personnel and the use of machinery, equipment, and vehicles. This will result in noise and possible vibration emissions within the immediate area and has potential to affect nearby sensitive receivers. Appropriate noise and vibration management measures would be documented in a Construction Environmental Management Plan (CEMP) and implemented to minimise the impact and ensure receivers are informed of the works.

The noise and vibration impact of the Bruxner Highway, once operational, will be slightly different, as vehicles will be signed to slow to 50 km/hr approximately 265 m east of the proposed intersection, rather than in the current location, which is 270 m west of the proposed intersection. This will shift the noise impact of vehicles slowing further to the east, potentially impacting on the dwelling at 2700 Bruxner Highway (Lot 1 DP706664). However, there would also be signage indicating the upcoming speed limit change prior to that. And as there are no steep gradients or tight turns in the road, there is no reason for sudden vehicle braking which would generate excessive noise.

Overall, it is possible for noise and vibration to adversely affect close receivers if high noise and vibration generating works occur in proximity. However, due to the nature of the works and short construction duration, no significant impacts are expected. Adequate safeguards and mitigation would be implemented to avoid or minimise potential noise and vibration.



5.6.3 Safeguards and Mitigation Measures

The following mitigation measures would be implemented in order to address adverse impacts relating to noise and vibration:

24. Construction activities would be restricted to the following times where possible:

Monday to Friday	7:00 am to 6:00 pm.
Saturday	8:00 am to 1:00 pm.
Sundays or public holidays	No work.

25. Appropriate noise and vibration management measures would be documented in a Construction Environmental Management Plan (CEMP) and implemented to minimise the impact and ensure receivers are informed of the works.

26. Notification or liaising by the site supervisor of adjacent residents should occur including the anticipated duration of such works at least two weeks prior to undertaking the works. All notified receivers would be provided with a contact telephone number for any complaints/ updates associated with the proposed works.

27. Extensive periods of continuous operation of noisy machinery would be avoided where possible.

28. Noise complaints would be recorded, including suitable identification/ description of the noise source (e.g., continual/ impulsive) and general location of the complaint. Any noise complaints would be investigated and actioned as required.

29. All works shall be in accordance with best practices of the EPA guidelines: Interim Construction Noise Guideline.

5.7 Traffic and Access

5.7.1 Existing Environment


The site is located on the eastern fringe of Casino, on the main route between Casino and Lismore. The site is defined as the area of works shown in the detailed design plans, which includes the intersection itself, approximately 200 m of the Bruxner Highway extending to the east and west, 40 m of Patricia Street extending north, and a new road stub extending 20 m or so to the south.

The sign posted speed limit at the site is 100 km/h, reducing to 50 km/h 280 m west of Patricia Street (i.e. approximately 80 m west of the study site). There are '50 km Ahead' signs approximately 100 m west of Patricia Street.

Patricia Street intersects the Bruxner Highway on the outside on a curve with an approximate radius of 200 m. There are no dedicated turning lanes into Patricia Street, and the intersection appears to have basic left and right turn treatments. There is at least 300 m of clear sight distance in both directions.

Patricia Street currently comprises a 3-4 m wide unsealed gravel pavement seemingly providing access to a single rural property. There is a sign on the western side of pavement advertising the Casino Motor Inn to eastbound traffic.

Within the study area, the Bruxner Highway is currently a two-lane two-way asphalt-sealed rural road in good condition. Each lane is approximately 3.5 m wide with 1.5 m wide sealed shoulders on both sides. Solid white lines mark the outside edges of the lanes, and the centreline is marked with double broken lines, allowing for overtaking in both directions. The carriageway also includes raised reflective pavement markers along the centreline and edgelines and guideposts adjacent to the shoulder.



As the Bruxner Highway is a classified road, RVC have a Works Authorisation Deed (WAD) in place from Transport for NSW. The WAD provides RVC with authorisation to carry out the Activity.

5.7.2 Potential Impacts

The construction methodology of the Activity will allow traffic to continue to utilise the Bruxner Highway and for the occupants of 18 Patricia Street to continue to access their property. During construction, traffic on the Bruxner Highway will be slowed and directed on to the road shoulder whilst one half of the roundabout is constructed. Upon completion, this will be mirrored to construct the other half of the roundabout. Overall, the impact to traffic during construction will be some minor delay.

Once operational, the new roundabout will shift the point at which traffic slows to 50 km/hr when entering into Casino around 600 m to the west and will therefore increase travel time to Casino in a very minor way. A Road Safety Audit will be done to ensure that the proposed intersection has been designed to be functional and safe for all road users.

5.7.3 Safeguards and Mitigation Measures

The following mitigation measures would be implemented in order to prevent adverse impacts relating to traffic and access:

30. All works would be undertaken under an approved Traffic Control and Access Plan that encompasses all movements to and from the site to manage construction vehicle and pedestrian movements.
31. Temporary fencing will be erected around the works area and site compound (if necessary) to delineate the works zone from the public use areas.
32. In the unlikely event of a requirement to alter existing access to a site or close a road, sufficient and appropriate notification would be provided to the affected traffic users.
33. Regard to public safety would be always maintained.
34. Appropriate signage would be erected, and details would be confirmed by appropriate RVC personnel responsible for site safety during the Activity.

5.8 Air Quality

5.8.1 Existing Environment

The site is located on the fringe of the regional town of Casino, where land uses are rural. The works are within the Bruxner Highway and Patricia Street road reserves. Potential airborne particles within the locality are largely restricted to vehicle emissions and minor dust generated by farming activities.

5.8.2 Potential Impacts

The Activity may temporarily affect air quality through exhaust emissions from machinery and associated transportation. There may also be dust generated during earthworks. There is potential that emissions and dust generated from the works may result in air quality impacts to adjacent sensitive receivers. However, given the temporary duration of the works and nature of the Activity, the level of potential impact is not considered significant and can be managed or minimised through implementation of safeguards and management measures.

The Activity would contribute to greenhouse gas emissions to a minor extent via the emissions from construction equipment and traffic, as well as the consumption of materials requiring carbon



emissions. Given the scale of the works however, the influence on greenhouse gas emissions would be negligible. However, it is appropriate to implement measures that can reduce or minimise such effects.

5.8.3 Safeguards and Mitigation Measures

- 35. No materials would be burnt on site.
- 36. Construction works will not be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely.
- 37. Vehicles transporting waste or other materials that may produce dust would be covered during transportation.
- 38. Vehicles, machinery, and equipment would be maintained in accordance with manufacturer's specifications in order to meet the requirements of the POEO Act 1997 and associated regulations.
- 39. Machinery and vehicles not in use during construction would be turned off and not left unnecessarily run idle.

5.9 Socio Economic

5.9.1 Existing Environment

The Activity is located within the Bruxner Highway and Patricia Street road reserves. Currently, the environment is rural, however the Activity area adjoins the Richmond Valley Regional Job Precinct – Johnston Street sub precinct. The masterplanning and rezoning process for this land is currently underway.

5.9.2 Potential Impacts

The Activity is occurring to facilitate development of the Richmond Valley Regional Job Precinct, which will have a significant positive socio-economic impact on the Casino community and beyond. The RJP will facilitate the growth of industry, agribusiness and manufacturing in Casino. It will support the NSW Government's 20-year vision for Regional NSW.


The extent of the disturbance area to construct the roundabout is relatively small, and will not result in any significant negative environmental impacts, as discussed in Section 5 of this REF.

Some minor nuisance related impacts, such as noise, vibration and traffic delay could be experienced during the works; however, these would generally be relatively minor and would not be of a long term duration. The Activity is unlikely to cause negative socio-economic impacts such as significant disruption to businesses, traffic, or access during construction.

5.9.3 Safeguards and Mitigation Measures

The following safeguards and management measures would be implemented to prevent adverse social impacts:

- 40. Temporary signage is required to indicate the duration of works and alternative location of hall access.
- 41. Complaints received would be recorded and attended to promptly, and any potentially impacted parties or landholders would be notified/ consulted prior to construction with a goal of minimising or eliminating any adverse impacts.

- 
42. In accordance with the *Work Health and Safety Act 2011*, workers would be provided with appropriate safety clothing and equipment. Supervisory staff and any visitors to the work area would also be required to wear protective clothing. Works personnel would be provided with or expected to have protective equipment and appropriate training.
 43. Contractors/ workers would be mindful of the needs of the local community.
 44. Prior to undertaking any excavation works all underground services will need to be clearly located. Any potential services interruptions shall be communicated to the relevant services authorities to enable flow on notifications to any affected services customers.
 45. Any changes to the public or private roads as a result of the works will be reinstated to an acceptable standard upon completion of the works.

5.10 Waste

5.10.1 Existing Environment

The Activity is located within the Bruxner Highway and Patricia Street road reserves. Waste located within this area would be very minor and would include general litter thrown from vehicles.

5.10.2 Potential Impacts

The Activity would be undertaken to ensure minimal impacts are generated from waste produced on-site by ensuring that all waste is managed appropriately. Waste generated from the Activity may include, but is not limited to:

- Concrete and asphalt waste.
- Packaging materials.
- General site rubbish.
- Oils and grease from machinery.
- Soil spoils.

The Activity would be undertaken to ensure minimal impacts are generated from waste material produced on site by ensuring that waste is firstly minimised and that any waste generated is collected and disposed of, or recycled, in accordance with RVC waste disposal protocols and EPA guidelines.

5.10.3 Safeguards and Mitigation Measures

The following safeguards and management measures would be implemented in order to prevent adverse impacts in relation to waste generated by the Activity:

46. Concreting activities onsite will require use of bunded concrete washout facilities, and no excess concrete waste shall be left onsite at the completion of works.
47. Working areas would be maintained, kept free of rubbish, and cleaned up at the end of each day.
48. Waste material would not be left on-site once the works have been completed.
49. Ensure the responsible environmental management of wastes that cannot be avoided and promote opportunities for the re-use of waste products where appropriate.
50. Waste would be disposed of at a licensed waste or recycling facility as appropriate.



5.11 Cumulative Impacts

Under the Department of Planning and Environment's Guidelines for Division 5.1 Assessments (June 2022), any cumulative environmental effect with other existing or likely future activities must be considered when assessing the impact of an activity for the purposes of Part 5 of the EP&A Act.

The Activity is relatively minor in scale and nature. It is not expected to contribute to any notable adverse cumulative impacts.

A review of Council's DA tracker identified no recently submitted, or approved development applications in the Casino area that have the potential, when combined with the Activity, to have a significant cumulative impact on the locality.

5.12 Ecologically Sustainable Development

The objectives of the EP&A Act require that the principles of Ecologically Sustainable Development (ESD) are considered and evaluated in the environmental assessment process and in the determination of a development application. Whilst a development application is not required for this project, consideration of these principles is still considered.

5.12.1 Precautionary Principle

Section 193 of the Environmental Planning and Assessment Regulation 2021 states that "the 'precautionary principle', namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In applying the precautionary principle, public and private decisions should be guided by:

- careful evaluation to avoid, wherever practicable, serious, or irreversible damage to the environment; and,
- an assessment of the risk-weighted consequences of various options".

To satisfy the precautionary principle, this REF has conducted a thorough analysis of potential environmental, economic, and social concerns. This assessment has identified and examined potential impacts and developed appropriate mitigation measures and safeguards to help avoid and/or minimise any impacts and safeguard the environment. Considering this assessment's findings, the Activity is unlikely to impose significant and/or long-term adverse impacts on the environment, economy, or community. The mitigation measures and safeguards outlined in this REF would be implemented to ensure sound environmental outcomes in all aspects of the Activity.

5.12.2 Inter-generational Equity

The EP&A Regulations 2021 defines the inter-generational equity as the following:

That the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

Local environmental values would not be substantially adversely affected by the Activity and would be maintained for future generations. The Activity would support long-term socio-economic benefits.



5.12.3 Conservation of Biological Diversity and Ecological Integrity

The EP&A Regulations 2021 defines the conservation of biological diversity and ecological integrity as the following:

That conservation of biological diversity and ecological integrity should be a fundamental consideration.

The impacts to ecological integrity and conservation of biological diversity at the site have been assessed as part of this REF. No threatened species, endangered populations or TECs are likely to be significantly affected by the Activity. No populations of native species are likely to be made locally rare or unviable as a result of the Activity. Consequently, the ecological integrity and biological diversity would be maintained locally.

5.12.4 Improved Valuation, Pricing, and Incentive Mechanisms

The EP&A Regulations 2021 defines improved valuation, pricing, and incentive mechanisms as the following:

(6) The principle of improved valuation, pricing and incentive mechanisms is that environmental factors should be included in the valuation of assets and services, such as—

(a) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement, and

(b) the users of goods and services should pay prices based on the full life cycle of the costs of providing the goods and services, including the use of natural resources and assets and the ultimate disposal of waste, and

(c) established environmental goals should be pursued in the most cost effective way by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

The Proponent has taken an approach to manage the potential environmental impacts of the Activity by identifying appropriate measures and safeguards to avoid or mitigate adverse environmental effects. This would ensure that the integrity of the environment is not degraded, is managed and where possible enhanced.



6. Environmental Management

6.1 Summary of Safeguards and Management Measures

Environmental safeguards outlined in this document aim to minimise any potential adverse impacts arising from the Activity on the surrounding environment. The safeguards and management measures are summarised in **Table 6.1**. The identified measures would be incorporated by the Contractor into a CEMP prior to commencement of works, which also outlines how risks would be minimised, and the construction processes would be undertaken and managed. The objective of the CEMP is to outline parameters for site management practices during construction. All construction staff and site personnel would be inducted and made aware of their obligations working on the project, their environmental responsibilities, and the safeguard measures to avoid and minimise potential impacts. Induction and toolbox talks would commence early in the program and continue as new personnel/contractors are engaged.

Table 6.1 Summary of Site-Specific Environmental Safeguards

<i>Environmental Attribute</i>	<i>Safeguards/Mitigation Measures</i>
Biodiversity	<ol style="list-style-type: none">1. The limit of works will be clearly marked, including no-go flagging where it adjoins the riparian vegetation.2. All vegetation will be retained beyond the limit of works.3. Stockpiles will not be placed within the dripline of retained native vegetation.4. All plant, equipment and personnel will be free of soil and potential weed propagules prior to being brought to the site.5. Should injured fauna be found on the site, local wildlife care groups and/ or local veterinarians will be contacted immediately, and arrangements made for the immediate welfare of the animal. The phone number of the local WIRES group (Ph: 1300 094 737) will be known to the project manager.6. If unexpected threatened/ vulnerable fauna or flora species are discovered, stop works immediately and notify the relevant Project Manager and refer to an ecologist before works can continue.
Water Quality, Flooding and Soil	<ol style="list-style-type: none">7. Where possible, avoid works during forecast high rainfall events and plan works to occur during periods of no or low flow.8. Erosion and sediment controls would be implemented in accordance with the Landcom/ Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book).9. Works would only commence once all erosion and sediment controls have been established. The controls would be maintained in place until the works are complete, and all exposed erodible materials are stabilised.10. Only clean equipment and vehicles would be used, with equipment being cleaned down before being brought to the site.11. A spill containment kit will be available at all times. All personnel will be made aware of the location of the kit and trained in its effective deployment.12. Any required fuels and other liquids will be stored in self-safe chemical storage containers.13. All equipment will be maintained in good working order and operated according to manufacturer's specification.14. No waste and/ or wastewater will be discharged directly or indirectly in drains or watercourses.15. An unexpected, contaminated land find procedure shall be developed for the works. In the event contaminated materials are encountered the EPA will be notified immediately in response to incidents causing or threatening actual or



Environmental Attribute	Safeguards/Mitigation Measures
	potential harm to the environment in accordance with section 148 of the POEO Act (via EPA Environment Line on 131 555).
Non-Aboriginal (European) Heritage	16. Should non-Indigenous heritage items be uncovered during works, the stop work provision should be applied, in line with the requirements of the NSW <i>Heritage Act 1977</i> if any unexpected archaeological items are found or exposed during construction of the new footpath and associated works. An appropriate qualified heritage professional and an archaeologist should be engaged to assess the finds and advise on their management.
Aboriginal Heritage	17. If Aboriginal cultural material is identified on site, a Stop Work Procedure will be followed, which includes: <ul style="list-style-type: none"> – Works will cease immediately. – A temporary exclusion zone established. – RVC project manager and Casino-Boolangle Local Aboriginal Land Council (LALC) will be contacted immediately. – Heritage NSW contacted immediately. 18. Human remains – should skeletal material be exposed during ground disturbance, work will cease immediately, and contact made with NSW Police. The police then make the decision whether the remains are European, Aboriginal or something else. If deemed to be Aboriginal, then Heritage NSW and the Casino-Boolangle LALC is to be contacted. 19. Notifying Heritage NSW – it is a legislative requirement that cultural heritage materials uncovered as a result of the Proposal are registered as Aboriginal sites with the Heritage NSW on the AHIMS database within the required timeframe.
Visual	20. All working areas would be maintained, kept free of rubbish, and cleaned up at the end of each working day. 21. Soil disturbance would be minimised where possible and disturbed areas at risk of erosion stabilised progressively. 22. Vegetation removal would be minimised and limited to the extent necessary to achieve the design requirements of the works. 23. Upon completion of the works, any works areas would be restored to an acceptable visual state.
Noise and vibration	24. Construction activities would be restricted to the following times: Monday to Friday 7:00 am to 6:00 pm. Saturday 8:00 am to 1:00 pm. Sundays or public holidays No work. 25. Appropriate noise and vibration management measures would be documented in a Construction Environmental Management Plan (CEMP) and implemented to minimise the impact and ensure receivers are informed of the works. 26. Notification or liaising by the site supervisor of adjacent residents should occur including the anticipated duration of such works at least two weeks prior to undertaking the works. All notified receivers would be provided with a contact telephone number for any complaints/ updates associated with the proposed works. 27. Extensive periods of continuous operation of noisy machinery would be avoided where possible. 28. Noise complaints would be recorded, including suitable identification/ description of the noise source (e.g., continual/ impulsive) and general location of the complaint. Any noise complaints would be investigated and actioned as required. 29. All works shall be in accordance with best practices of the EPA guidelines: Interim Construction Noise Guideline.
Traffic and access	30. All works would be undertaken under an approved Traffic Control and Access Plan that encompasses all movements to and from the site to manage construction vehicle and pedestrian movements.



Environmental Attribute	Safeguards/Mitigation Measures
	<p>31. Temporary fencing will be erected around the works area and site compound (if necessary) to delineate the works zone from the public use areas.</p> <p>32. In the unlikely event of a requirement to alter existing access to a site or close a road, sufficient and appropriate notification would be provided to the affected traffic users.</p> <p>33. Regard to public safety would be always maintained.</p> <p>34. Appropriate signage would be erected, and details would be confirmed by appropriate RVC personnel responsible for site safety during the Activity.</p>
Air quality	<p>35. No materials would not be burnt on site.</p> <p>36. Construction works will not be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely.</p> <p>37. Vehicles transporting waste or other materials that may produce dust would be covered during transportation.</p> <p>38. Vehicles, machinery, and equipment would be maintained in accordance with manufacturer's specifications in order to meet the requirements of the POEO Act 1997 and associated regulations.</p> <p>39. Machinery and vehicles not in use during construction would be turned off and not left unnecessarily run idle.</p>
Socio-economic	<p>40. Temporary signage is required to indicate the duration of works and alternative location of amenities.</p> <p>41. Complaints received would be recorded and attended to promptly, and any potentially impacted parties or landholders would be notified/ consulted prior to construction with a goal of minimising or eliminating any adverse impacts.</p> <p>42. In accordance with the <i>Work Health and Safety Act 2011</i>, workers would be provided with appropriate safety clothing and equipment. Supervisory staff and any visitors to the work area would also be required to wear protective clothing. Works personnel would be provided with or expected to have protective equipment and appropriate training.</p> <p>43. Contractors/ workers would be mindful of the needs of the local community.</p> <p>44. Prior to undertaking any excavation works all underground services will need to be clearly located. Any potential services interruptions shall be communicated to the relevant services authorities to enable flow on notifications to any affected services customers.</p> <p>45. Any changes to the public or private roads as a result of the works will be reinstated to an acceptable standard upon completion of the works.</p>
Waste	<p>46. Concreting activities onsite will require use of bunded concrete washout facilities, and no excess concrete waste shall be left onsite at the completion of works.</p> <p>47. Working areas would be maintained, kept free of rubbish, and cleaned up at the end of each day.</p> <p>48. Waste material would not be left on-site once the works have been completed.</p> <p>49. Ensure the responsible environmental management of wastes that cannot be avoided and promote opportunities for the re-use of waste products where appropriate.</p> <p>50. Waste would be disposed of at a licensed waste or recycling facility as appropriate.</p>



6.2 Licensing and Approvals

RVC has obtained a Works Authorisation Deed (WAD) from TfNSW to construct the roundabout on the Bruxner Highway, which is a classified road. The WAD provides authorisation for RVC to carry out the works, subject to the terms of the WAD.

No other licences or approvals are required.

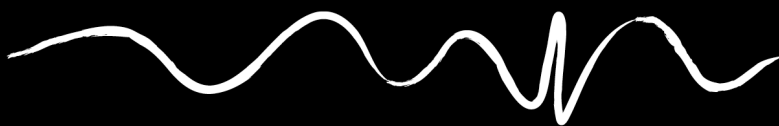
7. Summary of Consideration of Environmental Factors

7.1 Environmental Factors to be Considered


As part of its obligation under Section 5.5 of the EP&A Act, the determining authority is required to take into account, to the fullest extent possible, all matters likely to affect the environment. This REF has considered the relevant assessment considerations in the Division 5.1 Guidelines approved under Section 170, and as per Section 171(1), of the EP&A Regulation, provided below. **Table 7.1** provides a summary of the key issues relevant to each factor and the key mitigation measures proposed.

Table 7.1 Environmental Factors for Consideration as per the Division 5.1 Guidelines

	Factor	Impact
a	Any Environmental Impact on a Community	
	The community would not be affected through declines in the local environment as a result of the Activity. Mitigation measures have been designed to reduce environmental impacts on the community to negligible levels.	Negligible and minor temporary
b	Any Transformation of a Locality	
	The Activity will result in a minor change to the locality as the proposed roundabout intersection is more visually prominent than the existing roadway. The Activity will also involve the loss of up to 30 Crepe Myrtle street trees.	Minor / Moderate
c	Any Environmental Impact on the Ecosystems of the Locality	
	The ecosystems of the locality would not be affected through declines in local environmental values (e.g., biodiversity, physical environment) as a result of the Activity. The trees to be removed are small Crepe Myrtles that have to biodiversity benefit.	Negligible
d	Any Reduction of the Aesthetic, Recreational, Scientific or Other Environmental Quality or Value of a Locality	
	It is not expected that a reduction in the aesthetic quality of the locality would occur due to the Activity in the long term. No reduction in the quality of the environment would occur due to the mitigation measures detailed in this REF. No significant changes of the locality are expected to occur.	Nil
e	Any Effect on A Locality, Place or Building Having Aesthetic, Anthropological, Archaeological, Architectural, Cultural, Historical, Scientific or Social Significance or Other Special Value for Present or Future Generations	
	The Activity would not impact the existing land uses. There would be no significant impacts to heritage, visual amenity, or social significance and as such impacts are therefore considered to be negligible/ Nil.	Nil
f	Any Impact on the Habitat of Protected Fauna (Within the Meaning of the <i>National Parks and Wildlife Act 1974</i>)	
	With effective implementation of the safeguards provided in this REF, the Activity is not considered likely to have a significant negative impact on the habitat of any other protected fauna.	Negligible



	Factor	Impact
g	Any Endangering of any Species of Animal, Plant or Other Form of Life Whether Living on Land, in Water or in the Air	
	With effective implementation of the safeguards provided in this REF, the Activity is not considered likely to significantly endanger any species of animal, plant, or other form of life.	Nil
h	Any Long-Term Effects on the Environment	
	No negative long-term impacts would occur in the locality given the implementation of the proposed safeguards and measures in this REF.	Nil
i	Any Degradation of the Quality of the Environment	
	Degradation of the quality of the environment is not expected. Given the safeguards in this REF, any impacts are considered unlikely.	Nil
j	Any Risk to the Safety of the Environment	
	The Activity is unlikely to pose any significant risk to the safety of the environmental attributes outlined in Section 5 . Any possible impacts would be minimised with the implementation of the safeguards in Section 5 of this REF.	Negligible, safeguards in place to avoid/ minimise risk.
k	Any Reduction in the Range of Beneficial Uses of the Environment	
	The Activity would not result in any reduction in the range of beneficial uses of the environment.	Nil
l	Any Pollution of the Environment	
	Waste materials, fuel spills and particulate matter have the potential to cause pollution to the environment. However, given the proposed safeguards detailed in this REF and all waste being disposed within an appropriate/ approved waste disposal facility, pollution to the environment would not occur.	Minor and temporary, safeguards available to avoid and reduce risk.
m	Any Environmental Problems Associated with the Disposal of Waste	
	All waste would be disposed of in a manner which would not damage or disturb any native flora or fauna or the physical environment. The disposal of such waste would be within a waste management facility in accordance with EPA approved methods of waste disposal. Safeguards detailed in this REF would protect the environment from problems associated with waste disposal.	Nil
n	Any Increased Demands on Resources (Natural or Otherwise) that are likely to Become in Short Supply	
	The Activity does not create any demand for resources that are in short supply nor is it likely to result in an increased demand on any natural resources that are likely to become in short supply.	Nil
o	Any Cumulative Environmental Effect with Other Existing or Likely Future Activities	
	The Activity would have minor cumulative impacts (e.g., resource consumption; greenhouse gas emissions; vegetation loss) but is unlikely to significantly contribute to any cumulative impacts.	Negligible negative
p	Any impact on coastal processes and coastal hazards, including those under projected climate change conditions	
	The Activity will not impact on any coastal processes and will not be impacted by coastal hazards. No works associated with the Activity will occur within a marine park.	Negligible



	Factor	Impact
q	Any applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Ac, Division 3.1	
	The North Coast Regional Plan 2041 and the Richmond Valley Regional Job Precinct Draft Master Plan apply to the site. Carrying out improvements to infrastructure is consistent with both of these strategic planning documents.	Negligible
r	Other relevant environmental factors	
	All relevant environmental factors have been considered in this REF.	Nil

7.2 EPBC Act 1999 (Commonwealth Legislation)

The EPBC Act protects/ regulates matters of national environmental significance (MNES), including:

- World Heritage;
- National heritage places;
- Wetlands of international importance;
- Nationally threatened species and ecological communities;
- Migratory species;
- Commonwealth marine areas;
- The Great Barrier Reef Marine Park;
- Nuclear actions (including uranium mining);
- A water resource, in relation to coal seam gas development and large coal mining development.

Under the EPBC Act, a referral is required to the Australian Government for proposed 'actions that have the potential to significantly impact on matters of national environmental significance or the environment of Commonwealth land'. A database search was completed on 16 September 2024 encompassing a 10 km radius search area from the centre of the Activity area (refer to **Appendix C**). Search results following the site assessment are considered in **Table 7.2**.

Table 7.2 EPBC Act Considerations

Matter	Impact
Any impact on a World Heritage property?	
No World Heritage properties occur within 10 km of the site.	Nil
Any impact on a National Heritage place?	
Casino Post Office is listed on the Commonwealth Heritage List; however, it occurs within the 10 km buffer area and would not be impacted by the Activity.	Nil
Any impact on a wetland of international importance?	
No wetlands of international importance occur within 10 km of the site.	Nil
Any impact on nationally threatened species and ecological communities?	
The Activity is unlikely to have a significant impact on any EPBC Act listed threatened communities or species. The exception is Koala may occur within the locality. Assessment of significance concluded the Activity would not have a significant impact on any local population of Koala (refer to Appendix D).	Negligible
Any impact on a Nationally Important Wetland?	
No nationally important wetlands occur within 10 km of the site. Nationally Important Wetlands are not likely to be significantly affected by the Activity.	Nil



Matter	Impact
Any impact on Migratory species?	
Based on the minor nature of the works, no listed migratory species are likely to be significantly affected by the Activity (refer to Section 5.1).	Nil
Any impact on a Commonwealth marine area?	
No Commonwealth marine areas occur within 10 km of the site.	Nil
Any impact on the Great Barrier Reef Marine Park?	
The Great Barrier Reef Marine Park is distant from the site.	Nil
Does the Proposal involve a nuclear action (including uranium mining)?	
The Activity does not involve a nuclear action.	Nil
Any impact on a water resource, in relation to coal seam gas development and large coal mining development?	
The Activity does not involve any impact on a water resource, in relation to coal seam gas development and large mining development.	Nil
Additionally, any impact (direct or indirect) on Commonwealth land?	
The Activity is not expected to impact upon such land.	Nil

The assessment of the impact of the proposed Activity on MNES and the environment of Commonwealth land has found that there is unlikely to be significant impact on relevant MNES. Accordingly, the Activity does not require referral to the Australian Government Department of Climate Change, Energy, the Environment and Water.



8. Conclusion and Certification

The Activity involves construction of a roundabout at the intersection of the Bruxner Highway and Patricia Street in Casino. The new infrastructure is required to facilitate the development of the Richmond Valley Regional Job Precinct and improve traffic flow and safety. The Activity aims to relieve congestion at the existing intersections with the Bruxner Highway in Casino, and to provide efficient access to the future development of the Johnston Street Sub Precinct of the RJP.

The works are permitted without development consent under State Environmental Planning Policy (Transport and Infrastructure) 2021 and are defined as an Activity and subject to environmental assessment under Part 5, Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This Review of Environmental Factors has examined and considered, to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the Activity, satisfying the requirements of the EP&A Act.

The Activity may result in some short term environmental, amenity and socio-economic impacts; however, these would be minor and temporary and can be effectively minimised and managed through the implementation of the safeguards and mitigation measures provided in this Review of Environmental Factors. The Activity would have positive impacts for residents and visitors to Casino, by ensuring there is an efficient road network.



The Activity described will not affect areas of outstanding biodiversity value or Wilderness Areas. The Activity is unlikely to significantly affect threatened species or ecological communities or their habitats, within the meaning of the *Biodiversity Conservation Act 2016* or *Fisheries Management Act 1994* and therefore a Species Impact Statement (or Biodiversity Development Assessment Report (BDAR) if the Proponent elected) is not required. The Activity is also unlikely to affect Commonwealth land or have a significant impact on any matters of national environmental significance in relation to the EPBC Act.




I certify to the best of my knowledge that:

- this REF provides a true and fair review of the Activity in relation to its potential effects on the environment, and
- the assessment satisfies the requirements of Sections 5.5 to 5.7 of the EP&A Act, the EP&A Regulation 2021, including Section 171 and the *Guidelines for Division 5.1 Assessments* approved under Section 170 of the EP&A Regulation, and other relevant legislation and guidelines, and
- the assessment has been adequately completed, and
- subject to the inclusion of the safeguards/ measures included in this REF, it is reasonable to conclude that the project will not likely have a significant impact on the environment during both the construction and operation phases, and
- given the impacts of the Activity are not likely to be significant, an Environmental Impact Statement is not required under Section 5.7 of the EP&A Act, and
- a Species Impact Statement or BDAR is not required, and
- the Activity does not warrant/ require referral to the Australian Department of Climate Change, Energy, the Environment and Water under the EPBC Act, and
- the Activity is not declared State Significant Infrastructure and does not require approval under Division 5.2 of the EP&A Act.

REF Prepared by

Signature:		
Name:	Megan Smith	Sam Smith
Position:	Environmental Planner	Ecologist

REF Reviewed by

Signature:	
Name:	Jacob Sickinger
Position:	Senior Environmental Planner

9. Determining Authority Sign Off

Determining Officer (Public Authority) who Approves this REF



I certify that I have reviewed and endorsed the contents of this REF document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under section 170 of the EP&A Regulation, and the information it contains is neither false nor misleading. Based on the completed REF and my knowledge of the project, the assessment has been adequately completed, the project has predictable impacts which would not be significant, the conclusion as to the likely environmental impact of the project is reasonable, and the project can proceed subject to the relevant measures and conditions in this REF, any approval, license or permit.



The project requires additional environmental assessment.

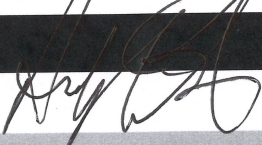
Reasons:



The project should not proceed in its current form.

Reasons:

NOTE: A site visit may be required depending on the level of confidence and risk to the environment.

Reviewed by:	
Signature	
Date:	19/12/24
Name	ANDY EDWARDS
Position	MANAGER DEVELOPMENT & CERTIFICATION
Determining Authority Name	RICHMOND VALETT COUNCIL
Determined By:	DAD



References

- Department of Regional NSW (2024). Richmond Valley Regional Job Precinct. Available: https://shared-drupal-s3fs.s3.ap-southeast-2.amazonaws.com/master-test/fapub_pdf/Richmond+Valley+Master+Plan+-+Accessible.pdf Accessed September 2024.
- NSW Planning Portal Spatial Viewer <https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address>
- Department of Agriculture, Water, and the Environment [DAWE] (2020). Australian Heritage Database [Online]. Available <http://www.environment.gov.au/cgi-bin/ahdb/search.pl> [Accessed 2021].
- Department of Environment Climate Change and Water (2010). Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales [Online] <http://www.environment.nsw.gov.au/resources/cultureheritage/ddcop/10798ddcop.pdf> [Accessed 2021].
- NSW Heritage Office (2020). State Heritage Register [Online]. Available: (<https://www.environment.nsw.gov.au/heritageapp/heritagesearch.aspx>) [Assessed 2020].
- NSW EPA (2009). Interim Construction Noise Guideline [Online]. Available (<http://www.epa.nsw.gov.au/resources/noise/09265cng.pdf>) [Accessed 2021].
- NSW OEH (2020). Aboriginal Heritage Information Management System [Online] (<http://www.environment.nsw.gov.au/licences/AboriginalHeritageInformationManagementSystem.htm>) [Accessed 2021].
- NSW Government Department of Planning, Industry and Environment. Biodiversity Values Map and Threshold Tool. <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>



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Appendix A

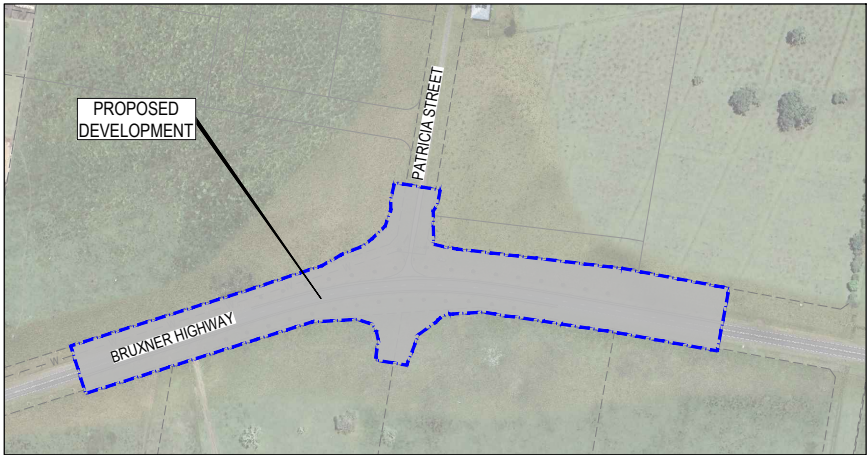
Design Plans

PROPOSED BRUXNER HIGHWAY & PATRICIA STREET ROUNDAABOUT CASINO, NEW SOUTH WALES 2470

GENERAL NOTES:

1. **CONTRACT DOCUMENTATION**
ALL DRAWINGS UNDER THIS CONTRACT ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION.
2. **SURVEY INFORMATION**
CONTROL SURVEY INFORMATION WILL BE ESTABLISHED ON SITE BY THE PRINCIPAL'S SURVEYOR. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.
3. **DATUM**
ALL LEVELS SHOWN ON DRAWINGS ARE A.H.D. (DERIVED).
4. **EXISTING SURVEY CONTROL STATIONS**
THE CONTRACTOR IS TO ENSURE THAT SURVEY CONTROL STATIONS ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY CONSTRUCTION ACTIVITIES.
5. **EXISTING SERVICES**
EXISTING SERVICES LOCATIONS WHERE SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. THE CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES AND UNDERTAKE A DIAL-BEFORE-YOU-DIG SEARCH TO ASCERTAIN THE EXACT LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING SERVICES.
6. **SITE ACCESS**
THE CONTRACTOR SHALL GAIN ACCESS TO THE SITE AT LOCATIONS APPROVED BY THE SUPERINTENDENT. FREEDOM OF ACCESS TO OTHER WORK AREAS ON THE SITE SHALL BE MAINTAINED AT ALL TIMES.
7. **PROVISION FOR TRAFFIC**
PROVISION FOR TRAFFIC ON LOCAL ROADS IS TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND LOCAL AUTHORITY REQUIREMENTS.
8. **WORK BOUNDARIES**
THE CONTRACTOR IS TO RESTRICT ACTIVITIES TO THOSE AREAS DESIGNATED AS WORK AREAS UNDER THIS CONTRACT. AT NO TIME SHALL THE CONTRACTOR ENTER ADJOINING PROPERTIES OR CONTRACT WORK AREAS ON THE SITE WITHOUT WRITTEN AUTHORISATION FROM THE SUPERINTENDENT.
9. **TOPSOIL STRIPPING**
ALL TOPSOIL STRIPPED FROM WORK AREAS SHALL BE STOCKPILED FOR LATER RE-SPREADING TO ALL FOOTPATHS, BATTERS AND ALLOTMENTS.
10. **EARTHWORKS (GENERAL)**
ALL FILL MATERIAL PLACED SHALL BE COMPACTED AND TRIMMED TO FINAL EARTHWORKS LEVELS AND PROFILES SHOWN ON THE CONTRACT DRAWINGS AND TESTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION.
ALL COMPACTION TESTING UNDER THIS CONTRACT IS TO BE CARRIED OUT TO AS3798 LEVEL 1 STANDARD BY A NATA-ACCREDITED TESTING AUTHORITY. CERTIFICATION FOR ALL EARTHWORKS CONSTRUCTION AND TESTING IS TO BE PROVIDED BY A REGISTERED PROFESSIONAL ENGINEER ENGAGED BY THE CONTRACTOR.
11. **COMPACTION STANDARDS**
ALL FILL MATERIAL PLACED UNDER THIS CONTRACT SHALL BE COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION AND CURRENT COUNCIL STANDARDS.
12. **STORMWATER DRAINAGE**
LOCATION AND ALIGNMENT OF ALL STORMWATER DRAINLINES IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO EXCAVATION. THE DESIGN SURFACE LEVELS OF MANHOLES AND OTHER STRUCTURES ARE TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT. ALL DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH COUNCIL STANDARD DRAWINGS AND SPECIFICATION.
13. **ELECTRICAL RETICULATION**
ALIGNMENTS OF ALL CONDUIT CROSSINGS ARE TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO EXCAVATION. ALL TRENCHING AND CONDUIT WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT CONSULTANT'S DRAWINGS AND ENERGEX SPECIFICATION "UNDERGROUND DISTRIBUTION CONSTRUCTION."
14. **TESTING**
ALL TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY IN ACCORDANCE WITH THE PROJECT SPECIFICATION AND COUNCIL STANDARDS.
15. **"AS CONSTRUCTED" SURVEY**
"AS CONSTRUCTED" SURVEY SHALL BE CARRIED OUT BY THE PRINCIPAL'S SURVEYOR AS WORK PROCEEDS.
16. **MAINTENANCE OF SITE CONDITION**
AT THE COMPLETION OF WORKS THE SITE IS TO BE LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT AND RELEVANT COUNCIL REPRESENTATIVE.
17. **REFERENCED DOCUMENTS**
ALL DRAWINGS TO BE READ IN CONJUNCTION WITH:
- LANDSCAPE ARCHITECTS DRAWINGS
- ELECTRICAL DRAWINGS
- VEGETATION MANAGEMENT AND TREE CLEARING REQUIREMENTS

ROADWORKS AND CIVIL SERVICES DETAILED DESIGN CONTRACT BE230077-01



LOCALITY PLAN

N.T.S.

SURVEY	
PROVIDED BY:	BYRON BAY SURVEYING PTY LTD
PROJECT No:	CAS037
DATE:	28-03-2024
SYSTEM:	MGA - GDA 2020

DRAWING INDEX	
DWG No.	DRAWING TITLE
C000	DRAWING SCHEDULE AND LOCALITY PLAN
C001	TYPICAL CROSS SECTIONS AND DETAILS - SHEET 1 OF 2
C002	TYPICAL CROSS SECTIONS AND DETAILS - SHEET 2 OF 2
C100	OVERALL LAYOUT AND KEY PLAN
C150	DEMOLITION PLAN - SHEET 1 OF 2
C151	DEMOLITION PLAN - SHEET 2 OF 2
C200	EARTHWORKS LAYOUT PLAN - SHEET 1 OF 2
C201	EARTHWORKS LAYOUT PLAN - SHEET 2 OF 2
C230	EARTHWORKS NOTES & DETAILS
C250	EROSION AND SEDIMENT CONTROL PLAN - SHEET 1 OF 2
C251	EROSION AND SEDIMENT CONTROL PLAN - SHEET 2 OF 2
C260	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C300	ROADWORKS & DRAINAGE LAYOUT PLAN - SHEET 1 OF 2
C301	ROADWORKS & DRAINAGE LAYOUT PLAN - SHEET 2 OF 2
C310	REFERENCE STRING SETOUT PLAN
C320	LONGITUDINAL SECTION BRUXNER HIGHWAY
C321	LONGITUDINAL SECTION PATRICIA STREET
C322	CROSS SECTIONS BRUXNER HIGHWAY SHEET 1 OF 3
C323	CROSS SECTIONS BRUXNER HIGHWAY SHEET 2 OF 3
C324	CROSS SECTIONS BRUXNER HIGHWAY SHEET 3 OF 3
C325	CROSS SECTIONS PATRICIA STREET
C330	PAVEMENT SCHEDULE LAYOUT PLAN - SHEET 1 OF 2
C331	PAVEMENT SCHEDULE LAYOUT PLAN - SHEET 2 OF 2
C340	CONCRETE ROUNDAABOUT PAVEMENT DETAILS - SHEET 1 OF 2
C341	CONCRETE ROUNDAABOUT PAVEMENT DETAILS - SHEET 2 OF 2
C342	OUNDAABOUT DETAILS - SHEET 1 OF 4
C343	OUNDAABOUT DETAILS - SHEET 2 OF 4
C344	OUNDAABOUT DETAILS - SHEET 3 OF 4
C345	OUNDAABOUT DETAILS - SHEET 4 OF 4
C350	ROADWORKS SIGNS AND LINEMARKING PLAN - SHEET 1 OF 2
C351	ROADWORKS SIGNS AND LINEMARKING PLAN - SHEET 2 OF 2
C400	STORMWATER CATCHMENT PLAN
C420	STORMWATER LONGITUDINAL SECTIONS
C430	STORMWATER NOTES AND DETAILS
C440	STORMWATER CULVERT DETAILS
C500	WATER RETICULATION LAYOUT
C510	WATER RETICULATION NOTES AND DETAILS

PREPARED FOR
RICHMOND VALLEY COUNCIL



PREPARED BY



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IPSWICH | MORETON BAY
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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT No.: BE230077-01	DRAWING No.: C000	VERSION: 1
-----------------------------	----------------------	---------------

DATE : 22-11-24

BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

TYPICAL CROSS
SECTIONS AND DETAILS -
SHEET 1 OF 2

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V. LE

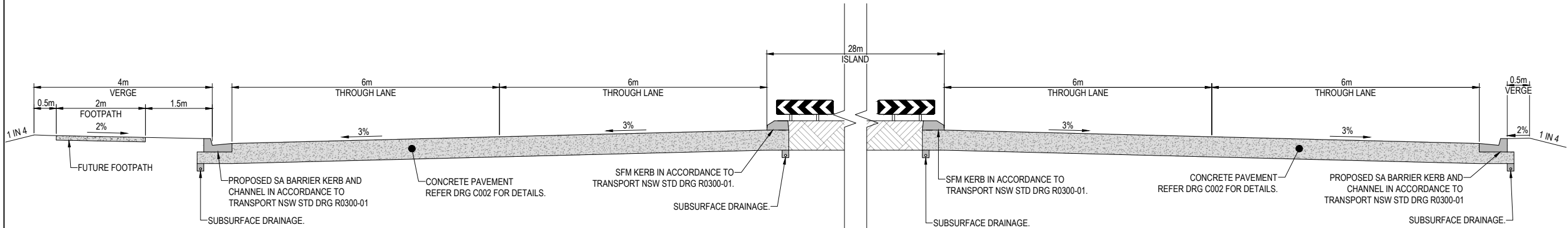
CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION:

BE230077-01 C001 1



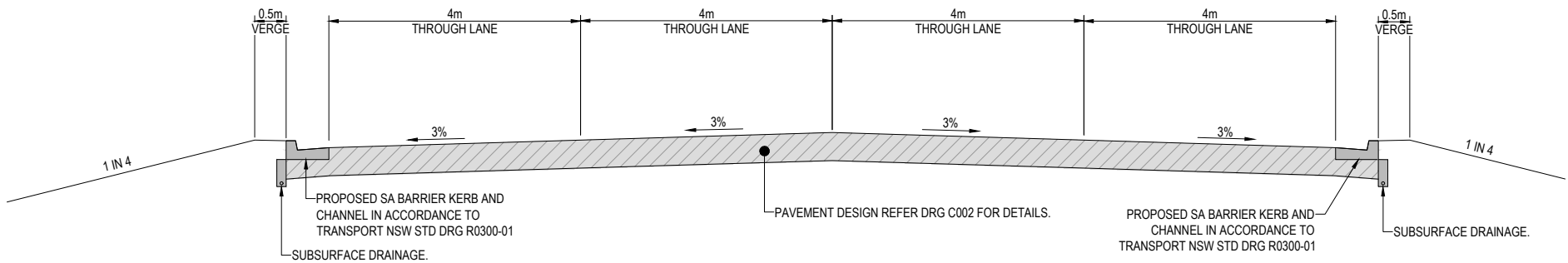
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1:50 (FULL SIZE)

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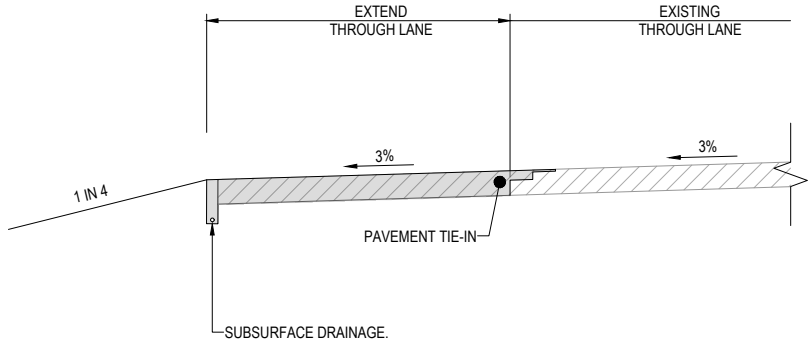
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SCALE 1:50 (FULL SIZE)

1:50 (FULL SIZE)

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BRUXNER HIGHWAY EXTENDED TYPICAL SECTION

SCALE 1:50

SCALE 1:50 (FULL SIZE)

1:50 (FULL SIZE)

1.0 0 1.0 2.0 (metres)

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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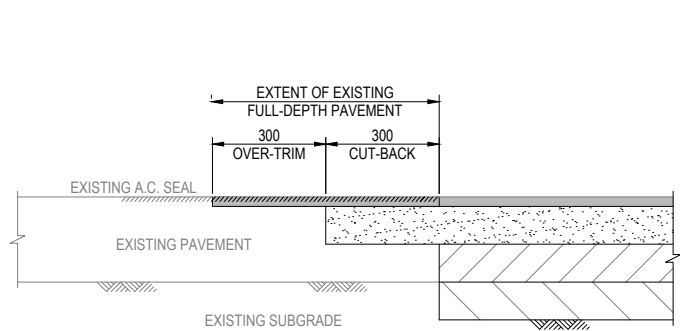
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PATRICIA STREET
ROUNDAABOUT**

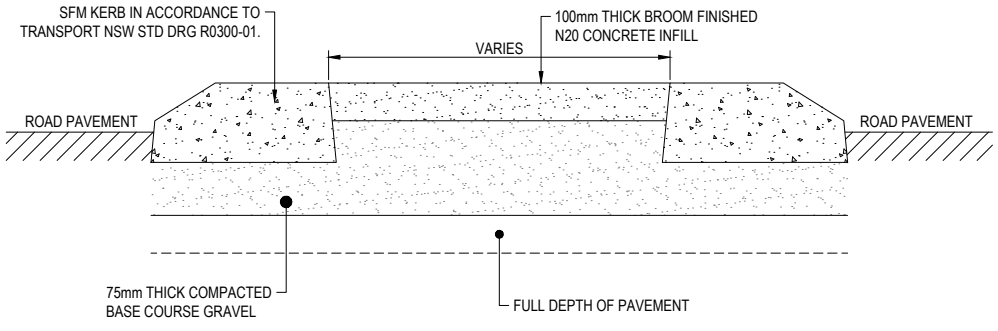
DRAWING TITLE :
**TYPICAL CROSS
SECTIONS AND DETAILS -
SHEET 2 OF 2**

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
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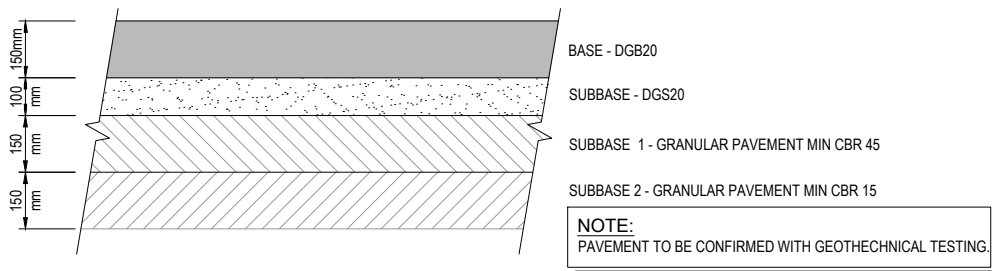
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PROJECT No. : BE230077-01	DRAWING No. : C002	VERSION: 1



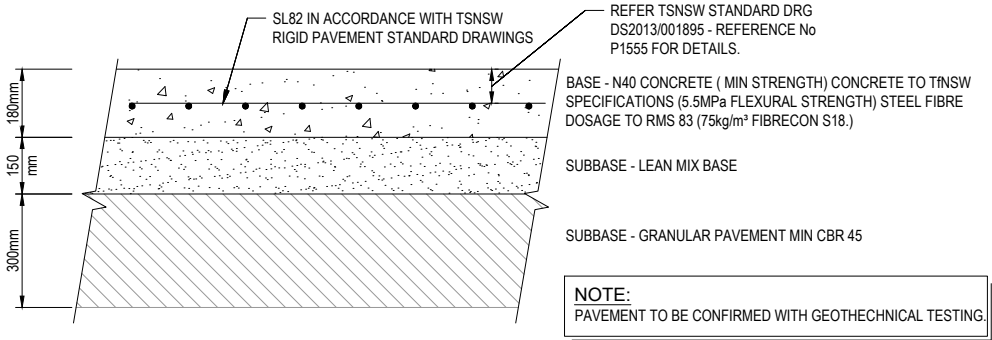
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N.T.S.



