

Pavement Design Approval Form

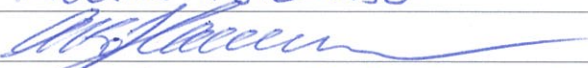


Transport
Roads & Maritime
Services

Form

ILC-AM-TP3-102-F01

Project Details			
Description:	Proposed Highway Intersection and Turning Lane Upgrade		
Road:	Gwydir Highway	LGA :	Glen Innes Severn Council
Roadloc Start:		Project No:	RGS30969.1
Roadloc Finish:		File No:	
Proposed Pavement Profile			
Wearing Course:	Two coats seal		
Base Course:	150mm DGB20 compliant material		
Sub-Base:	370mm DGB20 compliant material		
Select:	As required – RMS specification 3071		
Pavement Quality Requirements			
Pavement materials and construction shall conform with the requirements of the following listed specifications:			
Certification by Designer		Review	
The design and specifications listed above take into account the relevant factors required by the Pavement Design Brief. The proposed pavement is fit for purpose.		I have reviewed the proposed design and am satisfied the methodology, assumptions, analysis and data are reasonable.	
Name:	Adam Holzhauser	Name:	Simon Keen
Sign:		Sign:	
Title:	Senior Geotechnical Engineer	Title:	Geotechnical Engineer
Date:	14/12/2016	Date:	14/12/2016
Approval		Acceptance	
The pavement as proposed above is approved.		The pavement as proposed above is accepted.	
Name:		Name:	
Sign:		Sign:	
Title:		Title:	
Date:		Date:	
Implementation			
I confirm that the critical design criteria and special conditions and requirements have been incorporated into the plans and specification including tolerance limits appropriate to the construction of the designated pavement.			

Name:	Adam Holzhauser	
Sign:		
Title:	Senior Geotechnical Engineer	
Date:	14 December 2016	
Attachments		
1) Pavement design checklist	2) Pavement Design Report	3) Pavement Design Brief
4)	5)	6)

Under Review

Pavement design checklist



(To be completed by the nominated Designer)

14 December 2016

Project Number:	RGS30969.1	Date:	29 September 2016
Project Title:	Proposed Highway Intersection and Turning Lane Upgrdae	Pavement Designer:	Adam Holzhauser
Client:	Local Government Engineering Services	File:	

Job Responsibilities:

- Approval:** All pavement designs shall be approved by the Asset Manager, apart from the Pacific Highway Development Office (PHDO).
- Design:** All pavement designs will be carried out by the person with the appropriate level of competency. (Refer to ILC-AM-TP3-102 Management of Pavement Design)
- Peer Review:** The pavement design process will be subject to peer review. (Refer to ILC-AM-TP3-102 Management of Pavement Design)

1.0 Project Limitations	
1.1 The Client has provided a job scope (including Design Period and Whole of Life Period) and plans, geotech report are available.	Job Scope: YES/NO Plans: YES/NO Geotech: YES/NO Other: _____
2.0 Reference Documents	
2.1 Documents - All designs are to be executed in accordance with the appropriate documents as listed in the Pavement Design Procedure or Pavement Design Brief.	YES/NO
3.0 Construction and Maintenance Considerations	
3.1 The following construction and maintenance considerations have been taken into account when designing the pavement:-	
- The Moisture Environment on site, Infiltration, Water table level etc..	YES/NO
- Drainage, extent, type (Subsoil drains, Pavement drains, etc.)	YES/NO
- Use of boxed construction	YES/NO
- Availability / Suitability of equipment	YES/NO
- Use of stage construction	YES/NO
- Availability / Suitability of Material	YES/NO
- Environmental requirements (Including Noise)	YES/NO
- Construction under traffic	YES/NO
- Maintenance strategy	YES/NO
- Acceptable risk	YES/NO

This checklist is to be used in conjunction with ILC-AM-TP3-102 'Management of pavement design'

