Appendix A

Brief and Construction Diagrams

Resource 4

Environmental assessment procedure for routine and minor works

Minor works REF brief template

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P.0069937 HW16 Bruxner Highway S5470-5480 Tara to Captains Creek

Minor works review of environmental factors brief

March 2022

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Appendices

Appendix A Minor works REF template and guidance note
Appendix B Site location map
Appendix C Concept plan (KMZ File will be provided

1 Introduction

1.1 Purpose

Transport for NSW (TfNSW) requires the services of a professional services contractor (the contractor) to prepare a Minor works review of environmental factors (REF) to fulfil the requirements of Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), and to take into account all matters affecting or likely to affect the environment as a result of the proposal.

1.2 Proposal description

The S5470-5480 Tara to Captains Creek Project is located approximately 47km west of Casino on the Bruxner Highway, measuring from the Bruxner Highway/Summerland Way Roundabout in Casino.

The need to rehabilitate the pavement has stemmed from poor existing pavement conditions and a narrowed sealed width of around 7.0m. Transport's objectives are to rehabilitate the pavement to achieve a 20 year design life, increase the sealed formation from 7m to 9m to achieve a minimum 3.25m Lane width and 1.0m sealed shoulders and increase road user safety by removing roadside hazards and implementing safety barrier.

Hours of Works
Expected:
07:00 – 18:00 Mon-Fri
08:00 – 13:00 Sat
At time the project team may request work to 18:00 on Saturdays (daylight hours). Noise for extended hours of work need to be assessed.

Project Duration
24 weeks (Estimated)

Project Works

The project involves the following activities:

- Compound Establishment/Disestablishment
- Traffic Control Establishment
- Implement Erosion and Sediment Controls
- Pavement Rehabilitation
- Tree Removal (Trees marked in red on KMZ file)
- Pavement Widening
- Culvert Widening – Pipe extension 2.44m each side all culverts
- Proposal of new culvert at CH 50625 as per provided drawings
- Installation of Safety Barriers
- Sealing of pavement
- Line-marking and delineation, not including Audio Tactile Line Marking

The work area will begin 100m prior to S5470 and cease 100m into S5490 as marked up on the project site maps. The width of the work will typically be from drainage line to drainage line, assessment should include fence line to fence line to cover all aspects of the environment in this location.

There are several stockpiles planned for possible use (noting the assessment is likely to include more sites than required to provide options for the delivery team):

- ST50319 Approx 700m West of the end of S5480
- ST50320 Approx 1.5km West of the end of S5490

Multiple compound/parking areas have been proposed, all project mapping can be found in appendix B. All found via desktop review, if more suitable locations are found within site inspection please put forward the recommendation.

1.3 Background

Background information relevant to the proposal that would assist in your response to this brief includes the following:

The Tara to Captains Creek Project is a 2.59km section of road on the Bruxner Highway constructed back in the 1960s. Another route, The Clarence Way meets the Bruxner Highway from the south at S5470 and continues North in the middle of S5450, the Clarence Way runs from Woodenbong (Just south of Qld Border) South to Koolkhan (Just North of Grafton).

There are waterways evident in the google earth airview, based on the desktop review some culvert extensions seem to be free of waterways and others aren't. Please review the extents of the waterways as consideration must be made in preventing any impact from construction works.

Preliminary searches have not been conducted at the time of the brief submission. These will be completed in the near future to form part of the Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) which will be incorporated into the MWREF.

1.4 Project information

The following project information is appended to this brief to assist in your response:

- TfNSW Minor Works REF template (Resource 5) (Appendix A).
- Site location map (Appendix B).
- Concept design (Appendix C).
- Design KMZ File (Provided separately)
- Stockpiles and Compound Locations

The successful tenderer will have access to the following additional information to assist with the preparation of the Minor Works REF:

- TfNSW Environmental assessment procedure for routine and minor works.
- Noise estimating tool
- Documentation from TfNSW Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) Stage 1 Including an AHIMS search.
- Other internal documents and procedures can be provided if requested

List the relevant TfNSW specifications that will apply to the proposal to assist the contractor in developing mitigation measures without repetition.]

2 Scope and methodology

2.1 General

The Minor Works REF should be prepared in accordance with the Minor Works REF Template (Resource 5)(Appendix A).

Prior to commencing the Minor Works REF it is expected that the contractor will undertake and document the following tasks:

- Accompany the TfNSW project manager and TfNSW Senior Environment and Sustainability Officer on a site visit to discuss the proposal and establish clear lines of communication. The site visit must be attended by the person(s) managing and writing the Minor Works REF
- Risk assessments need to take place before going onsite, traffic management must be considered as part of the assessment. If required the successful contractor should consult with Transport to engage traffic control.
- Review existing information to determine potential environmental constraints, including literature reviews and database search results, feedback from community consultation if available, concept designs, construction footprint, construction methodology, etc
- Prepare and submit methodologies for the Minor Works REF and any specialist studies for TfNSW approval. Any changes to the agreed methodology and scope of work for the Minor Works REF and specialist studies must be approved in writing by the TfNSW representative before they are commenced
- Prepare and submit a schedule (program) for the Minor Works REF to be prepared in consultation with the TfNSW project team for TfNSW approval.

Submission of each version of the Minor Works REF must be accompanied by evidence of how comments received on the previous draft/s have been addressed. Further preparation of the Minor Works REF must not proceed until TfNSW has approved the responses to comments and any doubts or differences of opinion have been resolved.

All GIS (geographical information systems) data collected as part of the work described in this brief must be provided to TfNSW as part of the contract.

2.2 Specialist studies

In addition to the above it is expected that the following investigations would be required:

- Noise (assessment of any sensitive receivers against TfNSW guidelines). TfNSW internal Noise Specialists to confirm if an operational noise assessment is required under the legacy Roads and Maritime Noise Criteria Guideline and Noise Mitigation Guideline

- Biodiversity assessment MWREF Chapter - – the contractor will ensure that the biodiversity survey and assessment is undertaken by an appropriately qualified, licensed and experienced ecologist. The contractor will ensure that section 3.7 of the Minor Works REF (Biodiversity) addresses the potential occurrence / likelihood of occurrence assessments and relevant 5 part assessments of significance, based in both database searches and site surveys. These will be included as Appendices to the Minor Works REF. The contractor will advise TfNSW at the earliest opportunity if a species specific Management Plan is required or if the design needs to consider threatened species (ie: Micorbats, koalas) and if a significant impact on listed biodiversity is likely to be triggered.

For impacts on trees the field assessment is to include the Plant Community Type to be impacted, the number of individual trees to be impacted and the size class for each tree and a summary table eg: (Total Number of large trees (DBH > 60cm); total number of medium trees

- (15cm < DBH < 60cm; total number of small trees (<15cm DBH). Number of hollows to be removed including those in limbs to be trimmed where the entire tree is not removed and approximate size of hollows to be impacted / target fauna species

A Biodiversity Assessment Report is not required as the successful contractor is required to cover this thoroughly within the MWREF document.

Any report that does not adhere to the Environmental assessment procedure for routine and minor works (EIA-P05-1), including the requirements for adequate quality, will not be accepted as an output by TfNSW.

3 Report presentation, review and quality

3.1 Report presentation

The standard for all reports prepared by the contractor must meet the following as a minimum:

- The draft and final copies of reports must be professionally edited and vetted for typographical and grammatical errors before submission to TfNSW.
- The reports must follow the Roads and Maritime Editorial style guide (March 2014)
- Spelling must be consistent with the Australian Macquarie Dictionary
- All reports should be written in clear and concise plain English
- All reports are to be prepared to meet the Web Content Accessibility Guidelines (WCAG) 2.0, Level AA
- Jargon, acronyms and technical words should be clearly explained at the first point of reference in the reports. Acronyms that are not generally common knowledge should be avoided throughout the report and written in full
- Figures, tables and graphs should be used to convey information where possible rather than lengthy text descriptions. Titles, scales and legends (including north points) should be included as appropriate
- Any maps included must be based on topographical information rather than cadastral information. If published maps are reproduced their source must be acknowledged and referenced. Maps and diagrams should include appropriate legends, scale and bearing.
- Photos of the study area should be provided in the appendix of the report. Photos are to be in jpeg format
- Any appendices, annexures and attached data files must be clearly labelled and readily referenced into the body of the reports
- Draft copies of reports are to be clearly watermarked ‘draft’
- The report cover and all documents in general must be produced in accordance with the TfNSW visual identity manual. All documents should be of a standard suitable for public availability. The contractor must liaise with a member of the TfNSW graphics panel for the preparation of materials for public availability. No ‘branding’ of the report with the preferred contractor’s logo or name should occur.

3.2 Review and quality

Allow for two reviews of each report/working paper, including an acceptable first draft and final draft version.

Evidence must be provided that comments provided by TfNSW during the review of previous version/s of reports have been addressed by the contractor. Where TfNSW comments provided in draft versions have not been accepted the consultant must discuss with the TfNSW representative prior to finalising the report.

Dependent on the quality of the reports submitted for review a number of TfNSW reviews may be required. Reports must not be finalised until written approval from the TfNSW representative is received.

TfNSW expects a high standard of quality for Minor Works REFs and associated documents. The completeness of the environmental impact assessment and the reputation of TfNSW rely upon the quality of the Minor works REF produced. A high quality Minor works REF has the following characteristics:

- Follows basic EIA principles
- Is technically accurate
- Is comprehensive
- Is easy to read and written in plain English

- Language and technical information is consistent throughout the document
- Is right first time – with no need for re-work.

TfNSW will decide whether to accept the Minor Works REF as meeting the deliverable under the contract. Minor Works REFs will not be accepted as a first and final draft until an adequate standard of quality is achieved. Guidance on this decision is provided in the table below.

Deliverable	Standard required to be adequate
Adequate final draft	• A document free of technical weaknesses and/or omissions • A document written in plain English and in accordance with the current TfNSW Editorial Style Guide • No further value-adding review required prior to submission for sign-off
Adequate draft	• A document that may have minor technical weaknesses and/or omissions • A document largely written in plain English and in accordance with the current TfNSW Editorial Style Guide • Comments may require additional work and further review prior to submission for sign-off
Document that cannot be accepted as adequate	• A document requiring substantial work to address technical weaknesses and/or omissions. The document may require considerable additional effort to provide a complete and accurate description and assessment of the proposal to meet environmental assessment requirements under Division 5.1 of the EP&A Act. In some cases the comments required may be too extensive to justify the time input required to thoroughly review

4 Project supervision, schedule, outputs and fees

4.1 Project supervision

Contact details for the TfNSW representative for the project are as follows:

Ross Gersekowski – Project Manager
E: *Ross.GERSEKOWSKI@transport.nsw.gov.au*
M: 0403 098 102

Any questions relating to this brief should be directed to the TfNSW representative.

4.2 Project schedule

Preparation of the Minor Works REF commences upon issue of a letter of acceptance. The timeframes for preparation and finalisation of the Minor Works REF are as follows:

Activity/output	By when
Response to the brief	1/4/22
Attendance at inception meeting / site visit	By: 8/4/22
Submit methodologies and scope for the Minor Works REF for TfNSW review and approval	15/4/22
Initiate ISEPP and other statutory consultation	IF REQUIRED
Submit draft Minor Works REF for TfNSW review	6/5/22
Finalise Minor Works REF	27/5/22

The project schedule allows two weeks for the TfNSW to return comments on draft reports.

4.3 Project outputs

All reports submitted to TfNSW must adhere to the Minor Works REF template (Resource 5). Any report that does not adhere to this procedure, including the requirements for adequate quality, will not be accepted as an output by TfNSW.

Time delays as a result of any inadequate reports submitted to TfNSW will be the responsibility of the contractor. TfNSW will not accept time and/or cost variations due to inadequate deliverables submitted by the contractor. TfNSW may, at its discretion, return any documentation without undertaking the required review if the document is deemed to be of poor quality or is not completed to the required standard. In this instance, TfNSW will not accept time and or cost variations.

Requirements for report production are:

- The electronic copies for all reports are to be provided in both MS Word format (compatible with Word 2007) and Adobe pdf format
- All final reports are to be prepared to meet the Web Content Accessibility Guidelines (WCAG) 2.0, Level AA

- Production of any hard copy report required by the professional services contract is to involve a low environmental impact. Reports are to be produced using the following guidance:
  - Use low impact report paper
  - Gloss-coated paper and lamination must not be used
  - Printing and photocopying is to be double sided
  - Employ binding methods that facilitate recycling
  - Use plant-based inks where cost and performance competitive.

4.4 Project fees and payment

Payment will be made by the method described below. No additional work outside the agreed cost estimate is to be undertaken without prior written approval of the TfNSW representative as identified in Section 4.1 above.

The Consultant is to provide a fee structure that entails a cost breakdown to including milestones for both the draft report and final reports and progress payments are to align with this. Submit these progress payment invoices to the TfNSW Representative for processing.

5 Response to brief

A concise response to this brief must be submitted to the TfNSW representative identified above in Section 4.1 no later than close of business 25/3/22

Responses to this brief will be evaluated against the following assessment criteria:

Criteria	Address
a) Understanding of the brief	• Detail your understanding of the brief and the required outputs • The scope of the work proposed must be clearly restated in the words of the tenderer • Any restatement must address the issues and requirements outlined in these documents • Provide proposed methodologies for any specialist studies.
b) Technical skills	• The company's technical skills • The technical skills of any sub-consultant companies (separate to the above) • The nominated project team (including sub-consultants). Provide CVs and the proposed role and time that each nominated person will spend on each deliverable/task for the project • Include a primary REF writer and a senior staff member who will be responsible for certifying the quality of all deliverables • Outline supervisory arrangements in place for effective management of all sub-consultants.
c) Recent experience	• Provide recent relevant experience for the company • Provide recent relevant experience for any sub-consultancy companies (separate to the above) • Identify the experience of all proposed personnel (including sub-consultants) including an outline of their roles and responsibilities for the experience listed • Dates must be indicated for all experience.
d) Estimated costs and value for money	• A fixed price cost is required for the works • A budget breakdown is to be included identifying each work element showing total hours, hourly rates, lump sum and disbursements, for the tenderer and any sub-consultants • Address the requirements of the brief.
e) Robustness of estimated costs	• That the estimated costs are adequate and realistic to achieve the purpose of the brief.
f) Time performance	• Include a detailed program of works and due dates.
g) Quality assurance process	• Include internal quality assurance processes including details of completion and certification by senior environment staff.
h) Additional information	• Include any other additional information that may be relevant in the selection of the successful tenderer.

The tenderer must submit a conforming tender, but may submit an alternate tender in addition to the conforming tender. An alternate tender may be submitted where the tenderer proposes a

variation from the requirements of these briefing documents. Scope changes and reasons for the variation must be clearly identified in the alternative tender.

6 Additional information

6.1 Right of Access

It is a requirement of TfNSW that the TfNSW representative and TfNSW quality manager must always have right of access to the contractor's premises where activities on the project are taking place.

If you require any further information, please contact the TfNSW representative.

6.2 Work, health and safety

The contractor must incorporate work, health and safety in all aspects of the project. Safety of field workers in the vicinity of roads, heavy vehicle and general traffic is paramount. All personnel involved in the field work must read and sign a Safe Work Method Statement (SWMS) prepared by the contractor prior to the commencement of any field work. A signed copy of the SWMS is to be provided to the TfNSW prior to accessing the site. The wearing of a high visibility safety vest is mandatory during the field surveys.

Prior notification to landowners will be required before undertaking any field inspections and surveys within privately owned land. The TfNSW representative should be contacted at least ten (10) working days before field inspections and surveys are to commence so the necessary arrangements can be made.

6.3 Permits

For the purpose of this brief, "permit" includes any statutory consent, approval, authorisation, or landowner's permission.

The contractor shall ensure that all necessary permits have been obtained for undertaking the investigations and that all work is carried out in accordance with these permits. Copies of the relevant permits should be supplied with the response to this brief or, where this is not feasible, provided to the TfNSW representative prior to commencement of field surveys. A person not covered by these permits may not participate in surveys under this contract in a manner that contravenes the conditions of any permit. Delays and difficulties relating to obtaining permits must be brought to the attention of the TfNSW representative.

6.4 Privacy

The contractor is required to manage the receipt and storage of project information in accordance with TfNSW policies and procedures for data privacy.

Appendix A

Minor Works REF template

Please see template attached to the email

Appendix B

Site location map

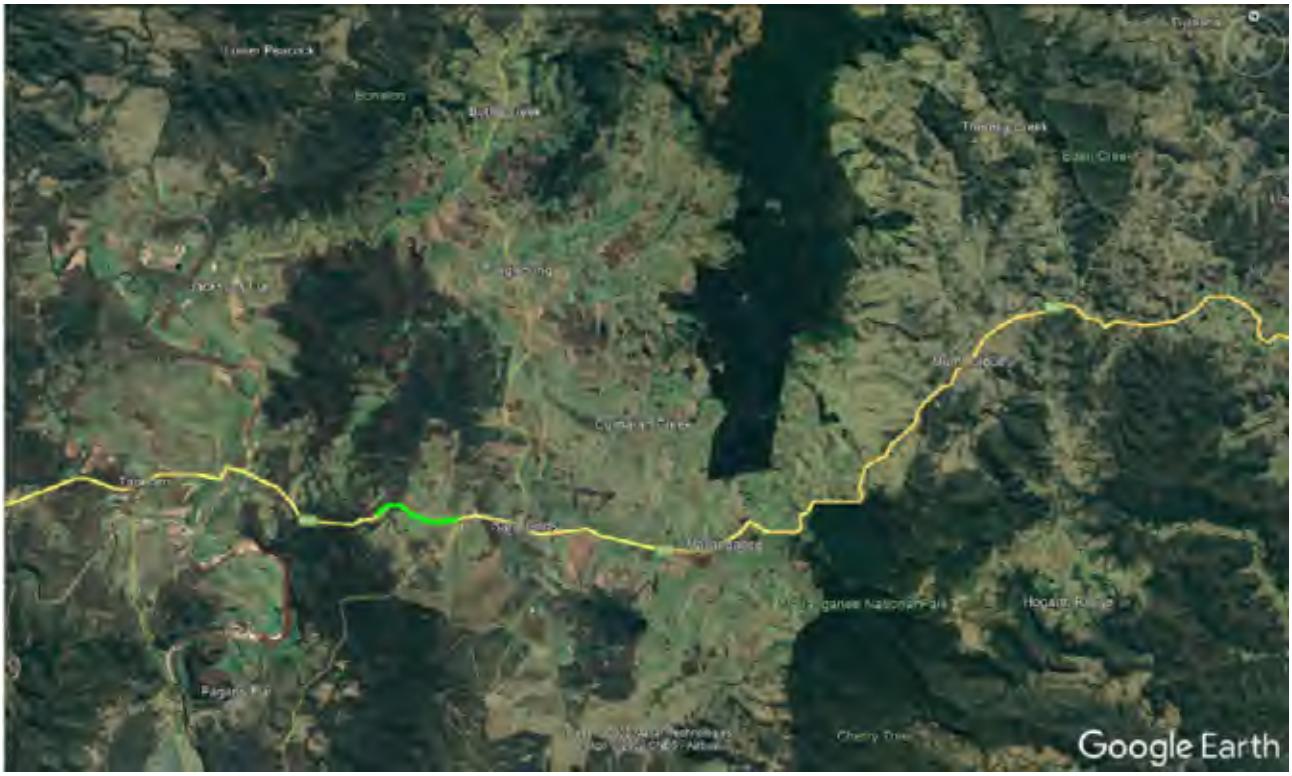


Figure 1: Project location in relation to Mallanganee

Figure 2: Project overview including Stockpile Sites (ST50319 and 50320)

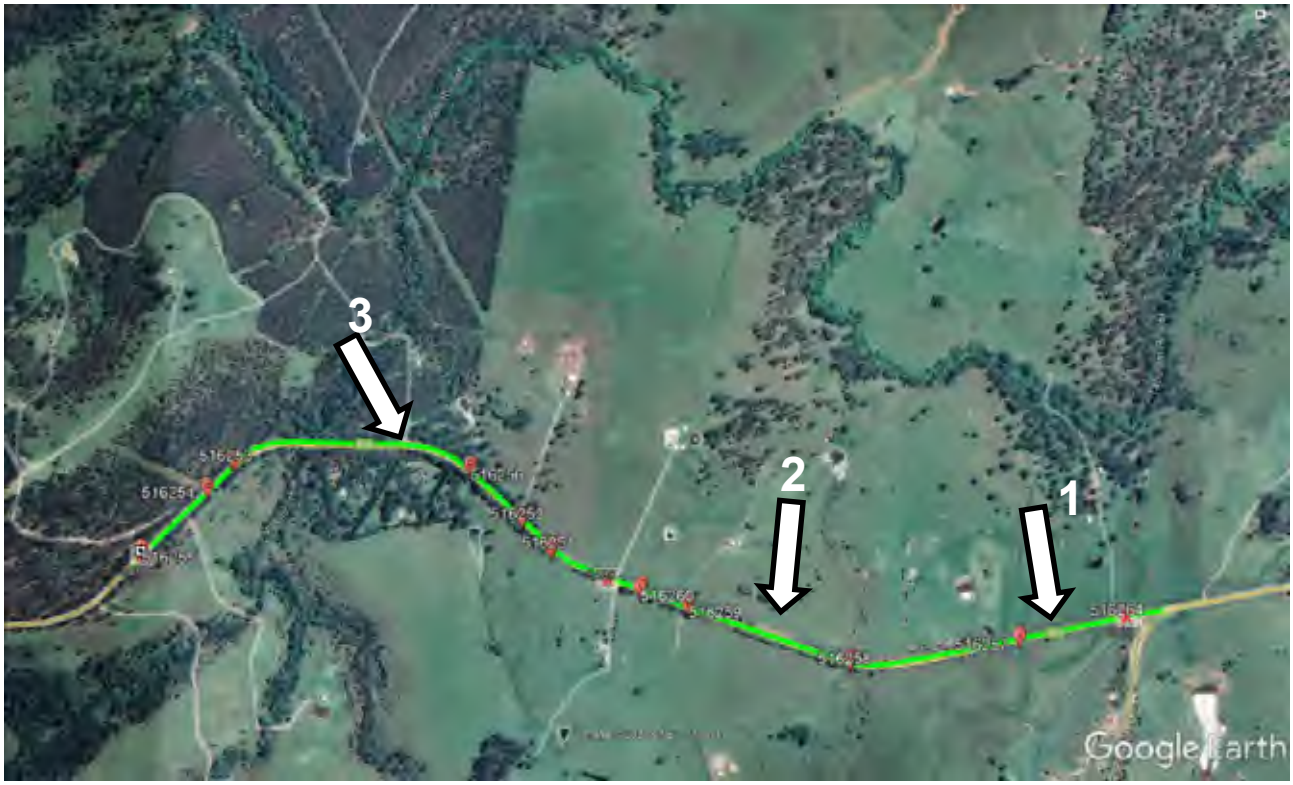


Figure 3: Project close up including culvert locations and potential compound and parking locations.

Figure 4: Proposed compound parking site 1 wide flat road reserve

Figure 5: Proposed compound/parking site 2 possibly even stockpile site

Figure 6: Proposed compound parking site 3

A number of other locations have been recorded below for potential parking and compound usage.

Rd 0000016 P dir'n Bruxner Highway, Sandilands Lk 0360 Cway A1 Hdg W 01 Nov 2019
1.342 km from Bruxner Hwy, Clarence Way (Mr160), Tabulam
5.678 km to Hill St, Lawrence St, Tabulam
Copyright RMS 2019

Rd 0000016 C dir'n Bruxner Highway, Sandilands Lk 0360 Cway A1 Hdg SE 29 Oct 2019
5.840 km from Hill St, Lawrence St, Tabulam
1.186 km to Bruxner Hwy, Clarence Way (Mr160), Tabulam
Copyright RMS 2019

Rd 0000016 C dir'n Brunner Highway, Sandilands Lk 0360 Cway A1 Hdg NE 29 Oct 2019
4.899 km from Hill St, Laurence St, Tabulam
2.625 km to Brunner Hwy, Clarence Way (Mr150), Tabulam Copyright RMS 2019

Appendix C

Concept plan

Please see attached plan and KMZ files to the email

NSW
GOVERNMENT
Transport
for NSW

GDA 2020

KYOGLE COUNCIL

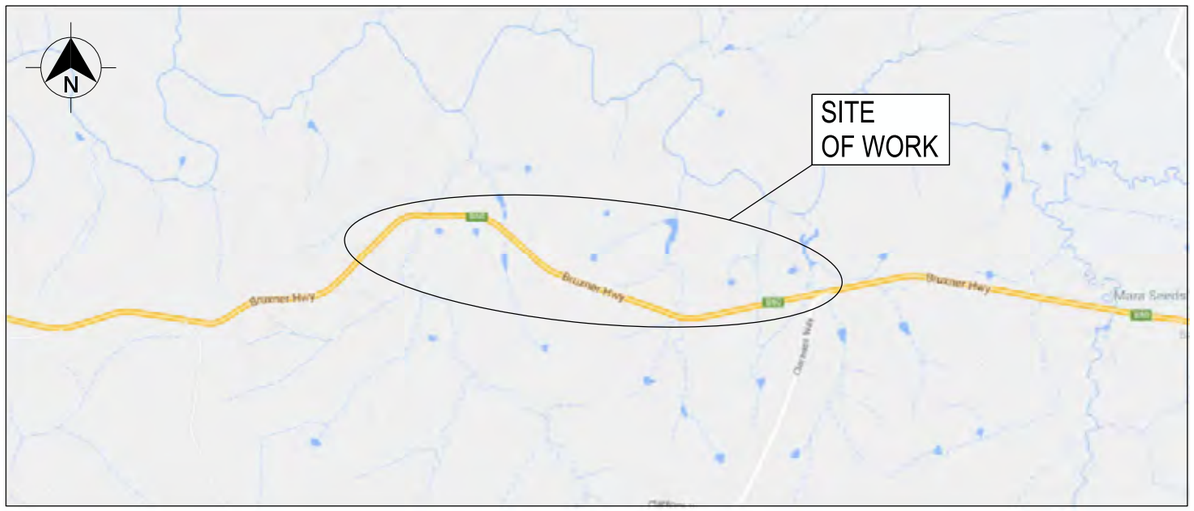
HW16 - BRUXNER HIGHWAY

N2021081 HW16 TARA AND CAPTAINS CREEK SEGMENT 5470 TO 5480

PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
48.075KM TO 50.729KM WEST OF CASINO

ROAD DESIGN

CONCEPT DESIGN - PART 1



LOCALITY PLAN

Map data ©2022 Google

PART INDEX

PART NUMBER	CODE	NAME
PART 1	GE	GENERAL
	RD	ROAD ALIGNMENT AND DETAIL
	UT	UTILITIES
	SM	STORMWATER MANAGEMENT
	PV	PAVEMENT
	RF	ROADSIDE FURNITURE AND LINEMARKING
	LS	LANDSCAPING
PART 2	RC	ROAD CROSS SECTIONS
PART 3	PW	PROPERTY WORKS

EXAMPLE

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PLOT BY rowlesm

PREPARED BY
TRANSPORT FOR NSW
TECHNICAL SERVICES
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

DESIGNED
SIGNED .....
NAME MITCHELL ROWLES
TITLE LEAD ROAD DESIGNER
DATE .....

REVIEWED AND VERIFIED
SIGNED .....
NAME DAVID JOHNSON
TITLE LEAD DESIGN MANAGER
DATE .....

TFNSW PROJECT MANAGER
NAME ROSS GERSEKOWSKI
TITLE PROJECT MANAGER

VALIDATION AND ACCEPTANCE OF THESE DRAWINGS AND THE DESIGN SHOWN THEREON IS TO BE CARRIED OUT UNDER SEPARATE PROCESS

CLIENT
NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
REGIONAL MAINTENANCE DELIVERY
REGIONAL MAINTENANCE NORTHERN

KYOGLE COUNCIL
HW16 - BRUXNER HIGHWAY
TARA AND CAPTAINS CREEK SEGMENT 5470 TO 5480
PAVEMENT REHABILITATION AND WIDENING

A3

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DESIGN PROJECT No. N2021081
RMS REGISTRATION No. DS2022 / 000064
PART 1
ISSUE STATUS CONCEPT DESIGN
EDMS No. qA6248429
SHEET No. GE-0001
ISSUE A

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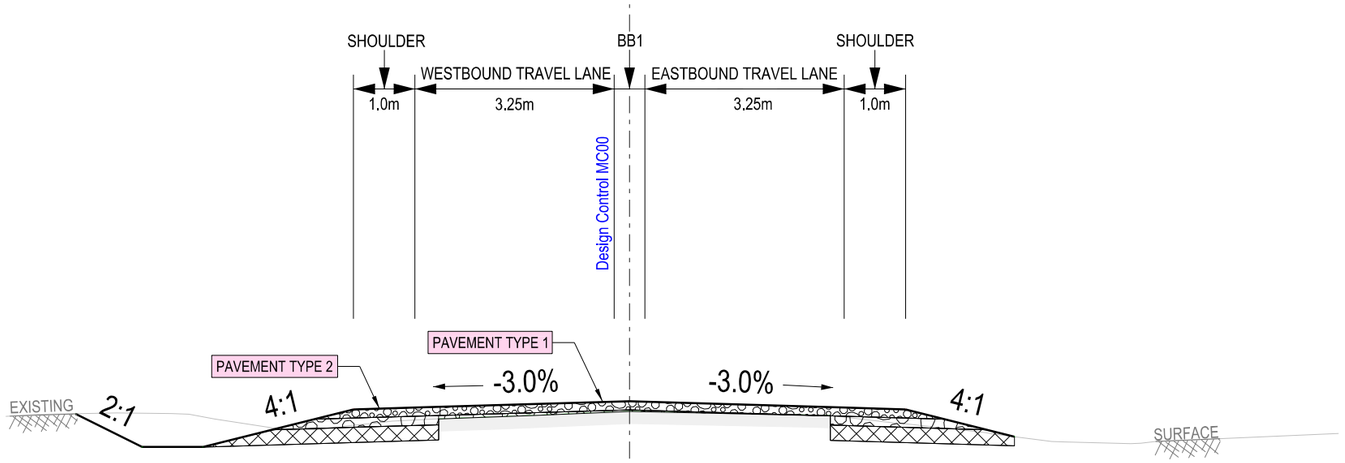

SECTION 1

TYPICAL CROSS SECTION
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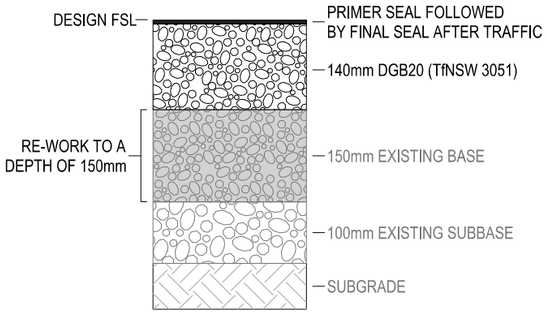

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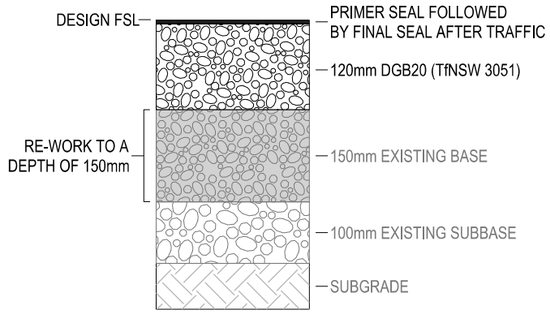

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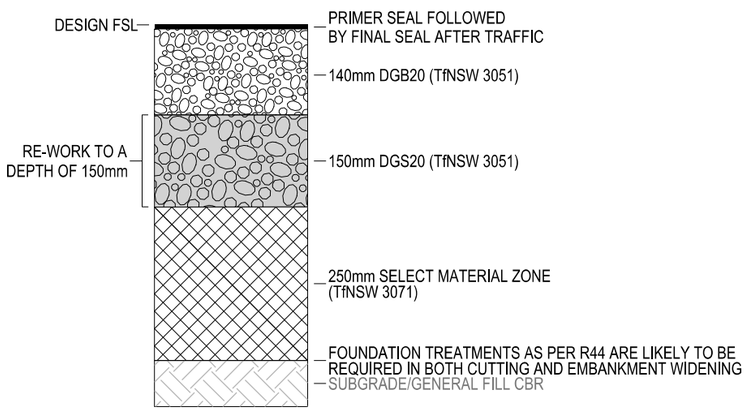

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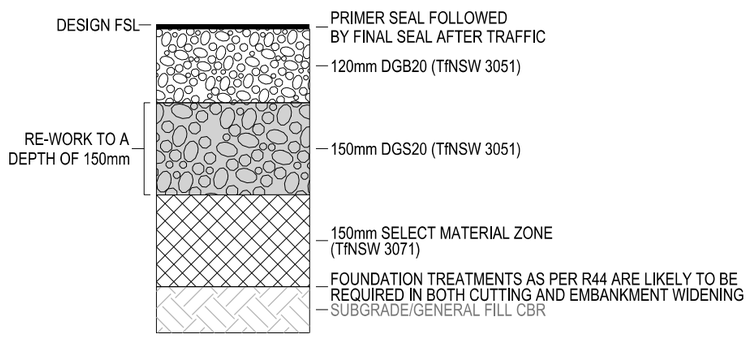

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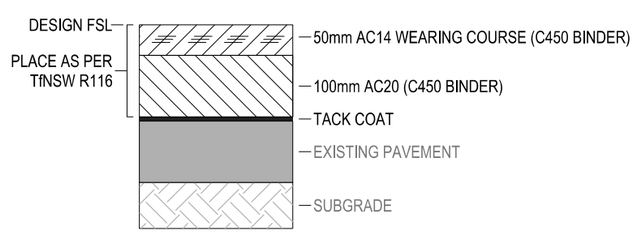
ASPHALT PLUG



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HEIGHT DATUM: AHD

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REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

TITLE	NAME	DATE
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DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
TYPICAL CROSS SECTIONS
TYPICAL SECTION - PART 1

A3

RMS REGISTRATION No. DS2022/000064
PART 1

ISSUE STATUS: CONCEPT DESIGN
EDMS No. qA6248429
SHEET No. RD-0001
ISSUE A

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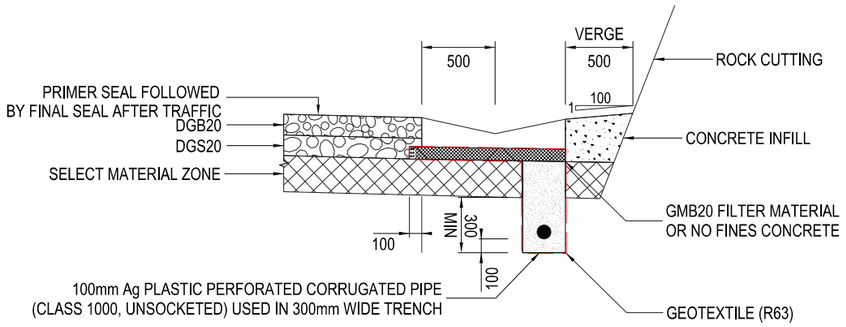

DETAIL A
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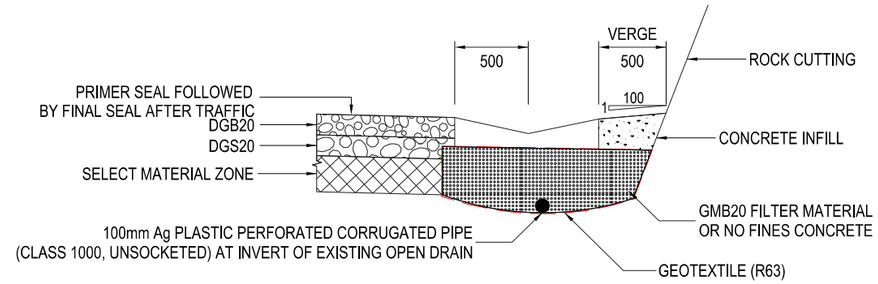
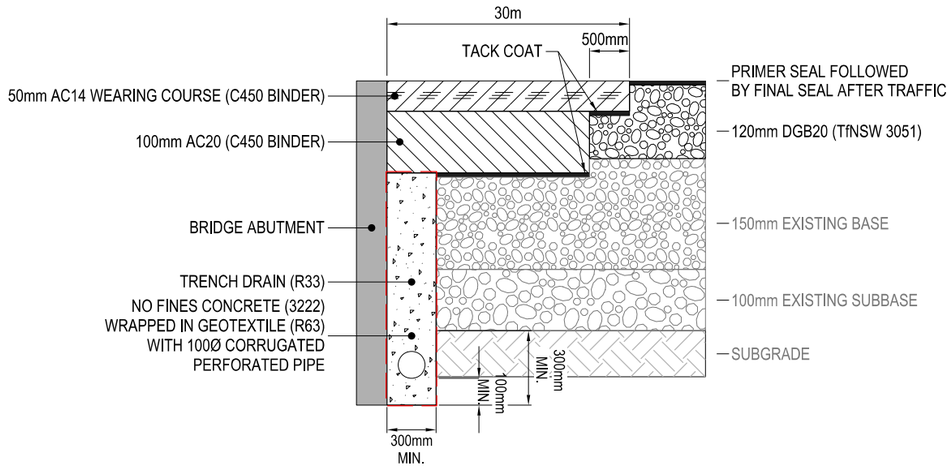
FLEXIBLE PAVEMENT - KERB WITH TRENCH DRAIN



DETAIL B
EDGE DETAIL
FLEXIBLE PAVEMENT - KERB WITH MODIFIED TRENCH DRAIN



DETAIL C
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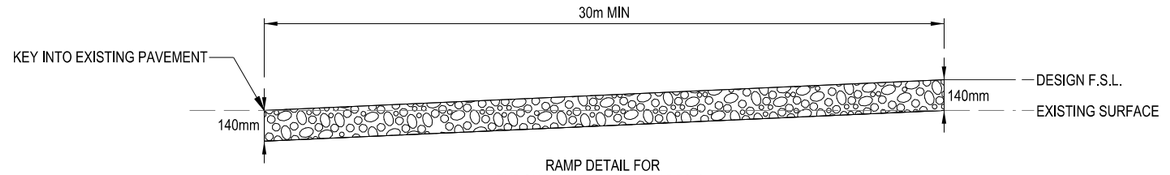
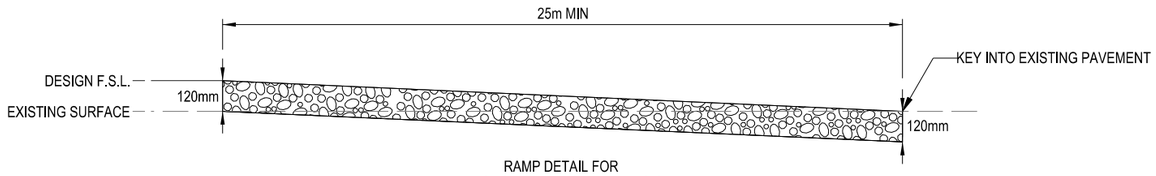


RAMP DETAIL FOR
THROUGH CARRIAGE-WAY DESIGN
MC00
EASTERN TIE-IN
(NOT TO SCALE)



RAMP DETAIL FOR
THROUGH CARRIAGE-WAY DESIGN
MC00
WESTERN TIE- IN
(NOT TO SCALE)

NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn
DESIGN LOT CODE: N2021081
DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt
PLOT DATE / TIME: 15/02/2022 3:28:58 PM
PLOT BY: rowlesm
CLIENT: NSW GOVERNMENT Transport for NSW
A3

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XXXXXXer.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: NOT TO SCALE
CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD
DRAWINGS / DESIGN PREPARED BY: REGIONAL TECHNICAL SERVICES; NORTHERN REGIONAL TECHNICAL SERVICES; ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

PREPARED FOR: REGIONAL MAINTENANCE; PROJECT MANAGEMENT NORTHERN; REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
TYPICAL CROSS SECTIONS
TYPICAL SECTION - PART 2

RMS REGISTRATION No.: DS2022/000064
PART: 1
ISSUE STATUS: CONCEPT DESIGN
EDMS No.: qA6248429
SHEET No.: RD-0002
ISSUE: A

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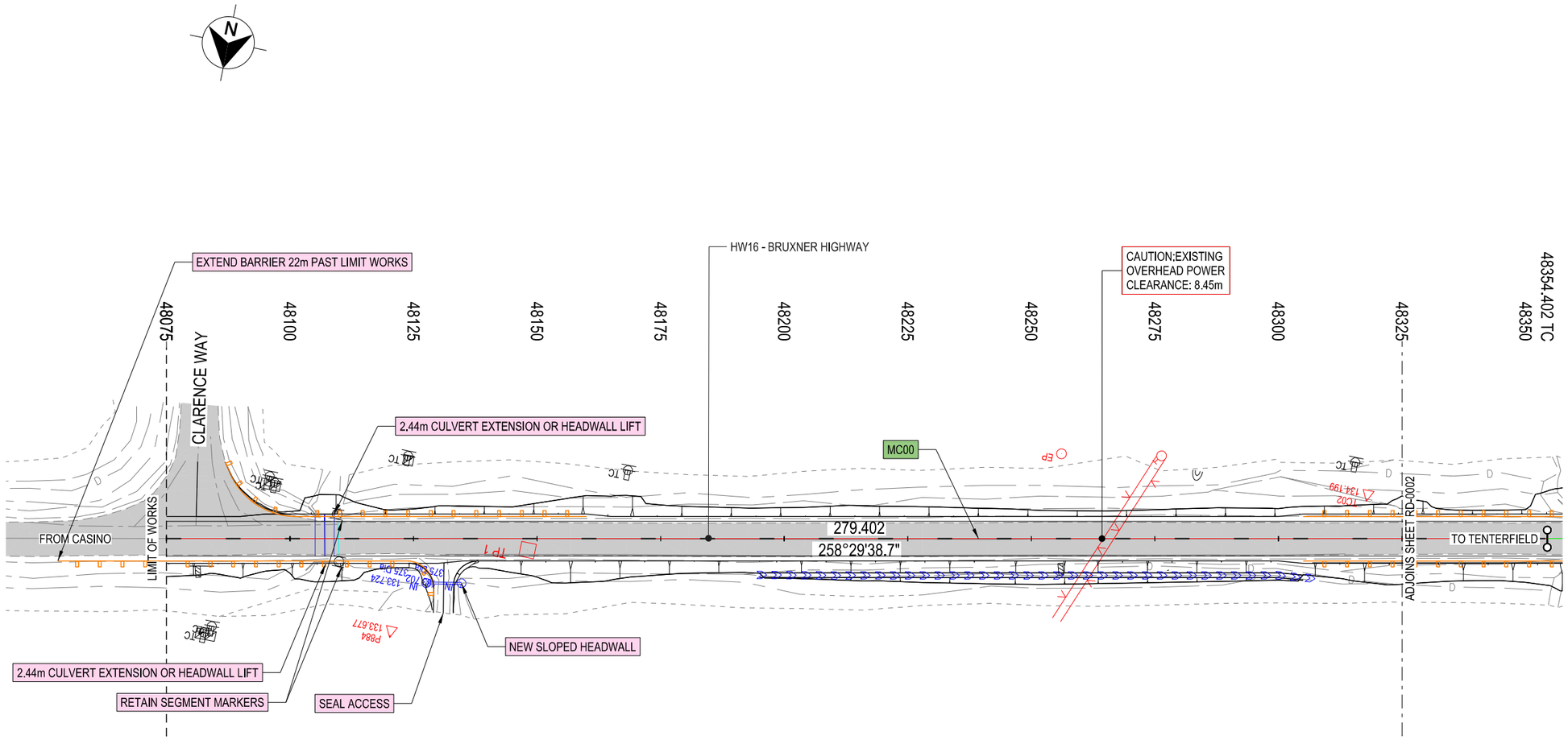

LEGEND

- MC?? — DESIGN CONTROL CALLOUT
- XXXX — CONSTRUCTION CALLOUT
- XXXX — UTILITY CALLOUT
- EXISTING PAVEMENT
- EXISTING PROPERTY FENCELINE
- TREE TO BE RETAINED
- TREE TO BE REMOVED
- Ø450 — DRAINAGE PIPE
- DRAINAGE HEADWALL
- UNLINED CATCH DRAIN - GRASS
- UNLINED CATCH DRAIN - ROCK
- 1-1/1 — UNLINED CATCH DRAIN - GRASS
- ø450 — EXISTING DRAINAGE PIPE
- TEST PIT

GDA 2020

NOTES

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7. REFER TO MODEL DRAWING R0300-01 FOR KERB PROFILES.
8. REFER TO SHEETS RF-0001 AND RF-0008 FOR ROADSIDE FURNITURE, LINEMARKING & SAFETY BARRIER SETOUT DETAILS.

NOT FOR CONSTRUCTION

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50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME	DESIGN LOT CODE	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING
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EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
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SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) — HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: REGIONAL TECHNICAL SERVICES NORTHERN REGIONAL TECHNICAL SERVICES ROAD DESIGN NORTHERN

PLOT DATE / TIME: $DATE$ $TIME$ — PLOT BY: $USER$

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480 DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.48075 TO CH.48325

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6248429	RD-0001	A

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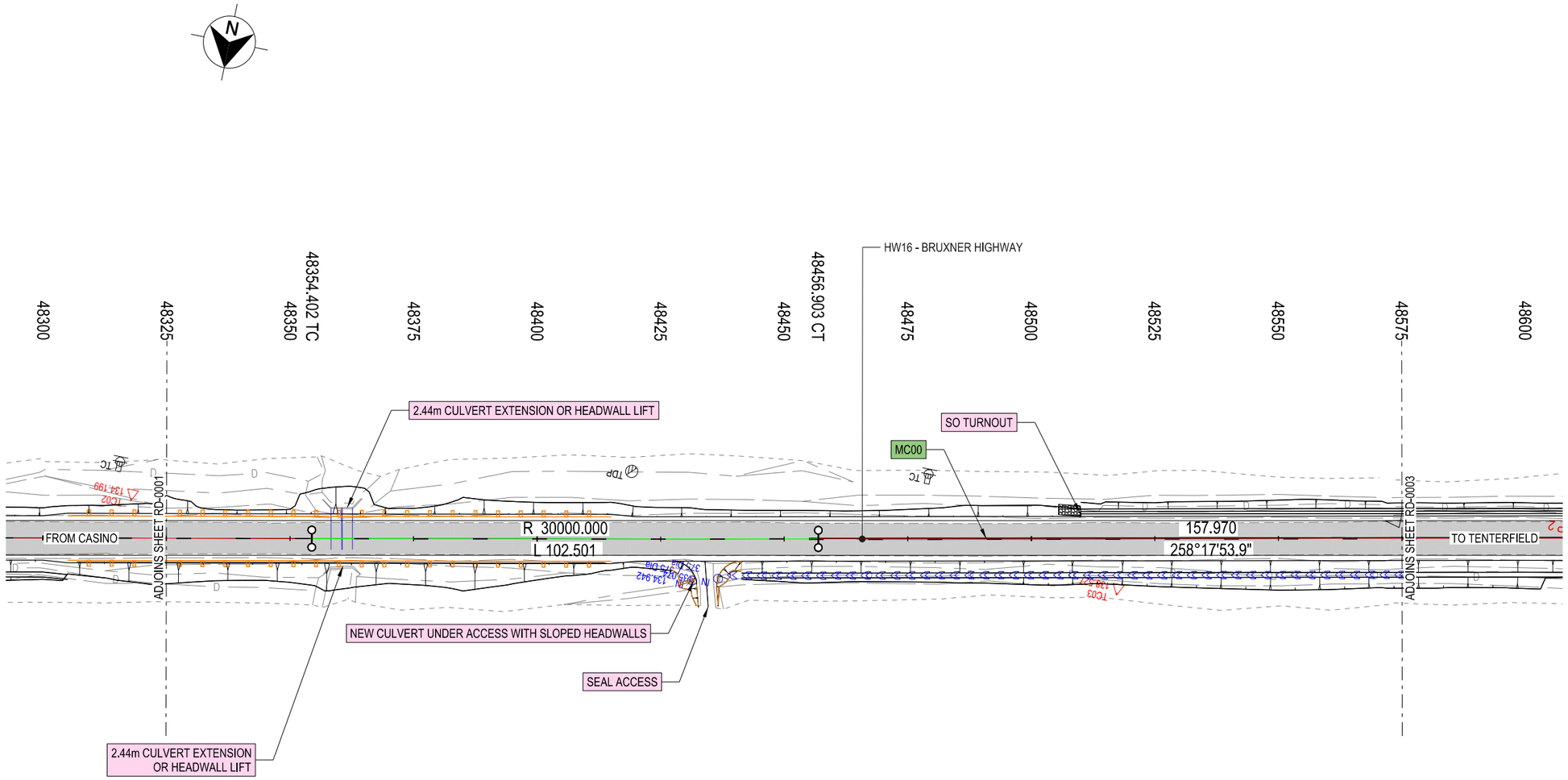

LEGEND

- MC?? — DESIGN CONTROL CALLOUT
- XXXX — CONSTRUCTION CALLOUT
- XXXX — UTILITY CALLOUT
- EXISTING PAVEMENT
- EXISTING PROPERTY FENCELINE
- TREE TO BE RETAINED
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- Ø450 — DRAINAGE PIPE
- DRAINAGE HEADWALL
- UNLINED CATCH DRAIN - GRASS
- UNLINED CATCH DRAIN - ROCK
- 1-1/1 — UNLINED CATCH DRAIN - GRASS
- Ø450 — EXISTING DRAINAGE PIPE
- TEST PIT

GDA 2020

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NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
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DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
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SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

PLOT DATE / TIME		PLOT BY
$DATE$	$TIME$	$USER$

	NAME	DATE
TITLE		
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480
DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.48325 TO CH.48575

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No. qA6248429 | SHEET No. RD-0002 | ISSUE A

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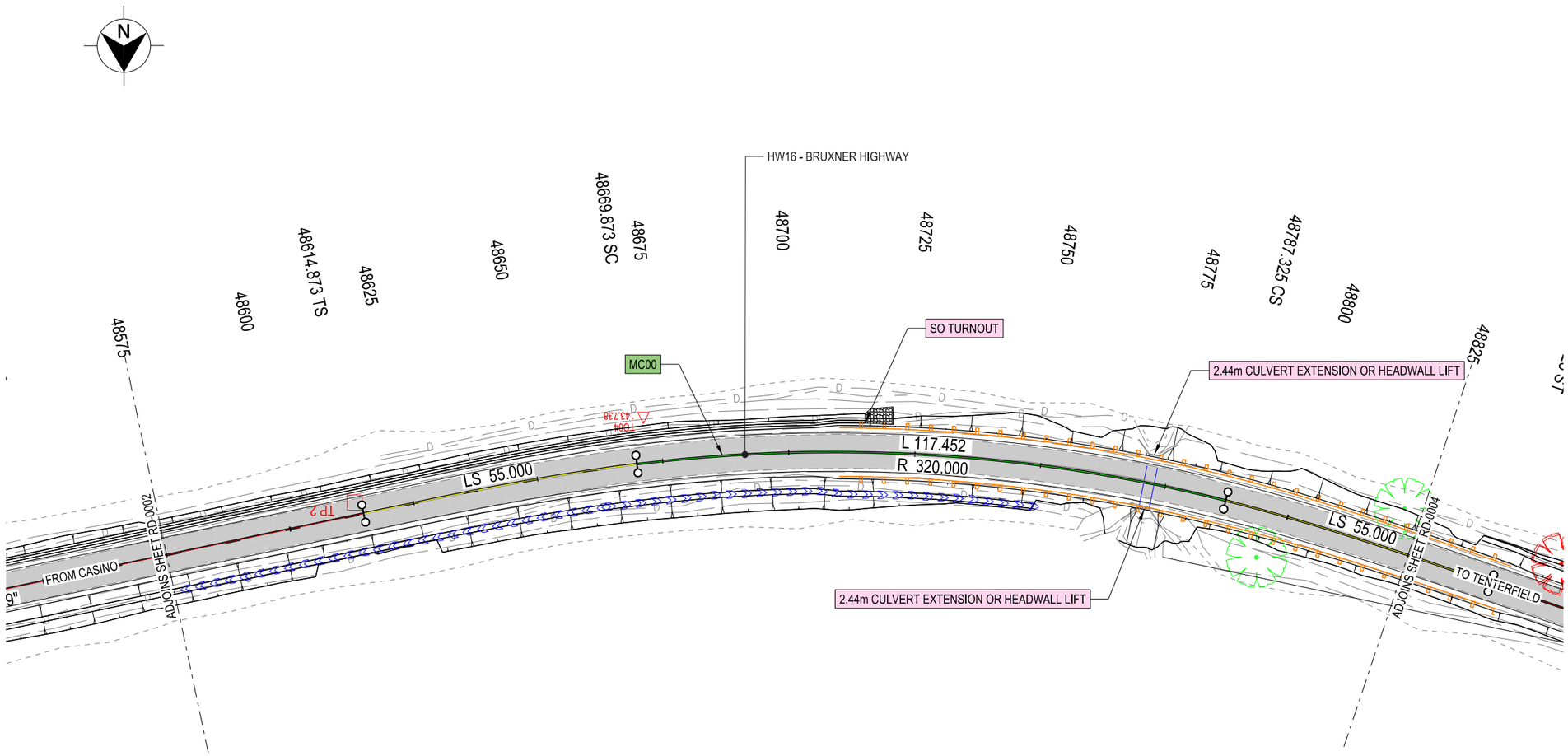