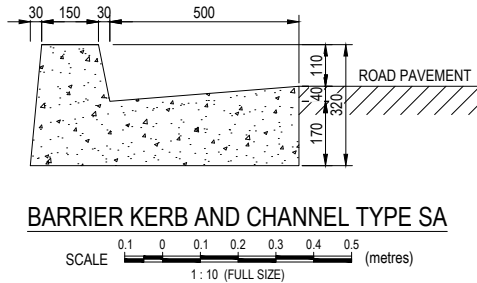
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1:10 (FULL SIZE)



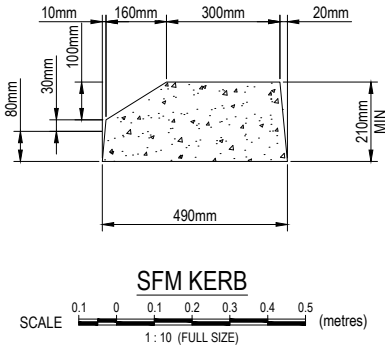
TYPICAL FLEXIBLE PAVEMENT DETAILS
NTS



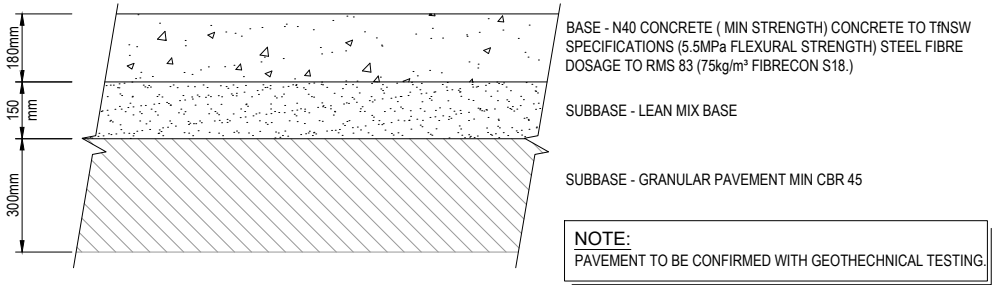
TYPICAL STEEL FIBRE REINFORCED CONCRETE PAVEMENT DETAILS
NTS



BARRIER KERB AND CHANNEL TYPE SA
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SFM KERB
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1:10 (FULL SIZE)

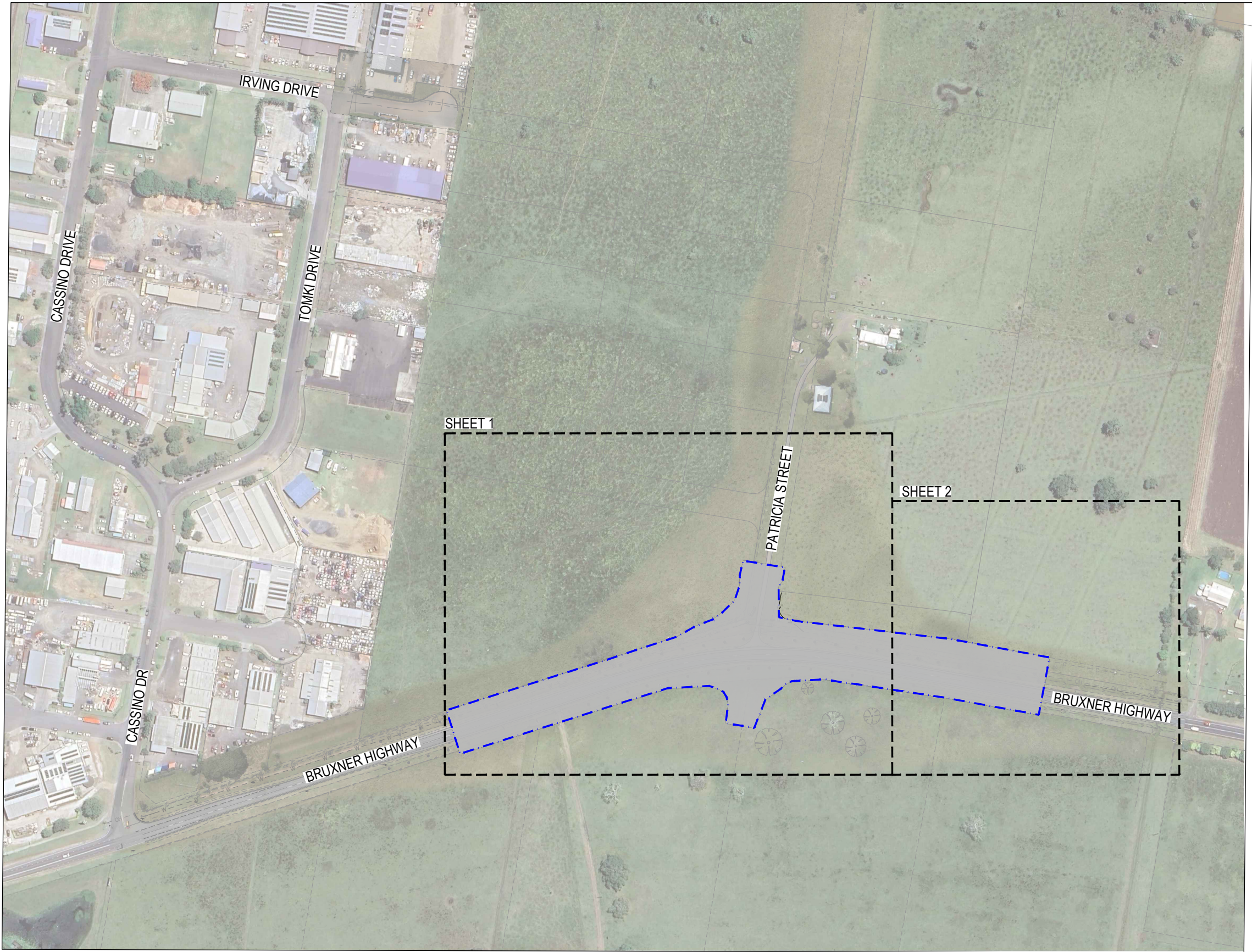


TYPICAL STEEL FIBRE CONCRETE PAVEMENT DETAILS
NTS

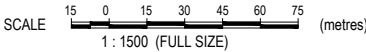
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NOT FOR CONSTRUCTION



LEGEND



OVERALL LAYOUT AND KEY PLAN



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NOT FOR CONSTRUCTION

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
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ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

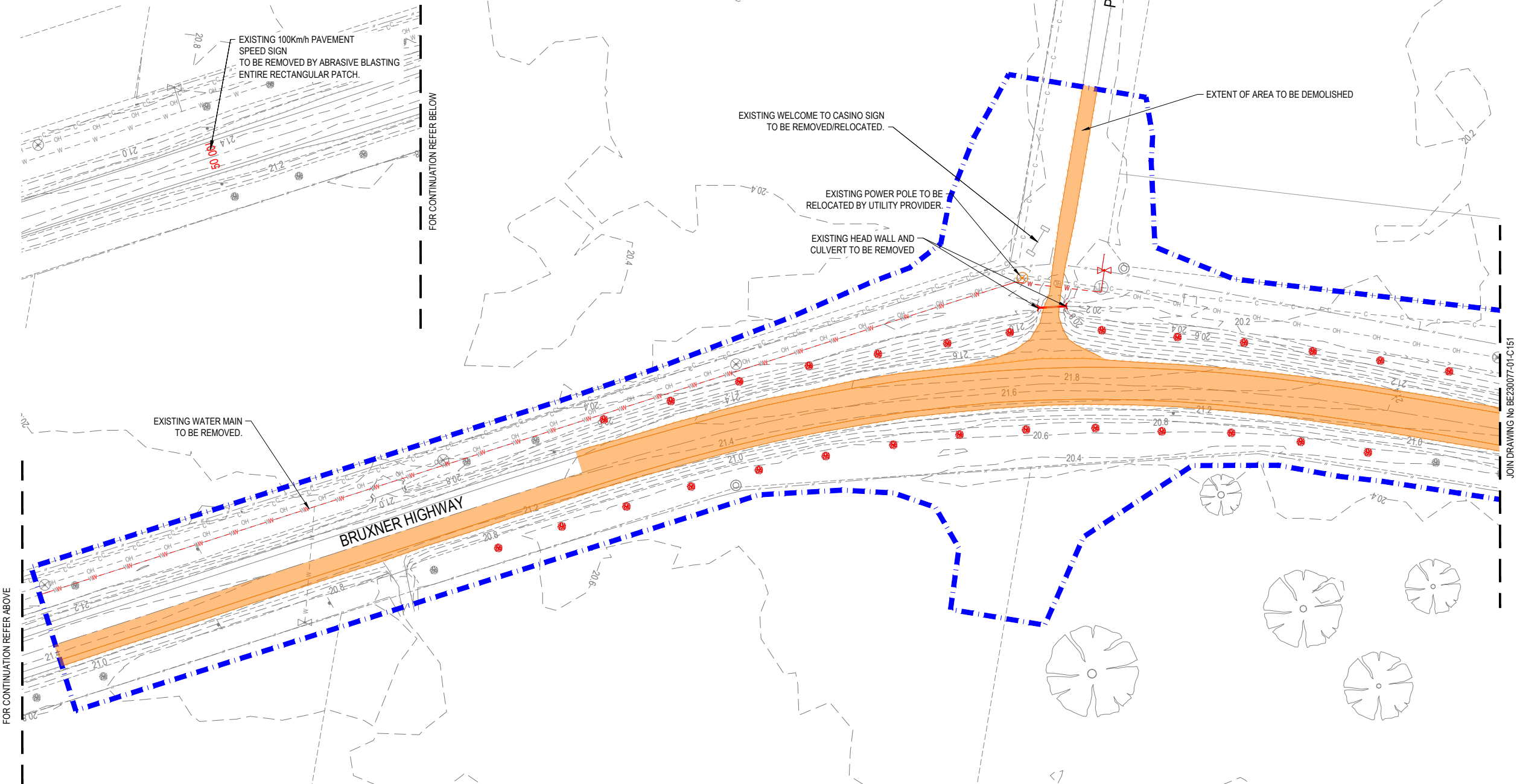
OVERALL LAYOUT AND
KEY PLAN

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE230077-01	DRAWING No. : C100
	VERSION: 1



LEGEND

- DEVELOPMENT SITE BOUNDARY
- EXISTING TREE TO BE REMOVED
- EXISTING ROAD CONTROL LINE
- EXISTING SURFACE CONTOURS
- EXISTING EDGE OF BITUMEN
- EXISTING WATER
- EXISTING OVERHEAD POWERLINE
- EXISTING COMMS
- EXISTING STORMWATER
- EXISTING SWALE
- FUTURE LOT BOUNDARY
- EXTENT OF AREA TO BE DEMOLISHED
- EXISTING EDGE OF BITUMEN TO BE REMOVED
- EXISTING LINEMARKING TO BE REMOVED
- EXISTING POWER POLE TO BE RELOCATED
- EXISTING WATER MAIN TO BE REMOVED.



NOTE:
EXISTING TREES ALONG BRUXNER HIGHWAY
ROAD CORRIDOR PROJECT FOOTPRINT
TO BE REMOVED.

WARNING: UNDERGROUND SERVICES:
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT
THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE
PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

DEMOLITION PLAN - SHEET 1 OF 2

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
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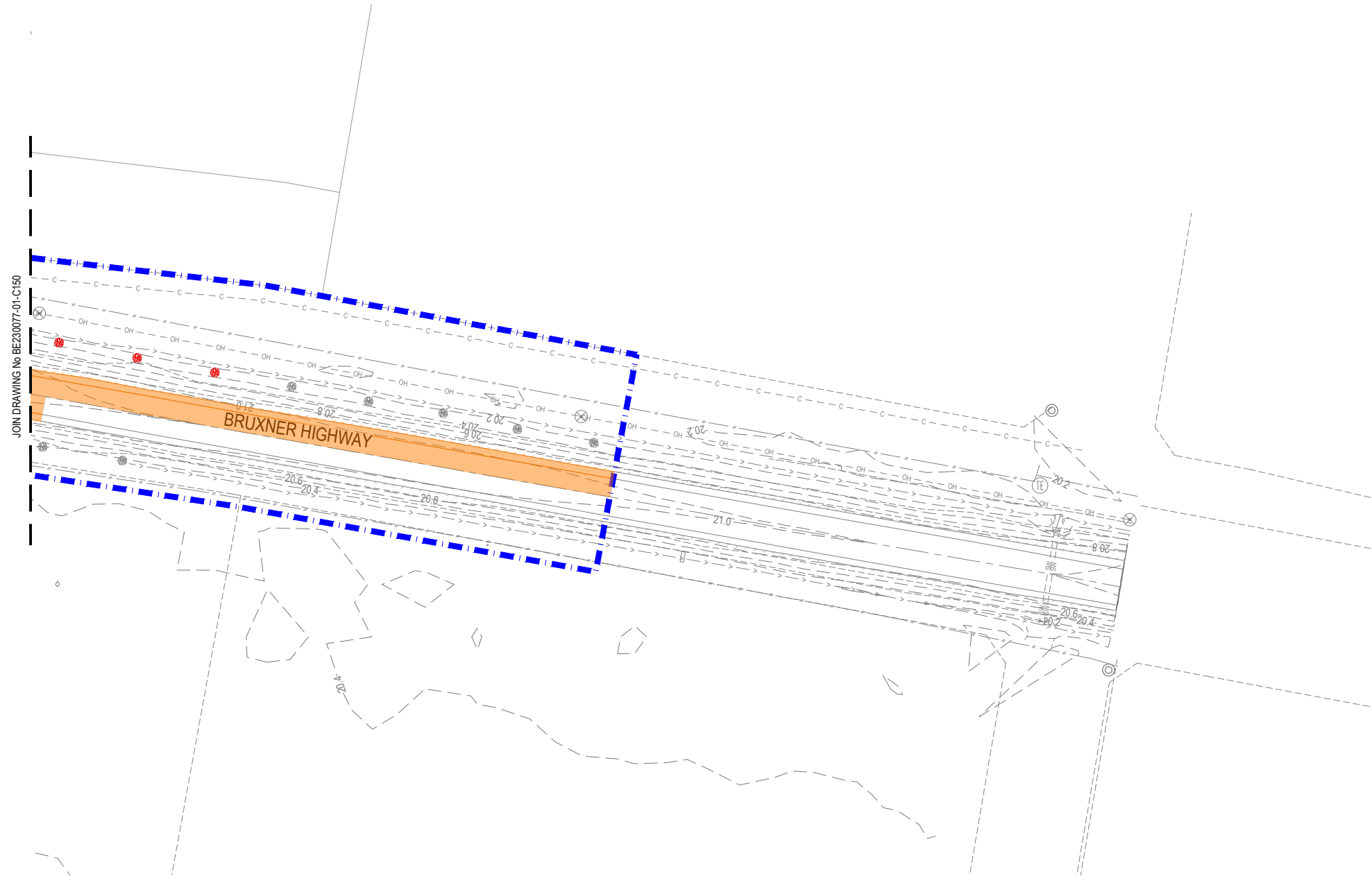
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PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE :
**DEMOLITION PLAN -
SHEET 1 OF 2**

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS	ABN 76 166 942 365

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE230077-01	DRAWING No. : C150	VERSION: 1



DEMOLITION PLAN - SHEET 2 OF 2

SCALE 1:500 (FULL SIZE) (metres)

NOTE:
FOR LEGEND REFER TO DRAWING BE230077-01-C150

NOTE:
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ROAD CORRIDOR PROJECT FOOTPRINT
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PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE :
**DEMOLITION PLAN -
SHEET 2 OF 2**

DEVEL. APPLIC. No.: DATE: 22-11-24
PROJECT LEADER: J. WINTER
DESIGNER: A. LUNA
DRAFTSPERSON: V. LE
CHECKED: L. FAULKNER
APPROVED FOR AND ON BEHALF OF
BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

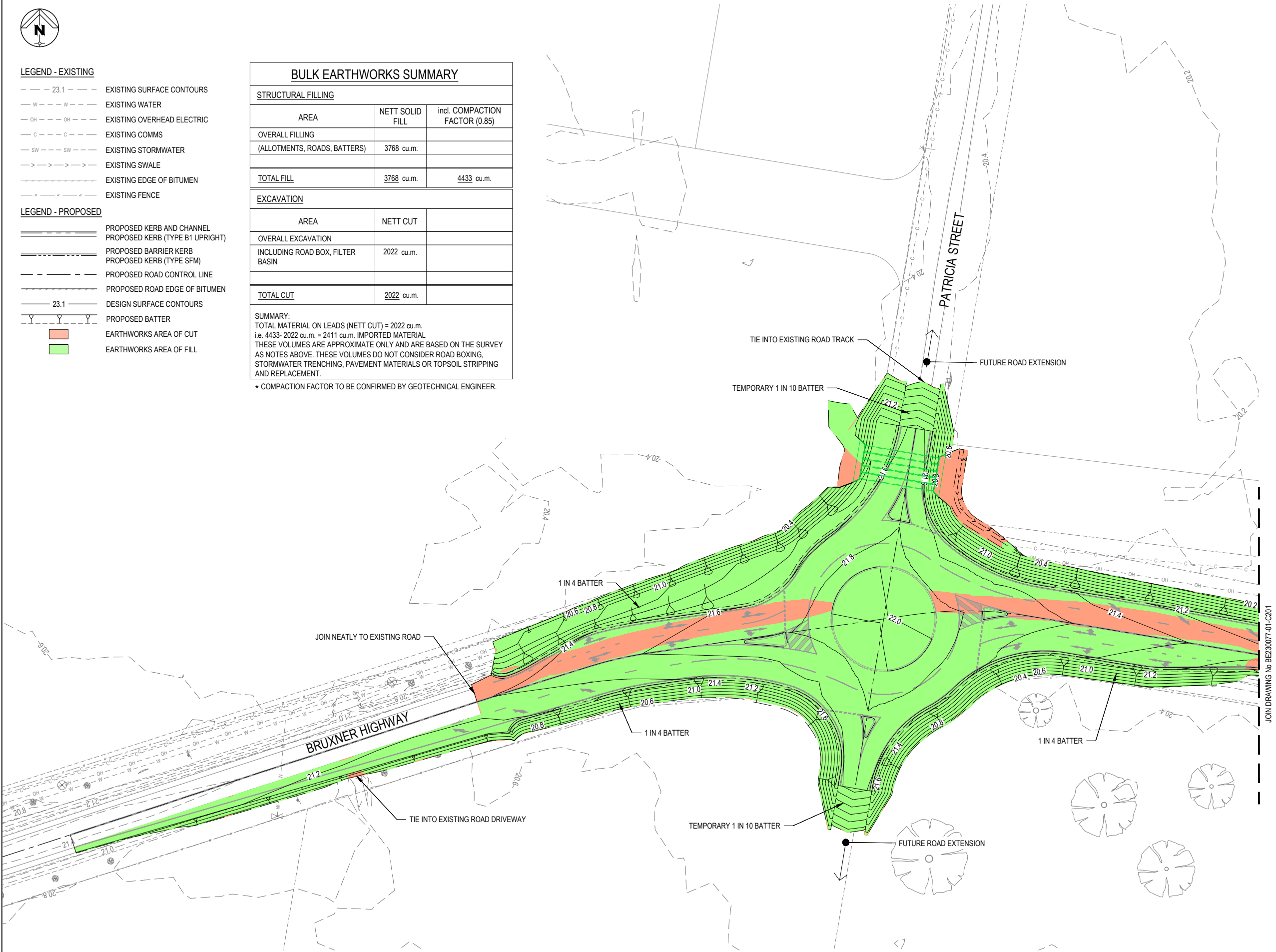
SCALE: AS NOTED DATUM: AHD FULL SIZE: A1
PROJECT No.: BE230077-01 DRAWING No.: C151 VERSION: 1



- LEGEND - EXISTING**
- 23.1 --- EXISTING SURFACE CONTOURS
 - W --- W --- EXISTING WATER
 - OH --- OH --- EXISTING OVERHEAD ELECTRIC
 - C --- C --- EXISTING COMMS
 - SW --- SW --- EXISTING STORMWATER
 - >--->--->--- EXISTING SWALE
 - EXISTING EDGE OF BITUMEN
 - EXISTING FENCE

- LEGEND - PROPOSED**
- ===== PROPOSED KERB AND CHANNEL
 - ===== PROPOSED KERB (TYPE B1 UPRIGHT)
 - ===== PROPOSED BARRIER KERB
 - ===== PROPOSED KERB (TYPE SFM)
 - PROPOSED ROAD CONTROL LINE
 - PROPOSED ROAD EDGE OF BITUMEN
 - 23.1 --- DESIGN SURFACE CONTOURS
 - PROPOSED BATTER
 - EARTHWORKS AREA OF CUT
 - EARTHWORKS AREA OF FILL

BULK EARTHWORKS SUMMARY		
STRUCTURAL FILLING		
AREA	NETT SOLID FILL	incl. COMPACTION FACTOR (0.85)
OVERALL FILLING (ALLOTMENTS, ROADS, BATTERS)	3768 cu.m.	
TOTAL FILL	3768 cu.m.	4433 cu.m.
EXCAVATION		
AREA	NETT CUT	
OVERALL EXCAVATION		
INCLUDING ROAD BOX, FILTER BASIN	2022 cu.m.	
TOTAL CUT	2022 cu.m.	
SUMMARY: TOTAL MATERIAL ON LEADS (NETT CUT) = 2022 cu.m. i.e. 4433- 2022 cu.m. = 2411 cu.m. IMPORTED MATERIAL THESE VOLUMES ARE APPROXIMATE ONLY AND ARE BASED ON THE SURVEY AS NOTES ABOVE. THESE VOLUMES DO NOT CONSIDER ROAD BOXING, STORMWATER TRENCHING, PAVEMENT MATERIALS OR TOPSOIL STRIPPING AND REPLACEMENT.		
* COMPACTION FACTOR TO BE CONFIRMED BY GEOTECHNICAL ENGINEER.		



WARNING: UNDERGROUND SERVICES:
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NOTE:
ALL DESIGN/SETOUT INFORMATION SHOWN ON THIS DRAWING IS AVAILABLE IN DIGITAL FORMAT FROM THE OFFICE OF THE SUPERINTENDENT UPON REQUEST BY THE CONTRACTOR.

EARTHWORKS LAYOUT PLAN - SHEET 1 OF 2

SCALE 5 0 5 10 15 20 25 (metres)
1:500 (FULL SIZE)

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

FOR

RICHMOND VALLEY COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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ABN 76 166 942 365

PROJECT:
BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

DRAWING TITLE:
EARTHWORKS LAYOUT PLAN - SHEET 1 OF 2

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

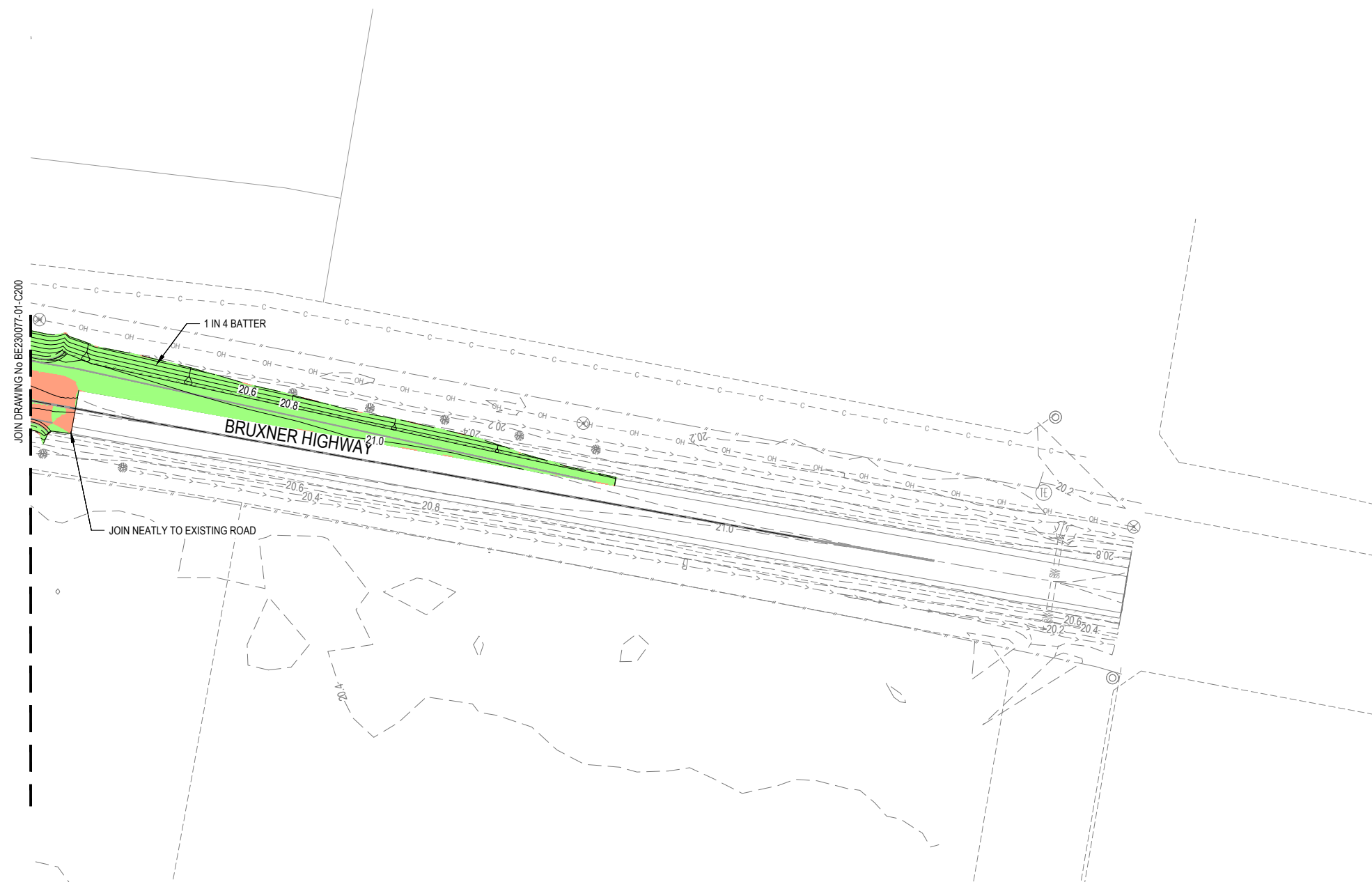
DRAFTSPERSON : V. LE


CHECKED : L. FAULKNER

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BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : BE230077-01 DRAWING No. : C200 VERSION: 1



SCALE  (metres)
1 : 500 (FULL SIZE)

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BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

EARTHWORKS NOTES &
DETAILS

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V.LE

CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No.: BE230077-01
DRAWING No.: C230
VERSION: 1

GENERAL EARTHWORKS NOTES:

- ALL EARTHWORKS CONSTRUCTION UNDER THIS CONTRACT IS TO BE PERFORMED STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED BY THE PRINCIPAL'S GEOTECHNICAL CONSULTANT.
- ALL COMPACTION TESTING UNDER THIS CONTRACT IS TO BE CARRIED OUT TO AS3798 LEVEL 1 STANDARD BY A NATA-ACCREDITED TESTING AUTHORITY. CERTIFICATION FOR ALL EARTHWORKS CONSTRUCTION AND TESTING IS TO BE PROVIDED BY A REGISTERED PROFESSIONAL ENGINEER ENGAGED BY THE CONTRACTOR.
- ALL DESIGN LEVELS SHOWN ON THE CONTRACT DRAWINGS ARE FINISHED SURFACE LEVELS FOLLOWING TOPSOIL REPLACEMENT.
- ALL STRUCTURAL FILL MATERIAL PLACED SHALL BE COMPACTED TO THE FOLLOWING MINIMUM DENSITY IN ACCORDANCE WITH THE SPECIFICATION AND THE GEOTECHNICAL REPORT:
 - 95% DENSITY RATIO FOR GENERAL STRUCTURAL FILL (COHESIVE MATERIAL)
 - 98% DENSITY RATIO FOR THE TOP 300mm DEPTH BELOW PAVEMENT SUBGRADE LEVEL (COHESIVE MATERIAL)
- FILL MATERIAL USED IN WETLAND BATTERS IS TO BE STIFF TO HARD CLAYS OR OTHER SUITABLE MATERIAL AS DIRECTED BY GEOTECHNICAL ENGINEER.
- ALL EARTHWORKS BATTERS STEEPER THAN 1 IN 4 ARE TO BE LANDSCAPED IN ACCORDANCE WITH LANDSCAPE ARCHITECTS PLANS.
- EXISTING DAMS ARE TO BE DE-WATERED AND CLEANED-OUT. ALL UNSUITABLE OR SATURATED MATERIAL IS TO BE REMOVED AND REPLACED WITH SELECTED ON-SITE STRUCTURAL FILL MATERIAL AND COMPACTED AS SPECIFIED.
- PROVIDE CONDITION SURVEY OF ADJACENT RESIDENTIAL BUILDINGS FOR ALL PROPERTIES LOCATED WITHIN NOMINAL 100m OF EARTHWORKS OPERATIONS. CONDITION SURVEY TO BE UNDERTAKEN BY QUALIFIED PERSONNEL WITH BUILDING EXPERIENCE.

TYPICAL EARTHWORKS SEQUENCE NOTES:

- CONSTRUCT DIVERSION DRAINS AS DIRECTED TO DIVERT SITE RUNOFF AWAY FROM CONSTRUCTION AREAS. ESTABLISH DE-WATERING CONTROLS TO ENSURE THAT THE CONSTRUCTION AREAS REMAIN FREE OF SURFACE WATER AND PONDING.
- FOLLOWING COMPLETION OF CLEARING OPERATIONS AND REMOVAL OF RESIDUAL VEGETATION AND DEBRIS, STRIP TOPSOIL TO A NOMINAL 150mm DEPTH AND PLACE IN TEMPORARY STOCKPILES IN LOCATIONS APPROVED BY THE SUPERINTENDENT.
- PROOF-ROLL AND COMPACT THE PROPOSED FILL AREAS FOLLOWING TOPSOIL STRIPPING, TO THE SATISFACTION OF THE SUPERINTENDENT.
- ANY STRIPPED AREAS WHICH DEMONSTRATE EXCESSIVE MOVEMENT OR DO NOT IMPROVE SUFFICIENTLY UNDER PROOF-ROLLING ARE TO BE REMOVED, REPLACED WITH APPROVED SITE MATERIAL AND COMPACTED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
- ANY UNSUITABLE MATERIAL ENCOUNTERED, INCLUDING SILTY MATERIAL AND UN-CONTROLLED FILL IS TO BE EXCAVATED TO THE EXTENTS AND DEPTHS NOMINATED BY THE PRINCIPAL'S GEOTECHNICAL CONSULTANT, REMOVED TO NON-STRUCTURAL FILL AREAS OR TAKEN OFF-SITE AS DIRECTED AND REPLACED WITH APPROVED, COMPACTED FILL MATERIAL.
- PLACE STRUCTURAL FILL MATERIAL FROM SITE EXCAVATIONS TO NOMINATED SITE FILL AREAS, INCLUDING BENCHING AND COMPACTION IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND TRIMMING AND FINAL PROFILING OF BATTERS.
- PROVIDE GRASSING TO TOPSOILED AREAS AS DIRECTED.

ISSUED FOR TENDER
NOT FOR CONSTRUCTION



LEGEND - EXISTING

- 23.1 --- EXISTING SURFACE CONTOURS
- W --- W --- EXISTING WATER
- OH --- OH --- EXISTING OVERHEAD ELECTRIC
- C --- C --- EXISTING COMMS
- SW --- SW --- EXISTING STORMWATER
- >--->--- EXISTING SWALE
- EXISTING EDGE OF BITUMEN
- EXISTING FENCE

LEGEND - PROPOSED

- ===== PROPOSED KERB AND CHANNEL
- ===== PROPOSED KERB (TYPE B1 UPRIGHT)
- ===== PROPOSED BARRIER KERB
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- 23.1 --- DESIGN SURFACE CONTOURS
- Y Y Y PROPOSED BATTER
- PROPOSED ROAD CONTROL LINE
- SW --- PROPOSED STORMWATER PIPE
- W --- PROPOSED WATER
- PROPOSED FILTER ROLL
- PROPOSED SEDIMENT FENCE

EROSION & SEDIMENT CONTROL CERTIFICATION

I, HEREBY CERTIFY THAT THE SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 'BEST PRACTICE EROSION AND SEDIMENT CONTROL' (IECA AUSTRALASIA, NOVEMBER 2008).

SIGNED DATED DD-MM-YY

WARNING: UNDERGROUND SERVICES:
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

EROSION & SEDIMENT CONTROL PLAN - SHEET 1 OF 2

SCALE 5 0 5 10 15 20 25 (metres)
1:500 (FULL SIZE)

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NOT FOR CONSTRUCTION

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

FOR

RICHMOND VALLEY COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
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ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

DRAWING TITLE:

EROSION AND SEDIMENT CONTROL PLAN - SHEET 1 OF 2

DEVEL. APPLIC. No.: DATE: 22-11-24

PROJECT LEADER: J. WINTER

DESIGNER: A. LUNA

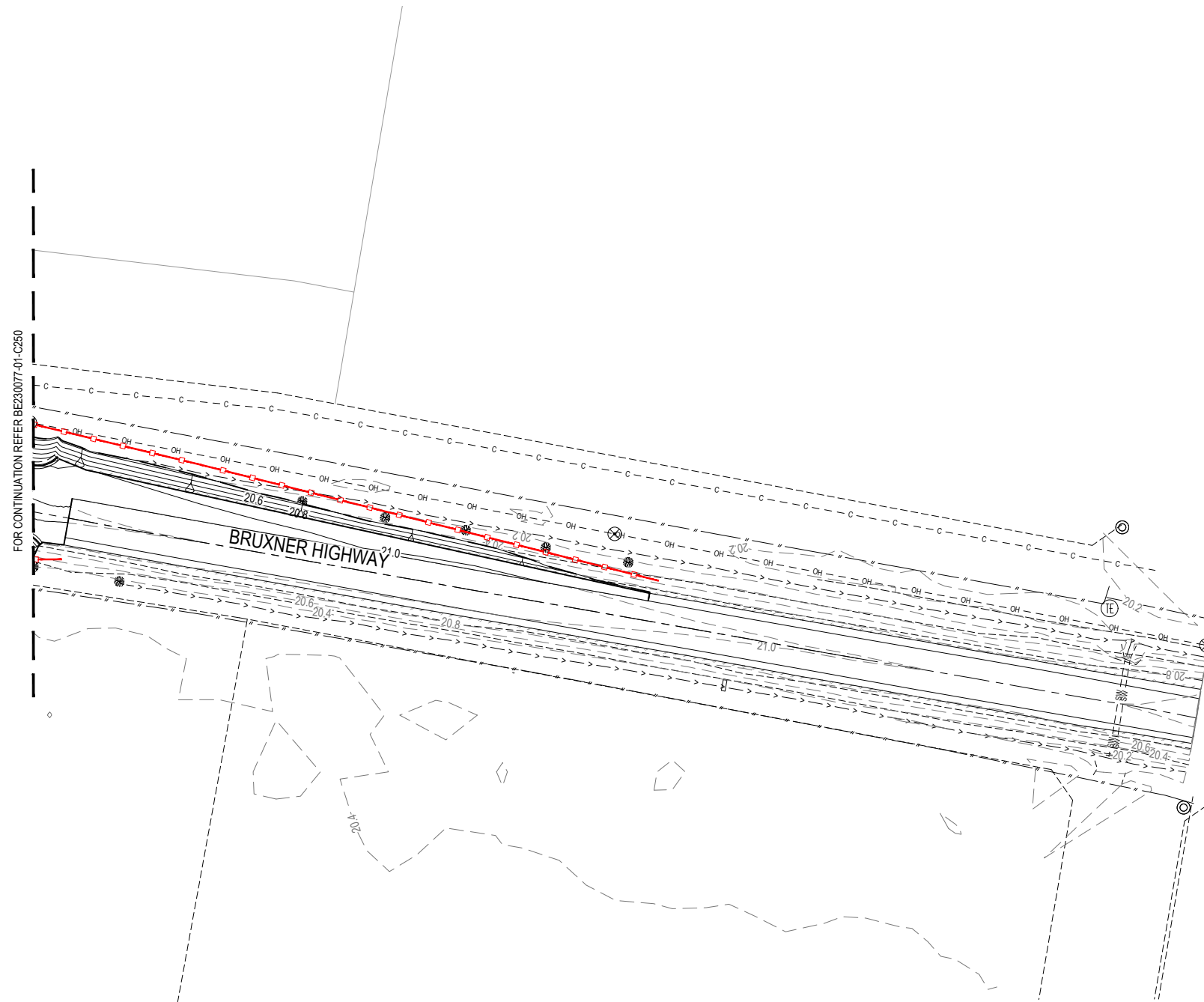
DRAFTSPERSON: V. LE

CHECKED: L. FAULKNER

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SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: BE230077-01 DRAWING No.: C250 VERSION: 1



EROSION & SEDIMENT CONTROL PLAN - SHEET 2 OF 2

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

NOTE:
FOR LEGEND REFER TO DRAWING BE230077-01-C250

WARNING: UNDERGROUND SERVICES:
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
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PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE :
**EROSION AND SEDIMENT
CONTROL PLAN - SHEET 2
OF 2**

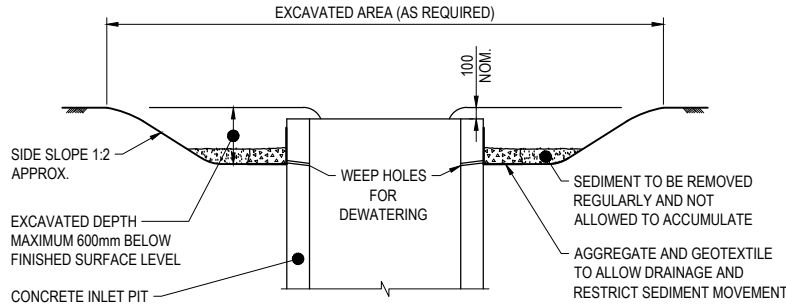
DEVEL. APPLIC. No. : DATE : 22-11-24
PROJECT LEADER : J. WINTER
DESIGNER : A. LUNA
DRAFTSPERSON : V. LE
CHECKED : L. FAULKNER
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SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE230077-01	DRAWING No. : C251	VERSION: 1

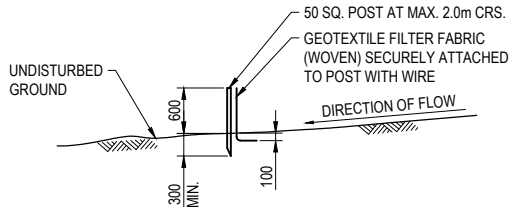
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SEDIMENT AND EROSION CONTROL NOTES

- THIS DRAWING HAS BEEN PREPARED AS A GUIDE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MANAGE SITE SEDIMENT AND EROSION CONTROL MEASURES AND DURING THE CONSTRUCTION PERIOD INSTALL ADDITIONAL MEASURES WHERE SCOUR OR SEDIMENT TRANSPORT IS LIKELY TO OCCUR.
- DELAY CLEARING, GRUBBING AND TOPSOIL STRIPPING UNTIL NECESSARY.
- COMMENCE WORK ON SITE ONLY AFTER SEDIMENT AND EROSION CONTROL MEASURES ARE IN PLACE.
- MANAGE SITE ENTRY/EXIT POINTS TO ENSURE SEDIMENT IS NOT TRACKED OFF SITE.
- THE CONTRACTOR SHALL INSTALL EITHER STORMWATER INLET SEDIMENT TRAPS OR EXCAVATED INLET ARRANGEMENT AT ALL STORMWATER STRUCTURES DURING THE CONSTRUCTION.
- FILTER ROLLS SHALL BE INSTALLED AT GULLY PITS IMMEDIATELY AFTER GULLY PIT CONSTRUCTION AND LEFT IN PLACE DURING THE MAINTENANCE PERIOD. OPERATION OF ROLLS DURING PERIODS OF HEAVY RAIN TO BE MONITORED TO PREVENT FLOODING AND EROSION DAMAGE ELSEWHERE.
- ARRANGE FOR EROSION CONTROL MEASURES TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE SOURCE OF EROSION.
- ENSURE STOCKPILED TOPSOIL AND EARTHWORKS ARE NOT ERODED BY WIND AND STORMWATER RUN-OFF AND ARE PROVIDED WITH A SEDIMENT FENCE AROUND THE LOW SIDE.
- SEDIMENT FENCES HAVE BEEN ESTABLISHED UNDER BULK EARTHWORKS CONTRACT. ERECT SEDIMENT FENCES IF REQUIRED, GENERALLY ALONG THE LOW SIDE OF THE CONSTRUCTION SITE AND ALONG A LINE OF CONSTANT LEVEL. AS AN ALTERNATIVE TO BURYING THE SEDIMENT FENCE LOWER EDGE, THE CONTRACTOR MAY ELECT TO PLACE 200mm OF THE FABRIC ON THE GROUND UP-SLOPE OF THE FENCE AND COVER WITH 100mm MIN LAYER OF AGGREGATE.
- TO PREVENT EROSION, TOPSOIL AND SEED IMMEDIATELY AFTER COMPLETION OF BULK EARTHWORKS TO FINISHED PROFILES.
- PROVIDE TURF STRIP ADJACENT TO KERB FOR FULL LENGTH OF NEW ROAD AND TURF STRIP PLACED AT 90° TO KERB EVERY 10m FOR FULL WIDTH OF VERGE.
- PRIOR TO COMPLETION OF CONSTRUCTION OF PAVEMENT AND SEALING, PLACE SANDBAGS AT 45° TO ARREST SCOUR AGAINST KERB AND CHANNEL AS FOLLOWS:
ROAD GRADE 0.5% - 5% - 25m MAX CRS.
5% - 10% - 10m MAX CRS.
10% - 15% - 15m MAX CRS.
15% - 20% - 5m MAX CRS.
- SWEEP EXTERNAL ROADS WHERE SEDIMENT HAS BEEN DROPPED FROM CONSTRUCTION VEHICLES. DO NOT WASH SEDIMENT INTO THE STORMWATER SYSTEM.
- ALL SEDIMENT AND EROSION CONTROL STRUCTURES, TRENCHES ETC. SHALL BE REGULARLY MAINTAINED AND INSPECTED FOR EFFECTIVENESS.
- THE USE OF POTABLE WATER IS NOT PERMITTED IN SITE EARTHWORKS OPERATIONS, ROAD AND PAVEMENT CONSTRUCTION OR DUST SUPPRESSION. RECYCLED WATER IS REQUIRED TO BE USED AND IS TO BE IN ACCORDANCE WITH COUNCIL GUIDELINES.

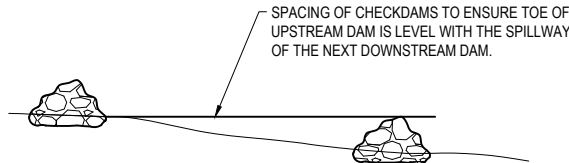


EXCAVATED INLET ARRANGEMENT
N.T.S.

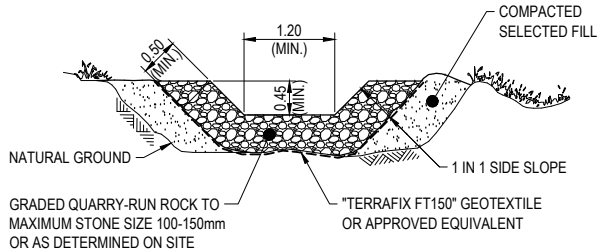


SEDIMENT FENCE
N.T.S.

NOTE:
SEDIMENT FENCE TO HAVE
TURNOUTS AT 50m MAX. INTERVALS

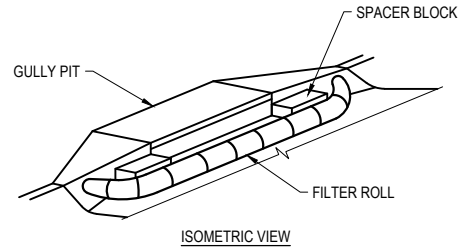


ROCK CHECK DAM TYPICAL
LONGITUDINAL SECTION
N.T.S.

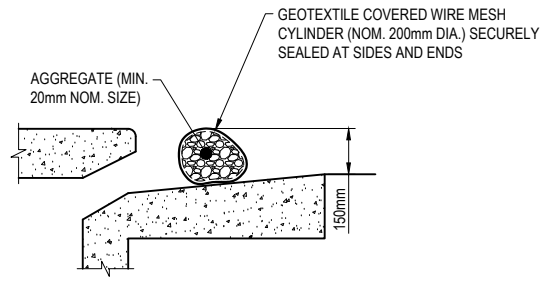


ROCK CHECK DAM TYPICAL CROSS SECTION
N.T.S.

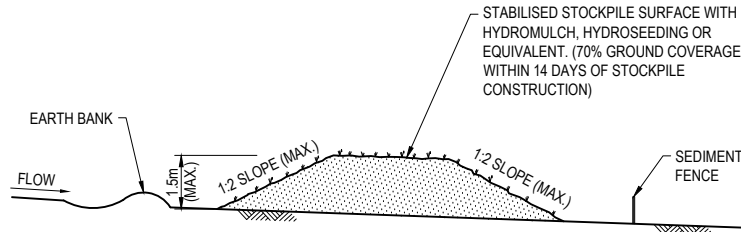
NOTE:
REFER TO IECA STD. DRG.'S FOR ALL
ADDITIONAL SEDIMENT CONTROL DETAILS.



ISOMETRIC VIEW

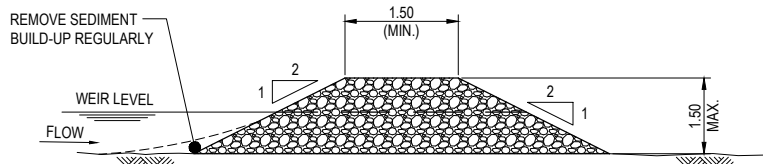


FILTER ROLL
N.T.S.



TYPICAL STOCKPILE CONFIGURATION
N.T.S.

NOTES:
1. LOCATE STOCKPILES AT TOP OF CATCHMENT ON FLAT GROUND AND NOT WITHIN 5m OF CONCENTRATED FLOW PATHS.
2. STOCKPILES SHOULD HAVE EARTH BANKS UPSLOPE FOR DIVERSION OF UPSTREAM WATER AROUND STOCKPILE AND SEDIMENT FENCES PLACED 1-2m DOWNSLOPE.



ROCK CHECK DAM TYPICAL DETAIL
SCALE 1:50 (FULL SIZE)

ISSUED FOR TENDER
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BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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ABN 76 166 942 365

PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE :
**EROSION AND SEDIMENT
CONTROL NOTES AND
DETAILS**

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE230077-01	DRAWING No. : C260
	VERSION: 1



LEGEND - EXISTING

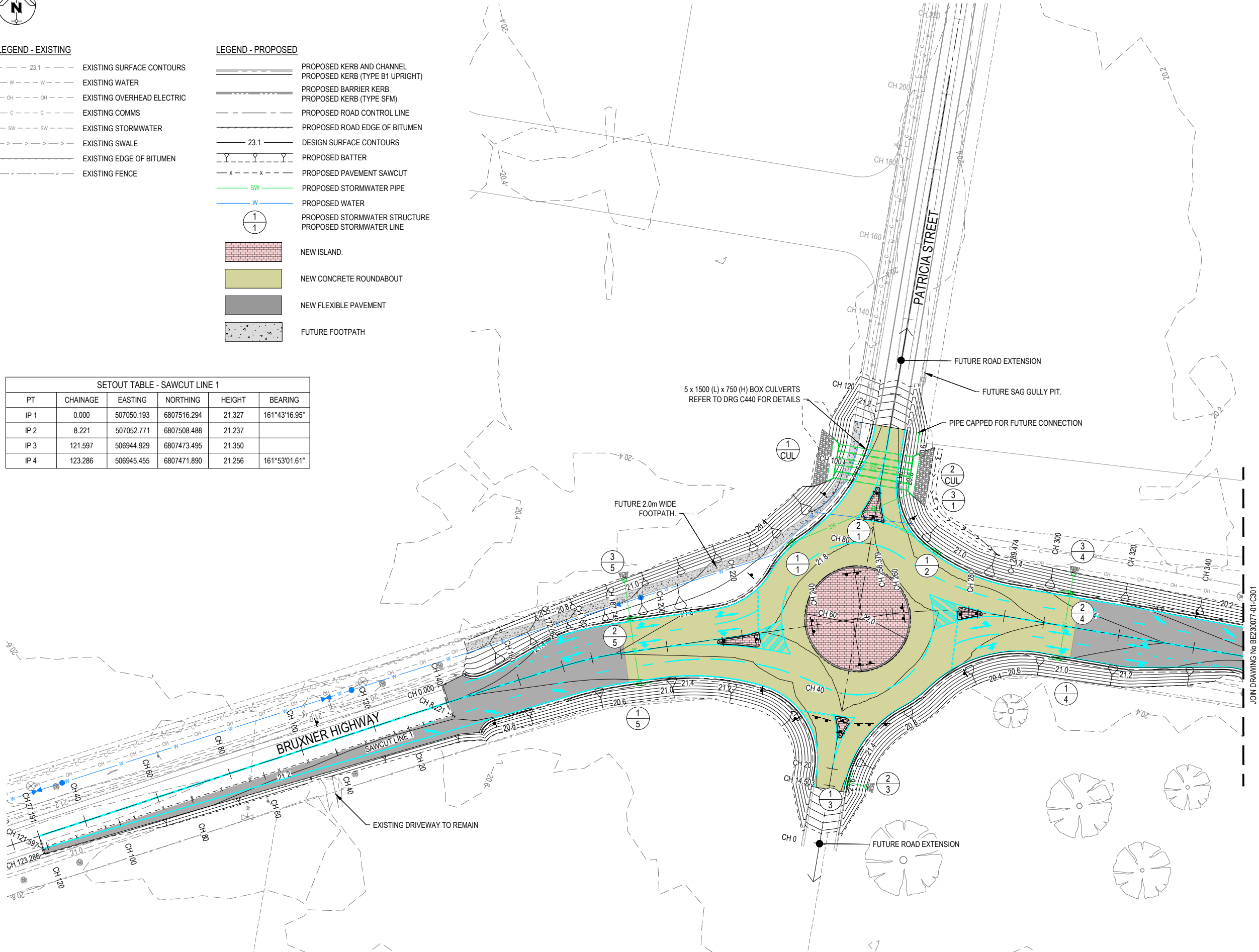
---	23.1	---	EXISTING SURFACE CONTOURS
---	W	---	EXISTING WATER
---	OH	---	EXISTING OVERHEAD ELECTRIC
---	C	---	EXISTING COMMS
---	SW	---	EXISTING STORMWATER
---	>	---	EXISTING SWALE
---		---	EXISTING EDGE OF BITUMEN
---		---	EXISTING FENCE

LEGEND - PROPOSED

---			PROPOSED KERB AND CHANNEL
---			PROPOSED KERB (TYPE B1 UPRIGHT)
---			PROPOSED BARRIER KERB
---			PROPOSED KERB (TYPE SFM)
---			PROPOSED ROAD CONTROL LINE
---			PROPOSED ROAD EDGE OF BITUMEN
---	23.1	---	DESIGN SURFACE CONTOURS
---	Y	---	PROPOSED BATTER
---	x	---	PROPOSED PAVEMENT SAWCUT
---	SW	---	PROPOSED STORMWATER PIPE
---	W	---	PROPOSED WATER
---	1	1	PROPOSED STORMWATER STRUCTURE
---	1	1	PROPOSED STORMWATER LINE
---			NEW ISLAND.
---			NEW CONCRETE ROUNDABOUT
---			NEW FLEXIBLE PAVEMENT
---			FUTURE FOOTPATH

SETOUT TABLE - SAWCUT LINE 1

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	507050.193	6807516.294	21.327	161°43'16.95"
IP 2	8.221	507052.771	6807508.488	21.237	
IP 3	121.597	506944.929	6807473.495	21.350	
IP 4	123.286	506945.455	6807471.890	21.256	161°53'01.61"



WARNING: UNDERGROUND SERVICES
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

ROADWORKS PLAN - SHEET 1 OF 2

SCALE 0 5 10 15 20 25 (metres)
1:500 (FULL SIZE)

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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FAX: +61 7 5509 6411
EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE:

ROADWORKS &
DRAINAGE LAYOUT PLAN
- SHEET 1 OF 2

DEVEL. APPLIC. No.: DATE: 22-11-24

PROJECT LEADER: J. WINTER

DESIGNER: A. LUNA

DRAFTSPERSON: V. LE

CHECKED: L. FAULKNER

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

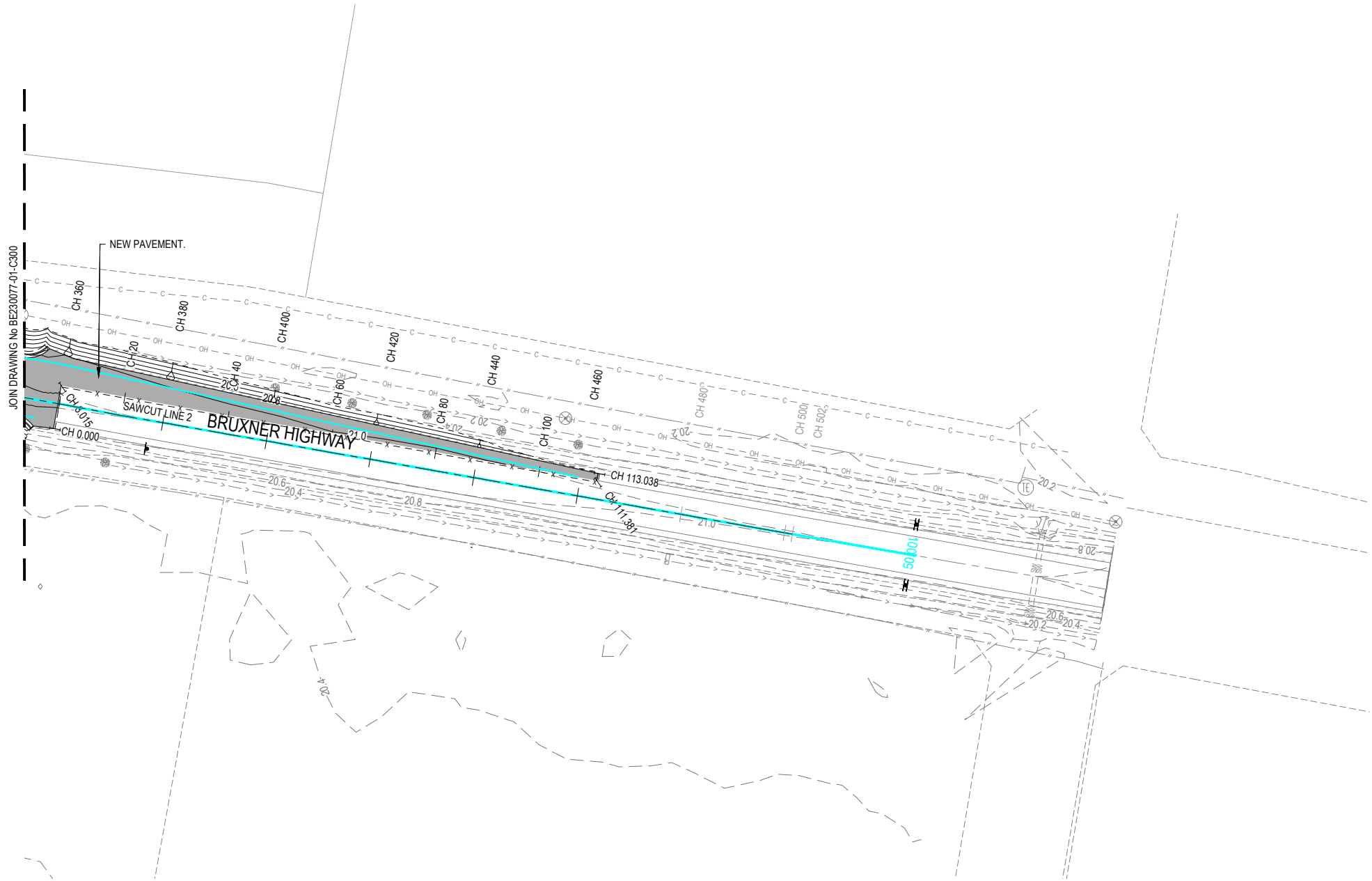
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PROJECT No.: BE230077-01 DRAWING No.: C300 VERSION: 1

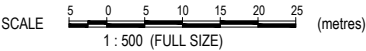
ISSUED FOR TENDER
NOT FOR CONSTRUCTION



SETOUT TABLE - SAWCUT LINE 2					
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	507266.921	6807518.002	21.018	10°09'39.29"
IP 2	8.015	507268.335	6807525.891	21.179	
IP 3	111.381	507370.111	6807507.830	20.968	
IP 4	113.038	507370.405	6807509.462	20.879	10°14'14.03"



ROADWORKS PLAN - SHEET 2 OF 2



NOTE:
FOR LEGEND REFER TO DRAWING BE230077-01-C300

WARNING: UNDERGROUND SERVICES
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE :
**ROADWORKS &
DRAINAGE LAYOUT PLAN
- SHEET 2 OF 2**

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V. LE

CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION:

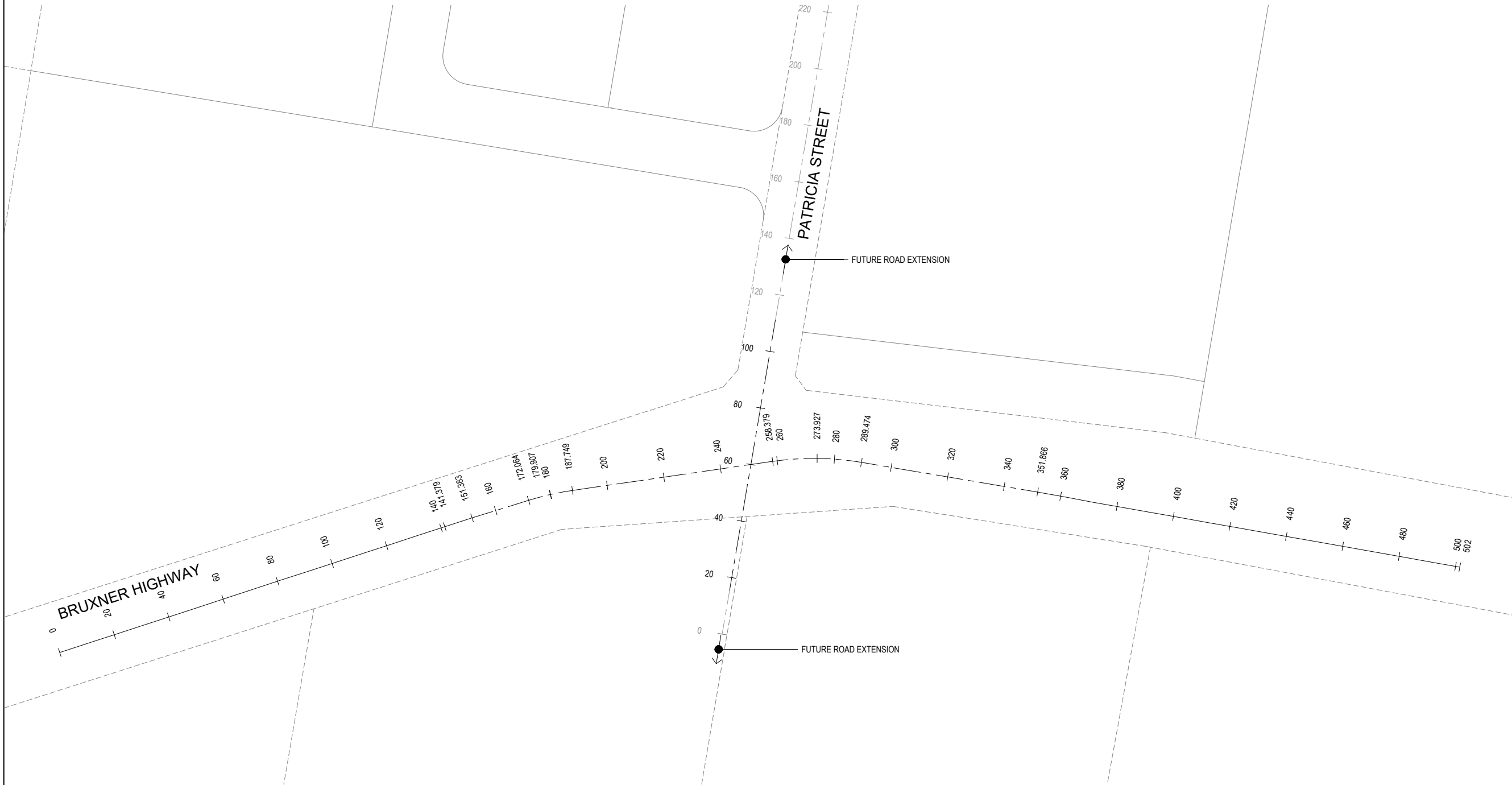
BE230077-01 C301 1

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ROAD CONTROL LINE DETAILS - BRUXNER HIGHWAY								
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	506918.360	6807468.224	21.449	72°18'33.98"			
IP 16	141.379	507052.760	6807512.093	21.388				
IP 17	151.383	507062.282	6807515.163	21.427				
TC	172.064	507082.034	6807521.292	21.530	72°45'37.54"			
IP 18	179.907	507089.539	6807523.621	21.569		R = 100.000	15.685	8°59'12.23"
CT	187.749	507097.316	6807524.749	21.609	81°44'49.77"			
TC	258.379	507167.215	6807534.888	21.874	81°44'49.77"			
IP 19	273.927	507182.727	6807537.137	21.774		R = 100.000	31.095	17°48'57.28"
CT	289.474	507198.183	6807534.533	21.675	99°33'47.05"			
IP 20	351.866	507259.708	6807524.168	21.275				