Pavement design checklist



4.0 Subgrade Evaluation	
4.1 A geotech report has been done examining subgrade conditions.	YES/NO
4.2 Design subgrade CBR and test method used.	CBR = <u>48</u> Test = <u>T117</u>
4.3 Moisture Contents, design, optimum, field etc, are available.	YES/NO
5.0 Pavement Materials	
5.1 Unbound Granular Materials, Values used for Modulus and Poisson's Ratio. Test values or Assumed values.	Material = <u>UCR20</u> Modulus = <u>NA</u> Poisson's = <u>NA</u> Test Values YES/NO <u>(NO)</u>
5.2 Cementitious Materials, Values used for Modulus and Poisson's Ratio. Test values or Assumed values.	Material = _____ Modulus = _____ Poisson's = _____ Test Values YES/NO _____ <u>NA</u>
5.3 Asphalt, Values used for Modulus and Poisson's Ratio. Test values or Assumed values.	Material = _____ Modulus = _____ Poisson's = _____ Test Values YES/NO _____ <u>NA</u>
5.4 Concrete, Compressive strength, Flexural Strength and determining test used.	Material = _____ fc _____ fcf _____ Test = _____ <u>NA</u>
6.0 Design Traffic	
6.1 Design reliability	<u>95</u> %
6.2 Design period (years)	Design Life = <u>40 yrs</u>
6.3 Annual Growth Rate and Cumulative Growth Factor (CGF).	Growth Rate = <u>1.5</u> % CGF = <u>54.3</u>
6.4 Traffic Data:-	
1) AADT during the first year of service	No of vehicles = <u>1332</u>
2) Percentage Heavy Vehicles	HV% = <u>12</u>
3) Lane Distribution Factor	LDF = <u>1</u>
6.4 Design Traffic (N _{DT})	WIM data = _____ or Presumptive values = _____
6.5 Risk Factor	Risk Factor = _____

This checklist is to be used in conjunction with ILC-AM-TP3-102 'Management of pavement design'

Pavement design checklist



7.0 Pavement Design	
7.1 Flexible Pavement Design	YES/NO
- Design method used (Austroads Figure 8.4 – Design Chart for granular pavement with thin bituminous surfacing)	YES/NO
- Design method used - Mechanistic Design (FPD)	YES/NO
7.2 Rigid Pavement Design	YES/NO
- WIM data identified?	YES/NO
- Used RPD software?	YES/NO
8.0 Comparison of Designs	
8.1 Have designs been compared on the basis of:	
- Initial Cost	YES/NO
- Whole of Life Cost	YES/NO
- Safety - Geometry, Skid Resistance, Aquaplaning, etc.	YES/NO
- Service for road users	YES/NO
- Special issues	YES/NO/NA
9.0 Design Reports	
9.1 Are there any special construction notes etc, that need to be included with the design.	YES/NO
9.2 Has the Pavement Design been reviewed by an appropriate person.	YES/NO
9.2 Has the design been approved by the Asset Manager / Pacific Highway Office Manager	YES/NO
9.3 Report issued to Client	YES/NO

This checklist is to be used in conjunction with ILC-AM-TP3-102 'Management of pavement design'



Transport
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Services

ROADS AND MARITIME SERVICES

STATE HIGHWAY No12
GWYDIR HIGHWAY

LGA - GLEN INNES SEVERN

PROPOSED □ UARRY EXIT AT 15km WEST OF GLEN INNES FOR GLEN INNES SEVERN COUNCIL

SCHEDULE OF DRAWINGS

- | | | | |
|---|---|---|--|
| 1 | COVER SHEET | 5 | TYPICAL DETAILS & HWY CROSS SECTIONS |
| 2 | EXISTING SITE LAYOUT, NEW SIGNAGE & LINEMARKING | 6 | □ UARRY CENTRELINE EXIT CROSS SECTIONS |
| 3 | SIGHT DISTANCE PROFILE | 7 | □ UARRY EXIT CROSS SECTIONS |
| 4 | PROPOSED WORKS, LONGSECTIONS & SETOUT | | |