LEGEND

- MC?? — DESIGN CONTROL CALLOUT
- XXXX — CONSTRUCTION CALLOUT
- XXXX — UTILITY CALLOUT
- EXISTING PAVEMENT
- EXISTING PROPERTY FENCELINE
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GDA 2020

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NOT FOR CONSTRUCTION

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DESIGN LOT CODE: N2021081

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SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: REGIONAL TECHNICAL SERVICES; NORTHERN REGIONAL TECHNICAL SERVICES; ROAD DESIGN NORTHERN

	TITLE	NAME	DATE
DRAWN		M. ROWLES	XX.XX.XX
DRG CHECK		D. JOHNSON	XX.XX.XX
DESIGN		M. ROWLES	XX.XX.XX
DESIGN CHECK		D. JOHNSON	XX.XX.XX
DESIGN MNGR		D. JOHNSON	XX.XX.XX
PROJECT MNGR		R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE; PROJECT MANAGEMENT NORTHERN; REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.48575 TO CH.48825

A3

RMS REGISTRATION No.: DS2022/000064 PART 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No.: qA6248429 | SHEET No.: RD-0003 | ISSUE: A

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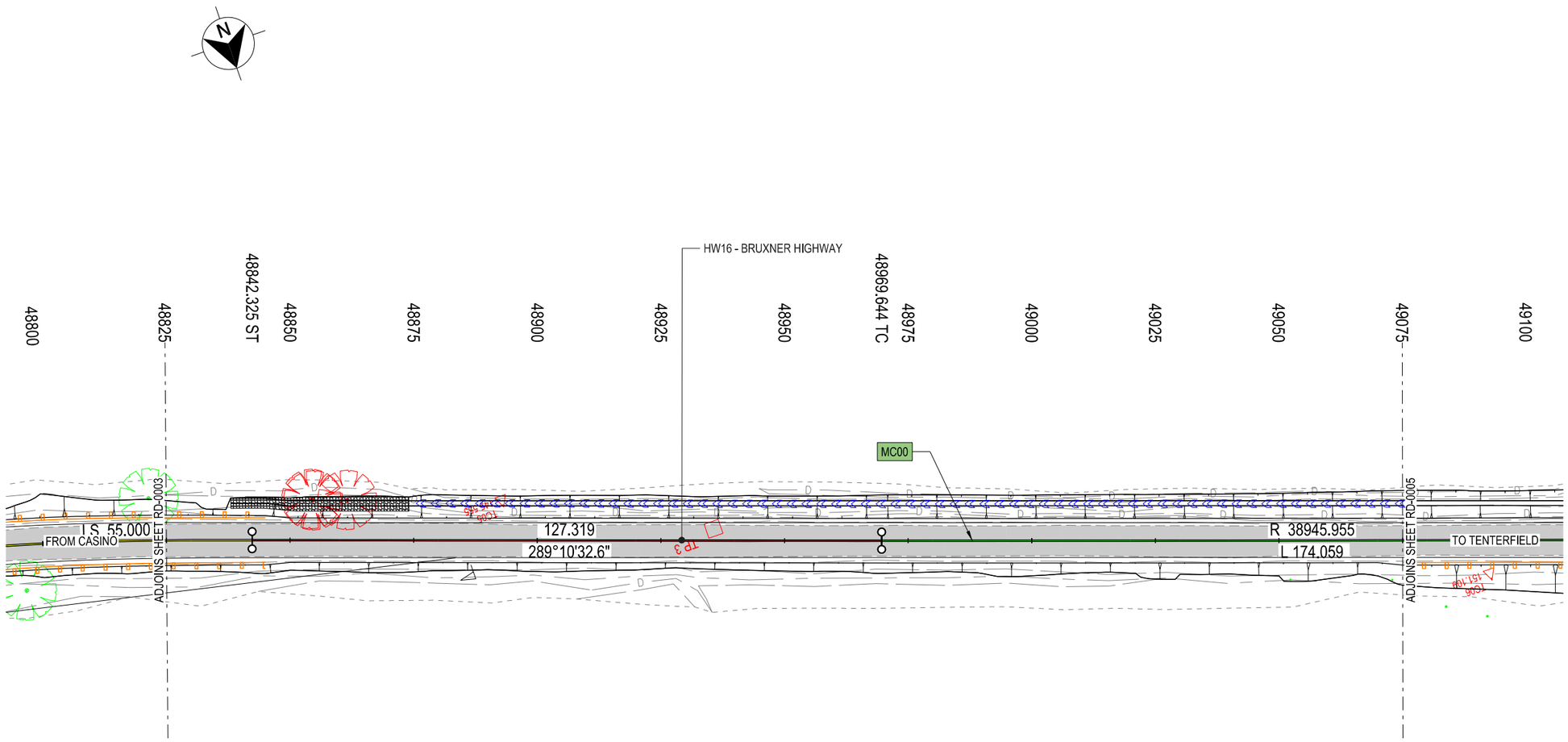

LEGEND

- MC?? — DESIGN CONTROL CALLOUT
- XXXX — CONSTRUCTION CALLOUT
- XXXX — UTILITY CALLOUT
- EXISTING PAVEMENT
- EXISTING PROPERTY FENCELINE
- TREE TO BE RETAINED
- TREE TO BE REMOVED
- Ø450 — DRAINAGE PIPE
- DRAINAGE HEADWALL
- UNLINED CATCH DRAIN - GRASS
- UNLINED CATCH DRAIN - ROCK
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- ø450 — EXISTING DRAINAGE PIPE
- TEST PIT

NOTES

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME	DESIGN LOT CODE	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING	PLOT DATE / TIME	PLOT BY
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EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
P-PLAN-03-RD.dgn A3_Border.dgn A3_Border_Legends.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480 DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.48825 TO CH.49075

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6248429	RD-0004	A

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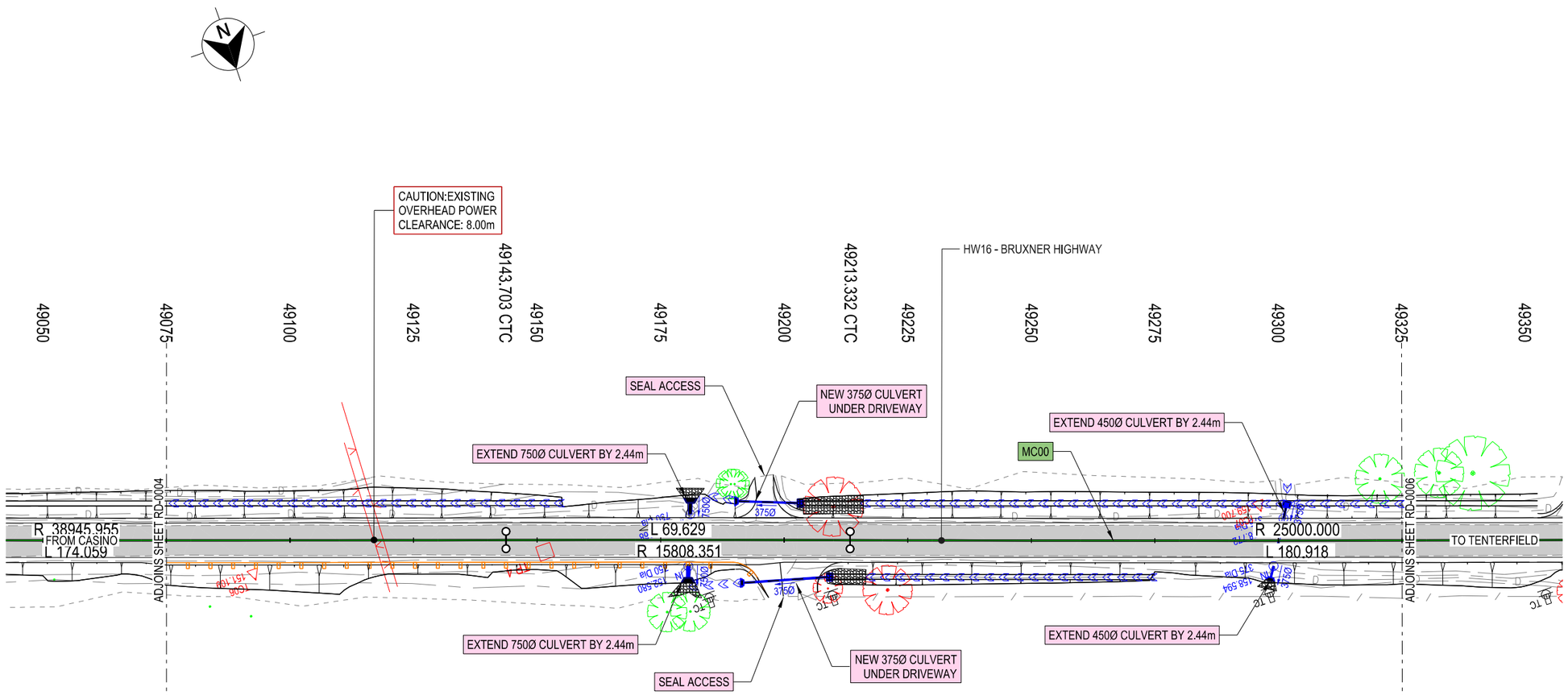

LEGEND

- MC?? — DESIGN CONTROL CALLOUT
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- UNLINED CATCH DRAIN - GRASS
- UNLINED CATCH DRAIN - ROCK
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- TEST PIT

GDA 2020

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NOT FOR CONSTRUCTION

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
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SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480
DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.49075 TO CH.49325

A3

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No. qA6248429 | SHEET No. RD-0005 | ISSUE A

REMOVE, RESHAPE OR RECONSTRUCT

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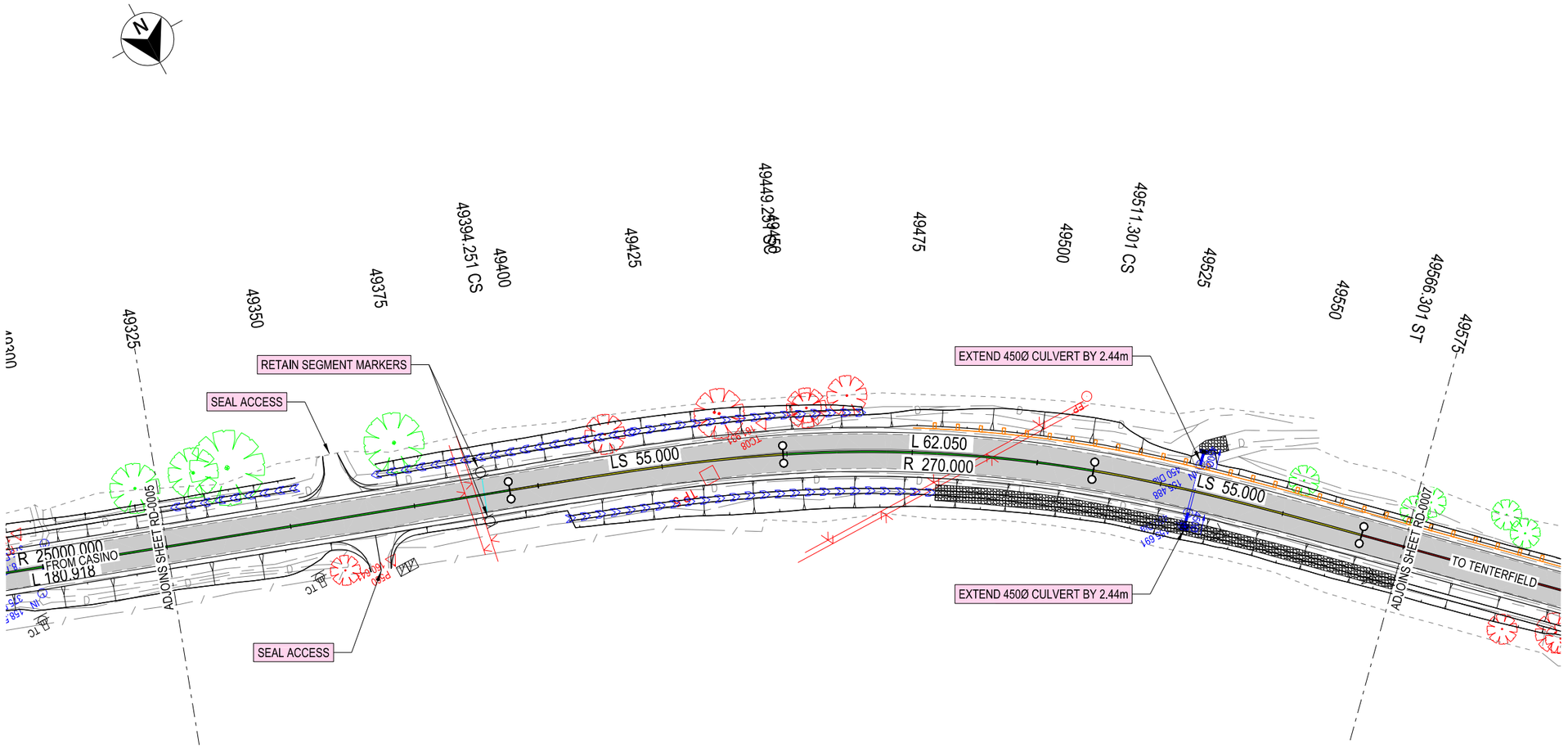

LEGEND

- MC?? — DESIGN CONTROL CALLOUT
- XXXX — CONSTRUCTION CALLOUT
- XXXX — UTILITY CALLOUT
- EXISTING PAVEMENT
- EXISTING PROPERTY FENCELINE
- TREE TO BE RETAINED
- TREE TO BE REMOVED
- Ø450 — DRAINAGE PIPE
- DRAINAGE HEADWALL
- UNLINED CATCH DRAIN - GRASS
- UNLINED CATCH DRAIN - ROCK
- 1-1/1 — UNLINED CATCH DRAIN - GRASS
- ø450 — EXISTING DRAINAGE PIPE
- TEST PIT

GDA 2020

NOTES

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7. REFER TO MODEL DRAWING R0300-01 FOR KERB PROFILES.
8. REFER TO SHEETS RF-0001 AND RF-0008 FOR ROADSIDE FURNITURE, LINEMARKING & SAFETY BARRIER SETOUT DETAILS.

NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION
P-PLAN-03-RD.dgn A3_Border.dgn A3_Border_Legends.dgn	01	DD-MM-YY	ISSUED FOR XXXXX

WVR No.	APPROVAL
XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480
DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.49325 TO CH.49575

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS: CONCEPT DESIGN
EDMS No.: qA6248429
SHEET No.: RD-0006
ISSUE: A

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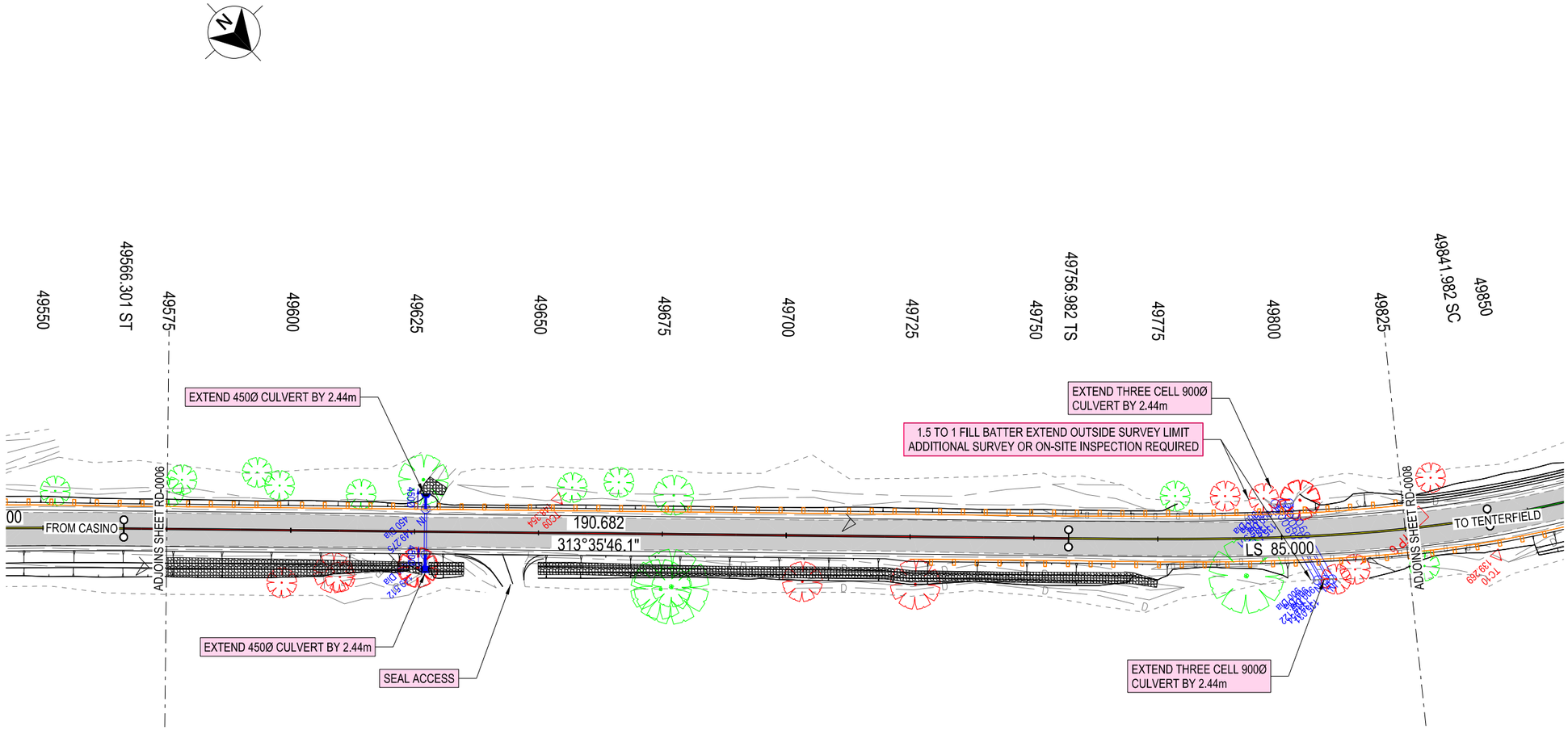

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- EXISTING PROPERTY FENCELINE
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- TREE TO BE REMOVED
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- UNLINED CATCH DRAIN - GRASS
- UNLINED CATCH DRAIN - ROCK
- 1-1/1 — UNLINED CATCH DRAIN - GRASS
- Ø450 — EXISTING DRAINAGE PIPE
- TEST PIT

GDA 2020

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
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SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.49575 TO CH.49825

A3

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS: CONCEPT DESIGN
EDMS No.: qA6248429
SHEET No.: RD-0007
ISSUE: A

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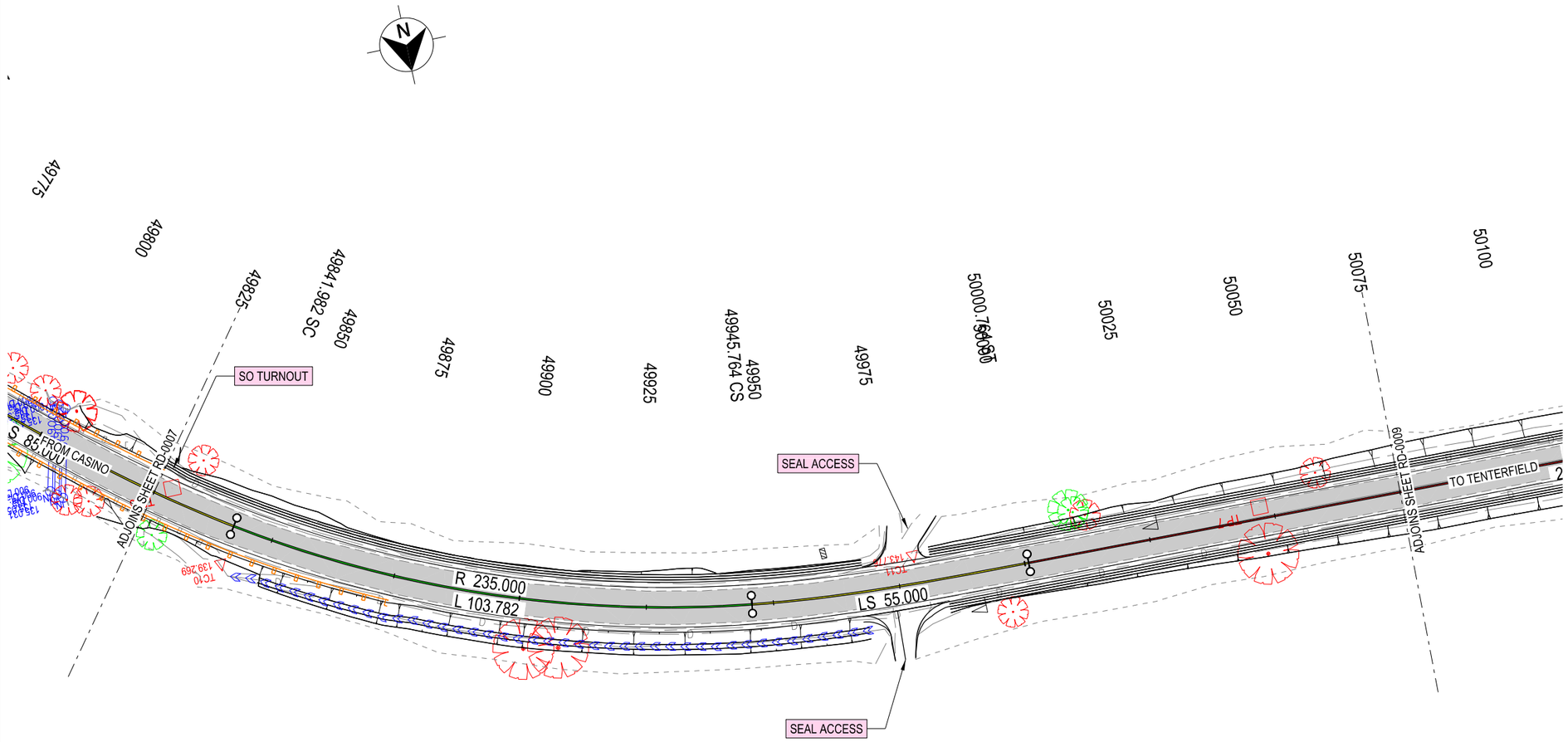

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GDA 2020

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DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn				DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
P-PLAN-03-RD.dgn A3_Border.dgn A3_Border_Legends.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: REGIONAL TECHNICAL SERVICES NORTHERN REGIONAL TECHNICAL SERVICES ROAD DESIGN NORTHERN

PLOT DATE / TIME		PLOT BY
$DATE$	$TIME$	$USER$

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480 DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.49825 TO CH.50075

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6248429	RD-0008	A

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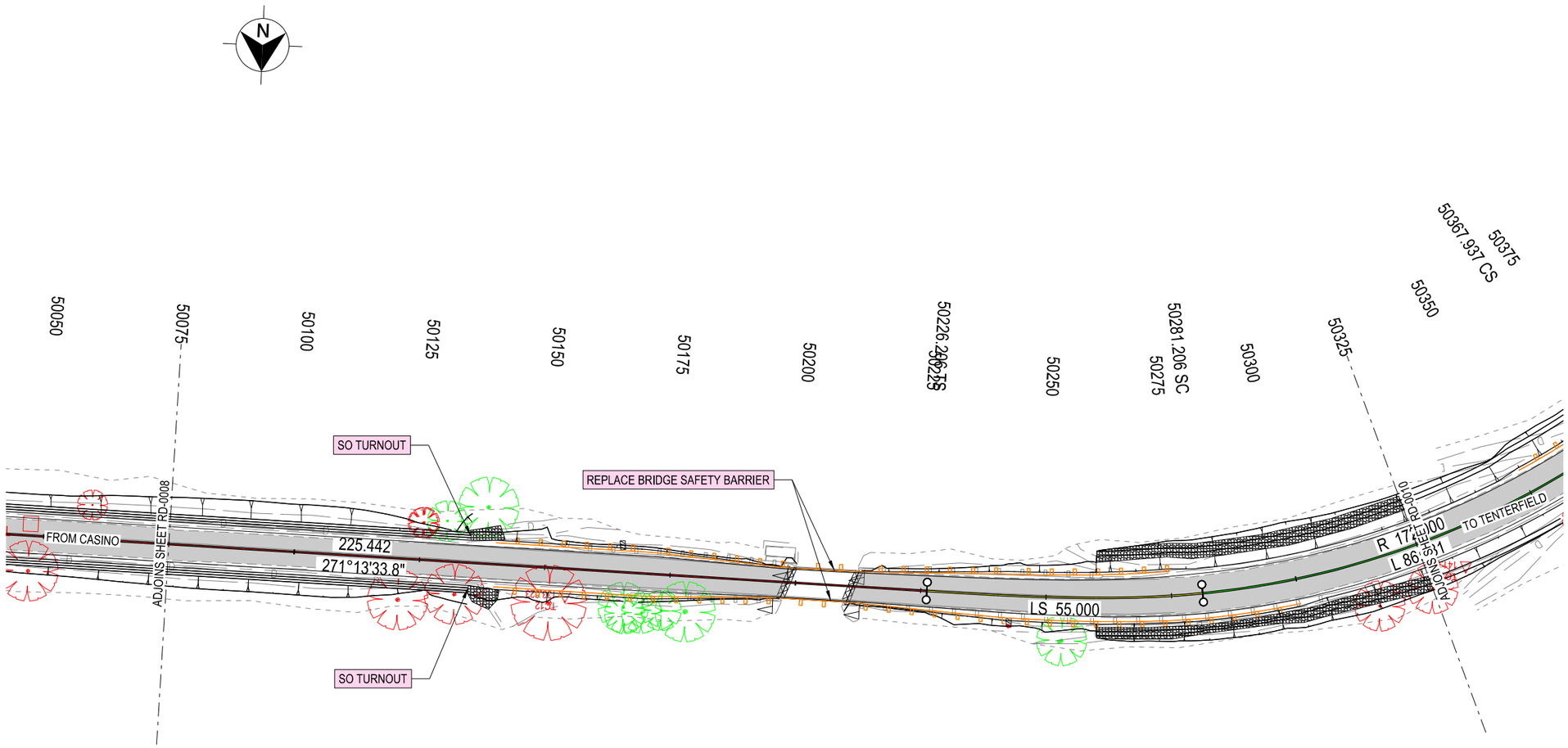

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DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
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SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	TITLE	NAME	DATE
DRAWN		M. ROWLES	XX.XX.XX
DRG CHECK		D. JOHNSON	XX.XX.XX
DESIGN		M. ROWLES	XX.XX.XX
DESIGN CHECK		D. JOHNSON	XX.XX.XX
DESIGN MNGR		D. JOHNSON	XX.XX.XX
PROJECT MNGR		R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.50075 TO CH.50325

A3

RMS REGISTRATION No.: DS2022/000064 PART 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No.: qA6248429 | SHEET No.: RD-0009 | ISSUE: A

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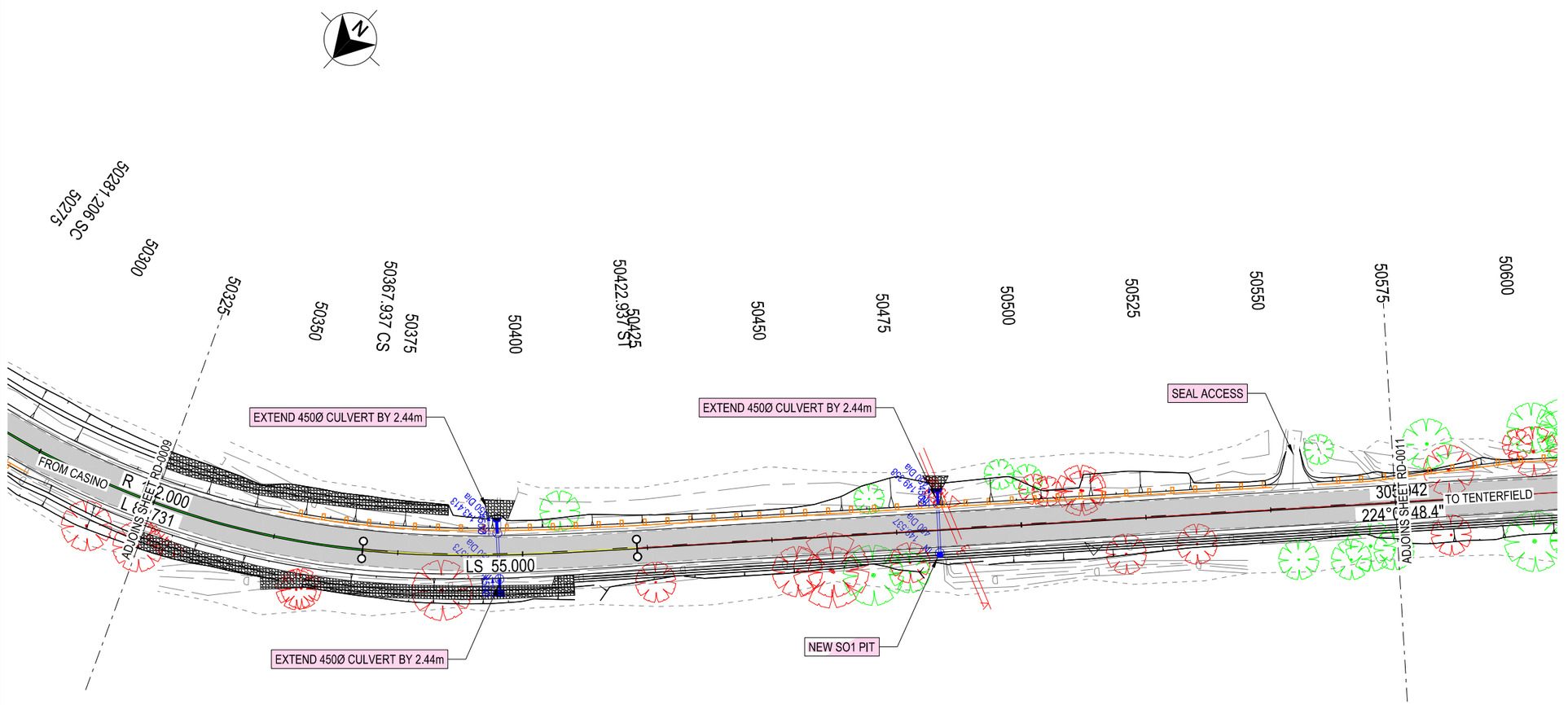

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EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
RXXXXX03-RD.dgn A3_Border.dgn A3_Border_Legends.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) | HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: REGIONAL TECHNICAL SERVICES NORTHERN REGIONAL TECHNICAL SERVICES ROAD DESIGN NORTHERN

PLOT DATE / TIME		PLOT BY
$DATE$	$TIME$	$USER$

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480
DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.50325 TO CH.50575

A3

RMS REGISTRATION No. DS2022/000064			PART 1
ISSUE STATUS: CONCEPT DESIGN	EDMS No.: qA6248429	SHEET No.: RD-0010	ISSUE: A

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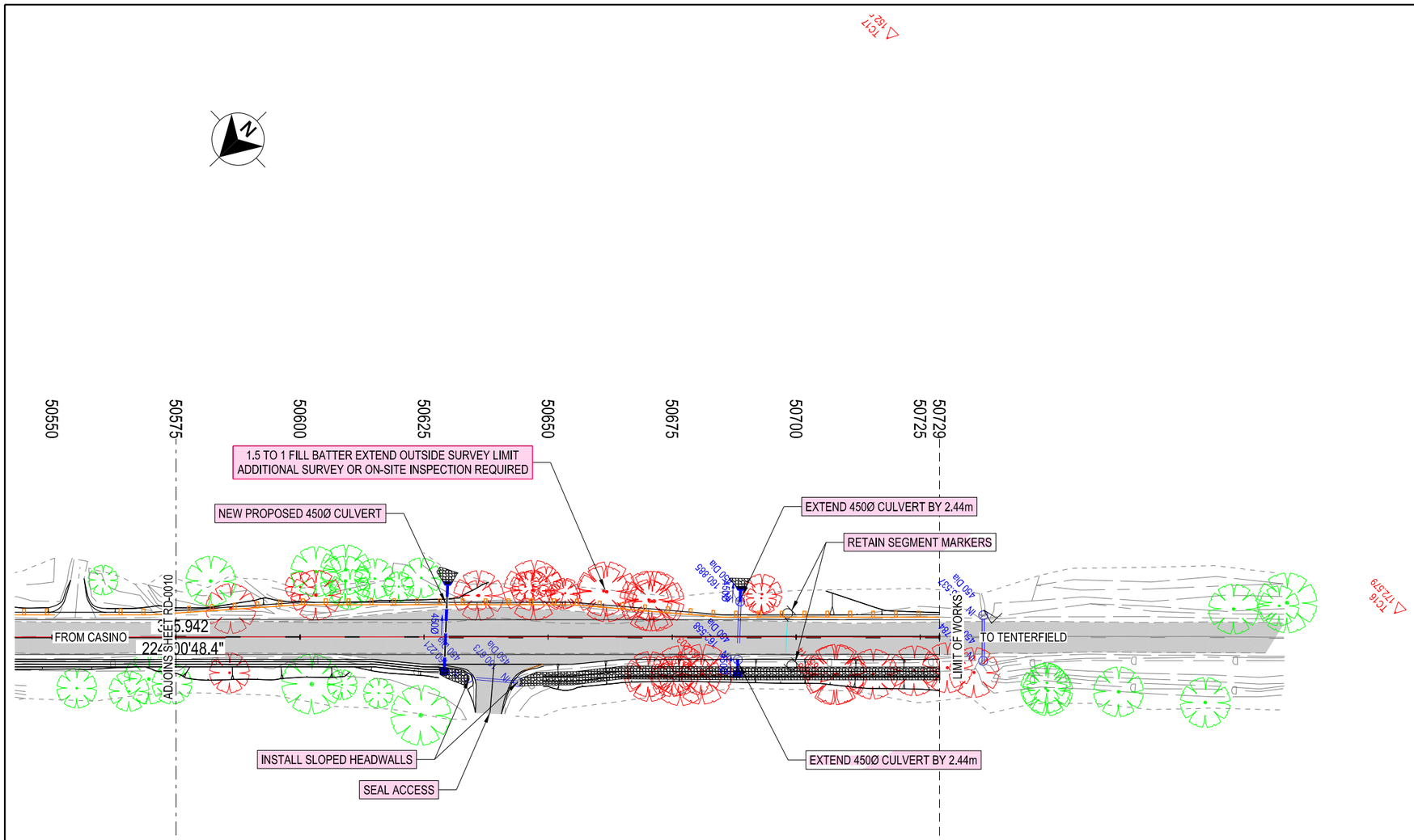

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GDA 2020

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DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt	PLOT DATE / TIME: $DATE$ $TIME$ — PLOT BY: $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
R*****A03-RD.dgn A3_Border.dgn A3_Border_Legends.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) — HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: REGIONAL TECHNICAL SERVICES, NORTHERN REGIONAL TECHNICAL SERVICES, ROAD DESIGN NORTHERN

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480
DETAIL PLAN
DETAIL PLAN - HW16 - BRUXNER HIGHWAY - MC00 - CH.50575 TO CH.50729

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6248429	RD-0011	A

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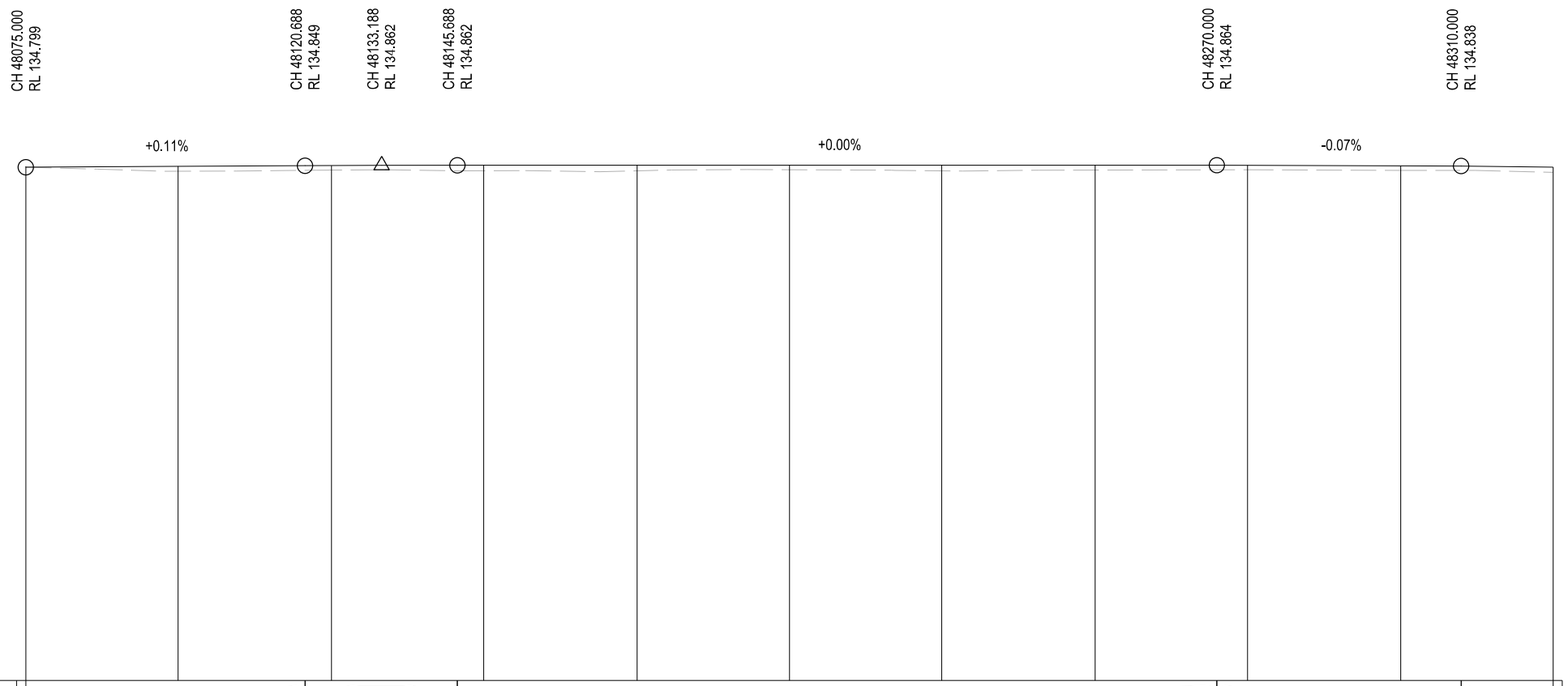

DATUM RL 118

VERTICAL ALIGNMENT	G=0.11% L = 45.688		K = -233.397 L = 25.000	G=0.00% L = 124.312				G=-0.07% L = 40.000		G=-0.24% L = 48.981	
HORIZONTAL ALIGNMENT	L = 279.402										
SUPERELEVATION	-2.7% Left	-2.9% Right									
CUT / FILL	0.000	-0.161	-0.145	-0.181	-0.183	-0.146	-0.182	-0.154	-0.142	-0.147	-0.170
DESIGN SURFACE LEVELS	134.799	134.826	134.853	134.862	134.863	134.863	134.864	134.864	134.861	134.844	134.801
EXISTING SURFACE LEVELS	134.799	134.666	134.708	134.681	134.680	134.718	134.682	134.711	134.720	134.698	134.631
CHAINAGE	48075	48100	48125	48150	48175	48200	48225	48250	48275	48300	48325

LONGITUDINAL SECTION MC00

NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE
N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING
N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME $DATE$ $TIME$ PLOT BY $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XX_BXXXer.dgn P-PLAN-03-RD.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING
0 10 20 30 40
SCALE 1:1000m

CO-ORDINATE SYSTEM MGA ZONE 56 (GDA2020)
HEIGHT DATUM AHD

DRAWINGS / DESIGN PREPARED BY
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT
NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.48075 TO CH.48325

A3

RMS REGISTRATION No. DS2022/000064
PART 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6248429	RD-0001	A

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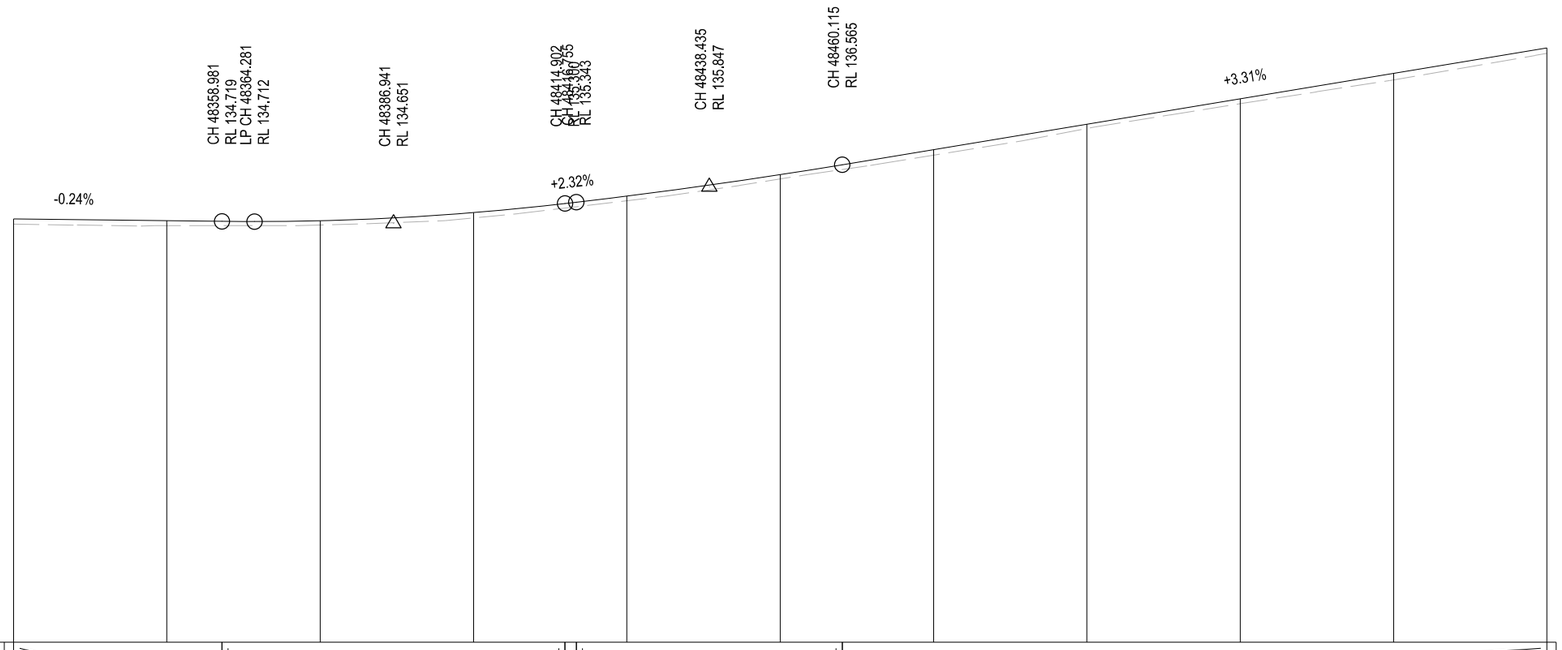

DATUM RL 121

VERTICAL ALIGNMENT	G=-0.24% L = 48.981	K = 21.788 L = 55.921	G=2.32% L = 1.853	K = 43.819 L = 43.361	G=3.31% L = 130.881					
HORIZONTAL ALIGNMENT	L = 279.402	R = 30000.000 L = 102.501	L = 157.970							
SUPERELEVATION	-3.0% Left	-3.0% Right								
CUT / FILL	-0.170	-0.162	-0.137	-0.175	-0.154	-0.139	-0.195	-0.136	-0.156	-0.214	-0.176
DESIGN SURFACE LEVELS	134.801	134.741	134.739	135.005	135.543	136.242	137.058	137.887	138.715	139.543	140.371
EXISTING SURFACE LEVELS	134.631	134.578	134.602	134.830	135.389	136.103	136.863	137.750	138.558	139.329	140.195
CHAINAGE	48325	48350	48375	48400	48425	48450	48475	48500	48525	48550	48575

LONGITUDINAL SECTION MC00

NOT FOR CONSTRUCTION

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE
N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING
N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME $DATE$ $TIME$ PLOT BY $USER$

EXTERNAL REFERENCE FILES
XXXXXXer.dgn
P-PLAN-03-RD.dgn

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING
0 10 20 30 40
SCALE 1:1000m

CO-ORDINATE SYSTEM MGA ZONE 56 (GDA2020)
HEIGHT DATUM AHD

DRAWINGS / DESIGN PREPARED BY
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

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NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.48325 TO CH. 48575

A3

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS CONCEPT DESIGN
EDMS No. qA6248429
SHEET No. RD-0002
ISSUE A

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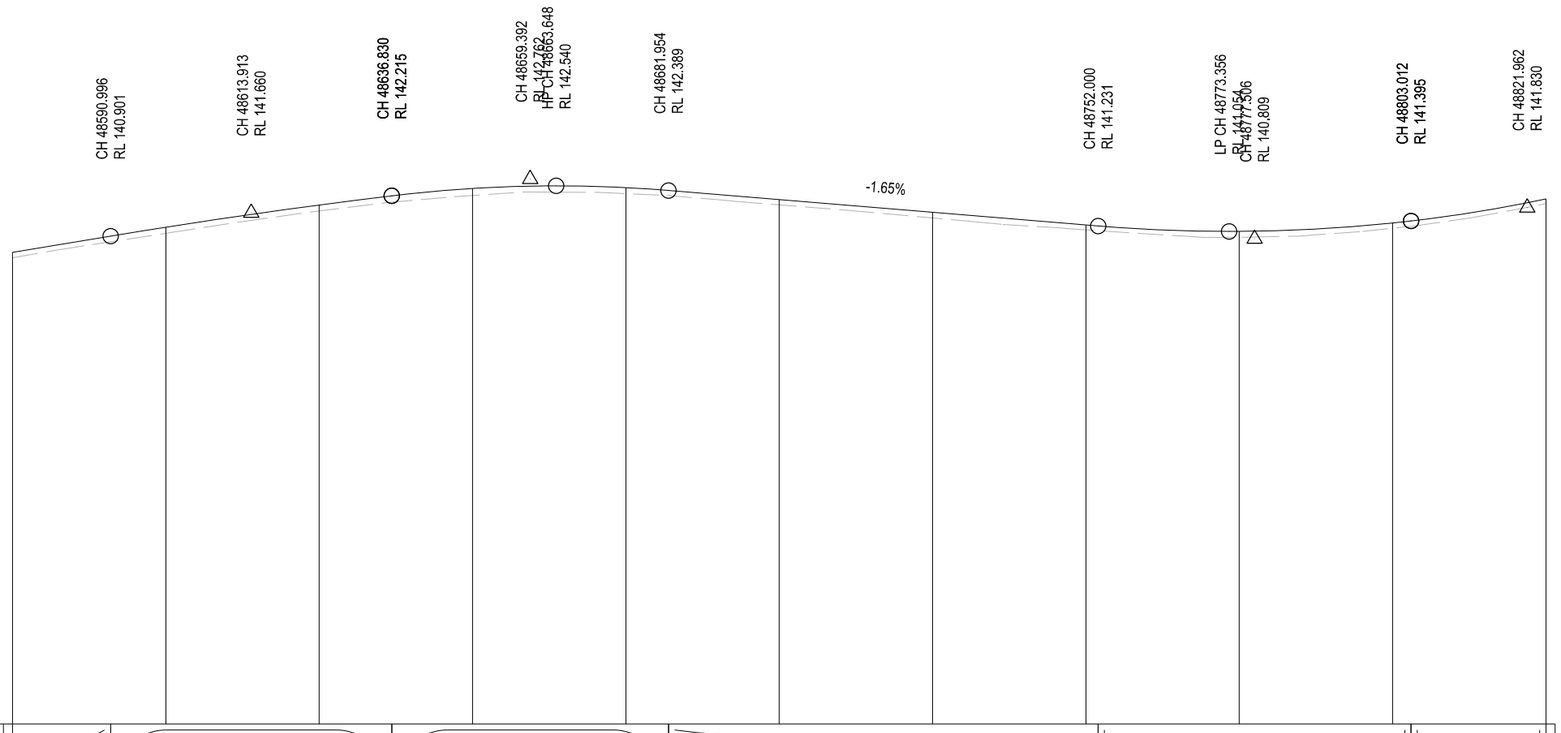

DATUM RL 125

VERTICAL ALIGNMENT	~~G=3.31%~~ L = 130.881	K = -51.436 L = 45.834	K = -11.074 L = 45.124	G=-1.65% L = 70.046				K = 12.919 L = 51.012	K = 11.115 L = 37.899	
HORIZONTAL ALIGNMENT	L = 157.970	Ls = 55.000	R = 320.000 L = 117.452						Ls = 55.000	
SUPERELEVATION	+7.0% Left -7.0% Right									
CUT / FILL	-0.176	-0.199	-0.191	-0.232	-0.189	-0.168	-0.180	-0.154	-0.189	-0.170	-0.153
DESIGN SURFACE LEVELS	140.371	141.191	141.915	142.456	142.482	142.090	141.677	141.264	141.055	141.329	142.117
EXISTING SURFACE LEVELS	140.195	140.993	141.724	142.224	142.292	141.922	141.497	141.110	140.866	141.159	141.964
CHAINAGE	48575	48600	48625	48650	48675	48700	48725	48750	48775	48800	48825

LONGITUDINAL SECTION MC00

NOT FOR CONSTRUCTION

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DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
~~XX_BXXXer~~.dgn P-PLAN-03-RD.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.48575 TO CH. 48825

A3

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6248429	RD-0003	A

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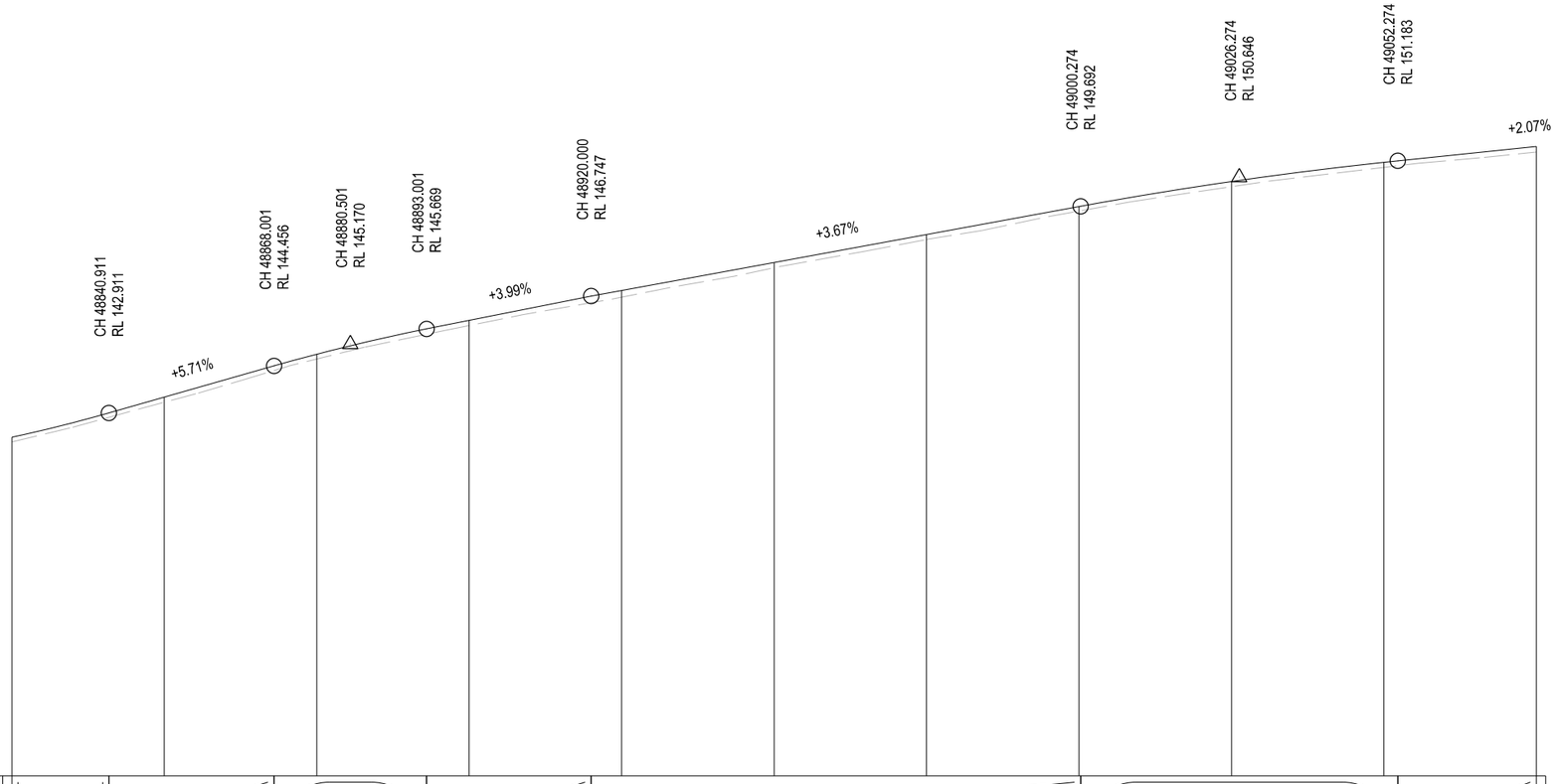