ROAD CONTROL LINE DETAILS - PATRICIA STREET					
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	507149.582	6807474.629	21.623	9°37'18.55"
IP 2	567.919	507244.506	6808034.558	20.816	9°37'18.55"



REFERENCE STRING SETOUT PLAN



ISSUED FOR TENDER
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BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

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VER.	DESCRIPTION	DATE

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ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

REFERENCE STRING
SETOUT PLAN

DEVEL. APPLIC. No. :		DATE : 22-11-24	
PROJECT LEADER : J. WINTER			
DESIGNER :		A. LUNA	
DRAFTSPERSON :		V. LE	
CHECKED :		L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365			
SCALE : AS NOTED		DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE230077-01		DRAWING No. : C310	VERSION: 1

BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

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1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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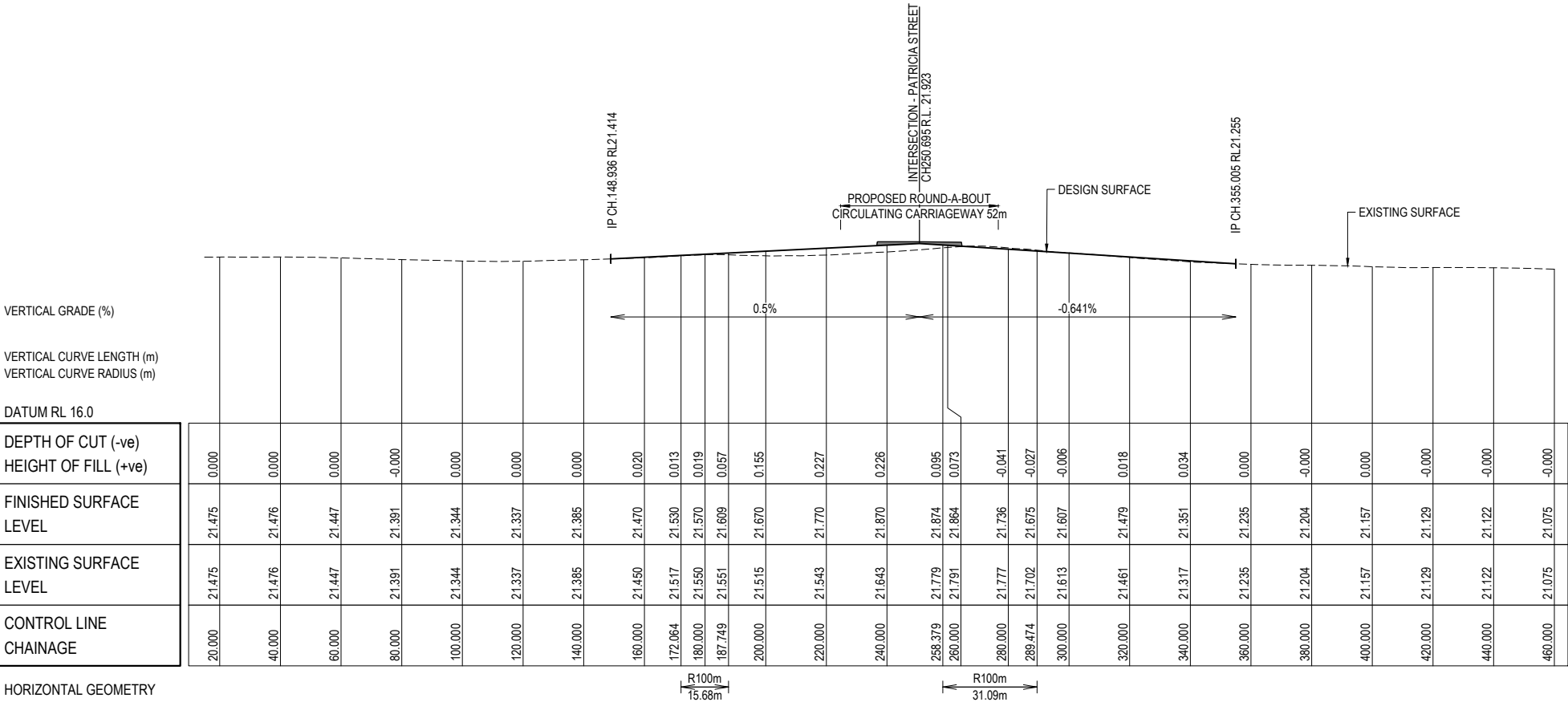
PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

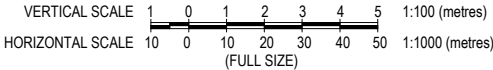
DRAWING TITLE :

LONGITUDINAL SECTION
BRUXNER HIGHWAY

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V.LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE230077-01	DRAWING No. : C320
	VERSION: 1



LONGITUDINAL SECTION - BRUXNER HIGHWAY



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BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

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ABN 76 166 942 365

PROJECT:

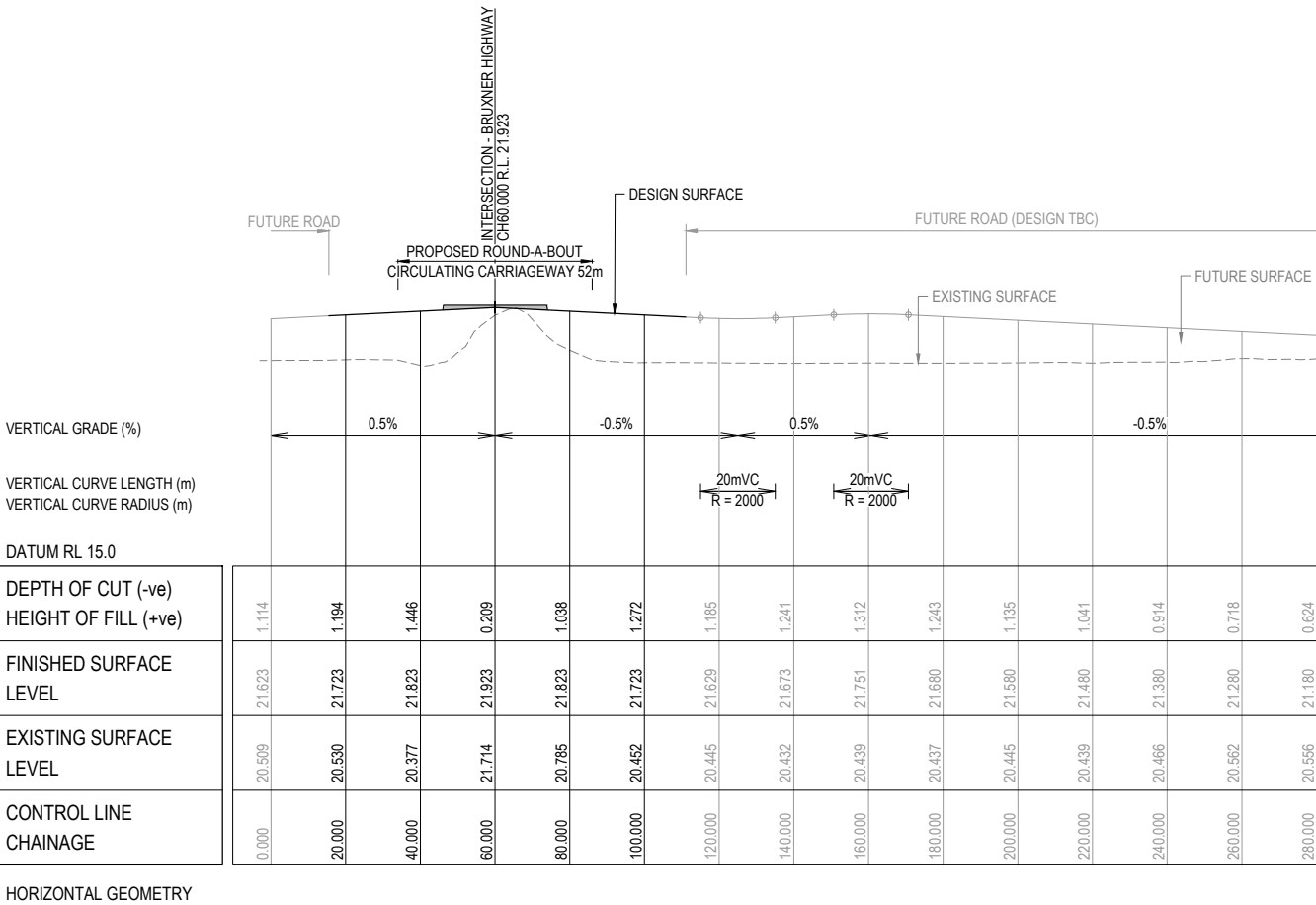
BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

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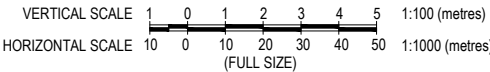
LONGITUDINAL SECTION
PATRICIA STREET

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE230077-01	DRAWING No. : C321	VERSION: 1



LONGITUDINAL SECTION - PATRICIA STREET

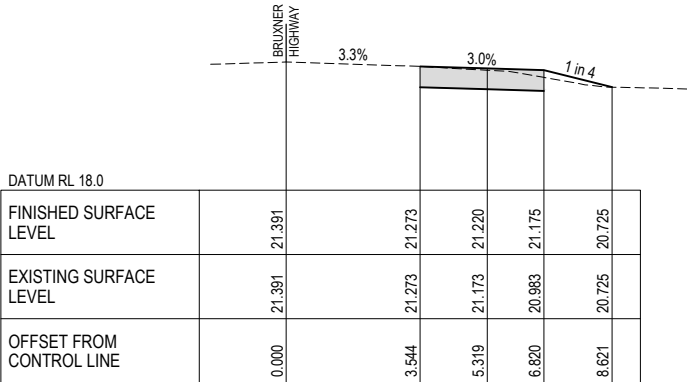


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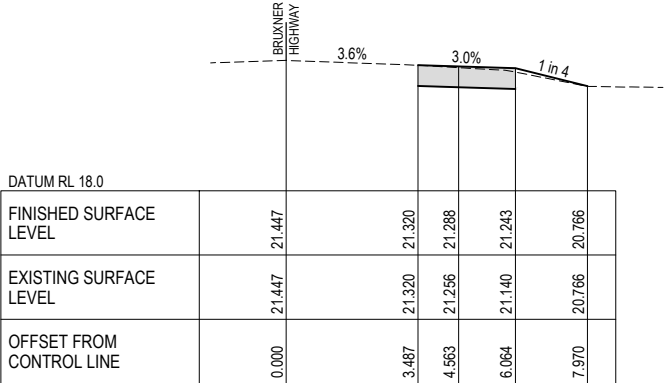
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LEGEND

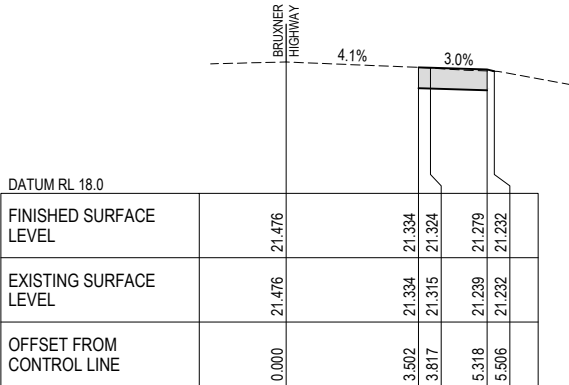
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- DESIGN SURFACE
- PAVEMENT DETAIL REFER DRG C002



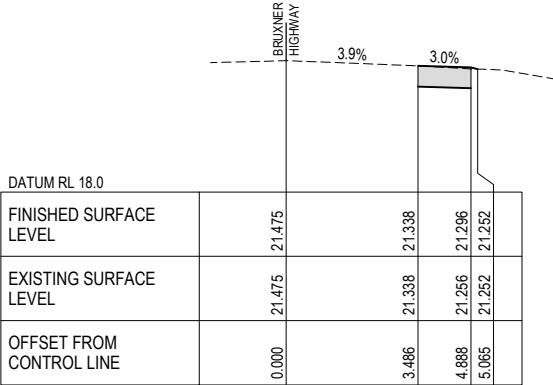
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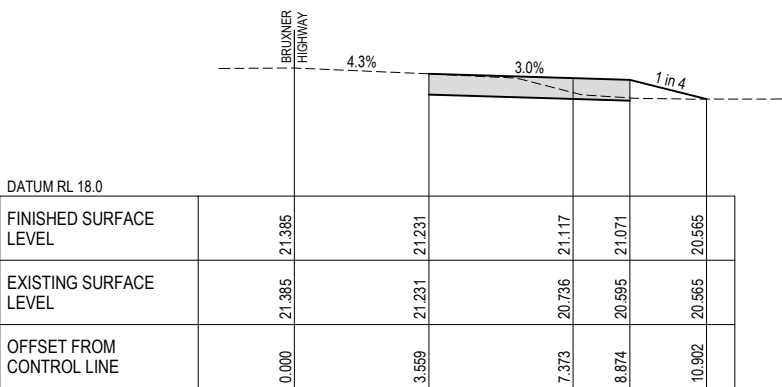
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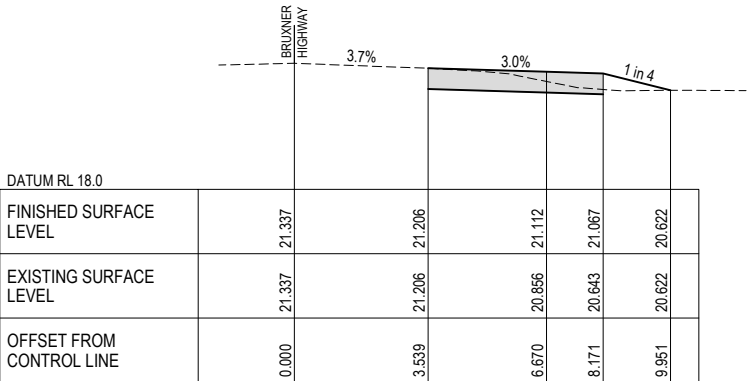
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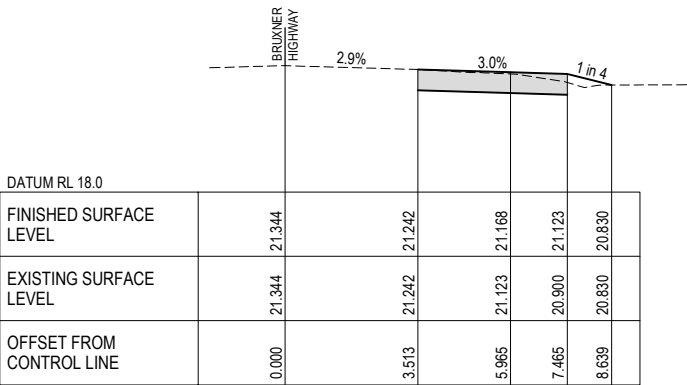
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CH 140.000

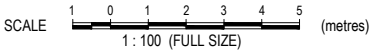


CH 120.000



CH 100.000

CROSS SECTIONS - BRUXNER HIGHWAY



BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

FOR

RICHMOND VALLEY COUNCIL

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VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

DRAWING TITLE :

CROSS SECTIONS BRUXNER HIGHWAY SHEET 1 OF 3

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V. LE

CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

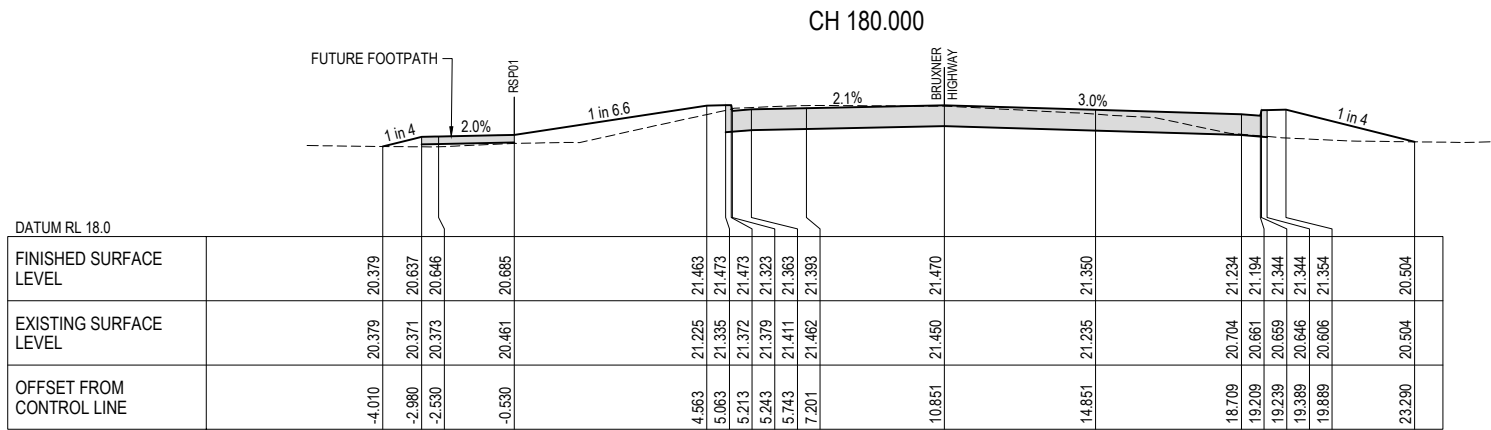
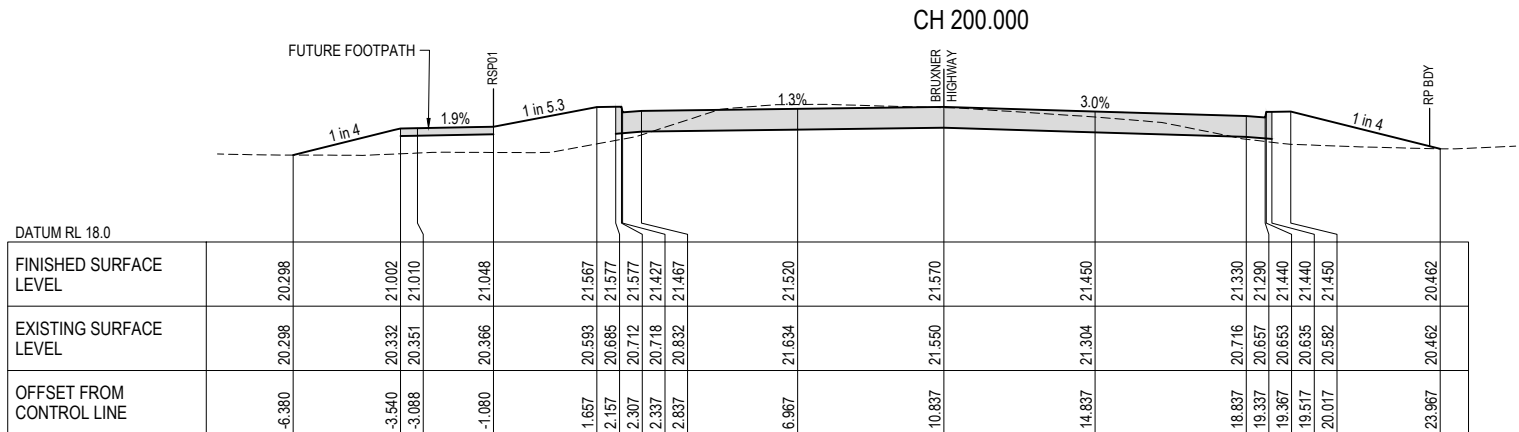
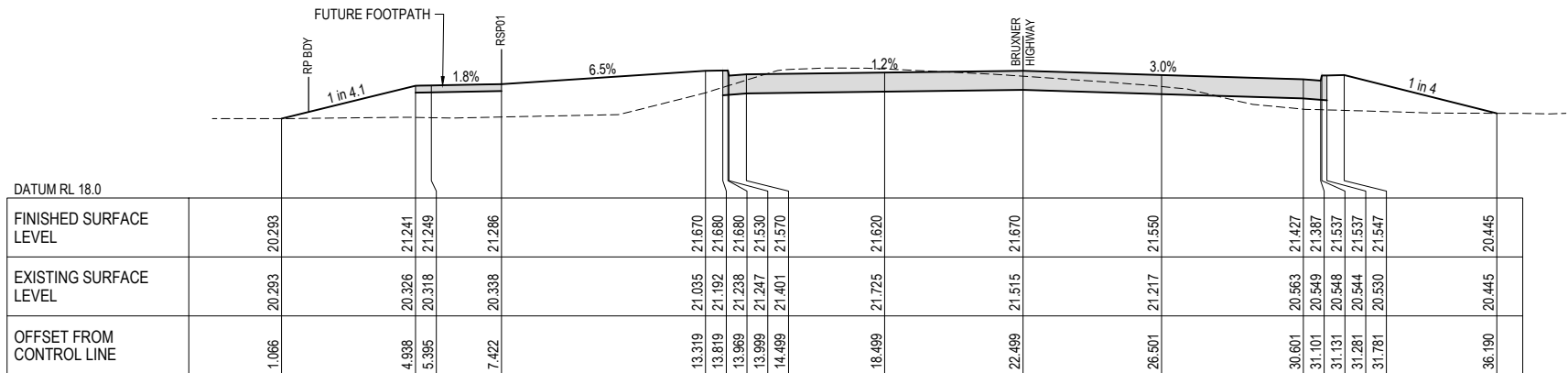
PROJECT No. : DRAWING No. : VERSION:

BE230077-01 C322 1

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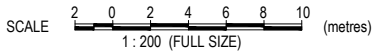
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-----	EXISTING SURFACE
-----	DESIGN SURFACE
	PAVEMENT DETAIL REFER DRG C002



CH 160.000

CROSS SECTIONS - BRUXNER HIGHWAY



BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

FOR

RICHMOND VALLEY COUNCIL

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EMAIL: ADMIN@BURCHILLS.COM.AU
COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

DRAWING TITLE :

CROSS SECTIONS BRUXNER HIGHWAY SHEET 2 OF 3

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V. LE

CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION:

BE230077-01

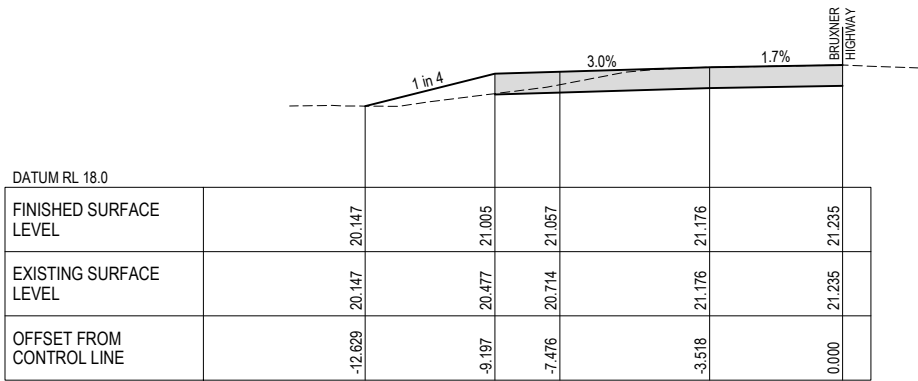
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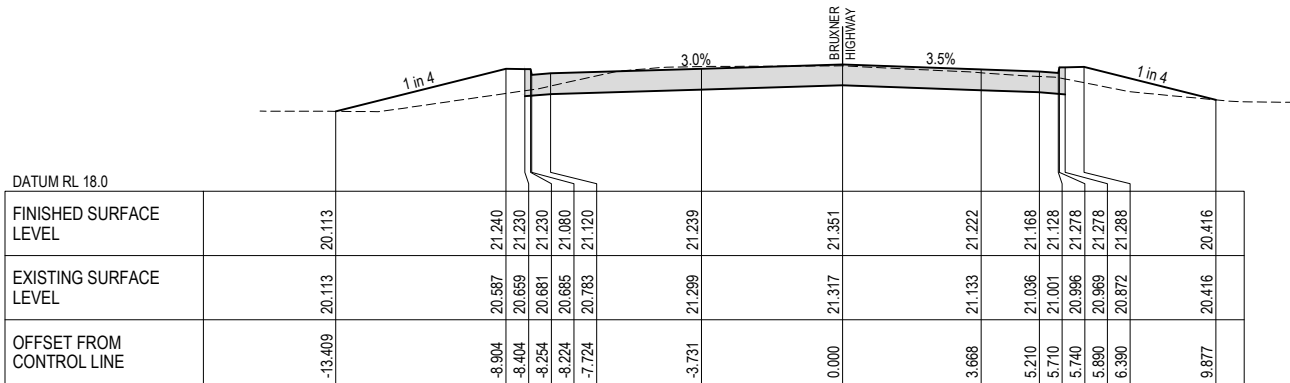
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NOT FOR CONSTRUCTION

LEGEND

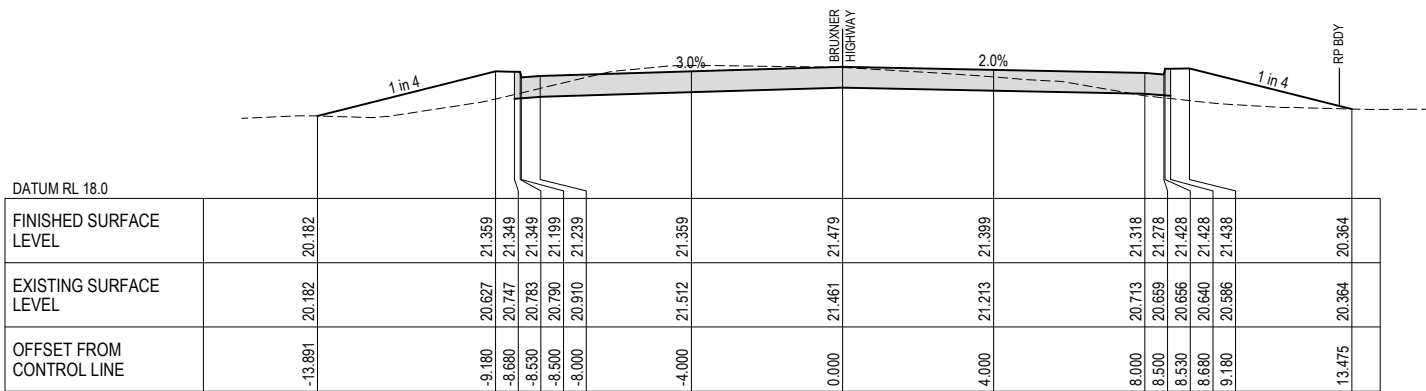
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- PAVEMENT DETAIL REFER DRG C002



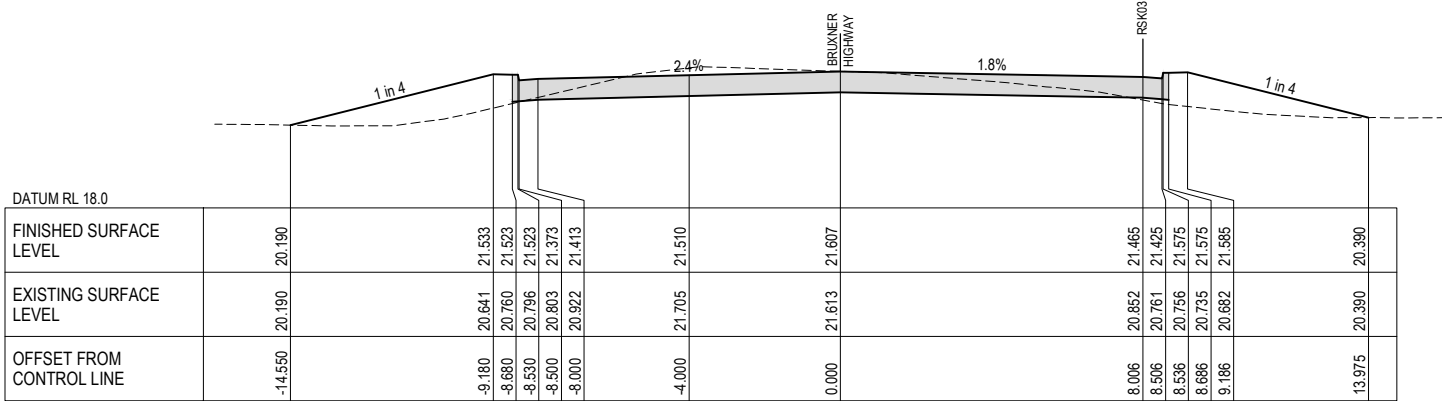
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CH 340.000

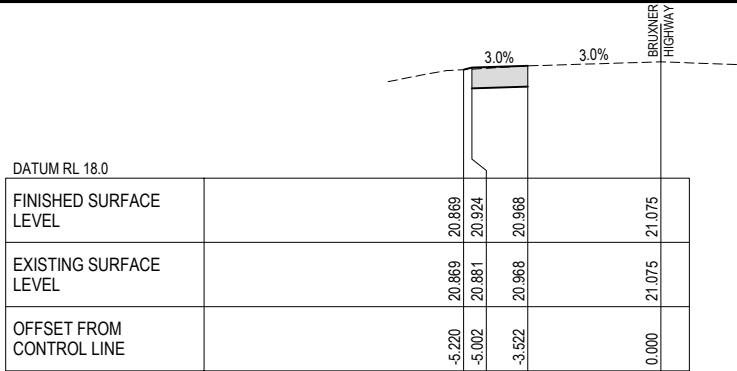
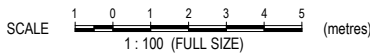


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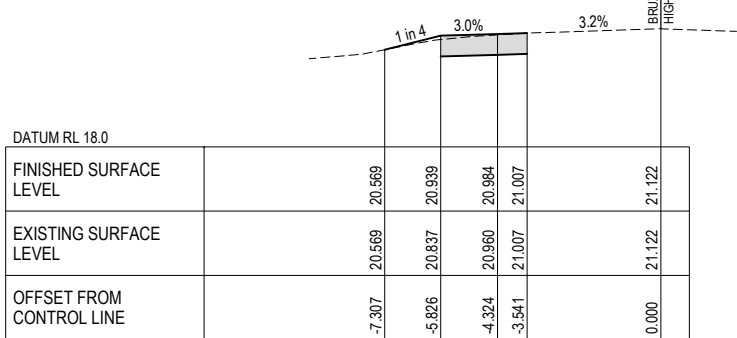


CH 300.000

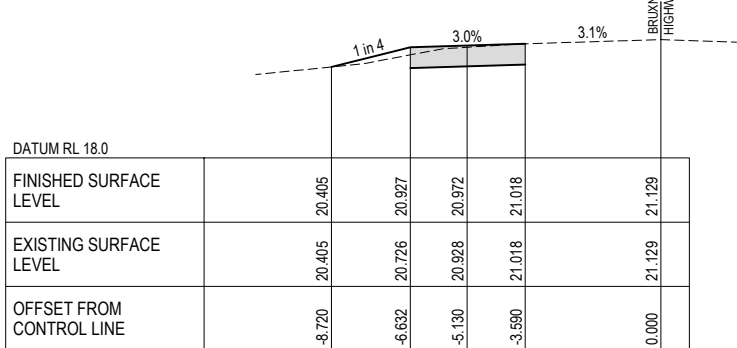
CROSS SECTIONS - BRUXNER HIGHWAY



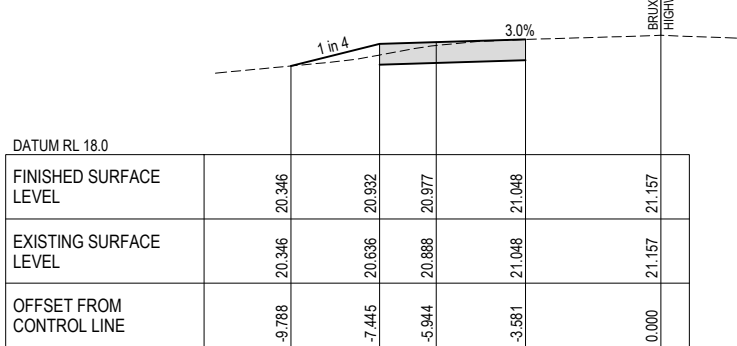
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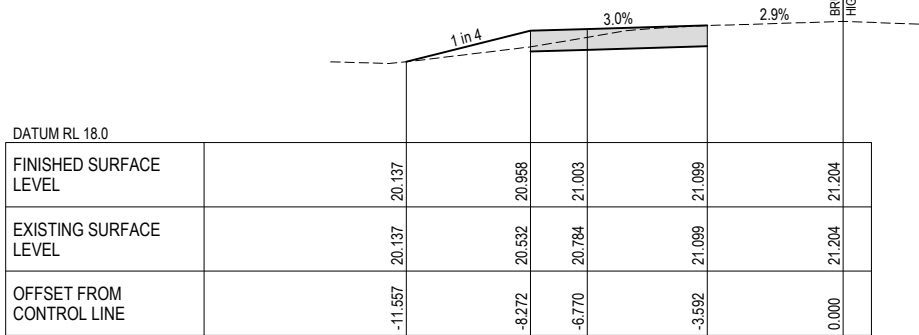
CH 440.000



CH 420.000



CH 400.000



CH 380.000

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

FOR

RICHMOND VALLEY COUNCIL

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ABN 76 166 942 365

PROJECT:
BRUXNER HIGHWAY AND PATRICIA STREET ROUNDABOUT

DRAWING TITLE:
CROSS SECTIONS BRUXNER HIGHWAY SHEET 3 OF 3

DEVEL. APPLIC. No.: DATE: 22-11-24

PROJECT LEADER: J. WINTER

DESIGNER: A. LUNA

DRAFTSPERSON: V. LE

CHECKED: L. FAULKNER

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

SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

PROJECT No.: DRAWING No.: VERSION:

BE230077-01 C324 1

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LEGEND

-----	EXISTING SURFACE
—————	DESIGN SURFACE
	PAVEMENT DETAIL REFER DRG C002

BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDBOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-20
VER.	DESCRIPTION	DATE

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ABN 76 166 942 365

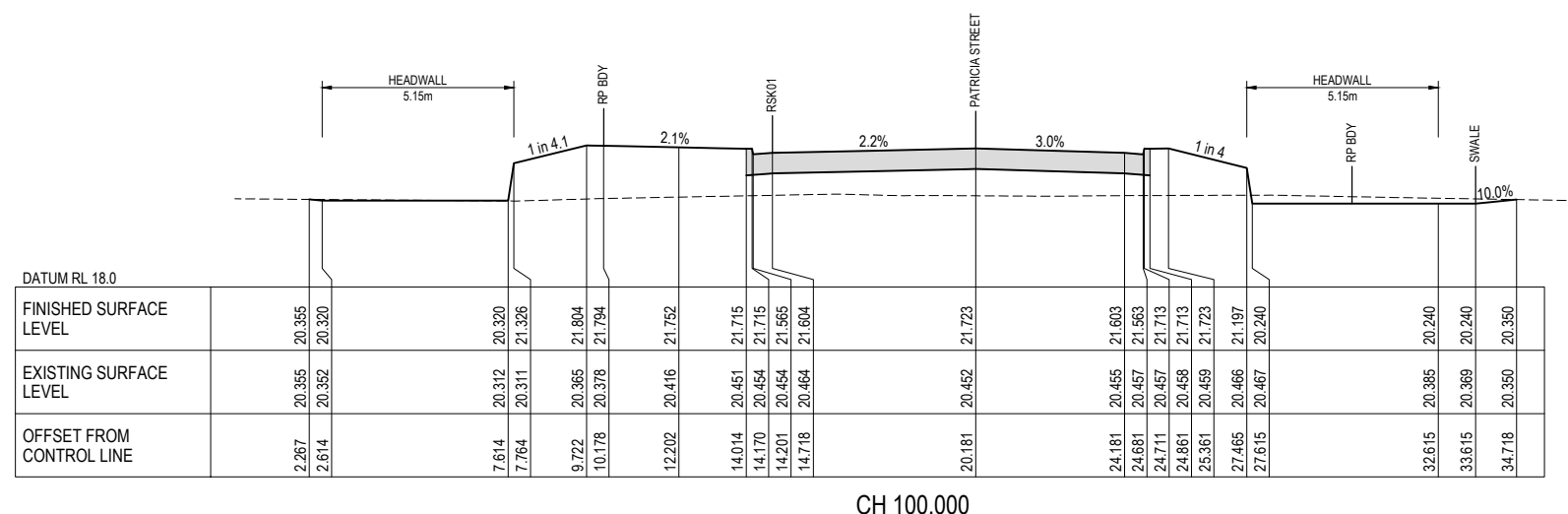
PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDBOUT

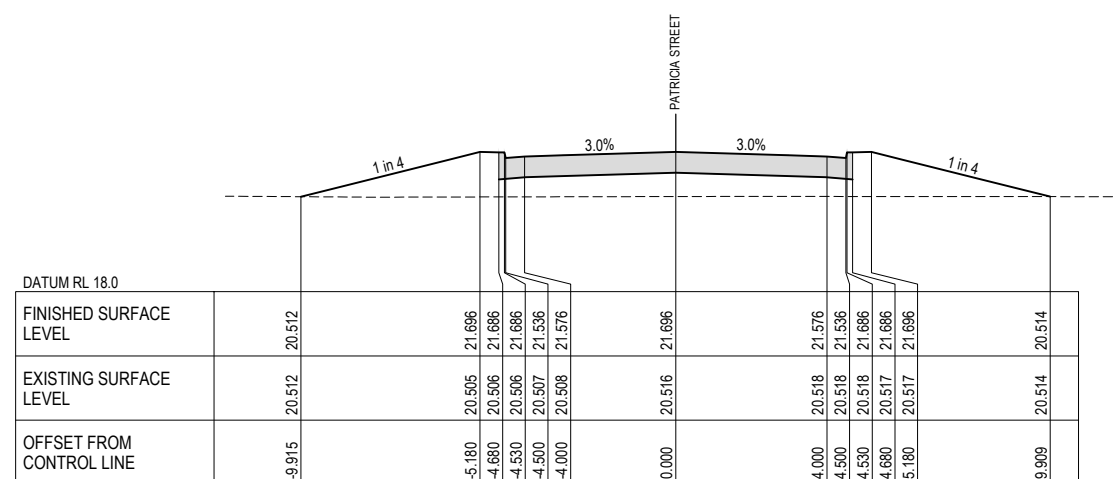
DRAWING TITLE :

CROSS SECTIONS
PATRICIA STREET

DEVEL. APPLIC. No.:		DATE: 22-11-24	
PROJECT LEADER: J. WINTER			
DESIGNER: A. LUNA			
DRAFTSPERSON: VLE			
CHECKED: L. FAULKNER			
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365			
SCALE: AS NOTED		DATUM: AHD	
PROJECT No.:		FULL SCALE: A	
PROJECT No.:		DRAWING No.:	
BE230077-01		C325	
		VERSION:	
		1	

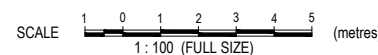


CH 100.000



CH 14.503

CROSS SECTIONS - PATRICIA STREET

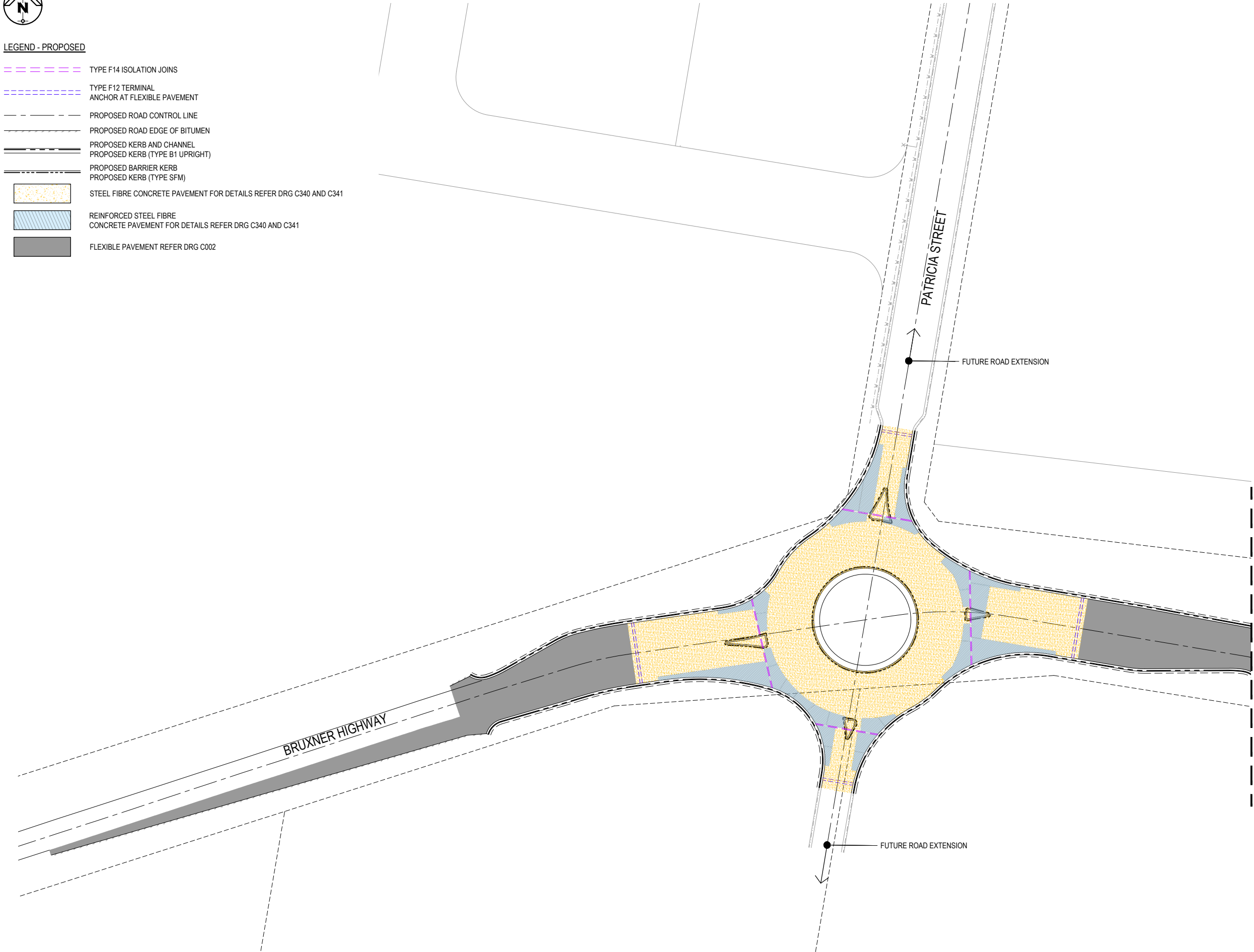


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LEGEND - PROPOSED

- TYPE F14 ISOLATION JOINS
- TYPE F12 TERMINAL ANCHOR AT FLEXIBLE PAVEMENT
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN
- PROPOSED KERB AND CHANNEL
PROPOSED KERB (TYPE B1 UPRIGHT)
- PROPOSED BARRIER KERB
PROPOSED KERB (TYPE SFM)
- STEEL FIBRE CONCRETE PAVEMENT FOR DETAILS REFER DRG C340 AND C341
- REINFORCED STEEL FIBRE CONCRETE PAVEMENT FOR DETAILS REFER DRG C340 AND C341
- FLEXIBLE PAVEMENT REFER DRG C002



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PAVEMENT SCHEDULE LAYOUT PLAN - SHEET 1 OF 2

SCALE 1 : 500 (FULL SIZE)

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BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR
RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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ABN 76 166 942 365

PROJECT:
BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :
PAVEMENT SCHEDULE
LAYOUT PLAN - SHEET 1
OF 2

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE230077-01	DRAWING No. : C330	VERSION: 1

BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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VER.	DESCRIPTION	DATE

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ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

PAVEMENT SCHEDULE
LAYOUT PLAN - SHEET 2
OF 2

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

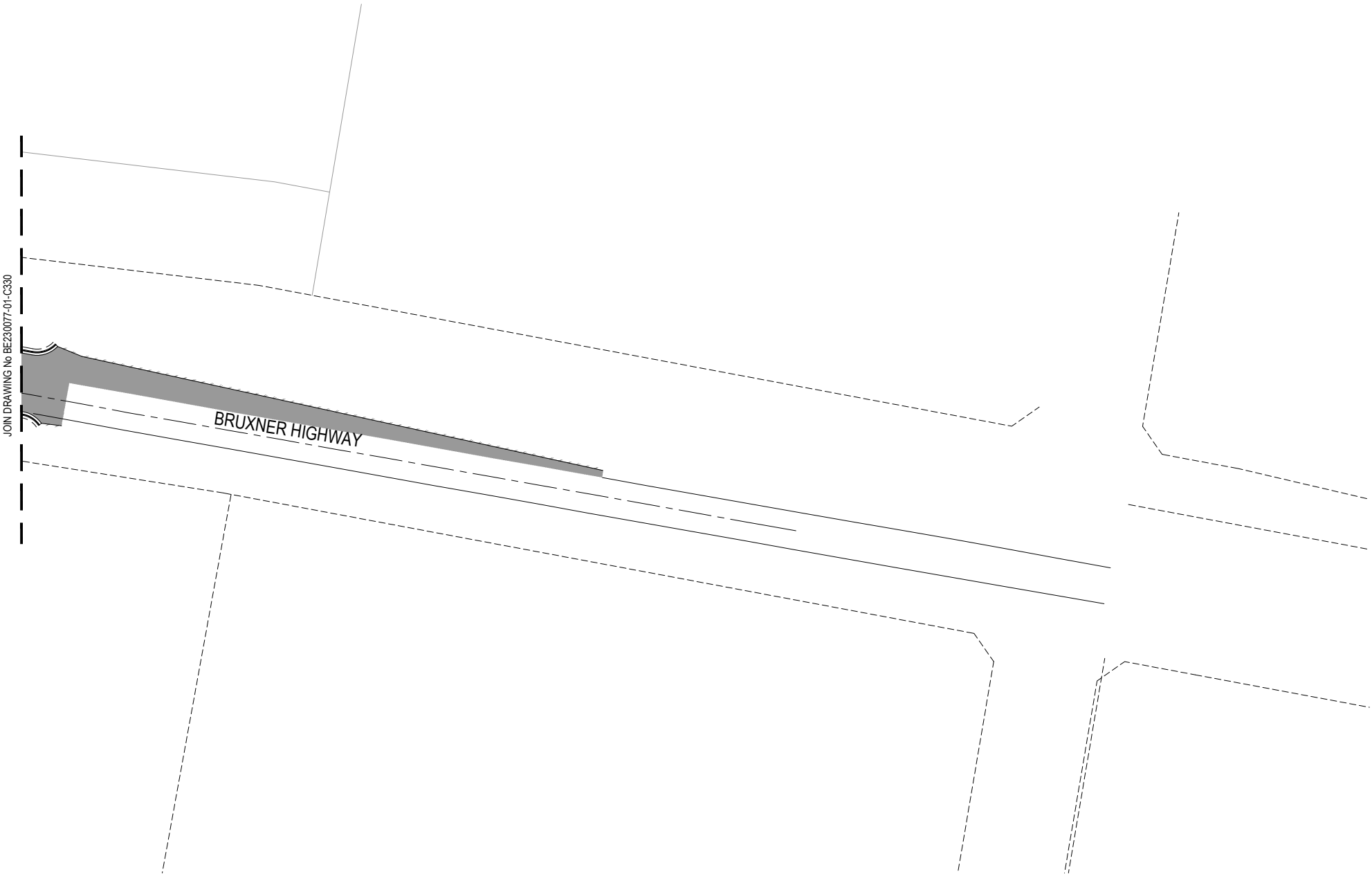
DRAFTSPERSON : V. LE

CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. :
BE230077-01 DRAWING No. :
C331 VERSION:
1



PAVEMENT SCHEDULE LAYOUT PLAN - SHEET 2 OF 2

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

NOTE:
FOR LEGEND REFER TO DRAWING BE230077-01-C330

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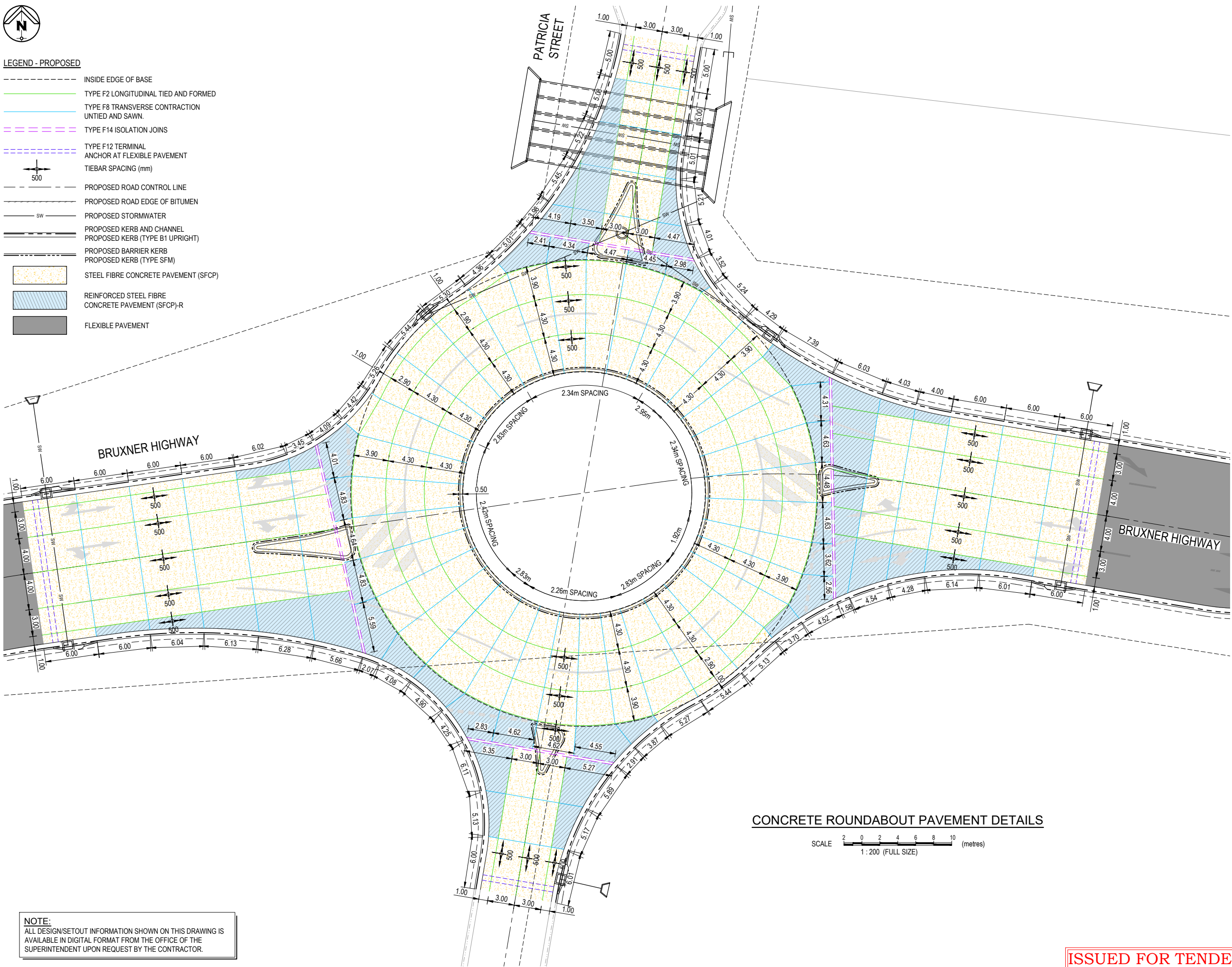
WARNING: UNDERGROUND SERVICES:
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LEGEND - PROPOSED

- INSIDE EDGE OF BASE
- TYPE F2 LONGITUDINAL TIED AND FORMED
- TYPE F8 TRANSVERSE CONTRACTION UNTIED AND SAWN.
- TYPE F14 ISOLATION JOINS
- TYPE F12 TERMINAL ANCHOR AT FLEXIBLE PAVEMENT
- TIEBAR SPACING (mm)
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN
- SW PROPOSED STORMWATER
- PROPOSED KERB AND CHANNEL
- PROPOSED KERB (TYPE B1 UPRIGHT)
- PROPOSED BARRIER KERB
- PROPOSED KERB (TYPE SFM)
- STEEL FIBRE CONCRETE PAVEMENT (SFCP)
- REINFORCED STEEL FIBRE CONCRETE PAVEMENT (SFCP)-R
- FLEXIBLE PAVEMENT



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BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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ABN 76 166 942 365

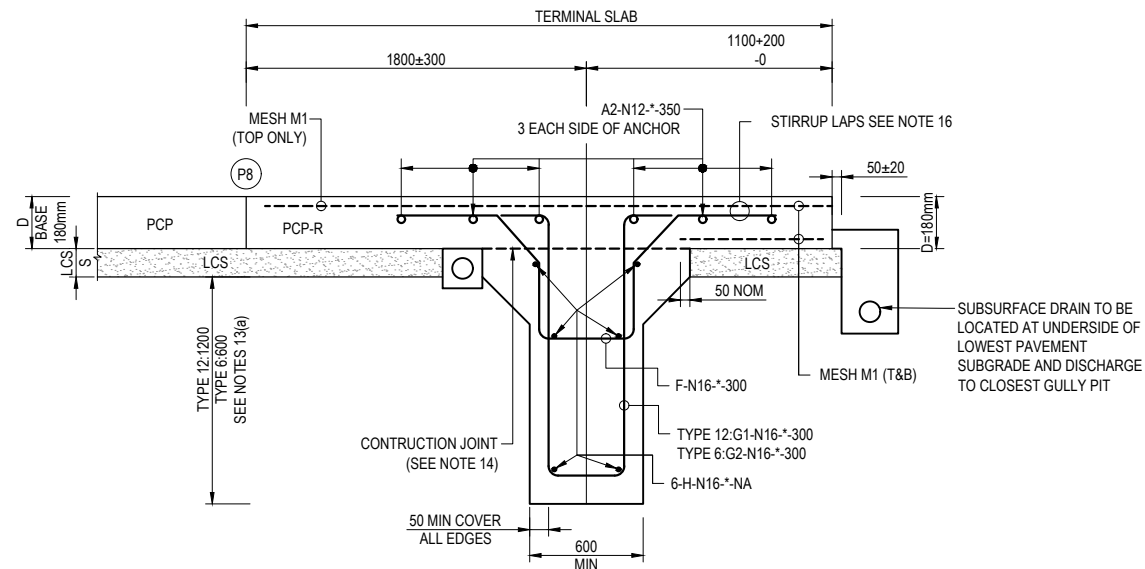
PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE:
**CONCRETE
ROUNDAABOUT PAVEMENT
DETAILS - SHEET 1 OF 2**