PAVEMENT

DESIGN STANDARDS: AUSTRROADS DESIGN GUIDES

DESIGN RELIABILITY

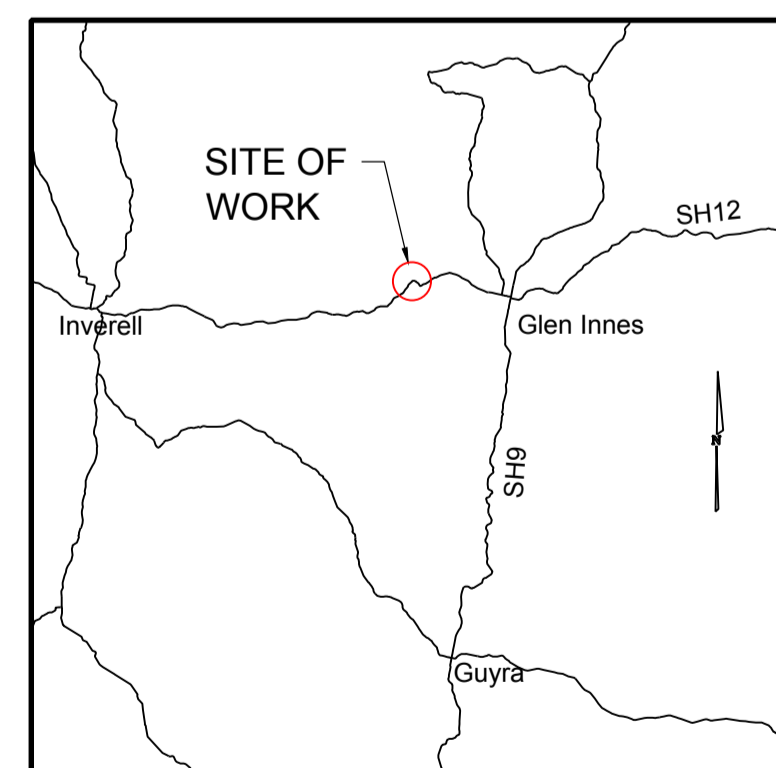
DESIGN RELIABILITY: 95%
DESIGN PERIOD: 40 YEARS