DATUM RL 131

VERTICAL ALIGNMENT	K = 11.115 L = 37.899	G=5.71% L = 27.090	K = -14.612 L = 25.000	G=3.99% L = 26.999	G=3.67% L = 80.274		K = -32.480 L = 52.000	G=2.07% L = 42.726	
HORIZONTAL ALIGNMENT	Ls = 55.000	L = 127.319			R = 38945.955 L = 174.059				
SUPERELEVATION									
CUT / FILL	-0.153	-0.165	-0.159	-0.166	-0.220	-0.174	-0.162	-0.147	-0.170	-0.163	-0.182
DESIGN SURFACE LEVELS	142.117	143.429	144.839	145.948	146.931	147.848	148.765	149.682	150.505	151.136	151.653
EXISTING SURFACE LEVELS	141.964	143.265	144.680	145.782	146.711	147.674	148.603	149.535	150.335	150.973	151.472
CHAINAGE	48825	48850	48875	48900	48825	48950	48975	49000	49025	49050	49075

LONGITUDINAL SECTION MC00

NOT FOR CONSTRUCTION

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE
N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING
N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME $DATE$ $TIME$ PLOT BY $USER$

EXTERNAL REFERENCE FILES
XX_BXXXer.dgn
P-PLAN-03-RD.dgn

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING
0 10 20 30 40
SCALE 1:1000m

CO-ORDINATE SYSTEM MGA ZONE 56 (GDA2020)
HEIGHT DATUM AHD

DRAWINGS / DESIGN PREPARED BY
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT
NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.48825 TO CH. 49075

A3

RMS REGISTRATION No. DS2022/000064
PART 1

ISSUE STATUS CONCEPT DESIGN
EDMS No. qA6248429
SHEET No. RD-0004
ISSUE A

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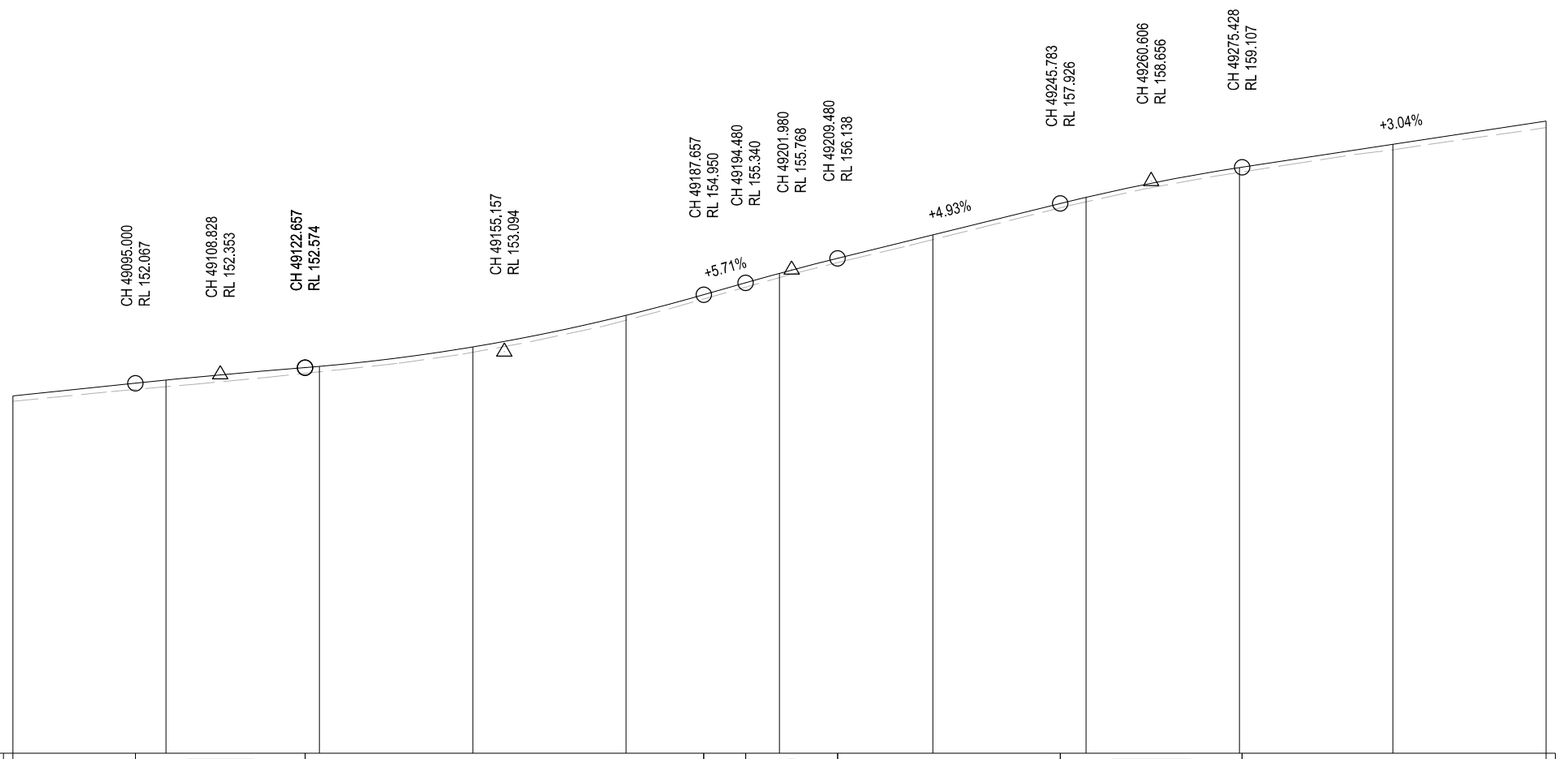

VERTICAL ALIGNMENT	G=2.07% L = 42.726	K = -59.212 L = 27.657	K = 15.813 L = 65.000	G=5.71% L = 6.823	K = -19.113 L = 15.000	G=4.93% L = 36.304	K = -15.715 L = 29.645	G=3.04% L = 51.392			
HORIZONTAL ALIGNMENT	R = 38945.955 L = 174.059		R = 15808.351 L = 69.629			R = 25000.000 L = 180.918					
SUPERELEVATION	-3.0% Left	-3.0% Right									
CUT / FILL	-0.182	-0.219	-0.177	-0.175	-0.159	-0.136	-0.159	-0.148	-0.156	-0.179	-0.213
DESIGN SURFACE LEVELS	151.653	152.168	152.613	153.248	154.278	155.647	156.902	158.128	159.094	159.854	160.614
EXISTING SURFACE LEVELS	151.472	151.949	152.436	153.073	154.119	155.512	156.743	157.980	158.938	159.675	160.401
CHAINAGE	49075	49100	49125	49150	49175	49200	49225	49250	49275	49300	49325

LONGITUDINAL SECTION MC00

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50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME	DESIGN LOT CODE	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING	PLOT DATE / TIME	PLOT BY
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn	N2021081	N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt	$DATE$ $TIME$	$USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XXXXXXer.dgn P-PLAN-03-RD.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) — HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: REGIONAL TECHNICAL SERVICES, NORTHERN REGIONAL TECHNICAL SERVICES, ROAD DESIGN NORTHERN

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.49075 TO CH. 49325

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS: CONCEPT DESIGN — EDMS No. qA6248429 — SHEET No. RD-0005 — ISSUE A

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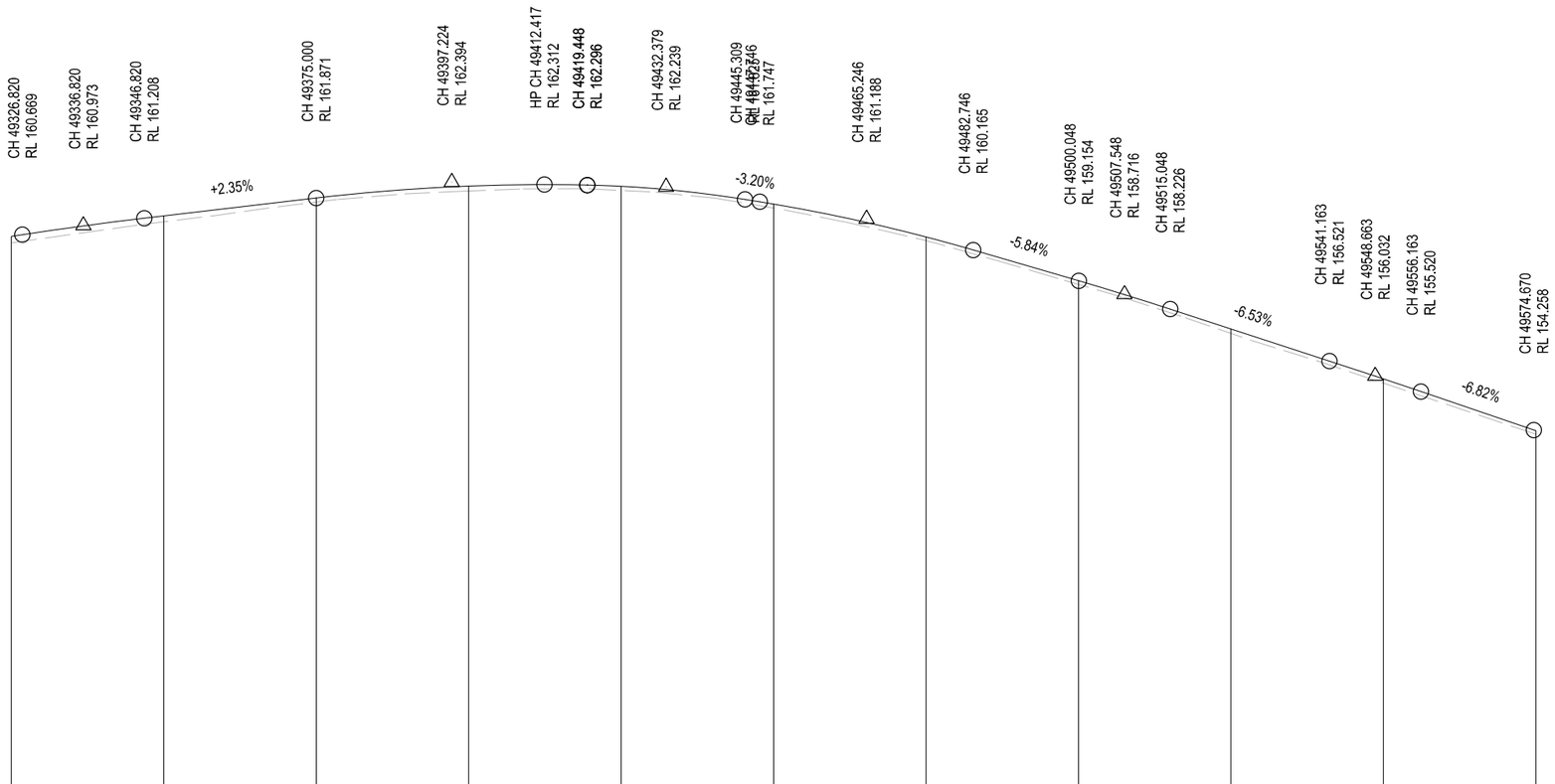

DATUM RL 142

VERTICAL ALIGNMENT	G=3.04% K = -29.132 L = 51.392 L = 20.000	G=2.35% L = 28.180	K = -15.900 L = 44.448	K = -9.381 L = 25.861	G=-3.20% L = 2.436	K = -13.241 L = 35.000	G=-5.84% L = 17.392	K = -21.836 L = 15.000	G=-6.53% L = 26.115	K = -51.715 L = 15.000	G=-6.82%K = 40.185 L = 18.597 L = 15.000
HORIZONTAL ALIGNMENT	R = 25000.000 L = 180.918		Ls = 55.000		R = 270.000 L = 62.050		Ls = 55.000		L = 190.682		
SUPERELEVATION	+7.0% Left -7.0% Right										
CUT / FILL	-0.182	-0.191	-0.134	-0.160	-0.134	-0.127	-0.126	-0.122	-0.147	-0.122	-0.119
DESIGN SURFACE LEVELS	151.653	161.283	161.871	162.263	162.255	161.673	160.595	159.157	157.577	155.937	154.236
EXISTING SURFACE LEVELS	151.472	161.092	161.738	162.104	162.121	161.546	160.469	159.036	157.429	155.815	154.116
CHAINAGE	49075	49350	49375	49400	49425	49450	49475	49500	49525	49550	49575

LONGITUDINAL SECTION MC00

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XX-BXXX-er.dgn P-PLAN-03-RD.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
TITLE		
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.49325 TO CH. 49575

A3

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6248429	RD-0006	A

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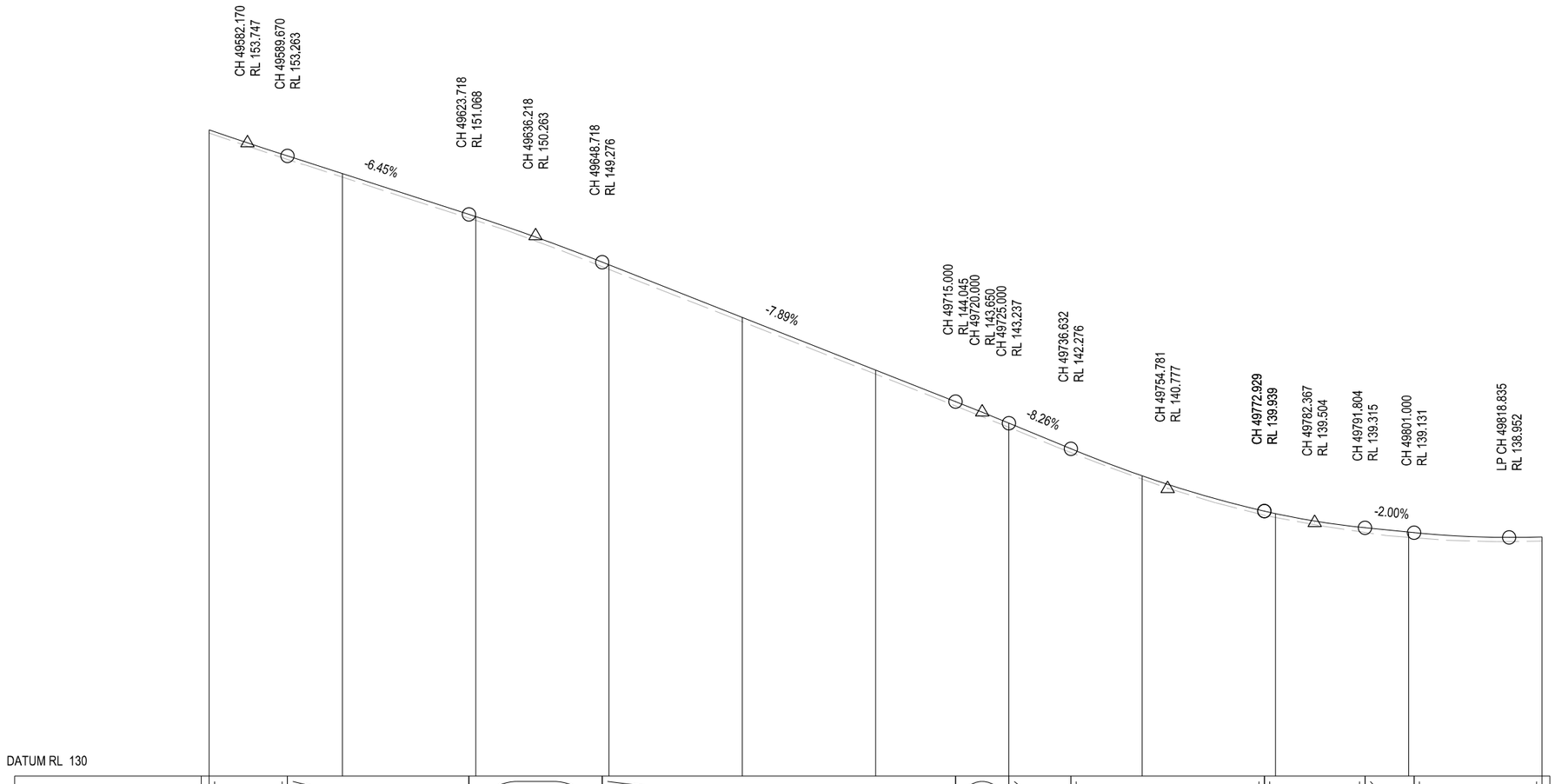

DATUM RL 130

VERTICAL ALIGNMENT	K = 40.185 L = 15.000	G=-6.45% L = 34.048	K = -17.285 L = 25.000	G=-7.89% L = 66.282	K = -27.031 L = 10.000	G=-8.26% L = 11.632	K = 9.948 L = 36.297	K = 7.227 L = 18.874	G=-2.00% L = 9.197	K = 8.907 L = 49.390
HORIZONTAL ALIGNMENT	L = 190.682							Ls = 85.000		
SUPERELEVATION	-3.0% Right				-3.0% Left					
CUT / FILL	-0.119	-0.132	-0.140	-0.167	-0.156	-0.153	-0.158	-0.121	-0.145	-0.193	-0.158
DESIGN SURFACE LEVELS	154.236	152.597	150.985	149.175	147.202	145.229	143.237	141.261	139.847	139.151	138.974
EXISTING SURFACE LEVELS	154.116	152.466	150.845	149.008	147.046	145.076	143.080	141.140	139.701	138.958	138.815
CHAINAGE	49575	49600	49625	49650	49675	49700	49725	49750	49775	49800	49825

LONGITUDINAL SECTION MC00

NOT FOR CONSTRUCTION

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XX_BXXXer.dgn P-PLAN-03-RD.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.49575 TO CH. 49825

A3

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No. qA6248429 | SHEET No. RD-0007 | ISSUE A

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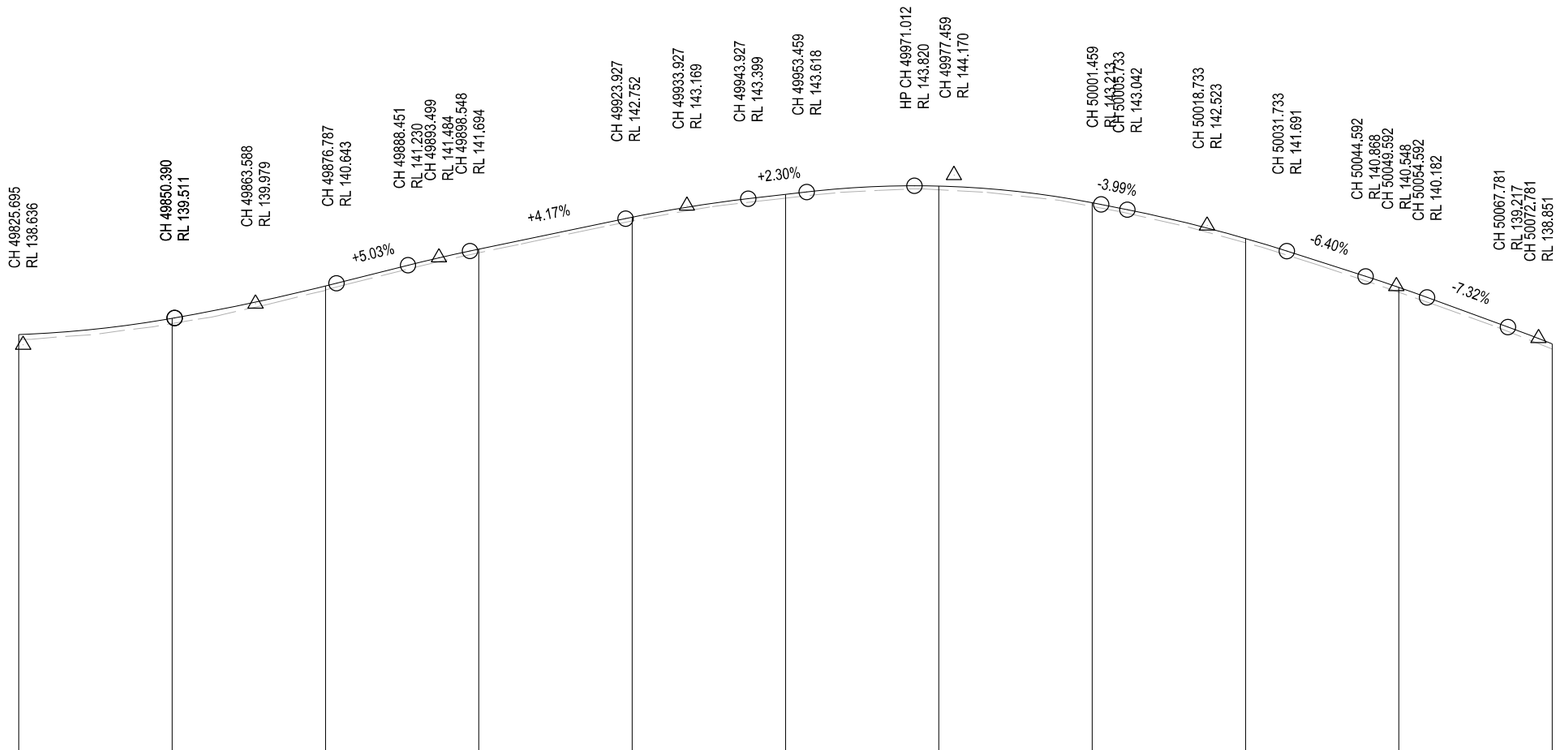
GDA 2020



DATUM RL 125

VERTICAL ALIGNMENT	K = 8.907 L = 49.390	K = 17.726 L = 26.397	G=5.03% L = 11.664	K = -11.696 L = 10.098	G=4.17% L = 25.379	K = -10.704 L = 20.000	G=2.30% L = 9.532	K = -7.632 L = 48.000	G=-3.99% L = 4.273	K = -10.780 L = 26.000	G=-6.40% L = 12.859	K = -10.913 L = 10.000	G=-7.32% L = 13.188	K = -12.139 L = 10.000
HORIZONTAL ALIGNMENT	Ls = 85.000	R = 235.000 L = 103.782				Ls = 55.000		L = 225.442						
SUPERELEVATION	-7.0% Left	+7.0% Right												
CUT / FILL	-0.158	-0.168	-0.132	-0.121	-0.121	-0.125	-0.117	-0.121	-0.135	-0.160	-0.169			
DESIGN SURFACE LEVELS	138.974	139.497	140.554	141.755	142.796	143.539	143.810	143.269	142.101	140.509	138.667			
EXISTING SURFACE LEVELS	138.815	139.329	140.422	141.633	142.675	143.414	143.692	143.148	141.966	140.348	138.499			
CHAINAGE	49825	49850	49875	49900	49925	49950	49975	50000	50025	50050	50075			

LONGITUDINAL SECTION MC00

NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE
N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING
N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME $DATE$ $TIME$ PLOT BY $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION
XXXXXXer.dgn P-PLAN-03-RD.dgn	01	DD-MM-YY	ISSUED FOR XXXXX

WVR No.	APPROVAL
XX	XXX

SCALES ON A3 SIZE DRAWING
0 10 20 30 40
SCALE 1:1000m

CO-ORDINATE SYSTEM MGA ZONE 56 (GDA2020) HEIGHT DATUM AHD

DRAWINGS / DESIGN PREPARED BY
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT
NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.49825 TO CH. 50075

A3

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6248429	RD-0008	A

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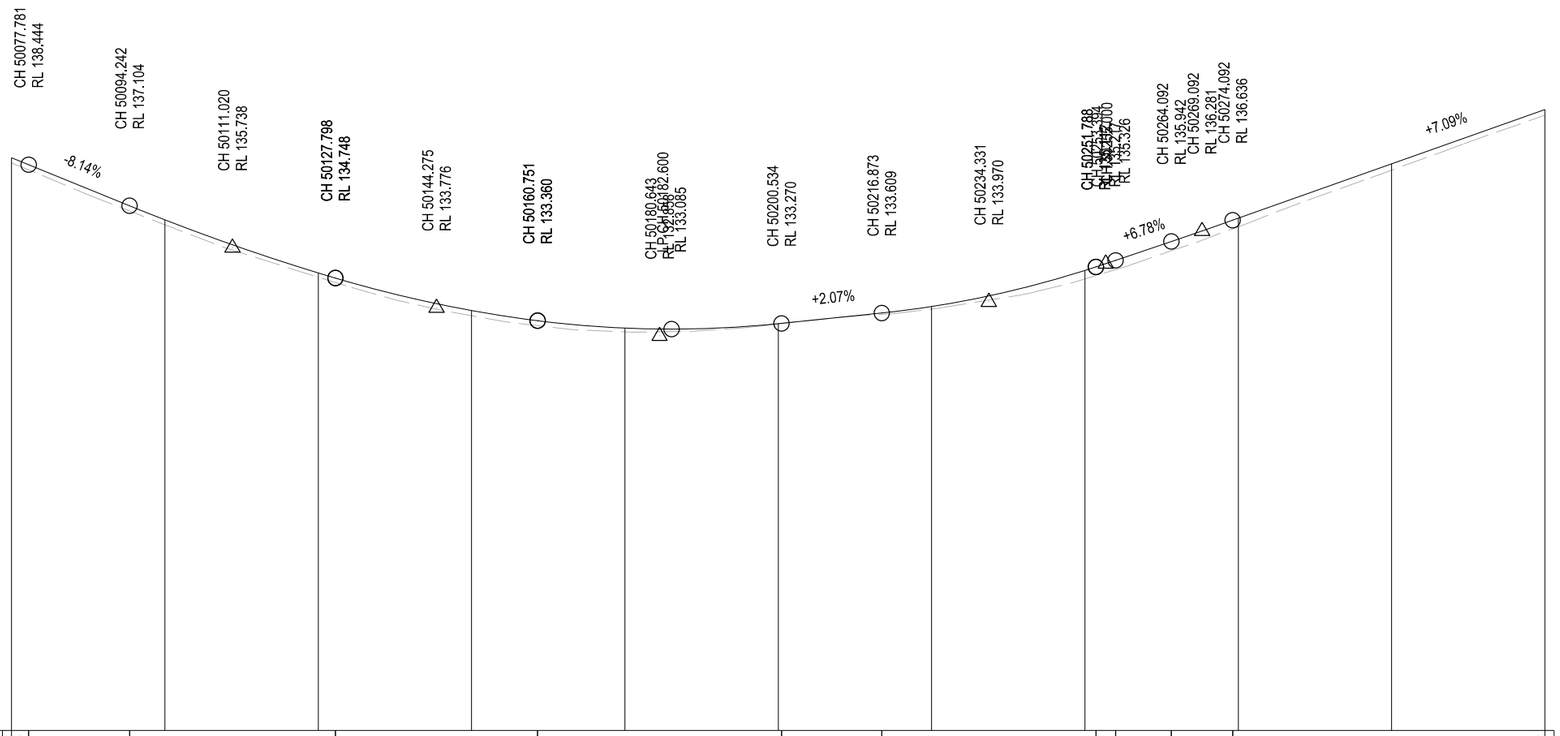

DATUM RL 120

VERTICAL ALIGNMENT	K = -12.139 G=-8.14% L = 10.000 L = 16.461	K = 14.970 L = 33.556	K = 9.760 L = 32.954	K = 8.658 L = 39.782	G=2.07% L = 16.340	K = 7.814 L = 34.915	K = 13.097 G=6.78% L = 9.092	K = 32.544 L = 10.000	G=7.09% L = 69.472	
HORIZONTAL ALIGNMENT	L = 225.442					Ls = 55.000		R = 172.000 L = 86.731		
SUPERELEVATION	-3.0% Left	-3.0% Right		-3.1% Left	-3.0% Left 2.6% Right	2.1% Right	-2.6% Right Left		-7.0% Left	+7.0% Right
CUT / FILL	-0.169	-0.161	-0.140	-0.170	-0.121	0.000	-0.079	-0.276	-0.280	-0.206	-0.184
DESIGN SURFACE LEVELS	138.667	136.646	134.916	133.691	133.118	133.259	133.819	134.997	136.700	138.472	140.243
EXISTING SURFACE LEVELS	138.499	136.485	134.776	133.521	132.997	133.260	133.741	134.721	136.420	138.266	140.059
CHAINAGE	50075	50100	50125	50150	50175	50200	50225	50250	50275	50300	50325

LONGITUDINAL SECTION MC00

NOT FOR CONSTRUCTION

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50mm ON A3 SIZE ORIGINAL

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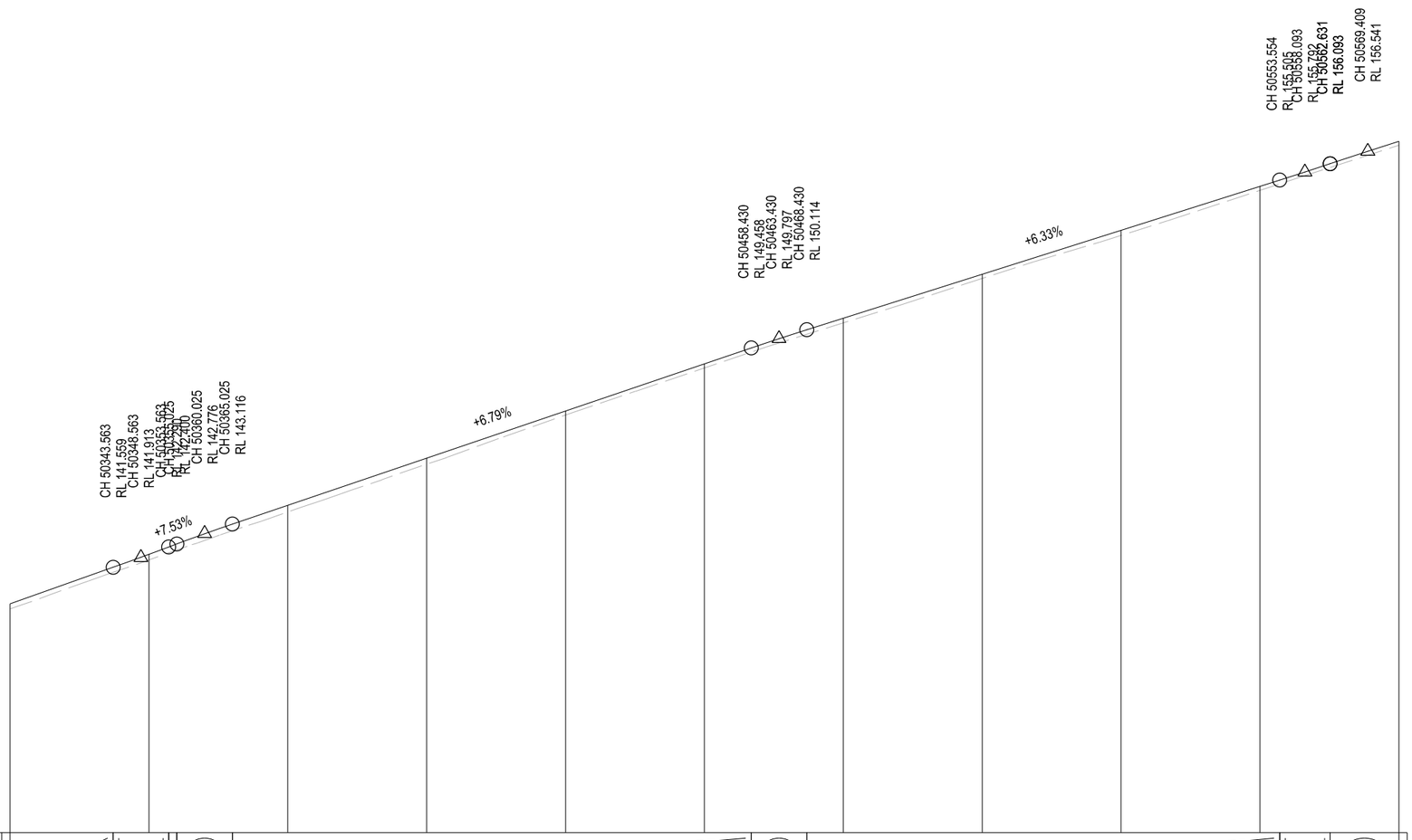
GDA 2020



DATUM RL 132

VERTICAL ALIGNMENT	G=7.09% L = 69.472	K = 22.657 L = 10.000	K = -13.470 L = 10.000	G=6.79% L = 93.405	K = -21.922 L = 10.000	G=6.33% L = 85.124	K = 31.798 L = 9.077	K = -89.403 L = 13.556		
HORIZONTAL ALIGNMENT	R = 172.000 L = 86.731		Ls = 55.000		L = 305.942					
SUPERELEVATION	-7.0% Left	+7.0% Right						-3.0% Left		
CUT / FILL	-0.184	-0.202	-0.242	-0.219	-0.146	-0.136	-0.174	-0.151	-0.184	-0.153	-0.145
DESIGN SURFACE LEVELS	140.243	142.024	143.793	145.490	147.188	148.885	150.530	152.113	153.697	155.280	156.903
EXISTING SURFACE LEVELS	140.059	141.822	143.551	145.271	147.042	148.749	150.356	151.962	153.513	155.127	156.758
CHAINAGE	50325	50350	50375	50400	50425	50450	50475	50500	50525	50550	50575

LONGITUDINAL SECTION MC00

NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
50mm ON A3 SIZE ORIGINAL
0 5 10 15 20 25 30 35 40 45 50

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$

EXTERNAL REFERENCE FILES: XXXXXer.dgn, P-PLAN-03-RD.dgn

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 10 20 30 40 — SCALE 1:1000m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.50325 TO CH. 50575

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No. qA6248429 | SHEET No. RD-0010 | ISSUE A

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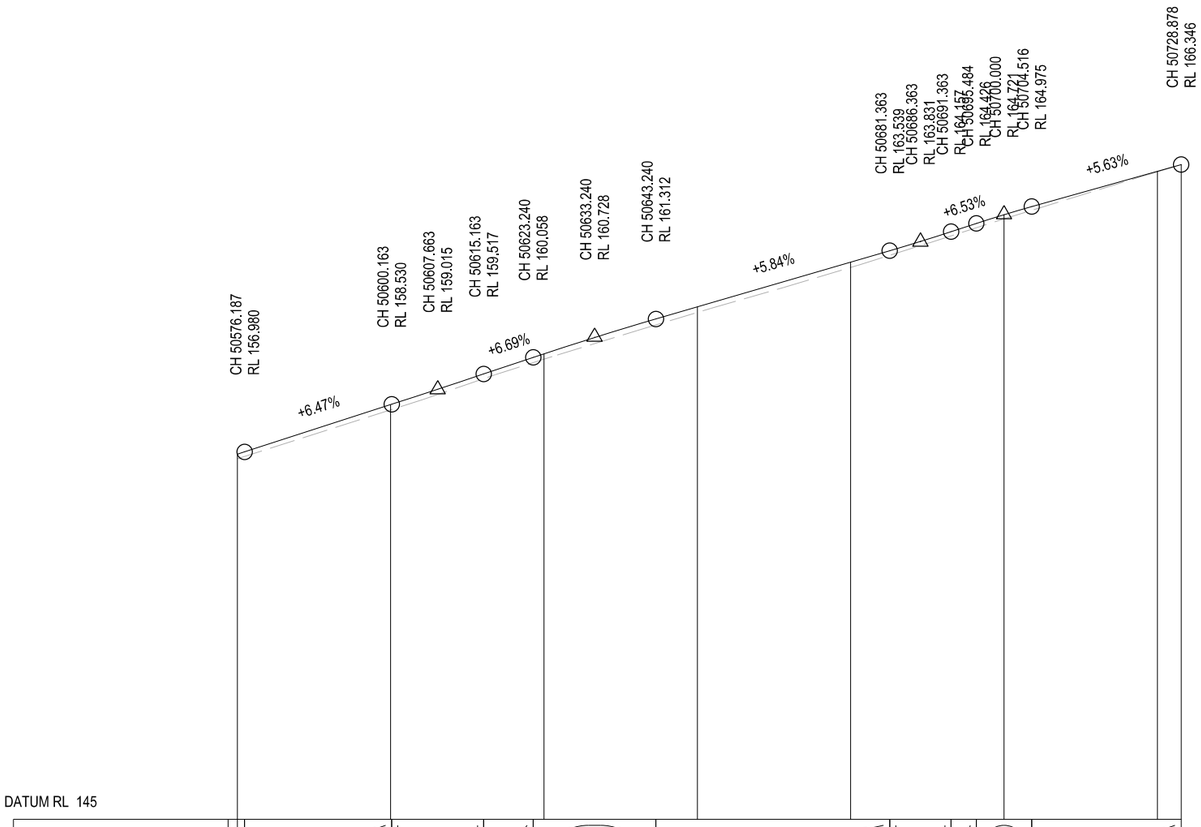

DATUM RL 145

VERTICAL ALIGNMENT	K = -89.403 L = 13.556	G=6.47% L = 23.976	K = 66.032 L = 15.000	G=6.69% L = 8.078	K = -23.446 L = 20.000	G=5.84% L = 38.123	K = 14.5 L = 10.000	G=6.53% L = 4.121	K = -10.000 L = 9.031	G=5.63% L = 24.363
HORIZONTAL ALIGNMENT	L = 305.942									
SUPERELEVATION	-3.0% Right								-2.5% Left	
CUT / FILL	-0.145		-0.168		-0.178	-0.181	-0.179	-0.139		-0.018
DESIGN SURFACE LEVELS	156.903		158.520		160.175	161.707	163.167	164.711		166.128
EXISTING SURFACE LEVELS	156.758		158.351		159.998	161.525	162.988	164.572		166.110
CHAINAGE	50575		50600		50625	50650	50675	50700		50725

LONGITUDINAL SECTION MC00

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0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-03-RD.dgn

DESIGN LOT CODE
N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING
N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

PLOT DATE / TIME $DATE$ $TIME$ PLOT BY $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XX_BXXXer.dgn P-PLAN-03-RD.dgn	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING
0 10 20 30 40
SCALE 1:1000m

CO-ORDINATE SYSTEM MGA ZONE 56 (GDA2020)
HEIGHT DATUM AHD

DRAWINGS / DESIGN PREPARED BY
REGIONAL TECHNICAL SERVICES
NORTHERN REGIONAL TECHNICAL SERVICES
ROAD DESIGN NORTHERN

	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT
NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
LONGITUDINAL SECTION
LONG SECTION - HW16 - BRUXNER HIGHWAY - MC00 - CH.50575 TO CH. 50729

A3

RMS REGISTRATION No. DS2022/000064
PART 1

ISSUE STATUS CONCEPT DESIGN
EDMS No. qA6248429
SHEET No. RD-0011
ISSUE A

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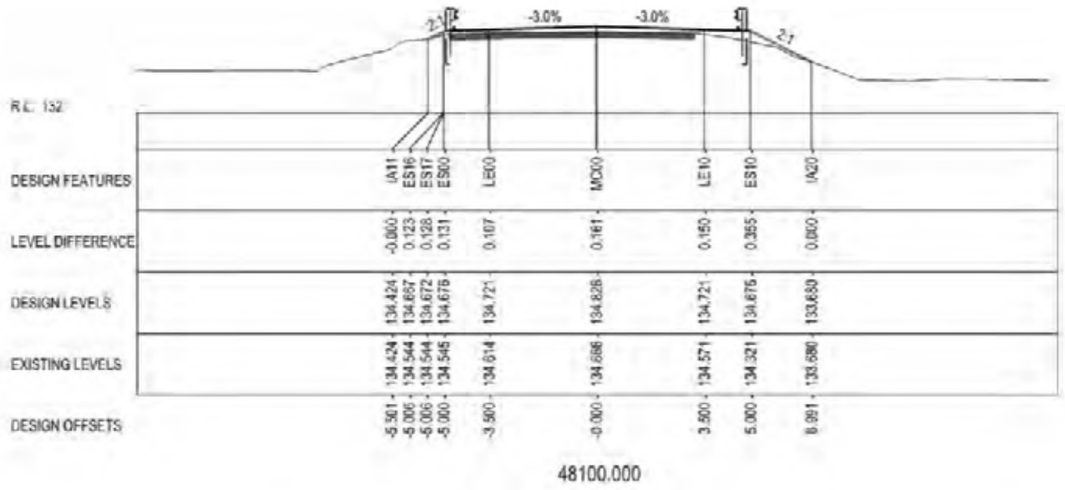

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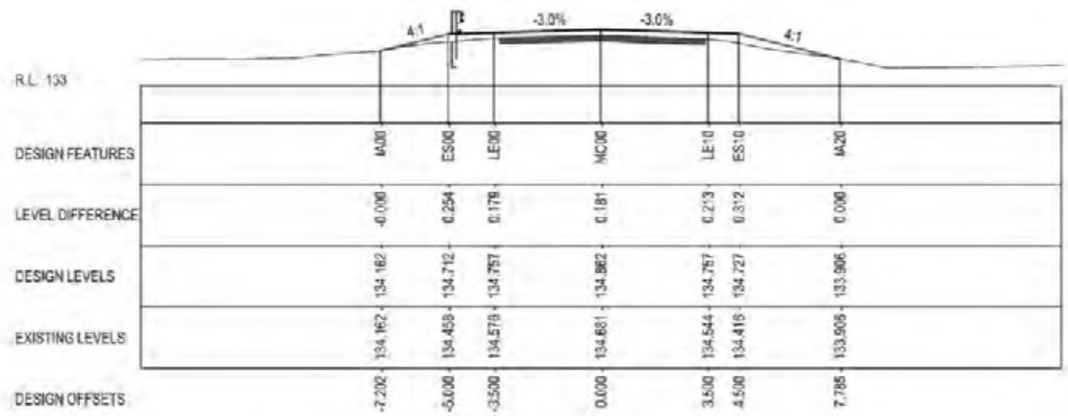

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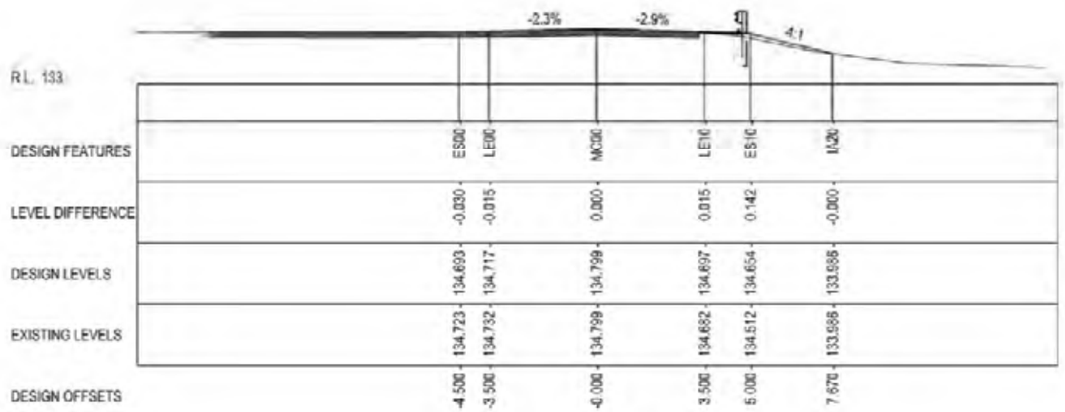

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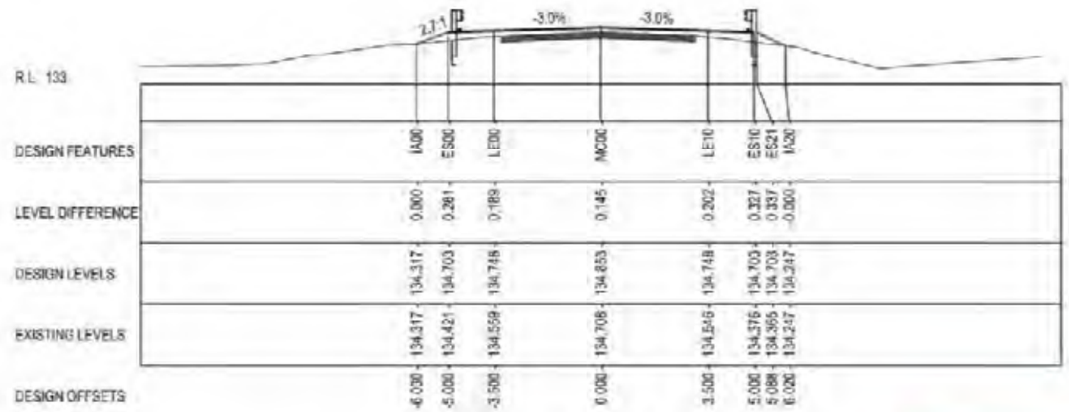

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DRAWING FILE LOCATION / NAME: C:\Data\Workspace\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.i.dgn	PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$
EXTERNAL REFERENCE FILES: XXXXXX	REV: 01 DATE: DD-MM-YY AMENDMENT / REVISION DESCRIPTION: ISSUED FOR XXXXX	WVR No.: XX APPROVAL: XXX	SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m
		CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD	DRAWINGS / DESIGN PREPARED BY:

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DSG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 PART: 1

ISSUE STATUS: CONCEPT DESIGN EDMS No.: qA6246129 SHEET No.: RC-0001 ISSUE: A

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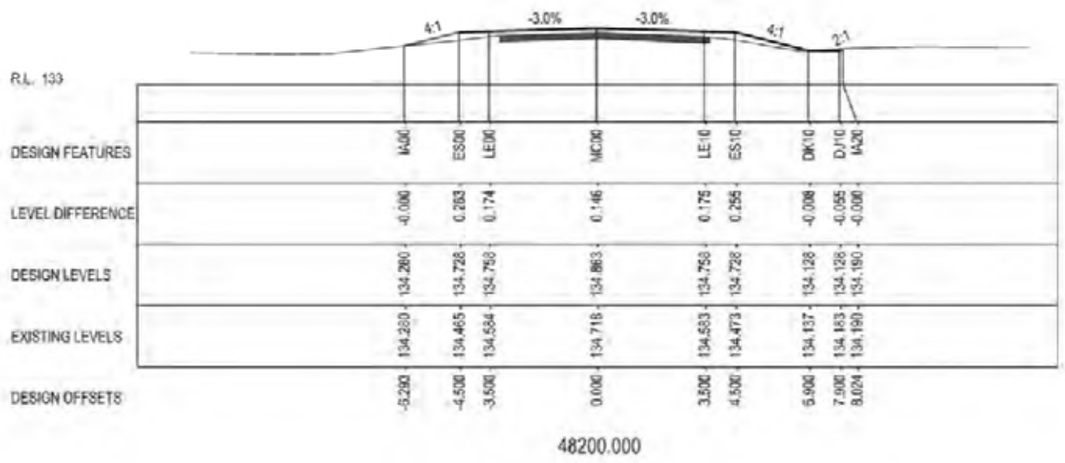

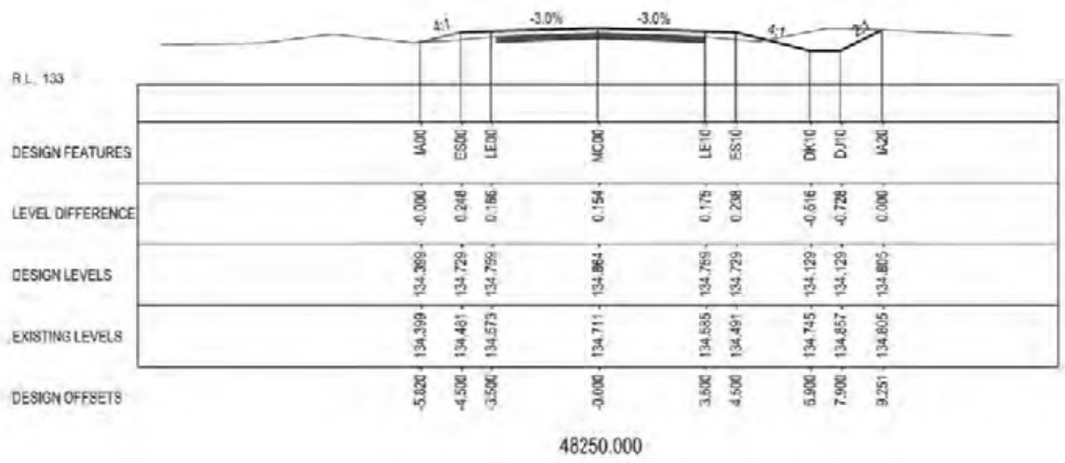

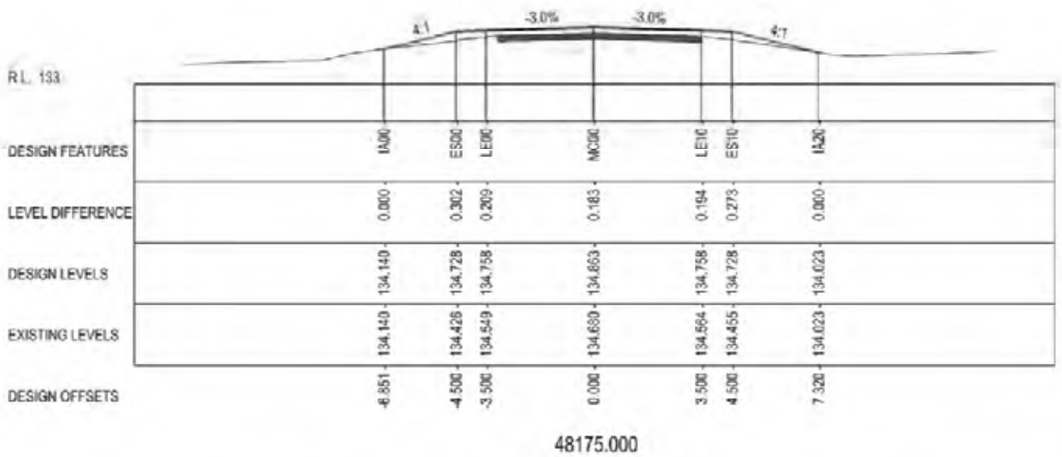

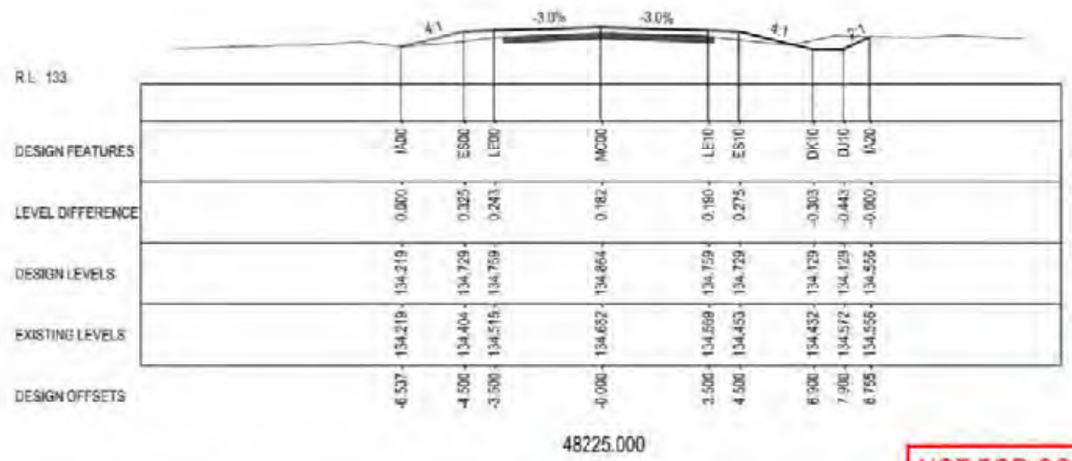

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DRAWING FILE LOCATION / NAME: C:\Data\Workset\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn				DESIGN LOT CODE: N2021081	
EXTERNAL REFERENCE FILES: XXXXXX	REV: 01	DATE: DD-MM-YY	AMENDMENT / REVISION DESCRIPTION: ISSUED FOR XXXXX	WVR No.: XX	APPROVAL: XXX