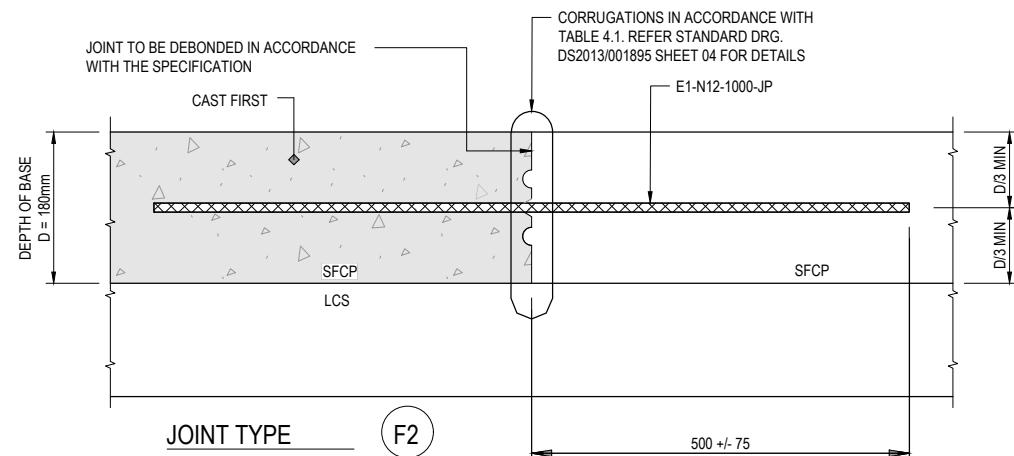
DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE230077-01	DRAWING No. : C340	VERSION: 1

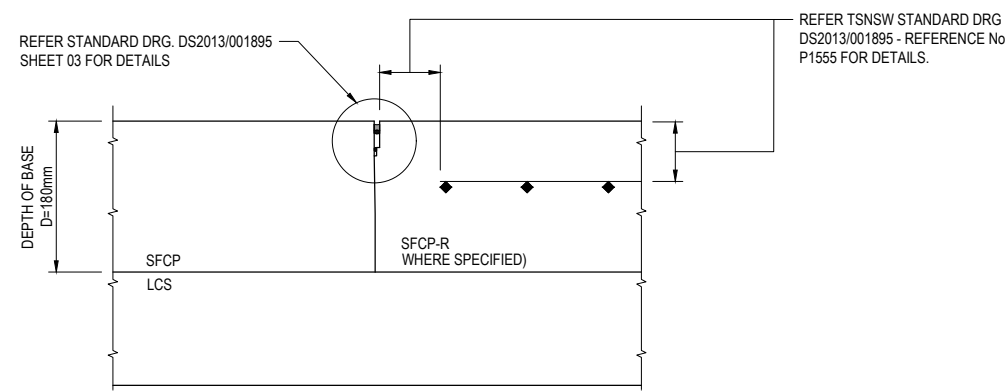
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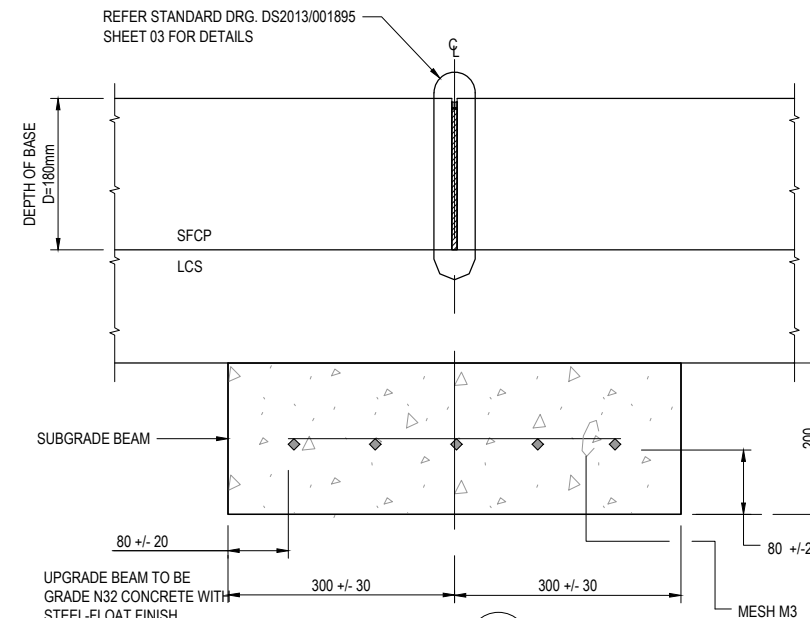
TYPE F12 TERMINAL ANCHOR AT FLEXIBLE PAVEMENT (NTS)



JOINT TYPE **F2**
LONGITUDINAL: TIED AND FORMED (NTS)



JOINT TYPE **F8**
TRANSVERSE: CONTRACTION, SAWN (NTS)



JOINT TYPE **F14**
ISOLATION, WITH SUBGRADE BEAM (NTS)

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BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

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ABN 76 166 942 365

PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE:
**CONCRETE
ROUNDAABOUT PAVEMENT
DETAILS - SHEET 2 OF 2**

DEVEL. APPLIC. No.: DATE: 22-11-24
PROJECT LEADER: J. WINTER
DESIGNER: A. LUNA
DRAFTSPERSON: V. LE
CHECKED: L. FAULKNER
APPROVED FOR AND ON BEHALF OF
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SCALE: AS NOTED DATUM: AHD FULL SIZE: A1
PROJECT No.: DRAWING No.: VERSION:
BE230077-01 C341 1

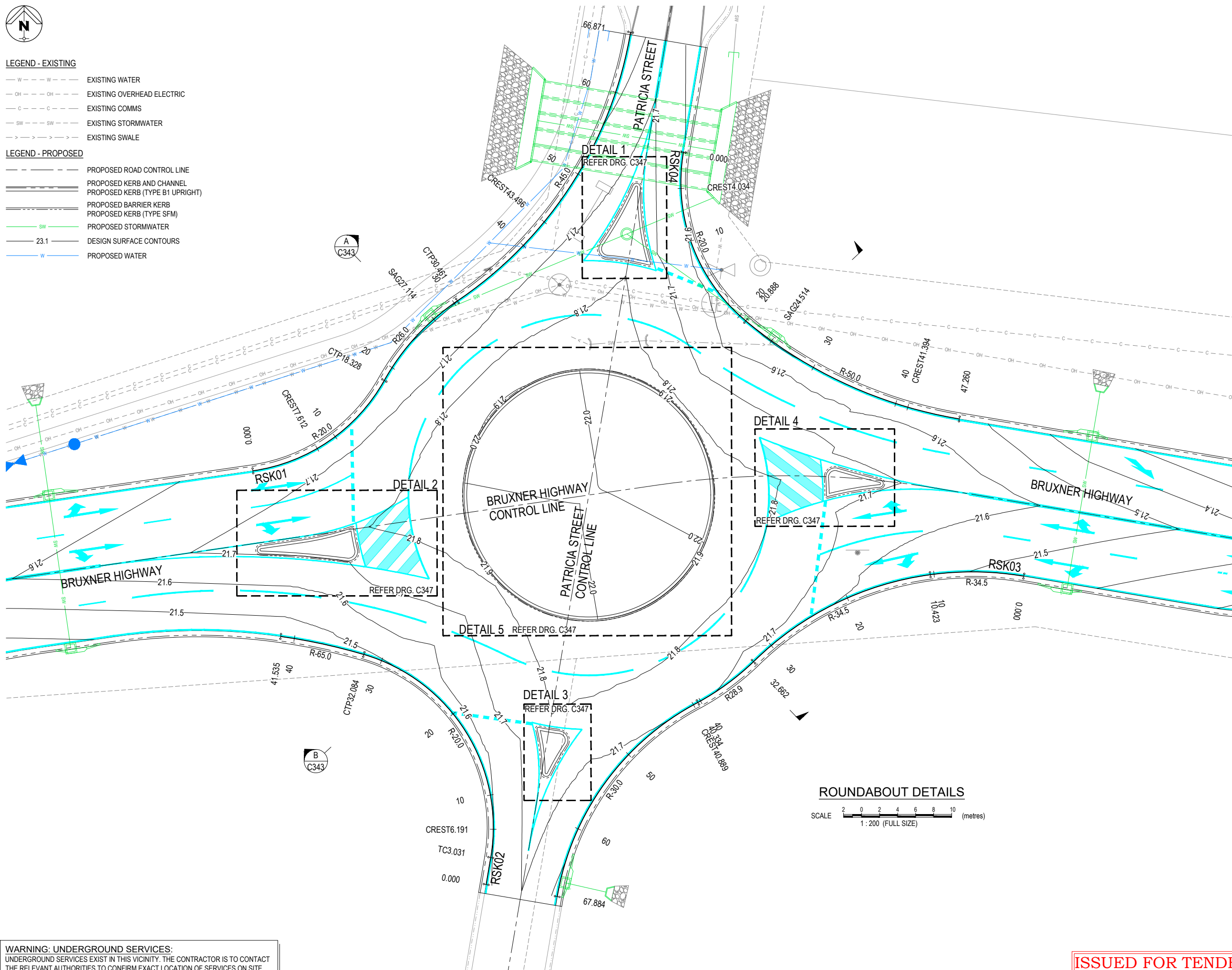


LEGEND - EXISTING

- W — W — EXISTING WATER
— OH — OH — EXISTING OVERHEAD ELECTRIC
— C — C — EXISTING COMMS
— SW — SW — EXISTING STORMWATER
— > — > — EXISTING SWALE

LEGEND - PROPOSED

- — — — — PROPOSED ROAD CONTROL LINE
= = = = = PROPOSED KERB AND CHANNEL
= = = = = PROPOSED KERB (TYPE B1 UPRIGHT)
= = = = = PROPOSED BARRIER KERB
= = = = = PROPOSED KERB (TYPE SFM)
— SW — PROPOSED STORMWATER
— 23.1 — DESIGN SURFACE CONTOURS
— W — PROPOSED WATER



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BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE:

**ROUNDAABOUT DETAILS -
SHEET 1 OF 4**

DEVEL. APPLIC. No.:	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
SCALE : AS NOTED	DATUM : AHD
PROJECT No.:	DRAWING No.:
BE230077-01	C342
	VERSION:
	1

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BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

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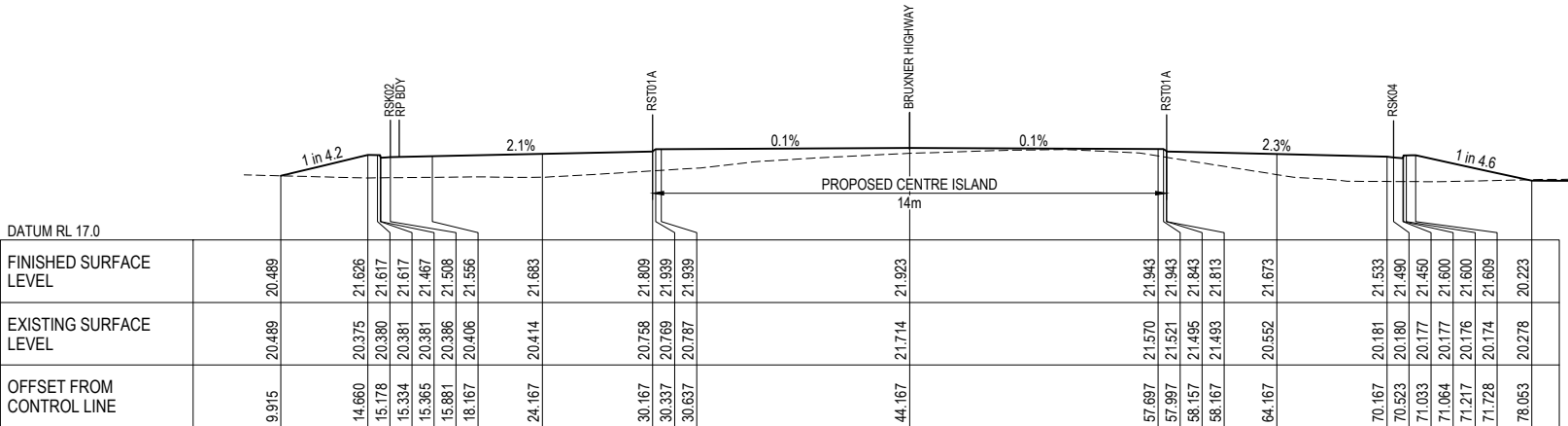
PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

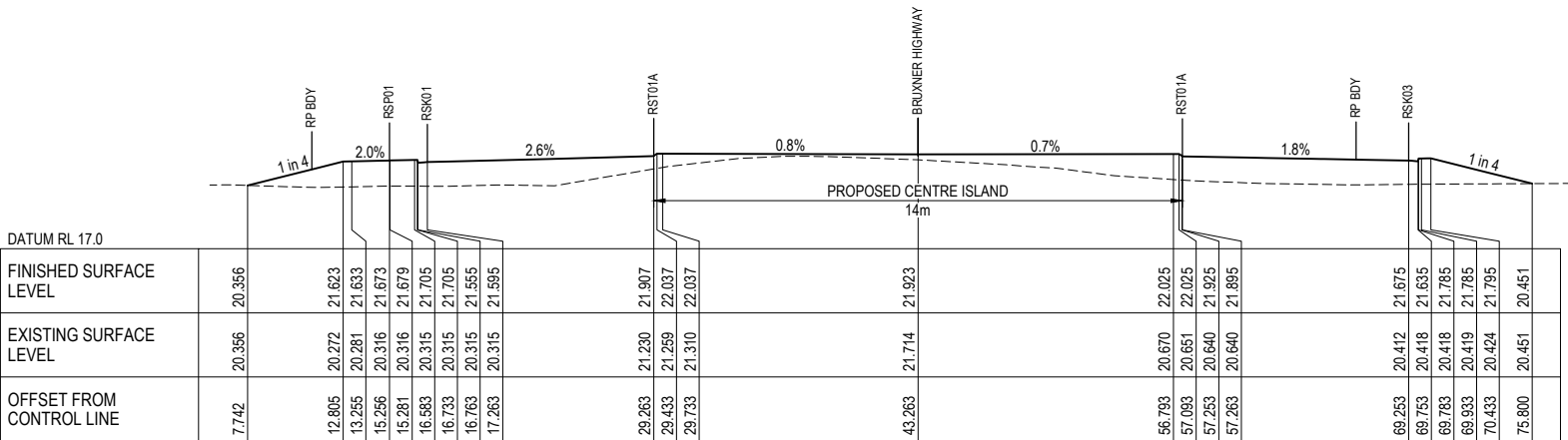
ROUNDAABOUT DETAILS -
SHEET 2 OF 4

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE230077-01	DRAWING No. : C343
	VERSION: 1



SECTION B

SCALE 2 0 2 4 6 8 10 (metres)
1 : 200 (FULL SIZE)



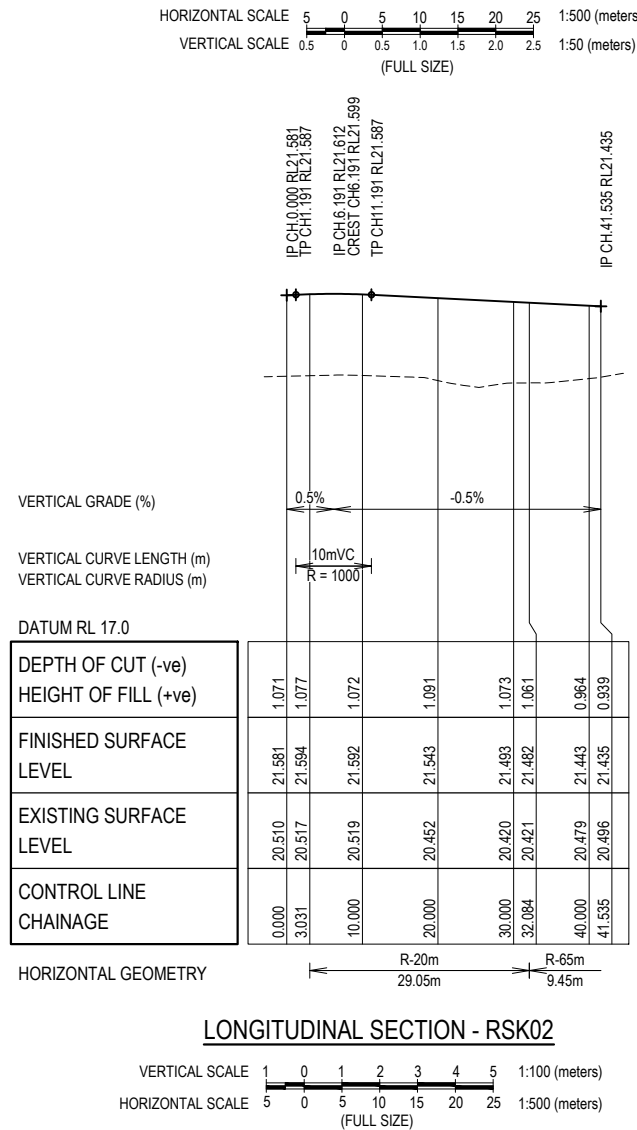
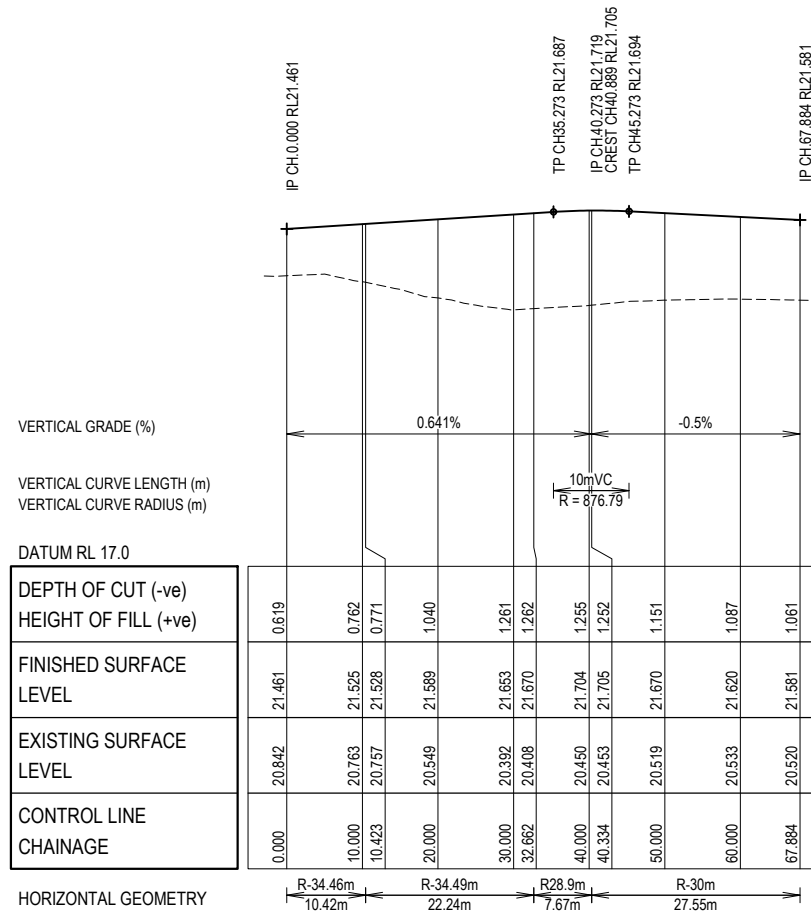
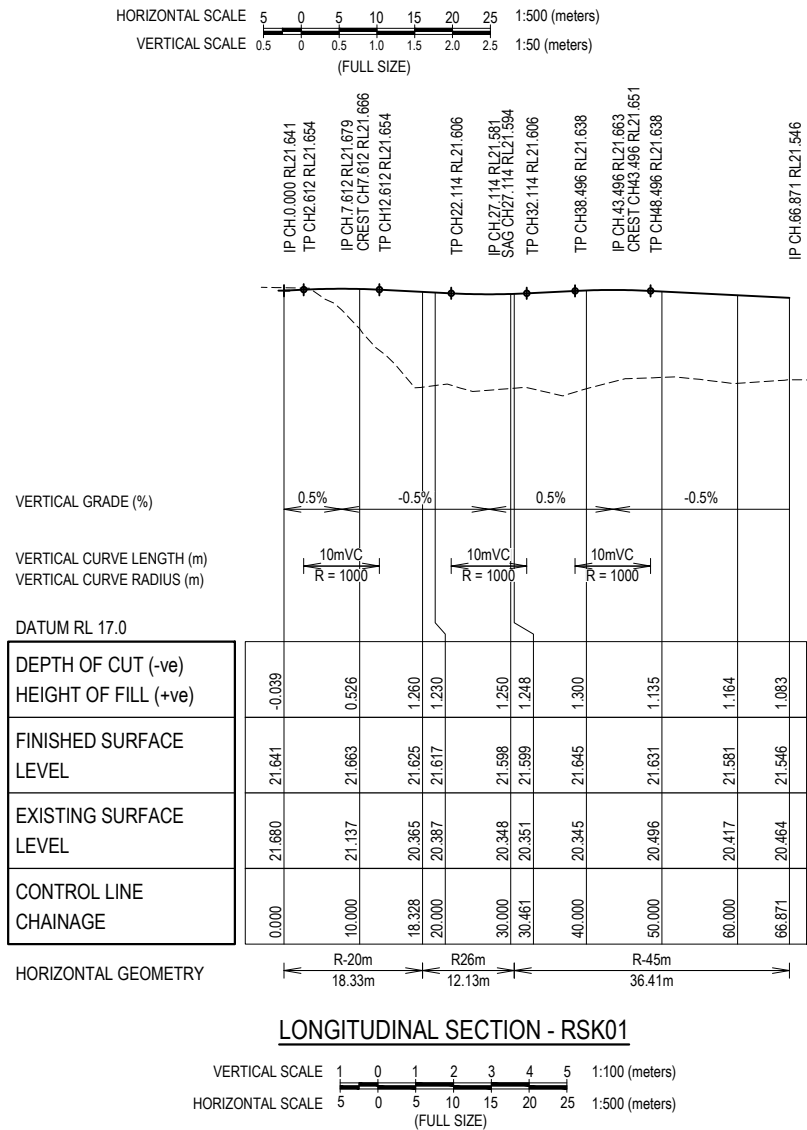
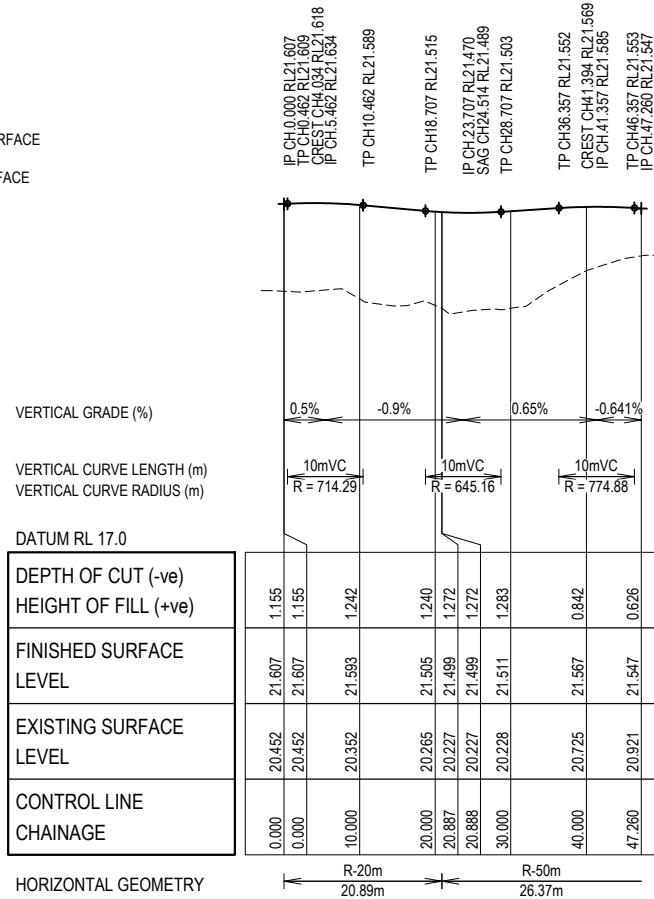
SECTION A

SCALE 2 0 2 4 6 8 10 (metres)
1 : 200 (FULL SIZE)

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

LEGEND

----- EXISTING SURFACE
————— DESIGN SURFACE



ISSUED FOR TENDER
NOT FOR CONSTRUCTION

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE:

ROUNDAABOUT DETAILS -
SHEET 3 OF 4

DEVEL. APPLIC. No.: DATE: 22-11-24

PROJECT LEADER: J. WINTER

DESIGNER: A. LUNA

DRAFTSPERSON: V. LE

CHECKED: L. FAULKNER

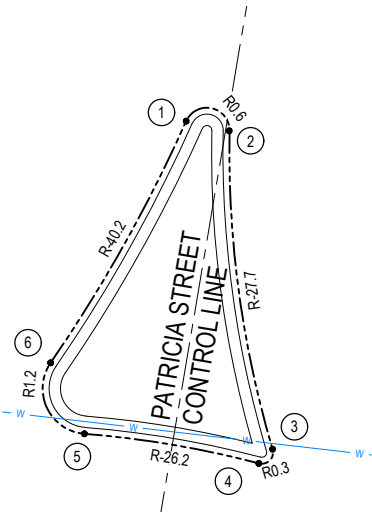
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SCALE: AS NOTED DATUM: AHD FULL SIZE: A1

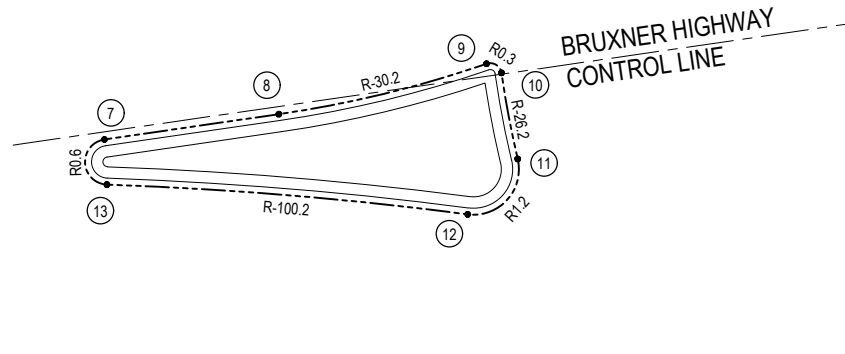
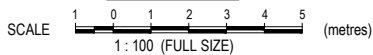
PROJECT No.: BE230077-01 DRAWING No.: C344 VERSION: 1



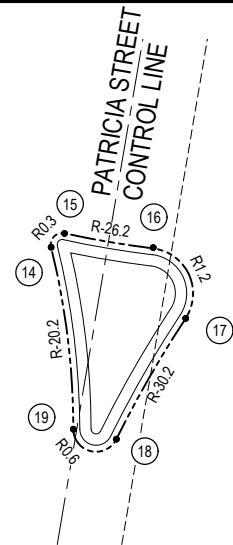
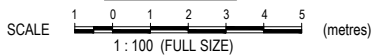
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5	507161.664	6807559.904	21.668
6	507160.769	6807561.780	21.673
7	507123.174	6807528.298	21.733
8	507127.786	6807528.966	21.763
9	507133.282	6807530.299	21.784
10	507133.677	6807530.058	21.787
11	507134.107	6807527.783	21.798
12	507132.784	6807526.318	21.798
13	507123.239	6807527.104	21.701
14	507153.714	6807507.812	21.737
15	507154.069	6807508.177	21.730
16	507156.416	6807507.801	21.783
17	507157.272	6807505.930	21.709
18	507155.440	6807502.735	21.732
19	507154.302	6807503.001	21.754
20	507187.280	6807536.917	21.852
21	507191.997	6807535.641	21.766
22	507191.913	6807534.461	21.705
23	507186.185	6807533.448	21.674
24	507185.742	6807535.680	21.795



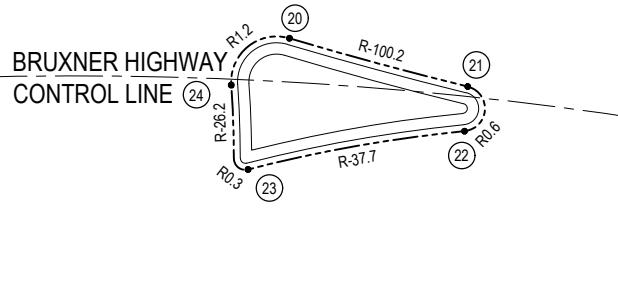
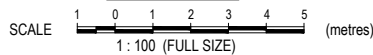
DETAILS 1



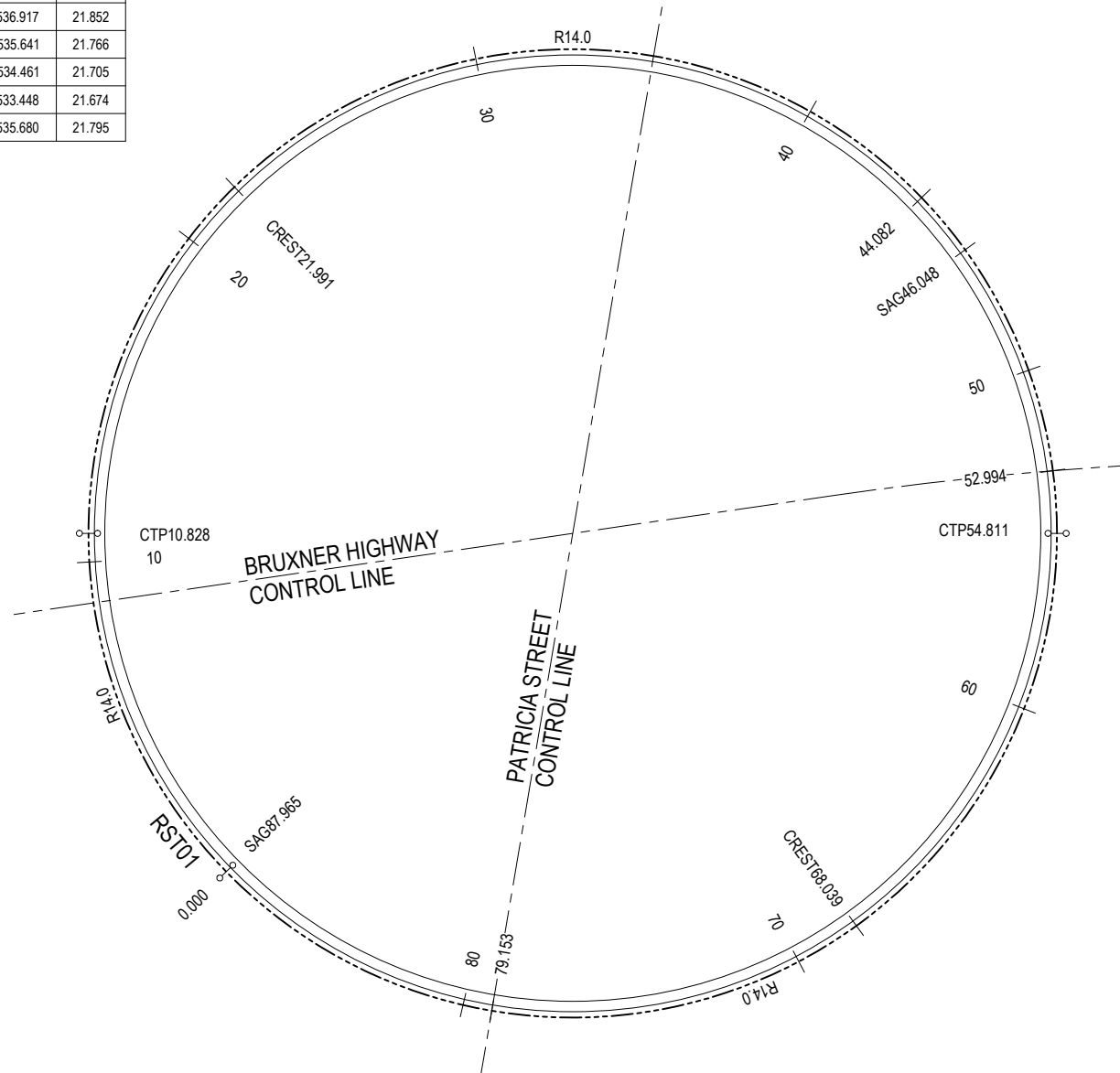
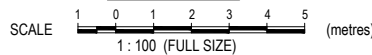
DETAILS 2



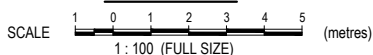
DETAILS 3



DETAILS 4



DETAILS 5



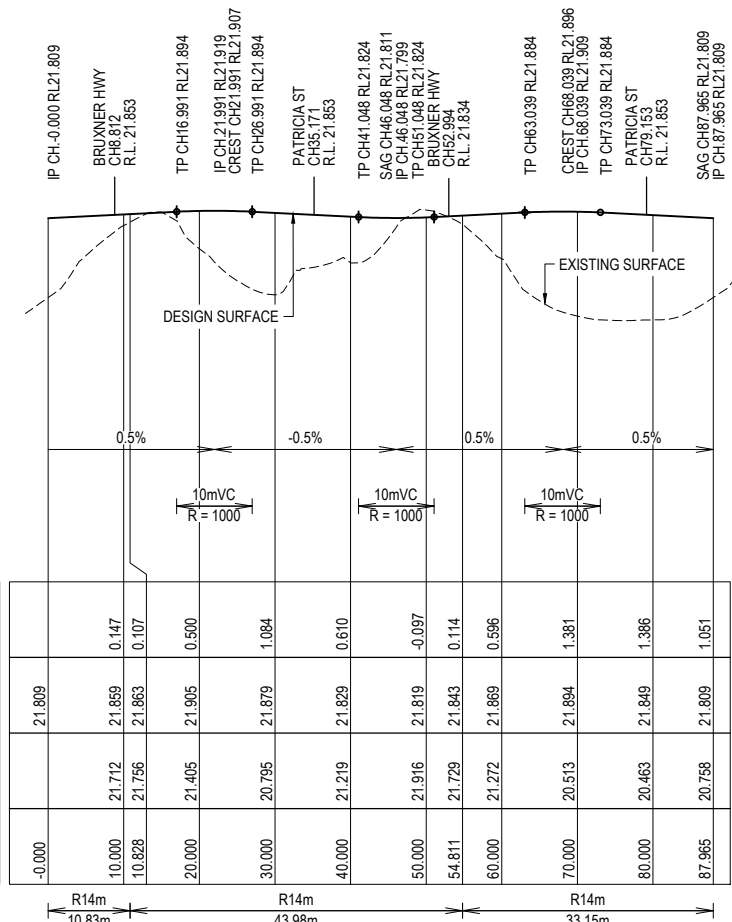
VERTICAL GRADE (%)

VERTICAL CURVE LENGTH (m)
VERTICAL CURVE RADIUS (m)

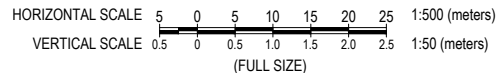
DATUM RL 17.0

DEPTH OF CUT (-ve) HEIGHT OF FILL (+ve)
FINISHED SURFACE LEVEL
EXISTING SURFACE LEVEL
CONTROL LINE CHAINAGE

HORIZONTAL GEOMETRY



LONGITUDINAL SECTION - RST01



ISSUED FOR TENDER
NOT FOR CONSTRUCTION

BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE:
**ROUNDAABOUT DETAILS -
SHEET 4 OF 4**

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V. LE

CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION:

BE230077-01 C345 1

NOTE:
ALL DESIGN/SETOUT INFORMATION SHOWN ON THIS DRAWING IS AVAILABLE IN DIGITAL FORMAT FROM THE OFFICE OF THE SUPERINTENDENT UPON REQUEST BY THE CONTRACTOR.



NOTE:
ALL SIGNAGE AND LINEMARKING TO BE
IN ACCORDANCE WITH RICHMOND VALLEY COUNCIL AND
MANUAL OF UNIFORM OF TRAFFIC CONTROL DEVICES STANDARDS.

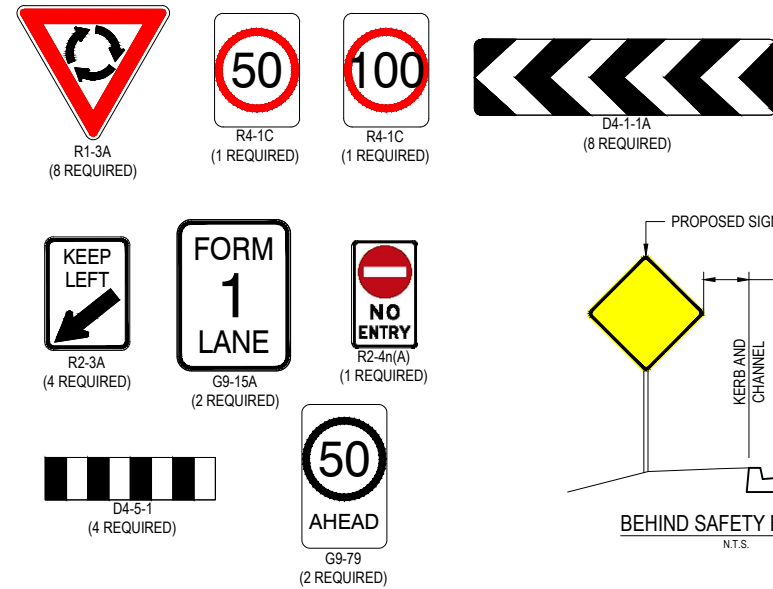
LINEMARKING AND SIGNAGE NOTES:

1. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
2. ALL SIGNAGE TO BE SIZE "A" UNLESS NOTED.
3. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
4. RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's) TO BE :
 - a) WHITE: LANE LINE MARKING (SPACING = 5m c/c)
 - b) WHITE: MEDIAN, CHEVRON MARKING (SPACING = 5m c/c)
 - c) YELLOW: BARRIER LINE MARKING (SPACING = 12m c/c)
5. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE SUPERINTENDENT PRIOR TO INSTALLATION.
6. ALL REDUNDANT LINE MARKING TO BE REMOVED BY ABRASIVE BLASTING.

STANDARD PAVEMENT MARKINGS ABBREVIATIONS

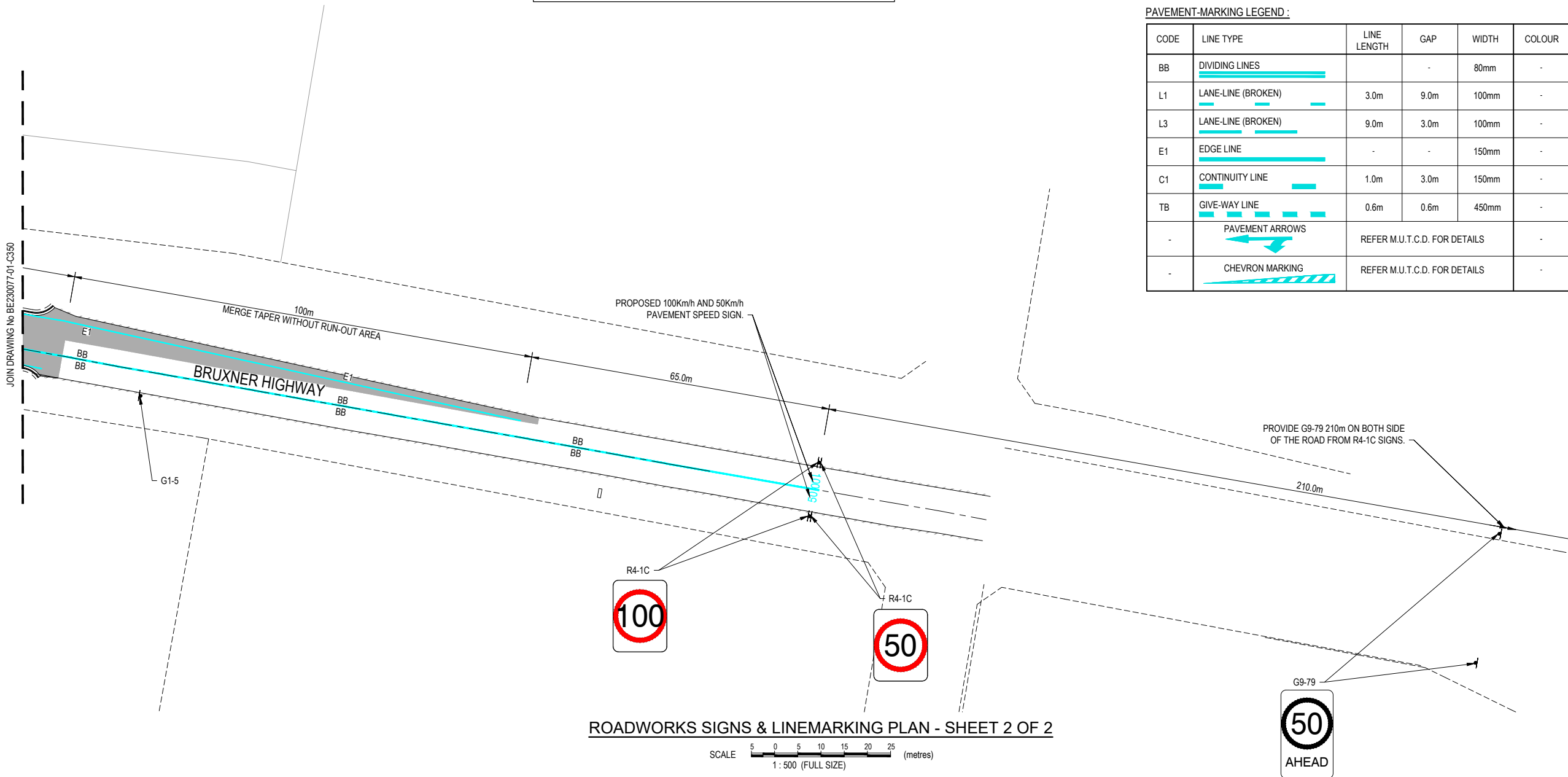
DIVIDING LINES	(BB)	GIVE WAY LINE	(TB, TB1)
LANE LINE	(L1, L3, L7)	TURN LINE	(T1)
EDGE LINE	(E1, E4)	HOLDING LINE	(HL)
SEPARATION LINE	(S1)	CONTINUITY LINE	(C1)
STOP LINE	(TF)	PEDESTRIAN CROSS LINE	(PCW)

SIGN LEGEND:



PAVEMENT-MARKING LEGEND :

CODE	LINE TYPE	LINE LENGTH	GAP	WIDTH	COLOUR
BB	DIVIDING LINES		-	80mm	-
L1	LANE-LINE (BROKEN)	3.0m	9.0m	100mm	-
L3	LANE-LINE (BROKEN)	9.0m	3.0m	100mm	-
E1	EDGE LINE	-	-	150mm	-
C1	CONTINUITY LINE	1.0m	3.0m	150mm	-
TB	GIVE-WAY LINE	0.6m	0.6m	450mm	-
-	PAVEMENT ARROWS	REFER M.U.T.C.D. FOR DETAILS			-
-	CHEVRON MARKING	REFER M.U.T.C.D. FOR DETAILS			-



ROADWORKS SIGNS & LINEMARKING PLAN - SHEET 2 OF 2

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

WARNING: UNDERGROUND SERVICES:
UNDERGROUND SERVICES EXIST IN THIS VICINITY. THE CONTRACTOR IS TO CONTACT
THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE
PRIOR TO ANY EXCAVATION OR CONSTRUCTION COMMENCING.

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

**BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT**

FOR

**RICHMOND VALLEY
COUNCIL**

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE :
**ROADWORKS SIGNS AND
LINEMARKING PLAN -
SHEET 2 OF 2**

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
SCALE : AS NOTED	DATUM : AHD
PROJECT No. : BE230077-01	DRAWING No. : C351
	VERSION: 1



LEGEND - EXISTING

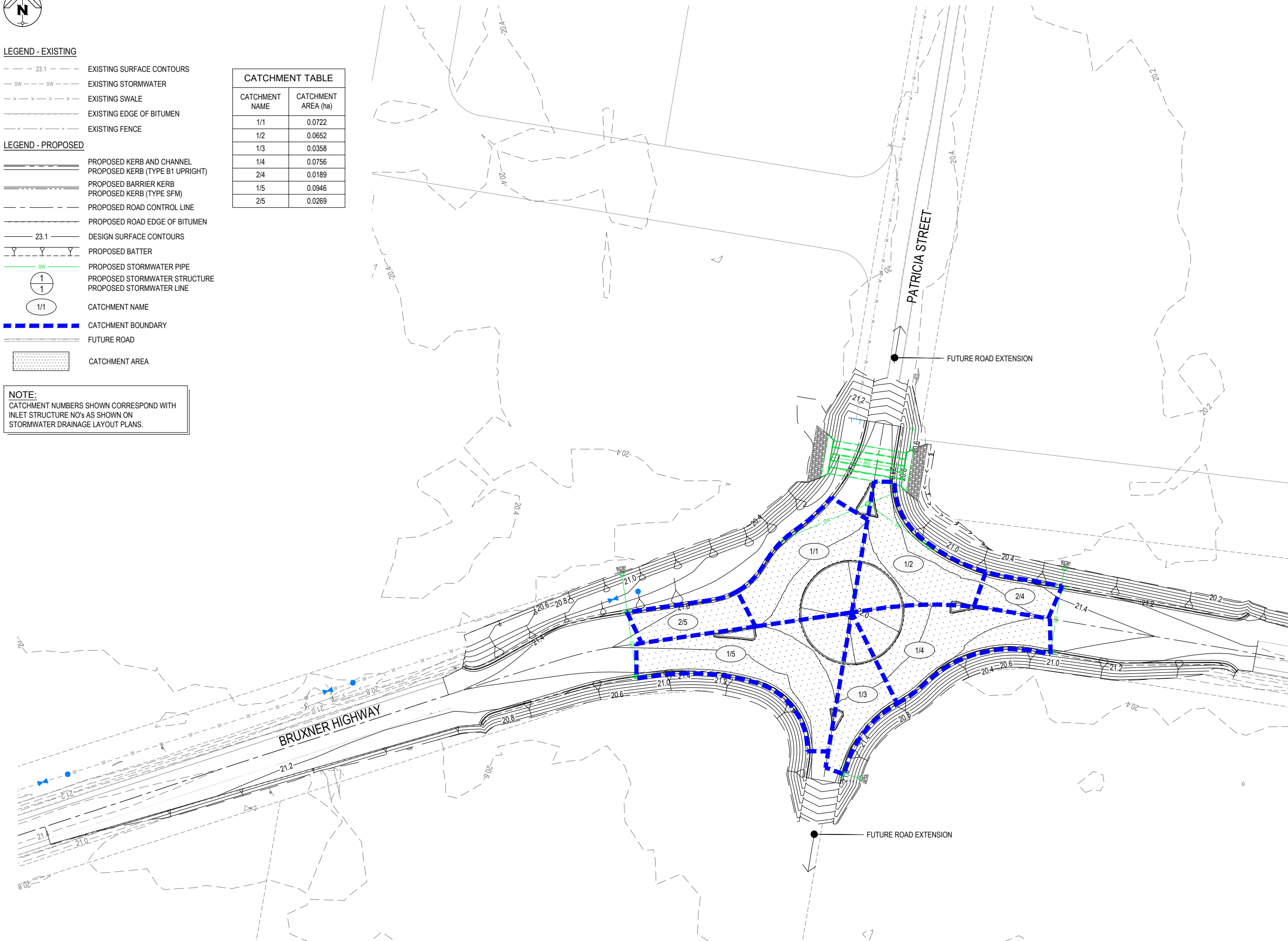
- 23.1 --- EXISTING SURFACE CONTOURS
- SW --- EXISTING STORMWATER
- >->->->- EXISTING SWALE
- ===== EXISTING EDGE OF BITUMEN
- #---#---#--- EXISTING FENCE

LEGEND - PROPOSED

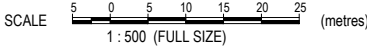
- ===== PROPOSED KERB AND CHANNEL
- ===== PROPOSED KERB (TYPE B1 UPRIGHT)
- ===== PROPOSED BARRIER KERB
- ===== PROPOSED KERB (TYPE SFM)
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN
- 23.1 --- DESIGN SURFACE CONTOURS
- Y Y Y PROPOSED BATTER
- SW --- PROPOSED STORMWATER PIPE
- 1 1 PROPOSED STORMWATER STRUCTURE
- 1/1 PROPOSED STORMWATER LINE
- 1/1 CATCHMENT NAME
- CATCHMENT BOUNDARY
- FUTURE ROAD
- CATCHMENT AREA

NOTE:
CATCHMENT NUMBERS SHOWN CORRESPOND WITH
INLET STRUCTURE NO's AS SHOWN ON
STORMWATER DRAINAGE LAYOUT PLANS.

CATCHMENT TABLE	
CATCHMENT NAME	CATCHMENT AREA (ha)
1/1	0.0722
1/2	0.0652
1/3	0.0358
1/4	0.0756
2/4	0.0189
1/5	0.0946
2/5	0.0269



STORMWATER CATCHMENT LAYOUT PLAN



WARNING: UNDERGROUND SERVICES:
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THE RELEVANT AUTHORITIES TO CONFIRM EXACT LOCATION OF SERVICES ON SITE
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BRUXNER HIGHWAY AND PATRICIA STREET ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

STORMWATER
CATCHMENT PLAN

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V. LE

CHECKED : L. FAULKNER

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

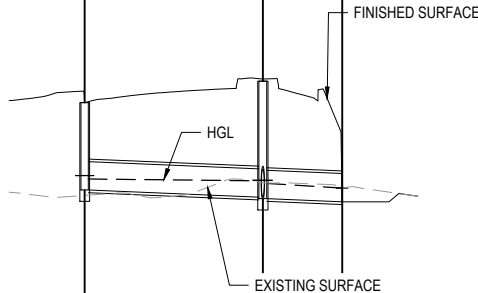
SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION:

BE230077-01 C400 1

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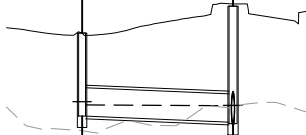
STRUCTURE NAME & SETOUT COORDINATES	1/1 507142.088 E 6807553.864 N	2/1 507163.838 E 6807562.743 N	3/1 507173.531 E 6807566.789 N
STRUCTURE DESCRIPTION	IPWEAQ LIP IN LINE GULLY SAG TYPE 'S'	STD IPWEAQ MANHOLE 1050mm DIAMETER	HEADWALL



PIPE SIZE (mm)	375	375
PIPE CLASS & TYPE	4	4
PIPE GRADE (%)	0.40%	0.40%
PIPE SLOPE (1 in X)	250.0	250.0
FULL PIPE VELOCITY (m/s)	0.30	0.57
NORMAL DEPTH VELOCITY (m/s)	0.88	1.04
PIPE FLOW (cumecs)	0.034	0.063
CAPACITY FLOW (cumecs)	0.111	0.111
DATUM RL	12.000	
HGL IN PIPE & WSE IN STRUCTURE	20.588 20.542	20.519 20.525 20.485
FINISHED (& EXISTING) SURFACE LEVEL	21.554 (20.326)	21.866 (20.493)
DEPTH OF INVERT BELOW FSL	1.158	1.564 1.584
INVERT LEVEL	20.396 20.240	20.302 20.282 20.240
CHAINAGE	-17.030 23.569m	6.539 10.503m

LINE 1

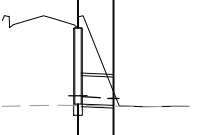
1/2 507180.196 E 6807551.296 N	2/1 507163.838 E 6807562.743 N
IPWEAQ LIP IN LINE GULLY SAG TYPE 'S'	STD IPWEAQ MANHOLE 1050mm DIAMETER



375	375
4	4
0.40%	0.40%
250.0	250.0
0.27	0.86
0.030	0.111
12.000	
20.573 20.531 20.542	20.519 20.525 20.485
21.481 (20.188)	21.866 (20.493)
1.099	1.564 1.584
20.382 20.342	20.302 20.282 20.240
0.000 19.966m	0.000 19.966

2

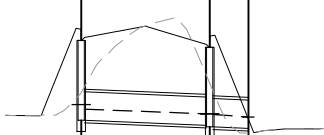
1/3 507156.933 E 6807490.790 N	2/3 507161.516 E 6807489.745 N
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	HEADWALL



375	375
4	4
0.40%	0.40%
250.0	250.0
0.15	0.72
0.017	0.111
12.000	
20.652 20.640	20.615 20.516
21.549 (20.522)	20.704
1.007	0.181
20.542 20.542	20.523 20.523
-10.801 4.700m	-6.101

3

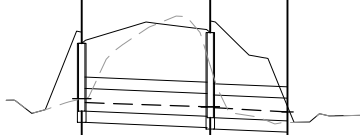
1/4 507212.685 E 6807523.470 N	2/4 507215.510 E 6807540.234 N	3/4 507216.360 E 6807545.281 N
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	HEADWALL



375	375
4	4
0.40%	0.40%
250.0	250.0
0.32	0.40
0.89	0.94
0.035	0.044
0.111	0.111
12.000	
20.534 20.474	20.412 20.404
21.384 (20.698)	20.343
1.056	0.123
20.328 20.328	20.220 20.220
-17.000 17.000m	5.118m

4

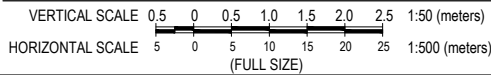
1/5 507102.134 E 6807516.859 N	2/5 507099.717 E 6807533.886 N	3/5 507098.263 E 6807543.808 N
IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	IPWEAQ LIP IN LINE GULLY ON GRADE TYPE 'S'	HEADWALL



450x300	450x300
BC	BC
0.40%	0.40%
250.0	250.0
0.33	0.42
0.87	0.93
0.044	0.056
0.132	0.167
12.000	
20.614 20.562	20.505 20.495
21.347 (20.610)	20.509 (20.298)
0.898	0.189
20.449 20.449	20.320 20.320
0.000 17.000m	27.226 10.226m

5

STORMWATER LONGITUDINAL SECTIONS



ISSUED FOR TENDER
NOT FOR CONSTRUCTION

BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

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ABN 76 166 942 365

PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE :
**STORMWATER
LONGITUDINAL SECTIONS**

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V. LE

CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : DRAWING No. : VERSION:

BE230077-01 C420 1

GENERAL NOTES:

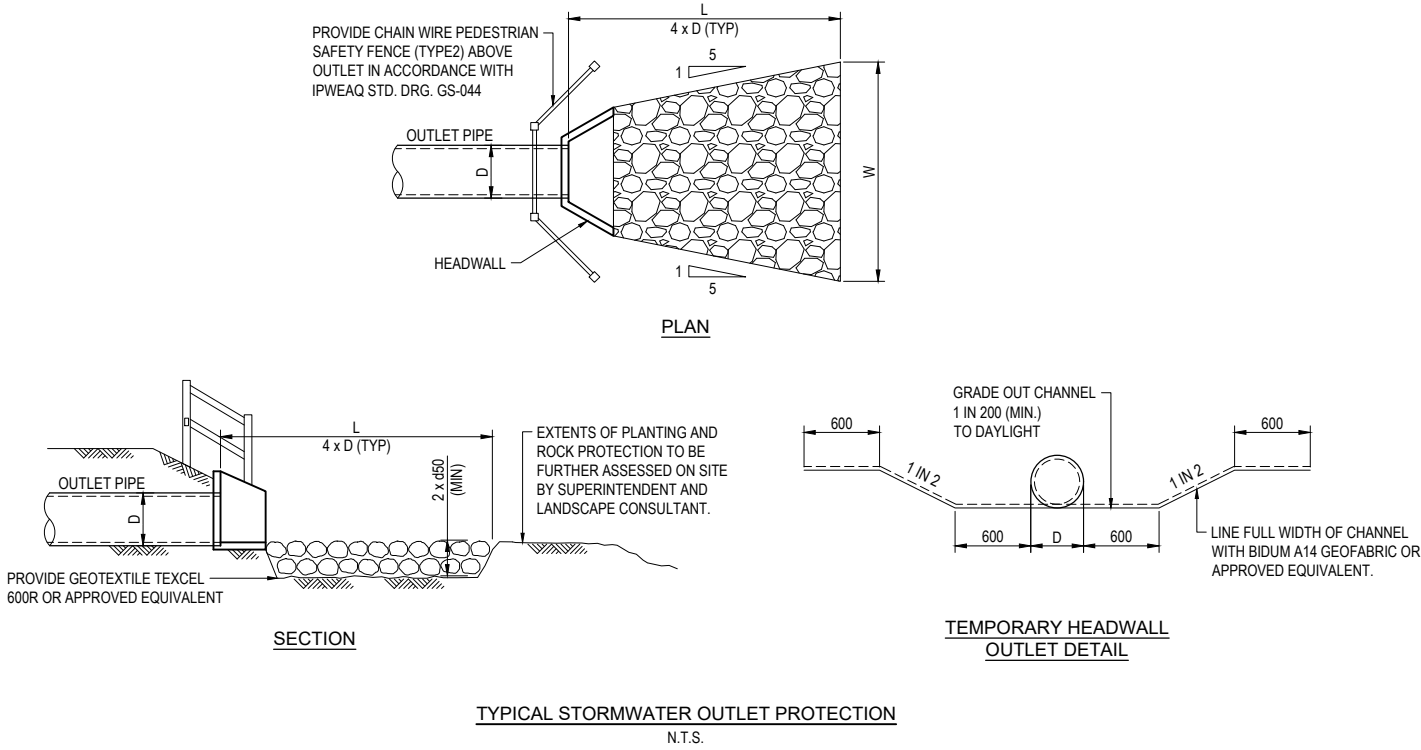
- FOR STORMWATER DRAINAGE ALIGNMENTS AND STRUCTURE LOCATIONS REFER LONGITUDINAL SECTIONS. ALL STRUCTURE LOCATIONS TO BE PEGGED BY THE PRINCIPAL'S SURVEYOR.
- FOR LOCATIONS OF ELECTRICAL ROAD CROSSING CONDUITS REFER ELECTRICAL CONSULTANT'S DRAWINGS.
- THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING SERVICES. ANY DAMAGE TO EXISTING SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE RECTIFIED AT HIS EXPENSE.
- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH RICHMOND VALLEY COUNCIL STANDARDS, AND SPECIFICATIONS.
- THE CONTRACTOR SHALL HAVE AN APPROVED SET OF CONSTRUCTION PLANS AND ALL RELEVANT CURRENT IPWEAQ STANDARD DRAWINGS AND RICHMOND VALLEY COUNCIL STANDARD DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES DURING THE CONSTRUCTION PHASE.
- THE CONTRACTOR SHALL MAINTAIN 300mm MINIMUM VERTICAL CLEARANCE FROM ALL EXISTING UTILITIES WHERE CROSSINGS OCCUR UNLESS NOTED OTHERWISE.
- PROVIDE A FULL HEIGHT METAL KERB ADAPTOR IN THE KERB AND CHANNEL 400mm (MIN) FROM THE PROJECTED LOW SIDE PROPERTY BOUNDARY OF EVERY RESIDENTIAL LOT FALLING TOWARD THE ROAD.