TRAFFIC DATA

No OF VEHICLES PER DAY: 1332
PERCENTAGE OF HEAVY VEHICLES: 12%
LANE DISTRIBUTION FACTOR: 1
ANNUAL GROWTH RATE: 1.5%

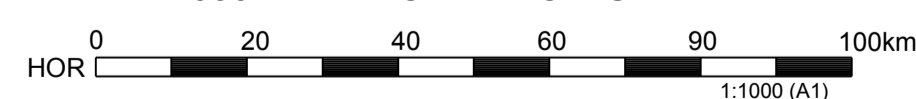
REFERENCE REPORTS

GEOTECHNICAL INVESTIGATION REPORT: RGS REPORT No RGS30969.1-AB



LOCALITY PLAN

THE SITE IS APPROXIMATELY
630km BY ROAD FROM SYDNEY

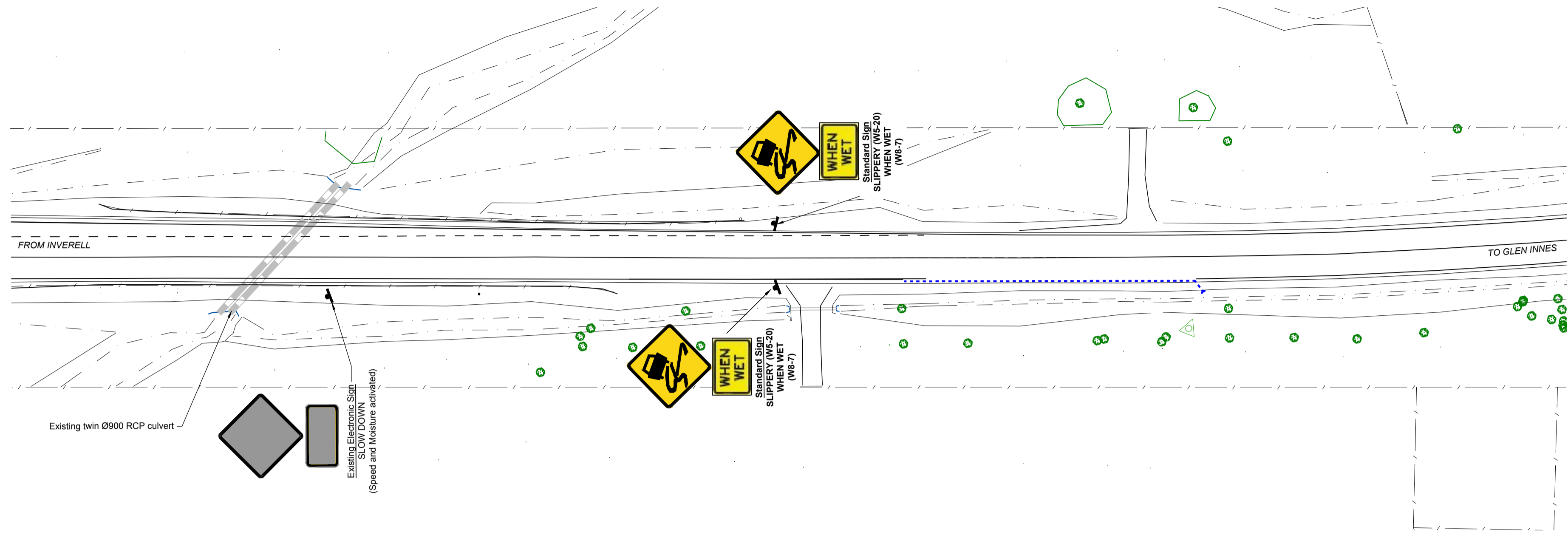


LG ES LOCAL GOVERNMENT ENGINEERING SERVICES

Pty Ltd ABN 64 055 099 557
Web: www.legs.com.au

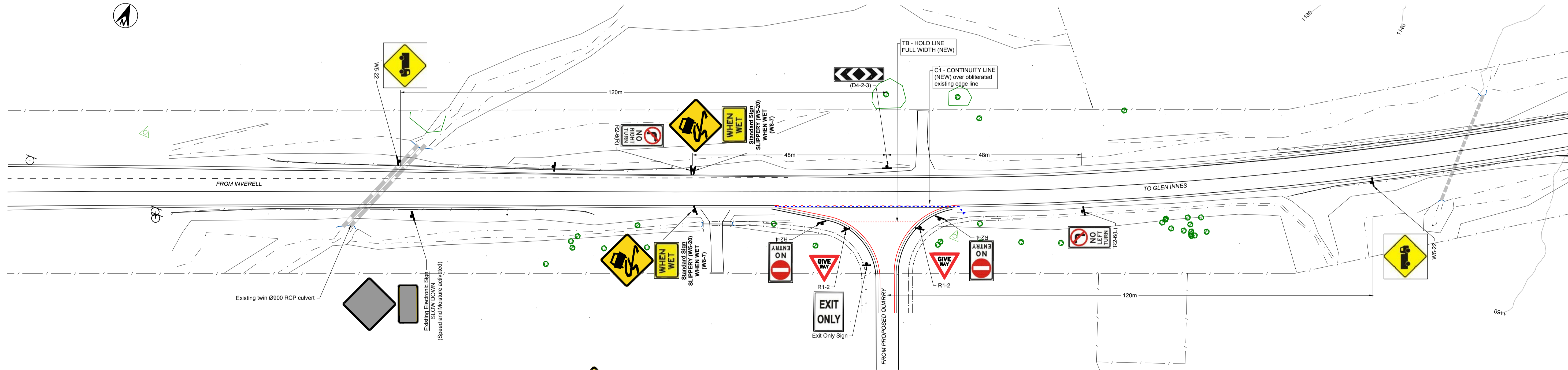
Port Macquarie 69 Lord St, Port Macquarie NSW 2444 Ph: 02-65843888 Fax: 02-65843988 Email: john@legs.com.au	Inverell 17 Byron Street, Inverell NSW 2360 Ph: 02-67225110 Email: andrew@legs.com.au
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REGISTRATION No OF PLANS	-
ISSUE STATUS:	FOR APPROVAL
SHEETS No 1	No OF SHEETS 7 ISSUE B



**EXISTING SITE LAYOUT
QUARRY EXIT**
SCALE 1:500

- LEGEND**
- NEW EDGE LINE
 - NEW EDGE BITUMEN
 - NEW EDGE FORMATION
 - NEW TABLE DRAIN
 - - - NEW BATTER INTERFACE
 - - - EXISTING TABLE DRAIN
 - - - EXISTING BATTER INTERFACE
 - NEW CULVERT
 - EXISTING CULVERT
 - TELSTRA LINE/PIT
 - EXISTING DRIVEWAY
 - EXISTING FENCELINE
 - OVERHEAD POWER
 - SIGN / POWER POLE
 - SURVEY STATION
 - ⊗ EXISTING TREES TO BE REMOVED