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 — SCALE 1:200m

DRAWINGS / DESIGN PREPARED BY:

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) — HEIGHT DATUM: AHD

PLOT DATE / TIME		PLOT BY
$DATE$	$TIME$	$USER$

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DSG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS: CONCEPT DESIGN — EDMS No.: qA6246429 — SHEET No.: RC-0002 — ISSUE: A

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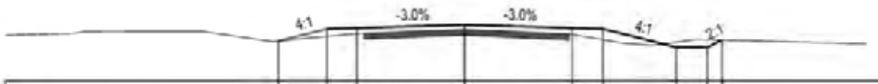


R.L. 133

DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	DK10	DJ10	IA20
LEVEL DIFFERENCE	-0.000	0.242	0.187	0.147	0.214	0.351	-0.170	-0.250	-0.000
DESIGN LEVELS	134.313	134.709	134.739	134.844	134.739	134.709	134.109	134.109	134.347
EXISTING LEVELS	134.313	134.468	134.552	134.698	134.525	134.358	134.279	134.359	134.347
DESIGN OFFSETS	-5.085	-4.500	-3.500	0.000	3.500	4.500	6.900	7.900	8.375

48300.000

R.L. 131

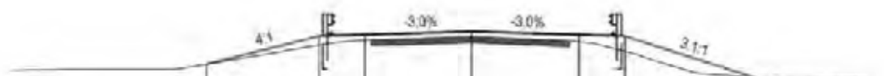
DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	-0.000	0.313	0.179	0.162	0.299	0.565	0.000
DESIGN LEVELS	134.150	134.591	134.636	134.741	134.636	134.591	132.666
EXISTING LEVELS	134.150	134.278	134.456	134.578	134.346	134.025	132.666
DESIGN OFFSETS	-5.881	-5.000	-3.500	0.000	3.500	5.000	8.849

48350.000

R.L. 133

DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	DK10	DJ10	IA20
LEVEL DIFFERENCE	0.000	0.258	0.197	0.142	0.206	0.305	-0.392	-0.497	0.000
DESIGN LEVELS	134.388	134.726	134.756	134.861	134.756	134.726	134.126	134.126	134.620
EXISTING LEVELS	134.388	134.469	134.559	134.720	134.550	134.421	134.518	134.623	134.620
DESIGN OFFSETS	-5.854	-4.500	-3.500	0.000	3.500	4.500	6.900	7.900	8.888

48275.000



R.L. 132

DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	-0.000	0.294	0.177	0.170	0.231	0.500	0.000
DESIGN LEVELS	133.736	134.651	134.696	134.801	134.696	134.651	133.269
EXISTING LEVELS	133.736	134.358	134.519	134.631	134.465	134.152	133.269
DESIGN OFFSETS	-6.660	-5.000	-3.500	0.000	3.500	5.000	9.239

48325.000

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DRAWING FILE LOCATION / NAME				DESIGN LOT CODE	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING	PLOT DATE / TIME		PLOT BY
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn				N2021081	N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt	$DATE$	$TIME$	$USER$
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING	DRAWINGS / DESIGN PREPARED BY	
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX	0 2 4 6 8 SCALE 1:200m		
						CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020)	HEIGHT DATUM: AHD	

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DSG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR
REGIONAL MAINTENANCE
PROJECT MANAGEMENT NORTHERN
REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.			PART
DS2022/000064			1
ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6246429	RC-0003	A

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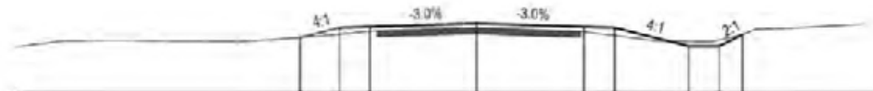
R.L. 132

DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	0.000	0.343	0.228	0.175	0.241	0.375	-0.000
DESIGN LEVELS	134.256	134.855	134.900	135.005	134.900	134.855	134.031
EXISTING LEVELS	134.256	134.512	134.672	134.830	134.659	134.480	134.031
DESIGN OFFSETS	-7.395	-5.000	-3.500	0.000	3.500	5.000	8.298

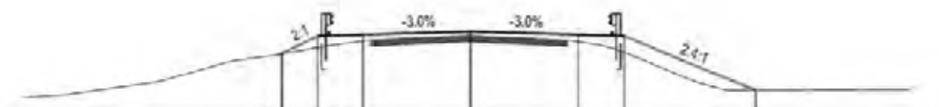
48400.000



R.L. 134

DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	DK10	DJ10	IA20
LEVEL DIFFERENCE	0.000	0.211	0.145	0.139	0.161	0.252	-0.151	-0.203	-0.000
DESIGN LEVELS	135.787	136.107	136.137	136.242	136.137	136.107	135.507	135.507	135.882
EXISTING LEVELS	135.787	135.896	135.992	136.103	135.976	135.855	135.656	135.710	135.882
DESIGN OFFSETS	-5.779	-4.500	-3.500	-0.000	3.500	4.500	6.900	7.900	8.650

48450.000



R.L. 132

DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	-0.000	0.372	0.208	0.137	0.229	0.532	0.000
DESIGN LEVELS	134.008	134.589	134.634	134.739	134.634	134.589	132.806
EXISTING LEVELS	134.008	134.217	134.425	134.601	134.405	134.057	132.806
DESIGN OFFSETS	-6.161	-5.000	-3.500	-0.000	3.500	5.000	9.279

48375.000

R.L. 133

DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	0.000	0.267	0.203	0.154	0.169	0.203	0.000
DESIGN LEVELS	134.943	135.408	135.438	135.543	135.438	135.408	134.991
EXISTING LEVELS	134.943	135.140	135.234	135.359	135.269	135.205	134.991
DESIGN OFFSETS	-6.358	-4.500	-3.500	-0.000	3.500	4.500	6.167

48425.000

NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED

DRAWING FILE LOCATION / NAME				DESIGN LOT CODE		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING		PLOT DATE / TIME		PLOT BY	CLIENT	KYOGLE COUNCIL	A3
C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn				N2021081		N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt		$DATE$	$TIME$	$USER$	NSW GOVERNMENT Transport for NSW	16 - BRUXNER HIGHWAY	
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING	DRAWINGS / DESIGN PREPARED BY	TITLE	NAME	DATE		PAVEMENT REHABILITATION AND WIDENING	
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX	0 2 4 6 8 SCALE 1:200m		DRAWN	M. ROWLES	XX.XX.XX		SEGMENT 5470 TO 5480	
								DSG CHECK	D. JOHNSON	XX.XX.XX		CROSS SECTION	
								DESIGN	M. ROWLES	XX.XX.XX			
								DESIGN CHECK	D. JOHNSON	XX.XX.XX	PREPARED FOR		
								DESIGN MNGR	D. JOHNSON	XX.XX.XX	REGIONAL MAINTENANCE		
						CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020)	HEIGHT DATUM: AHD	PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX	PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY	RMS REGISTRATION No. DS2022/000064	PART 1
												ISSUE STATUS: CONCEPT DESIGN	SDMS No. qA6246429	SHEET No. RC-0004	ISSUE A

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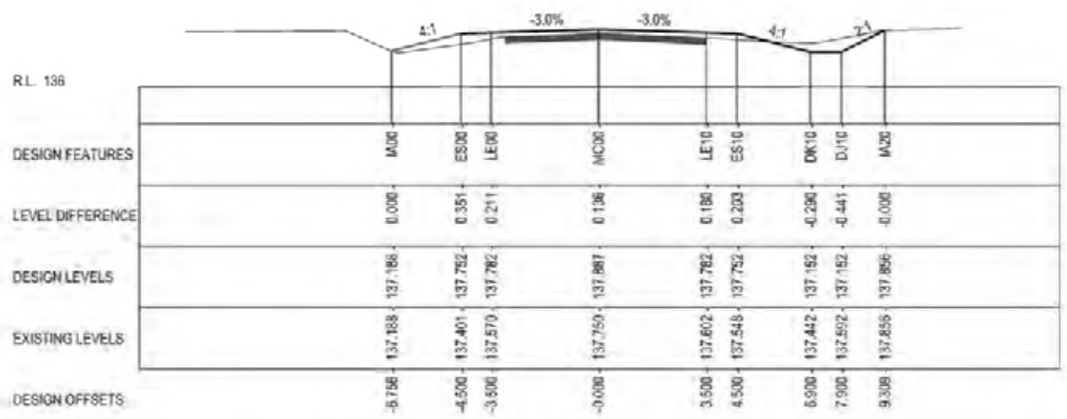
GDA 2020



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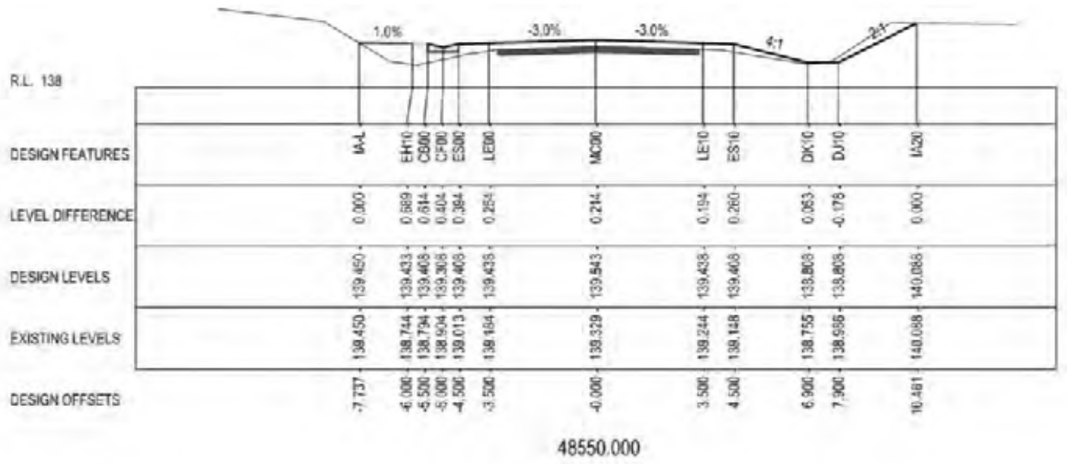

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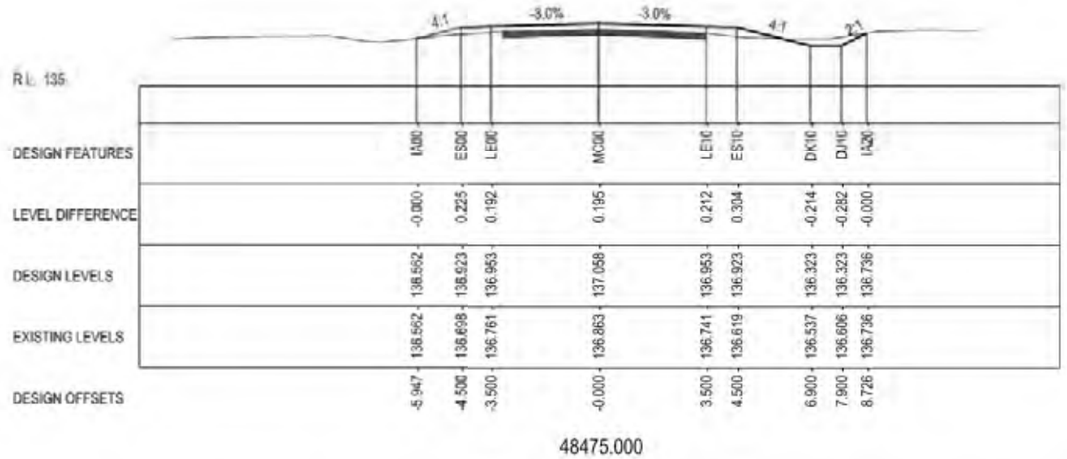

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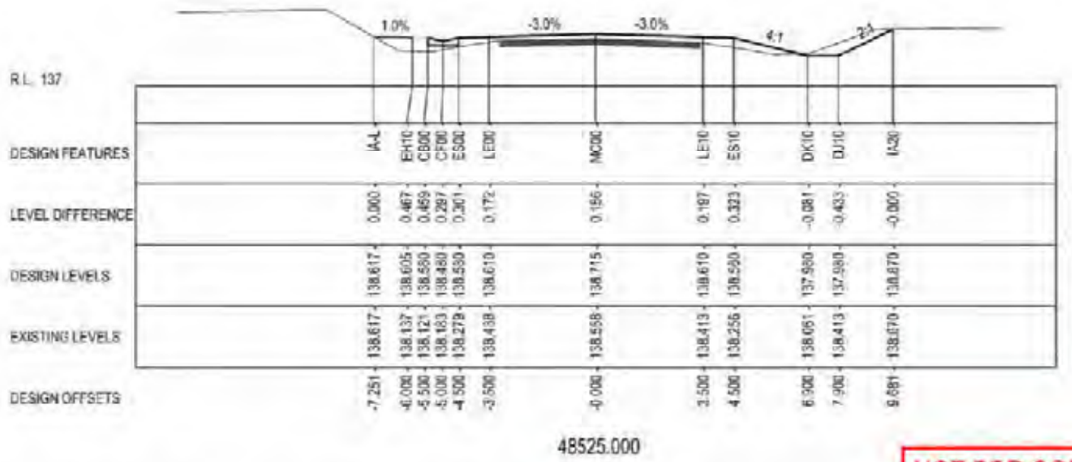

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NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED

[Scale: ON A3 SIZE ORIGINAL]

DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt	PLOT DATE / TIME: $DATES $TIMES — PLOT BY: $USERS

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 — SCALE 1:200m

DRAWINGS / DESIGN PREPARED BY:

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) — HEIGHT DATUM: AHD

	NAME	DATE
TITLE		
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS: CONCEPT DESIGN — EDMS No.: qA6246129 — SHEET No.: RC-0005 — ISSUE: A

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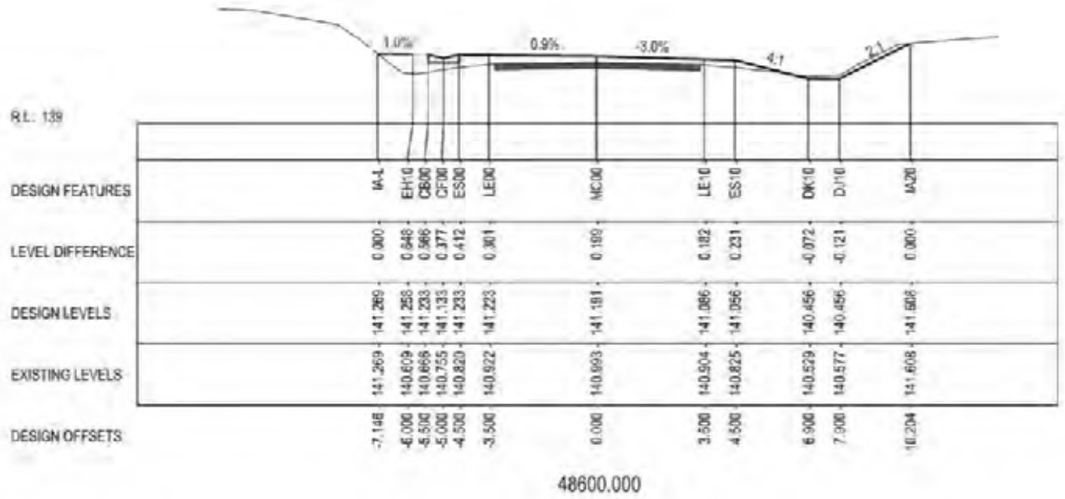

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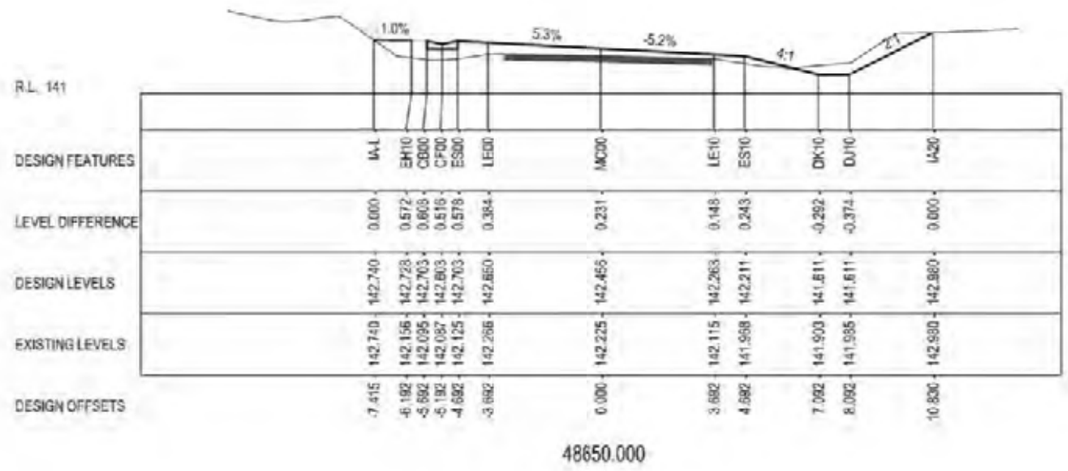

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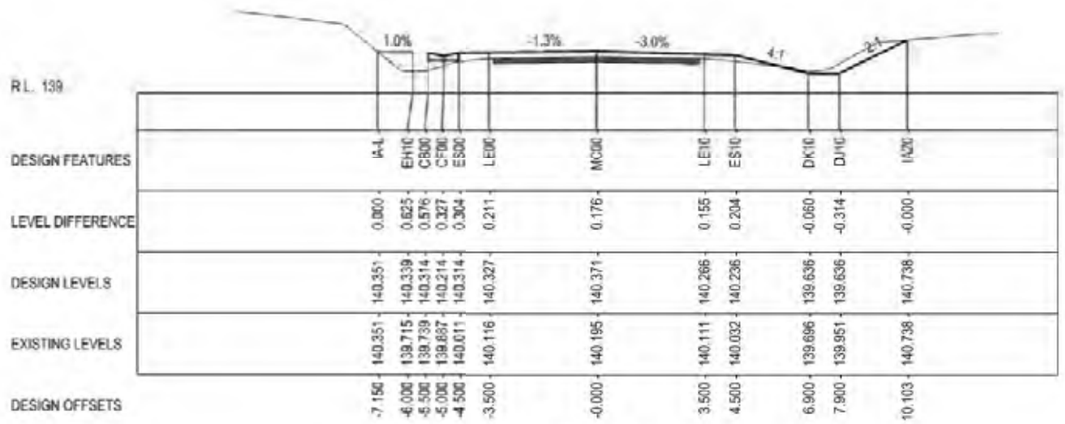

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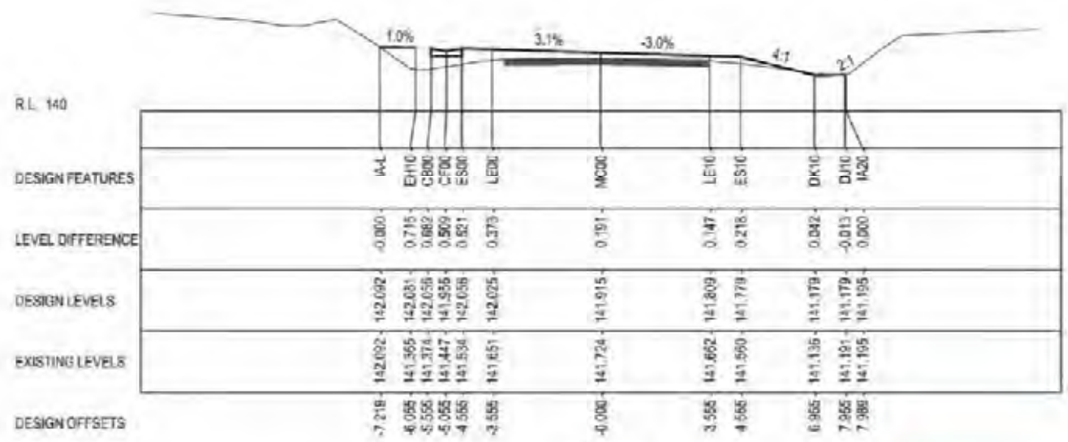

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DRAWING FILE LOCATION / NAME: C:\Data\Workspaces\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\Dgns\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dgn	PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$
EXTERNAL REFERENCE FILES: XXXXXX	REV: 01 DATE: DD-MM-YY AMENDMENT / REVISION DESCRIPTION: ISSUED FOR XXXXX	WVR No.: XX APPROVAL: XXX	SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m
		CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD	DRAWINGS / DESIGN PREPARED BY:

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 PART: 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No.: qA6246129 | SHEET No.: RC-0006 | ISSUE: A

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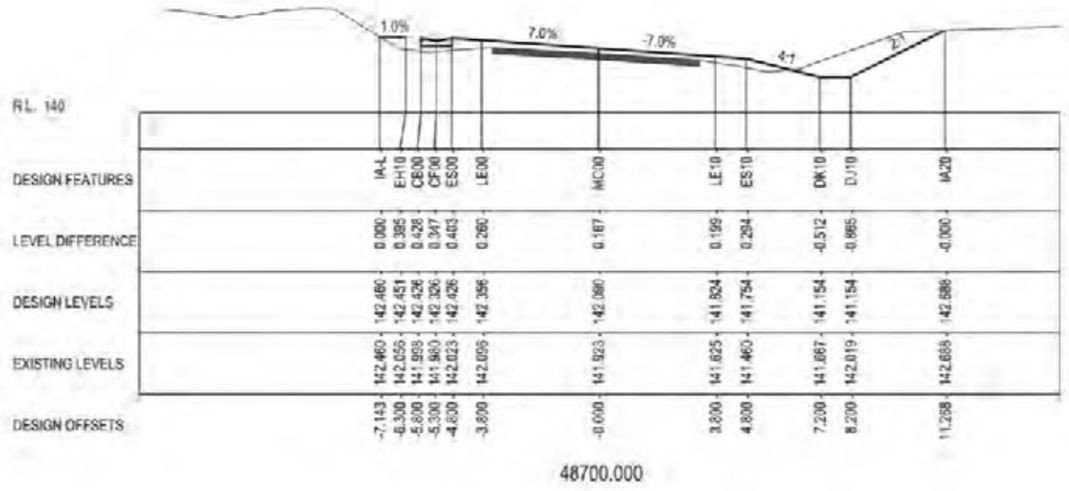

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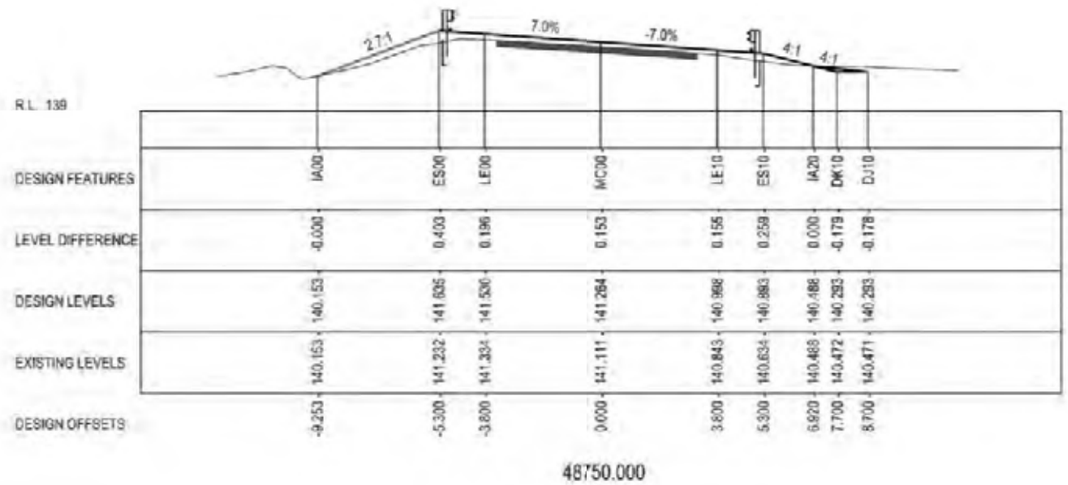

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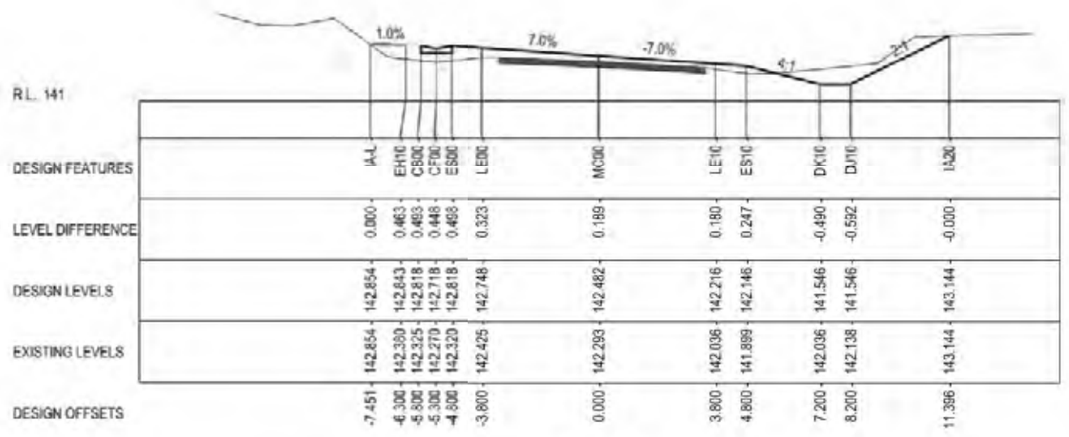

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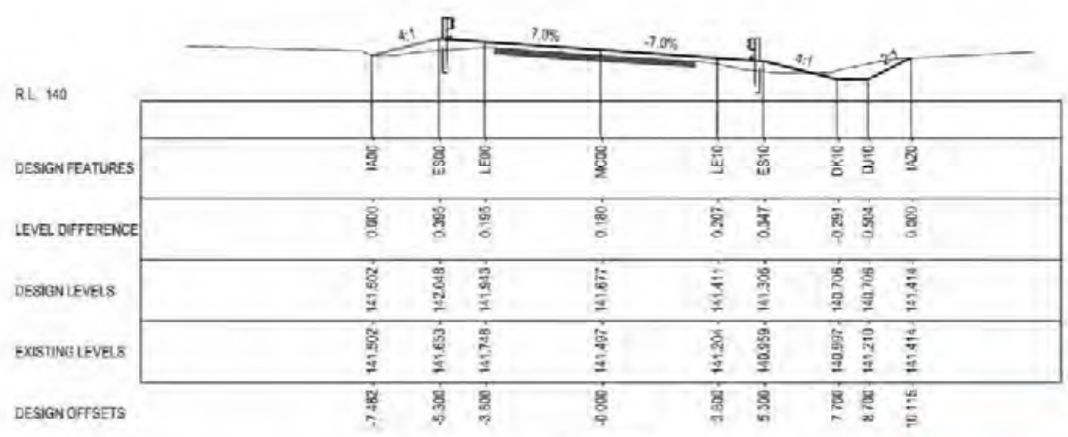

48725.000

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[Scale on A3 size original]

DRAWING FILE LOCATION / NAME	DESIGN LOT CODE	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING	PLOT DATE / TIME	PLOT BY	CLIENT	
C:\Civil\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	N2021081	N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt	$DATE$ $TIME$	$USER$	NSW Transport for NSW	A3

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY

	NAME	DATE
TITLE		
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No. qA6246129 | SHEET No. RC-0007 | ISSUE A

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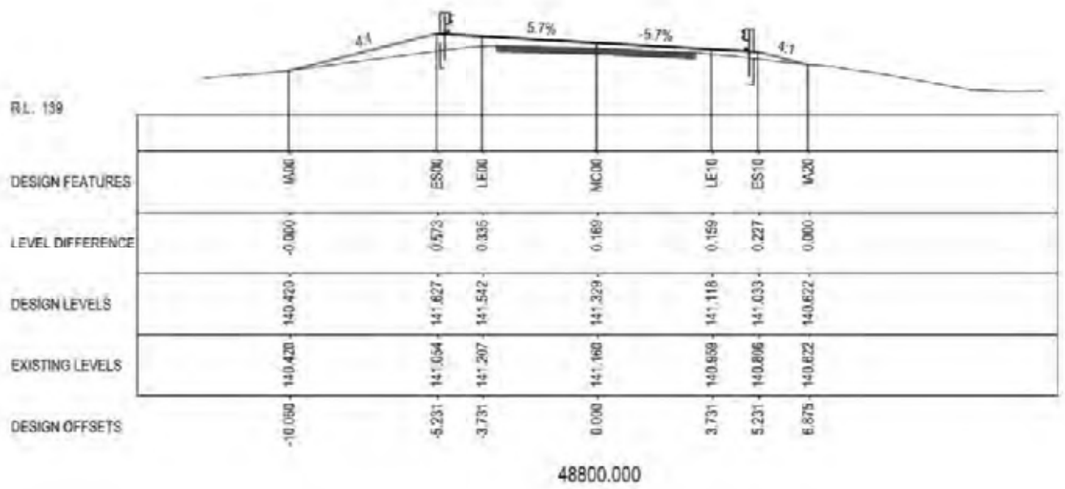

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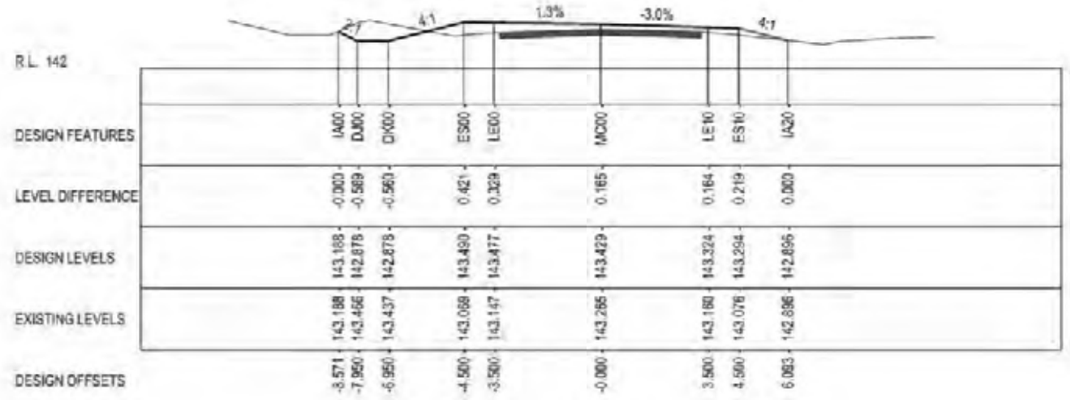

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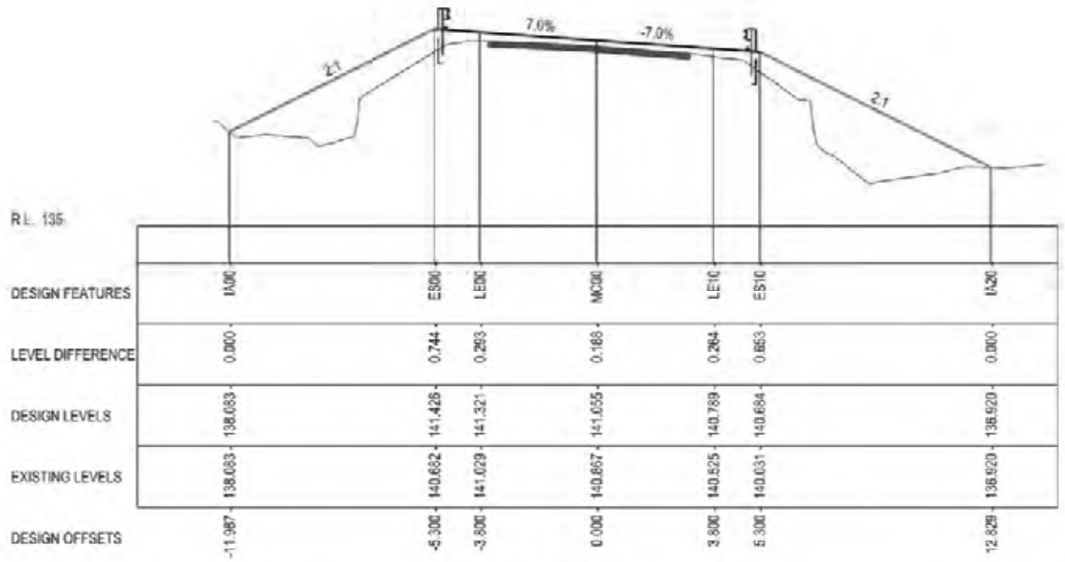

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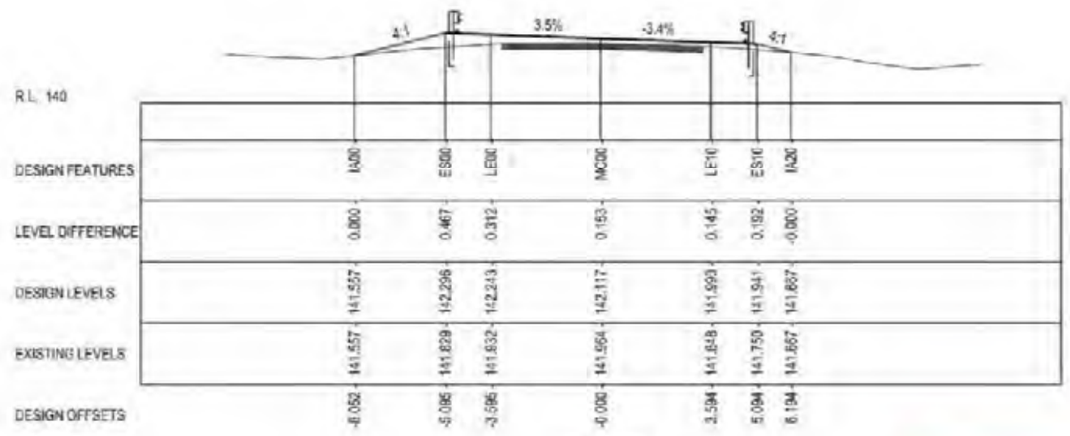

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DRAWING FILE LOCATION / NAME: C:\Data\Workssets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn				DESIGN LOT CODE: N2021081		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxl	
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING	DRAWINGS / DESIGN PREPARED BY
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX	0 2 4 6 8 SCALE 1:200m	
						CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD	

PLOT DATE / TIME		PLOT BY
$DATE$	$TIME$	$USER$

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No.: qA6246429 | SHEET No.: RC-0008 | ISSUE: A

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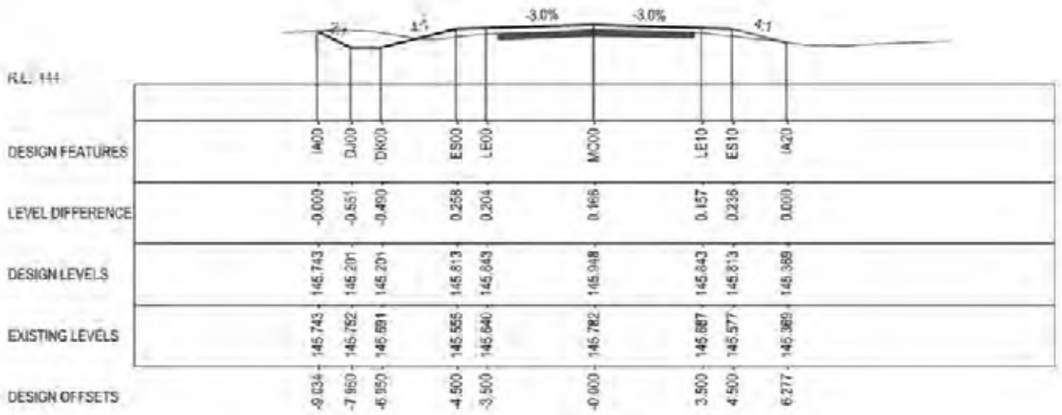

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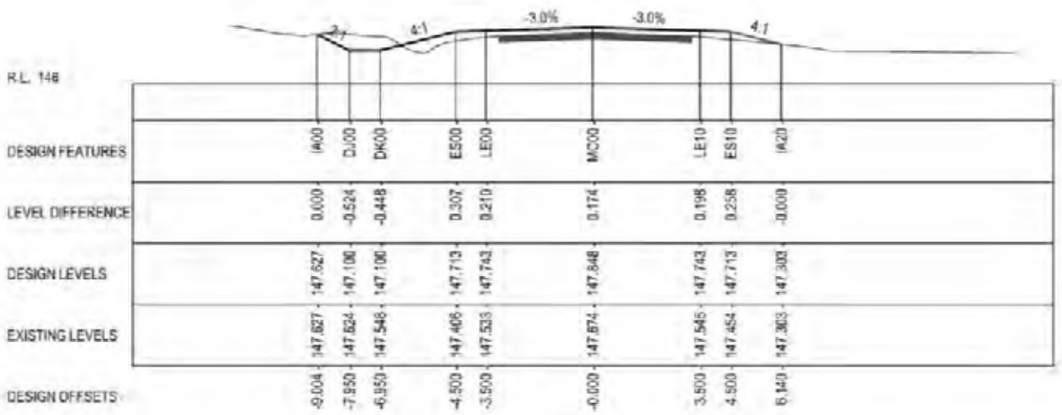

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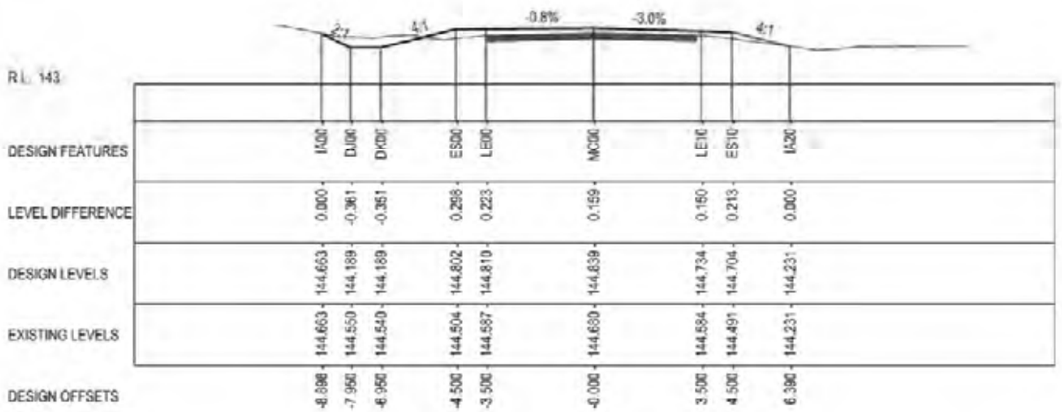

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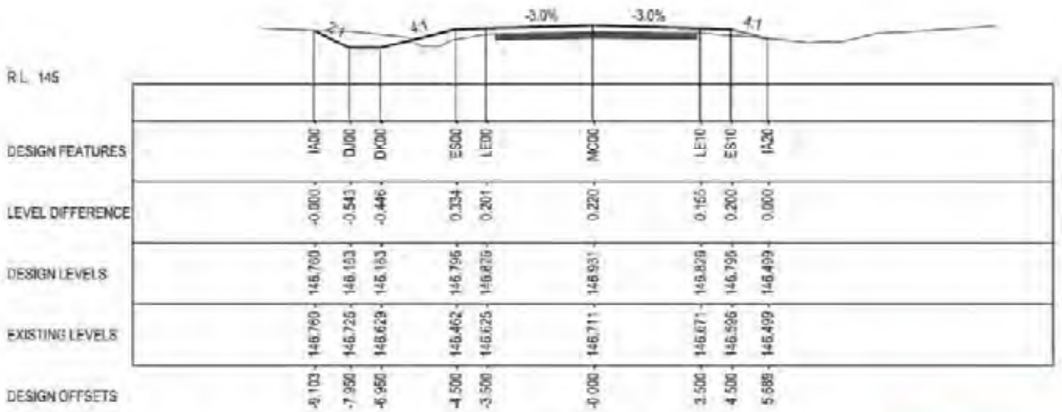

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DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\C7-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt	PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$
EXTERNAL REFERENCE FILES: XXXXXX	REV: 01 DATE: DD-MM-YY AMENDMENT / REVISION DESCRIPTION: ISSUED FOR XXXXX	WVR No.: XX APPROVAL: XXX	SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m
		CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD	DRAWINGS / DESIGN PREPARED BY

TITLE	NAME	DATE
DRAWN	M. ROWLES	DD/MM/YY
DSG CHECK	D. JOHNSON	DD/MM/YY
DESIGN	M. ROWLES	DD/MM/YY
DESIGN CHECK	D. JOHNSON	DD/MM/YY
DESIGN MNGR	D. JOHNSON	DD/MM/YY
PROJECT MNGR	R. GERSEKOWSKI	DD/MM/YY

CLIENT: NSW DEVELOPMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 PART: 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No.: qA6246429 | SHEET No.: RC-0009 | ISSUE: A

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R.L. 148

DESIGN FEATURES	LEVEL DIFFERENCE	DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
IA00	0.000	149.564	149.564	-9.209
DJ00	-0.765	148.935	149.700	-7.950
DK00	-0.685	148.935	149.619	-6.950
ES00	0.300	149.547	149.247	-4.500
LE00	0.176	149.577	149.401	-3.500
MC00	0.147	149.682	149.535	0.000
LE10	0.191	149.577	149.386	3.500
ES10	0.256	149.547	149.291	4.500
IA20	-0.000	148.901	148.901	7.083

49000.000

R.L. 149

DESIGN FEATURES	LEVEL DIFFERENCE	DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
IA00	-0.000	151.184	151.184	-9.542
DJ00	-0.911	150.388	151.300	-7.950
DK00	-0.847	150.388	151.235	-6.950
ES00	0.364	151.001	150.637	-4.500
LE00	0.190	151.031	150.840	-3.500
MC00	0.163	151.136	150.973	0.000
LE10	0.224	151.031	150.807	3.500
ES10	0.312	151.001	150.689	4.500
IA20	-0.000	150.337	150.337	7.156

49050.000

R.L. 147

DESIGN FEATURES	LEVEL DIFFERENCE	DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
IA00	-0.000	148.691	148.691	-9.297
DJ00	-0.757	148.017	148.775	-7.950
DK00	-0.694	148.017	148.711	-6.950
ES00	0.292	148.630	148.338	-4.500
LE00	0.246	148.660	148.414	-3.500
MC00	0.162	148.765	148.603	-0.000
LE10	0.169	148.660	148.491	3.500
ES10	0.229	148.630	148.401	4.500
IA20	0.000	148.138	148.138	6.466

48975.000

R.L. 148

DESIGN FEATURES	LEVEL DIFFERENCE	DESIGN LEVELS	EXISTING LEVELS	DESIGN OFFSETS
IA00	0.000	150.451	150.451	-6.337
DJ00	-0.805	149.757	150.562	-7.950
DK00	-0.582	149.757	150.339	-6.950
ES00	0.337	150.370	150.033	-4.500
LE00	0.175	150.400	150.225	-3.500
MC00	0.170	150.505	150.335	-0.000
LE10	0.187	150.400	150.213	3.500
ES10	0.264	150.370	150.106	4.500
IA20	0.000	149.557	149.557	7.752

49025.000

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DRAWING FILE LOCATION / NAME	DESIGN LOT CODE	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING	PLOT DATE / TIME	PLOT BY
C:\Data\Workspaces\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	N2021081	N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt	$DATES $TIMES	$USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 — SCALE 1:200m

DRAWINGS / DESIGN PREPARED BY

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) — HEIGHT DATUM: AHD

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DBG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No. DS2022/000064 — PART 1

ISSUE STATUS: CONCEPT DESIGN — EDMS No. qA6246429 — SHEET No. RC-0010 — ISSUE A

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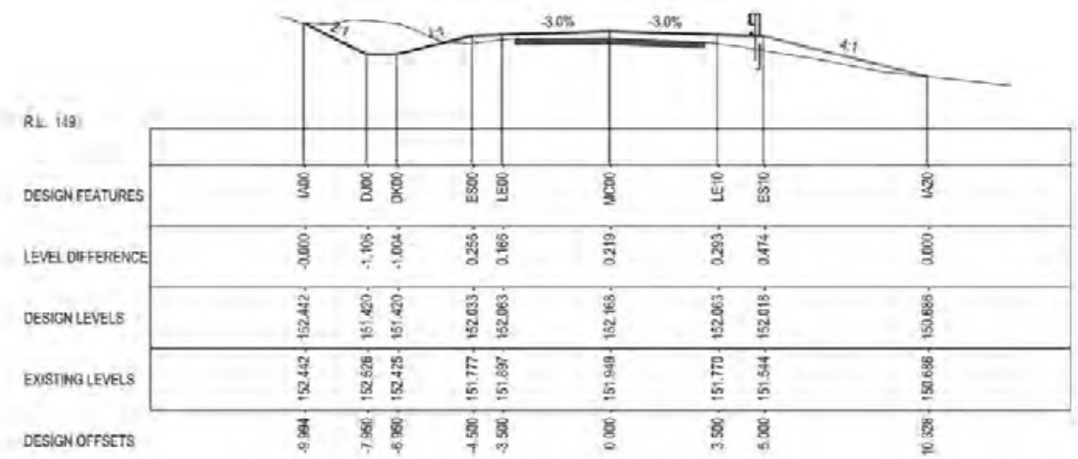

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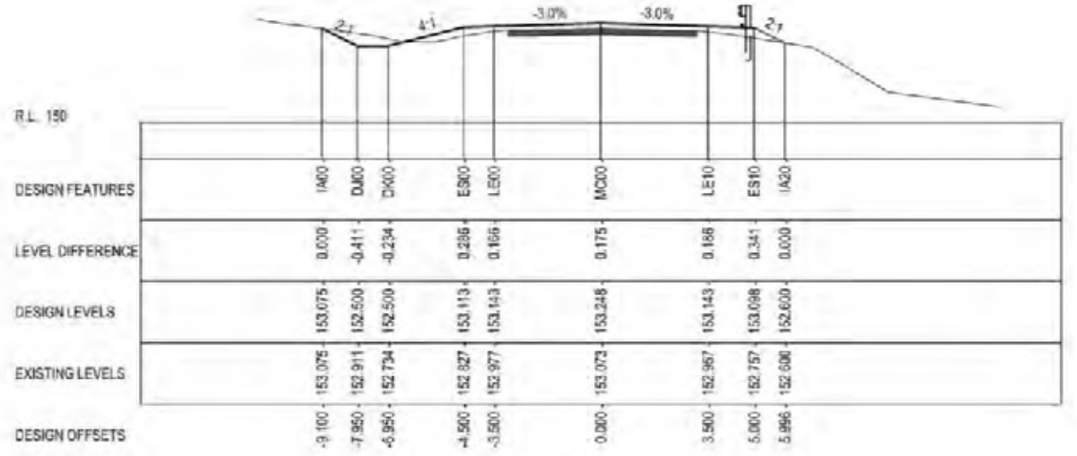

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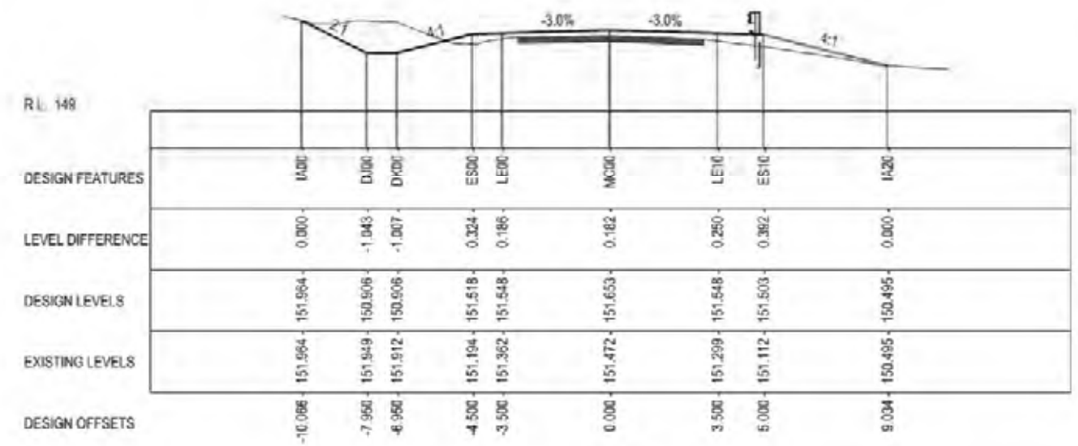

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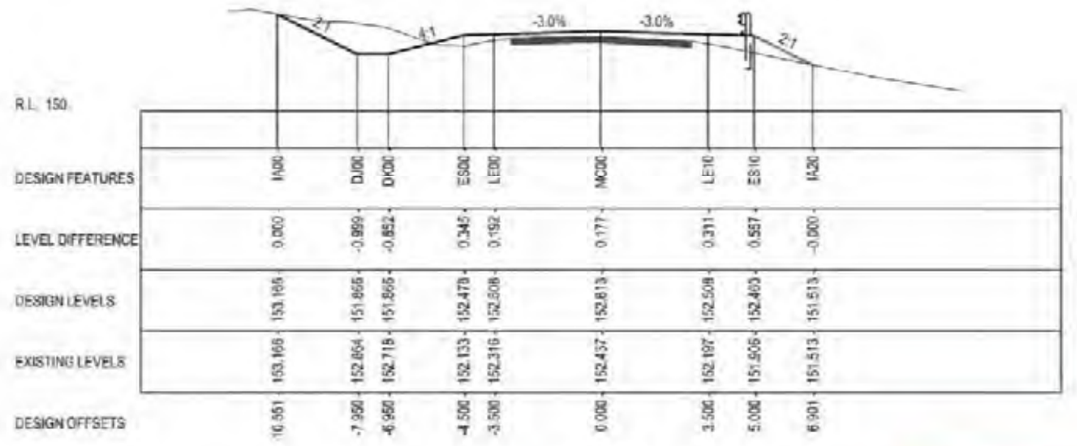

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DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn				DESIGN LOT CODE: N2021081		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX	CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY

PLOT DATE / TIME: $DATE$ $TIME$	PLOT BY: $USER$	
TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS: CONCEPT DESIGN — EDMS No.: qA6246129 — SHEET No.: RC-0011 — ISSUE: A

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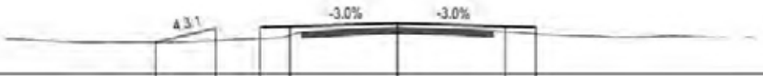


R.L. 154

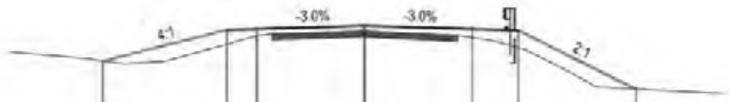
DESIGN FEATURES	IA75	ES71	ES00	LE00	MC00	LE10	ES10
LEVEL DIFFERENCE	0.000	0.403	0.365	0.293	0.135	0.173	0.214
DESIGN LEVELS	155.030	155.483	155.512	155.542	155.647	155.542	155.512
EXISTING LEVELS	155.030	155.080	155.148	155.249	155.512	155.369	155.298
DESIGN OFFSETS	-7.908	-5.937	-4.500	-3.500	0.000	3.500	4.500

49200.000

R.L. 156

DESIGN FEATURES	IA00	DJ00	DK00	ES00	LE00	MC00	LE10	ES10	DK10	DJ10	IA20
LEVEL DIFFERENCE	-0.000	-0.833	-0.768	0.378	0.225	0.148	0.216	0.315	-0.346	-0.388	-0.000
DESIGN LEVELS	158.314	157.381	157.381	157.993	158.023	158.128	158.023	157.993	157.393	157.393	157.766
EXISTING LEVELS	158.314	158.213	158.148	157.615	157.798	157.980	157.807	157.678	157.739	157.781	157.766
DESIGN OFFSETS	-9.817	-7.950	-6.950	-4.500	-3.500	-0.000	3.500	4.500	6.900	7.900	8.646

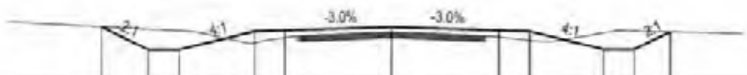
49250.000



R.L. 151

DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	-0.000	0.470	0.225	0.158	0.280	0.565	0.000
DESIGN LEVELS	153.128	154.143	154.173	154.278	154.173	154.128	152.209
EXISTING LEVELS	153.128	153.673	153.948	154.119	153.893	153.563	152.209
DESIGN OFFSETS	-8.558	-4.500	-3.500	0.000	3.500	5.000	8.838