STORMWATER DRAINAGE NOTES:

- GULLY PIT CONSTRUCTION TO BE IN ACCORDANCE WITH I.P.W.E.A. STD. DRG. DSD-403.
- MANHOLE CONSTRUCTION TO BE IN ACCORDANCE WITH I.P.W.E.A. STD. DRG. DSD-101 TO DSD-106 (INCLUSIVE).
- FIELD INLET CONSTRUCTION TO BE IN ACCORDANCE WITH I.P.W.E.A. STD. DRG. DSD-401.
- WETLAND FIELD INLET CONSTRUCTION TO BE IN ACCORDANCE WITH I.P.W.E.A. STD. DRG. DSD-407.
- BEDDING TO STORMWATER LINES TO BE IN ACCORDANCE WITH I.P.W.E.A. STD. DRG. DSD-201.
- GULLY PIT LOCATIONS SHOWN ARE CENTRE OF PIT ON ALIGNMENT OF NOMINAL KERB LINE.
- ALL STORMWATER PIPES UNDER ROADWAYS AND VEHICULAR TRAFFICKED PAVEMENTS ARE TO BE STEEL REINFORCED CONCRETE PIPES UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING 600mm DIA. ARE TO BE RUBBER-RING JOINTED. ALL PIPES LARGER THAN 600mm DIA. TO BE FLUSH-JOINTED UNLESS NOTED OTHERWISE.
- INVERT LEVELS OF EXISTING STORMWATER LINES TO BE CONFIRMED PRIOR TO DRAINLINE CONSTRUCTION COMMENCING.
- STANDARD IPWEAQ MANHOLES DEEPER THAN 3.0m MAX. REQUIRE ONE LAYER OF SL82 MESH TO BE PLACED CENTRALLY IN WALLS.
- THE PIPE CLASSES HAVE BEEN DESIGNED FOR SERVICE LOADS ONLY. CONTRACTOR TO ASSESS PROPOSED PIPE COVER IN RELATION TO ANTICIPATED MACHINERY USED ON SITE AND UPGRADE THE PIPE CLASSES IF NECESSARY. CRACKED PIPES WILL NOT BE ACCEPTED.

ROCK ARMOURING NOTES:

- ROCKS TO BE DURABLE BLUE STONE OR OTHERWISE APPROVED BY SUPERINTENDENT.
- EACH ROCK SHALL BE ANGULAR IN SHAPE (PROMOTES INTERLOCKING) AND FREE FROM OVERBURDEN, SPOIL, SHALE AND ORGANIC MATERIAL.
- NEITHER BREADTH NOR THICKNESS OF A SINGLE ROCK SHALL BE LESS THAN ONE HALF ITS LENGTH (ie THE ROCK SHALL BE CHUNKY RATHER THAN FLAT).
- ROCKS TO BE PLACED AND INTERLOCKED INTO POSITION AND BUILT UP TO FINAL LEVELS SHOWN, ENSURING COVERAGE OF GEOFABRIC.
- GAPS BETWEEN THE ROCKS ARE TO BE FILLED BY DROPPING SMALL ROCKS INTO GAPS AND LOCKING INTO POSITION WITH A CROWBAR.
- ALL ROCKWORK TO BE PLACED OVER BIDIM A24 OR EQUIVALENT.
- FOR ROCK SIZED SPECIFIED AS D50 ON THE DRAWINGS, THIS CORRESPONDS TO THE MEDIAN DIAMETER OF WHICH HALF OF THE ROCK SIZES SHALL BE GREATER AND HALF OF THEM SHALL BE SMALLER. THE ROCK SHALL BE WELL GRADED AND HAVE A MAXIMUM SIZE NO GREATER THAN 30% AND A MINIMUM SIZE NO LESS THAN 30% SMALLER THAN D50. FOR EXAMPLE IF D50 = 400mm IS SPECIFIED, THE EQUIVALENT ROCK DIAMETER RANGES FROM 280 to 520mm.



TYPICAL STORMWATER OUTLET PROTECTION
N.T.S.

ROCK GRADATION TABLE

ROCK SIZE (mm)	d50					ROCK DISTRIBUTION BY %
	200mm	300mm	400mm	500mm	600mm	
	400	600	750	850	900	
	300	400	525	600	750	
	200	300	400	500	600	
75	100	150	150	200		15-25%

ROCK PROTECTION TABLE

OUTLET No.	PIPE Ø	VELOCITY	LENGTH OF PROTECTION	WIDTH OF PROTECTION	NOMINAL ROCK SIZE	THICKNESS OF PROTECTION	ROCK VOLUME
	D	V	L	W	d50	T	
2/3	375mm	0.87m/s	1.5m	2.26m	300mm	600m	1.76m3
3/4	375mm	0.95m/s	1.5m	2.26m	300mm	600m	1.76m3
3/5	450x300 BC	0.79m/s	1.8m	2.32m	300mm	600m	2.11m3

ISSUED FOR TENDER
NOT FOR CONSTRUCTION

BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

STORMWATER NOTES
AND DETAILS

DEVEL. APPLIC. No. :		DATE : 22-11-24
PROJECT LEADER : J. WINTER		
DESIGNER :	A. LUNA	
DRAFTSPERSON :	V.LE	
CHECKED :	L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE230077-01	DRAWING No. : C430	VERSION: 1



LEGEND - EXISTING

- 23.1 --- EXISTING SURFACE CONTOURS
- W --- W --- EXISTING WATER
- OH --- OH --- EXISTING OVERHEAD ELECTRIC
- C --- C --- EXISTING COMMS
- SW --- SW --- EXISTING STORMWATER
- > --- > --- EXISTING SWALE
- --- EXISTING EDGE OF BITUMEN
- # --- # --- EXISTING FENCE

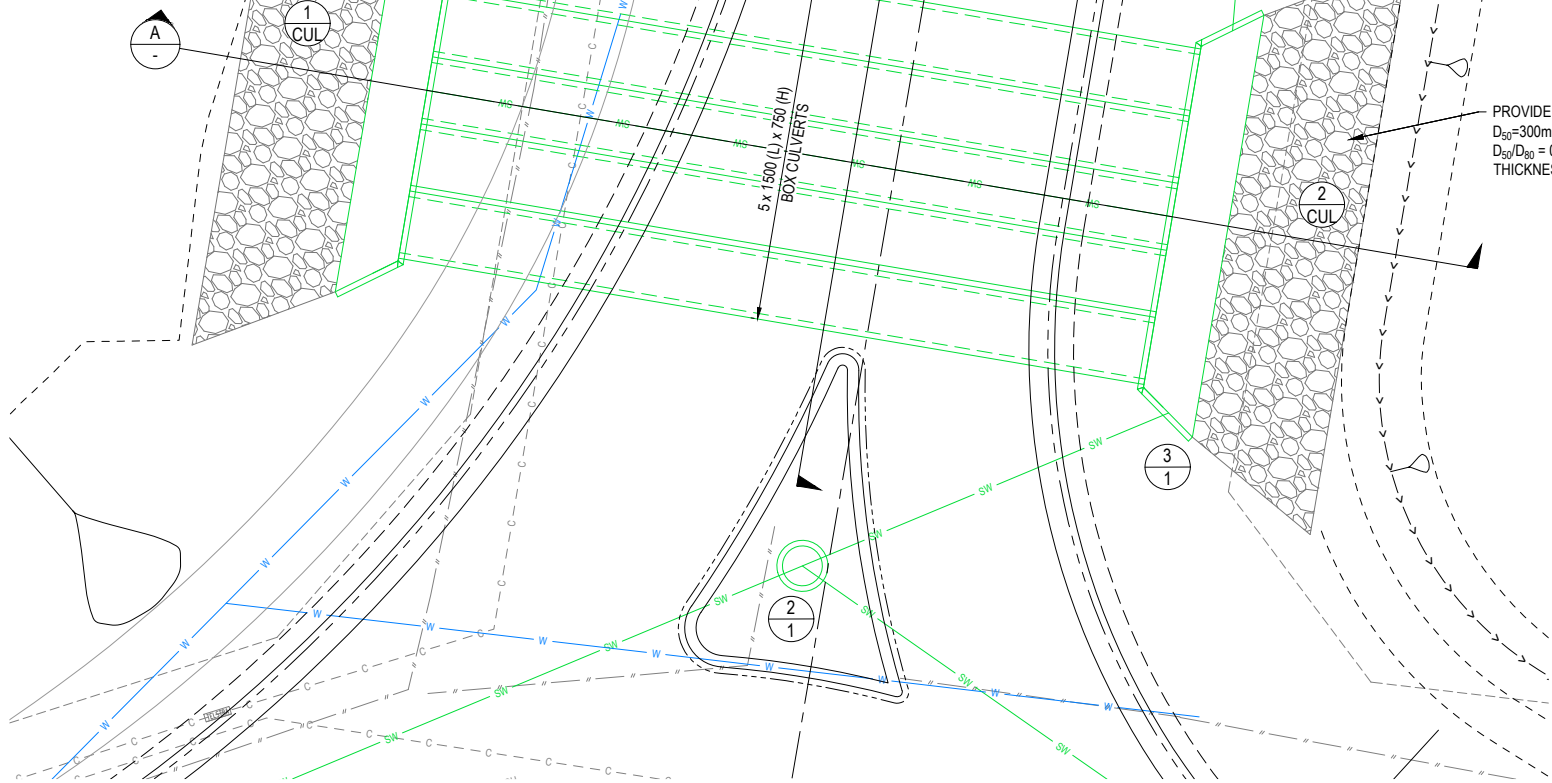
LEGEND - PROPOSED

- ===== PROPOSED KERB AND CHANNEL
- ===== PROPOSED KERB (TYPE B1 UPRIGHT)
- ===== PROPOSED BARRIER KERB
- ===== PROPOSED KERB (TYPE SFM)
- PROPOSED ROAD CONTROL LINE
- PROPOSED ROAD EDGE OF BITUMEN
- 23.1 --- DESIGN SURFACE CONTOURS
- Y --- Y --- PROPOSED BATTER
- x --- x --- PROPOSED PAVEMENT SAWCUT
- SW --- PROPOSED STORMWATER PIPE
- W --- PROPOSED WATER
- 1 1 PROPOSED STORMWATER STRUCTURE
- 1 1 PROPOSED STORMWATER LINE

HEADWALL SCHEDULE

HW NAME	HW TYPE	SETOUT COORDINATES	INVERT LEVEL (m)	INVERT LEVEL (m)
1/CUL	5 x 1500 (L) x 750 (H)	X = 507153.906 Y = 6807575.322	20.32	
2/CUL	5 x 1500 (L) x 750 (H)	X = 507173.627 Y = 6807571.979		20.24

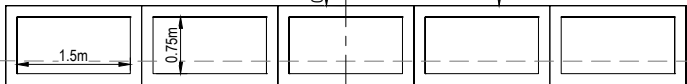
PROVIDE ROCK SCOUR PROTECTION
 $D_{50}=300\text{mm}$
 $D_{50}/D_{90} = 0.8$
THICKNESS = 0.5m



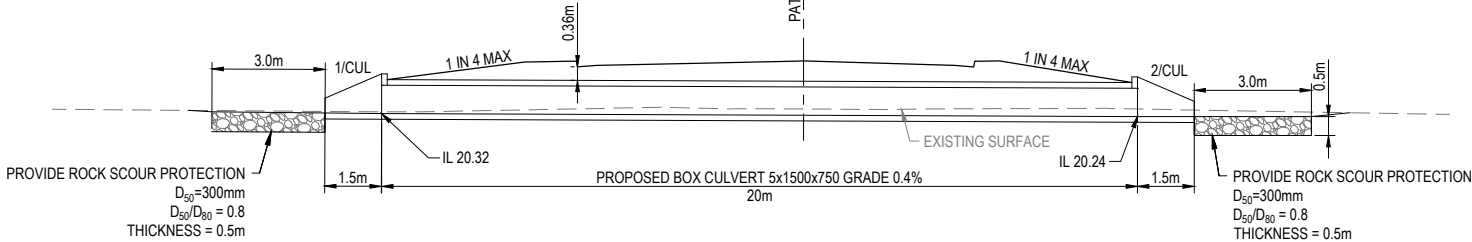
STORMWATER CULVERT DETAILS - 5 x 1500 (L) x 750 (H)

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

CULVERT CL
PROPOSED BOX CULVERT 5x1500x750.



B
SECTION
SCALE 1:50



A
SECTION
SCALE 1:100

RCBC SCHEDULE

NAME	BOX CULVERT TYPE	B/C SIZE	LENGTH (m)	SLOPE (%)	U/S HEADWALL	D/S HEADWALL	U/S INV	D/S INV	COMMENT
1	REINFORCED CONCRETE	5 x 1500 (L) x 750 (H)	20	0.4	1/CUL	2/CUL	20.32	20.25	NEW BOX CULVERT

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PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

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1	IFT - ISSUED FOR TENDER	22-11-24
VER.	DESCRIPTION	DATE

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COOTE BURCHILLS ENGINEERING PTY LTD
ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE:

STORMWATER CULVERT
DETAILS

DEVEL. APPLIC. No. : DATE : 22-11-24

PROJECT LEADER : J. WINTER

DESIGNER : A. LUNA

DRAFTSPERSON : V. LE

CHECKED : L. FAULKNER

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

SCALE : AS NOTED DATUM : AHD FULL SIZE : A1

PROJECT No. : BE230077-01
DRAWING No. : C440
VERSION : 1



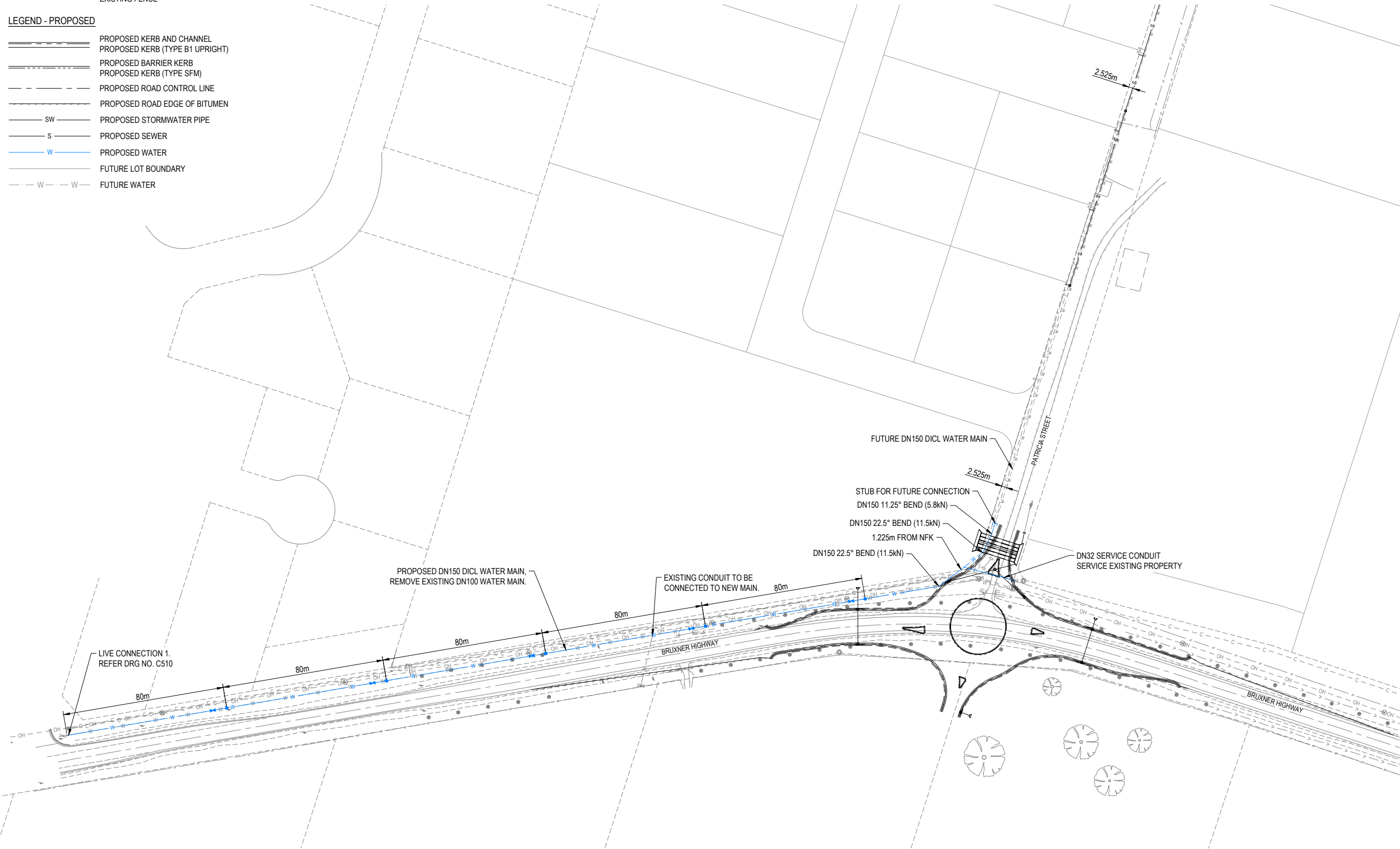
LEGEND - EXISTING

- W — — W — — — EXISTING WATER
— OH — — — OH — — — EXISTING OVERHEAD ELECTRIC
— C — — — C — — — EXISTING COMMS
— SW — — — SW — — — EXISTING STORMWATER
— > — > — > — > — EXISTING SWALE
————— EXISTING EDGE OF BITUMEN
— " — " — " — EXISTING FENCE

LEGEND - PROPOSED

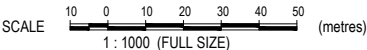
- ===== PROPOSED KERB AND CHANNEL
===== PROPOSED KERB (TYPE B1 UPRIGHT)
===== PROPOSED BARRIER KERB
===== PROPOSED KERB (TYPE SFM)
- - - - - PROPOSED ROAD CONTROL LINE
————— PROPOSED ROAD EDGE OF BITUMEN
— SW — — — PROPOSED STORMWATER PIPE
— S — — — PROPOSED SEWER
— W — — — PROPOSED WATER
————— FUTURE LOT BOUNDARY
- - - W - - - W - - - FUTURE WATER

FITTINGS SCHEDULE			
No.	PIPE	FITTING	COMMENTS
1	479m 150Ø DICL MAIN	SP-SP	CUT LENGTH TO SUITE ON-SITE
2	26m DN32 SERVICE CONDUIT	SP-SOC	CUT LENGTH TO SUITE ON-SITE
3	3 x 150Ø x 45° DICL BENDS	FL-FL	
4	1 x 150Ø x 11.25° DICL BENDS	FL-FL	
5	5 x FIRE HYDRANT		
6	5 x VALVE		
7	STUB END CAP		



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WATER RETICULATION LAYOUT PLAN



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STREET
ROUNDAABOUT

FOR

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ABN 76 166 942 365

PROJECT:
**BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT**

DRAWING TITLE:
**WATER RETICULATION
LAYOUT**

DEVEL. APPLIC. No. :	DATE : 22-11-24
PROJECT LEADER : J. WINTER	
DESIGNER : A. LUNA	
DRAFTSPERSON : V. LE	
CHECKED : L. FAULKNER	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	

SCALE : AS NOTED	DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE230077-01	DRAWING No. : C500	VERSION: 1

WATER MAIN

1. WATER MAIN ALIGNMENT IS 2.525m FROM ROAD RESERVE BOUNDARY UNLESS SHOWN OTHERWISE.
2. ALL WATER MAINS ARE TO BE UNPLASTICISED PVC (uPVC) MANUFACTURED IN ACCORDANCE WITH AS/NZS 4020, AS/NZS 1477 SERIES 2, BLUE IN COLOR AND WITH RUBBER RING (ELASTOMERIC) SPIGOT AND SOCKET JOINTS. ALL WATER MAIN ROAD CROSSINGS TO BE DICL CLASS PN35 POLYETHYLENE SLEEVED AS SPECIFIED. MINIMUM COVER TO WATERMAINS SHALL BE:

a) FOOTPATHS: 600mm TO TOP OF PIPE

b) ROAD CROSSINGS: 600mm TO TOP OF PIPE
3. ALL WATER MAINS AND FITTINGS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH NORTHERN RIVERS - LOCAL GOVERNMENT WATER SUPPLY DEVELOPMENT DESIGN SPECIFICATIONS.
4. FOR LOCATIONS OF ELECTRICAL ROAD CROSSING CONDUITS REFER ELECTRICAL CONSULTANT'S DRAWINGS.
5. WATER SERVICE LOCATIONS SHALL NOT BE IN CONFLICT WITH ELECTRICAL PILLARS. SUPERINTENDENT TO BE NOTIFIED PRIOR TO CONSTRUCTION IF CONFLICT IS APPARENT.
6. ALL HYDRANTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH NORTHERN RIVERS - LOCAL GOVERNMENT STANDARD DRAWINGS - WATER MAIN WORKS

VEGETATION PROTECTION

1. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
2. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
3. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
4. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL

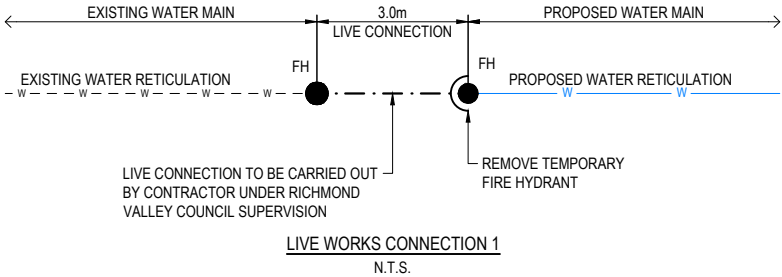
1. TOPSOIL AND SUBSOIL SHALL BE STOCKPILED SEPARATELY.
2. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.

REHABILITATION

1. PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.
2. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT NORTHERN RIVERS - LOCAL GOVERNMENT WATER SUPPLY CODE SPECIFICATIONS AND STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. ADOPT LIP OF KERB OR SHOULDER OF ROAD AS PERMANENT LEVEL.
4. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN IN NORTHERN RIVERS - LOCAL GOVERNMENT STANDARD DRAWING - WATER MAIN WORKS.
5. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS.
6. A WATER METER SUPPLIED AT THE DEVELOPER'S COST, IS TO BE INSTALLED AT THE SERVICE POINT OF EACH LOT IN ACCORDANCE WITH THE STANDARD DRAWING.
7. ALL MATERIALS USED IN THE WORKS SHALL COMPLY WITH THE NORTHERN RIVERS - LOCAL GOVERNMENT'S ACCEPTED PRODUCTS AND MATERIALS LIST OR BE APPROPRIATELY SHOWN, LISTED AND DEFINED IN THE ENGINEERING SUBMISSION SO THAT THE ALTERNATIVE PRODUCT OR MATERIAL CAN BE ASSESSED AND IF APPROPRIATE, APPROVED BY NORTHERN RIVERS - LOCAL GOVERNMENT.
8. ALL CONCRETE FOOTPATHS TO BE CLEAR OF WATER MAINS.
9. TEST/CHLORINATION POINTS TO BE INSTALLED.
10. THE CONSTRUCTION OF THE WATER RETICULATION WORK SHOWN ON THIS DRAWING MUST BE SUPERVISED BY A QUALIFIED ENGINEER. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT TO THE RETICULATION SYSTEM.
11. ALL WORKS ASSOCIATED WITH LIVE CONNECTIONS TO BE PERFORMED BY AN APPROVED CONTRACTOR UNDER THE SUPERVISION OF NORTHERN RIVERS - LOCAL GOVERNMENT AT THE DEVELOPER'S EXPENSE.
12. THE CONTRACTOR IS TO ENSURE THAT ANY PERSONNEL UNDERTAKING CONSTRUCTION OF WATER RETICULATION WORKS ARE SUITABLY TRAINED IN ACCORDANCE WITH THE CURRENT NORTHERN RIVERS - LOCAL GOVERNMENT WATER REQUIREMENTS. EVIDENCE THAT THE CONTRACTOR'S PERSONNEL HAVE THE REQUIRED QUALIFICATIONS WILL BE REQUIRED TO BE PROVIDED TO NORTHERN RIVERS - LOCAL GOVERNMENT WATER OFFICERS PRIOR TO COMMENCEMENT OF WORKS.
13. WATER MAIN EMBEDMENT TO BE IN ACCORDANCE WITH IPWEA STANDARD DRAWING - BEDDING AND BACKFILL FOR WATER MAIN CONSTRUCTION.
14. WATER MAIN THRUST BLOCKS TO BE IN ACCORDANCE WITH IPWEA STANDARD DRAWING. THRUST BLOCK DIMENSIONS TO BE SUBMITTED FOR CONSTRUCTION APPROVAL PRIOR TO POUR.



NOTE:
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BRUXNER
HIGHWAY AND
PATRICIA
STREET
ROUNDAABOUT

FOR

RICHMOND VALLEY
COUNCIL

A1 ORIGINAL SIZE BEFORE REDUCTION

1	IFT - ISSUED FOR TENDER	22-11-24
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COOTE Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:

BRUXNER HIGHWAY AND
PATRICIA STREET
ROUNDAABOUT

DRAWING TITLE :

WATER RETICULATION
NOTES AND DETAILS

DEVEL. APPLIC. No. :		DATE : 22-11-24	
PROJECT LEADER : J. WINTER			
DESIGNER : A. LUNA			
DRAFTSPERSON : V. LE			
CHECKED : L. FAULKNER			
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365			
SCALE : AS NOTED		DATUM : AHD	FULL SIZE : A1
PROJECT No. : BE230077-01		DRAWING No. : C510	VERSION: 1

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Appendix B

Works Authorisation Deed

Works Authorisation Deed: WAD Casino ROUNABOUT HW16 Bruxner Highway NTH24/00122

Transport for NSW

ABN 18 804 239 602

and

Richmond Valley Council

ABN 54145907009

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Schedule

Attachments

- A** Project Requirements
- B** Description of Works and Packages
- C** Insurance
- D** Statutory Declaration and Subcontractor Statement regarding Workers Compensation, Pay-roll Tax and Remuneration
- E** Land to be Dedicated
- F** Deed of Appointment of Project Verifier
- G** Contractor Deed Poll
- H** Form of Contractor Security

THIS DEED is made on 06/06/2024

Transport for NSW ABN 18 804 239 602 a NSW Government agency constituted under the *Transport Administration Act 1988* (NSW) whose registered office is at 20-44 Ennis Road, Milsons Point 2061 (**TfNSW**); and

- (1) Richmond Valley Council ABN 54145907009 whose registered office is at 10 Graham Place Casino NSW 2470

RECITALS:

- (A) The Council proposes to carry out the Works.
- (B) Council is the roads authority under the Act in relation to the roads that will be affected by the Works.
- (C) TfNSW has the statutory right to undertake the Works or authorise the Works to be carried out.
- (D) The Council has agreed to finance, design and construct the Works on the terms of this Deed.
- (E) TfNSW authorises the Council to carry out the Works subject to the terms of this Deed.

THE PARTIES AGREE AS FOLLOWS:

1. **INTERPRETATION**

1.1 **Definitions**

The following definitions apply in this document.

Act means the *Roads Act 1993* (NSW).

Amended Design Document has the meaning given to that expression in clause 8.2.

Approval means any consent, approval, authorisation, licence, registration, order, permission or concurrence required by Law, including by any TfNSW condition or approval, including those under this Deed, required for the commencement, execution or completion of the Works.

As-Built Drawings means the Design Documents which are the final as-executed drawings of the Works and which are endorsed with a certificate by the Project Verifier, stating that the Works as constructed comply with all Approvals, Legislative Requirements and the requirements of this Deed.

Authority means a Commonwealth, State or local government department, a Minister, body, instrumentality, trust or public authority in the exercise of a governmental regulatory function.

Business Day means a day other than a Saturday, Sunday or public holiday in NSW and specifically excluding 27, 28, 29, 30 and 31 December.

Complex Bridge or Structure means a complex bridge or structure for design and construction purposes as determined by TfNSW in accordance with the TfNSW Specifications..

Construction Program means a program in logic linked critical path format showing the order of progress of the Works, to be prepared by the Council and provided to TfNSW under clause 9.1(d).

Contractor means the contractor engaged by the Council to carry out the Works.

Contractor Deed Poll means a deed poll from the Contractor in favour of TfNSW in the form of Attachment G.

Council's Project Manager means the person appointed by the Council under clause 18.2(a).

Date of Practical Completion means the date of Practical Completion set out in a Notice of Practical Completion.

Deed of Appointment of Project Verifier means the deed in the form of Attachment F between the Council, the Contractor, TfNSW and the Project Verifier.

Defects Liability Period means the period stated in Item 3 of the Schedule.

Design Document means:

- (a) a drawing, specification, construction document, design calculation, software, sample, model, pattern and the like required by this Deed or created for the construction, identification, modification, repair or maintenance of the Works;
- (b) a schedule setting out particulars of all notices, tests, hold points and materials as required by the individual sections of the Project Requirements, identifying all notification periods;
- (c) any geotechnical report, data or investigation relating to the Works; and
- (d) a health & safety in design report and risk register as required by the WHS Laws.

Design Obligations means all tasks necessary to design and specify the Works, including preparation and certification of the Design Documents and, if the Project Requirements include any preliminary design or specification, developing that preliminary design or specification.

Detailed Proposal means a complete package of Design Documents that the Council proposes to issue or use for construction of the Works.

Environmental Management Plan means a detailed plan setting out measures to manage and control the environmental impact of construction of the Works and so as to achieve compliance with this Deed.

Estimated Cost of the Works means the cost estimate at the date of this Deed for completing the Works and satisfying all of the Council's obligations under this Deed (including payment of TfNSW Costs), as specified in Item 2 of the Schedule.

EP&A Act means the *Environmental Planning and Assessment Act 1979* (NSW).

Inspection and Testing Plan means a detailed plan setting out all testing and conformance data necessary to demonstrate conformance of the Works with the Project Requirements and Design Documents.

Intellectual Property Rights means all industrial and intellectual property rights of any kind including but not limited to copyright, trade mark, design, patent, semi-conductor or

circuit layout rights, trade, business or company names or other proprietary rights, or any rights prior to registration of such rights.

Law includes:

- (a) Legislative Requirements; and
- (b) common law.

Legislative Requirements include:

- (a) an act, ordinance, regulation, by-law, order, award and proclamation of the Commonwealth and the State of New South Wales;
- (b) Approval of an Authority (including any condition or requirement under an Approval); and
- (c) any requirement to pay fees and charges in connection with paragraphs (a) and (b).

Moral Rights means each right defined as a 'moral right' in Part IX of the *Copyright Act 1968* (Cth).

Notice of Practical Completion means a notice under clause 12.2(b) by TfNSW stating that Practical Completion of the Works has been achieved.

Notifiable Incident has the meaning given to the term 'notifiable incident' under the WHS Laws.

NSW Guidelines means the New South Wales Industrial Relations Guidelines: Building and Construction Procurement (as published by the NSW Treasury July 2013, Updated: September 2017).

Package means a part of the Works which is described as a package in Attachment B or in a direction given by TfNSW's Representative under clause 4(a).

Planning Approval means the Approval identified in Item 4 of the Schedule.

Practical Completion means that stage in the execution of the Works under this Deed when:

- (a) the Works (including any associated works necessary for public access) have been completed and are ready for their intended public use and occupation or handover to a relevant Authority, as the case may be, except for minor omissions and minor defects which:
 - (i) have been so identified on a list issued to the Council by TfNSW;
 - (ii) do not impede use of the Works by the public for the continuous safe passage of vehicular traffic and pedestrians;
 - (iii) will not prejudice the convenient and safe use of the Works during rectification; and
 - (iv) TfNSW Representative determines that the Council has reasonable grounds for not rectifying prior to public use and occupation.
- (b) the Inspection and Testing Plan has been complied with and any other tests necessary to be carried out and passed before the Works, or a part thereof, is used and occupied by the public or handed over to a relevant Authority have been carried

and passed and all test results and conformance data identified in the Inspection and Testing Plan has been provided to TfNSW;

- (c) all relevant Legislative Requirements in respect of the Works have been carried out or satisfied;
- (d) all documents, certifications and information required under the Deed which, in the opinion of TfNSW, are essential for the use, operation and maintenance of the Works have been supplied, including all shop drawings and draft As-Built Drawings, all original manufacturers' or suppliers' warranties required by the Deed, all Approvals required to be obtained have been obtained from relevant Authorities and all other material provided as requested by TfNSW;
- (e) with the approval of TfNSW, the Council has commissioned into operation the Works including all plant incorporated into the Works and any traffic signalling equipment and demonstrated to the satisfaction of TfNSW that the commissioning has been successful; and
- (f) the Council has done all other things that are required to be done under this Deed as a condition precedent to Practical Completion.

Principal Contractor has the meaning given to the term 'principal contractor' in the WHS Laws.

Project Document Management System means an online document management, web collaboration and project management system (such as TeamBinder or Aconex) nominated by TfNSW which allows for, among other things, the submission of notices, documents and provision of information relating to the Works between TfNSW, the Council and the Project Verifier (and any other relevant contractors, consultants, agents and employees).

Project Requirements mean the requirements, including standard specifications, set out or identified in Attachment A.

Project Verifier means the person appointed by the Council in accordance with clause 7.

Project Verifier Services means the services set out in Schedule 2 of the Deed of Appointment of Project Verifier.

Quality Plan means a detailed plan setting out the quality control measures to be implemented to ensure construction of the Works satisfies the requirements of this Deed.

Road means the road identified in Item 6 of the Schedule.

TfNSW Costs mean costs and expenses reasonably incurred, or which will or may reasonably be incurred, by TfNSW in connection with this Deed, as further described (without limitation) in clause 14.

TfNSW Preliminary Costs means that part of TfNSW Costs described under clauses 14.1(a) and 14.1(b).

TfNSW Representative means the authorised representative of TfNSW stated in Item 8 of the Schedule, or any replacement advised by TfNSW in writing from time to time.

TfNSW Specifications means all quality assurance and other specifications published by TfNSW on its website (www.rms.nsw.gov.au).

Traffic Control Plan means a detailed plan in accordance with TfNSW's 'Traffic Control at Work Sites Manual'.

Traffic Management Plan means a detailed plan indicating how the Works and traffic will be managed during construction of the Works so as to minimise traffic disruption and achieve public safety and compliance with this Deed.

WHS Laws means the *Work Health and Safety Act 2011* (NSW) and any other occupational or work health and safety statute applicable in New South Wales including any regulations and other instruments under it or them including any Codes of Practice and any consolidations, amendments, re-enactments or replacements of it or them.

Works mean the works described in Attachment B, as modified following any assessment or determination under clause 2 or clause 8 or any other modification agreed in writing between the parties, to be designed and constructed in accordance with the Deed.

1.2 Interpretation

- (a) clause headings are for convenience only and will be ignored in the interpretation of the Deed;
- (b) references to a party include the successors and permitted assigns of that party;
- (c) words importing the singular include the plural and words importing the plural include the singular;
- (d) words importing a person include a corporation, firm or body corporate;
- (e) nothing contained in the Deed will be deemed or construed as creating the relationship of partnership or agency;
- (f) references to a month mean a calendar month;
- (g) references to any document include any permitted amendment, supplement to or replacement or novation of the document;
- (h) references to any legislation or to any section or provision of any legislation includes any:
 - (i) statutory modification or re-enactment of or any statutory provision substituted for that legislation, section or provision; and
 - (ii) ordinances, by-laws, regulations and other statutory provision substituted for that legislation, section or provision;
- (i) no waiver of any breach of the Deed or of any of its terms will be effective unless the waiver is in writing and signed by the party against whom the waiver is claimed, and no waiver of any breach will operate as a waiver of any other breach or subsequent breach;
- (j) other grammatical forms of defined words or expressions have corresponding meanings;
- (k) 'including' and similar expressions are not words of limitation;
- (l) documents which are hyperlinked to the Deed do not form part of the Deed; and
- (m) hyperlinks are included for ease of reference only and may become lost or be inaccurate.

2. ENVIRONMENTAL APPROVALS

2.1 Council Representation and warranty

Council represents and warrants that the Planning Approval authorises (along with other development) the Works under the EP&A Act.

2.2 TfNSW Reliance

In entering into this Deed and authorising the Works, TfNSW has relied and continues to rely on the representation and warranty of Council set out in clause 2.1.

3. TFNSW AUTHORISATION UNDER ROADS ACT

By issuing the authorisation letter referred to in clause 9.1, TfNSW authorises the Works under the Act and, to the extent that any consent is required, consents, pursuant to sections 61, 64, 71, 72 and 87 and 138 of the Act, to the Council and its authorised employees and contractors carrying out the Works within, over or across the Road and road reserves applicable to the Road in accordance with the Act subject to the terms of this Deed.

4. PACKAGES

(a) If stated in Item 14 of the Schedule or otherwise directed by the TfNSW Representative the Works will be divided into Packages. If TfNSW's Representative directs that the Works are to be divided into Packages, any such direction must:

- (i) clearly identify the parts of the Works that are to comprise each Package; and
- (ii) identify the portion of the TfNSW Costs referred to in clause 14.1(i) which are payable in respect of each Package.

(b) Where Item 14 of the Schedule states that the Works are divided into Packages or the TfNSW Representative directs that the Works are to be divided into Packages, the interpretation of this Deed including the definitions of:

- (i) Practical Completion;
- (ii) Date of Practical Completion;
- (iii) Defects Liability Period; and
- (iv) Design Document,

and clauses 8, 9, 10, 12, 13 and 14.5 and any other applicable clause in this Deed, apply separately to each Package and references therein to the Works will mean so much of the Works as is comprised in the relevant Package.

(c) Where the Works are not divided into Packages, any reference in this Deed to a Package will mean the whole of the Works.

5. SECURITY

5.1 Provision of contractor security

Before commencing construction of the Works, the Council must provide TfNSW with two unconditional undertakings given by the Contractor which are:

- (a) in favour of TfNSW;

- (b) given by a financial institution acceptable to TfNSW;
- (c) in the form of Attachment H;
- (d) payable at an office of the issuer in Sydney; and
- (e) each for 50% of the amount stated in Item 10 of the Schedule.

5.2 **Recourse to contractor security**

TfNSW may have recourse to the security provided under clause 5.1 whenever:

- (a) the Contractor is in breach of the Contractor Deed Poll;
- (b) TfNSW has a bona fide claim against the Contractor under or in connection with the Contractor Deed Poll; or
- (c) any debt or other moneys are due from the Contractor to TfNSW under or in connection with the Contractor Deed Poll.

5.3 **Reduction and release of contractor security**

Following issue of the Notice of Practical Completion for the last Package to achieve Practical Completion, TfNSW's entitlement to security under clause 5.1 will be reduced to 50% of the amount stated in Item 10 of the Schedule and TfNSW will promptly release the reduction to the Council.

TfNSW's entitlement otherwise to security will cease after TfNSW has issued the Final Certificate and the Council has paid any amount due to TfNSW in accordance with clause 13.5(c). Upon TfNSW's entitlement to security ceasing, TfNSW will promptly release the balance of the security to the Council.

6. **NATURE OF CONTRACT**

6.1 **General**

The Council must finance, commission, design and construct the Works where TfNSW determines under clause 2 that the Works may proceed, and perform its other obligations under this Deed at its own cost without contribution from TfNSW.

6.2 **All risks**

The Council accepts all risks associated with the obligations in clause 6.1, including the risk that the final cost of the Works is more than the Estimated Cost of the Works and the risk of changes to the Works necessary to comply with the Deed and all Approvals.

7. **PROJECT VERIFIER**

7.1 **Project Verifier Selection**

- (a) The Council must, within such time as is reasonable having regard to the requirements of clause 7.2(b), propose in writing to TfNSW a person it considers to be a suitably qualified independent consultant engineer to perform the Project Verifier Services, being a person who:
 - (i) is independent of:
 - (A) the Council;

- (B) the Contractor; and
 - (C) any consultant involved in preparation the Design Documents;
- (ii) is a Chartered Engineer registered with the Institute of Engineers Australia;
- (iii) is familiar with and experienced in using the TfNSW Specifications; and
- (iv) holds appropriate professional indemnity insurance.
- (b) If TfNSW:
 - (i) agrees to the person proposed, then they must be appointed in accordance with clause 7.2; or
 - (ii) does not agree to the person proposed, then TfNSW and the Council must negotiate in good faith to agree on a person to be appointed and upon agreement that person must be appointed under clause 7.2.
- (c) Any agreement required under this clause 7.1 must not be unreasonably withheld.

7.2 **Project Verifier Appointment**

- (a) The Council must appoint the Project Verifier to undertake the Project Verifier Services:
 - (i) on the basis set out in Attachment F; and
 - (ii) at the Council's cost.
- (b) The appointment under paragraph (a) must be made by a date early enough for the Project Verifier to have sufficient time to perform the Project Verifier Services.
- (c) The Council must provide the Project Verifier with (or ensure that the Project Verifier is provided with) all necessary information and documents and allow the Project Verifier:
 - (i) to perform the Project Verifier Services;
 - (ii) to attend any meetings in connection with the Works;
 - (iii) access to any site upon which the Works are carried out; and
 - (iv) to inspect the records of the Council and its contractors.

8. **DESIGN**

8.1 **Design Obligations**

The Council must:

- (a) provide TfNSW with a draft Detailed Proposal for the Works for consideration and acceptance within the period required by TfNSW;
- (b) perform the Design Obligations and produce the Design Documents to accord with the Project Requirements and Approvals, including those required by clause 2;
- (c) ensure that the Design Obligations are performed, and the Design Documents produced by or on behalf of the Council are produced, with due skill, care and diligence and by personnel who are suitably qualified and experienced;

- (d) ensure that each Design Document which is a drawing or a specification is endorsed with a certificate from the Project Verifier stating that the Works if constructed in accordance with the Project Requirements and the relevant drawing or specification will comply with all Approvals, Legislative Requirements and requirements of this Deed and will be fit for their intended purposes;
- (e) ensure that the Design Documents are fit for the construction of the Works and in compliance with all legislative requirements and applicable Laws, including the WHS Laws, including the safety in design requirements of structures under the WHS Laws; and
- (f) submit all Design Documents to TfNSW on a progressive basis and in a manner and at a rate which, having regard to the quantum of Design Documents submitted, will give TfNSW a reasonable opportunity to review the submitted Design Documents.

8.2 **Review Process**

- (a) The Council must:
 - (i) submit to TfNSW for consideration copies of Design Documents produced by or on behalf of the Council, in a form acceptable to TfNSW, before they are issued to tenderers or proposed contracting parties and in any event, not less than 30 Business Days before the Works or any part of the Works to which the Design Documents relate is proposed to be commenced;
 - (ii) where a Design Document submitted by the Council to TfNSW is amended after being submitted to TfNSW (**Amended Design Document**), submit copies of the Amended Design Document to TfNSW for TfNSW's consideration; and
 - (iii) submit any Amended Design Document to TfNSW for consideration no later than 15 Business Days, or such other time as the parties may agree in writing, prior to the date that the Council proposes that the Works or any part of the Works to which the Amended Design Document relates is proposed to be commenced.
- (b) TfNSW must notify the Council within 30 Business Days of receipt of Design Documents under clause 8.2(a)(i) whether TfNSW considers that those Design Documents comply with the Project Requirements and the Approvals and are acceptable to TfNSW. If TfNSW considers that those Design Documents do not comply with the Project Requirements and the Approvals and are not acceptable to TfNSW, TfNSW must so advise the Council and give reasons.
- (c) If TfNSW receives any Amended Design Documents, TfNSW must notify the Council by the later of:
 - (i) the expiry of the period in clause 8.2(b); and
 - (ii) 10 Business Days of receipt of the Amended Design Documents,
 whether TfNSW considers that the Amended Design Documents complies with the Project Requirements and the Approvals and are acceptable to TfNSW.
- (d) If TfNSW considers that any Amended Design Document does not comply with the Project Requirements and the Approvals and is not acceptable to TfNSW, TfNSW must so advise the Council and give reasons.
- (e) All submissions of Design Documents that are made to TfNSW by the Council must include one hard copy and one electronic copy of the Design Documents. The

electronic copy of the Design Documents must not be subject to any security or access restrictions which may prevent TfNSW from distributing them to its employees, agents, contractors or advisors.

8.3 TfNSW not liable for checking

TfNSW is not responsible or liable for checking or not checking Design Documents (including Amended Design Documents) for errors, omissions or compliance with the Project Requirements, the Approvals or the Deed even if the Design Documents are acceptable to TfNSW.

8.4 Obligations unaffected

The Council acknowledges that the obligations in clause 8.1 and the Design Obligations will remain unaffected despite:

- (a) the Council carrying out preliminary design or specification work which may be included in the Project Requirements;
- (b) any receipt, review, acceptance or approval of, or comment or direction on a Design Document (including an Amended Design Document) by TfNSW;
- (c) any information given by TfNSW to the Council; or
- (d) any change to the Works necessary to comply with the requirements under the Deed (including the Project Requirements or any Approval).

9. COMMENCEMENT OF THE WORKS

9.1 Preconditions to commencement

The Council must not commence construction of the Works or any Package until it has:

- (a) obtained all Approvals necessary to start construction of the Works, including those required under clause 2 and the issue of an authorisation letter, including a road occupancy approval, from TfNSW;
- (b) obtained the relevant notices from TfNSW under clause 8.2 that TfNSW considers that the Design Documents and Amended Design Documents (as the case may be) comply with the Project Requirements and the Approvals and are acceptable to TfNSW;
- (c) obtained written confirmation from TfNSW that the Council has complied with any other conditions required by TfNSW, including a condition that the Council has provided to TfNSW an Environmental Management Plan, Quality Plan, Inspection and Testing Plan, Traffic Control Plan and Traffic Management Plan together with certifications from the Project Verifier stating that each of the plans complies with the Project Requirements, the Approvals and the Deed and is suitable for its intended purpose;
- (d) provided to TfNSW a Construction Program, which TfNSW has confirmed in writing is acceptable to TfNSW;
- (e) given the TfNSW Representative at least 10 Business Days written notice of the Council's intention to start construction;
- (f) given to TfNSW Representative documentary evidence of payment to the Long Service Corporation established under the *Long Service Corporation Act 2010* (NSW) or that body's agent, the amount of any long service levy payable under the *Building*

and Construction Industry Long Service Payments Act 1986 (NSW) in respect of the Works;

- (g) provided TfNSW with security from the Contractor in accordance with the requirements of clause 5.1; and
- (h) provided TfNSW with a duly executed Contractor Deed Poll.

TfNSW may delay in issuing an authorisation letter for the commencement of the Works or any Package if any of the requirements under the Deed have not been satisfied or the Works will coincide with other works, road occupancies or peak traffic flows which TfNSW considers will cause undue disruption to traffic.

9.2 **Appointment of Contractor**

The Council must ensure that:

- (a) traffic signal works are only constructed or reconstructed by a contractor that, at the time of engagement, is prequalified for those works under the TfNSW Prequalification Scheme for Traffic Signal Contractors current at that time, unless otherwise agreed in writing by TfNSW;
- (b) to the extent requested by TfNSW, other work is constructed by a contractor that, at the time of engagement, is prequalified at a level and category appropriate for that work under the National Prequalification System for Civil (Road and Bridge) Construction Contracts or the TfNSW Registration Scheme or Prequalification Scheme for Construction Industry Contractors (or such other prequalification scheme as determined by TfNSW);
- (c) all contractors engaged are suitably experienced in constructing similar works;
- (d) the Council and any contractors engaged to carry out the Works comply with the NSW Guidelines;
- (e) the names of proposed contractors and subcontractors are submitted to TfNSW for prior written acceptance and prior to submitting those names, the Council warrants that it has satisfied itself that any such principal contractors, contractors, consultants or persons engaged by it for the purposes of carrying out an activity in relation to the Works has the necessary suitability, reliability, safety systems, expertise and financial standing to carry out the relevant work and comply with its obligations under the WHS Laws;
- (f) in the case of work constructed by a non-prequalified contractor, the work is not commenced until TfNSW has given its prior written acceptance to the use of the contractor pursuant to clause 9.2(e) (which acceptance may be given or withheld in TfNSW's absolute discretion);
- (g) all requisite insurances have been effected by the Contractor;
- (h) the Contractor is engaged by the Council under terms and conditions that ensure the contractor will satisfy the Council's obligations to TfNSW under the Deed;
- (i) a duly executed copy of the Contractor Deed Poll is provided to TfNSW prior to the commencement of performance of any part of the Works; and
- (j) TfNSW is provided with a copy of the contract under which the Contractor is engaged by the Council.

9.3 **Principal contractor**

- (a) In this clause 9.3, the terms 'workplace', 'construction project', 'construction work' and 'person conducting a business or undertaking' (**PCBU**) have the same meanings assigned to those terms in the WHS Laws.
- (b) As part of any authorisation of, or consent to, the Works under clause 3, TfNSW authorises the Council to exercise such authority and management and control of the workplace in connection with the Works as is necessary to enable the Council to discharge the responsibilities imposed on a Principal Contractor for the Works under the WHS Laws.
- (c) Without limiting any other provision of this Deed, the Council acknowledges and agrees that:
 - (i) it is the PCBU that commissions the construction work and the construction project in connection with the Works for the purposes of the WHS Laws;
 - (ii) it has management and control of the workplace in connection with the Works for the purposes of the WHS Laws;
 - (iii) it is the Principal Contractor in connection with the Works unless the Council engages another PCBU as the Principal Contractor for the Works; and
 - (iv) it has sufficient authority and management and control of the workplace in connection with the Works to comply with its obligations as Principal Contractor, or to enable another PCBU it engages as Principal Contractor to comply with their respective obligations under the WHS Laws.
- (d) Without limiting the Council's obligations under any other provision of this Deed, the Council:
 - (i) must at all relevant times exercise and fulfil its functions and obligations in relation to work, health and safety under the WHS Laws and this Deed in connection with the Works, including as Principal Contractor;
 - (ii) if the Council engages a PCBU as Principal Contractor, must:
 - (A) require the Principal Contractor to comply with the obligations imposed on the Council in relation to work, health and safety under this Deed; and
 - (B) ensure that the Principal Contractor fulfils its functions and obligations in relation to work, health and safety under the WHS Laws and this Deed;
 - (iii) must not:
 - (A) carry out; or
 - (B) permit any other PCBU engaged by, or under the control or direction of, the Council to carry out,

any construction work unless the Council, or a PCBU engaged by the Council, is exercising and fulfilling the functions and obligations of Principal Contractor under the WHS Laws in respect of all construction work carried out under this Deed.
- (e) Without limiting any other provision of this Deed, the Council:

- (i) must itself comply with its, and ensure that all its employees, contractors and agents engaged in connection with the Works comply with their, respective obligations under the WHS Laws and under any plan relating to work health and safety, including as Principal Contractor;
 - (ii) is responsible for all costs associated with performing the role of Principal Contractor;
 - (iii) must comply with any direction on safety issued by a relevant Authority;
 - (iv) must immediately notify TfNSW of any Notifiable Incident in connection with the carrying out of the Works or which occurs at the workplace (which notification shall not reduce or otherwise affect any obligation of the Council under the WHS Laws) and must (if required by TfNSW) assist TfNSW to promptly investigate and monitor the Notifiable Incident with a view to managing risks and any potential or actual claims against TfNSW;
 - (v) must provide to TfNSW all notices and correspondence concerning work health and safety in connection with the Works within five Business Days after the dispatch and/or receipt of any such notice or correspondence;
 - (vi) to the extent not prohibited by Law, must indemnify TfNSW against any damage, cost, expense, loss or liability suffered or incurred by TfNSW arising out of or in connection with:
 - (A) any failure of the Council, or a PCBU engaged by the Council, to exercise or fulfil the functions and obligations of the Principal Contractor under the WHS Laws or under this Deed; and
 - (B) any work health and safety claims in connection with the Works or the Council's workplace except to the extent that they are directly caused by a wrongful, negligent or unlawful act or default of TfNSW or its employees, contractors or agents (excluding the Council and its contractors);
 - (vii) must ensure that it, and its employees, contractors and agents engaged in connection with the construction work, carry out the Works in a manner which ensures that TfNSW does not breach any obligations that TfNSW may have under the WHS Laws;
 - (viii) must carry out the Works safely so as to protect persons and property and the environment;
 - (ix) must have a corporate work health and safety management system which complies with the WHS Laws and is otherwise in accordance with the NSW Government Occupational Health & Safety Management Systems Guidelines;
 - (x) must display signs that are clearly visible from outside the workplace in connection with the Works identifying the Council (or the relevant PCBU engaged by the Council) as the Principal Contractor and stating the contact telephone numbers of the Principal Contractor (including an after hours emergency telephone number); and
 - (xi) must, on request by TfNSW, provide information to TfNSW in relation to its compliance with its health and safety obligations under this Deed or the WHS Laws.
- (f) If TfNSW Representative considers there has been, or is likely to be, a breach of the WHS Laws arising out of or in connection with the Works, or that there is a risk of

injury to people or damage to property or the environment arising out of or in connection with the Works:

- (i) TfNSW Representative may direct the Council to cease work immediately and the Council must, at its cost, comply with any such direction;
- (ii) TfNSW will be entitled to exercise any of the rights under clauses 17.1(i), 17.1(j) or 17.2 without notice and without prejudice to any other right of TfNSW; and
- (iii) if TfNSW considers that there has been a failure by the Council, or any PCBU engaged by the Council as Principal Contractor, to comply with the WHS Laws or a breach of this clause 9.3, TfNSW may also, in its absolute discretion:
 - (A) treat the failure or breach as a material breach under clause 17.1(h); or
 - (B) proceed to give a notice under clause 17.1(k) terminating the Deed immediately, without requesting the Council to remedy the failure or breach, and the provisions of clause 16 will otherwise apply to that termination.
- (g) If TfNSW exercises any of its rights to take over or complete the whole or any part of the Works under clauses 17.1(i), 17.1(j) or 17.2:
 - (i) TfNSW will have management and control of the part of workplace in connection with that part of the Works;
 - (ii) TfNSW will be the PCBU that commissions the construction work in connection with that part of the Works; and
 - (iii) TfNSW will be the Principal Contractor , or will engage another PCBU as Principal Contractor for that part of the Works.