**PROPOSED INTERSECTION LAYOUT
SIGNAGE & LINEMARKING**
SCALE 1:1000

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Email: andrew@legs.com.au

CLIENT GLEN INNES SEVERN COUNCIL

PROJECT PROPOSED QUARRY 1 WAY EXIT
GWYDIR HWY, 15KM WEST OF GLEN INNES

EXISTING SITE LAYOUT, NEW SIGNAGE & LINEMARKING

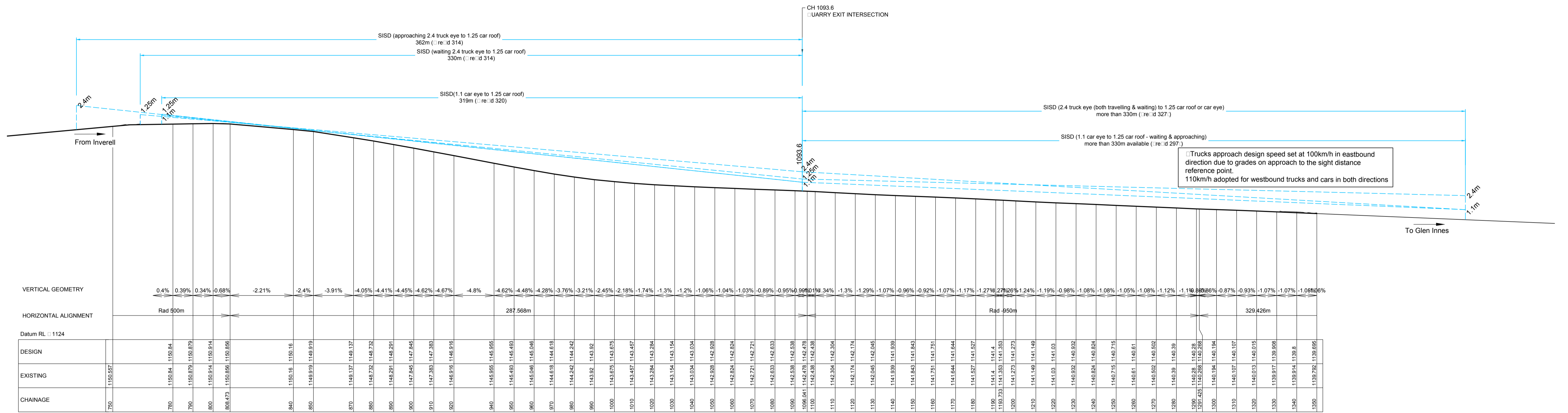
SCALES A1 ORIGINAL

0 m 20 40 60 80 100
Plan, Hor 1:1000 (A1) 1:2000 (A3)

DRAWN	DATE	JOB No.:	ISSUE	SHEET No.
MM	25/11/16	IV2545	B	2
DESIGNED	DATE	DOCUMENT No.:	OF 7	
ASD	25/11/16	WAD02		
APPROVED	DATE	STATUS:	APPROVAL	
ASD	25/11/16	REG. No.:		
DATUM:	-			

ISSUE	REVISION	AUTH	DATE
B	PAVEMENT DETAILS & INTERSECTION RELOCATED	ASD	21/15/16
A	FOR APPROVAL	ASD	25/11/16

FILE NAME: IV2545 GISC EXIT ONLY v2.dwg



HS 1:1000
VS 1:250
LONGSECTION: EXISTING GWYDIR HIGHWAY CENTRELINE

ISSUE	REVISION	DATE
B	PAVEMENT DETAILS & INTERSECTION RELOCATED	ASD 21/15/16
A	FOR APPROVAL	ASD 25/11/16
ISSUE	REVISION	AUTH DATE

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CLIENT
GLEN INNES SEVERN COUNCIL

PROJECT
PROPOSED QUARRY 1 WAY EXIT
GWYDIR HWY, 15KM WEST OF GLEN INNES

SIGHT DISTANCE PROFILE

SCALES
A1 ORIGINAL

0 m 20 40 60 80 100
Plan, Hor 1:1000 (A1) 1:2000 (A3)

0 m 5 10 15 20 25
Vert 1:250 (A1) 1:500 (A3)

FILE NAME: IV2545 GISX EXIT ONLY v2.dwg

DRAWN ASD	DATE 25/11/16	JOB No.: IV2545	ISSUE B	SHEET No. 3
DESIGNED MM	DATE 25/11/16	DOCUMENT No.: WAD03	OF 7	
APPROVED ASD	DATE 25/11/16	STATUS: APPROVAL		
DATUM: -		REG. No.: -		