49175.000



R.L. 155

DESIGN FEATURES	IA00	DJ00	DK00	ES00	LE00	MC00	LE10	ES10	DK10	DJ10	IA20
LEVEL DIFFERENCE	-0.000	-0.682	-0.630	0.380	0.239	0.169	0.223	0.308	-0.548	-0.609	-0.000
DESIGN LEVELS	156.916	156.155	156.155	156.767	156.797	156.902	156.797	156.767	156.167	156.167	156.751
EXISTING LEVELS	156.916	156.837	156.785	156.387	156.558	156.743	156.574	156.459	156.715	156.777	156.751
DESIGN OFFSETS	-9.472	-7.950	-6.950	-4.500	-3.500	0.000	3.500	4.500	6.900	7.900	9.068

49225.000

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DRAWING FILE LOCATION / NAME				DESIGN LOT CODE		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING		PLOT DATE / TIME		PLOT BY		CLIENT	KYOGLE COUNCIL	A3
C:\Data\Workspaces\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn				N2021081		N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.txt		$DATE$	$TIME$	$USER$		NSW GOVERNMENT Transport for NSW	16 - BRUXNER HIGHWAY	
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING	DRAWINGS / DESIGN PREPARED BY	TITLE	NAME	DATE			PAVEMENT REHABILITATION AND WIDENING	
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX	0 2 4 6 8 SCALE 1:200m		DRAWN	M. ROWLES	XX.XX.XX			SEGMENT 5470 TO 5480	
								DBG CHECK	D. JOHNSON	XX.XX.XX			CROSS SECTION	
								DESIGN	M. ROWLES	XX.XX.XX				
								DESIGN CHECK	D. JOHNSON	XX.XX.XX		PREPARED FOR	PMS REGISTRATION No. DS2022/000064	PART 1
						CO-ORDINATE SYSTEM MGA ZONE 56 (GDA2020)	HEIGHT DATUM AHD	DESIGN MNGR	D. JOHNSON	XX.XX.XX		REGIONAL MAINTENANCE		
								PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX		PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY	ISSUE STATUS CONCEPT DESIGN / EDMS No. qA6246429 / SHEET No. RC-0012	ISSUE A

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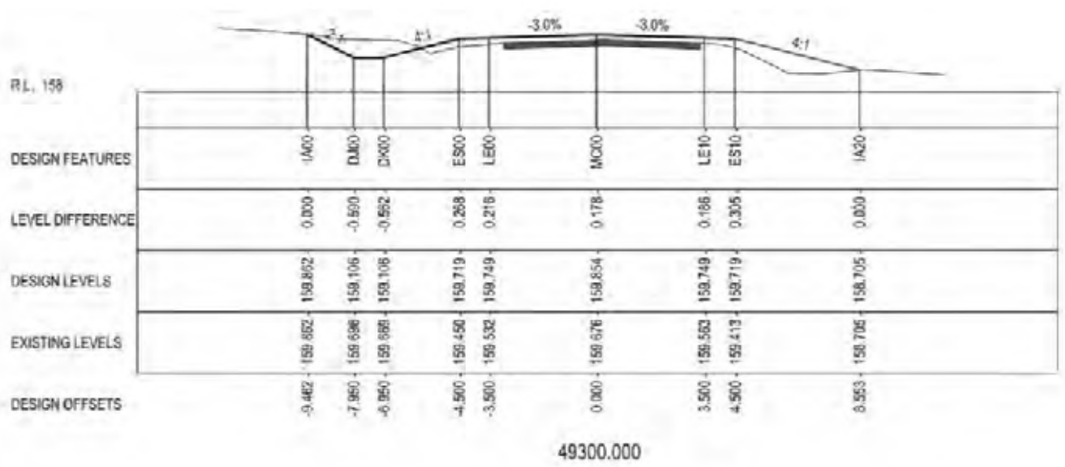

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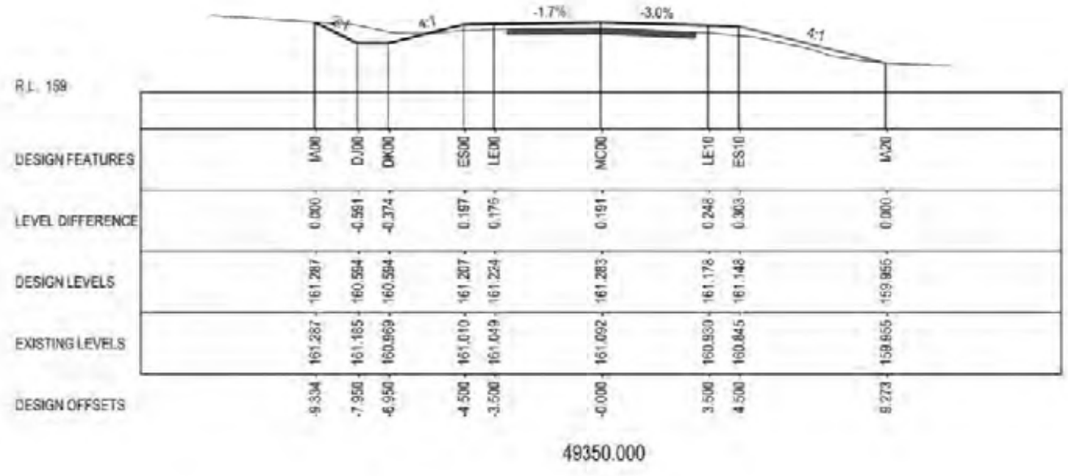

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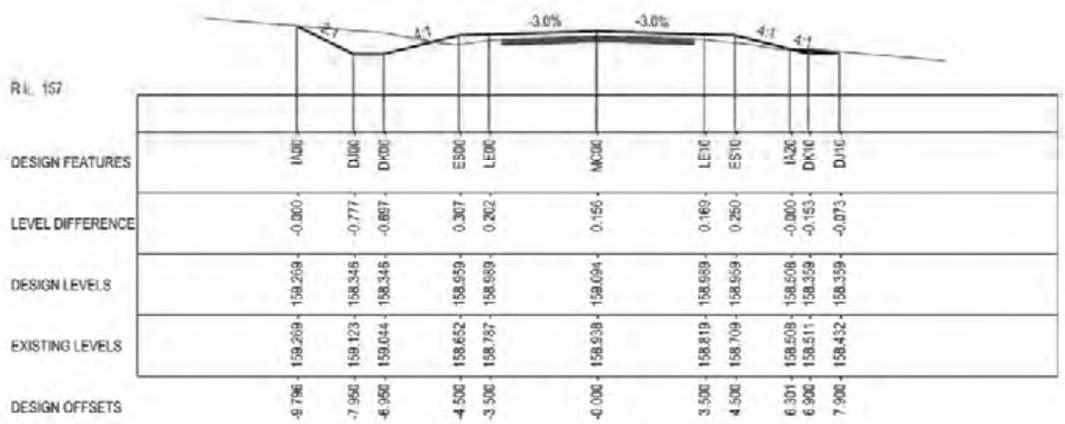

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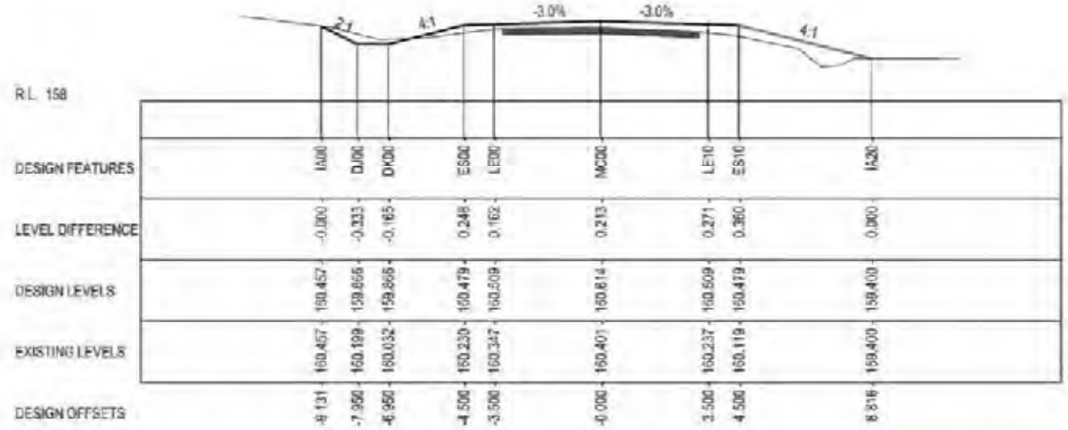

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[Scale ON A3 SIZE ORIGINAL]

DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE/S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt	PLOT DATE / TIME: $DATES $TIMES — PLOT BY: $USERS

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX

WVR No.	APPROVAL
XX	XXX

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 — SCALE 1:200m

DRAWINGS / DESIGN PREPARED BY:

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) — HEIGHT DATUM: AHD

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
CONCEPT DESIGN	qA6246129	RC-0013	A

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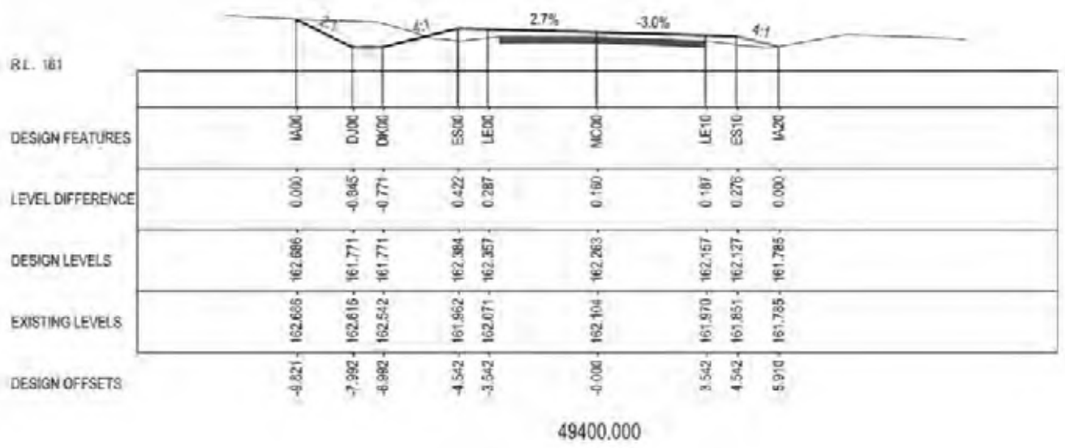

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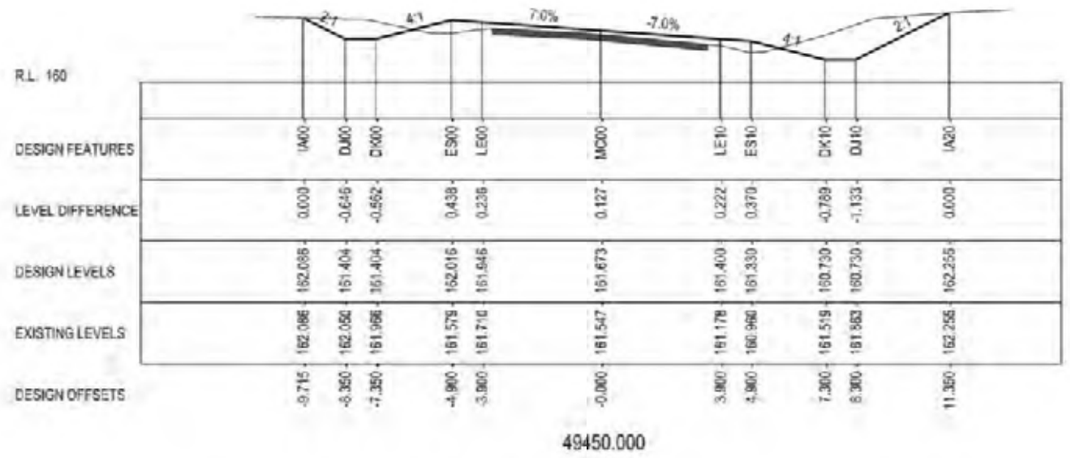

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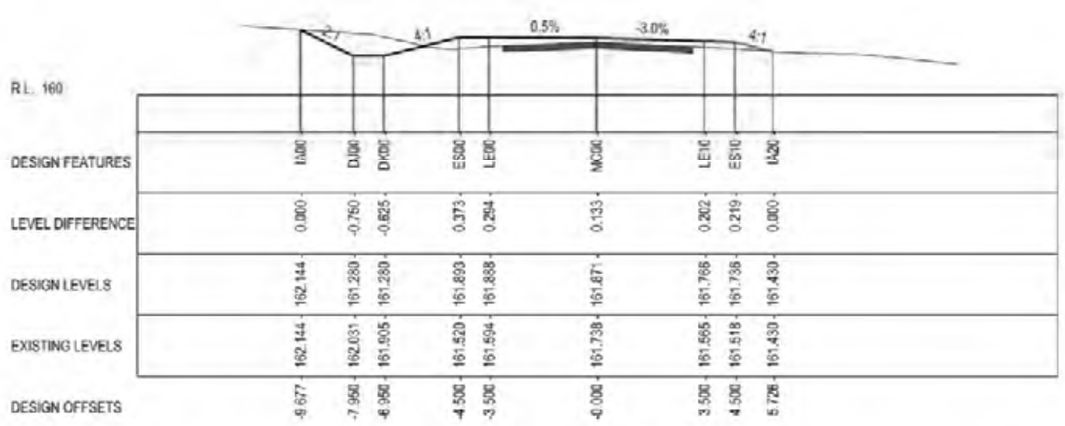

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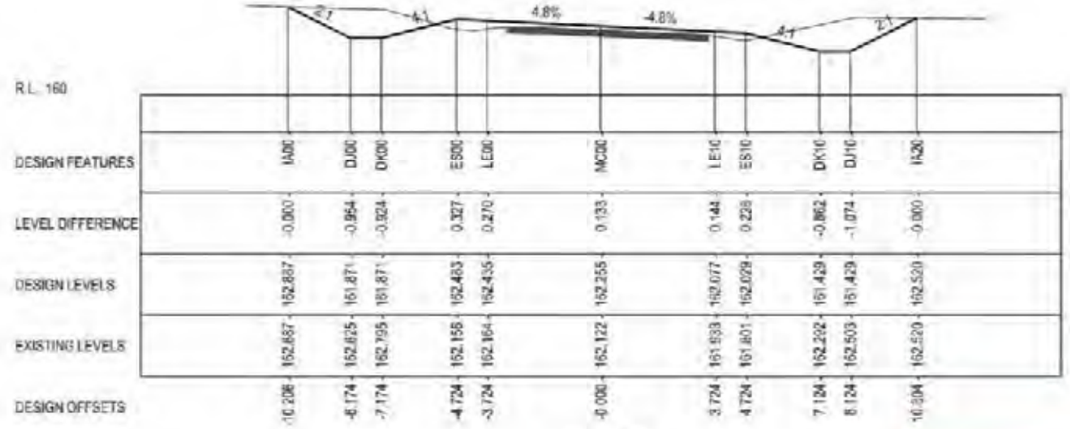

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DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\Edge\C7-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dgn	PLOT DATE / TIME: $DATE$ $TIME$ PLOT BY: $USER$
EXTERNAL REFERENCE FILES: XXXXXX	REV: 01 DATE: DD-MM-YY AMENDMENT / REVISION DESCRIPTION: ISSUED FOR XXXXX	WVR No.: XX APPROVAL: XXX	SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m
CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD	DRAWINGS / DESIGN PREPARED BY	TITLE / NAME / DATE: DRAWN M. ROWLES; DES CHECK D. JOHNSON; DESIGN M. ROWLES; DESIGN CHECK D. JOHNSON; DESIGN MNGR D. JOHNSON; PROJECT MNGR R. GERSEKOWSKI	CLIENT: NSW GOVERNMENT Transport for NSW
PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY	KYOGLE COUNCIL 16 - BRUXNER HIGHWAY PAVEMENT REHABILITATION AND WIDENING SEGMENT 5470 TO 5480 CROSS SECTION	A3	
RMS REGISTRATION No.: DS2022/000064	PART: 1	ISSUE STATUS: CONCEPT DESIGN	EDMS No.: qA6246429
SHEET No.: RC-0014	ISSUE: A		

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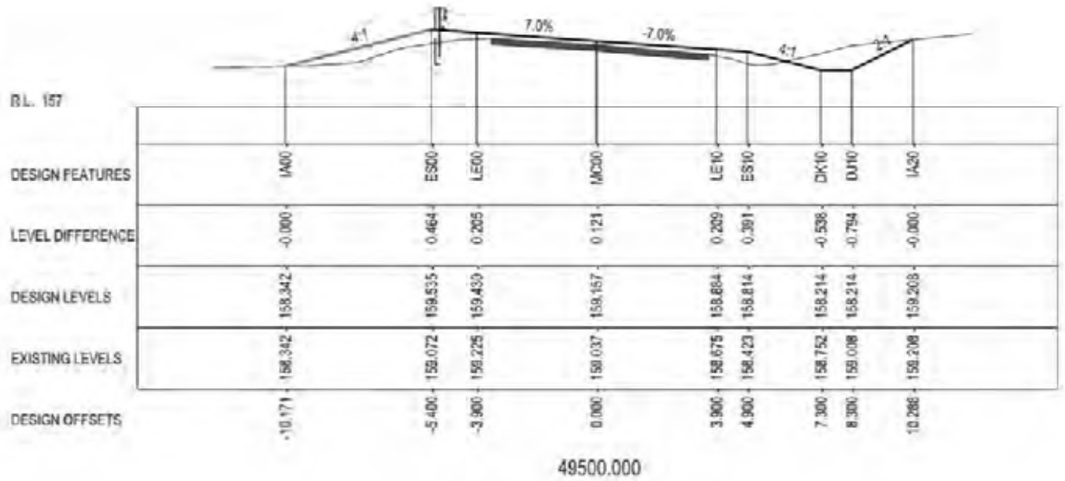

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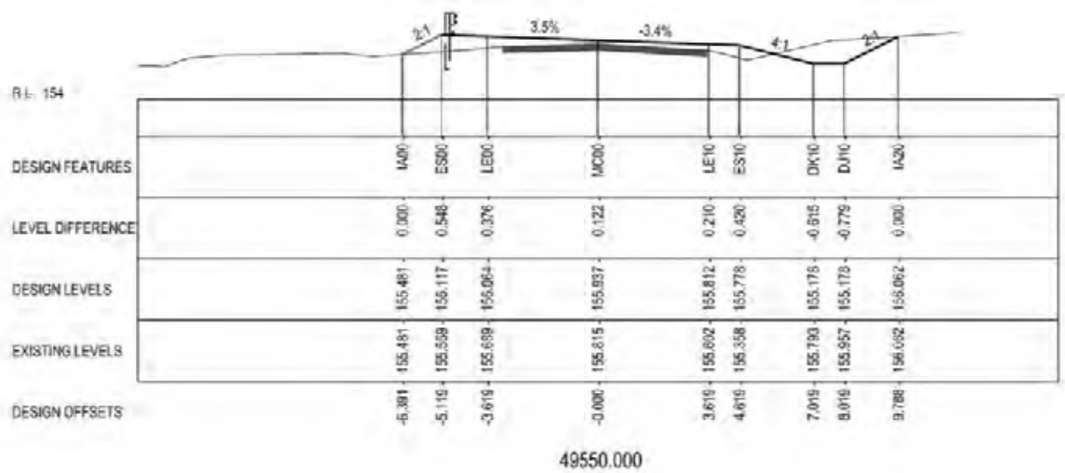

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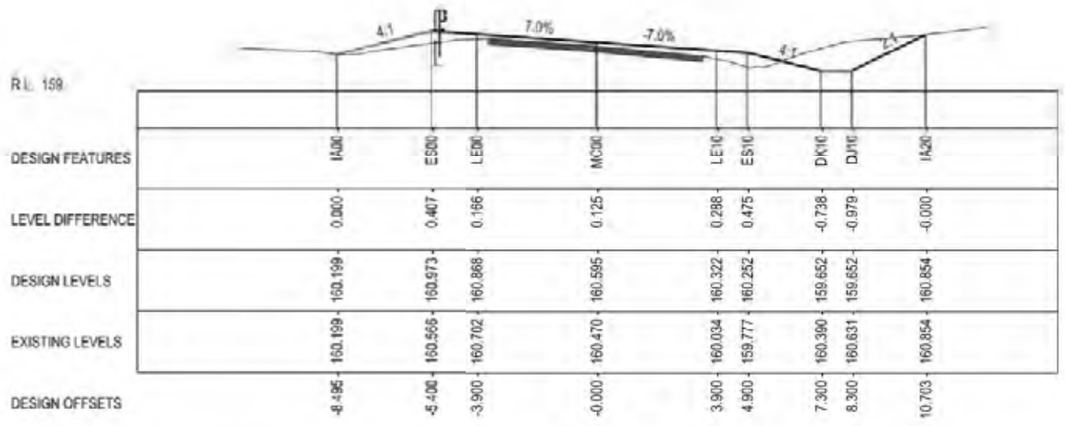

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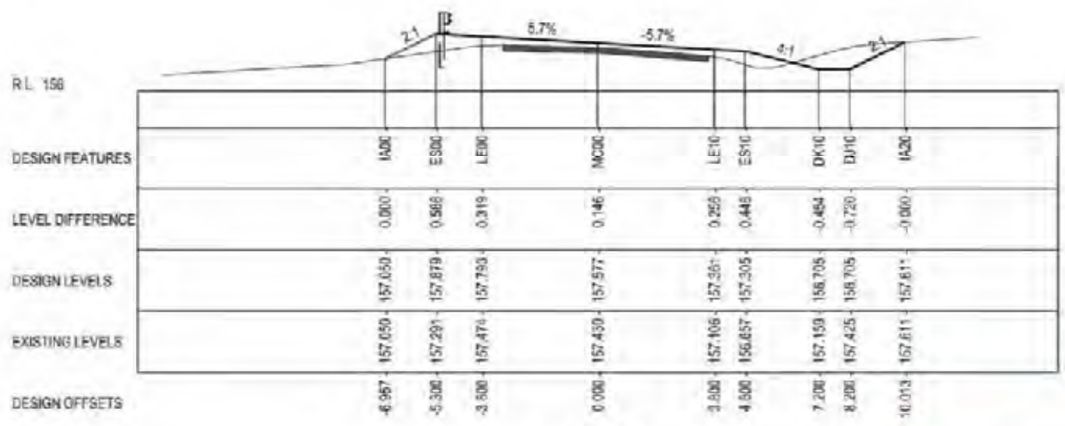

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DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn				DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt		
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m	DRAWINGS / DESIGN PREPARED BY
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX	CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD	

PLOT DATE / TIME: $DATES $TIMES	PLOT BY: $USERS	
TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DSG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW DEVELOPMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No.: qA6246429 | SHEET No.: RC-0015 | ISSUE: A

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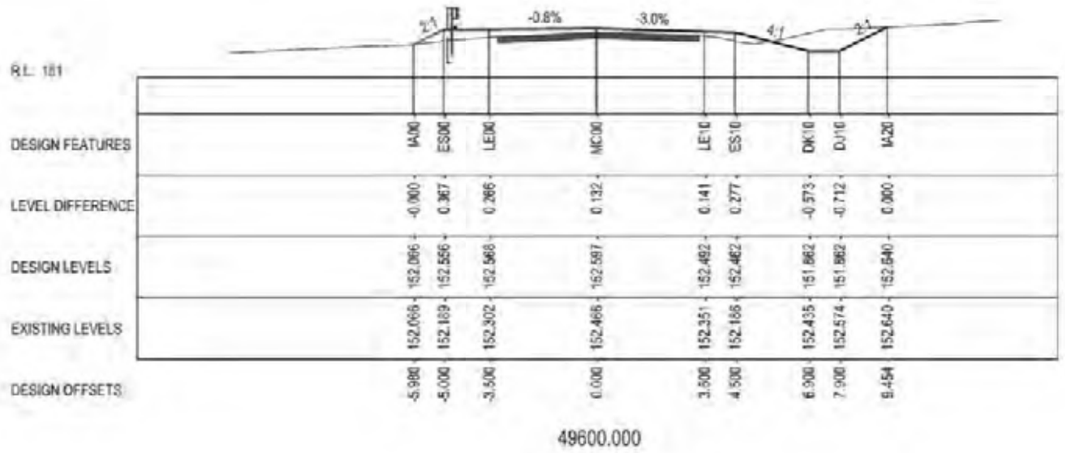

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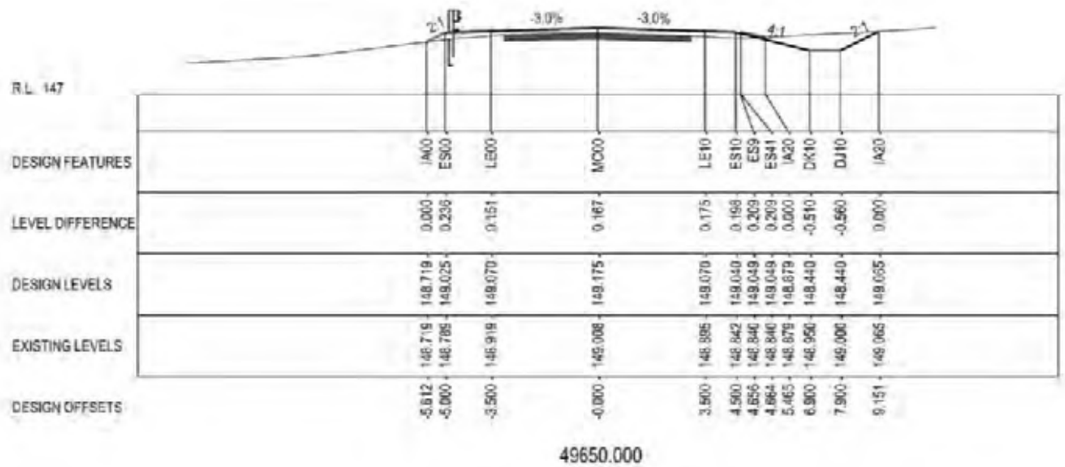

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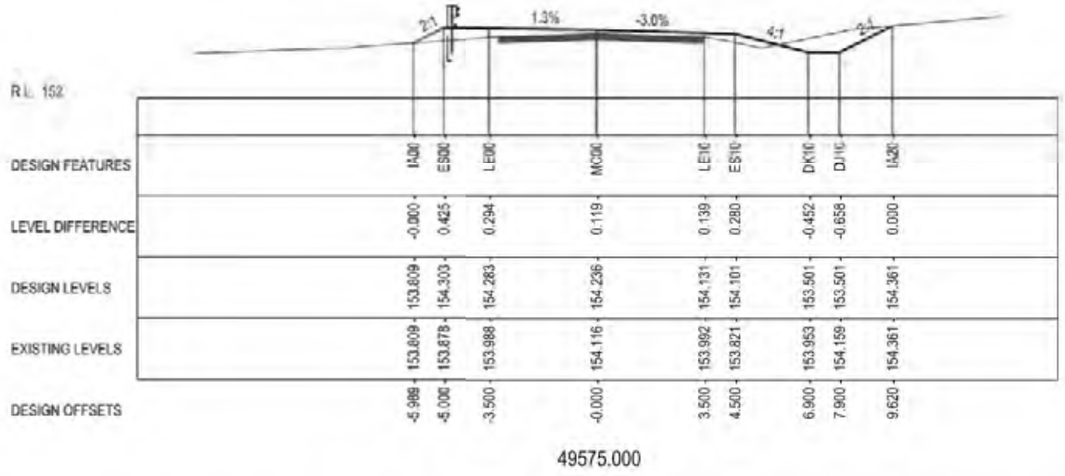
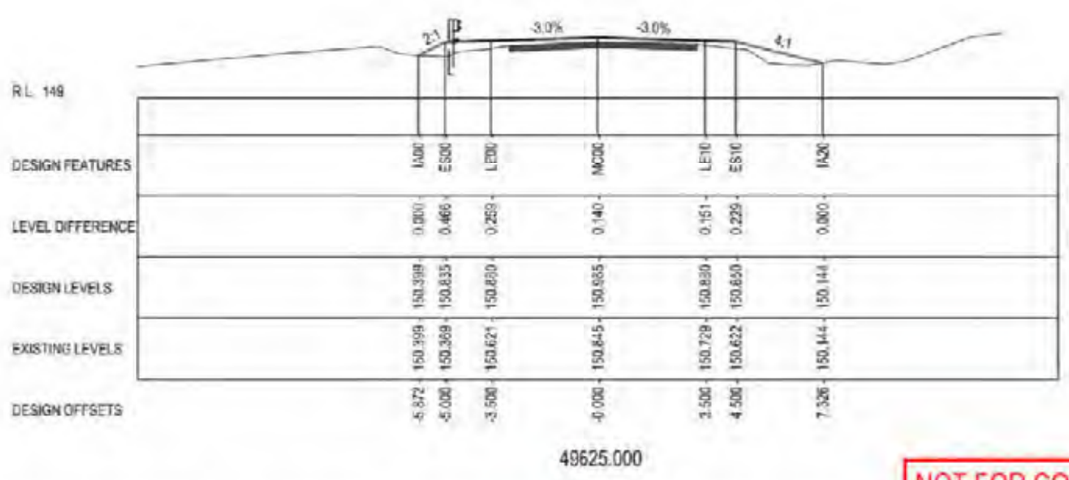


49575.000



49625.000

NOT FOR CONSTRUCTION

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DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt	PLOT DATE / TIME: $DATES $TIMES; PLOT BY: $USERS

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY

	NAME	DATE
TITLE		
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No. DS2022/000064 PART 1

ISSUE STATUS: CONCEPT DESIGN EDMS No. qA6246429 SHEET No. RC-0016 ISSUE A

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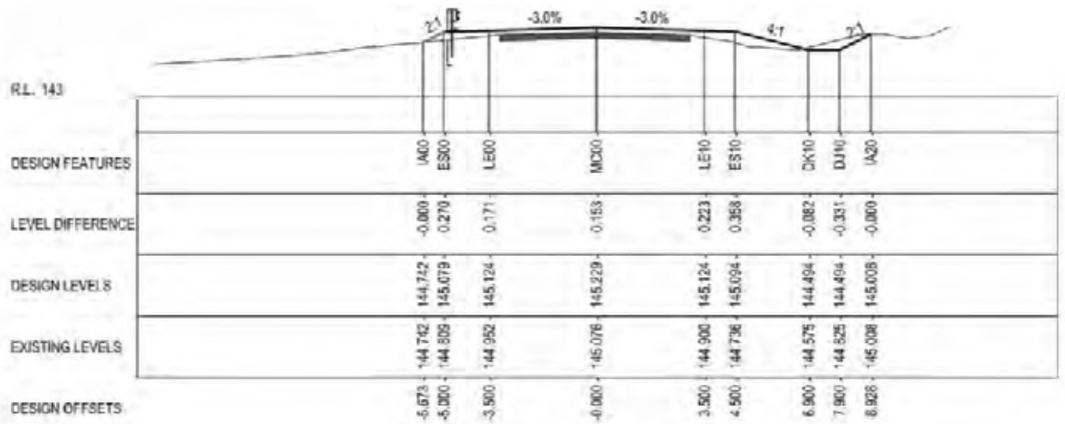

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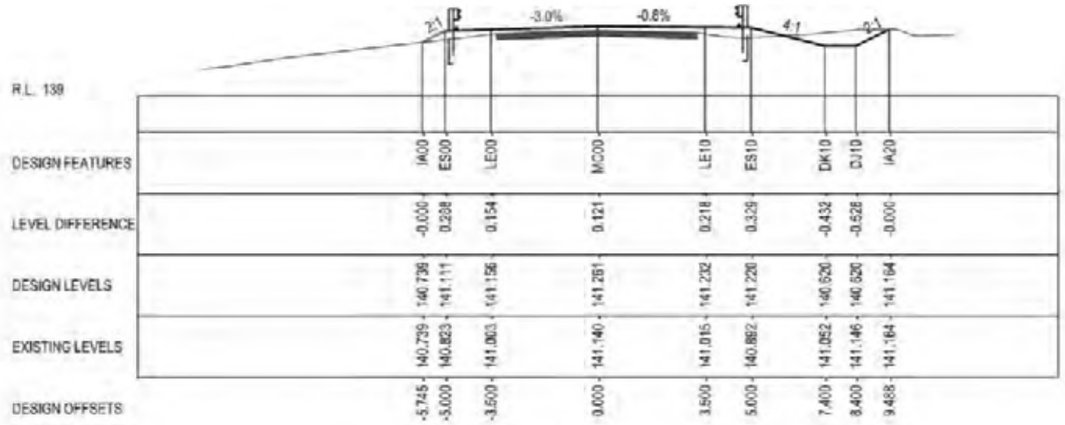

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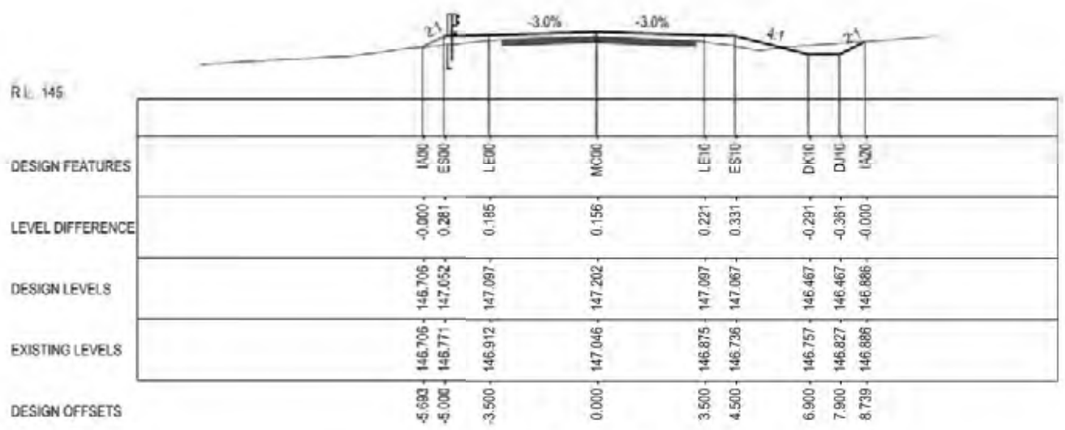

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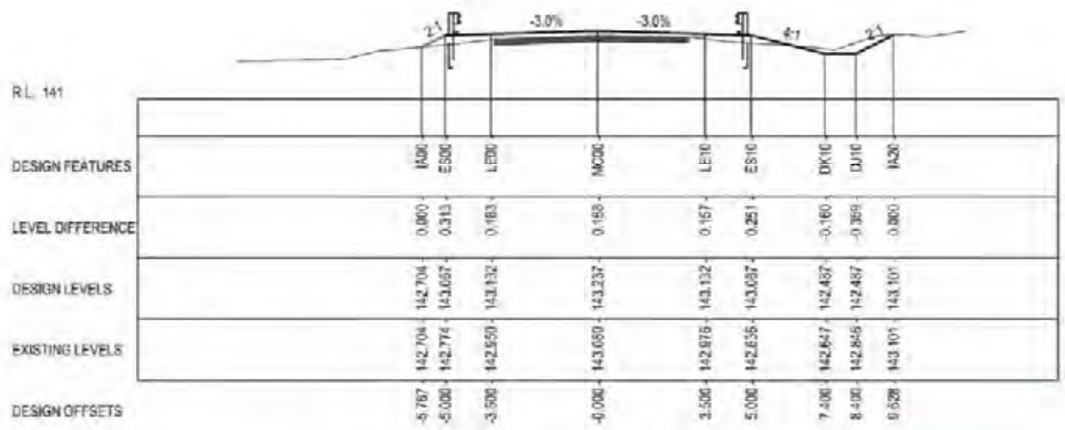

49725.000

NOT FOR CONSTRUCTION

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DRAWING FILE LOCATION / NAME: C:\Data\Workspaces\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn	DESIGN LOT CODE: N2021081	DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt	PLOT DATE / TIME: $DATE$ $TIME$ — PLOT BY: $USER$

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 — SCALE 1:200m

DRAWINGS / DESIGN PREPARED BY

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) — HEIGHT DATUM: AHD

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS: CONCEPT DESIGN — EDMS No.: qA6246129 — SHEET No.: RC-0017 — ISSUE: A

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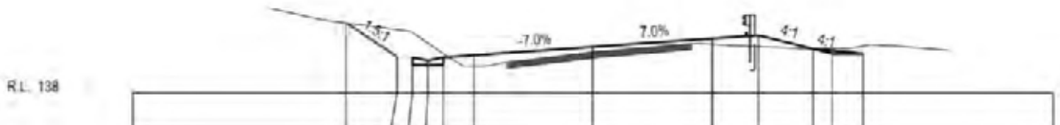
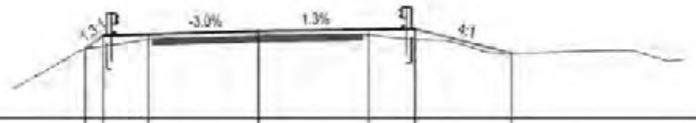
R.L. 134						
DESIGN FEATURES	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	0.622	0.378	0.192	0.200	0.539	-0.000
DESIGN LEVELS	138.672	139.023	139.151	139.281	139.334	137.682
EXISTING LEVELS	138.149	138.645	138.958	139.081	138.804	137.682
DESIGN OFFSETS	-5.202	-3.702	-0.000	3.702	5.202	7.681

49800.000



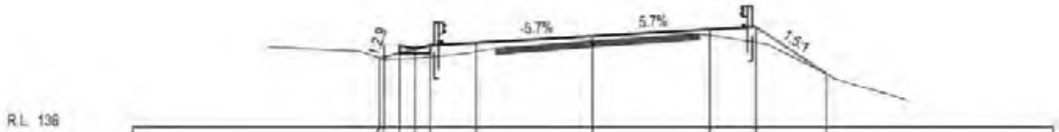
R.L. 138											
DESIGN FEATURES	IA10	EH10	CB00	CP00	ES00	LE00	MC00	LE10	ES10	IA20	DJ10
LEVEL DIFFERENCE	0.000	-0.876	-0.810	-0.566	-0.122	0.359	0.166	0.189	0.369	0.000	-0.247
DESIGN LEVELS	140.285	139.179	139.154	139.064	139.154	139.224	139.497	139.770	139.875	139.431	139.275
EXISTING LEVELS	140.285	140.055	139.964	139.621	139.277	138.865	139.331	139.581	139.507	139.431	139.522
DESIGN OFFSETS	-8.059	-6.400	-5.900	-5.400	-4.900	-3.900	-0.000	3.900	5.400	7.176	8.800

49850.000



R.L. 137						
DESIGN FEATURES	IA00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	-0.000	0.346	0.164	0.145	0.176	0.337	-0.000
DESIGN LEVELS	139.257	139.694	139.739	139.647	139.695	139.915	139.129
EXISTING LEVELS	139.257	139.348	139.575	139.702	139.719	139.578	139.129
DESIGN OFFSETS	-5.667	-5.085	-3.585	-0.000	3.585	5.085	8.236

49775.000



R.L. 136								
DESIGN FEATURES	IA00	EH10	CB00	CP00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	-0.000	0.472	0.437	0.305	0.379	0.269	0.154	0.187	0.564	0.000
DESIGN LEVELS	138.259	138.697	138.672	138.572	138.672	138.757	138.674	139.191	139.277	137.753
EXISTING LEVELS	138.259	138.225	138.235	138.267	138.293	138.488	138.519	139.004	138.772	137.753
DESIGN OFFSETS	-6.971	-6.820	-6.320	-5.820	-5.320	-3.920	0.000	3.920	5.320	7.605

49825.000

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[Scale on A3 size original]

DRAWING FILE LOCATION / NAME: C:\Data\Workspaces\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\C7-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn

DESIGN LOT CODE: N2021081

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY

PLOT DATE / TIME: $DATES $TIMES PLOT BY: $USER$

TITLE	NAME	DATE
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN, REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 PART: 1

ISSUE STATUS: CONCEPT DESIGN | EDMS No.: qA6246129 | SHEET No.: RC-0018 | ISSUE: A

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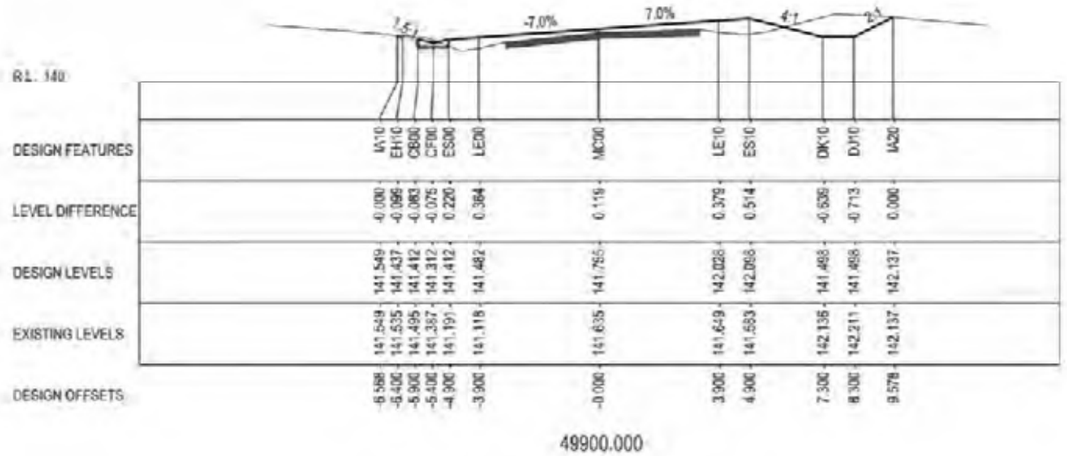
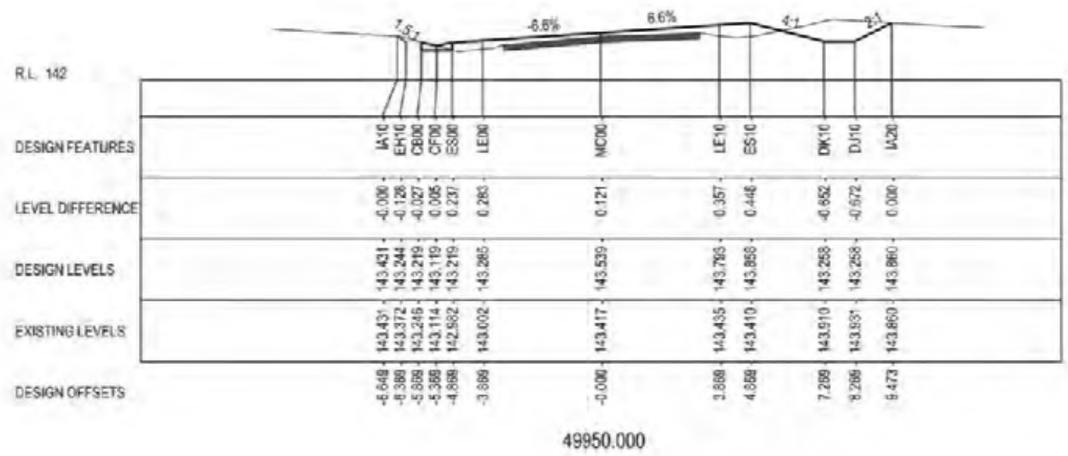
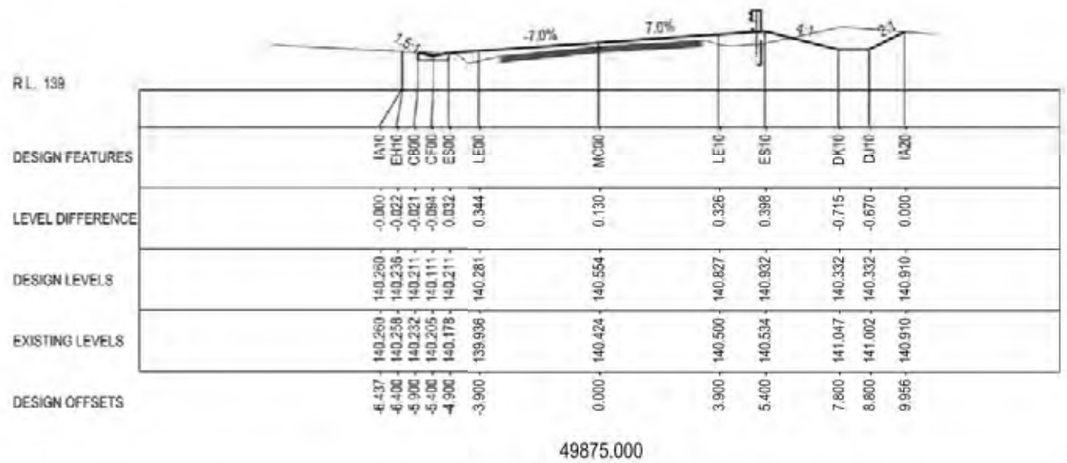
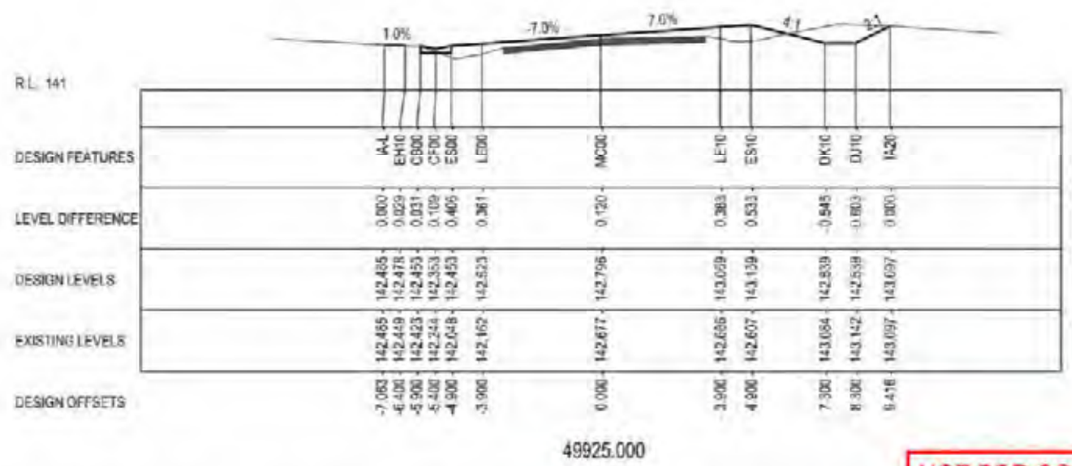
GDA 2020









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[Scale ON A3 SIZE ORIGINAL]

DRAWING FILE LOCATION / NAME: C:\Data\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn			
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX

DESIGN LOT CODE: N2021081	WVR No.	APPROVAL	
	XX	XXX	

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt

SCALES ON A3 SIZE DRAWING: 0 2 4 6 8 SCALE 1:200m

CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020) HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY:

PLOT DATE / TIME: $DATES $TIMES PLOT BY: $USERS

	NAME	DATE
TITLE		
DRAWN	M. ROWLES	XX.XX.XX
DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

CLIENT: NSW Government — Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE, PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS: CONCEPT DESIGN — EDMS No.: qA6246129 — SHEET No.: RC-0019 — ISSUE: A

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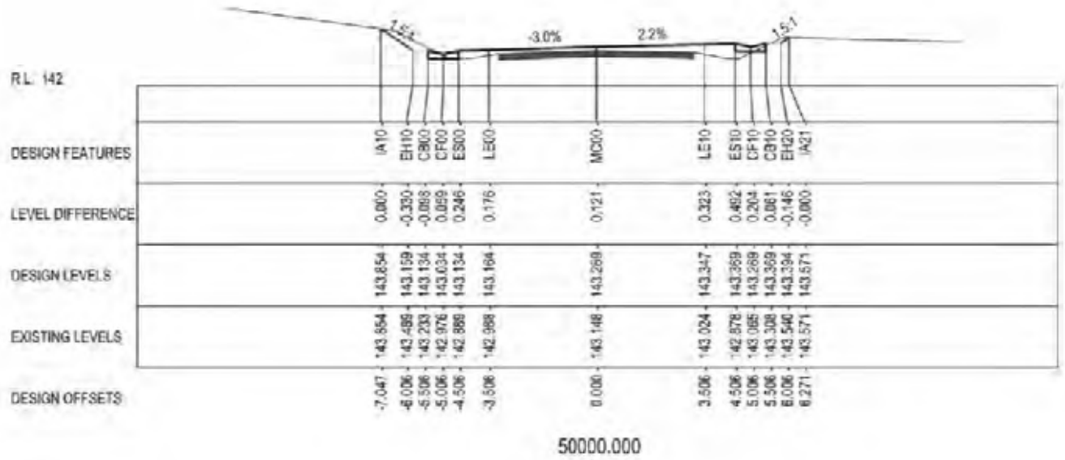

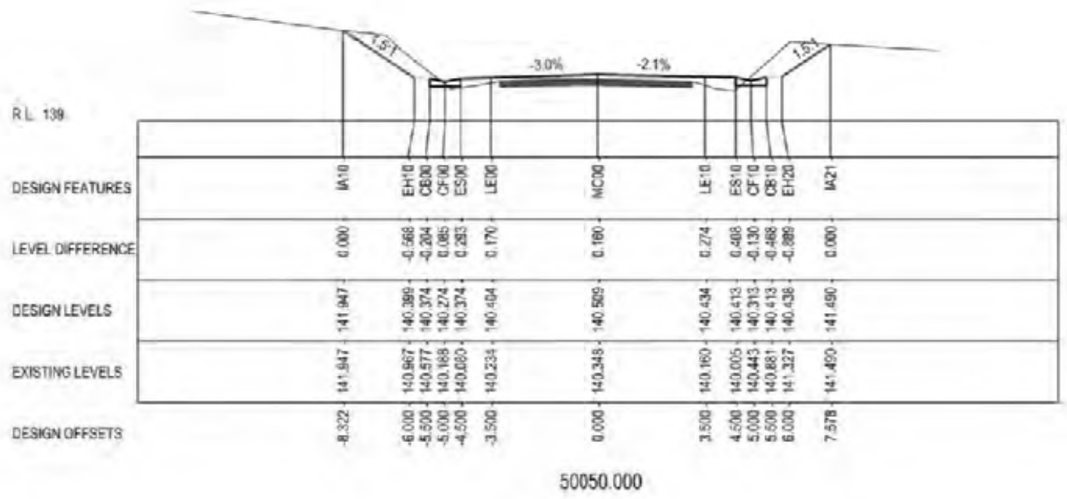

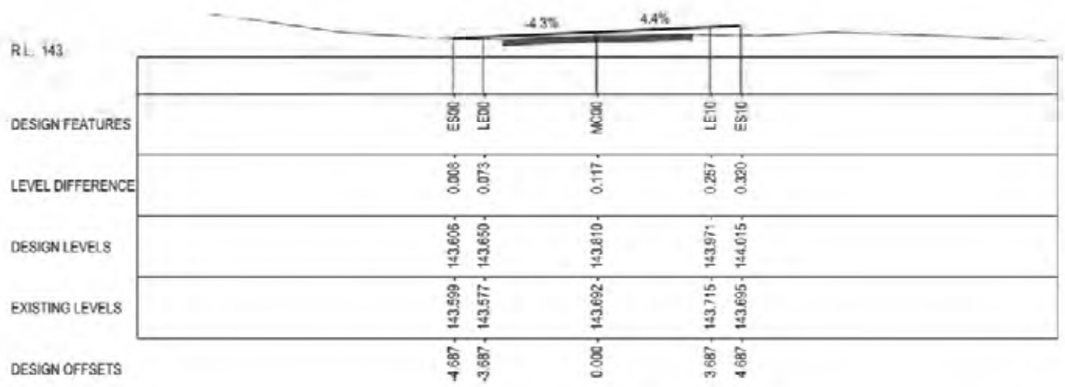

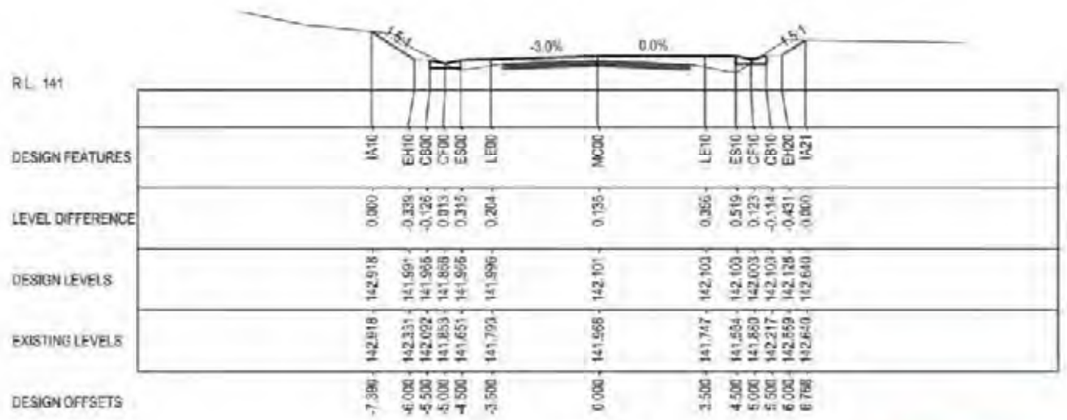

NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED [Sizes ON A3 SIZE ORIGINAL]