9.4 **Safety audits and surveillance**

- (a) TfNSW may itself, or have a third party, conduct a safety audit or surveillance, or require the Council to conduct audits from time to time, of:
 - (i) the Council's compliance with its health and safety obligations under:
 - (A) this Deed; and
 - (B) all WHS Laws; or
 - (ii) the compliance of the Contractor with those obligations,

(WHS Obligations).
- (b) The Council must comply with all requirements of a party undertaking an audit or surveillance under this clause 9.4, including giving:
 - (i) reasonable access to all documents necessary to conduct the audit or surveillance; and
 - (ii) access to relevant workplaces,

including documents and workplaces of the Council and the Contractor.

- (c) If the Council is required to conduct an audit under this clause, it must do so within the time reasonably required by TfNSW and promptly report to TfNSW in writing on the outcome of the audit.
- (d) Any corrective work or action which an audit or surveillance identifies as necessary to rectify any departure from the WHS Obligations must be undertaken by the Council at its expense and within a reasonable time, given the nature of the departure.
- (e) If any audit or surveillance identifies any corrective work or action that must be undertaken by the Contractor to rectify any departure from the WHS Obligations the Council must at its expense and within a reasonable time, given the nature of the departure, procure that the Contractor undertakes that corrective work or action.

10. **CONSTRUCTION**

10.1 **Carrying out the Works**

The Council must, in undertaking the Works, ensure that:

- (a) the Project Requirements are complied with at all times;
- (b) the Works are carried out in accordance with the Design Documents and Amended Design Documents (as the case may be) which TfNSW has notified the Council are acceptable to TfNSW pursuant to clause 8;
- (c) the Works are carried out in compliance with:
 - (i) all Legislative Requirements affecting the Works, including environmental, workers' compensation legislation and work health and safety legislation;
 - (ii) all requirements of other relevant Authorities;
 - (iii) the conditions of all Approvals for the Works; and
 - (iv) the Quality Plan, Environmental Management Plan, Inspection and Testing Plan, Traffic Control Plan and Traffic Management Plan;
- (d) any direction (including a direction to immediately stop work) and additional requirement of TfNSW given from time to time, relating to either:
 - (i) traffic safety and convenience, or
 - (ii) quality of work,
 are complied with;
- (e) it promptly notifies TfNSW if a 'pollution incident' occurs within the meaning of the *Protection of the Environment Operations Act 1997* (NSW) in connection with the Works;
- (f) in addition to any actions taken in accordance with paragraph (e), do whatever is necessary, or TfNSW reasonably requires, to remediate any contamination or pollution at the site of the Works that:
 - (i) occurred before the date of the Deed and was disturbed by the Council; or
 - (ii) first occurred or was first caused by the Council on or after the date of the Deed;

- (g) water, debris or silt is prevented from collecting in or adjacent to the Works as a result of any activity associated with the Works;
- (h) people authorised by TfNSW are freely allowed to inspect the Works and access all information and records relating to the Works, including traffic control arrangements and test and survey results;
- (i) the Works are carried out expeditiously and proceed continuously until Practical Completion in accordance with the Construction Program accepted by TfNSW prior to commencement of construction of the Works under clause 9.1(d);
- (j) it carefully coordinates and interfaces the Works with any works being carried out by TfNSW or another Authority and their contractors, employees and agents;
- (k) it carries out the Works so as to avoid interference with or disruption to or delay of the work of TfNSW or another Authority and their contractors, employees and agents;
- (l) it monitors the progress of work being performed by TfNSW, another Authority and their contractors, employees and agents and notifies TfNSW of any interface or sequence activities which may affect the commencement, progress or completion of any aspect of the Works; and
- (m) TfNSW is provided with any additional information and material relevant to the performance of the Council's obligations under this clause 10.1, if requested in writing by TfNSW Representative, including information relating to traffic control, records, test, survey results for the Works and any other relevant information held or received by the Council from time to time.

10.2 **Testing**

The Council must carry out all necessary tests on the Works as required by the Deed and comply with the Inspection and Testing Plan. The Council must give TfNSW and the Project Verifier at least three Business Days prior written notice of the date, time and location of any testing to be undertaken to allow a TfNSW Representative and the Project Verifier to attend. All testing required pursuant to this Deed will be carried out at the Council's cost.

10.3 **Defects rectification**

- (a) The Council must promptly and in any event within the time frame specified by TfNSW rectify defects or other non-conforming work which become apparent during construction of the Works or before the end of the Defects Liability Period in accordance with the requirements of the Deed.
- (b) If the Council does not comply with clause 10.3(a), TfNSW may rectify the defect itself or engage other contractors to do so and the cost incurred by TfNSW in rectifying such defect or engaging others to do so will be a debt due and payable from the Council to TfNSW.

11. **MODIFICATIONS**

The Council must not make any modification to the Works unless it has first obtained:

- (a) the prior written agreement of the TfNSW Representative; and
- (b) all Approvals required to carry out the Works as modified.

12. PRACTICAL COMPLETION

12.1 Council to Notify

The Council must:

- (a) give TfNSW written notice not less than 20 Business Days, unless Item 9 of the Schedule states otherwise, before it anticipates achieving Practical Completion of the Works; and
- (b) provide notice to TfNSW when it considers Practical Completion has been achieved, such notice to include the following details in relation to each item of the Works:
 - (i) any defects identified to date;
 - (ii) reports on preliminary commissioning of the services and installations;
 - (iii) compliance with the Inspection and Testing Plan and the provision of all required test results and conformance data;
 - (iv) Approvals; and
 - (v) a certificate from the Project Verifier that the item of the Works complies with all requirements of this Deed and is fit for occupation and use.

12.2 TfNSW to Inspect and Give Notice

TfNSW must:

- (a) promptly, and in any event no later than five Business Days after receiving the Council's written notice under clause 12.1(b) or a notice under the final paragraph of this clause 12.2 (as the case may be), inspect the Works; and
- (b) if satisfied that Practical Completion has been achieved, issue a notice to the Council:
 - (i) stating the date upon which TfNSW determines Practical Completion was achieved;
 - (ii) containing a list of any minor defects and minor omissions of the type described in paragraph (a) of the definition of "Practical Completion" in clause 1.1; and
 - (iii) stating the time frame within which those defects and omissions identified must be rectified; or
- (c) if not satisfied that Practical Completion has been achieved, issue a notice to the Council containing a comprehensive list of all items that TfNSW considers necessary to be completed to achieve Practical Completion.

If TfNSW issues a notice under clause 12.2(c) the Council must proceed to bring the Works to Practical Completion and thereafter when it considers it has achieved Practical Completion it will give TfNSW written notice to that effect after which this clause 12.2 will reapply.

12.3 Unilateral Issue of Practical Completion Notice

If at any time a notice required to be given by the Council to TfNSW under either of clauses 12.1 or 12.2 is not given by the Council yet TfNSW is of the opinion that Practical Completion of the Works has been achieved, TfNSW may issue a Notice of Practical Completion under clause 12.2(b) for the Works.

12.4 Take Over Upon Practical Completion

Upon the issue of a Notice of Practical Completion:

- (a) the Council must hand over those parts of the Works identified in Item 13 of the Schedule to TfNSW or the relevant Authority as notified by TfNSW; and
- (b) the Council must correct all defects and omissions listed in the Notice of Practical Completion as soon as possible after the Date of Practical Completion.

12.5 Effect of Notice of Practical Completion

A Notice of Practical Completion:

- (a) will not constitute approval by TfNSW of the Council's performance of its obligations under the Deed;
- (b) will not be taken as an admission or evidence that the Works comply with the Deed or any Approval;
- (c) will not prejudice any rights or powers of TfNSW; and
- (d) is only issued for the purposes of this Deed and is not a notice of practical completion of the Works as may be required to be issued under the contract entered into with the Council's contractor to construct the Works.

12.6 As Builts

- (a) The Council must provide TfNSW with all As-Built Drawings for the Works as a precondition to Practical Completion.
- (b) The As-Built Drawings must be provided in electronic form in both PDF format and in a native CAD file format nominated by the TfNSW Representative.

12.7 Intellectual property rights

- (a) The Council grants to TfNSW a perpetual, irrevocable, non-exclusive, royalty-free licence to:
 - (i) use, reproduce, modify and adapt all Design Documents and As-Built Drawings (and all Intellectual Property Rights in or relating to them) for the purpose of designing, constructing, operating, maintaining, repairing, upgrading and improving roads and road related assets in New South Wales;
 - (ii) permit any person to assist TfNSW to do any of the things referred to in clause 12.7(a)(i); and
 - (iii) sublicense any of the rights described in clauses 12.7(a)(i) and 12.7(a)(ii).
- (b) The Council must execute all documents and do all acts and things required by TfNSW for the purpose of giving effect to this clause.

12.8 Intellectual Property Warranty and Indemnity

The Council warrants that TfNSW's use of the Design Documents, including As-Built Drawings, will not infringe the Intellectual Property Rights of any person. The Council must indemnify TfNSW, and keep TfNSW indemnified from and against any loss, costs, expenses, demands or liability, arising out of a claim by a third party against TfNSW alleging that the

Design Documents, including As-Built Drawings, or part of the Design Documents, including As-Built Drawings, infringes any Intellectual Property Rights.

12.9 **Moral Rights**

The Council must:

- (a) obtain in writing from its contractors, employees, subcontractors and licensors all necessary, unconditional and irrevocable:
 - (i) consents permitted by applicable Law, to any alterations to, or use of the existing intellectual property or intellectual property created for the purpose of the Works that would otherwise infringe their respective Moral Rights in such intellectual property, whether occurring before or after the consent is given; and
 - (ii) waivers permitted by applicable law of their respective Moral Rights outside Australia,for the benefit of TfNSW;
- (b) provide TfNSW with copies of each written consent and waiver obtained under this clause, at TfNSW's request, or within 14 Business Days of the date of this Deed (or within 10 Business Days after engaging a contractor, employee, subcontractor or licensor not engaged at the date of this Deed), whichever occurs first; and
- (c) use its best endeavours to ensure that none of its contractors, employees, subcontractors or licensors institutes, maintains or supports any claim or proceeding for infringement of their Moral Rights by TfNSW.

12.10 **Dedication of Land**

If requested by TfNSW the Council must:

- (a) grant or procure an easement in favour of TfNSW or its nominee in relation to any area of land adjacent to or surrounding the Road as identified in the Design Documents or as reasonably required by TfNSW for purposes reasonably required by TfNSW; and
- (b) dedicate land owned or to be acquired in connection with the Works by the Council, as identified in Item 12 of the Schedule or in the Design Documents, that is required by TfNSW to be dedicated as public road or road reserve for the relevant part of the Works,

without any cost to TfNSW.

12.11 **Traffic signal works**

Upon Practical Completion of the Works, title in any traffic signalling plant, equipment, materials or installation that has been incorporated into the Work will vest in TfNSW or the relevant Authority notified by TfNSW in accordance with clause 12.4(a).

13. **PRACTICAL COMPLETION CLAIM AND FINAL COMPLETION CLAIM**

13.1 **Claims**

Within 45 Business Days after the issue of a Notice of Practical Completion for the Works the Council must give TfNSW notice of all liability, cost or expense which the Council claims

from TfNSW in respect of any fact, matter or thing arising out of, or in any way in connection with the Deed which occurred up to the date of issue of the Notice of Practical Completion.

13.2 **Release after Practical Completion**

After the date for submitting the claim and notice under clause 13.1 has passed, the Council releases TfNSW from any claim, liability, cost or expense in respect of any fact, matter or thing arising out of, or in any way in connection with the Deed which occurred prior to the Date of Practical Completion of the Works except for any claim included in a claim or notice under clause 13.1 which is given to TfNSW within the time required by, and in accordance with the terms of, clause 13.1.

13.3 **Final Claim and Notice**

Within 21 Business Days after the end of the Defects Liability Period for the Works the Council must give TfNSW a final claim which must be for all amounts retained by TfNSW and which must include notice of all liability, cost or expense which the Council claims from TfNSW in respect of any fact, matter or thing arising out of, or in any way in connection with the Deed which occurred during the Defects Liability Period for the Works.

The final claim and notice must be accompanied by a certificate from the Project Verifier that all design, construction, inspection, repairs, maintenance and monitoring by the Council has been undertaken in accordance with the requirements of the Deed.

The final claim and notice required under this clause 13.3 are in addition to the other notices which the Council must give to TfNSW under the Deed in order to preserve its entitlements to make any such claims.

13.4 **Release after Final Claim and Notice**

After the date for submitting the final claim and notice under clause 13.3 has passed, the Council releases TfNSW from any claim, liability, cost or expense in respect of any fact, matter or thing arising out of, or in any way in connection with the Deed which occurred during the Defects Liability Period for the Works except for any claim included in a final claim or notice under clause 13.3 which is given to TfNSW within the time required by, and in accordance with the terms of clause 13.3.

13.5 **Final Certificate**

- (a) TfNSW must issue a final certificate within 21 Business Days after receipt of the final claim and notice under clause 13.3 (**Final Certificate**) if:
 - (i) the Council has lodged with TfNSW a statutory declaration in the form set out in Attachment D;
 - (ii) the Council has procured from each contractor engaged by the Council to carry out any part of the Works:
 - (A) a statutory declaration that all subcontractors and workers engaged by the contractor have been paid all monies due and payable and received all entitlements accrued; and
 - (B) a written statement in the form approved under Schedule 2 Part 5 of the *Payroll Tax Act 2007* (NSW), section 175B of the *Workers Compensation Act 1987* (NSW), and section 127 of the *Industrial Relations Act 1996* (NSW);
 - (iii) the Council has completed all its obligations under the Deed;

- (iv) the Defects Liability Period under the Deed has expired;
 - (v) the Council has provided TfNSW with a certificate from the Project Verifier as required by clause 13.3; and
 - (vi) there are no outstanding claims or disputes between the Council and TfNSW.
- (b) If the Final Certificate shows money owing from TfNSW to the Council, TfNSW must within 21 Business Days after the date of the Final Certificate:
- (i) release that money to the Council; and
 - (ii) release the balance of any other security then held for the Deed.
- (c) If the Final Certificate shows money owing from the Council to TfNSW:
- (i) such amount will be a debt due and payable from the Council to TfNSW;
 - (ii) the Council must pay TfNSW the amount certified as payable by the Council within 21 Business Days after the date of the Final Certificate; and
 - (iii) TfNSW has no obligation to release any security held for the Deed until the Council has paid the money due.

13.6 Right of Set-Off

TfNSW may withhold, deduct or set-off from moneys which are otherwise due to the Council:

- (a) any debt or other moneys due from the Council to TfNSW; and
- (b) any claim to money which TfNSW may have against the Council whether for damages or otherwise,

whether under this Deed or otherwise at law relating to the Works.

14. TFNSW COSTS

14.1 Council liable to pay

Subject to clause 14.6, the Council is liable to TfNSW for and must pay TfNSW Costs, including:

- (a) TfNSW's costs (internal and external) in reviewing Design Documents and providing Approvals and any other consents, conditions or directions under the Deed;
- (b) TfNSW's project management costs for co-ordinating activities associated with the Works and liaising with the Council and Council's contractors and subcontractors;
- (c) the cost of surveillance and associated administration of surveillance of the Works;
- (d) legal costs and expenses (on a solicitor and own client basis) associated with the preparation, administration, enforcement and termination of this Deed;
- (e) the replacement cost of any material, equipment, stock or other item used or supplied by TfNSW;
- (f) the cost of repairs or replacement of any road or associated infrastructure which is damaged by the Council or its employees, contractors or persons under the control of any of them in the course of carrying out the Works, except to the extent that the

repair or replacement is the result of an act or omission for which TfNSW is liable to the Council at common law;

- (g) the cost of remedying a breach of this Deed by the Council;
- (h) costs of emergency or special traffic control measures required by TfNSW; and
- (i) if specified in Item 5 of the Schedule, the capitalised amount of the estimated maintenance costs of the Works for the period set out in Item 5, agreed by the parties and set out in Item 5.

14.2 Invoice

Subject to clause 14.5, invoices for TfNSW Costs and interest accrued will be sent by TfNSW to the Council upon execution of the Deed and then at not less than four weekly intervals.

An itemised invoice of TfNSW Costs together with a certification from TfNSW Representative that TfNSW Costs incurred are true and accurate is sufficient evidence of TfNSW Costs unless a clear error has been made.

14.3 Payment

The Council must pay the estimated amount of TfNSW Preliminary Costs stated in Item 11 of the Schedule within 10 Business Days of execution of the Deed. The Council must pay the full amount of each other invoice for TfNSW Costs within 10 Business Days from the date of the invoice, including any interest payable under clause 14.4.

14.4 Interest

The Council must pay interest on any amount due to TfNSW under this Deed but not paid at the rate stated in Item 7 of the Schedule from the day the amount became due until the date of payment.

14.5 Deferral of capitalised maintenance costs

Payment of TfNSW Costs referred to in clause 14.1(i) will not be payable by the Council until Practical Completion.

14.6 Reciprocal fee waiver arrangements

The parties acknowledge that from time to time they may agree to reciprocal fee waiver arrangements in relation to:

- (a) fees, charges, costs and expenses that may be payable by TfNSW to the Council in connection with other projects that are being procured and delivered by TfNSW; and
- (b) certain TfNSW Costs payable by the Council to TfNSW under this Deed.

If any such arrangement is agreed to by the parties it will be documented under a separate written agreement and the liability of the Council to pay any relevant TfNSW Costs under this Deed will be reduced to the extent contemplated by such written agreement.

15. LIABILITY AND INDEMNITY

15.1 Indemnity

The Council:

- (a) must defend and hold harmless, indemnify and keep indemnified TfNSW and its employees, officers, agents and contractors from and against all claims, expenses, losses, including consequential losses, damages and costs (including costs on a solicitor and own client basis and whether incurred by or awarded against TfNSW) that TfNSW may sustain or incur as a result, whether directly or indirectly, arising out of or in connection with:
 - (i) any breach of this Deed by, or act or omission of, the Council;
 - (ii) any injury to or death of any person including any injury to or death of the employees, officers, agents and contractors of the Council or TfNSW;
 - (iii) damage to or loss of any property, including any damage to or loss of the Works or property of the Council or TfNSW; or
 - (iv) performance by the Council of its obligations under the Deed, including claims by a person who is not a party to this Deed,

except to the extent caused or contributed to by the wrongful, negligent or unlawful act or omission of TfNSW, its contractors, employees and agents; and
- (b) acknowledges that:
 - (i) it, and not TfNSW, is responsible and liable for the design and carrying out of the Works, management of construction and programming of the Works in compliance with the provisions of this Deed; and
 - (ii) TfNSW is relying on the advice, skill and judgment of the Council and its consultants and contractors in:
 - (A) the correctness and suitability of the Design Documents;
 - (B) the performance of the Council's obligations under this Deed;
 - (C) the carrying out of the Works; and
 - (D) the adequacy of the plant, equipment and materials to be used in the construction of, or incorporated into the Works for the purposes of this Deed.

15.2 **No limitation**

Without limiting the generality of clause 15.1(b)(ii), the Council must ensure that:

- (a) the processes and methods to be used for carrying out the Works will be completely suitable for the purposes for which they are required;
- (b) the Works are carried out in accordance with this Deed;
- (c) it will furnish efficient business administration, supervision and an adequate supply of workers and materials and perform its obligations in the best way and in the most expeditious and economical manner consistent with the best interests of TfNSW; and
- (d) it will obtain for the benefit of TfNSW all available product and work warranties from any suppliers, manufacturers, contractors and subcontractors in respect of plant, equipment and materials used in the construction of, or incorporated into the Works or assign such benefit to TfNSW where the warranty is not in favour of TfNSW.

15.3 **TfNSW may remedy**

The Council agrees that:

- (a) if it fails to remedy any breach of the Deed within 10 Business Days or as otherwise agreed by the parties, after receiving a notice from TfNSW requiring the Council to remedy the breach, TfNSW may remedy the breach at the cost of the Council and will be entitled to recover the cost of remedying the breach, including under clause 13.6; and
- (b) if remedial, protective or repair work, traffic management or traffic control work is urgently required to prevent loss of or damage to the Works, or to the site of or property adjacent to the Works, or to prevent injury to or death of any person, TfNSW may undertake that work at the cost of the Council and will be entitled to recover the cost as a debt due, including under clause 13.6. TfNSW will, if practical, give notice to the Council of the work urgently required.

16. **INSURANCE**

16.1 **Effect and maintain**

The Council must ensure that the policies of insurances listed in Attachment C, on the terms, for the risks identified and for the periods of time set out in Attachment C are effected and maintained.

16.2 **Proof**

The Council must provide proof that the policies of insurance required under this Deed have been effected and are current at all times during the periods of insurance stated in Attachment C.

16.3 **TfNSW may effect insurances**

If the Council does not comply with clause 16.2, TfNSW may, but is not obliged to, effect the relevant insurances and the cost of doing so will be a debt due from the Council which TfNSW will be entitled to recover, including under clause 13.6.

17. **TERMINATION**

17.1 **Default by Council**

If the Council:

- (a) without reasonable cause and/or without TfNSW's prior written approval suspends carrying out of the Works;
- (b) fails to proceed with the Works promptly and diligently;
- (c) fails to proceed with work in a competent manner;
- (d) fails to use or incorporate materials or work to the standards required by this Deed;
- (e) fails to remedy defects or non-conforming work or loss, damage, default or failure in accordance with this Deed;
- (f) fails to provide security in accordance with the requirements of clause 5.1;
- (g) fails to provide a duly executed Contractor Deed Poll; or

(h) commits any material breach of the Deed,

and fails to remedy such event within 10 Business Days of a written request by TfNSW to do so, then TfNSW may, in its absolute discretion and without prejudice to its other rights, by notice in writing to the Council, do any or all of the following:

- (i) take over the whole or any part of the Works remaining to be completed or in its discretion, carry out other works so that the Road is safe for public use and occupation;
- (j) exclude the Council and its contractors, employees or agents from performing the Works taken over; or
- (k) terminate the Deed as from the date of the notice, and in that case exercise any of the powers of exclusion conferred by paragraphs (k) or (l),

without prejudice to its accrued rights under this Deed.

17.2 Take over the Works

If TfNSW exercises its rights under clause 17.1, it may complete the whole or any part of the Works remaining to be completed and may engage contractors, including contractors of the Council and subcontractors for that purpose. TfNSW may take possession of and permit other persons to use any materials or equipment to be incorporated into the Works. The Council shall have no right to any compensation or allowance for any action taken by TfNSW pursuant to this clause 17.2.

17.3 Termination of Contract

If the Deed is terminated under clause 17.1 or under any other provision of the Deed it will be deemed terminated as from the date when notice of termination in writing under the hand of TfNSW is served upon the Council, or upon any official administrator of the Council or of the business of the Council.

17.4 Adjustment of costs on completion

All costs, losses, charges and expenses (including legal costs on a full indemnity basis) incurred by TfNSW in completing the whole or any part of the Works are a debt due to TfNSW which may, without limiting other rights, be recovered by TfNSW by set-off against other moneys due at any time.

17.5 No release

Termination by TfNSW will not release the Council from liability in respect of any breach of, or non-performance of any obligation pursuant to this Deed.

18. AUTHORISED REPRESENTATIVES

18.1 Representatives to Perform Functions

The authorised representative of the Council as stated in Item 1 of the Schedule and the TfNSW Representative as stated in Item 8 of the Schedule may perform any function of the Council and TfNSW, respectively, under this Deed.

18.2 Council's Project Manager

The Council must:

- (a) appoint, for the duration of the Works, a Council's Project Manager, who is suitably experienced in constructing works similar to the Works; and
- (b) notify TfNSW of the identity and contact details of the Council's Project Manager and any change during the course of the Works.

18.3 **Communications**

A notice or communication given or made by or to an authorised representative of the Council or to TfNSW Representative is effective as if it had been given or made by or to the party they represent.

18.4 **Substitution**

The Council may substitute an authorised representative after first giving written notice to TfNSW.

TfNSW may substitute TfNSW Representative after first giving written notice to the Council.

19. **DISPUTE RESOLUTION**

19.1 **Notice of Dispute**

If a party claims that a dispute has arisen under this Deed ('the Claimant'), it must give written notice to the other party ('the Respondent') stating the matters in dispute and designating as its representative a person to negotiate the dispute (a 'Claim Notice').

19.2 **Response to Notice**

Within 10 Business Days of receiving the Claim Notice, the Respondent must notify the Claimant of its representative to negotiate the dispute.

19.3 **Negotiation**

The nominated representatives must:-

- (a) meet to discuss the matter in good faith within 10 Business Days after service by the Respondent of notice of its representative; and
- (b) use reasonable endeavours to settle or resolve the dispute within 15 Business Days after they have met.

19.4 **Further Notice if not Settled**

If the dispute is not resolved within 15 Business Days after the nominated representatives have met, either party may give to the other a written notice calling for determination of the dispute ('Dispute Notice'). If the dispute relates to a technical claim or question in relation to the Works ('Technical Dispute'), the Dispute Notice must adequately identify the nature of the Technical Dispute and the date on which the Technical Dispute is alleged to have arisen.

19.5 **Reference to Expert**

Within 10 Business Days of receiving a Dispute Notice submitted by a party pursuant to clause 19.4 in relation to a Technical Dispute, the parties shall seek to agree upon and if agreed upon appoint an expert. In the event that the parties cannot agree on an expert to be appointed, the appointment of the expert is to be referred to the President of the Institute of Arbitrators and Mediators Australia (**NSW Chapter**).

For all Technical Disputes, the expert must:

- (a) have reasonable qualifications and practical experience in road and safety matters; and
- (b) have no interest or duty which conflicts or may conflict with his or her function as expert, he or she being required to fully disclose any such interest or duty before his or her appointment.

The parties must refer the Technical Dispute to the expert for determination within five Business Days of the expert's appointment.

19.6 **Rules**

The expert must determine the dispute in accordance with the TfNSW Rules for the Expert Determination Process and the Code of Conduct for an Expert, a copy of which TfNSW must make available to the Council on request.

19.7 **Assistance**

Each party must do all things necessary on its part or required by the expert for the proper conduct of the expert determination.

19.8 **Expert not an Arbitrator**

In determining the dispute the expert will be acting as an expert and not as an arbitrator.

19.9 **Mediation**

The parties agree that a dispute which is not a Technical Dispute should be mediated, in which case:

- (a) the parties must agree the terms of reference of the mediation within five Business Days of the receipt of the Dispute Notice (the terms shall include a requirement that the mediation rules of the Institute of Arbitrators and Mediators Australia (NSW Chapter) apply);
- (b) the mediator will be agreed between the parties, or failing agreement within five Business Days of receipt of the Dispute Notice, either party may request the President of the Institute of Arbitrators and Mediators Australia (NSW Chapter) to appoint a mediator;
- (c) the mediator appointed pursuant to this clause 19.9 (**Mediator**) must:
 - (i) have reasonable qualifications and practical experience in the area of the dispute; and
 - (ii) have no interest or duty which conflicts or may conflict with his or her function as mediator, he or she being required to fully disclose any such interest or duty before his or her appointment;
- (d) the Mediator shall be required to undertake to keep confidential all matters coming to his or her knowledge by reason of his or her appointment and performance of his or her duties;
- (e) the parties must within five Business Days of receipt of the Dispute Notice notify each other of their representatives who will be involved in the mediation;

- (f) the parties agree to be bound by a mediation settlement and may only initiate judicial proceedings in respect of a dispute which is the subject of a mediation settlement for the purpose of enforcing that mediation settlement;
- (g) in relation to costs and expenses:
 - (i) each party will bear their own professional and expert costs incurred in connection with the mediation;
 - (ii) the costs of the Mediator will be shared equally by the parties unless the Mediator determines a party has engaged in vexatious or unconscionable behaviour in which case the Mediator may require the full costs of the mediation to be borne by that party.

19.10 **Litigation**

If the dispute is not finally resolved in accordance with clauses 19.5 to 19.9, either party is at liberty to litigate the dispute.

19.11 **Continue to Perform obligations**

Each party must continue to perform its obligations under this Deed, notwithstanding the existence of a dispute.

20. **GENERAL**

20.1 **No Representations by TfNSW**

TfNSW makes no representation or warranty as to the Works and assumes no duty of care in respect of them or any information provided by TfNSW.

20.2 **No Restriction on Rights**

Nothing in this Deed is deemed to:

- (a) prejudice or affect the rights of the public to free passage upon or along the site of the Works;
- (b) authorise any nuisance to or permanent obstruction of the site of the Works or public places;
- (c) confer upon the Council any right or title to any part of the Works; or
- (d) in any way restrict or limit the powers of TfNSW or other relevant Authority or fetter TfNSW in the exercise of its statutory functions and in the event such exercise is undertaken in accordance with all relevant Laws, such exercise cannot and does not constitute a breach of the Deed.

20.3 **Notices**

- (a) A party notifying or giving notice under the Deed must do so in writing:
 - (i) delivered by hand;
 - (ii) sent by prepaid registered post;
 - (iii) sent by email; or

- (iv) if TfNSW has given notice under clause 20.4(b), sent by the Project Document Management System,
- to the other party's representative at the address or email address specified in Item 1 or Item 8 of the Schedule.
- (b) A notice given in accordance with clause 20.3 will be deemed to have been given and received:
 - (i) if delivered, on receipt;
 - (ii) if posted, three Business Days after posting;
 - (iii) if sent by email, when the addressee's email system logs the email message as having been received; or
 - (iv) if sent by a Project Document Management System – when the system logs the notice, consent or other communication as having been received.
- (c) Any notice received after 5.00 pm or on a day not a Business Day shall be deemed to have been received at 9.00 am on the next Business Day.

20.4 Project Document Management System

- (a) At any time and from time to time the TfNSW Representative may notify the Council that a Project Document Management System is to be used for the purposes of this Deed. Such notice will set out:
 - (i) details of the relevant Project Document Management System;
 - (ii) the commencement date for use of the Project Document Management System; and
 - (iii) any other information reasonably necessary for the use of and service of notices via the Project Document Management System.
- (b) If the TfNSW Representative issues a notice under clause 20.4(a), then on and from the date referred to in clause 20.4(a)(ii) all notices, consents and other communications under this Deed must be sent via the Project Document Management System unless otherwise directed by the TfNSW Representative or clause 20.4(c) applies.
- (c) If, at any time, the Project Document Management System is unavailable, all notices, consents and other communications must be sent by one of the other means referred to in clause 20.3 during the period of unavailability.
- (d) The Council must bear all costs arising out of or in connection with its use of the Project Document Management System.

20.5 Assignment

- (a) The Council must not assign or otherwise transfer or encumber any right, obligation or interest under this Deed without the prior written approval of TfNSW, such approval not to be unreasonably withheld.
- (b) TfNSW will be deemed to be acting reasonably if it withholds its approval under clause 20.5(a) where TfNSW is of the reasonable opinion that:
 - (i) the proposed assignee is not solvent and reputable; or

- (ii) the proposed assignment will materially affect the obligations of the Council and the rights of TfNSW under this Deed.
- (c) If the Council assigns or otherwise transfers its interest in the Works or this Deed, the Council must at its own cost obtain a covenant by deed from the purchaser or transferee in favour of TfNSW that the purchaser or transferee will comply with and be bound by the provisions of this Deed.

20.6 Waiver

Failure by a party to compel performance of any term or condition of this Deed does not constitute a waiver of that term or condition and does not impair the right of the party to enforce it at a later time or to pursue remedies it may have for any subsequent breach of that term or condition.

20.7 Joint and Several Liability

If the Council comprises more than one person, those persons are jointly and severally liable for the performance and obligations of the Council.

20.8 Governing Law

This Deed is governed by and will be construed according to the law of New South Wales.

20.9 Stamp duty

The Council will be liable to pay any stamp duty payable on any transfer or easement required to effect TfNSW's requirements under the Deed.

20.10 Prior agreements superseded

This Deed:

- (a) wholly replaces and excludes all prior agreements, correspondence, negotiations, representations, explanations and statements between the Council and TfNSW covering or in connection with the matters covered by this Deed (except to the extent expressly incorporated by reference); and
- (b) is the entire agreement between the Council and TfNSW in respect of the Works.

20.11 Modification of Deed

No modification or alteration of any provision of this Deed will be valid unless it is in writing and signed by the Council and TfNSW.

20.12 Media releases and enquiries

If requested by TfNSW Representative, the Council must:

- (a) not issue, publish or authorise any media release or advertisement concerning this Deed, TfNSW or the Works without obtaining TfNSW's prior written approval; and
- (b) obtain a similar obligation from its contractors.

20.13 Disclosure by TfNSW

The Council acknowledges that TfNSW may be required by law to disclose the contents of, or certain information concerning, this Deed in accordance with ss 9 or 27 to 35 of the

Government Information (Public Access) Act 2009 (NSW) ('GIPA Act') and the Council consents to, and releases TfNSW in respect of, any such disclosure.

If the Council reasonably believes that any part of this Deed contains information which is commercial-in-confidence or could reasonably be expected to affect public safety or security, then the Council should immediately advise TfNSW in writing, identifying the provisions or information and providing reasons so that TfNSW may consider seeking to exempt that information or those provisions from disclosure under s 32 of the GIPA Act.

20.14 Proportionate liability

- (a) It is agreed that the operation of Part 4 of the Civil Liability Act 2002 (NSW) is excluded in relation to all and any rights, obligations and liabilities under this Deed, whether such rights, obligations or liabilities are sought to be enforced as a breach of contract or a claim in tort or otherwise.
- (b) Without limiting the generality of clause 20.14(a) it is further agreed that the rights, obligations and liabilities of TfNSW and the Council (including those relating to proportionate liability) are as specified in this Deed and not otherwise, whether such rights, obligations and liabilities are sought to be enforced by a claim in contract, tort or otherwise.

21. GST

21.1 Interpretation

In this clause:-

- (a) the expressions 'adjustment note', 'consideration', 'Goods and Services Tax', 'GST', 'supply', 'tax invoice', 'recipient' and 'taxable supply' have the meaning given to those expressions in the A New Tax System (Goods and Services Tax) Act 1999;
- (b) a reference to a payment being made or received includes a reference to consideration other than money being given or received.

21.2 Calculation of GST

- (a) Unless otherwise expressly stated, all prices or other sums payable or payment to be made under or in accordance with the Deed, include an amount for GST.
- (b) No additional amount on account of GST is payable by a party who receives a taxable supply under or in connection with the Deed. All amounts payable reflect the GST-inclusive market value of the taxable supply.
- (c) Any contract entered into by a party to the Deed with a third party which involves supplies being made, the cost of which will affect the cost of any supplies made under or in connection with the Deed, must include a clause including equivalent terms to this clause 21.2.

21.3 GST invoices

The parties agree that:

- (a) TfNSW will issue a tax invoice for each taxable supply it makes to the Council without request;
- (b) TfNSW will issue to the Council a recipient created tax invoice ('RCTI') for each taxable supply (other than an excluded supply) made by the Council to TfNSW under this Deed, and will issue an adjustment note for any adjustment event;

- (c) TfNSW may serve written notice on the Council stating which supplies are excluded supplies under this Deed. Unless and until TfNSW serves such a notice, there are no excluded supplies;
- (d) the Council must not issue a tax invoice in respect of any supply it makes to TfNSW, other than for an excluded supply;
- (e) TfNSW is not required to make a payment for an excluded supply until TfNSW has received a tax invoice from the Council for that supply;
- (f) each party must notify the other party if it ceases to be registered for GST or it ceases to comply with any of the requirements of any taxation ruling issued by a taxation authority relating to the creation of RCTIs;
- (g) each party acknowledges and warrants that at the time of entering into this Deed, it is registered for GST; and
- (h) TfNSW will not issue a document that will otherwise be an RCTI, on or after the date when the Council fails to comply with any of the requirements of any taxation ruling issued by a taxation authority relating to the creation of RCTIs.

SCHEDULE

Item 1	Name of Council: ABN: (Parties and clause 18.1) Address: [use only street address] Authorized Representative: Address: Telephone: Email:	Richmond Valley Council 54145907009 10 Graham Place Casino NSW 2470 Mike Perkins Locked Box 10 Casino 2470 0417218521 mike.perkins@richmondvalley.nsw.gov.au
Item 2	Estimated Cost of the Works (clause 1.1)	\$8M (Inclusive of GST)
Item 3	Defects Liability Period: (clause 1.1)	12 months from the Date of Practical Completion.
Item 4	Planning Approval (clause 1.1)	[insert details]
Item 5	Agreed Capitalised Maintenance Costs: Period:	N/A
Item 6	Road: (clause 1.1)	Bruxner Highway (HW16) Johnston St and Arthur Street Casino NSW 2470
Item 7	Rate of Interest on overdue payments: (clause 14.4)	12% per annum
Item 8	TfNSW Representative: (clause 18.1) <div> Address: Telephone: Email: </div>	<div> John Perkins 31 Victoria St Grafton NSW 2460 0499968808 john.perkins@transport.nsw.gov.au </div>

Item 9	Notice of estimate of Date of Practical Completion (clause 12.1):	30/06/25
Item 10	Required amount of contractor security (clause 5)	\$2M
Item 11	Estimated amount of TfNSW Preliminary Costs (clauses 1.1 and 14.3):	\$ 126,988.4 (Inclusive of GST)
Item 12	Land to be Dedicated (clause 12.10(b))	Yes
Item 13	Works to be handed over to TfNSW (clause 12.4(a))	
Item 14	Are the Works divided into Packages? (clause 4)	[Yes / No]

ATTACHMENT A

Project Requirements

The Council must ensure that the Project Requirements are complied with at all times.

1. General

- (a) All plans and documents required to be prepared under this Deed (including without limitation the Design Documents and Project Plans) must comply with all standards set by TfNSW (including TfNSW Technical Directions), Australian Standards and Austroads Guides with TfNSW Supplements and relevant Codes of Practice.
- (b) The Design Documents must include the provision of all necessary road markings and sign posting.
- (c) The Design Documents must include:
 - (i) A "Health & Safety in Design Report" including the register for concept and detailed design stages showing:
 - (A) all hazards eliminated or mitigated So Far As Is Reasonably Practicable (SFAIRP);
 - (B) hazards for construction, maintenance, operations and demolition clearly identified and the most appropriate controls proposed; and
 - (C) all information pertaining to resolved and residual health and safety hazards.
- (d) A Stage three detailed design Road Safety Audit (RSA) is to be submitted as part of the final design submission. The RSA must be carried out by an independent auditor. The auditor cannot be from the same organisation that carried out the detailed design. In addition, for works with a construction value in excess of \$500,000 (in the road reserve) a Stage four Pre-opening Road Safety Audit must be undertaken prior to practical completion.
- (e) A minimum footpath reserve of 3.5 metre is to be provided to accommodate pedestrian facilities and public utilities. If the 3.5 metre footpath reserve in respect of the Works encroaches onto private land, the necessary land is to be acquired and dedicated as public road at no cost to TfNSW.

2. Community Consultation

- (a) Liaison with the community concerning the Works is the responsibility of the Council. If the completed Works or the construction activities are likely to be perceived as having an adverse impact on the amenity of road users or pedestrians or any other relevant stakeholders, consultation with stakeholders must be undertaken by the Council.
- (b) Any media releases, letterbox drops or other publications concerning the Works, must be approved by TfNSW prior to release. The TfNSW Representative will assess the extent of any TfNSW response, depending on the nature of the Works.
- (c) Where private driveway crossovers and stormwater drainage connections abut the Works, the design of the driveway and drainage connections are to be agreed with the property owners. This is to include consideration of, and agreement to, the type and width of driveway and the method of disposal of property stormwater.

3. Construction

- (a) Approval to commence construction works is not permitted until TfNSW issues an approval to commence construction. This will be issued after the receipt and acceptance of all statutory approvals, pre-construction documentation and Project Plans. These include the:
 - (i) Verification and Monitoring Plan;
 - (ii) Quality Plan
 - (iii) Detailed construction program showing critical path;
 - (iv) Construction Environmental Management Plan, including an Erosion & Sediment Control Plan and any safeguards or requirements identified in any environmental approvals;
 - (v) Inspection & Test Plans; and
 - (vi) Traffic management (including Traffic Control Plans).
- (b) The Works must be carried out and completed to TfNSW QA Specifications and environmental and planning approvals current at the date of execution of this Deed. "TfNSW QA Specifications" means all specifications published from time to time by TfNSW on its website (www.rms.nsw.gov.au) and any other specification prepared as approved and notified by TfNSW.
- (c) The roadwork and bridgework components of the Works are to be undertaken by suitably prequalified and registered contractors acceptable to TfNSW. The contractors are to be prequalified and registered at a class appropriate to the value and type of works in accordance with the TfNSW Prequalification and Registration Schemes.
- (d) The Quality Plan must make provision for internal quality audits and the results of those audits must be provided to TfNSW within ten Business Days of the audit being undertaken.
- (e) All affected utilities are to be relocated to allow for the Works and meet the requirements of TfNSW and all relevant utility authorities, at no cost to TfNSW. TfNSW approval must be obtained prior to utilities being relocated outside of the standard Public Utility Space Allocations as detailed in the NSW Streets Opening Conference's Guide to Codes and Practices for Streets Opening. In particular, power poles and lighting columns must be relocated at least three metres behind the back of kerb.
- (f) A dated construction schedule is to be submitted and routinely updated so that TfNSW can plan timely inspections. TfNSW reserves the right to carry out surveillance and auditing of the quality system and/or Works at any time. Following a written request from TfNSW, the Council and/or the Contractor must make resources available for the audit process.
- (g) Road condition reports must be prepared and submitted to TfNSW for all roads likely to be affected by the construction prior to commencement and post completion of construction. Prior to completion of construction, any damage to the existing road infrastructure (including without limitation road signage, signalling equipment and footpaths) caused during the course of the Works is to be restored and made good to the satisfaction of TfNSW and Council.

- (h) A summary of the results of all inspections and tests, described in the Inspection and Testing Plans, carried out within a particular month during the course of the Works are to be forwarded to TfNSW within ten Business Days of the end of that month.
- (i) All final linemarking on asphalt pavements (including transverse and median pavement markings) shall be thermoplastic material. On a spray seal pavements a reapplication of waterborne paint is required no less than 2 months and no later than 3 months after initial linemarking.
- (j) The Council is responsible for all road maintenance between the limit of works from the start of construction until the end of the Defects Liability Period.
- (k) "Works-as-Executed" drawings must be submitted within 4 weeks from the date of Practical Completion, including electronic copies of CAD drawings for signal designs.

4. Traffic Management

- (a) A Traffic Management Plan must be prepared and submitted for acceptance. Approval to commence construction will not be issued until the Traffic Management Plan is accepted. The Traffic Management Plan must:
 - (i) be drawn in accordance with AS1742.3 and the TfNSW Traffic Control at Work Sites (TCAWS) Manual;
 - (ii) include Traffic Control Plans for the proposed work. The Traffic Control Plans must be on scaled drawings of the affected section of road including lane widths, sign spacings and traffic control devices proposed. If temporary pavement marking changes are proposed then a Traffic Control Plan is also required for the pavement marking. The designer should visit the site to ensure that the proposed location of signage is suitable and practical;
 - (iii) include appropriate signage to warn road users of construction vehicle entry/exit points and of excavations;
 - (iv) include a Vehicle Movement Plan (where required by TCAWS) showing signage and other directional devices;
 - (v) show how pedestrians and cyclists will be directed safely through or around the work site; and
 - (vi) be prepared by a designer with a current certificate of training as required by TCAWS. The Traffic Control Plan shall be signed and dated including the designer's certificate number.
- (b) All pavement markings requiring removal must be removed by water blasting or grinding. Waterborne paint may be used for interim traffic stages. Retro-reflective raised pavement markings must be installed for all traffic stages.
- (c) A Road Occupancy Licence is required for all Works, including any approved maintenance period. The Road Occupancy Licence is separate and additional to the approval for the Traffic Management Plan and the Traffic Control Plans.
- (d) Where roadworks speed zone restrictions are proposed, a Speed Zone Authorisation is required.

5. Practical Completion

Prior to Practical Completion deposited plans of subdivision for any land to be dedicated as public road must be registered at no cost to TfNSW.

6. Traffic Control Signals (if included in the Works)

- (a) The traffic signal installation work must be in accordance with TfNSW specification SI/TCS/8. Due to the specialised nature of traffic control signal installations, TfNSW requires that adequate notice be given to it for release of signal specification hold points, so that its representative can witness these achievements.
- (b) All traffic signal equipment must be new, must be supplied by the Council or its Contractor (including without limitation housing labels) and must comply with TfNSW Specifications. LED (Light Emitting Diode) traffic signal lanterns must be used for all traffic signal works. Reconstruction of existing sites which currently utilise Incandescent or Quartz Halogen lanterns must be upgraded to LED (Light Emitting Diode) lantern sites in accordance with Technical direction TDT2008/05a.
- (c) The Council is to engage a TfNSW service provider to certify that all the traffic signal works are in accordance with the Design Documents and specifications.

ATTACHMENT B

Description of Works and Packages

Part 1: Description of the Works

The works are in relation to development consent REF to be completed and generally in accordance with Concept drawings BE230077 sheets SK00 to SK11 dated 15/0324. Works includes design and construction of a concrete roundabout.

[Option 2:] Not applicable

ATTACHMENT C

Insurance

	TYPES OF INSURANCES	MINIMUM SUM INSURED	PERIOD OF INSURANCE	INSURANCE COVER IS TO INCLUDE THE FOLLOWING	COMMENTS (STATE IF INSURANCE IS NOT REQUIRED)
1.	Broadform Public and Products Liability effected with an approved insurer as defined in Definitions and Notes clause 1 below. * If products are not involved in performance of the Services, it will be acceptable not to obtain Products Liability.	\$20 million for any single occurrence and unlimited in the aggregate as to the number of occurrences. The total aggregate liability during any one period of insurance for all claims arising out of the Council's and Contractor's Products shall not exceed \$20 million.	From the earlier of the Works commencing or time construction contract is awarded to the end of each Defects Liability Period.	<p>(a) lists the Council and all contractors for their respective rights, interests and liabilities as named insureds.</p> <p>(b) lists TfNSW as an additional named insured as defined in Definitions and Notes clause 2 below.</p> <p>(c) a cross liability and waiver of subrogation clause as defined in Definitions and Notes clause 3 below.</p> <p>(d) liability arising out of the use of hoists, cranes, unregistered vehicles, boilers and pressure vessels.</p> <p>(e) is governed by the law of New South Wales and subject to Australian jurisdiction as defined in Definitions and Notes clause 4 below.</p>	
2.	Motor Vehicle Comprehensive or Third Party Property Damage effected with an	\$20 million for any single occurrence and unlimited in the aggregate as	From the earlier of the Works commencing or time construction contract is	(a) all plant, equipment and motor vehicles owned or used by the Council or contractors	

	TYPES OF INSURANCES	MINIMUM SUM INSURED	PERIOD OF INSURANCE	INSURANCE COVER IS TO INCLUDE THE FOLLOWING	COMMENTS (STATE IF INSURANCE IS NOT REQUIRED)
	approved insurer as defined in Definitions and Notes clause 1 below.	to the number of occurrences.	awarded to completion of the Deed including any warranty / maintenance / service period.	<p>directly or indirectly engaged in performance of the Works.</p> <p>(b) lists the Council and all contractors for their respective rights, interests and liabilities as named insureds.</p> <p>(c) lists TfNSW as an additional named insured as defined in Definitions and Notes clause 2 below.</p> <p>(d) a cross liability and waiver of subrogation clause as defined in Definitions and Notes clause 3 below.</p> <p>(e) is governed by the law of New South Wales and subject to Australian jurisdiction as defined in Definitions and Notes clause 4 below.</p>	

	TYPES OF INSURANCES	MINIMUM SUM INSURED	PERIOD OF INSURANCE	INSURANCE COVER IS TO INCLUDE THE FOLLOWING	COMMENTS (STATE IF INSURANCE IS NOT REQUIRED)
3.	Workers Compensation effected with an approved insurer as defined in Definitions and Notes clause 1 below	As per the Act.	From the earlier of the Works commencing or time construction contract is awarded to completion of the Deed including any warranty / maintenance / service period.	To cover all persons directly or indirectly engaged in performance of the Works under the Deed for loss, damage, claims and all direct and associated costs and expenses arising under any statute relating to workers or accident compensation or at common law.	
4.	Professional Indemnity* effected with an approved insurer as defined in Definitions and Notes clause 1 below.	\$10 million per occurrence and in the aggregate annually.	From the earlier of the design of the Works commencing or time construction contract is awarded to completion of the Deed plus seven years following completion of the contract. The insurance can be taken out as annual covers where the cover is to include a retroactive date being the commencement date of this contract.	<p>(a) is effected by the contractor and each consultant providing design services.</p> <p>(b) a description of the risk covered by the policy.</p> <p>(c) cancellation clause requiring not less than 30 days' notice to be given by the insurer of an intent to cancel.</p> <p>(d) one automatic restatement per period of insurance.</p> <p>(e) is governed by the law of New South Wales and subject to Australian jurisdiction as defined in Definitions and Notes clause 4 below.</p>	
5.	Contract, works, plant	To cover the replacement	From the earlier of the Works	(a) material damage in relation to	

	TYPES OF INSURANCES	MINIMUM SUM INSURED	PERIOD OF INSURANCE	INSURANCE COVER IS TO INCLUDE THE FOLLOWING	COMMENTS (STATE IF INSURANCE IS NOT REQUIRED)
	and equipment insurance	value of Works, including any TfNSW supplied materials.	commencing or time construction contract is awarded to the end of each Defects Liability Period.	<p>Works, temporary works, form works and all other material as supplied in the construction contract.</p> <p>(b) includes Architect, Engineer's and Surveyor's fees.</p> <p>(c) includes owner supplied materials, equipment, temporary buildings and the like, including all additional costs of reconstruction, rectification or repair.</p> <p>(d) lists the Council and all contractors and subcontractors for their respective rights, interests and liabilities as named insureds.</p> <p>(e) lists TfNSW as an additional named insured as defined in Definitions and Notes clause 2 below.</p> <p>(f) a cross liability and waiver of subrogation clause as defined in Definitions and Notes clause 3 below.</p> <p>(g) is governed by the law of New South Wales and subject to</p>	

	TYPES OF INSURANCES	MINIMUM SUM INSURED	PERIOD OF INSURANCE	INSURANCE COVER IS TO INCLUDE THE FOLLOWING	COMMENTS (STATE IF INSURANCE IS NOT REQUIRED)
				Australian jurisdiction as defined in Definitions and Notes clause 4 below.	
6.	[Other*]			[*Include additional specific risk policies as required].	

Definitions and Notes:

1. Approved insurer means:
 - (a) an Australian registered insurance company which is approved by the Australian Prudential Regulatory Authority ('APRA') to conduct general insurance business in Australia; or
 - (b) Lloyds Underwriters; or
 - (c) if there is any placement of the risk overseas, a related general insurance company in Australia which is approved by the APRA and who has accepted the insurance transfer; or
 - (d) if there is any placement of the risk overseas, and does not apply to items (b) and (c) above, the following actions/documentation need to take place and be provided to TfNSW:
 - (i) The Contractor's Finance Committee or appropriate finance personnel of the Contractor, must undertake a full financial risk assessment of the insurer/s being proposed for insurance where the following points must be achieved:
 - (A) the financial rating of the insurer by independent financial advisers must have credit rating of at least 'A' Standard & Poors (S&P) or the equivalent rating by the Moody's Investment Service or AM Best;
 - (B) the Contractor's Insurance Brokers' Financial Committee or appropriate financial personnel of the Insurance Broker, must have its own report and approve the dealing with the Approved Insurer in addition to point (i) above; or
 - (e) a Treasury Managed Fund insurance scheme with the NSW State Government; or
 - (f) the Comcover insurance scheme for the Australian Federal Government.
2. TfNSW as an additional named insured for liability arising out of the Council's / Contractor's activities. This extension includes liability:
 - (a) for injury to any TfNSW employee;

- (b) arising from work undertaken away from the Council's / Contractor's premises;
- (c) for damage to TfNSW's property not in the Council's / Contractor's physical or legal control.

3. Cross Liability and Waiver of Subrogation Clause

Cross liability clause means the insurer agrees to waive all rights of subrogation or action that it may have or acquire against all or any of the persons comprising the insured and for the purpose of which the insurer accepts the term 'insured' as applying to each of the persons comprising the insured as if a separate policy of insurance has been issued to each of them (subject always to the overall insured sum).

4. Insurances to be subject to Australian jurisdiction and law of New South Wales

All insurances held by the Council to provide that the insurer consents to the jurisdiction of all States and Territories of Australia and is subject to the law of New South Wales.

ATTACHMENT D

Statutory Declaration and Subcontractor Statement regarding Workers Compensation, Pay-roll Tax and Remuneration

Schedule

Statutory Declaration

I	of	Insert name of Declarant
<hr/>		
	do solemnly	Insert address
and sincerely declare that:		
1.	I am a representative of	Insert name of Council and ABN if applicable
<hr/>		
(Council) in the Office Bearer capacity of		insert position title of Declarant
<hr/>		
2.	The Council has a contract with Transport for NSW to carry out certain works for	
<hr/>		
(Contract)		Insert name of Contract
<hr/>		
3.	Attached to and forming part of this declaration is a Subcontractor's Statement given by the Council in its capacity as 'Subcontractor' (as that term is defined in the Workers Compensation Act 1987, Payroll Tax Act 2007 and Industrial Relations Act 1996) which is a written statement:	
	(a) under the Workers Compensation Act 1987, section 175B, in the form and providing the detail required by that legislation;	
	(b) under the Payroll Tax Act 2007, Schedule 2 Part 5, in the form and providing the detail required by that legislation; and	
	(c) under the Industrial Relations Act 1996, section 127, in the form and providing the detail required by that legislation.	
4.	I personally know the truth of the matters which are contained in this declaration and the attached Subcontractor's Statement.	
5.	The obligations of the Council under the Contract relating to Security of Payment, if any, including payment of employees, workers and Subcontractors of the Council have been complied with by the Council.	
6.	If the Council has contractors, the Council has received from each of those subcontractors a statutory declaration and Subcontractor's Statement in equivalent terms to this declaration (made no earlier than 14 days before the date of this declaration).	