DRAWING FILE LOCATION / NAME: C:\Civil\Worksets\N2021081 HW16 Tara and Captains Creek Segment 5470 to 5480\dgn\07-Drawing Production\Plan and Profile\P-PLAN-04-RC.dgn				DESIGN LOT CODE: N2021081		DESIGN MODEL FILE/S) USED FOR DOCUMENTATION OF THIS DRAWING: N2021081 HW16 TARA AND CAPTAINS CREEK CONCEPT DESIGN MODEL.dxt		PLOT DATE / TIME: $DATES $TIMES	PLOT BY: $USER$
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING	DRAWINGS / DESIGN PREPARED BY	TITLE	NAME / DATE
XXXXXX	01	DD-MM-YY	ISSUED FOR XXXXX	XX	XXX	0 2 4 6 8 SCALE 1:200m		DRAWN	M. ROWLES XX.XX.XX
								DRG CHECK	D. JOHNSON XX.XX.XX
								DESIGN	M. ROWLES XX.XX.XX
								DESIGN CHECK	D. JOHNSON XX.XX.XX
						CO-ORDINATE SYSTEM: MGA ZONE 56 (GDA2020)	HEIGHT DATUM: AHD	DESIGN MNGR	D. JOHNSON XX.XX.XX
								PROJECT MNGR	R. GERSEKOWSKI XX.XX.XX

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: REGIONAL MAINTENANCE / PROJECT MANAGEMENT NORTHERN REGIONAL MAINTENANCE DELIVERY

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
CROSS SECTION

A3

RMS REGISTRATION No.: DS2022/000064 — PART: 1

ISSUE STATUS: CONCEPT DESIGN — EDMS No.: qA6248129 — SHEET No.: RC-0020 — ISSUE: A

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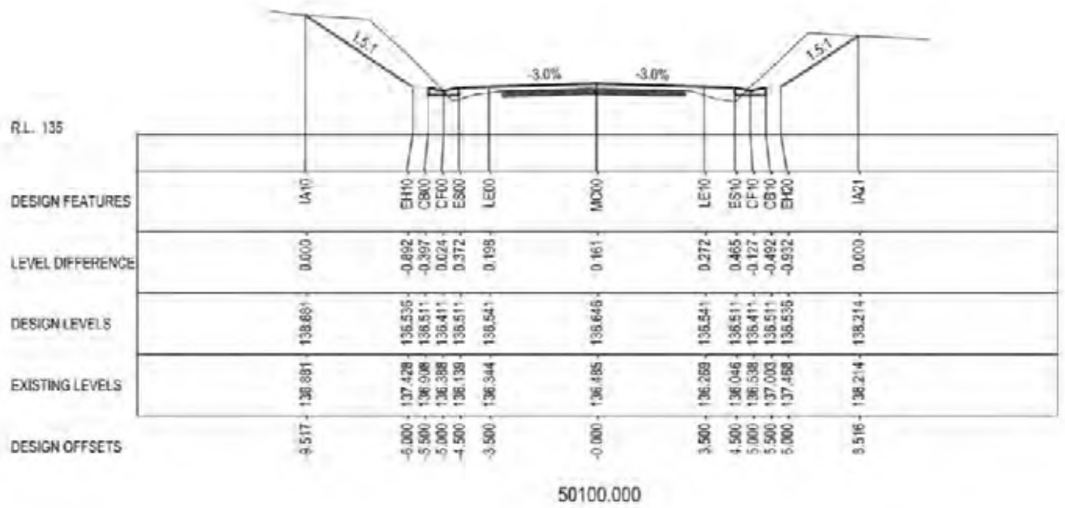
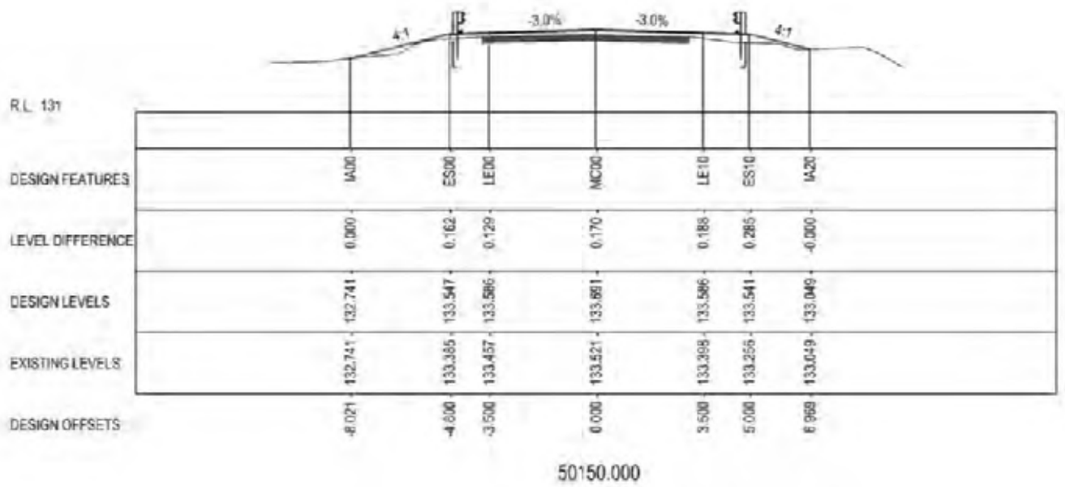


R.L. 135

DESIGN FEATURES		IA10	EH10	CB00	CF00	ES00	LE00	MC00	LE10	ES10	CF10	CB10	EH00	IA21
LEVEL DIFFERENCE	0.000		-0.892	-0.397	0.024	0.372	0.198	0.161	0.272	0.465	-0.127	-0.492	-0.932	0.000
DESIGN LEVELS	138.869		136.535	136.511	136.411	136.511	136.541	136.646	136.541	136.511	136.411	136.511	136.535	138.214
EXISTING LEVELS	138.881		137.428	136.908	136.388	136.139	136.344	136.485	136.269	136.046	136.538	137.003	137.468	138.214
DESIGN OFFSETS	-9.517		-6.000	-5.500	-5.000	-4.500	-3.500	-0.000	3.500	4.500	5.000	5.500	6.000	9.516

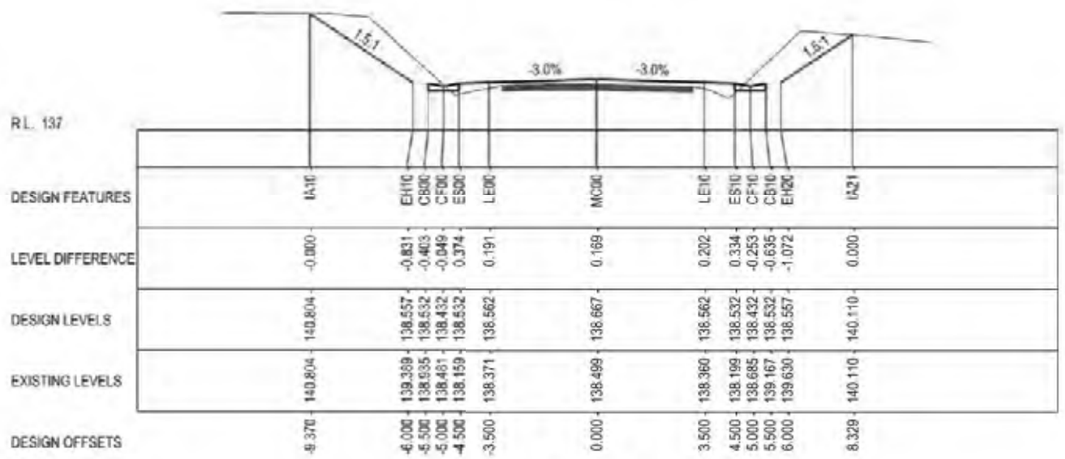
50100.000



R.L. 131

DESIGN FEATURES		IA00	ES00	LE00	MC00	LE10	ES10	IA20
LEVEL DIFFERENCE	0.000	0.162	0.129	0.170	0.188	0.285	-0.000	
DESIGN LEVELS	132.741	133.547	133.586	133.661	133.586	133.541	133.049	
EXISTING LEVELS	132.741	133.385	133.457	133.521	133.398	133.256	133.049	
DESIGN OFFSETS	-8.021	-4.000	-3.500	0.000	3.500	5.000	8.969	

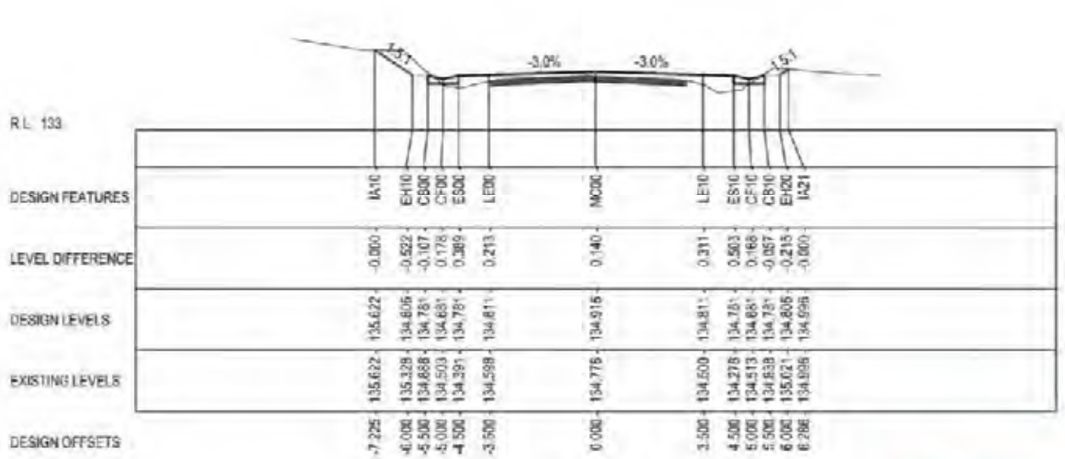
50150.000



R.L. 137

DESIGN FEATURES		IA10	EH10	CB00	CF00	ES00	LE00	MC00	LE10	ES10	CF10	CB10	EH20	IA21
LEVEL DIFFERENCE	-0.000		-0.831	-0.403	-0.049	0.374	0.191	0.169	0.202	0.334	-0.253	-0.635	-1.072	0.000
DESIGN LEVELS	140.804		138.557	138.532	138.432	138.532	138.562	138.667	138.562	138.532	138.432	138.532	138.557	140.110
EXISTING LEVELS	140.804		139.389	138.935	138.481	138.159	138.371	138.499	138.360	138.199	138.685	139.167	139.630	140.110
DESIGN OFFSETS	-9.378		-6.000	-5.500	-5.000	-4.500	-3.500	0.000	3.500	4.500	5.000	5.500	6.000	8.329

50075.000



R.L. 133

DESIGN FEATURES		IA10	EH10	CB00	CF00	ES00	LE00	MC00	LE10	ES10	CF10	CB10	EH20	IA21
LEVEL DIFFERENCE	-0.000		-0.522	-0.107	0.178	0.389	0.213	0.140	0.311	0.503	0.168	-0.057	-0.215	-0.000
DESIGN LEVELS	135.622		134.806	134.781	134.681	134.781	134.811	134.916	134.811	134.781	134.681	134.781	134.806	134.999
EXISTING LEVELS	135.622		135.328	134.888	134.503	134.391	134.599	134.776	134.500	134.278	134.513	134.838	135.021	134.999
DESIGN OFFSETS	-7.225		-6.000	-5.500	-5.000	-4.500	-3.500	0.000	3.500	4.500	5.000	5.500	6.000	8.288

50125.000

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DRG CHECK	D. JOHNSON	XX.XX.XX
DESIGN	M. ROWLES	XX.XX.XX
DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
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SEGMENT 5470 TO 5480
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RMS REGISTRATION No: DS2022/000064 PART: 1

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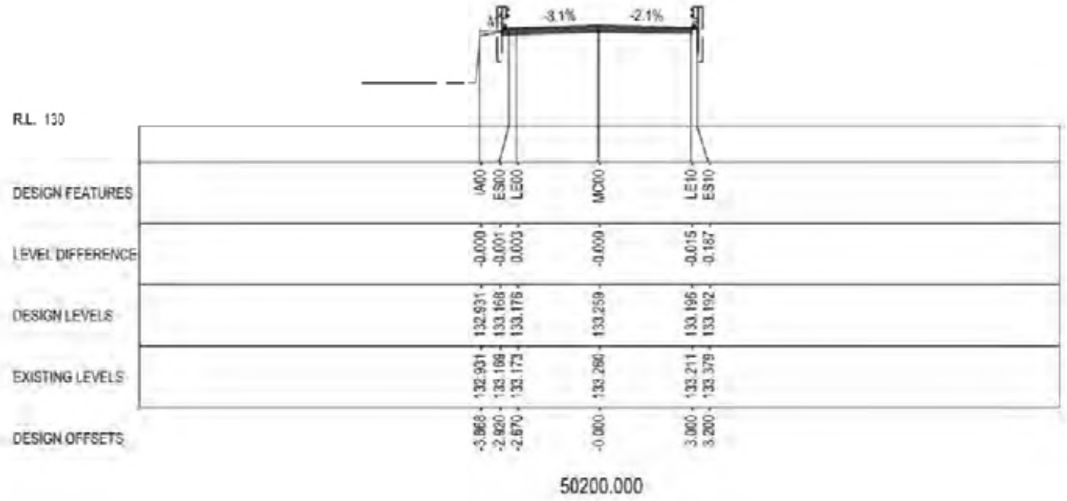

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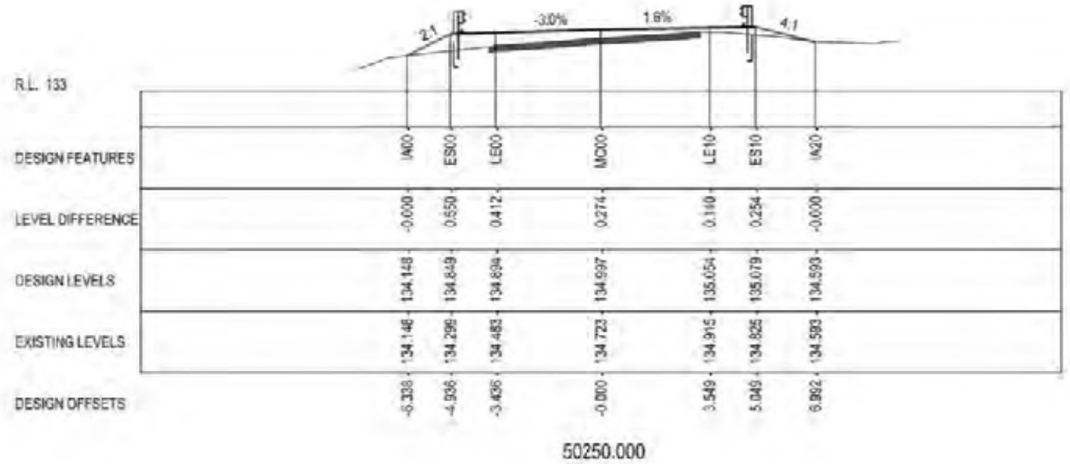

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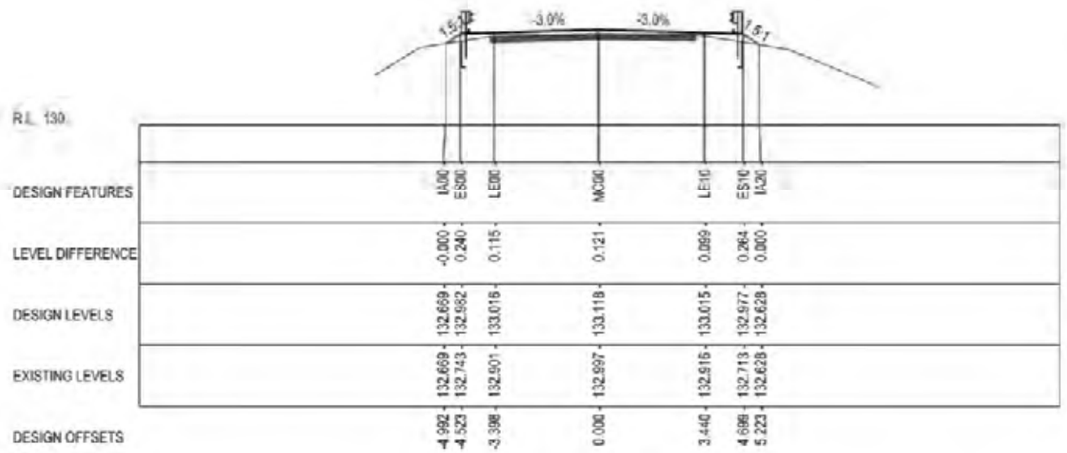

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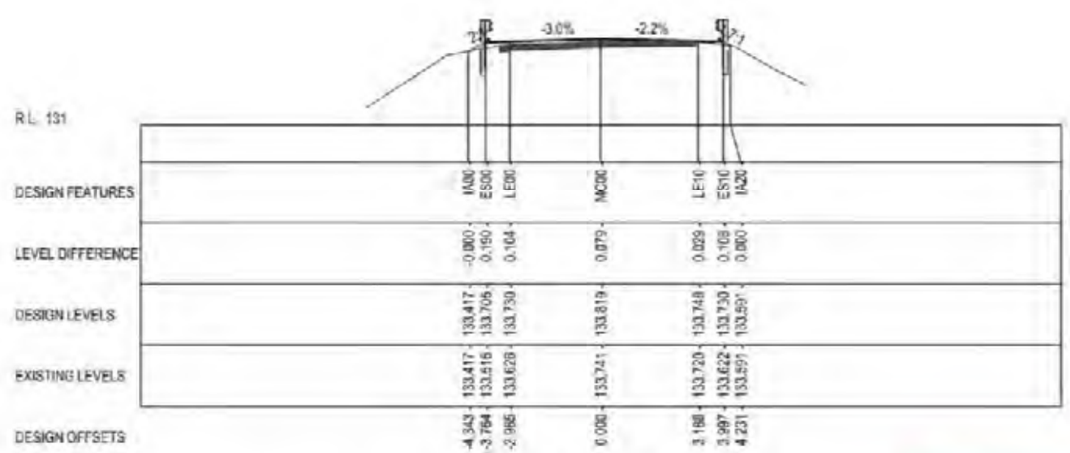

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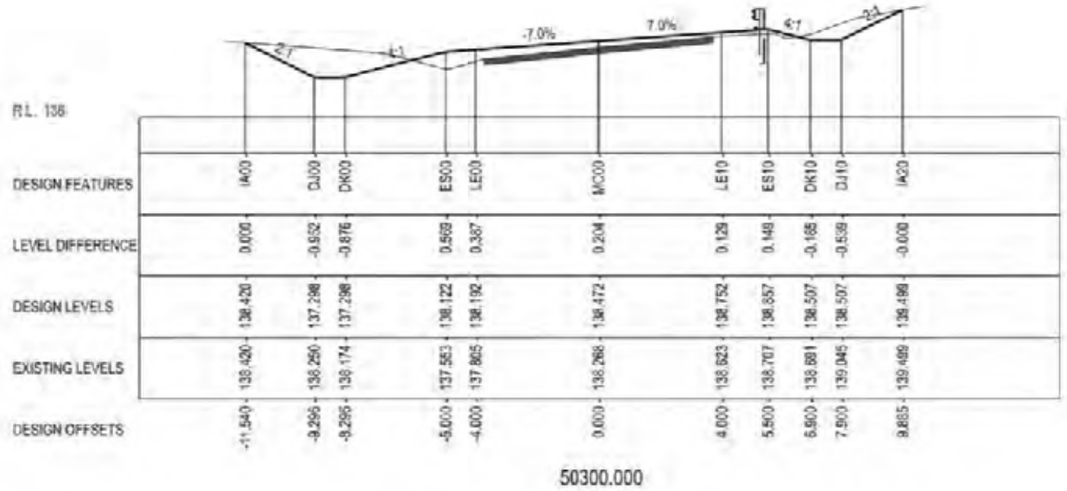

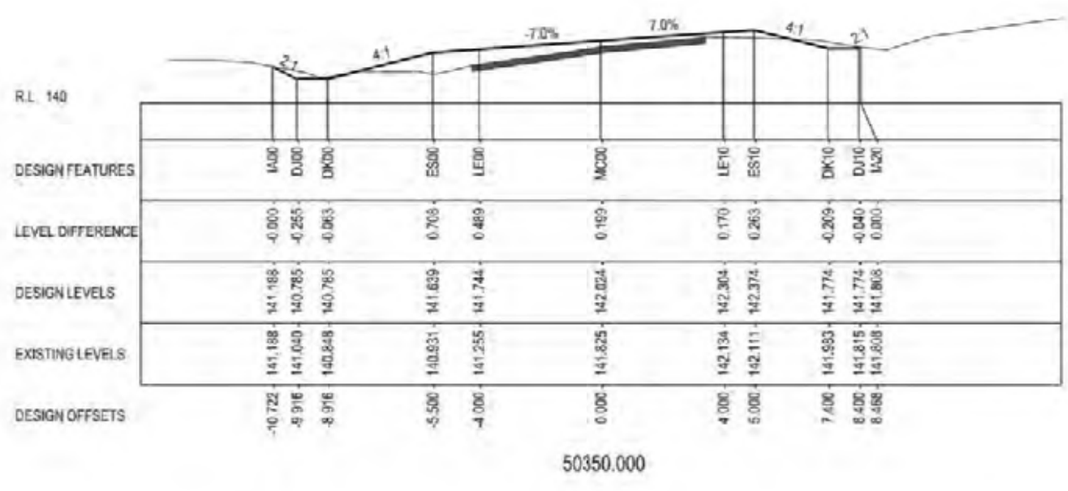

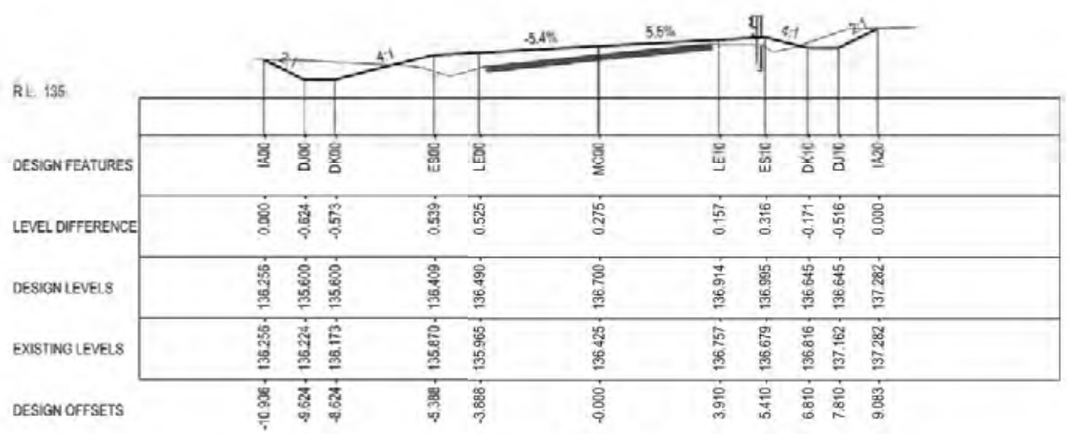

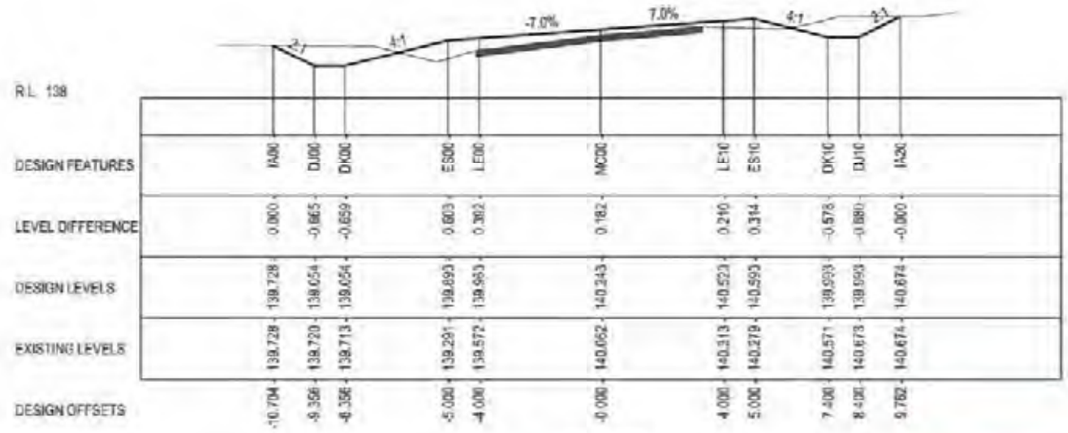

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DSG CHECK	D. JOHNSON	XX.XX.XX
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DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

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16 - BRUXNER HIGHWAY
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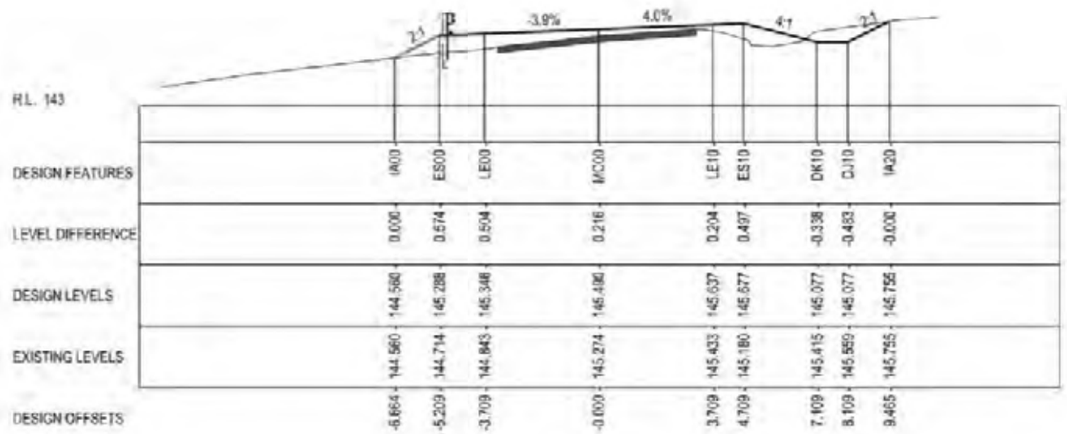

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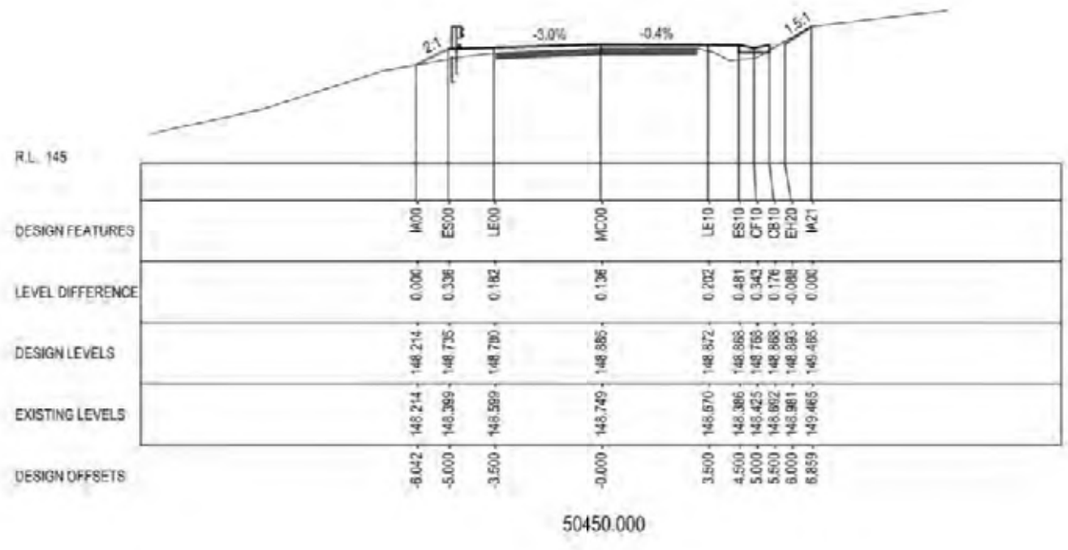

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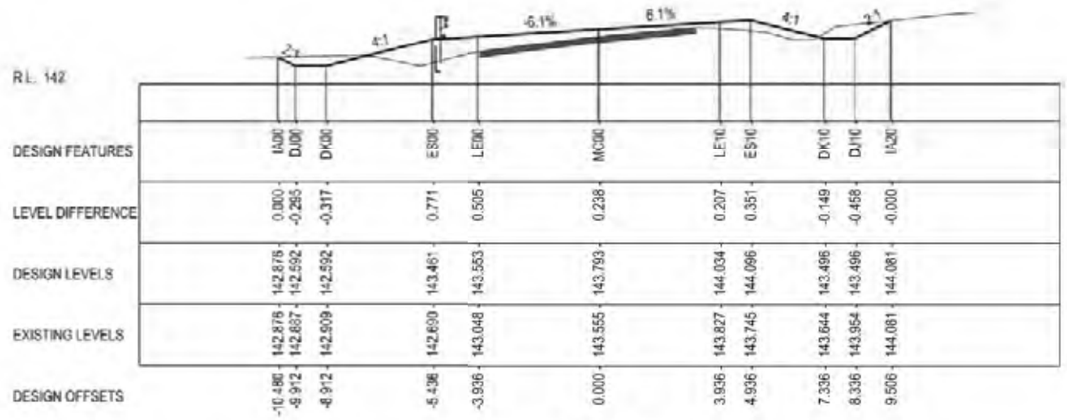

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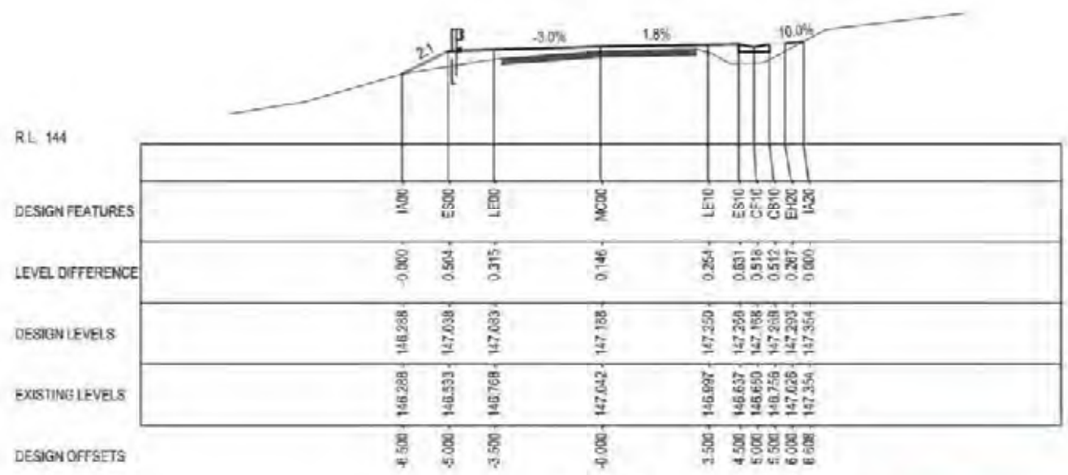

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KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
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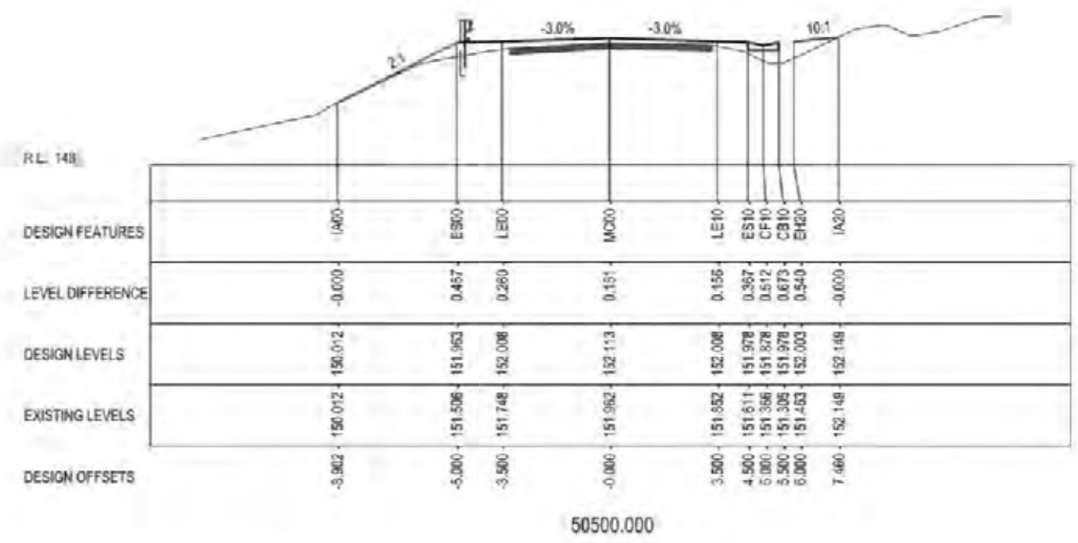

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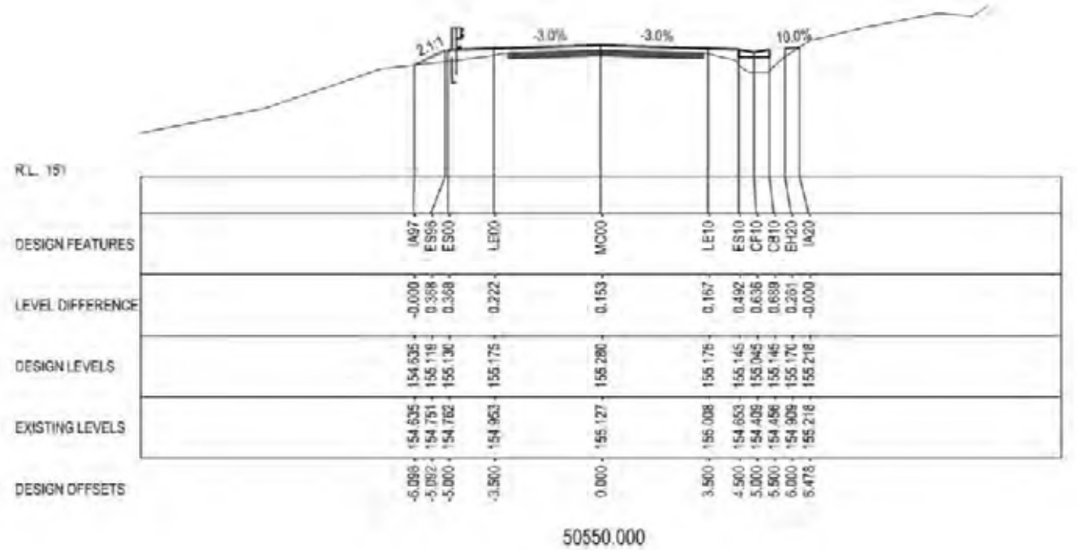

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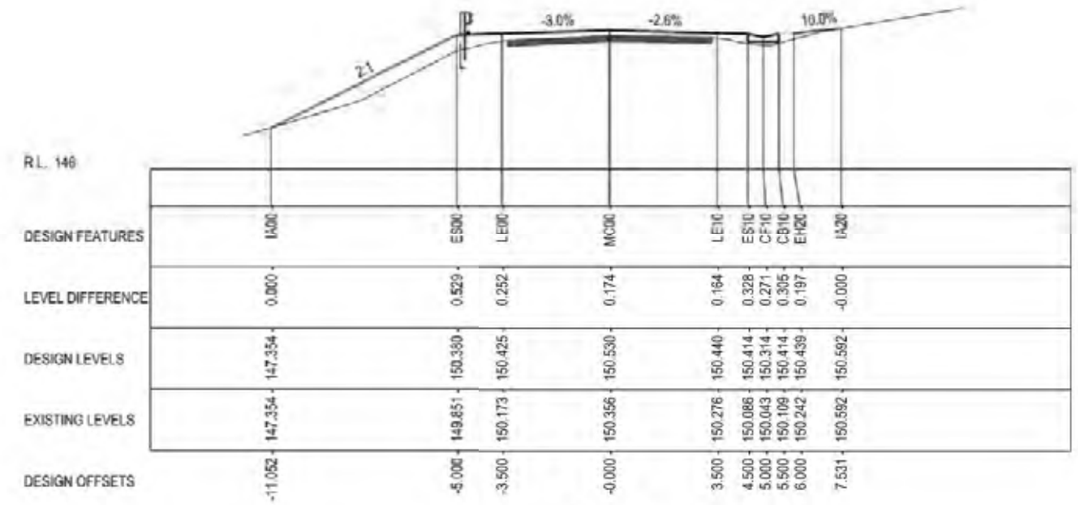

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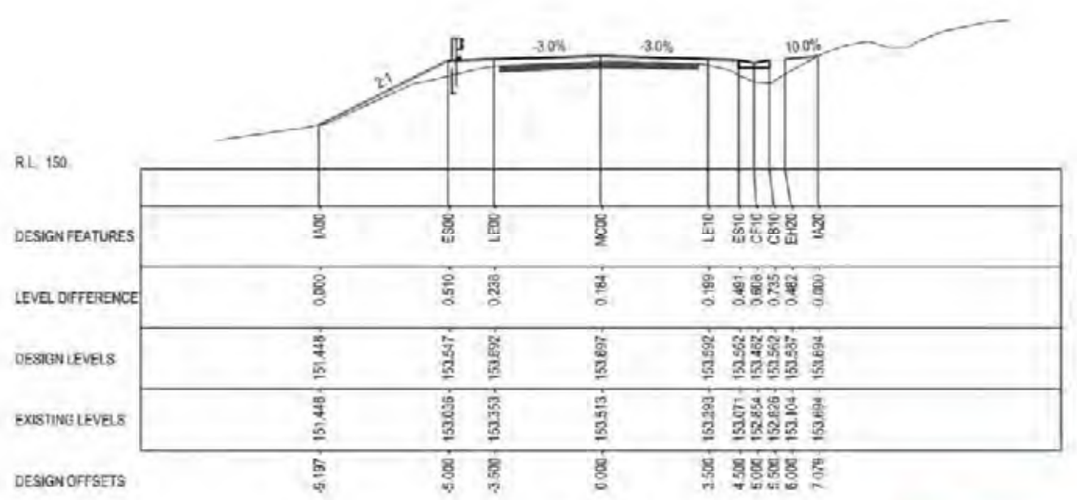

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DRG CHECK	D. JOHNSON XX.XX.XX
DESIGN	M. ROWLES XX.XX.XX
DESIGN CHECK	D. JOHNSON XX.XX.XX
DESIGN MNGR	D. JOHNSON XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI XX.XX.XX

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KYOGLE COUNCIL
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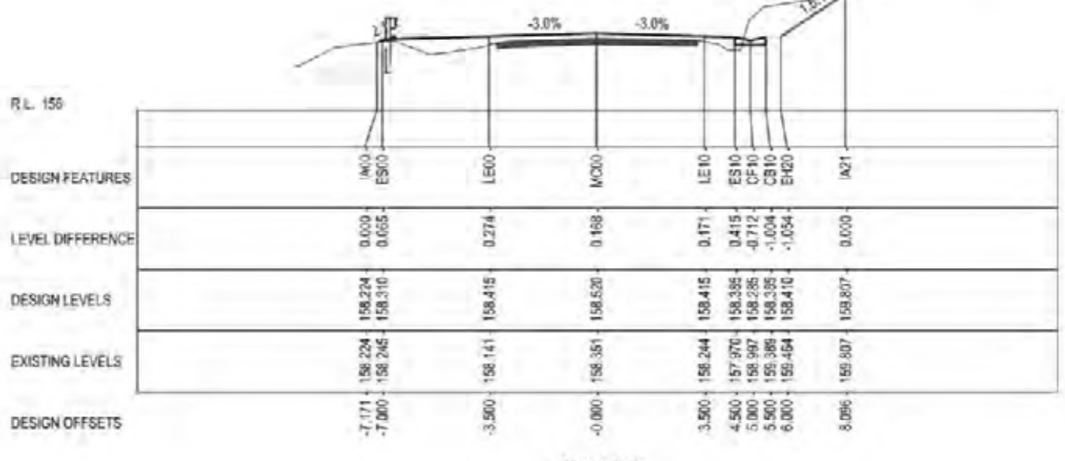

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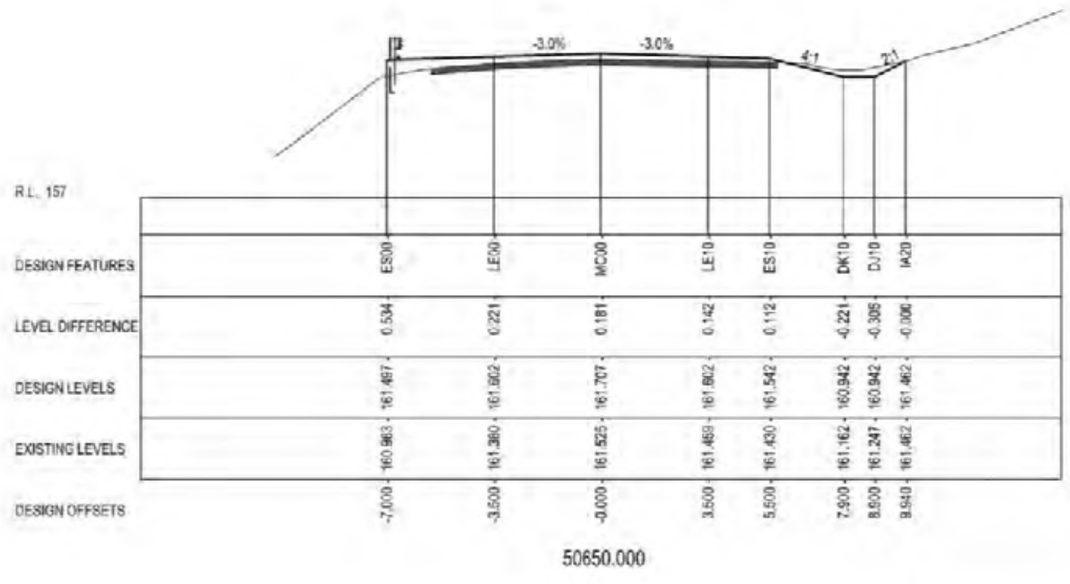

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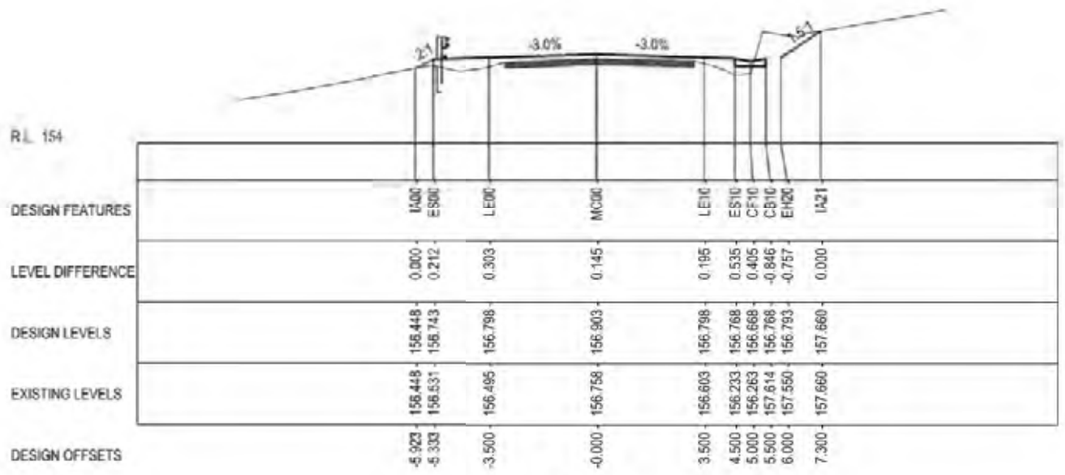

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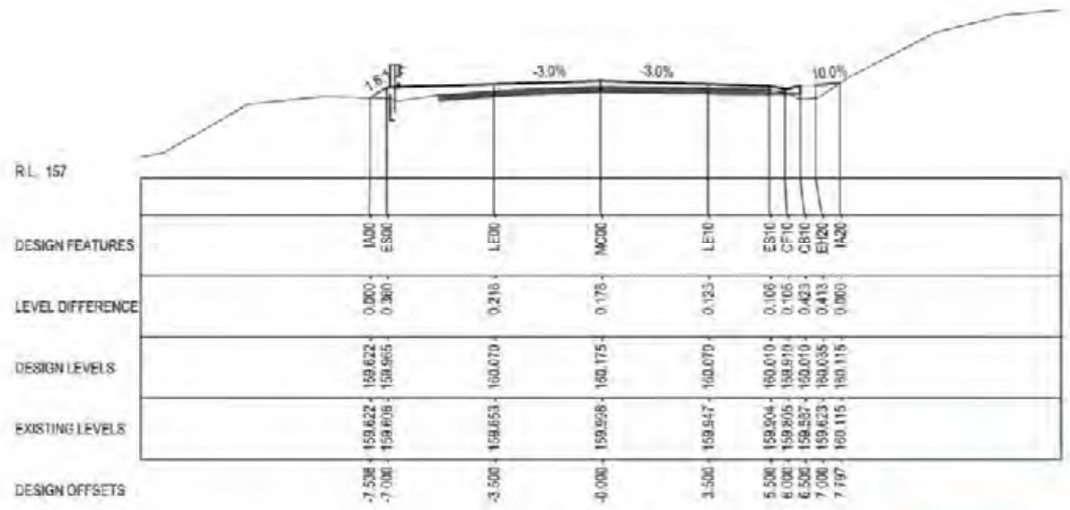

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DESIGN CHECK	D. JOHNSON	XX.XX.XX
DESIGN MNGR	D. JOHNSON	XX.XX.XX
PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

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KYOGLE COUNCIL
16 - BRUXNER HIGHWAY
PAVEMENT REHABILITATION AND WIDENING
SEGMENT 5470 TO 5480
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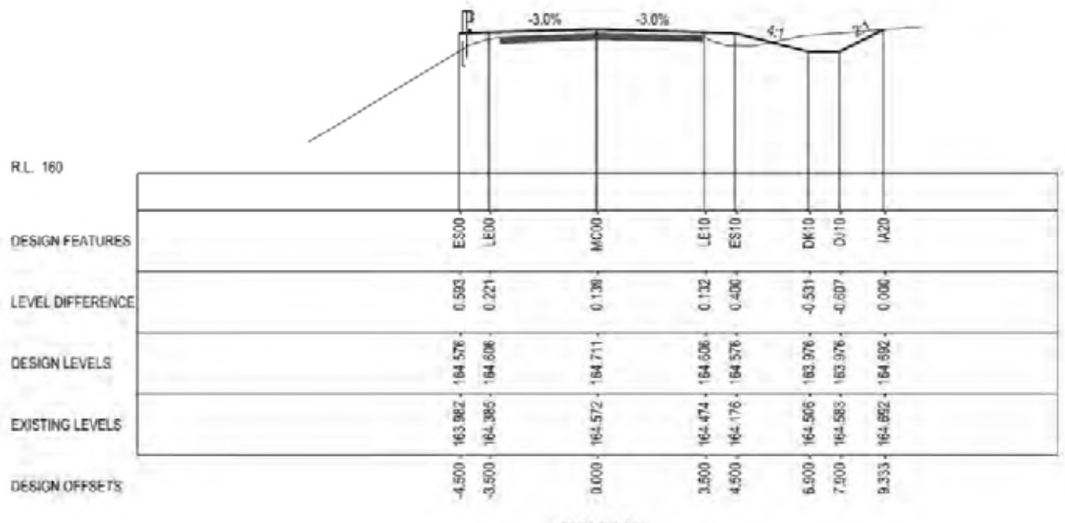

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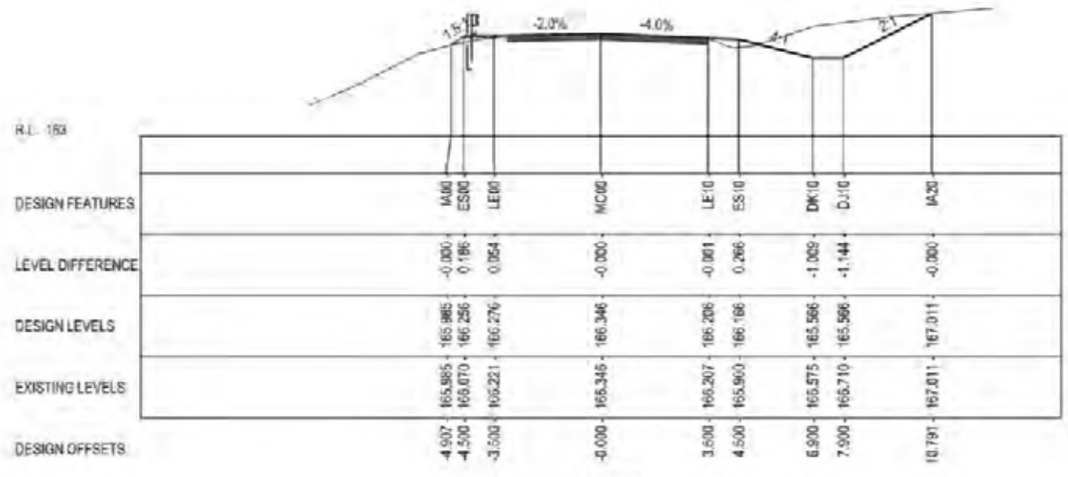

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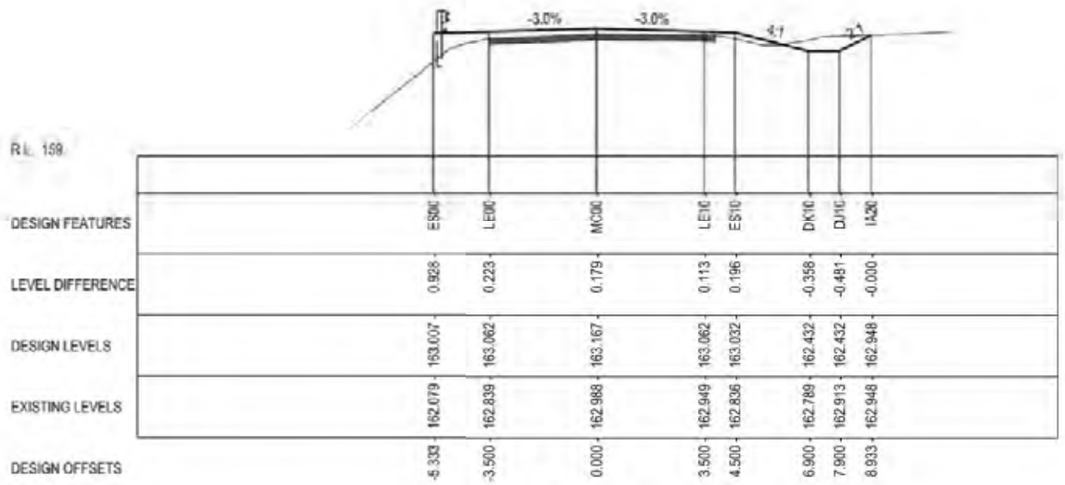

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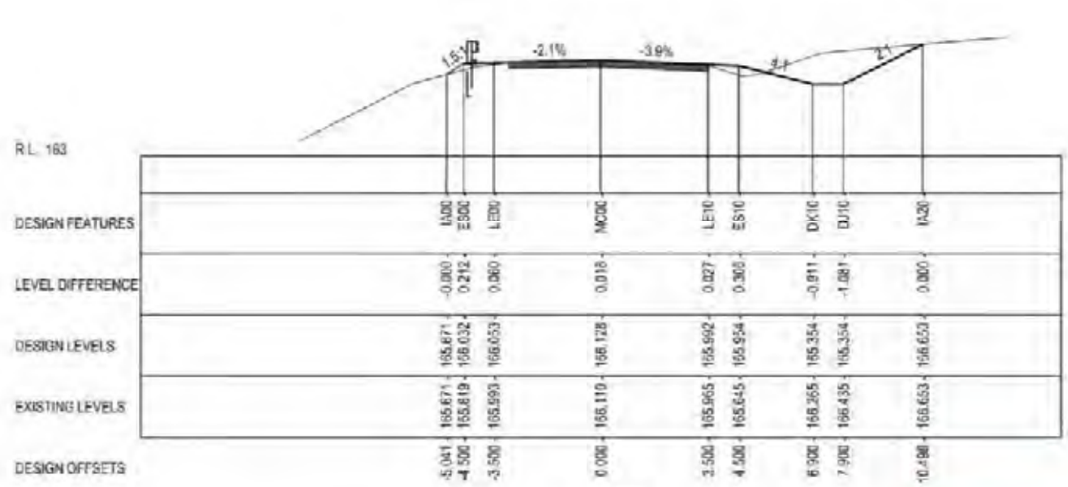

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PROJECT MNGR	R. GERSEKOWSKI	XX.XX.XX

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KYOGLE COUNCIL
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Appendix B

Figures 3 to 6

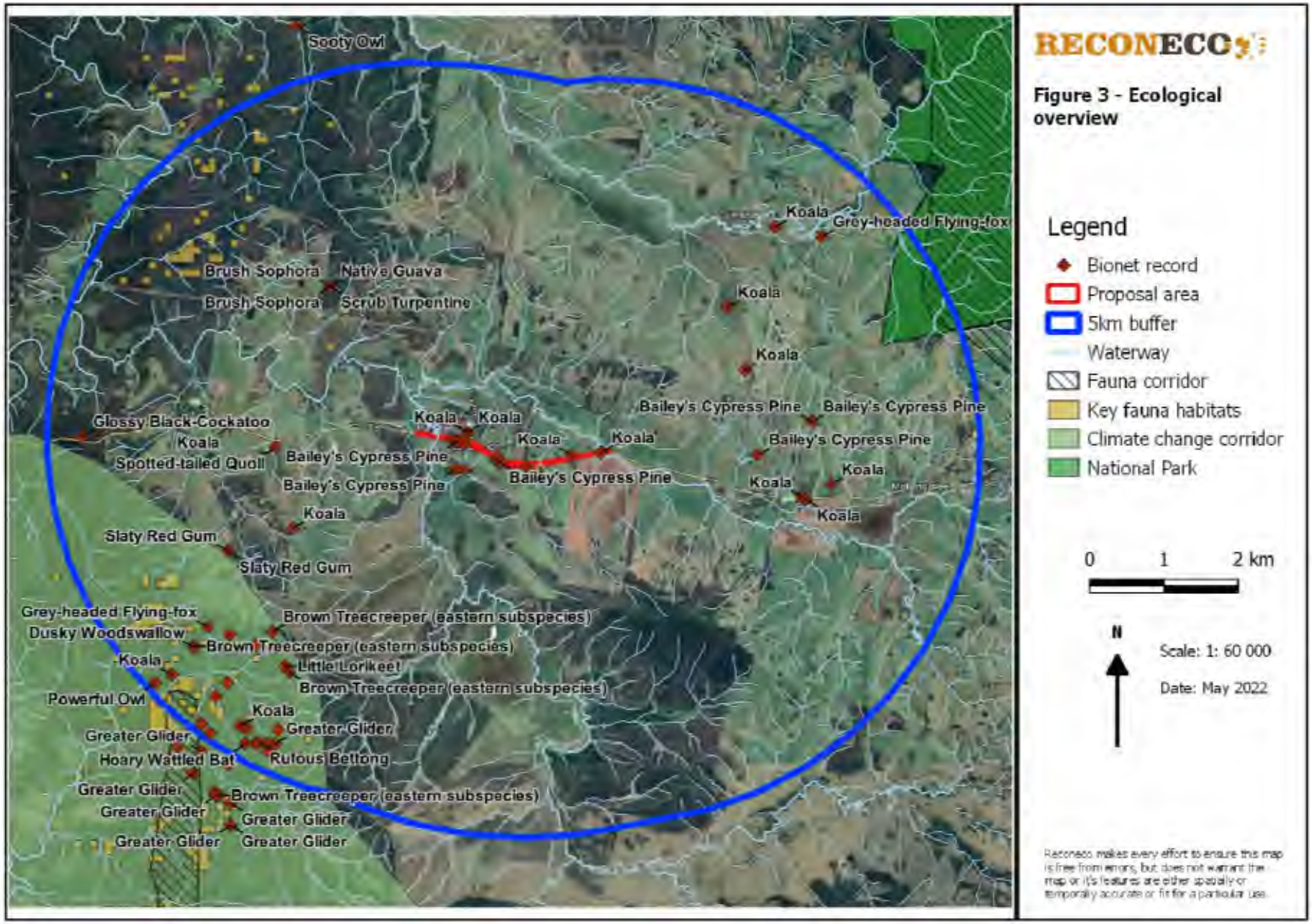

Figure 3 Ecological overview of the landscape surrounding the proposal area.

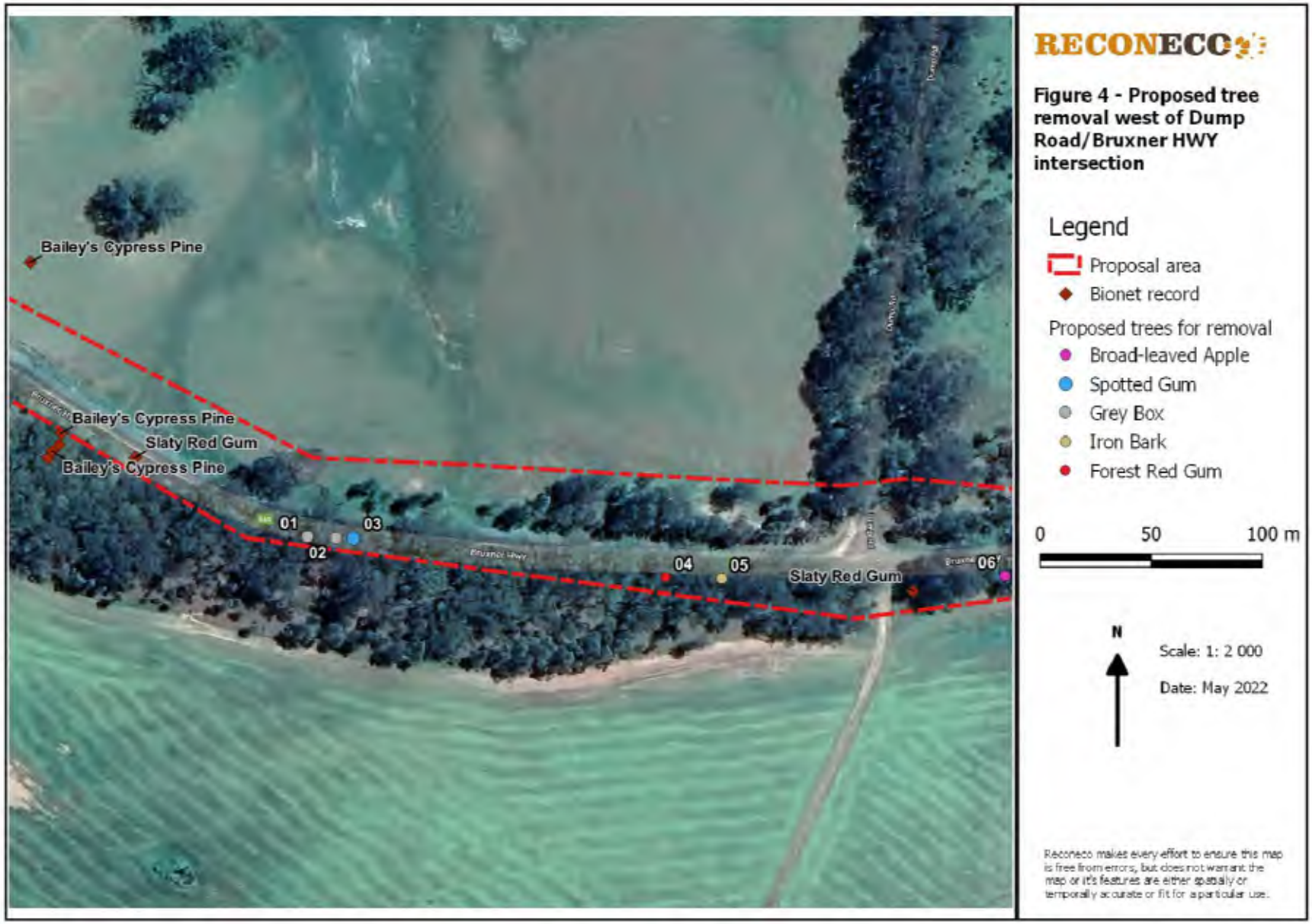

Figure 4 Proposed tree removal and nearby Bionet records west of Dump Road/Bruxner Highway intersection.

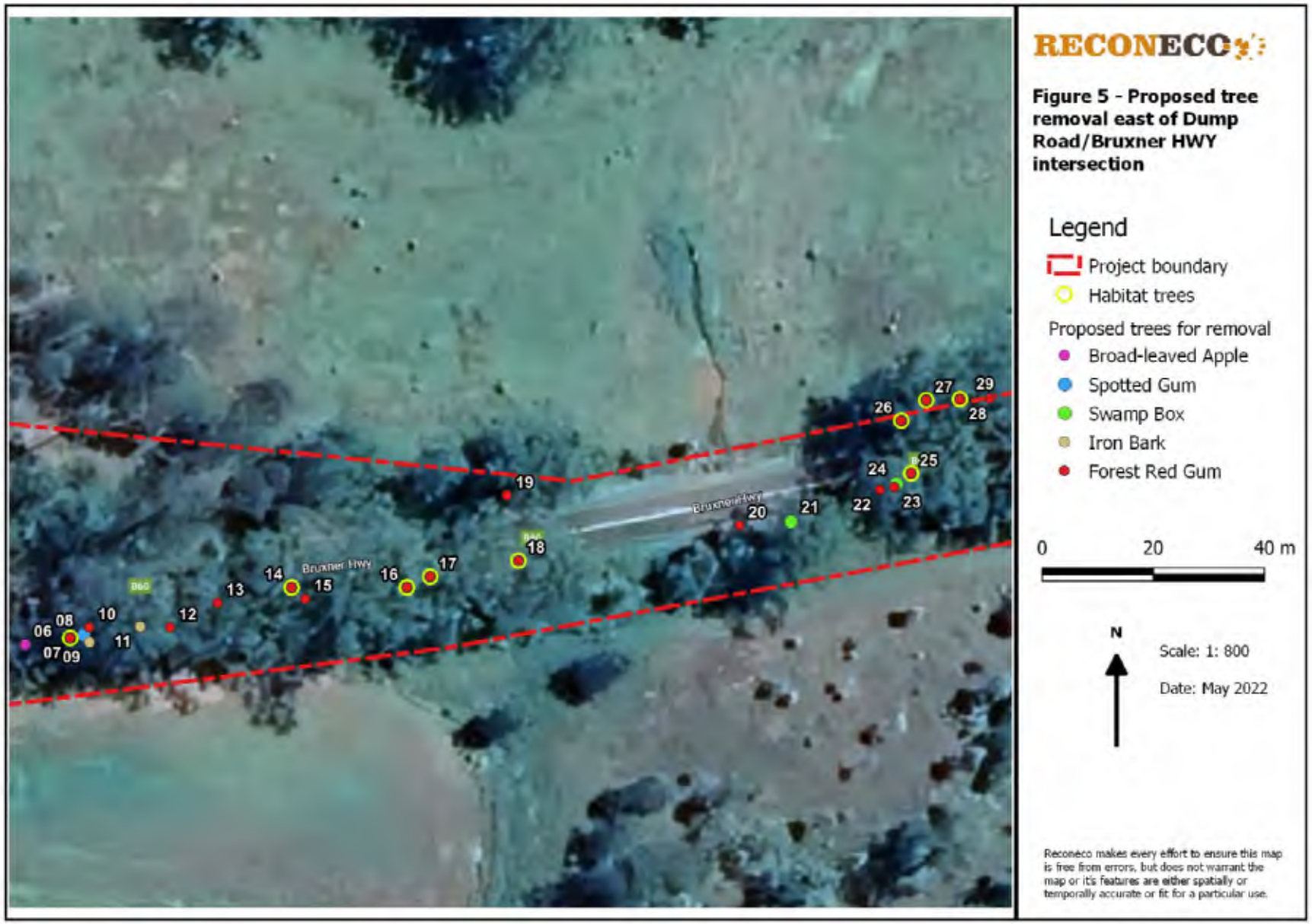

Figure 5 Proposed tree removal and habitat trees east of the Dump Road/Bruxner Highway intersection.

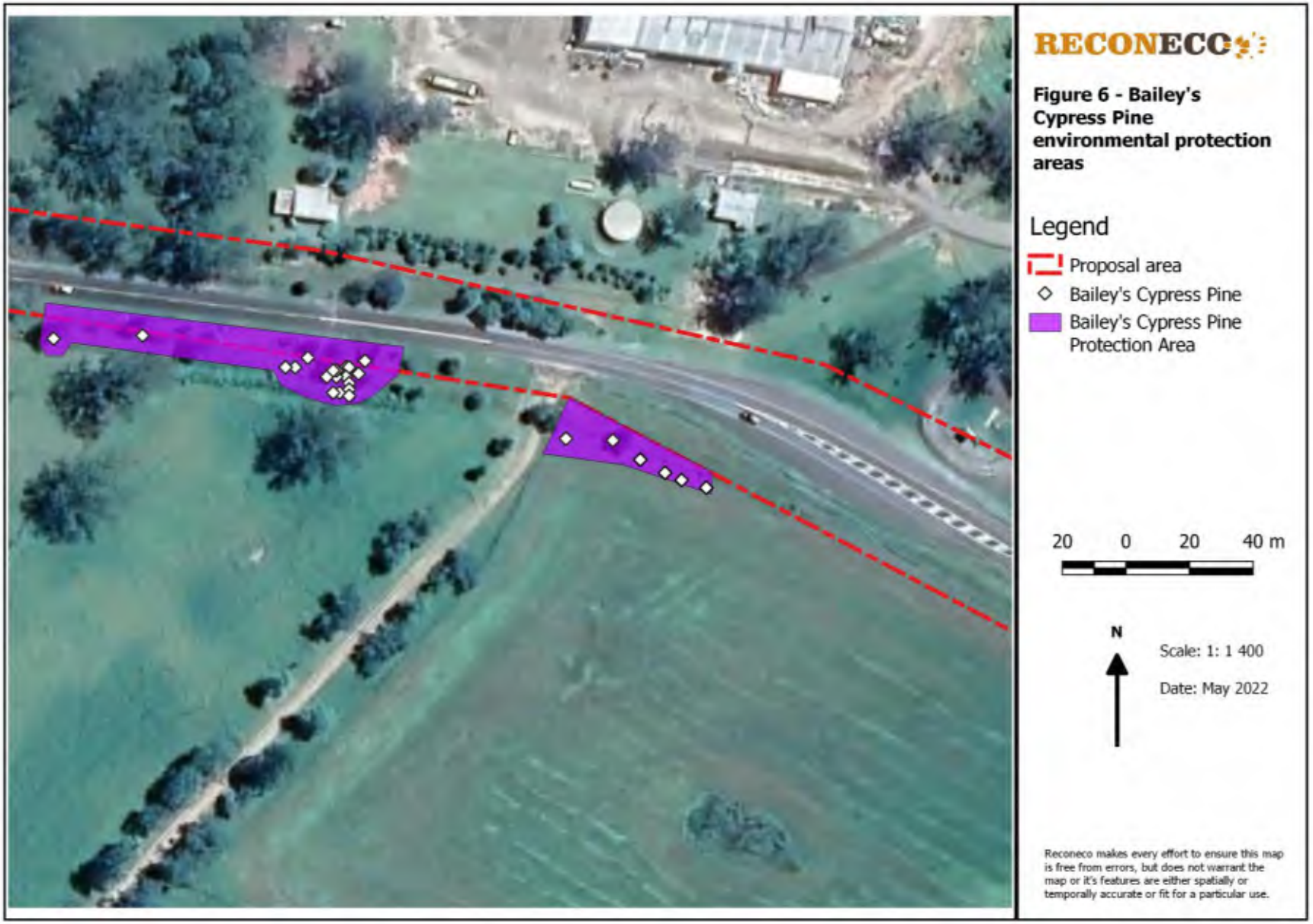

Figure 6 Endangered Bailey's Cypress Pine (*Callitris baileyi*) environmental protection west of Sandilands Rest Area. Note: seedlings not recorded.

Appendix C

Contaminated Lands Database Search Results

Search results

Your search for:LGA: KYOGLE COUNCIL

Search Again
Refine Search

did not find any records in our database.

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the planning process.

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... more search tips

More information about particular sites may be available from:

- The POEO public register
- The appropriate planning authority: for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act.

See What's in the record and What's not in the record.

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.
This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the POEO public register

6 April 2022

For business and industry

For local government

Contact us

131 555 (tel:131555)

Online (https://yoursay.epa.nsw.gov.au/epa-website-feedback)

info@epa.nsw.gov.au (mailto:info@epa.nsw.gov.au)

EPA Office Locations (https://www.epa.nsw.gov.au/about-us/contact-us/locations)

Accessibility (https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/help-index)
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Find us on

Cattle dip site locator

This search retrieved 5 dip sites.
For more information about each dip site, click on the name below.

Dip name	Road	Town/Locality
BARBERS (https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site-locator?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGRGlwJTJGRGV0YWlscyUyRjkwNiZhbGw9MQ%3D%3D)	BRUXNER HIGHWAY	MUMMULGUM CASINO
EVERSONS (https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site-locator?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGRGlwJTJGRGV0YWlscyUyRjExNTEmYWxsPTE%3D)	BRUXNER HIGHWAY	VIA MALLANGANE
HILLS (https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site-locator?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGRGlwJTJGRGV0YWlscyUyRjkxNSZhbGw9MQ%3D%3D)	BRUXNER HIGHWAY	MUMMULGUM
NUGGETTS (https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site-locator?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGRGlwJTJGRGV0YWlscyUyRjExNjImYWxsPTE%3D)	BRUXNER HIGHWAY	NORTH TABULAM
RICHMOND RANGE (https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site-locator?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGRGlwJTJGRGV0YWlscyUyRjExNDkmYWxsPTE%3D)	BRUXNER HIGHWAY	VIA MALLANGANE

Find dip sites

Dip name

Road — bruxner highway

Town/Locality

Council — ---select all---

Search

The information contained in this web page is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of Industry& Investment NSW or the user's independent adviser.

Cattle dip site locator

Dip site location

Dip name	NUGGETTS	Note: Map references are for 25,000 series topographic and co-ordinates are in AGD66 AMG zone 56	
Road	BRUXNER HIGHWAY	**Mapsheet**	9440-III-S
Town/Locality	NORTH TABULAM	**Easting**	462450
Council	KYOGLE	**Northing**	6803480
Parish	TABULAM	**County**	DRAKE

Dip site status

IMPORTANT NOTE: *Cattle dip site information provided by NSW DPI is based on our own hard copy files representing currently known data. NSW DPI is not a public consent authority for the development of land containing cattle dip sites. It is possible that the physical conditions of a cattle dip site - including soil, structures, access and usage - may have been changed due to extreme natural events or landowner and developer actions that NSW DPI cannot be aware of. For more specific and accurate status information a physical inspection should be made and enquiries should always be directed to the appropriate Shire Council.*

Dip Status	LAPSED	**Licence/Lease Status**	
Land Type	LEASE	**Licence/Lease Expiry Date**	

Explanation of status terms (https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site-locator?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGRGlwJTJGRXhwbGFpbiZhbGw9MQ%3D%3D)

Chemical Details

IMPORTANT NOTE: *Chemical history has been retrieved from a copied laboratory log. In some cases it may be confirmed by entries in the hard copy lease folder but generally the chemical record is based on this single lab document. It is possible that there are inaccuracies as well as errors made*

Chemicals used in dip bath	Date first used
ARSENIC	2/51
DDT	12/55
DIOXATHION	4/62
ETHION	5/72
PROMACYL	3/78

Current Details

Current Chemical	PROMICIDE
Dip bath status/contents	LIQUID, CRACKED

New search (https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site-locator?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGJmFsbD0x) | Back

The information contained in this web page is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with

the appropriate officer of Industry& Investment NSW or the user's independent adviser.

Appendix D

Heritage Database Search Results

08/04/2022

Ross Gersekowski
Project / Contract Manager
Regional and Outer Metropolitan
Transport for NSW

Dear Ross,

Little Creek to Tabulum Rivulet - Stage 1 of the *Procedure for Aboriginal cultural heritage consultation and investigation* (the procedure).

The project, as indicated in the Procedure for Aboriginal cultural heritage consultation was assessed as being unlikely to have a potential impact on Aboriginal cultural heritage.

Please contact, your local Aboriginal Cultural Heritage Officer, and your regional environmental staff to reassess any potential impacts on Aboriginal cultural heritage if your project changes.

TfNSW staff and/or contractors should be aware of the potential of Aboriginal objects (including skeletal remains) being discovered during the project, if this occurs all works in the vicinity of the find must cease. Follow the steps outlined in the Roads and Maritime Services' *Unexpected Archaeological Finds Procedure.*

For further assistance in this matter do not hesitate to contact me.

Yours sincerely

Tabatha Cann
Aboriginal Cultural Heritage Officer
Transport NSW

08/04/2022

Transport for NSW
Level 6, 90 Crown Street, Wollongong NSW 2500 | PO Box 477, Wollongong NSW 2520
| **E** Tabatha.Cann@transport.nsw.gov.au

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Little_Ck_to_Tabulam22

Client Service ID : 673485

Taylor Craig

159 Lindendale Road
Wollongbar New South Wales 2477

Attention: Taylor Craig

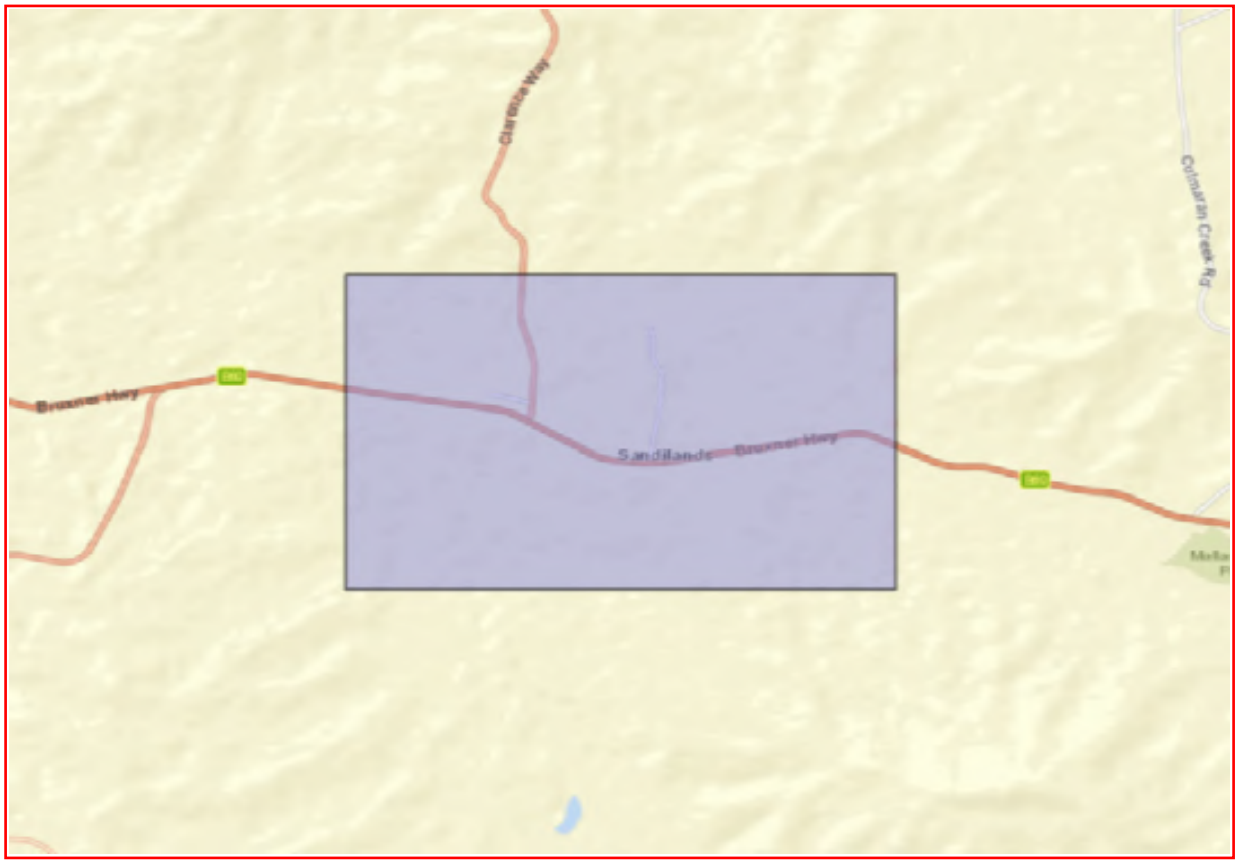
Email: taylor@reconeco.com.au

Date: 06 April 2022

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -28.911, 152.6442 - Lat, Long To : -28.8928, 152.6751, conducted by Taylor Craig on 06 April 2022.

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) 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.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

Search Results

No results found.

Enter at least one search criterion.

Search Hints

Search | Reset form

Place name

Street name
Bruxner Highway

Town or suburb

State
New South Wales

Country
Australia

Advanced search options

List
All Lists
Different lists will provide different status and class options

Local Government Area

Place ID number

Legal status
--All--

Class
--All--

Keyword Search

Description | Statement of Significance | Place history

Latitude/Longitude

N
Latitude 1
Longitude 1 S Longitude 2
W E Latitude 2 E E
S
Wholly within region
Wholly or partially within region

Longitude coordinates should be entered as ddd.mm.ss
Latitude coordinates should be entered as dd.mm.ss

Map Ref No

1:100,000 eg 2357
1:250,000 eg SF-50-01

Search Hints

- Not all fields need to be filled in. The fewer you fill in the more results you will get.
- If you cannot find a place, check spelling and try alternative names. Reduce the number of words that you include and use fewer fields.

- The Local Government field used on its own will provide a comprehensive list of places in an area.

Report Produced: Wed Apr 6 11:08:27 2022

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NSW GOVERNMENT | NSW legislation

Kyogle Local Environmental Plan 2012 (2013 EPI 25)

Current version for 4 March 2022 to date (accessed 6 April 2022 at 11:10)

Schedule 5

Schedule 5 Environmental heritage

(Clause 5.10)

Part 1 Heritage items

Suburb	Item name	Address	Property description	Significance	Item no
Bonalbo	St Andrew's Presbyterian Church	10 Bonalbo Street	Lot 2, Section 6, DP 6063	Local	I368
Bonalbo	St Patrick's Catholic Church	23–25 Capen Street	Lot 1, DP 327600	Local	I004
Bonalbo	Bonalbo Cemetery	Clarence Way	Lot 7015, DP 1000923	Local	I371
Bonalbo	Bonalbo Showground	Clarence Way	Lots 47, 129, 130, 158 and 47, DP 751077	Local	I202
Bonalbo	Pine trees	Clarence Way	Road reserve	Local	I369
Bonalbo	Brown's Homestead (former)	13997 Clarence Way	Lot 61, DP 819068	Local	I013
Bonalbo	Bonalbo and District Community Hall	4 Koreelah Street	Lot 2, DP 835779	Local	I171
Bonalbo	Kirkpatrick's residence	4 Peacock Street	Lot 1, DP 328778	Local	I006
Bonalbo	Butter Factory (former)	1 Sandilands Street	Lots 220 and 221, DP 855348	Local	I002
Bonalbo	CBC Bank (former)	11–15 Sandilands Street	Lot 1, Section 8, DP 6063	Local	I009
Bonalbo	Hardware store	25 Sandilands Street	Lot 13, DP 319387	Local	I011
Bonalbo	Bank of NSW (former)	26–30 Sandilands Street	Lot 1, DP 17478	Local	I010
Bonalbo	Foodworks store	27 Sandilands Street	Lot 12, DP 319387	Local	I008
Bonalbo	Residence and shop	32 Sandilands Street	Lot 8, Section 3, DP 6063	Local	I007
Bonalbo	Blacksmith's shop (former)	39 Sandilands Street	Lot 1, DP 590423	Local	I012
Bonalbo	Patrick McNamee Anzac Memorial Park	Woodenbong Road	Lot 1, DP 835779	Local	I203
Bonalbo	Masonic Lodge (former)	73 Woodenbong Road	Lot 5, Section A, DP 10036	Local	I001
Cawongla	Homestead	1933 Cawongla Road	Lot E, DP 412306	Local	I022
Cawongla	Bunya pine trees	Kyogle Road		Local	I205

Cawongla	Teacher's residence (former)	5325 Kyogle Road	Lot 185, DP 728682	Local	I020
Cawongla	Cawongla store	5329 Kyogle Road	Lot 101, DP 875472	Local	I021
Cawongla	Cottage	5336 Kyogle Road	Lot 1, DP 378105	Local	I172
Cedar Point	Residence	12845 Summerland Way	Lot 222, DP 715611	Local	I058
Cougal	Gradys Creek Railway Bridge No 5	Gradys Creek (near the railway loop)		Local	I160
Cougal	Settlement (former)	Gradys Creek Road	Lot 16, DP 264312; Lot A, DP 388477; Lot 51, DP 620068	Local	I165
Cougal	Lions Road	Lions Road	Part of road reserve	Local	I162
Cougal	The Border railway loop	Richmond Gap, Lions Road	Part of Richmond Gap	State	I163
Doubtful Creek	Dyraaba Hall	1856 Sextonville Road	Lot 357, DP 755732	Local	I372
Doubtful Creek	St Faith's Anglican Church	1876 Sextonville Road	Lot 4, Section 1, DP 13825	Local	I153
Dyraaba	Dyraaba Station homestead complex	755 Dyraaba Road	Lot 9, DP 1152135	Local	I156
Ettrick	Residence	39 Pines Road	Lot 1, DP 610679	Local	I157
Geneva	Omagh residence	323 Omagh road	Lot 3, DP 881814	Local	I046
Geneva	Residence	29 Saville Street	Lot 2, DP 537073	Local	I048
Green Pigeon	Community centre	705 Green Pigeon Road	Lot 185, DP 755707	Local	I365
Kilgra	Wyangarie Homestead	124 Homestead Road	Lot 2, DP 701764	Local	I188
Kilgra	Bundock Plaque	Summerland Way and Homestead Road	Road reserve	Local	I169
Kyogle	Residence	6 Anderson Street	Lot 6, DP 23374	Local	I024
Kyogle	Methodist Parsonage (former)	20 Bloore Street	Lot 2, DP 1067865	Local	I028
Kyogle	Industrial building	33 Bloore Street	Lot 278, DP 4517; Lot 277, DP 783826	Local	I025
Kyogle	Kyogle Homestead remains	31 Bundock Lane	Lot 64, DP 12117	Local	I044
Kyogle	Anglican Manse (former)	13–15 Campbell Road	Lot 1, DP 223989	Local	I031
Kyogle	Norco Factory, group of buildings	1–3 Chauvel Street	Lots 1 and 2, DP 1027750; Lot 2, DP 1067947	Local	I061
Kyogle	Railway station, group of buildings	Ettrick Street	Lot 12, DP 1095432; Lot 1, DP 181905	Local	I159
Kyogle	Station master's residence	52 Ettrick Street	Lot 2, DP 811042	Local	I389
Kyogle	Residence	15 Fawcett Street	Lot 30, DP 12117	Local	I032
Kyogle	Kyogle Roxy Theatre (former)	7 Geneva Street	Lot 255, DP 4517	Local	I035
Kyogle	Ambulance station (former)	8 Geneva Street	Lot 248, DP 4517	Local	I401

Kyogle	Residence	23 Geneva Street	Lot 3, DP 207289	Local	I036
Kyogle	Residence	49 Geneva Street	Lot 172, DP 781940	Local	I037
Kyogle	Ganger Cottage (former)	George Street	Lot 115, DP 755734	Local	I038
Kyogle	Court House	Groom and Geneva Streets	Lot 1, DP 812650	Local	I033
Kyogle	Kyogle Primary School and listed plantings	Groom Street and Rous Road	Lot 129, DP 755734	Local	I034
Kyogle	St Andrew's Presbyterian Church	54–56 Groom Street	Lot 1, DP 328356	Local	I041
Kyogle	Presbyterian Church Hall	58 Groom Street	Lot 13, DP 9839	Local	I051
Kyogle	Police station	64–66 Groom Street	Lot 2, DP 812650	Local	I374
Kyogle	Residence	11 Highfield Road	Lot 1, DP 567936	Local	I043
Kyogle	Houses	52–54 Highfield Road	Lots 1 and 2, DP 35487	Local	I042
Kyogle	Presbyterian Manse	37–39 Mount Street	Lot 150, DP 755734	Local	I049
Kyogle	Water filtration plant	1 Plant Street	Lot 1, DP 1067865	Local	I027
Kyogle	Residence	17 Rous Street	Lot 3, DP 552506	Local	I039
Kyogle	Residence	19 Rous Street	Lot 157, DP 755734	Local	I040
Kyogle	Kyogle Cemetery	Runnymede Road	Lot 7001, DP 96777	Local	I053
Kyogle	Kyogle Council Chambers	1 Stratheden Street	Lots 282 and 283, DP 4517	Local	I050
Kyogle	Masonic Lodge	12 Stratheden Street	Lot 101, DP 781824	Local	I052
Kyogle	Clock tower	Summerland Way	Road reserve	Local	I403
Kyogle	Kyogle Croquet Club	Summerland Way	Lot 752, DP 1104367	Local	I174
Kyogle	Shops	37–39 Summerland Way	Lots 4 and 5, DP 260777	Local	I065
Kyogle	Shops	41–47 Summerland Way	Lots 6–9, DP 260777	Local	I066
Kyogle	Samios Building	55–57 Summerland Way	Lot B, DP 332801	Local	I067
Kyogle	Shops	59–61 Summerland Way	Lot 2, DP 721805	Local	I068
Kyogle	Bank of Australasia (former)	62–66 Summerland Way	Lot 11, DP 1064731	Local	I084
Kyogle	Exchange Hotel	63–65 Summerland Way	Lot 2, DP 327761	Local	I069
Kyogle	Commonwealth Bank (former)	68 Summerland Way	Lot 10, DP 871210	Local	I085
Kyogle	Shirley's Store (former)	69–71 Summerland Way	Lot 1, DP 783834	Local	I070
Kyogle	Shops	72–76 Summerland Way	Lot B, DP 180227	Local	I086
Kyogle	Shops	79 Summerland Way	Lot 22, DP 805397	Local	I071
Kyogle	Fairymount Cafe (former)	81–85 Summerland Way	Lot 12, DP 783829	Local	I072
Kyogle	Campbell's Building	82–88 Summerland Way	Lot 1, DP 301322; Lot 3, DP 783902	Local	I391
Kyogle	Birkbeck's Menswear store	87 Summerland Way	Lot 12, DP 783829	Local	I073
Kyogle	Shops	87 Summerland Way	Lots A and B, DP 389317	Local	I074

Kyogle	Shops	93–95 Summerland Way	Lot 1, DP 108238	Local	I075
Kyogle	Rural Bank (former)	94–100 Summerland Way	Lot 61, DP 783909	Local	I087
Kyogle	Commercial Hotel	97–101 Summerland Way	Lot 1, DP 108238	Local	I076
Kyogle	National Bank	102 Summerland Way	Lot 1, DP 191996	Local	I088
Kyogle	Shops	103–105 Summerland Way	Lot 1, DP 108444	Local	I398
Kyogle	Boden's Building (former)	107 Summerland Way	Lot B, DP 303016	Local	I077
Kyogle	Chemist shop	109 Summerland Way	Lot A, DP 302393	Local	I078
Kyogle	Commonwealth Bank	114–116 Summerland Way	Lot B, DP 303638	Local	I089
Kyogle	Junor's Store (former)	115 Summerland Way	Lot 1, DP 347576	Local	I079
Kyogle	Shops	118–120 Summerland Way	Lot 1, DP 657255	Local	I090
Kyogle	Shops	121–125 Summerland Way	Lot 1, DP 393777; Lots A and B, DP 394481	Local	I080
Kyogle	Kyogle Memorial Institute building and projectors	133 Summerland Way	Lot 19, DP 783828	Local	I081
Kyogle	Bank of NSW (former)	136 Summerland Way	Lot 2, DP 508115	Local	I092
Kyogle	Queensland National Bank (former)	138–140 Summerland Way	Lot A, DP 403007	Local	I093
Kyogle	Doctor's surgery (former)	144 Summerland Way	Lot 2, DP 735743	Local	I095
Kyogle	Post office	149 Summerland Way	Lot 1, DP 776479	Local	I082
Kyogle	Kyogle Citizens Band Hall	176 Summerland Way	Lot 1, DP 532420	Local	I054
Kyogle	Kyogle Private Hospital (former)	181 Summerland Way	Lot 33, DP 781774	Local	I056
Kyogle	Residence	187 Summerland Way	Lot 5, DP 954697	Local	I366
Kyogle	Residence	226 Summerland Way	Lot 1, DP 612336	Local	I060
Kyogle	Greenwood building and landscape	433 Summerland Way	Lot 11, DP 1035629	Local	I190
Kyogle	Kyogle Historical Museum	10 Wiangaree Street	Lot 1, DP 781677	Local	I062
Kyogle	Residence	1 Yongurra Road	Lot 2, DP 10780	Local	I047
Lillian Rock	Memorial gate	Caldera Lane	Road reserve	Local	I161
Mallanganee	Carey Johnson memorial trees	Bonalbo Street	Road reserve	Local	I178
Mallanganee	Memorial Hall	5–7 Bonalbo Street	Lot 52, DP 752395	Local	I101
Mallanganee	Hewetson home (former)	7095 Bruxner Highway	Lot 2, DP 17479	Local	I099
Mallanganee	Hewetson home (former)	7103 Bruxner Highway	Lot 13, DP 838859	Local	I098
Mallanganee	Hewetson home (former)	7105 Bruxner Highway	Lot 4, DP 17479	Local	I100
Mallanganee	Pie shop	4 Pine Street	Lot A, DP 399099	Local	I102

Mallanganee	Service station complex	18–22 Sandilands Street	Lot 1, DP 204959; Lot 21, DP 711890; Lot 4, Section 1, DP 758639	Local	I106
Mallanganee	Cafe (former)	44 Sandilands Street	Lot A, DP 392198	Local	I107
Mallanganee	Memorial Park gateway	53 Sandilands Street	Lot A, DP 367971	Local	I105
Mallanganee	General store and post office	60–62 Sandilands Street	Lot 1, Section 4, DP 123614; Lot 111, DP 47440	Local	I109
Mallanganee	Butcher's shop (former)	63 Sandilands Street	Lot 3, DP 6547	Local	I381
Mallanganee	Bank (former)	64 Sandilands Street	Lot 10, DP 304994	Local	I108
Mallanganee	Barber shop (former)	72 Sandilands Street	Lot 12, DP 312249	Local	I104
Mallanganee	Residence	79 Sandilands Street	Lot 2, Section 1, DP 17532	Local	I103
Mallanganee	Mallanganee School and school residence	38–52 Tooloom Street	Lot 70, DP 752395	Local	I111
Mallanganee	Our Lady of Perpetual Succour Catholic Church	57 Tooloom Street	Lot 2, Section 3, DP 758639	Local	I114
Mallanganee	Convent (former)	59 Tooloom Street	Lot 3, Section 3, DP 758639	Local	I113
Mallanganee	Catholic School (former)	62 Tooloom Street	Lot 100, DP 752395	Local	I112
Mallanganee	Residence	2 Yabbra Street	Lot 6, Section 2, DP 758639	Local	I115
Mallanganee South	Finger Board building	Old Lawrence Road		Local	I378
Mallanganee South	Survey tree	969 Old Lawrence Road		Local	I380
Mummulgum	Catholic Church (former)	8 Bingebeebra Road	Lot 97, DP 755723	Local	I117
Mummulgum	St Mary's Anglican Church	5825 Bruxner Highway	Lot 101, DP 755723	Local	I116
New Park	Alcorn Park	Summerland Way	Lot 755, DP 1104367	Local	I173
New Park	Alcorn Park band rotunda	Summerland Way	Lot 755, DP 1104367	Local	I023
New Park	Showground and grandstand	43 Summerland Way	Lot 118, DP 44795	Local	I057
Old Bonalbo	Pioneer Park	Clarence Way	Road reserve	Local	I405
Old Bonalbo	Store (former)	15242 Clarence Way	Lot A, DP 365820	Local	I015
Old Bonalbo	Post office and general store	Duck Creek Road	Lot 2, DP 167973	Local	I019
Old Bonalbo	Old Bonalbo Community Hall	8 Duck Creek Road	Lot 3, DP 166762	Local	I014
Old Bonalbo	Residence	13 Duck Creek Road	Lot 1, DP 17551	Local	I016
Old Bonalbo	Bean Creek Falls	Falls Road	Lot 7012, DP 1108188; Lots 2 and 3, DP 543736	Local	I399
Old Bonalbo	MJI Motor Cycle Garage	2 Prince Street	Lot 1, DP 613972	Local	I017
Old Bonalbo	Old Bonalbo Cemetery	Remembrance Drive	Lot 7014, DP 96676	Local	I375
Old Grevillia	Moore Park nature reserve	Findon Creek Road	Lot 1, DP 180655	Local	I193

Richmond Gap	Border tick gate	Lions Road	Road reserve	Local	I166
Sandilands	Mallanganee Rodeo Ground	Bruxner Highway	Lot 7002, DP 96390	Local	I182
Sandilands	Sculpture garden	Bruxner Highway	Reserve no 21418	Local	I184
Sandilands	Sandilands Station complex	7689 Bruxner Highway	Lot 1, DP 123612	Local	I183
Tabulam	Chauvel Park (formerly Tabulam Station)	Clarence Street	Lot 5, DP 833655	Local	I186
Tabulam	St John's Church	26 Clarence Street	Lot 5, Section 1, DP 11813	Local	I382
Tabulam	Hotel	34–42 Clarence Street	Lot 1, Section 1, DP 11813	Local	I383
Tabulam	Post office	12–14 Court Street	Lot 214, DP 39896	Local	I118
Tabulam	Police station	1–3 Creek Street	Lot 7002, DP 1068673	Local	I373
Tabulam	Tabulam Racecourse	Racecourse Road	Lot 34, DP 752397	Local	I187
Tabulam	Tabulam Cemetery	219 Racecourse Road	Lot 7017, DP 1066120	Local	I376
The Risk	Bottlebrush	Gradys Creek Road	Road reserve	Local	I192
The Risk	The Risk Hall	75 Gradys Creek Road	Lot 1, DP 322341	Local	I362
The Risk	School and teacher's residence	122 Gradys Creek Road	Lot 84, DP 755719	Local	I363
The Risk	Water facilities	Risk Road	Lot 2, DP 859278	Local	I409
Unumgar	Dairy Flat landscape	Summerland Way	Lot 7013, DP 105600; Lot 7004, DP 1057677; Lot 7300, DP 1129206; Lot 46, DP 755750	Local	I196
Unumgar	Unumgar Homestead landscape	4135 Summerland Way	Part of Lot 1, DP 531985	Local	I194
Urbenville	Showground and memorial gates	Clarence Way	Lot 24, DP 751069	Local	I200
Wadeville	Daystar Steiner School (former)	4501–4504 Kyogle Road	Lot 23, DP 792111	Local	I152
Wadeville	Hanging Rock Hall	77 Williams Road	Lot 188, DP 728691	Local	I404
Wiangaree	Wiangaree Community Hall	1393 Summerland Way	Lot 8, Section 7, DP 759088	Local	I150
Wiangaree	St John's Anglican Church	Worendo Street	Lot 1, Section 10, DP 759088	Local	I151
Wiangaree	General store	60 Worendo Street	Lot 9, Section 8, DP 759088	Local	I149
Woodenbong	Residence	8 Dalmorton Street	Lot A, DP 390596	Local	I387
Woodenbong	Post office (former)	14 Dalmorton Street	Lot 2, DP 629397	Local	I121
Woodenbong	Hardware and electrical store	17 Dalmorton Street	Lot 11, DP 748304	Local	I134
Woodenbong	Woodenbong Cemetery	95 Hill View Street	Lot 7004, DP 1055062	Local	I199
Woodenbong	Showground	1 Lindsay Creek Road	Lot 7005, DP 1055056	Local	I197

Woodenbong	St Margaret's Anglican Church	20 Lindsay Street	Lot 91, DP 733874	Local	I119
Woodenbong	Residence	27 Lindsay Street	Lot 3, Section 4, DP 759111	Local	I385
Woodenbong	Masonic Lodge (former)	41 Lindsay street	Lot 4, Section 5, DP 759111	Local	I384
Woodenbong	Woodenbong School memorial gates and classroom	42 Lindsay Street	Lots 1 and 2, Section 2, DP 759111	Local	I146
Woodenbong	War Memorial Hall	49 Lindsay Street	Lot 15, Section 5, DP 759111	Local	I120
Woodenbong	Sacred Heart Catholic Church	11–13 MacPherson Street	Lot 9, Section 9, DP 759111	Local	I135
Woodenbong	Sketchley's Store	21 MacPherson Street	Lot 5, Section 9, DP 759111	Local	I137
Woodenbong	Store (former)	24 MacPherson Street	Lot 9, Section 4, DP 759111	Local	I129
Woodenbong	Bakery (former)	25 MacPherson Street	Lot 3, Section 9, DP 759111	Local	I122
Woodenbong	Residence	26 MacPherson Street	Lot 10, Section 4, DP 759111	Local	I133
Woodenbong	BJs Grocery Store	27 MacPherson Street	Lot 10, DP 748304	Local	I123
Woodenbong	Residence	30 MacPherson Street	Lot 12, Section 4, DP 759111	Local	I132
Woodenbong	National Australia Bank building	34 MacPherson Street	Lot 14, Section 4, DP 759111	Local	I131
Woodenbong	CWA Rooms	36 MacPherson Street	Lot 15, DP 662572	Local	I125
Woodenbong	M & L Quality Meats Store	37 MacPherson Street	Lot 4, Section 8, DP 759111	Local	I124
Woodenbong	Chemist shop	39 MacPherson Street	Lot 3, Section 8, DP 759111	Local	I128
Woodenbong	Offices (former)	42 MacPherson Street	Lot 7, Section 5, DP 759111	Local	I126
Woodenbong	Woodenbong Hotel	43 MacPherson Street	Lot 1, Section 8, DP 759111	Local	I145
Woodenbong	Residence	46 MacPherson Street	Lot 9, Section 5, DP 759111	Local	I140
Woodenbong	Residence	34 Richmond Street	Lot 15, Section 8, DP 759111	Local	I139
Woodenbong	Residence	46 Roseberry Street	Lot 109, DP 751059	Local	I142
Woodenbong	Recreation ground	Unumgar Street	Lot 7008, DP 1075469	Local	I198
Woodenbong	Police Station	1–5 Unumgar Street	Lot 7001, DP 92987	Local	I147
Woodenbong	Woodenbong Public Hall	21–23 Unumgar Street	Lot 14, Section 5, DP 759111	Local	I148
Woodenbong	Carole's Arts and Craft shop	30 Unumgar Street	Lot 3, Section 6, DP 75911	Local	I144

Woodenbong	Service station (former)	34 Unumgar Street	Lot 51, DP 819346	Local	I143

Part 2 Heritage conservation areas

Name of area	Identification on Heritage Map	Significance
Grevillia Village Conservation Area	Shown by red hatching and marked “C168”	Local
Hewetson Residential Group	Lots 2 and 4, DP 17479; Lot 13, DP 838859; Shown by red hatching and marked “C180”	Local
Kyogle Town Gateway Conservation Area	Shown by red hatching and marked “C406”	Local
Kyogle Town Heritage Conservation Area	Shown by red hatching and marked “C396”	Local
Mallanganee Village Conservation Area	Shown by red hatching and marked “C097”	Local

Part 3 Archaeological sites

Suburb	Item name	Address	Property description	Significance	Item no
Dyraaba	Dyraaba Station Cemetery	755 Dyraaba Road	Lot 2, DP 755704	Local	A392
Green Pigeon	Sawmilling complex (former)	1047–1055 and adjoining reserves, Green Pigeon Road	Lots 141, 143 and 144, DP 257506; Lot 5, DP 625056	Local	A155
Kilgra	Wiangaree Bundock Family Cemetery	Apple Tree Stud, Summerland Way	Lot 2, DP 943796	Local	A189
Old Bonalbo	Jane Robertson’s grave	15249–15297 Clarence Way	Lot 7, DP 751077	Local	A201
Sandilands	Sandilands Cemeteries	7689 Bruxner Highway	Lot 1, DP 123612	Local	A367
Tabulam	Tabulam Old Cemetery	Charles Street	Lot 7003, DP 1068672	Local	A377
Tooloom	Tooloom Goldfields	See Heritage Map	Lots 1, 2, 25, 26 and 37, DP 751080; Lots 7001–7004, DP 1068822; Lots 6, 10, 14–19, 20 and 22, DP 751075; Lot 2, DP 859360; Lot 120, DP 875319; Lot 2, DP 123063; Lot 11, DP 867400; Lot 24, DP 44725; Lots 7300 and 7301, DP 1149153; and 2 unidentified (LPMA)	Local	A164
Tooloom	Queen’s Arms Hotel site	Paddys Flat Road	Lot 2, DP 751080	Local	A361
Tooloom	Tooloom village site	Off Paddys Flat Road	Lots 1, 2, 25 and 26, DP 751080; Lots 7002–7004, DP 1068822; Lot 2, DP 859360	Local	A185
Unumgar	Unumgar Hill Family Cemetery	4135 Summerland Way	Part of Lot 1, DP 531985	Local	A195

Search National Native Title Register

The National Native Title Register (NNTR) is a register established under s. 192 of the *Native Title Act 1993* (Cth).

The NNTR contains determinations of native title made by:

- the High Court of Australia
- the Federal Court of Australia
- or a recognised body such as South Australia's Supreme Court and Environment Resources and Development Court.

Further information about the NNTR is available.

Tribunal file no.

Federal Court file no.

Short name

Case name

State or Territory New South Wales

Registered Native Title Body Corporate*

Representative A/TSI body area

Local government area Kyogle Council

Determination type

ALL

Legal process ALL

Determination outcome ALL

Determination date between

and

Sort by Determination date

Search

*Please note: current contact details for the Registered Native Title Body Corporate are available from the Office of the Registrar of Indigenous Corporations www.oric.gov.au

Your search returned **2** matches.