7. All statutory declarations and Subcontractor's Statements received by the Council from contractors referred to in clause 6 were:
- (a) given to the Council in its capacity as 'Principal Contractor' as defined in the Workers Compensation Act 1987, the Payroll Tax Act 2007 and the Industrial Relations Act 1996 ('Acts'); and
- (b) given by the contractors in their capacity as 'Subcontractors' as defined in the Acts.
8. I am not aware of anything that would contradict the statements made in the statutory declarations and Subcontractor's Statements provided to the Council by its Subcontractors.
9. The period of the Contract covered by this declaration and the attached Subcontractor's Statement is from ## to ##.
10. The Council is not, under any law, insolvent or unable to pay its debts as and when they fall due.
11. And I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act 1900 (NSW). I am aware that I may be subject to punishment by law if I wilfully make a false statement in this declaration.
12. Declared at ## (place where declaration made) on

**Insert the relevant
payment period**

(date of declaration) by

Signature of person making the declaration

before me:

Justice of the Peace/Solicitor of the Supreme Court of New South Wales

[or other person legally authorised to administer an oath under the Oaths Act 1900 (NSW) or where the declaration is sworn outside the State of New South Wales, any person having authority to administer an oath in that place]

Certificate under section 34 (1)(c) of Oaths Act 1900

**Please cross out any text that does not apply*

I _____, a

*insert name of authorised
witness*

*insert qualification to be
authorised witness*

certify the following matters concerning the making of this statutory declaration by the person who made it:

1. *I saw the face of the person or *I did not see the face of the person because the person's face was covered, but I am satisfied that the person had a special justification for not removing the covering.
2. *I have known the person for at least 12 months or *I have not known the person for at least 12 months, but I have confirmed the person's identity using an identification document and the document I relied on was ##

Described identification document relied on



SUBCONTRACTOR'S STATEMENT

REGARDING WORKER'S COMPENSATION, PAYROLL TAX AND REMUNERATION (Note1 – see back of form)

For the purposes of this Statement a "subcontractor" is a person (or other legal entity) that has entered into a contract with a "principal contractor" to carry out work.

This Statement must be signed by a "subcontractor" (or by a person who is authorised, or held out as being authorised, to sign the statement by the subcontractor) referred to in any of s175B *Workers Compensation Act 1987*, Schedule 2 Part 5 *Payroll Tax Act 2007*, and s127 *Industrial Relations Act 1996* where the "subcontractor" has employed or engaged workers or subcontractors during the period of the contract to which the form applies under the relevant Act(s). The signed Statement is to be submitted to the relevant principal contractor.

SUBCONTRACTOR'S STATEMENT (Refer to the back of this form for Notes, period of Statement retention, and Offences under various Acts.

Subcontractor: ABN:
(Business name)

of
(Address of subcontractor)

has entered into a contract with ABN:
(Business name of principal contractor) (Note 2)

Contract number/identifier (Note 3)

This Statement applies for work between:/...../..... and/...../..... inclusive, (Note 4)

subject of the payment claim dated:/...../..... (Note 5)

I, a Director or a person authorised by the Subcontractor on whose behalf this declaration is made, hereby declare that I am in a position to know the truth of the matters which are contained in this Subcontractor's Statement and declare the following to the best of my knowledge and belief:

(a) The abovementioned Subcontractor has either employed or engaged workers or subcontractors during the above period of this contract. Tick [] if true and comply with (b) to (g) below, as applicable. If it is not the case that workers or subcontractors are involved or you are an exempt employer for workers compensation purposes tick [] and only complete (f) and (g) below. You must tick one box. (Note 6)

(b) All workers compensation insurance premiums payable by the Subcontractor in respect of the work done under the contract have been paid. The Certificate of Currency for that insurance is attached and is dated/...../..... (Note 7)

(c) All remuneration payable to relevant employees for work under the contract for the above period has been paid. (Note 8)

(d) Where the Subcontractor is required to be registered as an employer under the *Payroll Tax Act 2007*, the Subcontractor has paid all payroll tax due in respect of employees who performed work under the contract, as required at the date of this Subcontractor's Statement. (Note 9)

(e) Where the Subcontractor is also a principal contractor in connection with the work, the Subcontractor has in its capacity of principal contractor been given a written Subcontractor's Statement by its subcontractor(s) in connection with that work for the period stated above. (Note 10)

(f) Signature Full name.....

(g) Position/Title Date/...../.....

NOTE: Where required above, this Statement must be accompanied by the relevant Certificate of Currency to comply with section 175B of the *Workers Compensation Act 1987*.

1. This form is prepared for the purpose of section 175B of the *Workers Compensation Act 1987*, Schedule 2 Part 5 *Payroll Tax Act 2007* and section 127 of the *Industrial Relations Act 1996*. If this form is completed in accordance with these provisions, a principal contractor is relieved of liability for workers compensation premiums, payroll tax and remuneration payable by the subcontractor.

A principal contractor can be generally defined to include any person who has entered into a contract for the carrying out of work by another person (or other legal entity called **the subcontractor**) and where employees of the subcontractor are engaged in carrying out the work which is in connection with the principal contractor's business.

2. For the purpose of this Subcontractor's Statement, a principal contractor is a person (or other legal entity), who has entered into a contract with another person (or other legal entity) referred to as the subcontractor, and employees/workers of that subcontractor will perform the work under contract. The work must be connected to the business undertaking of the principal contractor.
3. Provide the unique contract number, title, or other information that identifies the contract.
4. In order to meet the requirements of s127 *Industrial Relations Act 1996*, a statement in relation to remuneration must state the period to which the statement relates. For sequential Statements ensure that the dates provide continuous coverage.

Section 127(6) of the *Industrial Relations Act 1996* defines remuneration 'as remuneration or other amounts payable to relevant employees by legislation, or under an industrial instrument, in connection with work done by the employees.'

Section 127(11) of the *Industrial Relations Act 1996* states 'to avoid doubt, this section extends to a principal contractor who is the owner or occupier of a building for the carrying out of work in connection with the building so long as the building is owned or occupied by the principal contractor in connection with a business undertaking of the principal contractor.'

5. Provide the date of the most recent payment claim.
6. For Workers Compensation purposes an exempt employer is an employer who pays less than \$7500 annually, who does not employ an apprentice or trainee and is not a member of a group.
7. In completing the Subcontractor's Statement, a subcontractor declares that workers compensation insurance premiums payable up to and including the date(s) on the Statement have been paid, and all premiums owing during the term of the contract will be paid.
8. In completing the Subcontractor's Statement, a subcontractor declares that all remuneration payable to relevant employees for work under the contract has been paid.
9. In completing the Subcontractor's Statement, a subcontractor declares that all payroll tax payable relating to the work undertaken has been paid.
10. It is important to note that a business could be both a subcontractor and a principal contractor, if a business 'in turn' engages subcontractors to carry out the work. If your business engages a subcontractor you are to also obtain Subcontractor's Statements from your subcontractors.

Statement Retention

The principal contractor receiving a Subcontractor's Statement must keep a copy of the Statement for the periods stated in the respective legislation. This is currently up to seven years.

Offences in respect of a false Statement

In terms of s127(8) of the *Industrial Relations Act 1996*, a person who gives the principal contractor a written statement knowing it to be false is guilty of an offence if:

- (a) the person is the subcontractor;
- (b) the person is authorised by the subcontractor to give the statement on behalf of the subcontractor; or
- (c) the person holds out or represents that the person is authorised by the subcontractor to give the statement on behalf of the subcontractor.

In terms of s175B of the *Workers Compensation Act* and clause 18 of Schedule 2 of the *Payroll Tax Act 2007* a person who gives the principal contractor a written statement knowing it to be false is guilty of an offence.

Further Information

For more information, visit the WorkCover website www.workcover.nsw.gov.au, Office of State Revenue website www.osr.nsw.gov.au, or Office of Industrial Relations, Department of Commerce website www.commerce.nsw.gov.au. Copies of the *Workers Compensation Act 1987*, the *Payroll Tax Act 2007* and the *Industrial Relations Act 1996* can be found at www.legislation.nsw.gov.au.

ATTACHMENT E

Land to be Dedicated

[Note: If road widening is required to accommodate road infrastructure facilities and/or utilities, a drawing indicating the existing and proposed boundaries is required.]

If the proposed road boundary has not been finalised, a draft plan that indicates existing boundaries, proposed boundaries and dedicated to accommodate road infrastructure facilities (i.e. Traffic Signals) and utilities adjustments will suffice. . The proposed road boundary to be confirmed by Council engaged surveyor upon completion of construction works.

Draft Road Boundary Plan LDMP03/03 v.3 dated 06/06/2024 was submitted generally showing the proposed road boundaries.

ATTACHMENT F

Deed of Appointment of Project Verifier

Deed of Appointment of Project Verifier

Transport for NSW

ABN 18 804 239 602

Richmond Valley Council

ABN 54145907009

[Insert Contractor's name][Name of Party]

Alt[ABN/ACN/ARBN] [number]

and

[Insert Project Verifier's name]

Alt[ABN/ACN/ARBN] [number]

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THIS DEED OF APPOINTMENT is made on

[year]

BETWEEN

- (1) **[Insert Council's name]** (ABN *[Insert Council's ABN]*) of *[Insert Council's address]* (the **Council**);
- (2) **[Insert Contractor's name]** (ABN *[Insert Contractor's ABN]*) of *[Insert Contractor's address]* (the **Contractor**);
- (3) **Transport for NSW** (ABN 18 804 239 602) of 20-44 Ennis Road, Milsons Point 2061 a NSW Government agency constituted under the *Transport Administration Act 1988* (NSW) (**TfNSW**); and
- (4) **[Insert Project Verifier's name]** (ABN *[Insert Project Verifier's ABN]*) of *[Insert Project Verifier's address]* (the **Project Verifier**).

RECITALS

- (A) On **[Insert date]** The Council entered into a Works Authorisation Deed with TfNSW in respect of the Works.
- (B) The Contractor has entered into the Contract with the Council in respect of the Works.
- (C) The Project Verifier represents that it is experienced generally in construction and project management and, in particular, in the construction and project management of works similar to the Works and offers its expertise in those fields.
- (D) The Works Authorisation Deed contemplates that the Project Verifier will discharge those functions set out in Schedule 2 of this Deed.
- (E) The Project Verifier will perform its obligations on the terms and conditions of this Deed.

THE PARTIES AGREE AS FOLLOWS:

1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Deed words and expressions which have a defined meaning in the Works Authorisation Deed have the same meaning in this Deed, except where otherwise expressly defined in this Deed, and

Construction Phase Services means all Services relating to the verification of the construction of the Works and the performance by the Council of its construction obligations under the Works Authorisation Deed.

Construction Program means the construction program under the Contract.

Construction Site means the **Site** as defined in the Works Authorisation Deed.

Contract means the contract for the design and construction of the Works between the Council, as principal under the Contract, and the Contractor.

Date of Final Completion has the meaning set out in the Works Authorisation Deed.

Design Phase Services means all Services relating to the verification of the design of the Works and the performance by the Council of its design obligations under the Works Authorisation Deed.

Fee means the amount payable to the Project Verifier for the performance of the Services in accordance with the Payment Schedule.

GST, GST law and other terms used in clause 8.3 have the meanings used in the *A New Tax System (Goods and Services Tax) Act 1999* (as amended from time to time) or any replacement or other relevant legislation and regulations, except GST law also includes any applicable rulings. Any reference to GST payable by the Supplier (as defined in clause 8.3) includes any GST payable by the representative member of any GST group of which the Supplier is a member.

Initial Verification and Monitoring Plan means the initial verification and monitoring plan contained in Part 1 of Schedule 4 to this Deed.

Insolvency Event means when:

- (a) one party informs the other parties in writing, or its creditors generally, that it is insolvent or is unable to proceed with its obligations under this Deed for financial reasons;
- (b) execution is levied against a party by a creditor, debenture holders or trustees or under a floating charge; or
- (c) in relation to a corporation any one of the following:
 - (i) notice is given of a meeting of creditors with a view to the corporation entering into a deed of company arrangement or scheme of arrangement (other than a solvent scheme of arrangement);
 - (ii) the corporation enters a deed of company arrangement or scheme of arrangement (other than a solvent scheme of arrangement) or composition with creditors;
 - (iii) an application is made for, a resolution is passed by the directors for the appointment of, or an order is made for, a controller, administrator, receiver, receiver and manager, provisional liquidator or liquidator to be appointed to the corporation;
 - (iv) a controller, administrator, receiver, receiver and manager, provisional liquidator or liquidator is appointed to the corporation;
- (d) an application is made to a court for the sequestration or winding up of the corporation and not stayed, dismissed or discontinued within 21 days;
- (e) a sequestration order or winding up order is made in respect of the corporation;
- (f) the corporation resolves by special resolution that it be wound up voluntarily (other than for a members' voluntary winding-up), or a meeting of creditors of a party under administration or a deed of company arrangement resolves that the corporation be wound up;
- (g) a mortgagee of any property of the corporation takes possession of that property; or
- (h) the corporation ceases, suspends or threatens to cease or suspend the conduct of all or a substantial part of its business, or disposes or threatens to dispose of all or a substantial part of its assets.

Minimum Requirements means the minimum requirements for the Verification and Monitoring Plan, as set out in Schedule 6 to this Deed.

NCR means a non-conformity report.

Other Parties means TfNSW, the Council and the Contractor.

Payment Schedule means Schedule 3 to this Deed.

Project Documents means those agreements described in Schedule 1 to this Deed.

Project Verifier's Representative means the relevant person referred to in clause 3.3(c)(i) or clause 3.3(c)(ii) and any person holding that position in accordance with clause 3.3(b).

Services means those services listed in Schedule 2 to this Deed and such other services as the Project Verifier may be required to perform and/or provide under this Deed.

Verification and Monitoring Plan means the plan the Project Verifier is required to prepare in accordance with clause 3.6, and in respect of which the Council has not issued a notice under clause 3.6(b)(ii), as that plan is updated from time to time in accordance with clause 3.7 of this Deed.

Works means the "Works" as defined in the Works Authorisation Deed.

Works Authorisation Deed means the document entitled "Works Authorisation Deed – **[INSERT]**" dated *[insert date]* between TfNSW and the Council.

1.2 Interpretation

In this Deed:

(a) headings are for convenience only and do not affect interpretation;

and unless the context indicates a contrary intention:

- (b) an obligation or liability assumed by, or a right conferred on, two or more parties binds or benefits all of them jointly and each of them severally;
- (c) the expression **person** includes an individual, the estate of an individual, a corporation, an authority, an association or a joint venture (whether incorporated or unincorporated), a partnership and a trust;
- (d) a reference to any party includes that party's executors, administrators, successors and permitted assigns, including any person taking by way of novation and, in the case of a trustee, includes any substituted or additional trustee;
- (e) a reference to any document (including this Deed) is to that document as varied, novated, ratified or replaced from time to time;
- (f) a reference to any statute or to any statutory provision includes any statutory modification or re-enactment of it or any statutory provision substituted for it, and all ordinances, by-laws, regulations, rules and statutory instruments (however described) issued under it;
- (g) words importing the singular include the plural (and vice versa), and words indicating a gender include every other gender;
- (h) references to parties, clauses, schedules, exhibits or annexures are references to parties, clauses, schedules, exhibits and annexures to or of this Deed, and a reference to this Deed includes any schedule, exhibit or annexure to this Deed;

- (i) where a word or phrase is given a defined meaning, any other part of speech or grammatical form of that word or phrase has a corresponding meaning;
- (j) the word **includes** in any form is not a word of limitation; and
- (k) a reference to **\$** or **dollar** is to Australian currency.

1.3 **Governing Law**

This Deed is governed by and will be construed according to the laws of New South Wales.

2. **APPOINTMENT OF THE PROJECT VERIFIER**

2.1 **Appointment**

- (a) Each of the Other Parties appoints the Project Verifier under this Deed to perform the Services.
- (b) The Project Verifier confirms its acceptance of the appointment referred to in clause 2.1(a).

2.2 **Payment**

- (a) The Council must pay the Project Verifier, and warrants to TfNSW and the Contractor that it will pay the Project Verifier, the Fee in accordance with the Payment Schedule.
- (b) The Project Verifier must notify TfNSW in writing if any part of the Fee that is due and payable by the Council under and in accordance with this Deed remains unpaid 90 days after the due date for payment under and in accordance with this Deed.

2.3 **Nature of Services**

The Project Verifier and the Other Parties acknowledge and agree that the Verification and Monitoring Plan is incidental to, and does not limit or otherwise affect the Services or the Project Verifier's obligations under this Deed.

3. **PROJECT VERIFIER'S OBLIGATIONS**

3.1 **Acknowledgement**

The Project Verifier acknowledges that:

- (a) it has received a copy of the Project Documents and that it has read, and is familiar with, the terms of each of these documents to the extent they relate to the Services; and
- (b) its obligations extend to and include the obligations, functions, duties and services of the "Project Verifier" under the Project Documents.

3.2 **Further acknowledgements and warranties**

The Project Verifier:

- (a) acknowledges that each of the Other Parties:
 - (i) is relying upon the knowledge, skill, expertise and experience of the Project Verifier in the performance of its obligations under this Deed; and
 - (ii) may suffer loss if the Project Verifier does not perform its obligations in accordance with the requirements of this Deed;

- (b) warrants to the Other Parties that, in performing the Services, it will comply with all Law, act honestly, diligently, reasonably and with the degree of professional care, knowledge, skill, expertise, experience and care which would be reasonably expected of an expert professional providing services similar to the Services within the design and construction industry generally and the design and construction of major engineering works in particular;
- (c) warrants to the Other Parties that, at all times, it will act within the time requirements for the performance of its obligations under this Deed and the Project Documents, and where no time is prescribed, within a reasonable time, and will comply with the requirements of the Payment Schedule;
- (d) without limiting clauses 3.2(a) and 3.2(b), acknowledges that the Other Parties are entitled to and will rely on any certificate or other document signed or given by the Project Verifier under or pursuant to this Deed or the Project Documents;
- (e) without limiting its obligations under any provision of this Deed, warrants to the Other Parties that:
 - (i) it will carry out and perform the Services in accordance with this Deed; and
 - (ii) without limiting paragraph (i), to the extent the Verification and Monitoring Plan is not inconsistent with:
 - (A) the Project Documents; or
 - (B) the nature of the Services,
 it will carry out and perform the Services in accordance with the Verification and Monitoring Plan; and
- (f) will provide transport on site for the use of its site personnel.

3.3 **Key Personnel**

- (a) The Project Verifier must provide personnel with a sufficient degree of knowledge, skill, expertise and experience to perform its obligations under this Deed.
- (b) The Project Verifier must ensure that the people referred to in clause 3.3(c):
 - (i) perform the services required of their respective positions;
 - (ii) are not removed without the prior written consent of the Other Parties (which consent must not be unreasonably withheld or delayed, and will be deemed to have been given in relation to a party if no response has been received from that party within seven days of the request for removal), and if any of the people are removed:
 - (A) they must be replaced by people of at least equivalent knowledge, skill, expertise and experience; and
 - (B) prior to removal and replacement, there must be a proper and adequate handover to ensure that the new personnel have a reasonable understanding of the Project and the Services; and
 - (iii) are available for consultation as any party may reasonably require from time to time.
- (c) The people required to perform the Services are:

- (i) *[Insert name]* as the Project Verifier's Representative for the Design Phase Services;
 - (ii) *[Insert name]* as the Project Verifier's Representative for the Construction Phase Services;
 - (iii) *[Insert name]* as the Project Verifier's project director; and
 - (iv) the other persons listed in clause 6 of the Payment Schedule.
- (d) The Other Parties may jointly direct the Project Verifier to remove from the performance of the Services any of the people referred to in clause 3.3(c) and the Project Verifier must comply with any such direction.
 - (e) The Project Verifier must notify the Other Parties in writing of the names of the person or persons that are authorised to sign the certificates and documents referred to in Schedule 2 which the Project Verifier is required to execute as part of the Services. The Project Verifier must ensure that these certificates and documents are signed by the person or persons so notified.

3.4 Subcontracting

- (a) Subject to clause 3.3, the Project Verifier may not subcontract the performance of any of the Services without the prior written consent of the Other Parties (which consent must not be unreasonably withheld or delayed).
- (b) The Project Verifier remains responsible for the performance of the Services in accordance with this Deed, notwithstanding any such subcontracting, and will be liable for the acts and omissions of any subcontractor as if they were acts and omissions of the Project Verifier.
- (c) Unless the Other Parties otherwise approve in writing, the Project Verifier must contract with the subcontractors set out below in respect of the relevant part of the Services set out below:

Name of subcontractor	Relevant Services
<i>[name to be inserted]</i>	<i>[details of Services to be inserted]</i>

3.5 Quality Assurance

- (a) The Project Verifier must implement a quality system in accordance with ISO9000 and ISO9001, and otherwise in a form reasonably acceptable to the Other Parties to ensure compliance of the Services with the requirements of this Deed.
- (b) The Project Verifier will not be relieved of any requirement to perform any obligation under this Deed as a result of:
 - (i) compliance with the quality assurance requirements of this Deed; or
 - (ii) any acts or omissions of the Other Parties with respect to the quality assurance requirements of this Deed, including any review of, comments upon, or notice in respect of, the Verification and Monitoring Plan or any audit under clause 3.9.

3.6 Verification and Monitoring Plan

- (a) The Project Verifier must prepare and submit to the Other Parties within 10 Business Days of the date of this Deed a Verification and Monitoring Plan which must:
 - (i) be based on the Initial Verification and Monitoring Plan;
 - (ii) address the matters identified in Part 2 of Schedule 4 to this Deed; and
 - (iii) comply with the Minimum Requirements.
- (b) TfNSW and the Council may:
 - (i) review the Verification and Monitoring Plan submitted under clause 3.6(a); and
 - (ii) if the Verification and Monitoring Plan does not comply with this Deed, or if TfNSW believes that the Verification and Monitoring Plan does not comply with the Minimum Requirements,

notify the Project Verifier with details of the non-compliance.
- (c) If the Project Verifier receives a notice under clause 3.6(b)(ii), the Project Verifier must promptly submit an amended Verification and Monitoring Plan to the Other Parties after which clause 3.6(b) will reapply.
- (d) If the Project Verifier does not receive a notice under clause 3.6(b)(ii) within 21 days after the submission of the relevant Verification and Monitoring Plan, the relevant Verification and Monitoring Plan submitted will be the Verification and Monitoring Plan with which the Project Verifier must comply (as it is updated from time to time under and in accordance with clause 3.7).

3.7 **Revisions to the Verification and Monitoring Plan**

- (a) The Project Verifier must:
 - (i) progressively amend, update and develop the Verification and Monitoring Plan throughout the performance of the Services as necessary to reflect the commencement of new stages of the Works, and variations under the Works Authorisation Deed and any changes in the manner of performing the Services;
 - (ii) ensure that any amendments, updates or developments of the Verification and Monitoring Plan under clause 3.7(a)(i) are consistent with, and comply with, the Minimum Requirements; and
 - (iii) submit each revision of the Verification and Monitoring Plan to the Other Parties.
- (b) TfNSW and the Council may:
 - (i) review the Verification and Monitoring Plan submitted under clause 3.7(a); and
 - (ii) if the Verification and Monitoring Plan does not comply with this Deed, including that the revised Verification and Monitoring Plan will lead to a reduction in the effectiveness, methodology, scope, effort, resources or expertise contained in the Initial Verification and Monitoring Plan,

notify the Project Verifier with details of the non-compliance or reduction.

- (c) If the Project Verifier receives a notice under clause 3.7(b)(ii), the Project Verifier must promptly submit an amended Verification and Monitoring Plan to the Other Parties after which clauses 3.7(a) to 3.7(c) will re-apply.
- (d) TfNSW, the Council and the Contractor owe no duty to the Project Verifier to review the Verification and Monitoring Plan for errors, omissions or compliance with this Deed.
- (e) Without limiting clause 3.2(e), the Project Verifier must not, either in the preparation of the Verification and Monitoring Plan required by clause 3.6(a) or the amending, updating and development of the Verification and Monitoring Plan required by clause 3.7(a)(i), decrease or otherwise reduce the effectiveness, methodology, performance and timing requirements, scope, effort, resources or expertise contained in the Initial Verification and Monitoring Plan without the prior written approval of TfNSW's Authorised Officer.
- (f) The Project Verifier must not amend the Verification and Monitoring Plan other than in accordance with this clause 3.7.

3.8 Progress Reports by the Project Verifier

During the period from the date of this Deed until the Date of Final Completion under the Works Authorisation Deed, the Project Verifier must provide a monthly progress report (one hard copy plus simultaneous provision of an electronic copy) to the Other Parties by the seventh day of each calendar month and in such format as is required by TfNSW's Authorised Officer, containing, identifying or setting out in relation to the Works Authorisation Deed:

- (a) a description of the verification activities undertaken during the reporting period;
- (b) a list or schedule of design and construction surveillance, monitoring and audits undertaken by the Project Verifier during the reporting period (which must, as a minimum, include the surveillance activities specified in Schedule 5);
- (c) a summary of key risks and issues relating to the Services;
- (d) the Project Verifier's current and planned resources and staffing levels;
- (e) details of any Council non-conformities raised by the Project Verifier or TfNSW and details on the verification of the rectification by the Council of non-conformities;
- (f) details of the surveillance, monitoring and auditing proposed to be undertaken by the Project Verifier in the forthcoming reporting period (which must, as a minimum, include the surveillance activities specified in Schedule 5), including the outcomes of the risk management processes used to determine the levels and scope of the surveillance activities;
- (g) details of the current version of the Verification and Monitoring Plan and a summary of any amendments, updates and developments to the Verification and Monitoring Plan during the reporting period; and
- (h) any act, matter or thing which has or is likely to have a material adverse effect on the progress and provision of the Services, together with detailed particulars on how the Project Verifier is dealing or proposes to deal with any such act, matter or thing.

3.9 Audit and surveillance

- (a) The Project Verifier must:

- (i) allow any audit of its quality assurance system under this Deed by a third party, at the request of the Other Parties or any one of them; and
 - (ii) fully co-operate with that third party in respect of the carrying out of the quality assurance audit.
- (b) Without limiting the foregoing, the Project Verifier must, at all times:
 - (i) give to the third party access to premises occupied by the Project Verifier where the Services are being undertaken; and
 - (ii) permit the third party to inspect applicable information relevant to the quality assurance audit.

3.10 **Access to records**

From the date of this Deed and for a period of seven years following completion of the Services, the Project Verifier must, within a reasonable time of any request, give the Other Parties access to any records or other documents prepared or generated by or on behalf of the Project Verifier arising out of or in connection with the carrying out the Services.

4. **INDEPENDENCE AND CONFIDENTIALITY**

4.1 **Project Verifier to be independent**

- (a) The Project Verifier warrants to the Other Parties that in performing the Services, it will act:
 - (i) independently of the Other Parties;
 - (ii) honestly, diligently and reasonably;
 - (iii) with the degree of professional, knowledge, skill, expertise, experience and care which would be reasonably expected of an expert professional providing services similar to the Services within the construction industry generally and the design and construction of major engineering works in particular; and
 - (iv) within the time prescribed under this Deed or the Project Documents or as anticipated by the Construction Program.
- (b) Clauses 4.1(a)(i) and 4.1(a)(ii) do not prevent the Project Verifier from meeting with any of the Other Parties without all of the Other Parties being present.

4.2 **Confidentiality**

The Project Verifier must keep confidential details of this Deed and all information and documents provided to, or by, the Project Verifier relating to the Services, the Project or the Project Documents and not provide, disclose or use the information or documents except:

- (a) to the Other Parties;
- (b) for the purposes of performing the Services;
- (c) where required by law or to obtain legal advice on this Deed; or
- (d) with the prior written consent of the Other Parties.

This obligation will survive completion of the Services and the termination of this Deed.

5. OBLIGATIONS OF THE OTHER PARTIES

5.1 No Interference or Influence

- (a) The Other Parties will not interfere with or attempt to improperly influence the Project Verifier in the performance of any of the Services. The parties acknowledge that any communication allowed by this Deed will not of itself constitute a breach of this clause.
- (b) Clause 5.1(a) does not prevent the Other Parties from providing written comments to the Project Verifier in respect of a Design Document or any other aspect of the Works.

5.2 Co-operation by the Council and the Contractor

Without limiting or otherwise affecting any of:

- (a) the Council's obligations under this Deed or the Works Authorisation Deed; or
- (b) the Contractor's obligations under this Deed or the Contract,

the Council and the Contractor must:

- (c) co-operate with and provide the Project Verifier with all information and documents necessary or reasonably required by the Project Verifier to perform the Services, or otherwise requested by the Project Verifier or directed by TfNSW;
- (d) allow the Project Verifier to attend all design meetings and procure for the Project Verifier access to such premises as may be reasonably necessary to enable the Project Verifier to perform the Services or as requested by the Project Verifier or directed by TfNSW, including allowing access to the Construction Site and all places at which the Council's activities under the Works Authorisation Deed are being undertaken;
- (e) ensure that Hold Points and Witness Points are included in the Project Documents as required by the Project Verifier to enable the Project Verifier to perform the Services; and
- (f) not proceed beyond any Hold Point until it has been released by the Project Verifier.

5.3 TfNSW to have no liability

- (a) Each party acknowledges that TfNSW does not, nor will it be taken to have, a liability, or to have assumed or become (on enforcement of any of its powers or otherwise), liable:
 - (i) to any party to this Deed by reason of them being a party to this Deed; or
 - (ii) for the performance of any obligation of the Council, the Contractor or the Project Verifier under this Deed or the Project Documents.
- (b) Without limiting clause 5.3(a), each party acknowledges and agrees that the Project Verifier does not have the authority to authorise any non-compliance with the Project Documents.

6. LIABILITY, INSURANCE AND INDEMNITY

6.1 Limitation of liability

Subject to clause 6.2, the Project Verifier's liability under this Deed, from all claims howsoever arising (including negligence and breach of statutory duty) will be limited in aggregate to \$[10] million.

6.2 Exclusions

The limitation of liability in clause 6.1 does not apply to any claims arising out of or in connection with any of the following on the part of the Project Verifier or anyone for whom it is responsible:

- (a) fraud or criminal conduct;
- (b) wilful misconduct being any conduct, act or omission done or to be done which results from conscious, reckless or intentional indifference to any provision of this Deed or the rights or welfare of, or the foreseeable harmful consequences to, those who are or may be affected by that conduct, act or omission; or
- (c) gross negligence being any negligent act or omission which the Project Verifier knew, or ought reasonably to have been aware, would result in substantial losses being incurred by, or substantial harmful consequences being suffered by, another party to the Deed.

6.3 Insurances

The Project Verifier must, from the date of the Works Authorisation Deed hold and maintain:

- (a) professional indemnity insurance with:
 - (i) a limit of indemnity of not less than \$10 million for any single claim in respect of legal liability (including, without limitation, in connection with property damage, personal injury or death) arising from a breach of professional duty, whether owed in contract or otherwise, by reason of any negligent act, error or omission by the Project Verifier or its employees, agents or consultants; and
 - (ii) a deductible of not more than \$500,000;
- (b) workers compensation insurance in accordance with the requirements of Law; and
- (c) public liability insurance with a limit of liability of no less than \$20 million for any single claim for any loss of, or damage to, any real or personal property and personal injury to any person, arising out of this Deed and which names TfNSW and the Council as insured parties.

6.4 Notice of matter affecting insurance

The Project Verifier must notify the Other Parties 30 days in advance of any event which could affect its insurance cover or if any policy is cancelled, avoided or allowed to lapse.

6.5 Provision of information

Before the Project Verifier starts any work for or in connection with this Deed and whenever requested in writing by any of the Other Parties, the Project Verifier must supply proof that all insurance policies which the Project Verifier is required to hold and maintain under this Deed (including insurance policies required to be taken out by subcontractors) are current.

6.6 Periods for insurance

The Project Verifier must keep:

- (a) the professional indemnity insurance current until 7 years after the Project Verifier ceases to perform the Services; and
- (b) the workers compensation insurance current until it ceases to perform the Services.

6.7 Obligations unaffected by insurance

The requirement to effect and maintain insurance in this clause 6 does not limit the liability or other obligations of the Project Verifier under this Deed.

6.8 Indemnity

Subject to clause 6.1, the Project Verifier is liable for and indemnifies each Other Party against any liability, loss, claim, expense or damage which they may pay, suffer or incur in respect of:

- (a) any damage to or loss of property; or
- (b) death of or injury to any person,

insofar as the liability, loss, claim, expense or damage arises out of the negligent act, error or omission of the Project Verifier, its employees, agents, subcontractors or consultants.

7. TERMINATION OF APPOINTMENT

7.1 Notice of termination

The Other Parties may jointly terminate this Deed by notice in writing served on the Project Verifier if:

- (a) the Project Verifier is in breach of this Deed and the breach is not remediable in the reasonable opinion of the Other Parties;
- (b) the Project Verifier is in breach of this Deed and the breach, being remediable in the reasonable opinion of the Other Parties, has not been remedied within seven days of the service by the Other Parties of a notice specifying the breach and requiring the breach to be remedied;
- (c) an Insolvency Event occurs in relation to the Project Verifier; or
- (d) the Other Parties in their absolute discretion for any reason whatsoever serve on the Project Verifier a notice of termination of this Deed, on a date specified in the notice, being not less than 21 days after the date of issue of the notice.

7.2 Prior agreement on replacement

Prior to serving a notice under clause 7.1, the Other Parties must have agreed upon another person to act as a replacement for the Project Verifier.

7.3 Termination

Where a notice is served on the Project Verifier under clause 7.1, the appointment of the Project Verifier will terminate upon the earlier of:

- (a) the date specified in the notice issued under clause 7.1; or
- (b) the appointment of a replacement for the Project Verifier.

7.4 Delivery of documents

Upon the date of termination of the appointment of the Project Verifier, the Project Verifier:

- (a) must deliver up to the Other Parties or to such other person as the Other Parties may direct, all books, records, drawings, specifications and other documents in the possession, custody or control of the Project Verifier relating to the Services; and
- (b) acknowledges that the Other Parties have the right to use all such documents for the purposes of the Project Documents and the Works.

7.5 Reasonable assistance

Where the Other Parties give a notice of termination under clause 7.1, the Project Verifier must provide full assistance to the Other Parties and any replacement for the Project Verifier appointed in order to enable such replacement to be in a position to perform the Services with effect from the appointment of such replacement.

7.6 Payment until date of termination

Where this Deed is terminated under clause 7.1(d), the Project Verifier is only entitled to be paid by the Council the proportion of the Fee for Services performed up to the date of the termination.

7.7 Termination without payment

Termination of this Deed will be without prejudice to any claim which the Other Parties or any one of them may have in respect of any breach of the terms of this Deed which occurred prior to the date of termination.

7.8 Survive termination

This clause 7 will survive the termination of this Deed by the Other Parties under clause 7.1.

7.9 Rights upon Termination

If this Deed is terminated pursuant to clauses 7.1(a), 7.1(b) or 7.1(c), the parties' remedies, rights and liabilities will be the same as they would have been under the Law governing the Deed had the Project Verifier repudiated the Deed and the Other Parties elected to treat the Deed as at an end and recover damages.

8. EXPENSES, STAMP DUTY AND GST

8.1 Expenses

Except as otherwise provided in this Deed, each party will pay its own costs and expenses in connection with the negotiation, preparation, execution, and performance of this Deed.

8.2 Stamp Duties

- (a) The Contractor must:
 - (i) pay all stamp duties (apart from financial institutions duties or bank account debit taxes which will lie between the parties as they fall) and any related fines and penalties in respect of this Deed, the performance of this Deed and each transaction effected by or made under or pursuant to this Deed; and
 - (ii) indemnify each other party against any liability arising from failure to comply with clause 8.2(a)(i).

- (b) The Contractor is authorised to make any application for and retain the proceeds of any refund due in respect of any stamp duty paid under this clause.

8.3 **GST**

- (a) Notwithstanding any other provision of this Deed, any amount payable for a supply made under this Deed which is calculated by reference to a cost, expense or other amount paid or incurred by a Party will be reduced by an amount equal to any input tax credits to which that party is entitled to in respect of that cost, expense or other amount.
- (b) If GST becomes payable on any supply made by a party (the **Supplier**) under or in connection with this Deed:
 - (i) any amount payable or consideration to be provided under this Deed for that supply (**Agreed Amount**) is exclusive of GST;
 - (ii) an additional amount will be payable by the party to whom that supply is made (the **Recipient**), equal to the amount of GST payable on that supply as calculated by the Supplier in accordance with the GST law and payable at the same time and in the same manner as for the Agreed Amount; and
 - (iii) the Supplier will provide a tax invoice (or equivalent documentation which complies with the GST law) to the Recipient in respect of that supply, no later than the time at which the Agreed Amount for that supply is to be provided under this Deed.
- (c) If, for any reason, the GST payable by the Supplier in respect of a supply it makes under this Deed (incorporating any increasing adjustments or decreasing adjustments relating to that supply) varies from the additional amount it receives from the Recipient under clause 8.3(b) in respect of that supply, the Supplier will provide a refund or credit to or will be entitled to receive the amount of this variation from the Recipient (as appropriate). The payment of the variation amount by the Supplier or the Recipient under this clause (as the case may be) must be paid within 14 days of that party becoming aware of the variation in the amount of GST payable. Where an adjustment event occurs in relation to a supply, the Supplier will issue an adjustment note to the Recipient in respect of that supply within 14 days after becoming aware of that adjustment event occurring.
- (d) If the Recipient is dissatisfied with any calculation to be made by the Supplier under this clause, the Recipient may, at its own expense and after notifying the Supplier accordingly, refer the matter to an independent expert nominated by the President of the Institute of Chartered Accountants for expert determination, which will be final and binding on all parties. The expert will act as an expert and not as an arbitrator and will take into account the terms of this Deed, the matters required to be taken into account by the Supplier under this clause and any other matter considered by the expert to be relevant to the determination.

9. **MISCELLANEOUS**

9.1 **Further acts**

Each party will promptly do and perform all further acts and execute and deliver all further documents (in form and content reasonably satisfactory to that party) required by law or reasonably requested by any other party to give effect to this Deed.

9.2 **Notices**

Any communication under or in connection with this Deed:

- (a) must be in writing;
- (b) must be addressed as shown below:

Name: **Transport for NSW**
Address: *[Insert address for notices]*
Email: *[Insert email address]*
For the attention of: *[Insert name and/or position details]*

Name: **TfNSW's Authorised Officer**
Address: *[Insert address for notices]*
Email: *[insert email address]*
For the attention of: *[Insert name and/or position details]*

Name: **The Council**
Address: *[Insert address for notices]*
Email: *[Insert email address]*
For the attention of: *[Insert name and/or position details]*

Name: **The Council's Authorised Officer**
Address: *[Insert address for notices]*
Email: *[Insert email address]*
For the attention of: *[Insert name and/or position details]*

Name: **The Contractor**
Address: *[Insert Contractor's address]*
Email: *[Insert email address]*
For the attention of: *[Insert contact name and/or position details]*

Name: *[Insert Project Verifier's name]*
Address: *[Insert Project Verifier's address]*
Email: *[Insert Project Verifier's email address]*

For the attention of: *[Insert contact name and/or position details]*

(or as otherwise notified by that party to the other party from time to time);

- (c) must be signed by the party making the communication or (on its behalf) by the solicitor for, or by any attorney, director, secretary, or authorised agent of, that party;
- (d) must be delivered or posted by prepaid post to the address, or sent by email to the email address, of the addressee, in accordance with clause 9.2(b); and
- (e) will be deemed to be received by the addressee:
 - (i) (in the case of prepaid post) on the third Business Day after the date of posting to an address within Australia, and on the fifth Business Day after the date of posting to an address outside Australia;
 - (ii) (in the case of email) when the addressee's email system logs the email message as having been received, unless the email is received on a non Business Day, or is after 5.00 pm on a Business Day, when that communication will be deemed to be received at 9.00 am on the next Business Day; and
 - (iii) (in the case of delivery by hand) on delivery at the address of the addressee as provided in clause 9.2(b), unless that delivery is made on a non Business Day, or after 5.00 pm on a Business Day, when that communication will be deemed to be received at 9.00 am on the next Business Day.

9.3 **Jurisdiction**

- (a) Each party irrevocably submits to the non-exclusive jurisdiction of the courts of New South Wales, and the courts competent to determine appeals from those courts, with respect to any proceedings which may be brought at any time relating in any way to this Deed.
- (b) Each party irrevocably waives any objection it may now or in the future have to the venue of any proceedings, and any claim it may now or in the future have that any proceedings have been brought in an inconvenient forum, where that venue falls within clause 9.3(a).

9.4 **Amendments**

This Deed may only be varied by a document signed by or on behalf of each of the parties.

9.5 **Assignment**

No party to this Deed may assign, novate or otherwise transfer any of its rights or obligations under this Deed without the prior written consent of each other party to this Deed.

9.6 **Waiver**

- (a) Failure to exercise or enforce or a delay in exercising or enforcing or the partial exercise or enforcement of any right, power or remedy provided by law or under this Deed by any party will not in any way preclude, or operate as a waiver of, any exercise or enforcement, or further exercise or enforcement of that or any other right, power or remedy provided by law or under this Deed.

- (b) Any waiver or consent given by any party under this Deed will only be effective and binding on that party if it is given or confirmed in writing by that party.
- (c) No waiver of a breach of any term of this Deed will operate as a waiver of any breach of that term or of a breach of any other term of this Deed.

9.7 **Consents**

Any consent or approval referred to in, or required under, this Deed from any party may be given or withheld, or may be given subject to any conditions as that party (in its absolute discretion) thinks fit, unless this Deed expressly provides otherwise.

9.8 **Counterparts**

This Deed may be executed in any number of counterparts and by the parties on separate counterparts. Each counterpart constitutes the agreement of each party who has executed and delivered that counterpart.

9.9 **Indemnities**

Each indemnity in this Deed is a continuing obligation, separate and independent from the other obligations of the parties, and survives termination, completion or expiration of this Deed.

It is not necessary for a party to incur expense or to make any payment before enforcing a right of indemnity conferred by this Deed.

9.10 **Entire agreement**

To the extent permitted by law, in relation to the subject matter of this Deed, this Deed:

- (a) embodies the entire understanding of the parties and constitutes the entire terms agreed upon between the parties; and
- (b) supersedes any prior agreement (whether or not in writing) between the parties.

9.11 **No representation or reliance**

- (a) Each party acknowledges that no party (nor any person acting on its behalf) has made any representation or other inducement to it to enter into this Deed, except for representations or inducements expressly set out in this Deed.
- (b) Each party acknowledges and confirms that it does not enter into this Deed in reliance on any representation or other inducement by or on behalf of any other party, except for any representation or inducement expressly set out in this Deed.

9.12 **Relationship of the parties**

- (a) The relationship between and among the parties to this Deed will not be that of partners or joint venturers and nothing herein contained will be deemed to constitute a partnership or joint venture among them and no party will have authority or power to act unilaterally as agent for the other.
- (b) It is understood that the Project Verifier is acting as an independent contractor for the Other Parties and therefore, the Project Verifier is not authorised to enter into any binding obligations on behalf of any or all of the Other Parties.

9.13 **Replacement Body Interpretation**

If an authority or body referred to in this Deed:

- (a) is reconstituted, renamed or replaced or if its powers or functions are transferred to another organisation; or
- (b) ceases to exist,

this Deed is deemed to refer to that organisation which serves substantially the same purpose or object as the former authority or body.

9.14 Severance

If at any time any provision of this Deed is or becomes illegal, invalid or unenforceable in any respect under the law of any jurisdiction, that will not affect or impair:

- (a) the legality, validity or enforceability in that jurisdiction of any other provision of this Deed; or
- (b) the legality, validity or enforceability under the law of any other jurisdiction of that or any other provision of this Deed.

9.15 Moratorium Legislation

To the fullest extent permitted by Law, the provisions of all Laws which at any time operate directly or indirectly to lessen or affect in favour of a party any obligation under this Deed, or to delay or otherwise prevent or prejudicially affect the exercise by a party of any right, power or remedy under this Deed or otherwise, are expressly waived.

9.16 Civil Liability Act

- (a) It is agreed that the operation of Part 4 of the Civil Liability Act 2002 (NSW) is excluded in relation to all and any rights, obligations and liabilities under this Deed whether such rights, obligations or liabilities are sought to be enforced as a breach of contract or a claim in tort or otherwise.
- (b) Without limiting the generality of clause 9.16(a) it is further agreed that the rights, obligations and liabilities of the parties (including those relating to proportionate liability) are as specified in this Deed and not otherwise whether such rights, obligations and liabilities are sought to be enforced by a claim in contract, tort or otherwise.

EXECUTED as a deed.

Date:

EXECUTED by **[INSERT NAME AND
ABN OF COUNCIL]** by its duly authorised
delegate:

Signature of authorised delegate

Name

Signature of witness

Name

EXECUTED by **TRANSPORT FOR NSW
(ABN 18 804 239 602)** by its duly
authorised delegate:

Signature of authorised delegate

Name

Signature of witness

Name

EXECUTED by **[INSERT NAME AND
ABN OF CONTRACTOR]:**

Signature of director

Name

Signature of director/secretary

Name

EXECUTED by **[INSERT NAME AND
ABN OF PROJECT VERIFIER]:**

Signature of director

Name

Signature of director/secretary

Name

SCHEDULE 1

Project Documents

The Project Documents are as follows:

1. Works Authorisation Deed.
2. Council's Development Application (and associated documentation such as the Environmental Impact Statement).
3. Council's Planning Approval.
4. Project Plans:
 - (a) Construction Program;
 - (b) Traffic Management (including Traffic Control Plans);
 - (c) Quality Plan;
 - (d) Environmental Management Plan; and
 - (e) Inspection and Testing Plan.
5. Concept Design Documentation.
6. Detailed Design Documentation (including full engineering design documentation and drawings, including design report, geotechnical report, specification, document, calculation, software, sample, model, pattern and the like, required by the Works Authorisation Deed or the Council's Development Consent or created for the construction of the Works).
7. TfNSW QA Specifications.
8. Schedule of delegated Hold and Witness Points.
9. Road Safety Audits.
10. Project Verification Certificates (being those certificates set out in Schedules 7 to 11).
11. Other relevant documents which are agreed, in writing, by TfNSW and the Council to be Project Documents for the purposes of this Deed.
12. Documents related to Health & Safety in Design and Constructability Workshops.

SCHEDULE 2

Project Verifier Services

SECTION 1 – SCOPE OF SERVICES

The Project Verifier must discharge the functions, obligations, duties and services which the Project Documents contemplate will be discharged by the Project Verifier, including the following:

1. Receive and review each revision of the Project Plans within 15 days of submission of the plan to the TfNSW Authorised Representative and provide Project Plan Certificates in the form of Schedule 7.
2. Provide a certification stating that all findings / non-conformances of Road Safety Audits have been satisfactorily addressed and closed out prior to their acceptance by TfNSW.
3. Receive all information and documents, attend all design meetings (as required) and obtain access to such premises as may be necessary or reasonably required for the performance of the obligations of the Project Verifier.
4. Verify the final version of Detailed Design Documentation for each design component and providing design certification in the form of Schedule 8.
5. Review the Council's Schedule of delegated Hold and Witness Points and obtain TfNSW acceptance.
6. Observe, monitor, review and assess the quality of the Works and the durability of the Works to verify the Council's compliance with the requirements of the Project Documents.
7. Independently verify that the Works comply with the Project Documents.
8. Execute and provide certificates in the form of:
 - (a) Schedule 7 - Project Plan Certificate;
 - (b) Schedule 8 -Design Documents Certificate;
 - (c) Schedule 9 - Monthly Construction Certificate;
 - (d) Schedule 10 - Construction Completion Certificate; and
 - (e) Schedule 11 - Final Verification Certificate (upon expiry of the Defects Liability Period);
9. Provide a monthly progress report, by the tenth day of the following month, including details on:
 - (a) the status and progress made by the Council in the previous month in respect of the Works;
 - (b) register of all Inspection and Test Plans current and closed out during the month;
 - (c) outline of any construction issues not closed out within a two week period;
 - (d) the Project Verifier's current and planned resources and staffing levels; and
 - (e) any act, matter or thing which has or is likely to have a material adverse effect on the progress and provision of the Project Verifier Services, together with detailed

particulars on how the Project Verifier is dealing or proposes to deal with any such act, manner or thing.

SECTION 2 – VERIFICATION ACTIVITIES

10. Application of verification activities

The provision of verification services in respect of the Works undertaken by the Council is the key process to be implemented by the Project Verifier during the design and construction phases of this project.

The independent Project Verifier will implement and operate systems for undertaking the following functions for this project:

11. Review and certification of project plans

The Council is required by the Works Authorisation Deed to prepare and submit to TfNSW the Project Plans referred to in Schedule 1. The purpose of each Project Plan is for the Council to describe in detail how he intends to carry out the Works in accordance with the requirements of the Project Documents.

Project Plans are controlled documents that will require ongoing development, amendment and updating throughout the duration of the Works.

The Project Verifier will maintain a register of all Project Plans received from the Council. The Project Verifier will make itself familiar with all received Project Plans and raise comments where applicable. The Project Verifier will issue the Project Verification Certificates.

12. Risk assessment

The level and scope of verification of the design and verification/surveillance of the construction activity will be based on a continuous risk assessment process taking into account the importance of:

- commercial, safety, community involvement elements etc;
- results of previous audits/ surveillance;
- engineering/environmental constraints/ difficulties;
- effect on future work; and
- any other item identified during the Works.

The Project Verifier's Representative (to be notified to TfNSW upon the appointment of the Project Verifier by the Council), will determine the extent and type of verification required for the project, having regard to the following:

- complexity of the design;
- assessed risk and the likelihood and consequence of failure;
- requirements of the Project Documents;
- durability implications;
- adequacy of documentation content;
- compliance with project specific requirements; and
- any direction given by TfNSW.

13. **Design verification**

The Project Verifier will independently verify that the design of the Works including temporary works complies with the requirements of the Project Documents.

Design verification will be carried out to confirm compliance of the design with the current input documents, design criteria, design codes and standards, specifications and accepted engineering practice on all design elements.

Process

The Project Verifier will review, where appropriate, the design documents (drawings, specifications and reports) generally at the concept design documentation (15% complete) and detail design documentation (85%) and review and verify on 100% complete stages. At the successful completion of the 100% reviews the Project Verifier will issue the Project Verifier's Design Documents Certificate.

During the review process the Project Verifier is to ensure that any TfNSW comment on the design has been incorporated or determined before the issue of the Design Documents Certificate.

Following resolution of any outstanding qualifications and issues raised by the Verifier or TfNSW, the Council shall issue accepted For Construction documents including final drawings, final specifications, and final design reports.

The Project Verifier will exercise discretion when carrying out independent design checks on key elements and specific issues of the design to ensure that the Project Verifier is satisfied that the design complies with the Project Documents. Key elements will be defined by a risk assessment process.

If the structures are propriety items, design inputs and design outputs (inclusive of drawings, fabrication process and technical specifications) must be certified by the sub-contractors for compliance with the Project Documents before the verification process commences.

The design outputs, drawings and technical specifications will be reviewed to verify that the intended design inputs and technical requirements have been incorporated in the Project Documents and design output meets the requirements of design criteria, project objectives, codes and standards.

If any design documentation is rejected, then the design amendments will be subjected to the same verification process outlined above.

The response time by the Project Verifier will be mutually agreed with the Council and TfNSW for each design package (generally within 15 days).

Other Outputs

- Progressively review and certify accepted 'For Construction' detailed design documentation (drawings and specifications) of both permanent and temporary staging works.
- Review and certify Amended Design Documents that might arise during the course of construction.

14. **Construction works verification**

General

The Project Verifier will independently verify that the Works as constructed, including temporary works and product and process, comply with the requirements of the Project Documents. It is acknowledged, the majority of the construction obligations will be met by the Council's Principal Contractor.

Site Surveillance

The Project Verifier will monitor the construction activities on site and will identify, raise and document observations, which indicate non-compliance with the requirements of the Technical Specifications, Project Documents and the Project Quality Plan including the Technical Procedures ('TPs') and Inspections and Tests Plans ('ITPs'). These observations together with comments of agreed actions and Project Verifier acceptance will be recorded by the Council in a register of Construction Issues.

Construction Control - Inspection and Test Plans

The Council is required to establish ITPs for all manufacturing and construction activities to comply with the requirements of the Project Documents. TPs, ITPs and Verification Checklists ('VCs') are controlled documents that will be subject to review and amendment during the term of this Deed.

The Project Verifier will review all ITPs, TPs and VCs issued by the Council based on the requirements of the (Project) Documents to ensure that adequate construction and verification steps are included to provide an adequate level of control of the construction process. The Documents will also be reviewed to ensure that all the Hold Points, Witness Points, acceptance criteria, methods of testing, frequency of testing, time limits for testing, time constraints for submissions, responsibilities, traceability and evidence of conformance in the form of quality records have been identified.

All comments raised during the review process will be forwarded to the Council for action. The Council's response, which will be required on the same review form, will be reviewed and if found satisfactory the latest document will be used as the basis for monitoring and surveillance.

Progressive Certification Reports

Throughout the construction phase there is to be a monthly issuing of Quality Assurance Verification.

The Project Verifier will carry out quality record audits to verify that all required quality records that provide evidence of conformance of individual work components (lots) have been obtained, verified, analysed as required, stored and maintained with adequate product and record traceability. Examples of such quality records includes Test and Commissioning Certificates, Supplier's/Manufacturer's Conformance Certificates, survey conformance reports, verification checklists and ITPs, delivery dockets, measurements, inspection reports, verification reports, conformance reports, NCRs, CARs and calibration records.

Hold Points

The Council's appointed Quality Manager must be satisfied that all activities in the process including methods of work, sequence of activities, inspections and tests preceding any Hold / Witness Point specified in the Quality Plan comply fully with the requirements of the Project Documents prior to release of any Hold Point or request release of the Hold Points from the appropriate delegated representative as detailed in the approved schedule of delegated Hold & Witness Points.

Hold Points for recommendation for release by the Project Verifier can be described under the following categories and will be determined by the Project Verifier undertaking a risk assessment process to ensure critical items are identified:

- release of document, information or notice Hold Points. The Council is responsible for the verification of all information prior to submission to the Project Verifier. Submissions related to critical work items (such as concrete mix designs) will be reviewed to ensure that the requirements of the Specifications have been met. The Project Verifier will review all submissions and raise comments where applicable; and
- release of construction activity Hold Points after a satisfactory outcome of inspection, witness, testing and verification of conformance records. The Project Verifier will inspect the product or the work activity at the stage specified, review testing and quality records that provide evidence of conformance including evidence of verification by the nominated personnel of the preceding procedural steps or activities.

The Council must not proceed beyond any Hold Point referred to in the Quality Plan without release by the delegated representative.

Non-conformances

The Council must establish an appropriate method for identification and control of all occasions where the product or service fails to pass any inspection or test in accordance with the defined acceptance criteria.

Upon the identification of a non-compliance during monitoring or surveillance audits, the Project Verifier will document the finding and immediately advise the Council. Even if the non-compliance can be fixed on the spot or during the conduct of the surveillance audit, the action shall still be documented in a register of construction issues (Construction Issues Register). If the non-compliance cannot be fixed on the spot, the issue will be documented in the Construction Issues Register and the Council will be given the opportunity to raise a NCR under its Quality System, within two working days of identifying the non-compliance, or a Non-conformance Notice will be issued. The Project Verifier may request the Council to propose a Corrective Action to prevent recurrence of the non-conformance.

TfNSW may also issue a 'Non-conforming Product Notification' upon the identification of a nonconforming product. Non-conformances identified by TfNSW or the Project Verifier must be dealt with in the same manner as if the Council had identified it.

All construction issues shall be documented in the Construction Issues Register and then categorised under the appropriate resolution process eg: NCR, RFI, Design Change, CAR etc.