Short name	Case name	Legal process	Determination date	Outcome
Western Bundjalung People Part A	Western Bundjalung People v Attorney General of New South Wales	Consent	29/08/2017	Native title exists in parts of the determination area
The Githabul People	Trevor Close on behalf of the Githabul People v Minister for Lands	Consent	29/11/2007	Native title exists in the entire determination area

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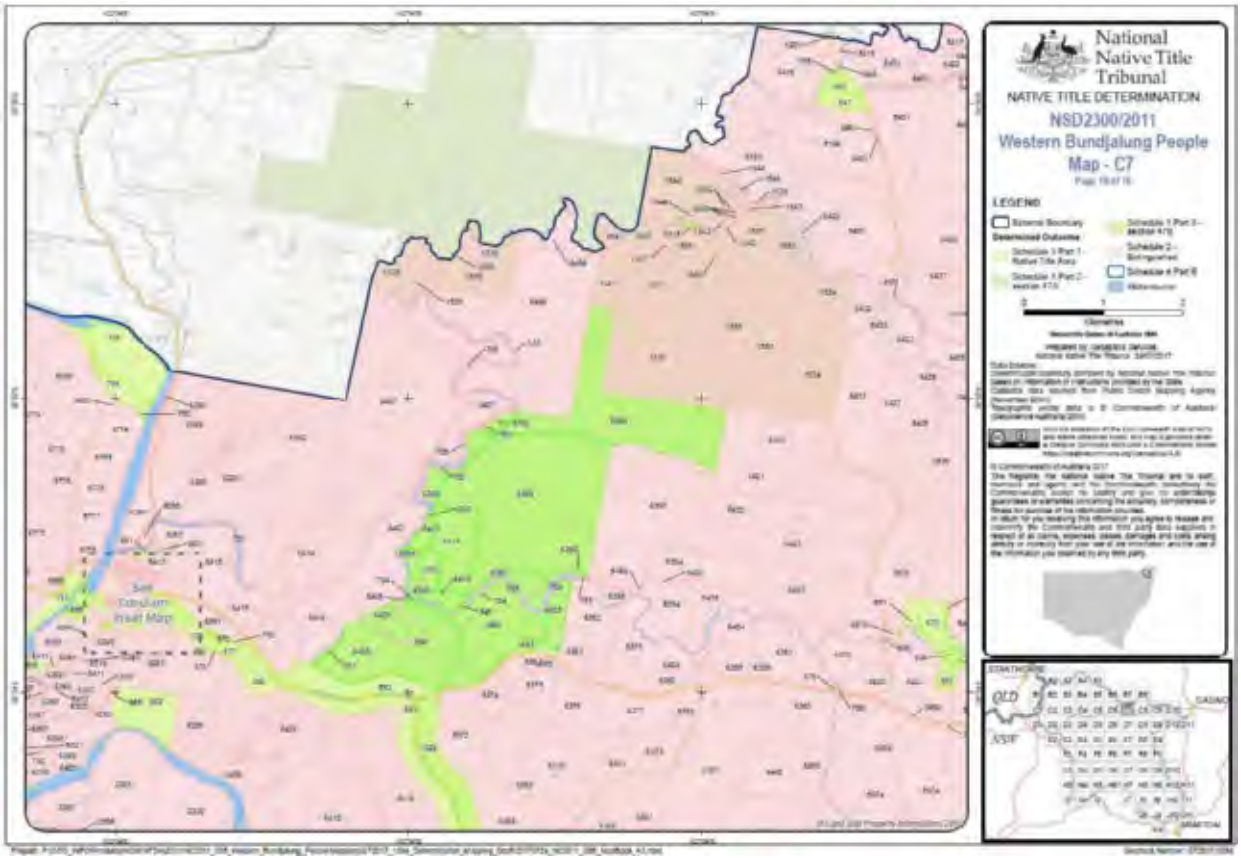
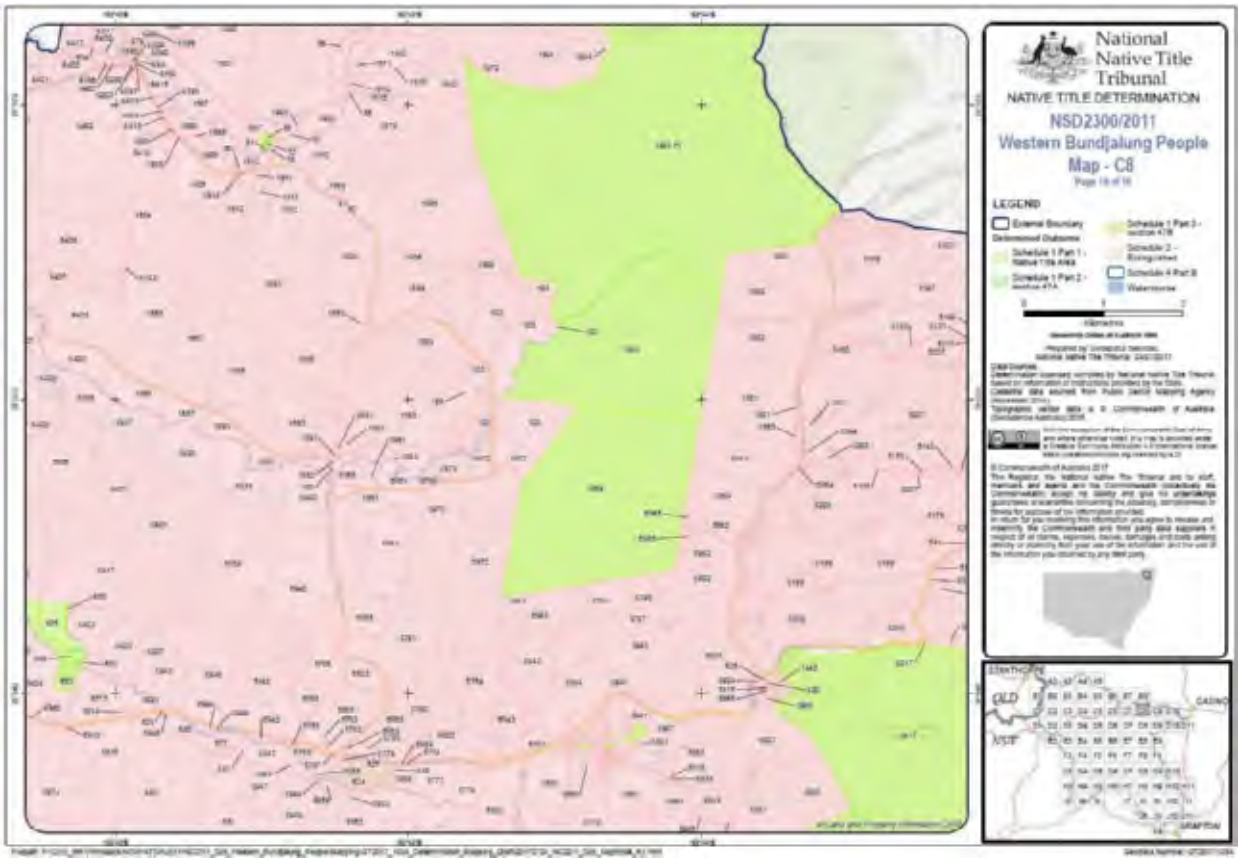

National Native Title Tribunal
NATIVE TITLE DETERMINATION
NSD2300/2011
Western Bundjalung People
Map - C7
LEGEND
Soil Tabulum Inset Map
QLD
NSW


National
Native Title
Tribunal
NATIVE TITLE DETERMINATION
NSD2300/2011
Western Bundjalung People
Map - C8
LEGEND
External Boundary
Determined Outcome
Schedule 1 Part 1 - Native Title Area
Schedule 1 Part 2 - section 47A
Schedule 1 Part 3 - section 47B
Schedule 2 - Extinguished
Schedule 4 Part B
Watercourse
Kilometres
QLD
NSW
CASINO
GRAFTON

Register of Indigenous Land Use Agreements Details

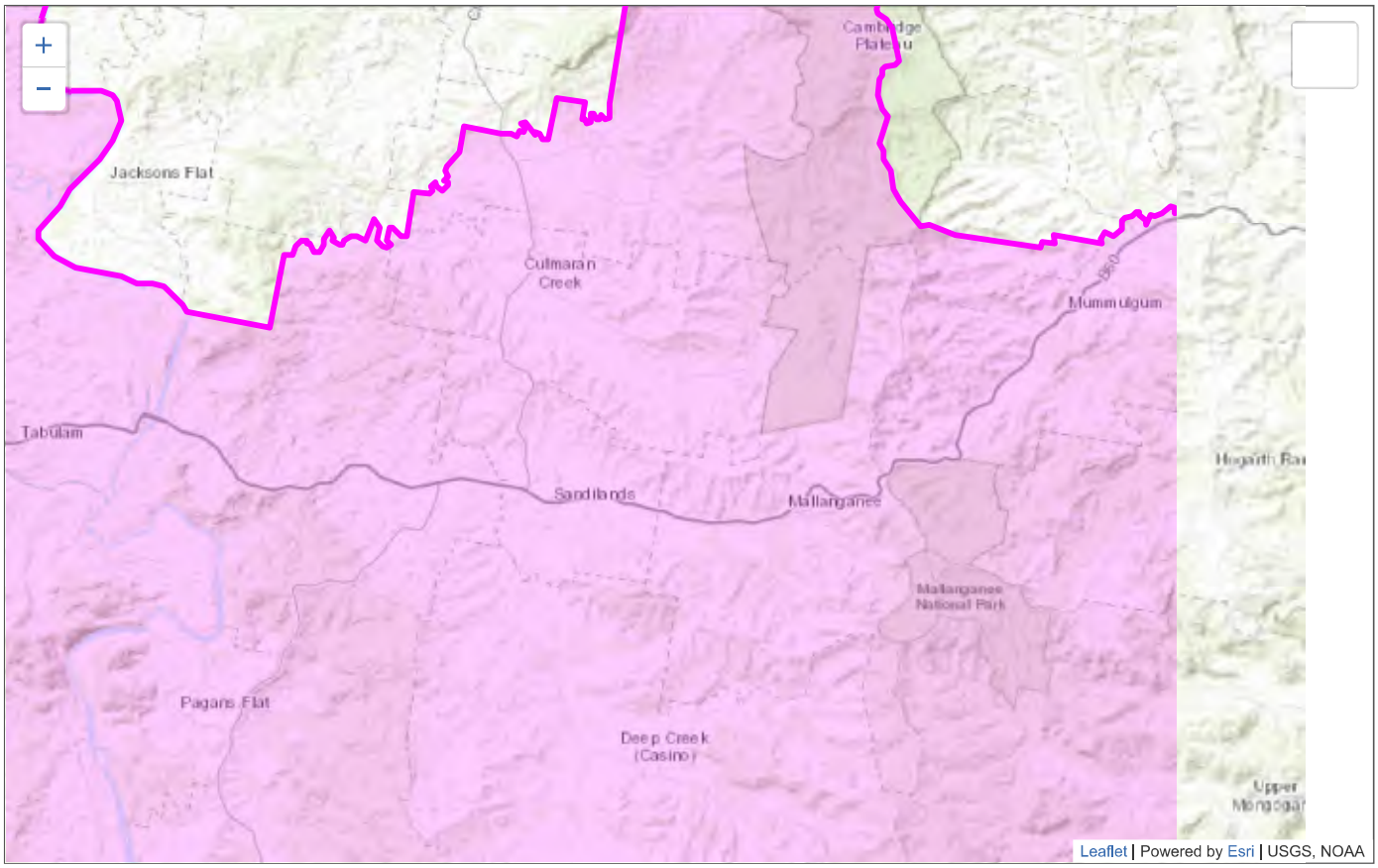
Back to search results

NI2020/002 - Western Bundjalung Amended Settlement Indigenous Land Use Agreement

Tribunal file no.	NI2020/002
ILUA name	Western Bundjalung Amended Settlement Indigenous Land Use Agreement
ILUA type	Area Agreement
Representative A/TSI body area(s)	NTSCORP Limited
State or Territory	New South Wales
Primary subject matter	Native Title Settlement
Other subject matter(s)	Access, Consultation protocol
Date registered	04/05/2021

Register extract

Register extract	**ILUARegisterExport.pdf**



View this map in NTV: **NI2020/002**

Appendix E

Noise Assessment

Distanced Based Assessment (Noisiest Plant)

Please pick from drop-down list in orange cells

Noise area category		R2
RBL or Laeq Background level (dB(A))	Day	45
	Evening	40
	Night	35
LAeq(15minute) Noise Mangement Level (dB(A))	Day	55
	Day (OOHW)	50
	Evening	45
	Night	40
Noisiest plant		Chainsaw
Is there line of sight to receiver?		Yes

Steps for Assessment:

1. Schedule noisy works to occur in standard hours where possible or before 11pm and implement Standard Measures.
2. Select the representative noise area category. The worksheet titled "Representative Noise Environ." provides a number of examples to help select the noise area category.
3. Select the noisiest plant. If not found in drop-down list, refer to "Source List" and select a representative plant with equivalent sound power level.
4. Is there line of sight to receive? Select the appropriate scenario from the drop down list .

Identify and implement standard mitigation measures where feasible and reasonable. Include any shielding implemented as part of the standard mitigation measures by changing the selection in the "is there line of sightsaw to receive" drop-down list. Solid barriers can be in the form of road cutting, timber lapped and capped fence, shipping container, site office, etc. Substantial solid barriers are barriers greater than 5 metres in height or multiple rows of houses or a sound barrier specifically designed to mitigate construction noise. Please note that vegetation and trees are not considered to be a form of solid barrier and any gaps would compromise the acoustic integrity of the solid barrier.

5. Determine if there are any receivers (both residential and non-residential receivers) within the affected distance for each relevant time period . Consider background LA90 noise measurements to check assumption in Step #2 if:

(a) there are many affected receivers and the impact duration at any one receiver is more than 3 weeks; or

(b) there are a few affected receivers and the impact duration at any one receiver is more than 6 weeks.

Note that consideration need to be given to the construction staging plan when determining impact duration.

7. Identify if there are any receivers within the additional mitigation measures distances and identify feasible and reasonable measures at each receiver.
8. Where night works are involved, identify sleep disturbance affected distance.
9. Document the outcomes of these steps.

(Note that suitable noise management levels for other noise-sensitive businesses not identified in the Construction Noise Estimator should be investigated on a project-by-project basis. Please contact a Roads and Maritime noise specilaist for more information)

Abbreviation	Measure
N	Notification
SN	Specific notifications
PC	Phone calls
IB	Individual briefings
RO	Respite offer
R1	Respite period 1
R2	Respite period 2
DR	Duration respite
AA	Alternative accommodation
V	Verification

Note that spot check verification of noise levels and individual briefings are not required for projects with less than 3 weeks impact duration

Residential receiver

			LAeq(15minute) noise level above background (LA90)												LAeq(15minute) 75 dB(A) or greater (Highly affected)			Sleep disutrbance LAmax 65 dB(A)
			5 to 10 dB(A) Noticeable			10 to 20 dB(A) Clearly audible			20 to 30 dB(A) Moderately intrusive			> 30 dB(A) Highly intrusive						
		Affected distance (m)	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Affected distance (m)
Undeveloped green fields, rural areas with isolated dwellings	Day	175							N	75	65	N, PC, RO	25	75	N, PC, RO	25	75	
	Day (OOHW)	250				N, R1, DR	175	55	N, R1, DR	75	65	N, R1, DR, PC, SN	25	75	N, PC, RO	25	75	
	Evening	365				N, R1, DR	250	50	N, R1, DR	120	60	N, R1, DR, PC, SN	45	70	N, PC, RO	25	75	
	Night	525	N	525	40	N, R2, DR	365	45	N, PC, SN, R2, DR	175	55	AA, N, PC, SN, R2, DR	75	65	N, PC, RO	25	75	120
	Highly Affected	25													N, PC, RO	25	75	
Developed settlements (urban and suburban)	Day	200							N	85	65	N, PC, RO	30	75	N, PC, RO	30	75	
	Day (OOHW)	305				N, R1, DR	200	55	N, R1, DR	85	65	N, R1, DR, PC, SN	30	75	N, PC, RO	30	75	
	Evening	460				N, R1, DR	305	50	N, R1, DR	135	60	N, R1, DR, PC, SN	50	70	N, PC, RO	30	75	
	Night	690	N	690	40	N, R2, DR	460	45	N, PC, SN, R2, DR	200	55	AA, N, PC, SN, R2, DR	85	65	N, PC, RO	30	75	135
	Highly Affected	30													N, PC, RO	30	75	
Propagation across a valley / over water	Day	255							N	95	65	N, PC, RO	35	75	N, PC, RO	35	75	
	Day (OOHW)	405				N, R1, DR	255	55	N, R1, DR	95	65	N, R1, DR, PC, SN	35	75	N, PC, RO	35	75	
	Evening	630				N, R1, DR	405	50	N, R1, DR	160	60	N, R1, DR, PC, SN	60	70	N, PC, RO	35	75	
	Night	960	N	960	40	N, R2, DR	630	45	N, PC, SN, R2, DR	255	55	AA, N, PC, SN, R2, DR	95	65	N, PC, RO	35	75	160
	Highly Affected	35													N, PC, RO	35	75	

Non-residential receiver
Undeveloped green fields, rural areas with isolated dwellings

	Standard hours			LAeq(15minute) noise level above NML						LAeq(15minute) 75 dB(A) or greater (Highly affected)		
				<10 dB(A)			10 to 20 dB(A)					
	Period	NML	Affected distance (m)	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))
Classroom at schools and other educational institutions	Day	55	175				N	75	65	N, PC, RO	25	75
Hospital wards and operating theatres	Day	65	75							N, PC, RO	25	75
Place of worship	Day	55	175				N	75	65	N, PC, RO	25	75
Active recreation	Day	65	75							N, PC, RO	25	75
Passive recreation	Day	60	120				N	45	70	N, PC, RO	25	75
Industrial premise	Day	75	25							N, PC, RO	25	75
Offices, retail outlets	Day	70	45							N, PC, RO	25	75

	OOHW			LAeq(15minute) noise level above NML											
				< 5 dB(A)			5 to 15 dB(A)			15 to 25 dB(A)			> 25 dB(A)		
	Period	NML	Affected distance (m)	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))
Hospital wards and operating theatres	Evening	65	75				N, R1, DR	45	70	N, R1, DR	14	80	N, R1, DR, PC, SN	4	90
	Night	65	75	N	75	65	N, R2, NR	45	70	N, PC, SN, R2, DR	14	80	AA, N, PC, SN, R2, DR	4	90
Place of worship	Evening	55	175				N, R1, DR	120	60	N, R1, DR	45	70	N, R1, DR, PC, SN	14	80
	Night	55	175	N	175	55	N, R2, NR	120	60	N, PC, SN, R2, DR	45	70	AA, N, PC, SN, R2, DR	14	80
Active recreation	Evening	65	75				N, R1, DR	45	70	N, R1, DR	14	80	N, R1, DR, PC, SN	4	90
Passive recreation	Evening	60	120				N, R1, DR	75	65	N, R1, DR	25	75	N, R1, DR, PC, SN	8	85
Industrial premise	Evening	75	25				N, R1, DR	14	80	N, R1, DR	4	90	N, R1, DR, PC, SN	1	100
	Night	75	25	N	25	75	N, R2, NR	14	80	N, PC, SN, R2, DR	4	90	AA, N, PC, SN, R2, DR	1	100
Offices, retail outlets	Evening	70	45				N, R1, DR	25	75	N, R1, DR	8	85	N, R1, DR, PC, SN	3	95
	Night	70	45	N	45	70	N, R2, NR	25	75	N, PC, SN, R2, DR	8	85	AA, N, PC, SN, R2, DR	3	95

Non-residential receiver
Developed settlements (urban and suburban)

	Standard hours			LAeq(15minute) noise level above NML						LAeq(15minute) 75 dB(A) or greater (Highly affected)		
				<10 dB(A)			10 to 20 dB(A)					
	Period	NML	Affected distance (m)	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))
Classroom at schools and other educational institutions	Day	55	200				N	85	65	N, PC, RO	30	75
Hospital wards and operating theatres	Day	65	85							N, PC, RO	30	75
Place of worship	Day	55	200				N	85	65	N, PC, RO	30	75
Active recreation	Day	65	85							N, PC, RO	30	75
Passive recreation	Day	60	135				N	50	70	N, PC, RO	30	75
Industrial premise	Day	75	30							N, PC, RO	30	75
Offices, retail outlets	Day	70	50							N, PC, RO	30	75

	OOHW			LAeq(15minute) noise level above NML											
				< 5 dB(A)			5 to 15 dB(A)			15 to 25 dB(A)			> 25 dB(A)		
	Period	NML	Affected distance (m)	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))
Hospital wards and operating theatres	Evening	65	85				N, R1, DR	50	70	N, R1, DR	17	80	N, R1, DR, PC, SN	5	90
	Night	65	85	N	85	65	N, R2, NR	50	70	N, PC, SN, R2, DR	17	80	AA, N, PC, SN, R2, DR	5	90
Place of worship	Evening	55	200				N, R1, DR	135	60	N, R1, DR	50	70	N, R1, DR, PC, SN	17	80
	Night	55	200	N	200	55	N, R2, NR	135	60	N, PC, SN, R2, DR	50	70	AA, N, PC, SN, R2, DR	17	80
Active recreation	Evening	65	85				N, R1, DR	50	70	N, R1, DR	17	80	N, R1, DR, PC, SN	5	90
Passive recreation	Evening	60	135				N, R1, DR	85	65	N, R1, DR	30	75	N, R1, DR, PC, SN	9	85
Industrial premise	Evening	75	30				N, R1, DR	17	80	N, R1, DR	5	90	N, R1, DR, PC, SN	2	100
	Night	75	30	N	30	75	N, R2, NR	17	80	N, PC, SN, R2, DR	5	90	AA, N, PC, SN, R2, DR	2	100
Offices, retail outlets	Evening	70	50				N, R1, DR	30	75	N, R1, DR	9	85	N, R1, DR, PC, SN	3	95
	Night	70	50	N	50	70	N, R2, NR	30	75	N, PC, SN, R2, DR	9	85	AA, N, PC, SN, R2, DR	3	95

Non-residential receiver
Propagation across a valley / over water

	Standard hours			LAeq(15minute) noise level above NML						LAeq(15minute) 75 dB(A) or greater (Highly affected)		
				<10 dB(A)			10 to 20 dB(A)					
	Period	NML	Affected distance (m)	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))
Classroom at schools and other educational institutions	Day	55	255				N	95	65	N, PC, RO	35	75
Hospital wards and operating theatres	Day	65	95							N, PC, RO	35	75
Place of worship	Day	55	255				N	95	65	N, PC, RO	35	75
Active recreation	Day	65	95							N, PC, RO	35	75
Passive recreation	Day	60	160				N	60	70	N, PC, RO	35	75
Industrial premise	Day	75	35							N, PC, RO	35	75
Offices, retail outlets	Day	70	60							N, PC, RO	35	75

	OOHW			LAeq(15minute) noise level above NML											
				< 5 dB(A)			5 to 15 dB(A)			15 to 25 dB(A)			> 25 dB(A)		
	Period	NML	Affected distance (m)	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))
Hospital wards and operating theatres	Evening	65	95				N, R1, DR	60	70	N, R1, DR	20	80	N, R1, DR, PC, SN	5	90
	Night	65	95	N	95	65	N, R2, NR	60	70	N, PC, SN, R2, DR	20	80	AA, N, PC, SN, R2, DR	5	90
Place of worship	Evening	55	255				N, R1, DR	160	60	N, R1, DR	60	70	N, R1, DR, PC, SN	20	80
	Night	55	255	N	255	55	N, R2, NR	160	60	N, PC, SN, R2, DR	60	70	AA, N, PC, SN, R2, DR	20	80
Active recreation	Evening	65	95				N, R1, DR	60	70	N, R1, DR	20	80	N, R1, DR, PC, SN	5	90
Passive recreation	Evening	60	160				N, R1, DR	95	65	N, R1, DR	35	75	N, R1, DR, PC, SN	15	85
Industrial premise	Evening	75	35				N, R1, DR	20	80	N, R1, DR	5	90	N, R1, DR, PC, SN	2	100
	Night	75	35	N	35	75	N, R2, NR	20	80	N, PC, SN, R2, DR	5	90	AA, N, PC, SN, R2, DR	2	100
Offices, retail outlets	Evening	70	60				N, R1, DR	35	75	N, R1, DR	15	85	N, R1, DR, PC, SN	3	95
	Night	70	60	N	60	70	N, R2, NR	35	75	N, PC, SN, R2, DR	15	85	AA, N, PC, SN, R2, DR	3	95

Little Creek Sensitive Receivers <50m Area 2
Mara Seeds
Sandilands
Little Creek Sensitive Receivers <50m area 1
Bump Rd
Stexner Hwy
Google Earth
500 m
N

Appendix F

Bionet Atlas and Protected Matters Search Results

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Depa Industry and Environment. Search criteria : Public Report of all Valid Records of Threatened (listed on BC Act 2016) or Co Entities in selected area [North: -28.85 West: 152.59 East: 152.69 South: -28.95] returned a total of 119 records of 20 sp Report generated on 6/04/2022 12:10 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status
Animalia	Aves	Cacatuidae	0265	*^Calyptorhynchus lathami*		Glossy Black-Cockatoo	V,P,2
Animalia	Aves	Psittacidae	0260	*Glossopsitta pusilla*		Little Lorikeet	V,P
Animalia	Aves	Strigidae	0248	*^^Ninox strenua*		Powerful Owl	V,P,3
Animalia	Aves	Tytonidae	0250	*^^Tyto novaehollandiae*		Masked Owl	V,P,3
Animalia	Aves	Tytonidae	9924	*^^Tyto tenebricosa*		Sooty Owl	V,P,3
Animalia	Aves	Climacteridae	8127	*Climacteris picumnus victoriae*		Brown Treecreeper (eastern subspecies)	V,P
Animalia	Aves	Artamidae	8519	*Artamus cyanopterus cyanopterus*		Dusky Woodswallow	V,P
Animalia	Mammalia	Dasyuridae	1008	*Dasyurus maculatus*		Spotted-tailed Quoll	V,P
Animalia	Mammalia	Phascolarctidae	1162	*Phascolarctos cinereus*		Koala	V,P
Animalia	Mammalia	Petauridae	1137	*Petaurus norfolcensis*		Squirrel Glider	V,P
Animalia	Mammalia	Pseudocheiridae	1133	*Petauroides volans*		Greater Glider	P
Animalia	Mammalia	Potoroidae	1187	*Aepyprymnus rufescens*		Rufous Bettong	V,P
Animalia	Mammalia	Pteropodidae	1280	*Pteropus poliocephalus*		Grey-headed Flying-fox	V,P
Animalia	Mammalia	Vespertilionidae	1354	*Chalinolobus nigrogriseus*		Hoary Wattled Bat	V,P
Animalia	Mammalia	Vespertilionidae	1361	*Scoteanax rueppellii*		Greater Broad-nosed Bat	V,P
Plantae	Flora	Cupressaceae	2277	*Callitris baileyi*		Bailey's Cypress Pine	E1
Plantae	Flora	Fabaceae (Faboideae)	3030	*Sophora fraseri*		Brush Sophora	V
Plantae	Flora	Myrtaceae	4096	*Eucalyptus glaucina*		Slaty Red Gum	V
Plantae	Flora	Myrtaceae	4283	*Rhodamnia rubescens*		Scrub Turpentine	E4A

Plantae	Flora	Myrtaceae	4284	*Rhodomyrtus psidioides*	Native Guava	E4A

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 : Public Report of all Valid Records of Threatened (listed on BC Act 2016) or Commonwealth listed Communities in selected area [North: -28.85 West: 152.59 East: 152.69 South: -28.95] returned 0 records for 7 entities. Report generated on 6/04/2022 12:13 PM

Kingdom	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	
Community	*Grey Box—Grey Gum Wet Sclerophyll Forest in the NSW North Coast Bioregion*		Grey Box—Grey Gum Wet Sclerophyll Forest in the NSW North Coast Bioregion	E3		K	
Community	*Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions*		Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	E3		K	
Community	*Lowland Rainforest of Subtropical Australia*		Lowland Rainforest of Subtropical Australia		CE	K	
Community	*Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion*		Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion	E3		K	
Community	*Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions*		Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	E3		P	
Community	*Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion*		Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion	E3		K	
Community	*White Gum Moist Forest in the NSW North Coast Bioregion*		White Gum Moist Forest in the NSW North Coast Bioregion	E3		K	

Australian Government
Department of Agriculture, Water and the Environment

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: 06-Apr-2022

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:	2
Listed Threatened Species:	36
Listed Migratory Species:	14

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

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 http://www.environment.gov.au/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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	19
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:	None
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
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
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within 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
BIRD		
Anthochaera phrygia		
Regent Honeyeater [82338]	Critically Endangered	Species or species habitat likely to occur within area
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Cyclopsitta diophthalma coxeni		
Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus		
Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat may occur within area
FROG		
Mixophyes fleayi Fleay's Frog [25960]	Endangered	Species or species habitat may occur within area
Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944]	Vulnerable	Species or species habitat likely to occur within area
Philoria kundagungan Mountain Frog [1935]	Endangered	Species or species habitat may occur within area
MAMMAL		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Dasyurus maculatus maculatus (SE mainland population)		
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area
Petaurus australis australis		
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area
Petrogale penicillata		
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area
Potorous tridactylus tridactylus		
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area
Pseudomys novaehollandiae		
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
PLANT		
Arthraxon hispidus		
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area
Dichanthium setosum		
bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus glaucina		
Slaty Red Gum [5670]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat may occur within area
Paspalidium grandispiculatum a grass [10838]	Vulnerable	Species or species habitat may occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Triplarina imbricata [64543]	Endangered	Species or species habitat may occur within area
Vincetoxicum woollsii listed as Tylophora woollsii [40080]	Endangered	Species or species habitat may occur within area
REPTILE		
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		

Scientific Name	Threatened Category	Presence Text
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Rhipidura rufifrons		
Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato)		
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
Symposiachrus trivirgatus as Monarcha trivirgatus		
Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area

Extra Information

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

RFA Name	State
North East NSW RFA	New South Wales

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
330 kV Transmission Line, 205km in Length	2010/5326	Controlled Action	Completed
Not controlled action			
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed

Bioregional Assessments

SubRegion	BioRegion	Website
Clarence-Moreton	Clarence-Moreton	BA website

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 G

Threatened Species Likelihood of Occurrence

EEC

Endangered Ecological Community	Status		Occurs on site (Y/N)	Significant Impact Assessment considered necessary (Y/N)? (If yes refer Appendix H)
	BC Act	EPBC Act		
Grey Box-Grey Gum Wet Sclerophyll Forest in the NSW North Coast Bioregion	E3	-	N	N
Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	E3	CE	N	N
Lowland Rainforest of Subtropical Australia	-	CE	N	N
Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion	E3	CE	N	N
Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	E3	E	N	N
Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion	E3	-	N	N
White Gum Moist Forest in the NSW North Coast Bioregion	E3	-	N	N

Key: E – Endangered.
CE – Critically Endangered.

Likelihood	Criteria
Recorded	The species was observed in the study area during the current survey
High	It is highly likely that a species inhabits the study area and is dependant on identified suitable habitat (ie. for breeding or important life cycle periods such as winter flowering resources), has been recorded recently in the locality (10km) and is known or likely to maintain resident populations in the study area. Also includes species known or likely to visit the study area during regular seasonal movements or migration.
Moderate	Potential habitat is present in the study area. Species unlikely to maintain sedentary populations, however may seasonally use resources within the study area opportunistically or during migration. The species is unlikely to be dependent (ie. for breeding or important life cycle periods such as winter flowering resources) on habitat within the study area, or habitat is in a modified or degraded state. Includes cryptic flowering flora species that were not seasonally targeted by surveys and that have not been recorded.
Low	It is unlikely that the species inhabits the study area and has not been recorded recently in the locality (10km). It may be an occasional visitor, but habitat similar to the study area is widely distributed in the local area, meaning that the species is not dependent (ie. for breeding or important life cycle periods such as winter flowering resources) on available habitat. Specific habitat is not present in the study area or the species are a non-cryptic perennial flora species that were specifically targeted by surveys and not recorded.
None	Suitable habitat is absent from the study area.

Flora

Scientific Name	Common Name	Status		Number of records	Habitat Requirement	Subject site contains suitable habitat (Y/N)	Likelihood of occurrence	Significant Impact Assessment considered necessary (Y/N)? (If yes refer Appendix H)
		BC Act	EPBC Act					
Callitris baileyi	Bailey's Cypress Pine	E	-	32	Rocky, hilly or mountainous areas, usually near creeks, and on shallow and often clay soils. In NSW the population occurs in open grassy eucalypt forest, near a creek.	Y	High (recorded) – There are many mature trees and juveniles. All BioNet records between the Bruxner Highway x Dump Road junction and Tabulam Rivulet. Inspection of a stand close to Sandilands Rest Area indicated the immature trees are being monitored and have been fenced off.	Y

Scientific Name	Common Name	Status		Number of records	Habitat Requirement	Subject site contains suitable habitat (Y/N)	Likelihood of occurrence	Significant Impact Assessment considered necessary (Y/N)? (If yes refer Appendix H)
		BC Act	EPBC Act					
Eucalyptus glaucina	Slaty Red Gum	V	V	4	Grows in grassy woodland and dry eucalypt forest on deep, moderately fertile and well-watered soils.	Y	Low – Recorded on BioNet search. Bionet record dates indicate mature specimens over 10 years old would occur site; however, no evidence of this species on site was found during surveys.	N
Rhodamnia rubescens	Scrub Turpentine	CE	-	1	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils.	N	None	N
Rhodomyrtus psidioides	Native Guava	CE	-	1	Pioneer species found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines.	N	Low	N
Sophora fraseri	Brush Sophora	V	V	2	Brush Sophora is usually found in moist situations, often near rainforest	N	None	N

Key: E – Endangered.
V – Vulnerable.
CE – Critically Endangered.

Fauna

Scientific Name	Common Name	Status		Number of records	Habitat Requirement	Subject site contains suitable habitat (Y/N)	Likelihood of occurrence	Significant Impact Assessment considered necessary (Y/N)? (If yes refer Appendix H)
		BC Act	EPBC Act					
Aves								
Artamus cyanopterus cyanopterus	Dusky Woodswallow	V	-	3	Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland.	Y	Moderate	Y
Calyptorhynchus lathami	Glossy Black-Cockatoo	V	-	2	Inhabits open forest and woodlands of the coast and the Great Dividing Range up to 1000 m in which stands of She-oak species, particularly Black She-oak (*Allocasuarina littoralis*), Forest She-oak (*A. torulosa*) or Drooping She-oak (*A. verticillata*) occur.	Y	Low	N

Scientific Name	Common Name	Status		Number of records	Habitat Requirement	Subject site contains suitable habitat (Y/N)	Likelihood of occurrence	Significant Impact Assessment considered necessary (Y/N)? (If yes refer Appendix H)
		BC Act	EPBC Act					
Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	V	-	12	Occurs in eucalypt forests and woodlands of inland plains and slopes of the Great Dividing Range. It is less commonly found on coastal plains and ranges. Mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey	Y	Moderate	Y
Glossopsitta pusilla	Little Lorikeet	V	-	10	Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in Angophora, Melaleuca and other tree species. Riparian habitats are particularly used. Nests in proximity to feeding areas most typically selecting hollows in the limb or trunk of smooth-barked Eucalypts. Riparian trees often chosen, including species like Allocasuarina.	Y	High	Y

Scientific Name	Common Name	Status		Number of records	Habitat Requirement	Subject site contains suitable habitat (Y/N)	Likelihood of occurrence	Significant Impact Assessment considered necessary (Y/N)? (If yes refer Appendix H)
		BC Act	EPBC Act					
Ninox strenua	Powerful Owl	V	-	5	Known from woodland and open sclerophyll forest to tall open wet forest and rainforest. Requires large tracts of forest but can occur in fragmented landscapes. It roosts by day in dense vegetation comprising species such as Turpentine *Syncarpia glomulifera*, Black She-oak *Allocasuarina littoralis*, Blackwood *Acacia melanoxylon*, Rough-barked Apple *Angophora floribunda*, Cherry Ballart *Exocarpus cupressiformis* and a number of eucalypt species. Powerful Owls nest in large tree hollows (at least 0.5 m deep), in large eucalypts (diameter at breast height of 80-240 cm) that are at least 150 years old.	Y	Low	N – The lack of hollows 0.5m or larger and small width of forested strip throughout the site would likely deter this species from activity in the proposal area.
Tyto novaehollandiae	Masked Owl	V	-	1	Dry eucalypt forest and woodlands. Roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes caves for nesting.	Y	Low	N – As above
Tyto tenebricosa	Sooty Owl	V	-	1	Dry, subtropical and warm temperate rainforests and wet eucalypt forests. Nest in large tree hollows.	Y	Low	N – As above
Mammalia								

Scientific Name	Common Name	Status		Number of records	Habitat Requirement	Subject site contains suitable habitat (Y/N)	Likelihood of occurrence	Significant Impact Assessment considered necessary (Y/N)? (If yes refer Appendix H)
		BC Act	EPBC Act					
Aepyprymnus rufescens	Rufous Bettong	V	-	2	Rufous Bettongs inhabit a variety of forests from tall, moist eucalypt forest to open woodland, with a tussock grass understorey. A dense cover of tall native grasses is the preferred shelter.	N	None	N Species unlikely to occupy areas of subject site due to limited habitat and disturbance.
Dasyurus maculatus maculatus	Spotted-tailed Quoll	V	E	1	Dry and moist eucalypt forests and rainforests, fallen hollow logs, large rocky outcrops.	Y	Low	N Species unlikely to occupy areas of subject site due to limited habitat and disturbance.
Petauroides volans	Greater Glider	-	V	16	Occur in tall mature eucalypt forest along the Great Dividing Range	Y	Low	N All records from large forest patch to south. Species unlikely to occur in or around subject site due to unsuitable habitat.
Petaurus norfolcensis	Squirrel Glider	V	-	1	Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas.	Y	Moderate	Y
Phascolarctos cinereus	Koala	V	E	17	The Koala inhabits eucalypt forest and woodland. The suitability of forest and woodland communities as habitat for Koalas is influenced by the size and species of trees present, soil nutrients, climate, rainfall and the size and disturbance history of the habitat patches.	Y	High – High use and preferred food trees are present through the proposal area	Y

Scientific Name	Common Name	Status		Number of records	Habitat Requirement	Subject site contains suitable habitat (Y/N)	Likelihood of occurrence	Significant Impact Assessment considered necessary (Y/N)? (If yes refer Appendix H)
		BC Act	EPBC Act					
Pteropus poliocephalus	Grey-headed Flying-fox	V	V	3	Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	N	Low	N No flying fox camp present at subject site. Impacts limited to small area of potential foraging habitat only.
Chalinolobus nigrogriseus	Hoary Wattled Bat	V	-	1	In NSW the Hoary Wattled Bat occurs in dry open eucalypt forests, favouring forests dominated by Spotted Gum, boxes and ironbarks, and heathy coastal forests where Red Bloodwood and Scribbly Gum are common. Roosts in hollows and rock crevices.	Y	Moderate	Y
Scoteanax rueppellii	Greater Broad-nosed Bat	V	-	4	Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest. Although this species usually roosts in tree hollows, it has also been found in buildings.	Y	Moderate	Y

Key: E – Endangered.
V – Vulnerable.
CE – Critically Endangered.

Appendix H

Test Of Significance – *Biodiversity Conservation Act 2016*

Appendix H

Significant Impact Assessments

THREATENED SPECIES - TEST OF SIGNIFICANCE

The threatened species test of significance is used to determine if a development or activity is likely to significantly affect threatened species or ecological communities, or their habitats. It is applied as part of the Biodiversity Offsets Scheme entry requirements and for Part 5 activities under the *Environmental Planning and Assessment Act 1979*. The test of significance is set out in s.7.3 of the *Biodiversity Conservation Act 2016*.

The following species have been identified as requiring a test of significance for the purposes of the **HW16 Bruxner Highway S5440-5450 Little Creek to Tabulam Rivulet** Minor Works Review of Environmental Factors (MWREF):

Flora

- Bailey's Cypress Pine (*Callitris baileyi*)

Fauna

-
- Dusky Woodswallow (*Artamus cyanopterus cyanopterus*)
- Brown Treecreeper (eastern subspecies) (*Climacteris picumnus victoriae*)
- Little Lorikeet (*Glossopsitta pusilla*)
- Koala (*Phascolarctos cinereus*)
- Squirrel Glider (*Petaurus norfolcensis*)
- Hoary Wattled Bat (*Chalinolobus nigrogriseus*)
- Greater Broad-nosed Bat (*Scoteanax rueppellii*)

The conservation status, habitat requirements and main threats has been summarised as follows in **Table A.**

Table A: Species profile

Scientific Name	Common Name	Status as per the TSC Act (NSW)	Status as per the EPBC Act (Federal)	Habitat and Ecology * #	Threats * #
Phascolarctos cinereus	Koala	V	V	• Inhabit eucalypt woodlands and forests and feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but in any one area will select preferred browse species. • Inactive for most of the day, feeding and moving mostly at night. They spend most of their time in trees but will descend and traverse open ground to move between trees. • Home range size varies with quality of habitat, ranging from less than two ha to several hundred hectares in size. • Koalas are generally solitary, but have complex social hierarchies based on a dominant male with a territory overlapping several females and sub-ordinate males on the periphery. • Females breed at two years of age and produce one young per year.	• Loss, modification and fragmentation of habitat. • Vehicle strike. • Predation by roaming or domestic dogs. • Intense prescribed burns or wildfires that scorch or burn the tree canopy. • Koala disease. • Heat stress through drought and heatwaves • Human-induced climate change. • Inadequate support for fauna rehabilitation • Poor understanding of sources of trauma and mortality. • Poor understanding of population distribution and trend. • Poor understanding of animal movements and use of habitat.

Petaurus norfolcensis	Squirrel Glider	v	-	• Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. • Prefers mixed species stands with a shrub or Acacia midstorey. • Live in family groups of a single adult male one or more adult females and offspring. • Require abundant tree hollows for refuge and nest sites. • Diet varies seasonally and consists of Acacia gum, eucalypt sap, nectar, honeydew and manna, with invertebrates and pollen providing protein.	• Habitat loss and degradation. • Fragmentation of habitat. • Loss of hollow-bearing trees. • Loss of understorey food resources. • Inappropriate fire regimes. • Reduction in food resources due to drought. • Mortality due to entaglement on barbed wire. • Occupation of hollows by exotic species. • Mortality due to collision with vehicles. • Predation by exotic predators. • Changes in spatial and temporal distribution of habitat due to climate change
Chalinolobus nigrogriseus)	Hoary Wattled Bat			• Occurs in dry open eucalypt forests, favouring forests dominated by Spotted Gum, boxes and ironbarks, and heathy coastal forests where Red Bloodwood and Scribbly Gum are common. Because it flies fast below the canopy level, forests with naturally sparse understorey layers may provide the best habitat. • Roosts in hollows and rock crevices. • Will occupy urban areas with suitable habitat.	• Clearing and fragmentation of dry forest and woodland habitat through clearing for agriculture and development. • Loss of tree hollows for roosting and maternity sites from forest management favouring younger stands of trees. • Loss of hollow-bearing trees used for roosting and maternity sites as a result of too-frequent burning for grazing and forestry management activities.

					• Pesticides on insects and in water consumed by bats bio accumulates, resulting in poisoning of individuals. The use of pesticides also reduces available insect food sources. • Lack of information on the species in NSW to inform a conservation management strategy
Scoteanax rueppellii	Greater Broad-nosed Bat	V	-	• Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest. • Although this species usually roosts in tree hollows, it has also been found in buildings. • Forages after sunset, flying slowly and directly along creek and river corridors at an altitude of 3 - 6 m. • Open woodland habitat and dry open forest suits the direct flight of this species as it searches for beetles and other large, slow-flying insects; this species has been known to eat other bat species. • Little is known of its reproductive cycle, however a single young is born in January; prior to birth, females congregate at maternity sites located in suitable trees, where they appear to exclude males during the birth and raising of the single young.	• Disturbance to roosting and summer breeding sites. • Foraging habitats are being cleared for residential and agricultural developments, including clearing by residents within rural subdivisions. • Loss of hollow-bearing trees. • Pesticides and herbicides may reduce the availability of insects, or result in the accumulation of toxic residues in individuals' fat stores. • Changes to water regimes are likely to impact food resources, as is the use of pesticides and herbicides near waterways.

Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies	V		• Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; • Sedentary, considered to be resident in many locations throughout its range; present in all seasons or year-round at many sites; territorial year-round, though some birds may disperse locally after breeding. • Gregarious and usually observed in pairs or small groups of 8 to 12 birds; terrestrial and arboreal in about equal proportions; active, noisy and conspicuous while foraging on trunks and branches of trees and amongst fallen timber; spend much more time foraging on the ground and fallen logs than other treecreepers. • Hollows in standing dead or live trees and tree stumps are essential for nesting.	• Historical loss of woodland, forest and mallee habitats as a result of agriculture, forestry, mining and residential development. • Fragmentation of woodland and forest remnants which isolates populations and causes local extinctions. • Ongoing degradation of habitat, particularly the loss of tree hollows and fallen timber from firewood collection and overgrazing. • Lack of regeneration of eucalypt overstorey in woodland due to overgrazing and too-frequent fires. • Loss of ground litter from compaction and overgrazing. • Inappropriate forestry management practices. • Loss of understorey habitat. • Competition from invasive weeds. • Aggressive exclusion from forest and woodland habitat by over abundant Noisy Miners.
Artamus cyanopterus cyanopterus	Dusky Woodswallow			• Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of	• Historical and ongoing loss of woodlands and dry open sclerophyll forests, including mallee because of agriculture, mining, forestry and residential development.

				grasses or sedges and fallen woody debris. • Primarily eats invertebrates, mainly insects, which are captured whilst hovering or sallying above the canopy or over water. Also frequently hovers, sallies and pounces under the canopy, primarily over leaf litter and dead timber. Also occasionally take nectar, fruit and seed. • Depending on location and local climatic conditions (primarily temperature and rainfall), the dusky woodswallow can be resident year round or migratory. In NSW, after breeding, birds migrate to the north of the state and to southeastern Queensland, while Tasmanian birds migrate to southeastern NSW after breeding. Migrants generally depart between March and May, heading south to breed again in spring. There is some evidence of site fidelity for breeding. Although dusky woodswallows generally breed as solitary pairs or occasionally in small flocks, large flocks may form around abundant food sources in winter. Large flocks may also form before migration, which is often undertaken with other species. • Nest is an open, cup-shape, made of twigs, grass, fibrous rootlets and occasionally casuarina needles, and may be lined with grass, rootlets or infrequently horsehair, occasionally unlined.	• Reduction in area, and increased isolation of patches of remnant woodland and open forest. • Ongoing degradation of habitat through the loss of dead timber, removal of coarse woody debris and other disturbances of the ground layer. • Aggressive exclusion by over abundant noisy miners. • Reduction in the availability of food resources due to overgrazing and loss of leaf litter. • Lack of knowledge within the community regarding the species and its habitat requirements. • Habitat degradation from invasion by weeds including exotic grasses and woody weeds, and inappropriate land uses.

Sources:
* — NSW National Parks and Wildlife Service (NPWS), 2002. *Threatened Species of the Upper North Coast of New South Wales - Fauna*. NSW National Parks and Wildlife Service, Coffs Harbour.
— Department of Environment and Heritage (DEH), 2019, NSW Threatened Species Profiles, http://www.environment.nsw.gov.au/threatenedSpeciesApp/
(Accessed February 2020).

Key: V – Vulnerable.

7.3 ***Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats***

(1) ***The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:***

(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,

Bailey's Cypress Pine (*Callitris baileyi*)

The proposal is unlikely to have an adverse impact on the life cycle of this species such that the viable local population of the species is likely to be placed at risk of extinction as the works will avoid removal of any individuals of this species. All individuals have been identified and map and an exclusion zone will be established to protect the species during works.

Koala

A total of 15 koala records are recorded within 5km radius of the subject site between 1985 and 2019, with the majority of records recorded after 2006. It is likely a resident koala population existing in the local area and the site may form part of the home range for individual koalas, or provide connectivity between occupied habitat in the surrounding areas.

The proposal is unlikely to have an adverse impact on the life cycle of Koalas such that the viable local population of the species is likely to be placed at risk of extinction for the following reasons:

- The proposal will result in the clearing of a relatively small area of koala habitat located directly adjacent to the Bruxner Highway. A total of twenty one (21) koala food trees *)* are proposed to be removed. The trees are located within 9 m of the highway and the site survey indicated the trees to be cleared are not high use trees with no evidence of use by koala (scats, scratch marks) observed.
- The surrounding landscape contains large areas (>10,000ha) of contiguous vegetation which includes areas of koala habitat which will not be impacted by the proposal and will continue to provide habitat for resident koalas in the locality.
- The proposal will not significantly increase habitat fragmentation or further restrict the movement of koalas across the landscape, therefore there will be no ongoing impacts on the ability of individuals to disperse, interact and breed.

Squirrel Glider

One records of Squirrel Glider has been recorded within 5km radius of the subject site. This record comes from Sugarloaf State Forest which is located to the south of the subject site. While the vegetation is contiguous and would allow the movement of both these species through the subject site the vegetation on and surrounding, the subject site is considered to be suitable for Squirrel Gliders, and marginal for Greater Gliders. The low density of suitable habitat trees which provide hollows for these species in the landscape surrounding the subject site and will limit occupancy.

The proposed activity is unlikely to have an adverse effect on the life cycle of these glider species such that a viable local population of the species is likely to be placed at risk of extinction for the following reasons:

- The proposal will result in the clearing of a relatively small area of habitat which includes the removal of 29 individual trees which are located directly adjacent to the Bruxner Highway.
- No sap feeding trees were recorded amongst the tree proposed for removal.

- Hollows on habitat trees proposed for removal will be reinstalled on site at a ratio of 1:2, so no hollows are lost as a result of the works.
- Pre-clearing surveys will be conducted, and a spotter catcher will be on site during clearing to ensure no individual animals are directly impacted.

• The proposal will result in a slight increase in habitat fragmentation due to the widening of the road corridor however the width of clearing is unlikely to inhibit the movement of gliders across the road way as the canopy separation will still allow movement for these species.

• The surrounding landscape contains large areas (>10,000ha) of contiguous vegetation which includes habitat which will not be impacted by the proposal and will continue to provide habitat for resident gliders in the locality.

Dusky Woodswallow, Brown Treecreeper

BioNet records contain a total of 3 Dusky Woodswallow and 11 Brown Treecreeper records within a 5km radius of the subject site. All of these records come from Sugarloaf State Forest which is located to the south of the subject site.

The proposed activity is unlikely to have an adverse effect on the life cycle of these bird species such that a viable local population of the species is likely to be placed at risk of extinction for the following reasons:

- The proposal will result in the clearing of a relatively small area of habitat which includes the removal of 29 individual trees which are located directly adjacent to the Bruxner Highway. This is considered to be a small area relative to these species home ranges and will result in the loss of potential foraging habitat.
- Pre-clearing surveys will be conducted, and a spotter catcher will be on site during clearing to ensure no individual animals are directly impacted.
- Hollows on habitat trees proposed for removal will be reinstalled on site at a ratio of 1:2, so no hollows are lost as a result of the works.
- The proposal will not increase the fragmentation such that it would effect the ability of these species to move, disperse, interact and breed.

Hoary Wattled Bat, Greater Broad-nosed Bat

The proposed activity is unlikely to have an adverse effect on the life cycle of these microbat species such that a viable local population of the species is likely to be placed at risk of extinction for the following reasons:

- Hollows on habitat trees proposed for removal will be reinstalled on site at a ratio of 1:2, so no hollows are lost as a result of the works.
- The culverts present at the site were checked and at the time of the survey did not contain microbats, and no evidence of use was observed. These microbat species prefer tree hollows as roost sites, but some have been recorded using structures, and potentially could utilise culverts as roosting habitat. Pre-clearing surveys will be conducted, and if microbats are observed works will cease and plans will be developed to ensure no individual animals are directly impacted.
- The proposal will not increase the fragmentation such that it would affect the ability of these species to move, disperse, interact and breed.

(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. Assessment does not relate to an endangered ecological community or critically endangered ecological community.

(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

The proposal will result in the clearing of 29 individual trees which are located within the road reserve and within 9m of the road. An area of approximately 0.09ha of native early regrowth vegetation will also be cleared to construct a compound site.

(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

The proposal will not increase habitat fragmentation or restrict the movement of species across the landscape as clearing will not significantly increase landscape fragmentation. Therefore, there will be no new or ongoing restriction to the ability of individuals to interact and breed as a result of the proposal.

(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,

It is unlikely that the long-term survival of the species' will be significantly impacted as a result of the disturbance to the vegetation given:

1. **The relatively small area of habitat being impacted by the proposal and the large areas of available habitat in the broader surrounding area.**
2. **The habitat will not be fragmented or isolated such that it will restrict the movement of any of the subject species or limit access to areas of habitat.**

(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),

There are no declared areas of outstanding biodiversity value at or close to the proposed site and the proposal is highly unlikely to have an indirect impact to these 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 threatening process is defined under the *Biodiversity Conservation Act 2017* as a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities. The current list of key threatening processes (KTPs) and whether the Proposal constitutes any KTPs, is summarised in **Table C.**

The Proposal would likely contribute to an incremental and cumulative increase to the following Key Threatening Processes;

- Clearing of Native Vegetation.
- Loss of hollow-bearing trees

Table A1 *Impact of proposed works as a Key Threatening Process.*

Listed Key Threatening Processes (as described in the final determination of the Scientific Committee to list the threatening process)	***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 (*Manorina melanocephala*)			✓
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			✓
Bush rock removal			✓
Clearing of native vegetation	✓		
Competition and grazing by the feral European rabbit (*Oryctolagus cuniculus*)			✓
Competition and habitat degradation by feral goats (C*apra hircus*)			✓
Competition from feral honey bees (*Apis mellifera*)			✓
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			✓
High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition			✓
Herbivory and environmental degradation caused by feral deer			✓
Importation of red imported fire ants (*Solenopsis invicta*)			✓
Infection by psittacine circoviral (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 *Phytophthora cinnamomi*			✓
Introduction and Establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae			✓
Introduction of the large earth bumblebee (*Bombus terrestris*)			✓
Invasion and establishment of exotic vines and scramblers			✓
Invasion and establishment of Scotch broom (*Cytisus scoparius*)			✓
Invasion and establishment of the cane toad (*Bufo marinus*)			✓
Invasion of native plant communities by African Olive *Olea europaea L. subsp. cuspidata*			✓
Invasion, establishment and spread of Lantana camara			✓
Invasion of native plant communities by *Chrysanthemoides monilifera* (bitou bush and boneseed)			✓
Invasion of native plant communities by exotic perennial grasses			✓
Invasion of the yellow crazy ant (*Anoplolepis gracilipes* (Fr. Smith) 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 of feral dogs (*Canis lupus familiaris*)			✓
Predation by the European red fox (*Vulpes vulpe*s)			✓
Predation by the feral cat (*Felis catus*)			✓
Predation by *Gambusia holbrooki* Girard, 1859 (plague minnow or mosquito fish)			✓
Predation by the ship rat (*Rattus rattus*) on Lord Howe Island			✓
Predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scrofa*)			✓
Removal of dead wood and dead trees		✓	

Conclusion:

It is the conclusion of this assessment that given the scale of the proposed works, the fact that the subject culverts represent only marginal potential habitat, the greater extent of available habitat in the locality and adoption of the proposed safeguards, the proposal is unlikely to result in a significant impact on the local occurrence of the subject species. Consequently, further consideration in the form of a Species Impact Statement is not required.