TfNSW must immediately be notified of issues that have the potential to adversely impact the quality and/or durability of the Works. In this regard, the Project Verifier will use its professional judgment, based on risk, as to when the issue must be communicated to TfNSW. Irrespective, any construction issues not satisfactorily closed out within a two week period must be communicated to TfNSW's Authorised Representative.

Construction Issue Register

A Construction Issues Register must be maintained by the Council on a spreadsheet file, to identify and document issues highlighted during the construction period as a result of surveillance and monitoring.

The Construction Issue Register will also document any follow up action, reference relevant documentation/filing and record date of close out.

Construction Completion

When Practical Completion is achieved, the Project Verifier shall issue the Construction Completion Certificate, as set out in Schedule 10, verifying the Works have been completed in accordance with the Project Documents, subject to minor defects and/or omissions.

Final Completion

Subject to satisfactory defect rectification and acceptance by TfNSW, at the end of the Defects Liability Period, the Project Verifier shall issue the Final Verification Certificate.

SCHEDULE 3

Payment Schedule

1. Payment claim

At the end of each month (from and including the month in which the Works Authorisation Deed is executed), the Project Verifier must submit to the Council an account for payment on account of the Fee:

- (a) setting out the value of the Services performed in accordance with this Deed during the relevant month;
- (b) calculated in accordance with this Payment Schedule; and
- (c) in such form and with such details and supporting documentation as the Council may reasonably require (which shall include a signed statutory declaration in the form set out in Schedule 12),

(Payment Claim).

The Project Verifier must, at the time of submission of its Payment Claim to the Council, provide a copy of the Payment Claim to TfNSW.

2. Payment

Subject to clause 3 of this Payment Schedule, the Council must, within 30 days after receipt of the Payment Claim for the month, pay the Project Verifier that portion of the Fee attributable to the Services performed during the month.

3. Notification of disputed amounts

The Council must pay the Project Verifier any amount included in a Payment Claim which it does not dispute. If the Council disagrees with an amount included in the Payment Claim, the Council must within 10 Business Days after receipt of the relevant Payment Claim notify the Project Verifier and TfNSW in writing of the reasons for any amount which is disputed. If the Council fails to give any such notice, the Council must pay the Project Verifier the amount claimed by the Project Verifier in the Payment Claim.

4. The Fee

- (a) The Fee shall comprise of:
 - (i) with respect to the Design Phase Services, a lump sum of \$[insert] exclusive of GST; and
 - (ii) with respect to the Construction Phase Services, an amount payable on a cost-reimbursable schedule of rates basis and calculated in accordance with the rates set out in the schedule of rates in clause 6(b) of this Payment Schedule, subject to adjustment in accordance with clause 4(b) of this Payment Schedule (as the case may be).
- (b) Adjustments will be made to the lump sum referred to in clause 4(a)(i) of this Payment Schedule in accordance with the appropriate rates set out in the schedule of rates in clause 6(a) of this Payment Schedule, for reasonable increases or

decreases in the cost to the Project Verifier of performing the Design Phase Services which arise as a result of (without double counting):

- (i) a variation agreed under the Works Authorisation Deed;
- (ii) any re-verification of previously certified design packages due to changes in Design Documents. [In relation to the re-verification of any design packages during the provision of the Construction Phase Services, adjustments will be made to the lump sum for the Design Phase Services referred to in clause 4(a)(i) of this Payment Schedule only to the extent that the time involved in undertaking the re-verification work, and addressing non-conformities, by the Project Verifier exceeds *[insert]* hours in total;
- (iii) a significant delay to the performance of the Design Phase Services having regard to the Construction Program, but only to the extent that the Design Phase Services are required to be carried out for longer than *[insert]* months;
- (iv) the review and verification of more than *[insert]* design packages in total; or
- (v) any additional services jointly directed in writing by the Other Parties under this Deed.

In this clause, a "**design package**" means each submission of the Design Documentation to the Project Verifier relating to each discrete design element of the Works and includes the Design Documentation that is produced for each of the Developed Concept Design, Preliminary Detailed Design, Substantial Detailed Design and Final Design Documentation stages.

- (c) The Project Verifier acknowledges that (except as described in and payable under clause 7 of this Payment Schedule) it has allowed in the lump sum referred to in clause 4(a)(i) of this Payment Schedule for the provision of all labour, materials, work, vehicles, telecommunications, travel, accommodation (including travel and/or accommodation for personnel relocating to and from the Construction Site and provision of the Project Verifier site facilities), disbursements and other costs necessary for and arising out of or in connection with the Services referred to above as covered by the lump sums, whether or not expressly mentioned in this Deed or the Project Documents.

5. **Not used**

6. **Schedule of Rates**

- (a) Design Phase Services – adjustments pursuant to clause 4(b) above

[Note: The roles, nominated personnel and daily rates below will be completed in accordance with the successful tenderer's tender.]

Role	Nominated Personnel	Daily Rate (\$)
<i>[Insert]</i>	<i>[Insert]</i>	<i>[Insert]</i>
<i>[Insert]</i>	<i>[Insert]</i>	<i>[Insert]</i>
<i>[Insert]</i>	<i>[Insert]</i>	<i>[Insert]</i>
<i>[Insert]</i>	<i>[Insert]</i>	<i>[Insert]</i>

[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]

(b) Construction Phase Services

Role	Nominated Personnel	Daily Rate (\$)
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]
[Insert]	[Insert]	[Insert]

These rates contain allowances for the provision of all labour, materials, work, telecommunications, disbursements and other costs necessary for and arising out of or in connection with the Services for which the Project Verifier is to be paid on a schedule of rates basis under this Deed, excluding disbursements described in and payable under clause 7 of this Payment Schedule and reasonable costs for transport outside the Greater Sydney area, which incorporates Newcastle and Wollongong, and the areas within and in the vicinity of the Construction Site.

When claiming payment for any Services for which the Project Verifier is to be paid on a schedule of rates basis the Project Verifier must provide details and evidence of the time

expended by the Project Verifier in performing the Services for which the Project Verifier is entitled to be paid on a schedule of rates basis.

7. Disbursements

- (a) The Project Verifier will be entitled to reimbursement of disbursements incurred in the course of carrying out the Construction Phase Services, provided that any such disbursements:
 - (i) have been reasonably and properly incurred for the sole purpose of performing the Construction Phase Services
 - (ii) do not fall into the category of one of the disbursements described in clause 7(b) of this Payment Schedule;
 - (iii) were approved in writing by the Council prior to being incurred where they exceed \$1,000; and
 - (iv) are supported by documentation provided to the Council which is satisfactory to the Council.
- (b) The Project Verifier is not entitled to reimbursement of costs relating to vehicles, local transport (within the Greater Sydney area, which incorporates Newcastle and Wollongong and the areas within and in the vicinity of the Construction Site), car parking, computers, insurance, general office consumables and telecommunications.
- (c) Not used.
- (d) The Project Verifier will not be entitled to make any claim against the Council arising out of or in connection with disbursements incurred in connection with the performance of the Services other than in accordance with clause 7(a) of this Payment Schedule.

8. Monthly payment schedule for lump sums

The Project Verifier is not entitled to payment or to make a claim for payment to the extent that the Services have not been carried out for the month in question. Subject to clauses 1 and 2 of this Payment Schedule, the indicative monthly payment to be made under the lump sum is set out in the following table:

Month after the date the Works Authorisation Deed was entered into by TfNSW and the Council	Payment (\$ excluding GST)
1	[Insert]
2	[Insert]
3	[Insert]
etc	[Insert]
TOTAL	[Insert]

9. GST

All lump sums, rates and amounts in this Payment Schedule exclude GST.

SCHEDULE 4

Initial Verification and Monitoring Plan

Part 1

[Note: insert Initial Verification and Monitoring Plan covering the services to be performed under the Works Authorisation Deed]

Part 2

[Note: insert matters to be addressed for the Works Authorisation Deed]

SCHEDULE 5

Minimum surveillance by Project Verifier during the Works

The surveillance activities set out in the table below must be performed in relation to the Works Authorisation Deed.

Surveillance Activity	Minimum Frequency
<p>Environmental Surveillance</p> <p>Monitoring of the implementation of controls for day and night work for items including (but not limited to):</p> <ul style="list-style-type: none"> • Noise and vibration • Dust • Demolition works • Damage to existing RMS and other assets • Mud on roadways • Water pollution • Stormwater • Property and business accesses • Construction accesses • Temporary pedestrian pathways. • Spoil stockpiling and disposal • Fuel / chemical spill <p>Waste management and recycling</p>	
<p>Traffic Surveillance</p> <ol style="list-style-type: none"> 1. Monitor traffic management and traffic controls to assess compliance with the conditions of Road Occupancy Licences, including: 2. as-built layouts for compliance with approved traffic control plans, including sign maintenance and delineation; 3. provisions for cyclists, pedestrians, disabled persons and buses; 4. timing and duration of road occupancies; 5. qualifications of traffic control personnel; 6. haulage routes off the Construction Site; and 7. night inspections of roadworks. 	

<p>Work Health Safety and Rehabilitation Surveillance</p> <p>Inspect and monitor the Works on the Construction Site for compliance with the WHS&R provisions of the Works Authorisation Deed.</p> <p>Monitor:</p> <ul style="list-style-type: none"> • contractor's safety inspection • interface between different work groups on the Construction Site • review safe work method statements • the preparation and induction of job safety analysis • construction site vehicle and plant movements • security of the public, motorists, construction workers 	
<p>Construction Surveillance</p> <p>Monitor the Council's obligation to inform the local community of planned investigations and construction operations and changes that affect properties, residences and businesses.</p>	Monthly
Monitor on-site design changes.	All changes
Check that the Works and Temporary Works are being constructed using Design Documentation that has been endorsed in accordance with clause 7.2 of the Works Authorisation Deed.	50% of design lots
Check that durability requirements of the Works are being addressed and satisfied.	20% of design lots
<p>Witness construction trials and commissioning tests, including:</p> <ul style="list-style-type: none"> • all operations management and control systems and infrastructure; • use of materials, plant and equipment that differs from accepted industry practices; • concrete and AC pavements; and • blasting. 	Each trial and test
Record general and detailed work in progress using photographs.	20 photographs/ month

Quality Management Surveillance Inspect work in progress for compliance with the requirements of the Works Authorisation Deed.	Twice/week
Inspect Construction Site circumstances where significant non-conformities are or are likely to be reported.	Each occurrence
Check compliance with method statements	Each method statement
Check implementation of inspection and test plans, including: <ul style="list-style-type: none"> • testing frequencies; • test methods; • test result verifications; and • release of hold points. 	Weekly
Monitor the implementation of significant approved NCR dispositions.	All dispositions
Quality Product Surveillance Monitor foundation and subgrade preparation and treatments, including: <ul style="list-style-type: none"> • structure foundations; • pavement subgrades; • cast-in-place pile foundations; and • inaccessible drainage foundations. 	Initial preparation and treatment and twice/week thereafter
Monitor compaction of earthworks and reinforced soil.	
Monitor: <ul style="list-style-type: none"> • water testing and grouting. 	Initial testing, grouting and stressing and twice/week thereafter
Monitor: <ul style="list-style-type: none"> • preparation and testing of grout test specimens. 	Initial test specimens and testing, then weekly for four weeks and fortnightly thereafter.
Monitor preparation of shotcrete test specimens	Monthly

<p>Monitor concrete supply, including:</p> <ul style="list-style-type: none"> • audits of each batch plant; • reviews of grout, mortar, concrete and shotcrete mix designs (including offsite work); and • monitoring of supplied mixes compared with mix designs. 	<p>Four times</p> <p>Each mix</p> <p>Twice/mix</p>
<p>Monitor concreting (road and bridge), including:</p> <ul style="list-style-type: none"> • preparation; • production conformity records • formwork (including certification); • bracing; • reinforcement (including heating and welding); • placing; • finishing; • curing; and • stripping formwork. 	<p>Initial activity and twice/ week thereafter</p>
<p>Monitor:</p> <ul style="list-style-type: none"> • water testing and grouting; and • stressing operation, <p>of post-tensioned concrete.</p>	<p>Twice/structure</p>
<p>Monitor concrete pavement subbases and bases, including:</p> <ul style="list-style-type: none"> • thickness, levels, relative density, curing, cracking and surface profile for rideability; • pavement strengths prior to trafficking by vehicular traffic; and • conditions for trafficking of pavements by heavy (off road) vehicles. 	<p>Daily</p> <p>Daily</p> <p>Initial conditions</p>
<p>Asphaltic concrete supply, including:</p> <ul style="list-style-type: none"> • audits of each batch plant; • reviews of AC mix designs; and • monitoring of supplied mixes compared with mix designs. 	<p>Four times</p> <p>Each mix</p> <p>Twice/mix</p>
<p>Monitor the laying of asphaltic concrete.</p> <ul style="list-style-type: none"> • Steel fabrication, including: • reviews of welding procedures; and 	<p>Daily</p> <p>Each procedure</p>

<ul style="list-style-type: none"> • monitoring of the fabrication and welding processes for major members (off-site). 	Twice/week
Monitor protective treatment systems (off-site).	Twice/week
Monitor the interfaces of civil and electrical works, including: <ul style="list-style-type: none"> • backfilling of cabling conduit trenches. 	Initial backfilling and weekly thereafter
Monitor landscaping preparation and implementation	
Monitor Landscaping Maintenance	

SCHEDULE 6

Minimum Requirements

The Verification and Monitoring Plan must, as a minimum, address and detail:

- (a) the management team structures, positions, nominated personnel and subcontractors to be engaged on and off the Construction Site and the roles and tasks of the nominated personnel and subcontractors;
- (b) the minimum skill, expertise and experience levels of each position and details of personnel resource levels;
- (c) the Project Verifier's internal and external lines of authority, communication and reporting, including those with TfNSW's Authorised Officer, the Council's Authorised Officer and the Contractor;
- (d) the identification of delegated authorities of the Project Verifier's personnel, including identification of personnel with delegated authority to execute certificates on behalf of the Project Verifier;
- (e) all compliance records to be maintained, in the form of a schedule;
- (f) the proposed timing of progressive verification for the performance of discrete elements of the Services, including the timing for conducting audits of Project Plans and other aspects of the Works;
- (g) Hold Point and Witness Point requirements, including the identification of all Witness Points and Hold Points required by the Project Verifier, in the form of a schedule which identifies all Hold Points to be released by the Project Verifier;
- (h) the Project Verifier's comprehensive plans for:
 - (i) continual observation, monitoring, auditing, reviewing, assessment and testing of the Council's compliance with design and construction obligations, including methodology for certification of Design Documentation;
 - (ii) without limiting paragraph (h)(i), continual observation, monitoring, auditing, reviewing, assessment and testing of the quality and durability of the Works and the Temporary Works to determine, verify and ensure the Council's compliance with the requirements of the Works Authorisation Deed;
 - (iii) audit and surveillance, including identification of resources, methodology, scope, levels of surveillance, inspection, testing and survey; and
 - (iv) off-site surveillance of critical activities, including precasting yards, concrete production plants and steel fabrication;
- (i) the Project Verifier's strategies, processes, methodologies and procedures for:
 - (i) reviewing and assessing the Project Plans;
 - (ii) addressing environmental monitoring and protection;
 - (iii) audit, surveillance and monitoring of the Council's design and construction activities, including the processes used for determining the levels and scope of surveillance of

- the Council's design and construction activities, including in relation to work health safety;
- (iv) identifying and managing the Project Verifier's work to be subcontracted, including quality, reporting and communication aspects of the work;
 - (v) ensuring that the Council has addressed all issues of review, comment and consultation with TfNSW in relation to Design Documentation and construction; and
 - (vi) risk management of the work covered by items (i), (ii) and (iii) above; and
- (j) the Project Verifier's strategies, systems, procedures, processes, methodologies and reporting protocols to be applied to achieve and satisfy the following requirements:
- (i) verification of the Council's processes for ongoing checking of testing, calibration and parallel testing to check compliance and test error;
 - (ii) verification of the Council's interface issues between processes and elements and Project Plans;
 - (iii) verification of the Council's processes for the control of the Contractor and its subcontractors;
 - (iv) verification of the Council's processes for environmental monitoring and protection;
 - (v) verification of the Council's processes to address safety in design issues;
 - (vi) verification of the Council's processes to ensure that durability is incorporated into all aspects of the design and construction of the Project Works;
 - (vii) verification of the Council's processes to address constructability issues; and
 - (viii) verification of the rectification by the Council's of non-conformities.

SCHEDULE 7

Project Plan Certificate

Project: *[Insert Project Name]*

In accordance with the terms of the Works Authorisation Deed (**Deed**) between Transport for NSW and the Council with respect to the Works, we hereby certify that:

The *[insert Project Plan referred to in Schedule 1, eg. Quality Plan]*:

- (a) complies with all the requirements of the Deed and the Project Documents; and
- (b) the Council's quality system complies with AS/NZS ISO 9001:2008.

.....

Signed for and on behalf of

[Insert name of Project Verifier]

[Insert date]

SCHEDULE 8

Design Documents Certificate

Project: *[Insert Project Name]*

In accordance with the terms of the Works Authorisation Deed (**Deed**) between Transport for NSW and the Council with respect to the Works, we hereby certify that:

- (a) The attached Design Documents:
 - (i) comply with all the requirements of the Deed and the Project Documents; and
 - (ii) are documented to enable construction in compliance with the Project Documents.
- (b) The Council has addressed all issues of review, comment and consultation with Transport for NSW in respect of the Design Documents.

.....

Signed for and on behalf of

[Insert name of Project Verifier]

[Insert date]

SCHEDULE 9

Monthly Construction Certificate – Quality Assurance

Project: *[Insert Project Name]*

In accordance with the terms of the Works Authorisation Deed between Transport for NSW and the Council with respect to the Works, for the work activities carried out between *[insert date]* to *[insert date]* we hereby certify that for this period:

- (a) all activities (lots) and the associated Inspection and Test Plans (ITP's) carried out are detailed in the attached ITP register; and
- (b) all work carried out by the Council has been executed and is in accordance with the requirements of the ITP's and the Project Documents, subject to the following:

[insert]

.....

Signed for and on behalf of

[Insert name of Project Verifier]

[Insert date]

SCHEDULE 10

Construction Completion Certificate

Project: *[Insert Project Name]*

In accordance with the terms of the Works Authorisation Deed between Transport for NSW and the Council with respect to the Works, we hereby certify that:

- (a) The Council and its contractors have complied with and satisfied the requirements of the TfNSW Quality Assurance Specification Q6;
- (b) The Council has completed construction in accordance with the Design Documents and the Project Documents it was entitled to use for construction purposes, subject to minor defects or omissions;
- (c) The release of all Hold & Witness Points has been undertaken in accordance with the Project Documents;
- (d) All documentation has been recorded and submitted to TfNSW in accordance with the Deed; and
- (e) The Works comply with the requirements of the Deed and the Project Documents.

.....

Signed for and on behalf of

[Insert name of Project Verifier]

[Insert date]

SCHEDULE 11

Final Verification Certificate

Project: *[Insert Project Name]*

In accordance with the terms of the Works Authorisation Deed (**Deed**) between Transport for NSW and the Council with respect to the Works, we hereby certify that at the date of the expiration of the Defects Liability Period as defined in the Deed:

- (a) all design, construction, inspection, repairs, maintenance and monitoring by the Council has been undertaken in accordance with the Deed and the Project Documents; and
- (b) all documentation has been recorded and submitted to Transport for NSW in accordance with the Deed.

.....

Signed for and on behalf of

[Insert name of Project Verifier]

[Insert date]

SCHEDULE 12

Form of Statutory Declaration

I.....of.....do solemnly and sincerely declare that:

1. I am an authorised officer of (the **Project Verifier**).
2. I personally know the facts which I have set out in this declaration.
3. The Project Verifier has entered into a Deed with [*Note: Insert name of Contractor*] (amongst others) for (the **Deed**)
4. All workers engaged by the Project Verifier in connection with the work under the Deed:
 - (a) have been paid all monies which as at the date of this declaration are due and payable to them in respect of their employment on work under the Deed; and
 - (b) have otherwise received or had accrued to their account all benefits to which they are entitled as at the date of this declaration in respect of their employment on work under the Deed pursuant to any award, enterprise Deed, act or regulation, apart from the workers listed in the attached Schedule of Unpaid Workers for the respective amounts and benefits shown in this schedule. (The schedule also shows the addresses of each worker listed and a description of the amount or benefit not paid or received or accrued—for example wages, holiday pay, allowances and superannuation).
5. All subcontractors, subconsultants and other service providers (**subcontractors**) engaged by or contracted to the Project Verifier in connection with the work under the Deed have been paid all monies which at the date of this declaration are due and payable to them in respect of work or services performed by them in connection with the Deed apart from the subcontractors listed in the attached Schedule of Unpaid subcontractors for the respective amounts shown in that schedule. (The schedule also shows the address of each subcontractor listed and a description of the work or services of each such subcontractor).
6. In all cases where a subcontractor has provided services and/or materials in respect of the Deed and has submitted a payment claim to the Project Verifier for these services or materials which as at the date of this declaration would have been payable but which the Project Verifier disputes, the reasons for such dispute have been notified in writing to the Project Verifier by the subcontractor prior to the date of this declaration. Where such dispute relates to part only of the Project Verifier's payment claim, that part not in dispute has been paid by the Project Verifier to the subcontractor as at the date of this declaration except for the amounts listed in 5 above.
7. The provisions of the Deed relating to security of payment, if any, including payment of employees, workers and subcontractors of the Project Verifier have been complied with by the Project Verifier
8. The Project Verifier has been informed by each subcontractor to the Project Verifier by statutory declaration in equivalent terms to this declaration (made no earlier than 14 days before the date of this declaration);
 - (a) that their subcontracts with their subcontractors comply with the requirements of Deed relating to payment or employees, workers and subcontractors of the Project Verifier or

- (b) that all employees, workers and contractors, as at the date of making of such a declaration:
 - (i) have been paid all monies due and payable to them by; or
 - (ii) had accrued to their account or received all benefits to which they are entitled from;

the subcontractor of the Project Verifier or from any other contractor in respect of any work under the Deed; and
 - (c) of details of any amounts due and payable or benefits due to be received or accrued described in (b) above which have not been paid, received or accrued, except for the following subcontractors to the Project Verifier who have failed to provide such a declaration. (Next to the name of each subcontractor listed as follows is the amount due to that subcontractor by the subcontractor and the subcontractor's address):
9. Where a subcontractor to the Project Verifier has provided a declaration as in 8 above, and it includes unpaid amounts or benefits either not received or not accrued, details of the subcontractor involved, the names and addresses of the affected employees, workers and subcontractors of that subcontractor, and the respective amounts or benefits either unpaid or not received or accrued are as follows:
 10. All Worker Compensation premiums due and payable have been paid.
 11. All pay-roll tax due and payable in respect of employees who performed work has been paid.
 12. I am not aware of anything which would contradict the statements made in the statutory declarations provided to the Project Verifier by its subcontractors.

And I make this solemn declaration conscientiously believing the same to be true and by virtue of the *[insert the name of the relevant legislation for the state for the making of Statutory Declarations]*. I am aware that I may be subject to punishment by law if I wilfully make a false statement in this declaration.

Declared at.....(place where declaration made)
on.....(date of declaration) by.....

Signature of person making the declaration

before me:

Justice of the Peace/ Practising Solicitor of the Supreme Court of the State or other person legally authorised to administer an oath under the *[insert the name of the relevant legislation of the State for the making of Statutory Declarations or where the declaration is sworn outside the State of [], any person having authority to administer an oath in that place]*.

And as a witness, I certify the following matters concerning the person who made this statutory declaration (the **declarant**):

1. I saw the face of the declarant.

[OR]

I did not see the face of the declarant because the declarant was wearing a face covering, but I am satisfied that the declarant had a special justification for not removing the covering.

2. I have known the declarant for at least 12 months.

[OR]

I have confirmed the declarant's identity using the following identification document:

[insert description of ID document]

.....

(Signature of witness)

ATTACHMENT G
Contractor Deed Poll

This deed poll is made the day of 20

By: **[Insert Contractor's name and ABN] (Contractor)**

To: **Transport for NSW ABN 18 804 239 602 (TfNSW)**

RECITALS

- (A) TfNSW and the Council have entered into a WAD pursuant to which TfNSW has authorised, and the Council has agreed to carry out, the Works.
- (B) The Council and the Contractor have entered into the Contract.
- (C) It is a condition of the WAD that the Contractor executes this deed poll.

OPERATIVE PROVISIONS

1. Interpretation

1.1 Definitions

The following definitions apply in this deed poll.

Council means **[Insert Council's name and ABN of Council]**.

Contract means the contract between the Council and the Contractor for the execution and completion of certain works and services (including the Works).

Contractor Security means the security that is required to be provided under clause 5.1 of the WAD.

WAD means the deed between TfNSW and the Council entitled the "Works Authorisation Deed – **[Insert]**" dated on or about **[Insert]**.

1.2 Terms defined in the WAD

Except as otherwise defined, terms used in this deed poll that are defined in the WAD have the same meaning in this deed poll as is provided for in the WAD.

2. Contractor warranties

The Contractor warrants to TfNSW that:

- (a) the Council has provided it with a copy of the WAD;
- (b) it has read and is familiar with the terms, conditions and requirements of the WAD;
- (c) when undertaking the works and services that it has been engaged to perform under the Contract, it will:

- (i) comply with, satisfy and fulfil the terms, conditions and requirements of the WAD to the extent that they relate to the carrying out of the Works as if the Contractor were a party to the WAD in the place of the Council;
- (ii) not do or fail to do anything that would unduly hinder or prevent TfNSW from exercising and enjoying the rights and benefits that TfNSW has under the WAD; and
- (iii) cooperate with TfNSW;
- (d) it will promptly rectify any defects or other non-conforming work which becomes apparent during construction of the Works or before the end of the Defects Liability Period; and
- (e) upon their completion the Works will satisfy the requirements of the WAD.

3. **Indemnity**

- (a) The Contractor is liable for and indemnifies TfNSW against any liability, loss, claim, expense or damage which it may pay, suffer or incur in respect of:
 - (i) any damage to or loss of TfNSW's property;
 - (ii) any damage to or loss of any other property; or
 - (iii) death of or injury to any person,
 insofar as the liability, loss, claim, expense or damage arises out of or in any way in connection with the carrying out of the Works by the Contractor.
- (b) The Contractor's liability under this clause 3 will be reduced proportionally to the extent that a negligent act or omission of TfNSW contributed to the loss or damage.

4. **Contractor security**

The Contractor acknowledges and agrees that:

- (a) it will provide the Contractor Security;
- (b) TfNSW may have recourse to the Contractor Security whenever:
 - (i) the Contractor is in breach of this deed poll;
 - (ii) TfNSW has a bona fide claim against the Contractor under or in connection with this deed poll; or
 - (iii) any debt or other moneys are due from the Contractor to TfNSW under or in connection with this deed poll; and
- (c) subject to its rights of recourse, TfNSW will return the Contractor Security to the Council in accordance with clause 5.3 of the WAD.

5. **Limit of liability**

- (a) The Contractor's liability arising under or in connection with this deed poll will not exceed the maximum aggregate limit of liability of the Contractor under the Contract subject to the same exceptions, exclusions and limitations as are specified in the Contract less the liability incurred (from time to time) by the Contractor to the Council under the Contract.

- (b) Any provision of this deed poll which seeks to limit or exclude a liability of the Contractor is to be construed as doing so only to the extent permitted by law.

6. **Severability**

If any provision of this deed poll is illegal, void, invalid or unenforceable for any reason, all other provisions which are self-sustaining and capable of separate enforcement will, to the maximum extent permitted by law, be and continue to be valid and enforceable.

7. **General**

- (a) This document operates as a deed poll and is enforceable against the Contractor in accordance with its terms by TfNSW, even though TfNSW is not a party to this deed poll.
- (b) This deed poll may not be revoked or otherwise modified without the prior written consent of TfNSW.
- (c) TfNSW may assign or charge the benefits and rights accrued under this deed poll.
- (d) This deed poll is governed by and must be construed in accordance with the laws of New South Wales.

Executed as a deed poll.

EXECUTED by [*Insert name of Contractor*] **ABN** [*Insert ABN of Contractor*]:

Signature of director/company secretary

Signature of director

Print name

Print name

ATTACHMENT H

Form of Contractor Security

UNCONDITIONAL UNDERTAKING

- In favour of:** » **Transport for NSW** ABN 18 804 239 602 a NSW Government agency constituted under the *Transport Administration Act 1988* (NSW) whose registered office is at 20-44 Ennis Road, Milsons Point 2061 ("the **Principal**")
- Given by:** » [Insert name, ABN and address of the financial institution] ("**Surety**")
- The Contractor:** » [Insert name, ABN and address of the Contractor] ("**Contractor**")
- Security Amount:** » AUD \$[amount] ([amount in words]) ("**Security Amount**")
- The Contract:** » The Works Authorisation Deed between the Principal and the Developer dated [Insert date] ("**Contract**")

1. At the request of the Contractor and in consideration of the Principal accepting this undertaking in connection with the Contract, the Surety unconditionally undertakes to pay on demand any sum or sums which may from time to time be demanded by the Principal to a maximum aggregate sum of the Security Amount.
2. The undertaking is to continue until notification has been received from the Principal that the Security Amount is no longer required by the Principal or until this undertaking is returned to the Surety or until payment to the Principal by the Surety of the whole of the Security Amount or such part as the Principal may require.
3. Should the Surety be notified in writing, purporting to be signed by or for and on behalf of the Principal that the Principal desires payment to be made of the whole or any part or parts of the Security Amount, it is unconditionally agreed that the Surety will make the payment or payments to the Principal forthwith without reference to the Contractor and notwithstanding any notice given by the Contractor not to pay same.
4. Provided always that the Surety may at any time without being required so to do pay to the Principal the Security Amount less any amount or amounts it may previously have paid under this undertaking or such lesser sum as may be required and specified by the Principal and thereupon the liability of the Surety hereunder shall immediately cease.
5. This undertaking is not negotiable, transferable, assignable or chargeable and shall be returned to the Surety immediately upon its expiry.
6. This undertaking shall be governed by the laws of the State of New South Wales.

SIGNED by the attorney of [insert name]
under power of attorney dated [insert
date] this [date] day of [month] [year]:

Signature of witness

Signature of attorney

Name of witness

Name of attorney

EXECUTED as a deed.

Each person who executes this document on behalf of a party under a power of attorney declares that he or she is not aware of any fact or circumstance that might affect his or her authority to do so under that power of attorney.

EXECUTED by **RICHMOND VALLEY COUNCIL**
(ABN 54 145 907 009) by its duly authorised
delegate:



Signature of authorised delegate

Ben Zeller

Name



Signature of witness

Mike Perkins

Name

EXECUTED by **TRANSPORT FOR NSW**
(ABN 18 804 239 602) by its duly
authorised delegate:

Signature of authorised delegate

Witness

Name

Name






















Appendix C

Biodiversity Database Searches

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Licensed Report of all Valid Records of Threatened (listed on BC Act 2016) or Commonwealth listed Entities in selected area [North: -28.81 West: 153.02 East: 153.12 South: -28.91] returned a total of 864 records of 47 species.
Report generated on 16/09/2024 10:34 AM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Common status	Records	Info
Animalia	Aves	Anseranatidae	0199	<i>Anseranas semipalmata</i>		Magpie Goose	V,P		67	
Animalia	Aves	Anatidae	0216	<i>Oxyura australis</i>		Blue-billed Duck	V,P		12	
Animalia	Aves	Anatidae	0214	<i>Stictonetta naevosa</i>		Freckled Duck	V,P		19	
Animalia	Aves	Phaethontidae	0107	<i>Phaethon rubricauda</i>		Red-tailed Tropicbird	V,P	C,J	1	
Animalia	Aves	Apodidae	0334	<i>Hirundapus caudacutus</i>		White-throated Needletail	V,P	V,C,J,K	8	
Animalia	Aves	Ciconiidae	0183	<i>Ephippiorhynchus asiaticus</i>		Black-necked Stork	E1,P		113	
Animalia	Aves	Ardeidae	0197	<i>Botaurus poiciloptilus</i>		Australasian Bittern	E1,P	E	1	
Animalia	Aves	Ardeidae	0196	<i>Ixobrychus flavicollis</i>		Black Bittern	V,P		1	
Animalia	Aves	Accipitridae	0218	<i>Circus assimilis</i>		Spotted Harrier	V,P		3	
Animalia	Aves	Accipitridae	0226	<i>Haliaeetus leucogaster</i>		White-bellied Sea-Eagle	V,P		23	
Animalia	Aves	Accipitridae	0225	<i>Hieraaetus morphnoides</i>		Little Eagle	V,P		1	
Animalia	Aves	Accipitridae	0230	<i>Lophoictinia isura</i>		Square-tailed Kite	V,P,3		1	
Animalia	Aves	Accipitridae	8739	<i>Pandion cristatus</i>		Eastern Osprey	V,P,3		3	
Animalia	Aves	Burhinidae	0174	<i>Burhinus grallarius</i>		Bush Stone-curlew	E1,P		1	
Animalia	Aves	Jacanidae	0171	<i>Irediparra gallinacea</i>		Comb-crested Jacana	V,P		106	
Animalia	Aves	Rostratulidae	0170	<i>Rostratula australis</i>		Australian Painted Snipe	E1,P	E	6	
Animalia	Aves	Scolopacidae	0161	<i>Calidris ferruginea</i>		Curlew Sandpiper	E4A,P	CE,C,J,K	2	
Animalia	Aves	Scolopacidae	0168	<i>Gallinago hardwickii</i>		Latham's Snipe	V,P	V,J,K	44	
Animalia	Aves	Scolopacidae	0152	<i>Limosa limosa</i>		Black-tailed Godwit	V,P	E,C,J,K	1	
Animalia	Aves	Turnicidae	0013	<i>Turnix maculosus</i>		Red-backed Button-quail	V,P		2	
Animalia	Aves	Cacatuidae	8862	^^ <i>Calyptorhynchus lathami lathami</i>		South-eastern Glossy Black-Cockatoo	V,P,2	V	3	
Animalia	Aves	Psittacidae	0260	<i>Glossopsitta pusilla</i>		Little Lorikeet	V,P		3	
Animalia	Aves	Strigidae	0248	<i>Ninox strenua</i>		Powerful Owl	V,P,3		1	
Animalia	Aves	Tytonidae	0252	<i>Tyto longimembris</i>		Eastern Grass Owl	V,P,3		1	
Animalia	Aves	Pomatostomidae	8388	<i>Pomatostomus temporalis temporalis</i>		Grey-crowned Babbler (eastern subspecies)	V,P		3	
Animalia	Aves	Monarchidae	0376	<i>Carterornis leucotis</i>		White-eared Monarch	V,P		1	
Animalia	Mammalia	Dasyuridae	1017	<i>Phascogale tapoatafa</i>		Brush-tailed Phascogale	V,P		2	
Animalia	Mammalia	Phascolarctidae	1162	<i>Phascolarctos cinereus</i>		Koala	E1,P	E	52	

Animalia	Mammalia	Petauridae	1137	<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P		10	
Animalia	Mammalia	Macropodidae	1260	<i>Macropus dorsalis</i>	Black-striped Wallaby	E1,P		2	
Animalia	Mammalia	Macropodidae	1234	<i>Thylogale stigmatica</i>	Red-legged Pademelon	V,P		1	
Animalia	Mammalia	Pteropodidae	1280	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	335	
Animalia	Mammalia	Molossidae	1329	<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V,P		8	
Animalia	Mammalia	Vespertilionidae	1372	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V,P		1	
Animalia	Mammalia	Vespertilionidae	1336	<i>Nyctophilus bifax</i>	Eastern Long-eared Bat	V,P		4	
Animalia	Mammalia	Vespertilionidae	1361	<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V,P		1	
Animalia	Mammalia	Miniopteridae	1346	<i>Miniopterus australis</i>	Little Bent-winged Bat	V,P		4	
Animalia	Mammalia	Miniopteridae	3330	<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V,P		2	
Plantae	Flora	Fabaceae (Faboideae)	2833	<i>Desmodium acanthocladum</i>	Thorny Pea	V	V	2	
Plantae	Flora	Fabaceae (Faboideae)	3030	<i>Sophora fraseri</i>	Brush Sophora	V	V	2	
Plantae	Flora	Fabaceae (Mimosoideae)	7757	<i>Archidendron hendersonii</i>	White Lace Flower	V		1	
Plantae	Flora	Lythraceae	11643	<i>Rotala tripartita</i>		E1		1	
Plantae	Flora	Myrtaceae	11894	<i>Gossia fragrantissima</i>	Sweet Myrtle	E1	E	2	
Plantae	Flora	Myrtaceae	4255	<i>Melaleuca irbyana</i>	Weeping Paperbark	E1		3	
Plantae	Flora	Myrtaceae	4284	<i>Rhodomyrtus psidioides</i>	Native Guava	E4A	CE	1	
Plantae	Flora	Proteaceae	5372	<i>Grevillea hilliana</i>	White Yiel Yiel	E1		1	
Plantae	Flora	Ranunculaceae	5494	<i>Clematis fawcettii</i>	Northern Clematis	V	V	2	

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Licensed Report of all Valid Records of Threatened (listed on BC Act 2016) or Commonwealth listed Communities in selected area [North: -28.81 West: 153.02 East: 153.12 South: -28.91] returned 0 records for 17 entities.
Report generated on 16/09/2024 10:40 AM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Common status	Records	Info
Community				<i>Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion</i>		Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion	E3		K	
Community				<i>Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>		Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community				<i>Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community</i>		Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community		E	K	
Community				<i>Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland</i>		Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland		E	K	
Community				<i>Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>		Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community				<i>Grey box-grey gum wet forest of subtropical eastern Australia</i>		Grey box-grey gum wet forest of subtropical eastern Australia		E	K	
Community				<i>Grey Box-Grey Gum Wet Sclerophyll Forest in the NSW North Coast Bioregion</i>		Grey Box-Grey Gum Wet Sclerophyll Forest in the NSW North Coast Bioregion	E3		K	
Community				<i>Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>		Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3		K	
Community				<i>Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions</i>		Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	E3		K	

Community	<i>Lowland Rainforest of Subtropical Australia</i>	Lowland Rainforest of Subtropical Australia	CE	K	
Community	<i>Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion</i>	Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion	E3	K	
Community	<i>Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion</i>	Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion	E3	K	
Community	<i>Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions</i>	Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	E	K	
Community	<i>Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>	Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	K	
Community	<i>Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>	Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E3	K	
Community	<i>Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions</i>	Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions	E3	K	
Community	<i>White Gum Moist Forest in the NSW North Coast Bioregion</i>	White Gum Moist Forest in the NSW North Coast Bioregion	E3	K	



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 16-Sep-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	61
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	14
Commonwealth Heritage Places:	1
Listed Marine Species:	23
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	1
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[\[Resource Information \]](#)

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area	In buffer area only
Dunn's white gum (Eucalyptus dunnii) moist forest in north-east New South Wales and south-east Queensland	Endangered	Community may occur within area	In buffer area only
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	Community likely to occur within area	In buffer area only
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community likely to occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In feature area

Listed Threatened Species

[\[Resource Information \]](#)

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area	In buffer area only
Erythrorhynchus radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In feature area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat may occur within area	In feature area
FISH			
Maccullochella ikei Clarence River Cod, Eastern Freshwater Cod [26170]	Endangered	Species or species habitat may occur within area	In feature area
FROG			
Mixophyes fleayi Fleay's Frog [25960]	Endangered	Species or species habitat may occur within area	In feature area
Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
INSECT			

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Argyrops hyperbius inconstans</u> Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
MAMMAL			
<u>Chalinolobus dwyeri</u> Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In feature area
<u>Dasyurus maculatus maculatus (SE mainland population)</u> Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area
<u>Notamacropus parma</u> Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Petauroides volans</u> Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
<u>Petaurus australis australis</u> Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<u>Petrogale penicillata</u> Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</u> Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
<u>Potorous tridactylus tridactylus</u> Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In feature area
<u>Pseudomys novaehollandiae</u> New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Pteropus poliocephalus</u> Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Arthraxon hispidus</u> Hairy-joint Grass [9338]	Vulnerable	Species or species habitat known to occur within area	In feature area
<u>Bosistoa transversa</u> Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Bulbophyllum globuliforme</u> Miniature Moss-orchid, Hoop Pine Orchid [6649]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Clematis fawcettii</u> Stream Clematis [4311]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<u>Coleus nitidus listed as Plectranthus nitidus</u> Nightcap Plectranthus, Silver Plectranthus [91380]	Endangered	Species or species habitat may occur within area	In buffer area only
<u>Corchorus cunninghamii</u> Native Jute [14659]	Endangered	Species or species habitat likely to occur within area	In buffer area only
<u>Cynanchum elegans</u> White-flowered Wax Plant [12533]	Endangered	Species or species habitat may occur within area	In buffer area only
<u>Dichanthium setosum</u> bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<u>Endiandra floydii</u> Floyd's Walnut, Crystal Creek Walnut [52955]	Endangered	Species or species habitat may occur within area	In buffer area only
<u>Eucalyptus glaucina</u> Slaty Red Gum [5670]	Vulnerable	Species or species habitat known to occur within area	In feature area
<u>Floydia praealta</u> Ball Nut, Possum Nut, Big Nut, Beefwood [15762]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Gossia fragrantissima</u> Sweet Myrtle, Small-leaved Myrtle [78867]	Endangered	Species or species habitat known to occur within area	In buffer area only
<u>Leichhardtia longiloba listed as Marsdenia longiloba</u> Clear Milkvine [91911]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Macadamia integrifolia</u> Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat may occur within area	In feature area
<u>Macadamia tetraphylla</u> Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough- leaved Queensland Nut [6581]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<u>Myrsine richmondensis</u> Purple-leaf Muttonwood, Lismore Muttonwood [83888]	Endangered	Species or species habitat may occur within area	In feature area
<u>Owenia cepiodora</u> Onionwood, Bog Onion, Onion Cedar [11344]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<u>Pedleya acanthoclada listed as Desmodium acanthocladum</u> Thorny Pea [93275]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<u>Persicaria elatior</u> Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<u>Phaius australis</u> Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area	In buffer area only
<u>Rhodamnia rubescens</u> Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
<u>Rhodomyrtus psidioides</u> Native Guava [19162]	Critically Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Sophora fraseri [8836]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Syzygium hodgkinsoniae Smooth-bark Rose Apple, Red Lilly Pilly [3539]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
Vincetoxicum woollsii listed as Tylophora woollsii [40080]	Endangered	Species or species habitat may occur within area	In buffer area only

REPTILE

Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In buffer area only
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Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Migratory Terrestrial Species

Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
------------------------	-------	---------------

Communications, Information Technology and the Arts - Australian Postal Corporation

Commonwealth Land - Australian Postal Commission [15420]	NSW	In buffer area only
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Commonwealth Land - Australian Postal Commission [11263]	NSW	In buffer area only
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Communications, Information Technology and the Arts - Telstra Corporation Limited

Commonwealth Land - Australian Telecommunications Commission [11259]	NSW	In feature area
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Commonwealth Land - Australian Telecommunications Commission [11257]	NSW	In buffer area only
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Commonwealth Land - Australian Telecommunications Commission [11260]	NSW	In feature area
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Commonwealth Land - Telstra Corporation Limited [11262]	NSW	In buffer area only
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Defence

Commonwealth Land - Defence Service Homes Corporation [11261]	NSW	In buffer area only
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Defence - CASINO GRES DEPOT (Army Training Depot) ; 41 RNSWR CASINO [10079]	NSW	In buffer area only
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Defence - CASINO GRES DEPOT (Army Training Depot) ; 41 RNSWR CASINO [10076]	NSW	In buffer area only
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Defence - CASINO GRES DEPOT (Army Training Depot) ; 41 RNSWR CASINO [10077]	NSW	In buffer area only
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Defence - CASINO GRES DEPOT (Army Training Depot) ; 41 RNSWR CASINO [10078]	NSW	In buffer area only
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Defence - CASINO GRES DEPOT (Army Training Depot) ; 41 RNSWR CASINO [10082]	NSW	In buffer area only
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Defence - CASINO GRES DEPOT (Army Training Depot) ; 41 RNSWR CASINO [10081]	NSW	In buffer area only
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Defence - CASINO GRES DEPOT (Army Training Depot) ; 41 RNSWR CASINO [10080]	NSW	In buffer area only
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Commonwealth Heritage Places [\[Resource Information \]](#)

Name	State	Status	Buffer Status
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Historic

Casino Post Office	NSW	Listed place	In buffer area only
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Listed Marine Species [\[Resource Information \]](#)

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]		Species or species habitat may occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Sterna striata White-fronted Tern [799]		Migration route may occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Muckleewee Mountain	Nature Reserve	NSW	In buffer area only

Regional Forest Agreements	[Resource Information]
Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.	

RFA Name	State	Buffer Status
North East NSW RFA	New South Wales	In feature area

EPBC Act Referrals					[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status	
Controlled action					
330 kV Transmission Line, 205km in Length	2010/5326	Controlled Action	Completed	In feature area	
Casino Ipswich Pipeline	2007/3877	Controlled Action	Completed	In feature area	
Not controlled action					
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area	

Bioregional Assessments			[Resource Information]
SubRegion	BioRegion	Website	Buffer Status
Clarence-Moreton	Clarence-Moreton	BA website	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Appendix D

Assessment of Significance



BC Act Five-part Test for Threatened Species

Tests of significance ('five-part tests') under Section 7.3 of the BC Act have been completed for Koala.

The site habitat values and extent of local population per species/ species group are detailed below. To minimise repetition, the responses to the five-part tests are structured as follows:

Part (a), (c), (d) and (e) are answered per species or as a collective group of species depending on the nature of impacts.

Part (b) deals specifically with threatened ecological communities, and hence is not relevant to the subject threatened species assessment.

a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

Koala

The Koala has a fragmented distribution throughout eastern Australia from north-east Queensland to the Eyre Peninsula in South Australia. In NSW, it mainly occurs on the central and north coasts, with populations on the western side of the Great Dividing Range. Habitat consists of eucalypt woodlands and forests, in which the Koala feeds on more than 70 eucalypt species and 30 non-eucalypt species.

Preferred browse species differ across regions. Koalas are inactive for most of the day and do most of their feeding and moving during the night. Although predominantly arboreal, Koalas would descend and traverse open ground to move between trees. Home range size varies with quality of habitat, ranging from less than 2 ha to several hundred hectares in size. Generally solitary, the Koala has complex social hierarchies based on a dominant male with a territory that overlaps that of several females, with sub-ordinate males on the periphery. Females breed at two years of age and produce one young per year.

Threatening processes for this species include:

- Loss, modification and fragmentation of habitat.
- Predation by feral and domestic dogs.
- Intense fires that scorch or kill the tree canopy.
- Road-kills.
- Human-induced climate change, especially drought.

Potential Impacts from the Activity

The Activity would not result in the removal of any Koala use trees on site.

The Activity may cause minor indirect impacts to Koala from noise, human activity, machine operations during construction. It is not expected that the existing impacts from proposed roundabout, including noise and human activity would be significantly exacerbated by the provision of the proposed subdivision. Additionally, these reduction of speed along this portion of the Bruxner Highway may result in fewer Koalas being subject to vehicle strikes.

The Activity is relatively small scale and indirect impacts would not significantly reduce the ability for dispersal, breeding or genetic exchange in the locality. Adjoining habitat of similar quality within the locality would remain unaffected and would continue to occur extensively in the locality. In a local context, the works are unlikely to result in significant impacts to foraging resources for Koalas.



On this basis, it would be highly unlikely that an adverse effect on the life cycle of the Koala would occur such that a viable local population of the species is likely to be placed at risk of extinction.

b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Not applicable, no TECs occur within the study area.

c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

- **Koala:** – No native trees are to be removed as a result of the Activity, therefore there would be no loss of foraging or refuge habitat for the Koala.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

Vegetation at the site is already fragmented as a result of historic land clearing in the locality. The Activity would not increase this fragmentation or isolate any areas of habitat.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,

- **Threatened Fauna:** –No native trees are to be removed as a result of the Activity, therefore there would be no loss of foraging or refuge habitat for the Koala.

d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

No areas of outstanding biodiversity value have been declared in Richmond Valley LGA, nor would the Activity have such an impact to such areas.

e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

A key threatening process (KTP) is a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species or ecological communities. The current list of KTP under the BC Act, and whether the Proposal is recognised as a KTP is shown in **Table E.1**.

Table G.1 Key Threatening Processes

Key Threatening Process (as per Schedule 4 of the BC Act)	Is the development or activity proposed of a class of development or activity that is recognised as a threatening process?		
	Likely	Possible	Unlikely
Aggressive exclusion of birds by noisy miners (<i>Manorina melanocephala</i>)			✓
Alteration of habitat following subsidence due to longwall mining			✓
Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands			✓
Anthropogenic climate change		✓	
Bushrock removal			✓
Clearing of native vegetation		✓	
Competition and grazing by the feral European Rabbit (<i>Oryctolagus cuniculus</i>)			✓
Competition and habitat degradation by feral goats (<i>Capra hircus</i>)			✓
Competition from feral honeybees (<i>Apis mellifera</i>)			✓
Death or injury to marine species following capture in shark control programs on ocean beaches			✓
Entanglement in or ingestion of anthropogenic debris in marine and estuarine environments			✓
Forest eucalypt dieback associated with over-abundant psyllids and bell miners			✓
Habitat degradation and loss by Feral Horses, <i>Equus caballus</i>			✓
Herbivory and environmental degradation caused by feral deer			✓
High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition			✓
Importation of red imported fire ants (<i>Solenopsis invicta</i>)			✓
Infection by <i>Psittacine circoviral</i> (beak and feather) disease affecting endangered psittacine species and populations			✓
Infection of frogs by amphibian chytrid causing the disease chytridiomycosis			✓
Infection of native plants by <i>Phytophthora cinnamomi</i>			✓
Introduction and Establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae			✓
Introduction of the large earth bumblebee (<i>Bombus terrestris</i>)			✓
Invasion and establishment of exotic vines and scramblers			✓
Invasion and establishment of Scotch Broom (<i>Cytisus scoparius</i>)			✓
Invasion and establishment of the Cane Toad (<i>Bufo marinus</i>)			✓
Invasion, establishment and spread of Lantana (<i>Lantana camara</i>)			✓
Invasion of native plant communities by African Olive (<i>Olea europaea</i> L. subsp. <i>cuspidata</i>)			✓
Invasion of native plant communities by <i>Chrysanthemoides monilifera</i>			✓
Invasion of native plant communities by exotic perennial grasses			✓
Invasion of the Yellow Crazy Ant (<i>Anoplolepis gracilipes</i>) into NSW			✓
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants			✓
Loss of hollow-bearing trees			✓
Loss or degradation (or both) of sites used for hill-topping by butterflies			✓
Predation and hybridisation by feral dogs (<i>Canis lupus familiaris</i>)			✓
Predation by the European Red Fox (<i>Vulpes vulpes</i>)			✓
Predation by the feral cat (<i>Felis catus</i>)			✓
Predation by <i>Gambusia holbrooki</i> (Plague Minnow or Mosquito Fish)			✓
Predation by the Ship Rat (<i>Rattus rattus</i>) on Lord Howe Island			✓
Predation, habitat degradation, competition and disease transmission by feral pigs (<i>Sus scrofa</i>)			✓
Removal of dead wood and dead trees			✓

Anthropogenic climate change: There is evidence that modification of the environment by humans may result in future climate change. Human induced activities as a result of energy use, industrial processes, solvent and other product use, agriculture, land use change and forestry, and waste cause



greenhouse gas emissions (OEH 2014). The incremental extent to which the Activity may contribute to anthropogenic climate change is unlikely to be significant.

Clearing of native vegetation: Clearing is defined under the BC Act as the destruction of a sufficient proportion of one or more strata (layers) within a stand or stands of native vegetation so as to result in the loss, or long-term modification, of the structure, composition and ecological function of stand or stands (OEH 2014). Considering the relatively small area of mixed exotic and native groundcover vegetation requiring removal for the Activity and the minor extent to which the Activity contributes to this threatening process. It is unlikely to significantly affect habitat or negatively affect the long-term survival of the subject species in the locality.

Conclusion

The Activity is unlikely to significantly affect habitat or negatively affect the long-term survival of the subject species in the locality.



EPBC Act Listed Endangered Species

The Koala is listed as Endangered under the EPBC Act. The following assessment has been undertaken following the *Matters of National Environmental Significance, Significant Impact Guidelines* 1.1. Under the Act, populations are:

- a geographically distinct regional population, or collection of local populations, or
- a population, or collection of local populations, that occurs within a particular bioregion.

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will result in one or more of the following:

- **Lead to a long-term decrease in the size of a population.**

The National Recovery Plan for the Koala (DAWE 2022) defines a population as ‘...a set of individuals that live in the same habitat patch and interact with one another, commonly forming a breeding unit within which the exchange of genetic material is more or less unrestricted...’.

For the purpose of this assessment, the Koala population has been defined as the Richmond Valley Koala population meaning all Koalas within the Richmond Valley Local Government Area (LGA).

The EPBC PMST report identified the Koala as ‘known to occur’ in the study area (within a 10km buffer of the site). A search of the BioNet Wildlife Atlas returned a total of 2,391 records of Koala within the Richmond Valley LGA and 52 records of Koala within a 10 km x 10 km grid centred on the site.

No Koala habitat would be removed as part of the Activity. The Activity may cause minor indirect impacts to Koala from noise, human activity, machine operations during construction. It is not expected that the existing impacts from the Bruxner Highway, including noise and human activity would be significantly exacerbated by the provision of the proposed roundabout.

On this basis, the Activity would not lead to a long-term decrease in the size of the local Koala population.

- **Reduce the area of occupancy of the species.**

No clearing of native trees or Koala habitat is required for the Activity. On this basis the Activity I would not reduce the area of occupancy of the species.

- **Fragment an existing population into two or more populations.**

Habitat within the site is already fragmented at a local scale by historic clearing, development, and erosion. Furthermore, the Activity I would not require the removal of any native trees or Koala habitat. No further habitat fragmentation on a landscape scale would occur as a result of the Activity.

On this basis, the Activity would not result in the fragmentation of an existing population into two or more populations.

- **Adversely affect habitat critical to the survival of a species.**

The scope of works for the Activity do not require the clearing of Koala habitat. On the basis the Activity would not adversely affect habitat critical to the survival of the species.

- **Disrupt the breeding cycle of a population.**

The Activity may cause minor indirect impacts to Koala from noise, human activity, machine operations during construction. It is not expected that the existing impacts from the Bruxner Highway,



including noise and human activity would be significantly exacerbated by the provision of the proposed roundabout.

On this basis, it is unlikely the Activity would significantly disrupt the breeding cycle of a population of the Koala.

- **Modify, destroy, remove, or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.**

The scope of works for the Activity would not modify, destroy, or isolate or decrease the availability or quality of habitat to the extent that the Koala is likely to decline.

- **Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the critically endangered or endangered species' habitat.**

No, the Activity would not result in invasive species that are harmful to the species becoming established in the species' habitat.

- **Introduce disease that may cause the species to decline.**

No, the Activity would not result in the introduction of a disease (such as Chlamydia) that are harmful to the species to cause it to decline.

- **Interfere substantially with the recovery of the species.**

No, due to the scope of the works and the level of disturbance, the Activity would not interfere substantially with the recovery of the species.

Conclusion

Overall due to the relatively low extent and magnitude of impacts associated with the Activity and with mitigations put in place where required, it is unlikely that the Activity would result in a significant impact to the Koala.

EPBC Assessment of Significance Reference

Department of Agriculture, Water and the Environment (DAWE) (2022). *National Recovery Plan for the Koala Phascolarctos cinereus (combined populations of Queensland, New South Wales and the Australian Capital Territory)*. Commonwealth of Australia.



Appendix E

AHIMS Search Results

Megan Smith
11 Short Street
East Ballina New South Wales 2478
Attention: Megan Smith
Email: msmith@geolink.net.au

Date: 24 September 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -28.8648, 153.0652 - Lat, Long To : -28.8554, 153.0807, conducted by Megan Smith on 24 September 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 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.